



Agenda Item #: _____




Staff Report

City of Manhattan Beach

TO: Honorable Mayor Montgomery and Members of the City Council

THROUGH: Geoff Dolan, City Manager 

FROM: Jim Arndt, Director of Public Works
Raul Saenz, Utilities Division Manager 

DATE: October 21, 2008

SUBJECT: Water Shortage and Conversion Strategies

RECOMMENDATION:

Staff recommends that the City Council review and submit to the Environmental Task Force.

FISCAL IMPLICATION:

None with this report.

DISCUSSION:

Source of Supply

The City of Manhattan Beach obtains 84% (6,034 acre-feet) of its wholesale potable water from the Metropolitan Water District of Southern California (MWD) through the West Basin Municipal Water District (WBMWD) via a connection located at the S/W corner of Manhattan Beach Blvd and Redondo Ave. The sources of the MWD water are the Sacramento River Delta and Colorado River watersheds. The remaining 16% (1,131 acre-feet) of City's potable water demand is obtained through groundwater rights within the West Coast Ground Water Basin. Ground water basin management is administered under the direction of the California Department of Water Resources (DWR) by court order through the Water Replenishment District of Southern California (WRD). The City owns and operates two wells located in the City of Redondo Beach on Manhattan Beach Blvd. Not including operating costs, the 2008/2009 cost of potable water is projected at \$4,351,970: \$4,193,630 for MWD imported water deliveries and \$158,340 for local WRD administered groundwater supplies. However, these costs rise to as high as \$11.9M under the worst case drought scenario detailed below.

Drought Overview

- This past Water Year, October 1, 2007 thru September 30, 2008 has seen a deficit of as much as 10 to 20 inches of precipitation in the Northern and Central Sierra, source of much of our water supply. 2008 marked the fourth driest spring on record, coming off of a record dry year. The DWR has indicated that 2009 has the potential to be the one of the most severe drought years in California's recorded history.
- Statewide runoff was about 57 percent of normal in water year 2007/2008. In water year 2006/2007, statewide runoff amounted to 53 percent of normal. Consequently, statewide reservoir storage now stands at about one-third of its average capacity for this time of year.
- Exacerbating the current drought condition, regulatory environmental protections for listed fish species in the Sacramento-San Joaquin River Delta have curtailed State Water Project (SWP) and Central Valley Project (CVP) water deliveries to Southern California by 30%.
- The Colorado River is in its eighth year of dry weather with its two major reservoirs down to 50% of their capacity.
- June 5th, 2008 - Governor Schwarzenegger declared a statewide drought and directed state agencies and departments to take specified actions to address statewide drought conditions. The Governor has called for Californians to reduce their per capita water consumption by 20 percent by the year 2020.
- June 10th, 2008 - MWD declared a water supply alert – urging all of Southern California to achieve extraordinary conservation in order to protect our water storage reserves.
- June 30, 2008 - WRD announced that for the first time in its 48-year history, imported MWD water deliveries for replenishment to the underground aquifers has been unavailable for an entire year; and deliveries are not expected to resume until 2010. Anticipating that the MWD will issue a formal drought declaration, WRD may take steps to allow additional groundwater pumping by its purveyors to alleviate imported water shortages.
- The DWR has established a 2009 Drought Water Bank to help facilitate the exchange of water throughout the state and assist water suppliers at risk of experiencing drought-related shortages and requiring supplemental supplies to meet anticipated demands.

MWD Water Shortage Allocation Plan

Due to drought conditions and environmental restrictions impacting the water supply attained through the SWP, CVP and Colorado River Aqueducts, the WBMWD has informed its water purveyors of a 95% probability that the MWD will initiate a Water Shortage Allocation Plan (WSAP) by July, 2009.

- The WSAP calls for “voluntary” conservation measures across seven allocation stages, which will be triggered by examination of available reservoir storage capacities and hydrologic forecasts.
- WBMWD Stage One calls a 5% reduction to the current allocation, with subsequent stages up to Stage 6 demanding cumulative reductions of water in 5% increments – 5% through 30%. Stage Seven calls for a 50% reduction in water consumption.

- The WSAP demands that City brace for water supply allocation stages by encouraging consumer water use reductions through implementation of local water conservation and public outreach strategies.

Adverse Financial Impact

Indications from MWD are that while California may face the most severe drought in recorded history, water will still be available when the WSAP is implemented. Rather than water reductions, financial penalties will be assessed by the WBMWD if the City does not “voluntarily” reduce its water consumption to follow allocation reduction as follows:

- Penalties to consumers for Stages One and Two amount to 7.3% and 14.7% increases, respectively, to the current unit rate for water consumed.
- Penalties for Stages Three - Seven range from 29.4% to 132% increases to consumers to the current unit rate for water consumed.
- Assuming that the penalties will be carried by the City’s water consumers, who currently pay \$1.83 per unit, then:
 - Stage One penalties raise the water to \$1.96 per unit.
 - Stage Seven penalties raise the water unit rate to \$4.25 per unit.
- Table 1 illustrates:
 - The impact of financial penalties on MB’s Water Source of Supply budget line, which ranges from \$419,363 at Stage One up to \$7,548,534 at Stage Seven.
 - The City’s 2008/2009 water budget is set at \$4,351,970. Stage One penalties would raise that amount to \$4,771,333. If we do not reduce consumption, Stage Seven penalties would raise that amount to \$11,900,504.

These rates assume that the penalties are assessed equally to all users based on all water used, effectively penalizing those who conserve water. An alternative penalty strategy could involve a tiered water rate approach whereby users who voluntarily reduce consumption do not see penalties, and users who do not reduce consumption would contribute a greater rate to offset penalties.

Mitigating Adverse Financial Impact through Conservation

Penalty levies can be avoided or minimized through various mechanisms that heighten MB residents awareness of the spectrum of water related economic, legal, and environmental issues connected to the current drought situation. Accordingly:

- MB’s website will be utilized to promote conservation through general awareness and by providing hyperlinks to water conservation services, devices and relevant environmental/governmental groups that promote the same.
- Awareness of the financial impact of excessive water use will be accomplished through dissemination of information from Table 1.
- Revise the Current Water Conservation Ordinance (last revision 1991) to:
 - Align the City’s drought stages and implementation triggers with those of the MWD.
 - Allow the City to recover MWD drought imposed penalties.
 - Establish permanent water conservation behaviors immediately and outside of drought periods.

- Development of a tiered, or revenue neutral water rate structure that induces water conservation while preserving infrastructure maintenance and capital improvement reserves.
- MWD has advised the WBMWD of a ½% increase in its water shortage allocation if it demonstrates that 70% of its water purveyors have implemented a water conservation tiered rate structure.

Mitigating Adverse Financial Impact Through Pursuit of Alternate Source of Water Supply

- Purchase groundwater rights in the West Coast Groundwater Basin.
- Lease groundwater rights.
The greatest constraint of leasing water is the DHS requirement that MB blend MWD water with Wells 11 and 15 to reduce iron and Manganese below legally acceptable concentrations required to meet Title 22 of the Safe Drinking Water Act law, which means that we cannot rely entirely on groundwater to meet demands.

Conservation Through Improved Operating/ Parameters

The Utilities Division of the Public Works Department will reexamine its operating regimen in the following areas:

- Cost Avoidance through identification of Unaccounted for Water
 - Water Meter Maintenance and Replacement.
 - Reevaluation of the System Flushing Program.
 - Implementation of a Comprehensive Leak Detection Program, which would be evaluated for viability after an unaccounted for water audit is performed.
- Explore Remaining Recycled Water Use Opportunities
 - Marriott Hotel Golf Course.
 - Parks, and Median Islands that have not yet been retrofitted.
 - Private Commercial Businesses.
- Review water use of top water users in the City and perform audits that would lead to conservation recommendations.
- Review City water usage in parks, fire department training, street sweeping, and that of outside vendors who utilize the City's water supply as a source for doing City related business.
- Where practical, convert City landscaping to xeriscape - a landscaping method developed especially for arid and semiarid climates that utilizes water-conserving techniques.

Environmental Task Force

The City's recently appointed Environmental Task Force might be encouraged to:

- Develop drought education, information and outreach programs.
- Perform comprehensive review and revision of the City's Water Conservation Ordinance with particular emphasis on implementation of aggressive water conservation measures.
- Review and recommend a viable conservation tiered water rate.
- Consider and recommend other strategies that help address the evolving drought crisis.

Recommended Timeline

It is recommended that City Council ask the Environmental Task Force and the subcommittee to make the following high priority projects.

- Return to City Council with a revised Water Conservation Ordinance by February, 2009.
- Provide City Council with recommendations for a conservation tiered water rate structure that would factor in MWD penalties by May, 2009 for adoption by July, 2009.

Table 1
City of Manhattan Beach
Analysis of Financial Impact for Non-Participation in MWD Water Shortage Allocation Plan
21-Oct-09

<u>MWD Shortage Allocation Stage</u>	<u>Declared Shortage</u>	<u>Penalty Levy²</u>	<u>Basic Cost \$/Unit</u>	<u>Adjusted Unit Cost (\$/Unit)</u>	<u>% Increase Unit Cost \$/Unit</u>
1	5%	\$419,363	\$1.83	\$1.96	7.3%
2	10%	\$838,726	\$1.83	\$2.10	14.7%
3	15%	\$1,677,452	\$1.83	\$2.37	29.4%
4	20%	\$2,516,178	\$1.83	\$2.64	44.1%
5	25%	\$3,354,904	\$1.83	\$2.90	58.7%
6	30%	\$4,193,630	\$1.83	\$3.17	73.4%
7	50%	\$7,548,534	\$1.83	\$4.25	132.2%

Example of Impact Average Residential Bi-Monthly Bill, Which is Presently at \$45.75

<u>MWD Shortage Allocation Stage</u>	<u>Average bi-monthly Unit Usage</u>	<u>Adjusted Unit Cost</u>	<u>Adjusted Average Usage Bill</u>
1	25	\$1.96	\$49.00
2	25	\$2.10	\$52.50
3	25	\$2.37	\$59.25
4	25	\$2.64	\$66.00
5	25	\$2.90	\$72.50
6	25	\$3.17	\$79.25
7	25	\$4.25	\$106.25