



REVISED

AGENDA
ITEM: 4c
DATE: 9-21-09

City Council Report

Date: September 14, 2009
To: City Council
Through: Jack Friedline, Deputy City Manager
Kathryn Sorensen, Water Resources Department Director
From: Colette Moore, Water Resources Specialist
Subject: Amendment to the City of Mesa Drought Plan
Citywide

Strategic Initiatives



Purpose and Recommendation

Approval of amendment to the City of Mesa Drought Plan.

It is recommended that the Council approve the amendment to the City of Mesa Drought Plan to reflect organizational restructuring.

Background

The City of Mesa adopted its drought plan in the fall of 2003. Many organizational changes have occurred since 2003. Staff recommends that the plan be updated to reflect these changes.

Discussion

The City of Mesa Drought Plan as adopted in 2003 vests authority in the Council and in the Manager of the Utilities Department, a position that no longer exists in the City. If amended, the new plan will continue to vest authority with the Council, but will also vest authority with the City Manager instead of with the Manager of the Utilities Department.

Alternatives

The City of Mesa could continue with its existing Drought Plan, however, the 2003 plan vests authority in the Manager of the Utilities Department, a position that no longer exists in the City. Would the City like to implement certain aspects of the drought plan as currently written, there might be some confusion as to method and authority.

Fiscal Impact

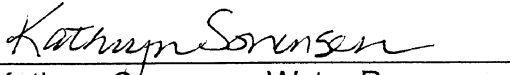
There is no cost to approve the Drought Plan.

Coordinated With

Development of the City of Mesa Drought Plan was coordinated with the Development and Sustainability Department. The City Attorney's Office concurs in the City's authority to adopt this drought plan.



Colette Moore, Water Resources Specialist



Kathryn Sorensen, Water Resources Department Director



Jack Friedline, Deputy City Manager

City of Mesa Drought Plan

Revised 2009

General Principles

Drought is a natural climatic condition that has occurred many times in the past and that will occur again in the Sonoran Desert. For this reason, preparation for drought is an ongoing process. A drought occurs when there are several consecutive years of below normal/average precipitation on the watershed that result in reduced streamflows and reservoirs levels. Mesa has planned for these drier years by securing and managing a variety of water sources and encouraging voluntary water conservation. The purpose of this Drought Management Plan is to endorse a management framework for:

- dealing with drought conditions when they occur,
- preventing the need to implement drastic demand reduction measures such as rationing of water supplies, and
- planning for future drought conditions before they occur.

Background

Mesa is fortunate to have multiple water sources. The majority of Mesa's water supply is surface water from the Salt and Verde Rivers, delivered by the Salt River Project (SRP) as well as Colorado River water through the Central Arizona Project (CAP). Mesa also receives a significant amount of water through an effluent exchange with the Gila River Indian Community whereby Mesa delivers highly treated wastewater to the Community and receives 80% of that water returned as raw CAP water. When additional water is needed, groundwater and surface water that has been stored underground are pumped from the many wells located throughout the city.

Mesa captures wastewater and treats it to a very high standard—drinking water quality—then allows it to percolate back into the ground where it is stored for future use. Mesa also stores surplus surface water underground. These sources combined replenish our groundwater and allow Mesa to accumulate long-term storage credits.

Mesa has amassed 466,280 acre-feet of long-term storage credits and continues to build that credit for the purpose of meeting water demand during a drought and to demonstrate that the City has a one hundred-year assured water supply.

From the operations perspective, ultimate drought preparation comes in the form of having adequate well and wellhead treatment capacity to

meet water demand when surface water supplies are short. The Water Resources Department has worked for years to successfully maintain the well capacity needed to meet customer demand during times that surface water supplies are limited in availability.

Since 1982, Mesa has been promoting and encouraging voluntary water conservation, regardless of the amount of water available. However, if drought conditions prevail for an extended period of time, it may be necessary to initiate water use restrictions.

Another benefit to conservation during times of drought is one associated with cost. Droughts potentially cause an increase in the cost to Mesa's Utility in meeting its customers' demands. For example, when SRP water supplies are short, they may be supplemented with more expensive CAP water. Demand can be managed during these times first to prevent the need to ration water supplies but also to mitigate the impact of increased costs for water supplies.

Drought Plan

The City of Mesa Drought Management Plan complements ongoing water resource and water operations planning efforts and is designed to be a flexible tool to plan for, mitigate, and respond to drought conditions, and to keep the public informed regarding drought impacts. At the heart of the Drought Management Plan is the Drought Management Team (Team).

Members of the Team shall include at a minimum:

- The Deputy Director of the Water Resources Department,
- A member of the Environmental and Sustainability staff,
- The Water Resources Manager,
- A member of the Budget and Research staff,
- The Water Resources Department Financial Analyst,
- The Utility Control Center Supervisor,
- The Water Resources Department PIO,
- The Water Quality Supervisor, and
- A representative from the City Attorney's Office.

The Water Resources Manager will monitor drought signals on an ongoing basis and send out information regarding the condition of relevant watersheds to members of the Team. When a climatological drought occurs or is imminent, upon recommendation of the Water Resources Manager, the City Manager, or designee, may activate the Team.

It will be the responsibility of the Team to evaluate the severity of the drought and develop an action plan based on current and forecasted water supply and demand, and economic impact to the City.

Drought impacts will vary with both the severity and length of the drought. Factors typically used to evaluate the impact of a drought include the availability of current and projected water supplies, current and projected customer demands, the availability of current and future water supply infrastructure, the condition of surface water reservoirs, and projections from climatologists regarding the magnitude and duration of the drought. The Team shall use these factors to evaluate the best-case, worst-case, and most likely scenarios regarding the severity and length of the drought.

After undertaking such analysis, the Team shall report back to the City Manager. The Team shall present the following:

- An analysis of the probable impact to City of Mesa water supplies
- An analysis of the probable financial impacts of the drought
- An analysis of the potential need for and availability of alternative water supplies
- A recommendation regarding demand management
- A recommendation regarding whether the City should enter into one of the four drought stages,
- A recommendation regarding communication with the public, and
- A legal analysis of the recommended actions

The Team shall continue to monitor the situation and meet at least quarterly throughout the duration of the drought, updating strategies as necessary. After the Water Resources Manager determines that the drought has passed, the Team shall prepare a report detailing the successes and failures of the strategies used during the drought, and provide a recommendation regarding on-going planning and preparation for the next drought.

Stage One

Upon the recommendation of the City Manager, or designee, the City Council may declare Stage One when a prolonged surface water shortage that will affect the City of Mesa is predicted or occurs. Mesa's Water Resources staff monitors the precipitation and water storage levels of the Colorado, Salt, and Verde River watersheds. A prolonged reduction in surface water supplies can be predicted several months prior to the actual announcement of a reduction in surface water deliveries. At this stage of the drought, Mesa is capable of meeting demand through remaining surface and ground water supplies.

Voluntary conservation measures may be implemented in Stage One. Examples of the types of measures that may be implemented in response to a Stage One event include:

- Increased monitoring of SRP and CAP surface water supply availability,
- Frequent communication with customers regarding hydrologic conditions and drought status,
- Reporting by the Water Resources Manager to the Director of the Water Resources Department, the City Manager, and the City Council as water supply conditions change,
- Increased community education on water conservation, and
- Reduction of water use in City facilities, including but not limited to reduction of hours of operation of water features, and limits on overseeding.

Stage Two

Upon the recommendation of the City Manager, or designee, the City Council may declare Stage Two when SRP combined deliveries of Stored and Developed water are cut to less than 1.5 acre-feet per acre and / or CAP Subcontract and Indian Lease water availability is cut to an amount that is equal to or less than eighty percent of the amount of Subcontract and Indian Lease water used in the most-recent non-drought year. At this stage, Mesa is capable of meeting demand through its remaining surface water supplies, banked water, and wells. Voluntary water conservation measures may be implemented in Stage Two.

In addition to the measures implemented during a Stage One event, more extensive demand management measures may be requested of all water customers, including for example:

- Reduction of water consumption 5–10% by eliminating waste, repairing leaks, and eliminating unnecessary outdoor water use.
- Running of lawn sprinklers only between the hours of 7:00 PM to 7:00 AM.
- Avoidance of use of decorative water features and outdoor misting systems
- Discontinuance of overseeding in the fall.
- Use of increased cooling tower cycles to three cycles of concentration or higher.
- Reduction of frequency of outdoor watering.

Additionally, the City of Mesa may take additional steps, such as:

- Development of a public awareness program to alert residents to drought conditions, its potential impact to Mesa's water supplies, and impacts of continued drought conditions.

Stage Three

Upon the recommendation of the City Manager, or designee, the City Council may declare Stage Three when SRP combined deliveries of Stored and Developed water are cut to less than one acre-foot per acre and / or CAP Subcontract and Indian Lease water availability is cut to an amount that is equal to or less than sixty percent of the amount of Subcontract and Indian Lease water used by Mesa in the most-recent non-drought year. At this stage, Mesa is capable of meeting demand through its remaining surface water supplies, banked water, and wells. Mandatory demand management strategies may be implemented in Stage Three.

One or more of the following measures may be implemented in response to a Stage Three event:

- Voluntary water management measures identified in Stage One and Stage Two may become mandatory.
- Identify major water users and require them to develop a water conservation plan.
- Limit lawn watering according to a published schedule.

Additionally, the City of Mesa may take actions such as the following:

- Examine commercial and residential development standards and recommend changes that will result in more efficient use of water.
- Remove turf from public right-of-ways and convert parks to meet the new water efficient landscape design standards.
- Intensify community education effort.
- Increase staff resources to implement drought response measures.
- Implement civil penalties for wasting water.

Stage Four

Upon the recommendation of the City Manager, or designee, the City Council may declare Stage Four when water deliveries are insufficient to meet projected water demand. Mandatory customer water use restrictions are implemented in Stage Four to ensure that basic water needs for Mesa residents and businesses will be met.

In addition to the measures implemented during Stages One through Three, one or more of the following types of measures may be implemented in response to a Stage Four event:

- Mandatory water use restrictions.
- Limitation on new water connections.
- Drought surcharges

RESOLUTION NO. _____

**A RESOLUTION OF THE COUNCIL OF THE CITY OF
MESA, MARICOPA COUNTY, ARIZONA, ADOPTING A
DROUGHT PLAN.**

WHEREAS, the City of Mesa recognizes that the amount of water available to the City of Mesa and its water utility customers is finite and may be subject to depletion and reduction in availability during periods of extended drought or as a result of other uncontrollable forces; and,

WHEREAS, the City recognizes that as a result of such limitations in the water supply due to extended drought conditions and other acts of God an uninterrupted water supply for all purposes cannot be guaranteed; and,

WHEREAS, in the best interest of the City of Mesa, the City deems it expedient and necessary to establish certain rules and policies for the orderly and efficient management and conservation of limited water supplies during an extended drought and other water supply emergencies in order to preserve the public peace, health and safety;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Mesa, as follows:

Section 1. The City Council hereby approves and adopts the City of Mesa Drought Plan.

Section 2. That the City Manager and the various City officers and employees be and hereby are authorized and directed to perform all acts necessary to give effect to this Resolution.

PASSED AND ADOPTED by the City Council of the City of Mesa, Arizona, this _____ day of _____, 2009.

APPROVED:

Mayor

ATTEST:

City Clerk