

# **BEST MANAGEMENT PRACTICE: WATER CONSERVATION**

## **WATER RESOURCE AND DEMAND MANAGEMENT PLAN**

Water conservation should be an important component of long term water resource planning. The possibilities for both new source development and optimization of existing sources should be considered. Likewise, the obligation to uphold the mission and protect the sustainable operations of the water utility must be considered. One of the first steps towards undertaking a sound water conservation program is to develop or update the Water Resource Plan. A Water Resources/Demand Management Plan, accessible to the public, is important to many aspects of community support.

A Water Resources/Demand Management Plan could include these basic elements:

### ***SCOPE AND OBJECTIVES OF THE PLAN***

Origins of the plan, including statutory and regulatory mandates

### ***GENERAL AND HISTORICAL BACKGROUND***

- Location of system and nearby systems
- Geography, hydrology, metrology, geology, surface water and groundwater resources
- Soil characteristics and subsurface conditions
- Demographics (past, present, and expected future population characteristics)
- Service population makeup (residential (single and multi family), industry, commercial, service, government, other)
- Residential, industrial, commercial, recreational, agricultural, and institutional development and redevelopment
- Land use (present and future, including land use in detail in the vicinity of existing and proposed water supply facilities)
- Drainage, water pollution control, storm water and flood control management
- Wastewater facilities

### ***DESCRIPTION OF WATER DELIVERY SYSTEM***

Map of service territory and all sources/future sources, including location of nearby systems, interconnections, and the land area contributing flow to the water resources.

### ***DESCRIPTION OF RATE STRUCTURE***

- Current rate structure, including consideration of conservation rates and fees
- Metering and billing practices

## ***DRINKING WATER QUALITY ISSUES***

Any past or projected water quality issues that will affect current or future supply Source Water Assessment Program (SWAP) status, and implementation of SWAP recommendations.

## ***WATER QUANTITY ISSUES***

- Historical supply and reasons for variations
- Water supply forecasts (for utility and region)
- Historical demand and reasons for variations
- Description of average and peak demand patterns, seasonal and annual
- Water demand forecasts (short- and long-term by sector)
- Identification and evaluation of current and proposed demand management measures, including those taken by the utility itself
- Environmental impact issues (wetlands desiccation, streamflow or groundwater depletion, etc.)
- Municipal/community measures to conserve water

## ***DEVELOPMENT OF NEW SOURCES AND OPTIMIZATION OF EXISTING SOURCES AND INFRASTRUCTURE***

- Evaluation of new or expanded water supply resource alternatives, including redevelopment of sources, enhanced storage and recharge opportunities.
- Improvements to existing system and infrastructure that will enhance current sources or help reduce losses
- Evaluation and integration of conservation and demand management alternatives
- Consideration of regionalization

## ***OPERATIONAL PRACTICES***

Detail of operational practices that affect water supply management including such practices as: filter backwash recycling, residuals management, flushing/ maintenance, pressure management, leak detection or other processes as applicable.

## ***CONSERVATION AND DEMAND MANAGEMENT ISSUES***

Review, Evaluate and prioritize all appropriate Conservation and Demand Management measures that could enhance system operations and/or customer peak demands or total use. A partial list would include, but not be limited to, the following measures:

- Flow reducing or restricting devices
- Incentives for water efficient appliances
- Restrictions or limits on outdoor water use
- Water reuse programs
- Water audits
- “Wise use of water” education programs
- Xeriscape practices
- Promotion of rain barrels
- Conservation rates
- Water banking offsets for developers, etc.
- Industrial and Commercial Demand Management, specific to the industry (such as process water use, metering, sanitation practices, cooling and heating, and leaks)

### ***DEVELOP A COST EFFECTIVE LONG-TERM INTEGRATED RESOURCE PLAN***

Includes both supply and demand management options

- Feasibility, benefits, costs of each management alternative\
- Economic, environmental, societal, and regulatory considerations
- Potential implementation issues
- Selection of the optimal course of action for implementation

### ***DROUGHT CONTINGENCY AND EMERGENCY MANAGEMENT PLAN***

- Identification of priority uses (essential potable water needs) consistent with appropriate public policies
- Sources of emergency water supplies and diversions
- Plans for public education and voluntary use reduction
- Plans for outdoor water-use bans, restrictions, and rationing
- Plans for pricing and penalties for excess use
- Coordination with other utilities (such as on inter connections)

- Coordination with local authorities (such as emergency responders, on Emergency Response Plan)

### ***COORDINATION AND CONSISTENCY***

- Coordination of long-term plan with drought contingency and emergency management plan
- Regional economic, environmental, and societal effects
- Economic development and land-use policy issues
- Consistency of the plan with federal, state, regional, and river basin plans, water resource policies, and water assets studies

### ***PUBLIC PARTICIPATON***

- Public information and education
- Opportunities for public comment
- Identification of likely participants in planning proceedings
- Identification of partners, including municipal partners, to assist in furthering water supply goals and objectives