

# **APPENDIX B**

## Mammoth Community Water District Water Conservation Measures

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## MAMMOTH COMMUNITY WATER DISTRICT

### WATER CONSERVATION MEASURES

California Urban Water Conservation Council Best Management Practices	Mammoth Community Water District Water Conservation Measures
<p><b>1. Designation of a Conservation Coordinator</b> Purpose: For program management, tracking, planning and reporting.</p>	<p>The District retains a conservation coordinator and typically hires a seasonal employee to assist with irrigation compliance verification and community water conservation outreach.</p>
<p><b>2. Water Waste Prevention</b> Purpose: Enact, enforce, or support legislation, regulations, ordinances, or terms of service that prohibit water waste or facilitate implementation of water shortage response measures for:</p> <ul style="list-style-type: none"> <li>a) New Development</li> <li>b) Existing Users</li> <li>c) Water Shortages</li> </ul>	<p>The District Code has regulations and ordinances for new and existing developments that address indoor and outdoor water wastage. (Chapter 12 section 3.20-3.22 and Division X). The District Code also contains provisions for applying tiered water pricing for landscape irrigation based on MAWA if a separate irrigation meter is in place and exempts single family, duplex, triplex, or quadplex structures and landscapes under 2,500 sq. ft. Water rates for residential indoor use are based on a tiered system to discourage excessive use.</p> <p>The District works with customers by contacting high water users to assist with reducing their water demand. Staff conducts field inspections during the irrigation season to check compliance with District irrigation regulations. Violators are contacted in-person, by phone, or by mail, in order of priority. District Code contains enforcement provisions for multiple violations of the regulations, up to removal of the customer meter and termination of water service.</p> <p>The District provides comments to the Town of Mammoth Lakes to ensure state and local water conservation ordinances are incorporated as conditions for new and re-development projects in addition to recommending water efficiencies not currently required by ordinance. District staff also supports and works with the Town of Mammoth Lakes on implementation and enforcement of the Water Efficient Landscape Ordinance.</p> <p>To address potential shortages of water availability, the Code Book provides four levels of water restrictions based on the severity of the projected shortage.</p>
<p><b>3. Wholesale Agency Assistance Programs</b> Purpose: To address relationships between wholesale agencies and retail agencies.</p>	<p>The District is not a wholesale supplier of water.</p>
<p><b>4. Water Loss Control</b> Purpose: To increase water use efficiency in the utility operations and proper economic valuation of water losses to support water loss control activities.</p>	<p>The District conducts and reports the results of a water system audits on a monthly basis to the Board of Directors. Losses are determined by comparing total production amounts with actual meter reads. The District has been replacing aging water mains and laterals since 2002 to reduce water loss from leakage. The project has replaced over 82,000 feet of old pipeline and has 22,500 feet remaining.</p> <p>District staff review high usage reports that are automatically generated through monthly meter reads. Customers with abnormal high usage are notified of possible leaks and staff conducts water audits as appropriate.</p>

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<p><b>5. Metering With Commodity Rates for All New Connections and Retrofit of Existing Connections</b></p> <p>Purpose: Establish use of meters to encourage water conservation through price incentives and to separate landscape water use from indoor use.</p>	<p>All customers are required to have a water meter and residential customers are billed on an increasing block rate. Meter reading and billing for all customers is done monthly. The District currently has an inventory of meters, in our Geographic Information System and Computerized Maintenance Management System, but does not annually inspect or test a certain percentage unless meter reads indicate potential problems. The mechanical maintenance department is verifying the age of every meter in system, and will test a percentage of meters for accuracy. This sampling will determine the lifespan of the meters and identify how frequently meters need to be replaced. This project is incorporated into the District's strategic plan.</p> <p>The District will be updating its new service connection fees and water service rates in 2010-11. The studies will assess whether it is cost effective to retrofit dedicated landscape meters into current mixed use connections. New connections require separate irrigation meters in compliance with State regulations.</p>
<p><b>6. Retail Conservation Pricing</b></p> <p>Purpose: To establish a strong nexus between volume-related system costs and volumetric commodity rates. Conservation pricing may include one or more of the following charges:</p> <ol style="list-style-type: none"> <li>1. Connection charges to recover costs of adding new customers</li> <li>2. Meter service charges to ensure revenue sufficiency</li> <li>3. Special rates and charges for temporary service</li> </ol>	<p>Every 5 years the District updates both connection fees and water and sewer rates for meeting the District's need to expand, maintain, and operate the water and sewer services to the community.</p> <p>The District's pricing structure includes an increasing block rate per volume of water used for residential customers. Commercial rates are based on meter size.</p> <p>Irrigation meters are subject to increasing block rates for water use over MAWA levels; however, this provision has not been implemented due to transition to a new finance/billing system. Tiered irrigation pricing is expected to be in effect by the summer of 2011. The District has special rates for temporary water service such as for construction uses, including free use of recycled water, and for use of untreated ground water to two local golf courses.</p>
<p><b>7. Retail Wastewater Rates</b></p> <p>Purpose: Implement conservation pricing for sewer service to reduce average or peak use, or both; however, pricing should reflect the cost of providing service and metered water use.</p>	<p>The District will be conducting a water and wastewater rate study in 2011. The current wastewater rates structure is based on the water meter size and type of use, which determines the wastewater strength and cost of treatment. This rate structure accounts for both the volume of wastewater generated, which is proportional to the water use, and the treatment costs by type of use.</p>
<p><b>8. Public information Programs</b></p> <p>Purpose: To promote water conservation and water conservation related benefits.</p>	<p>The District provides speakers to promote conservation at local seminars, to local service organizations and school field trips. The District also uses local media, billing statements and the company's website to convey resource conservation tips and messages. The District has had a presence at the annual Earth Day event to describe the District's activities and promote careful use of our water resources. "Water for Tomorrow" magazines, produced by National Geographic, were purchased by the District for local distribution and to be provided to students participating in the LivingWise program described below. Conservation messages focus on a shared community responsibility for water conservation. Newspaper and magazine advertisement are updated quarterly to reach both permanent residents and visitors, and encourage awareness of and actions to support water conservation.</p> <p>The District also contacts high water users to inform them of</p>

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	<p>potential leaks in their plumbing, to offer water audits, and to offer information on the District's rebate program to reduce water demand.</p> <p>The District promotes water efficient landscapes by having a water-efficient demonstration landscape at its headquarters and provided sponsorship for a native plant garden at the Mammoth Lakes Community Library.</p> <p>Other informational outreach priorities include commenting and working with the TOML on new and re-development projects and their water efficient landscape ordinance. In addition, the District conducts outreach to landscape contractors to promote irrigation rebate programs and provides sponsorship assistance for an annual landscapers' workshop held by the TOML. In addition, the District coordinates efforts with the High Sierra Energy Foundation to convey a resource conservation message and is discussing partnering in multi-family appliance programs. The District is a participant in the Inyo-Mono Regional Water Management Group to potentially obtain water conservation grant funds following the completion of the plan, and is contributing to the City of Bishop's development of water conservation measures through their Public Works Department.</p>
<p><b>9. School Education Programs</b></p> <p>Purpose: To reach water users at an early age and engage them in life-long water conservation behaviors.</p>	<p>The District provides \$3,500 as a partner to sponsor a sixth grade program called "LivingWise." This program serves approximately 100 students, meets state education requirements and is grade-level appropriate. The program includes a water and wastewater facility field trip, staffed by District personnel, to educate students about their watershed, the sources of water to the community, the treatment required to meet State drinking standards, and the wastewater treatment process that produces Title 22 reclaimed water that will be used for irrigation. The class ends with a poster contest that portrays water or energy conservation or both. The program receives good media cover and feedback from the program indicates the students bring the program messages home to engage the entire family.</p> <p>In 2009, the District contacted the local community college to inquire about potential student internships. No local internship programs exist; however, in 2010, the District provided support for a student from San Diego State University requiring a set number of resource conservation internship hours to complete her BA. The District is interested in continuing a college-level internship program.</p>
<p><b>10. Residential Assistance Program</b></p> <p>Purpose: To provide site-specific leak detection assistance and provide aerators and showerheads that meet WaterSense specifications.</p>	<p>When a permit is issued, the District inspects single-family, multi-family and public buildings for new and remodeled construction to verify installation of required water conservation showerheads, aerators and low flow toilets and checks fixture flow rates.</p> <p>High usage reports or visual clues trigger site-specific water surveys, including leak detection services, by District maintenance staff to identify problems so that homeowner can make adjustments or repairs.</p> <p>The LivingWise program described in #9 provides a low flow showerhead and a kitchen and bathroom aerator for each student. In addition, the District has provided free showerheads and aerators as prizes at the Earth Day event but discontinued the practice because the efficacy of the</p>

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	practice is unknown.
<b>11. Landscape Water Survey</b> Purpose: To provide site-specific landscape water surveys	The District contacts high water users to demonstrate potential financial savings if irrigation practices are aligned with MAWA. District staff is available to review irrigation scheduling with customers, to offer information and review landscape plans for the rebate program and to provide water saving recommendations.
<b>12. High Efficiency Clothes Washers</b> Purpose: To provide incentives or ordinances requiring the installation of high-efficiency clothes washing machines with a water factor value of 5.0.	District offers rebate toward the purchase of a new (\$150) or replacement (\$200) washing machines with water factor of 6.0 or less for homes and commercial (\$300) establishments. At the completion of the current rebate program, the water factor currently required will be lowered to $\leq 5.0$ . In 2009, the total cost to the District was \$600 for 4 customers. No commercial establishments applied for the program. The low applications may be attributed to its newness to the program, the high cost of front loading machines and the general state of the economy. Also, washing machines may have higher longevity than toilets and thus less likely to require replacement.
<b>13. WaterSense Specification Toilets</b> Purpose: To provide incentives or ordinances required the replacement of existing toilets using 3.5 or more gpf with a toilet meeting WaterSense specifications.	The District offers the following residential toilet rebates: replace > 1.6 gpf with 1.6 gpf (\$100), replace > 1.6 gpf with $\leq 1.28$ g or dual flush (\$200) and replace a 1.6 gpf with <1.28 gpf or dual flush, \$150. Commercial or shared toilets rebates are: replace > 1.6 gpf with 1.6 gpf, \$150, replace > 1.6gpf with 1.28 gpf or dual \$250, and replace traditional urinal with a 0.5 gpf or less, \$200. In 2009, the District spent \$22,492 for the replacement of 144 toilets in the rebate program. Rebates for the installation of 1.6 gpf toilets ended July 2010.  MCWD recommends customers check reviews and WaterSense labeled toilets prior to purchase but does not endorse any manufacturer or label.
<b>14. Commercial, Industrial and Institutional</b> Purpose: To achieve water saving of 10% of baseline water use over a 10-year period. Baseline use is defined in BMPs. Implementation consists of measures designed to conserve water.	The District's commercial rebate program offers higher rebates amounts for replacing toilets, urinals, and washing machines than the residential program. The landscape improvements rebates are greater for larger landscapes to attract commercial accounts and multi-family developments. Four commercial accounts took advantage of the rebate program in 2009.
<b>15. Landscape</b> Purpose: Provide non-residential customers with support and incentives to improve their landscape water use efficiency.	The District offers landscape rebates for smart clocks and irrigation "tune-ups" for District customers. Rebate amounts are higher for larger square footage of landscaped area to encourage these customers to apply. In addition, the District contacts high water users to demonstrate potential financial savings if irrigation practices are aligned with MAWA. To assist in reducing demand for irrigation, the District offers a rebate program for smart controllers (\$400) and "irrigation tune-ups" (\$300 - \$1,000 depending on square footage). Application requires submittal of recommended water efficiency changes from landscape contractors. The District rebates totaled \$2,951 in 2009 for two improvement projects at multi-family complexes.