



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: January 27, 2009

Subject: City Water Operations Conservation Practices

RECOMMENDATION:

It is recommended that City Council review report and send to the Environmental Task Force – Water Subcommittee.

FISCAL IMPLICATION:

None with this report.

BACKGROUND DISCUSSION:

At the October 21, 2008 City Council meeting, Council asked Staff to bring back a summary of operating changes that have and could result in water conservation enhancements. This report highlights areas of City:

- Operations Water Conservation Successes, and
- Operations/Behavioral Changes, some of which can be readily implemented and others that will require planning and budgeting.

Operations Water Conservation Successes

The City of Manhattan Beach has a proven track record of water conservation project successes. In many cases, this past action minimizes the City's chances for significant future savings. Past success includes both landscape irrigation system and facilities fixture retrofits.

The greatest water savings has been realized through the use of reclaimed water purchased from the West Basin Municipal Water District (WB) for landscape irrigation. The City has developed a pipeline network that ties to the WB transmission lines that deliver reclaimed water to the majority of City parks, median islands, schools, and select public facilities. This effort has resulted in an annual reduction of 375 acre feet (122 million gallons) of potable water. Given that reclaimed water is less expensive than potable water, a permanent economic benefit of

\$65,000 per year has also been realized.

Irrigation is provided through a centrally controlled, weather based irrigation system designed to manage irrigation demands of Veteran's Parkway, Polliwog Park, Marine Avenue Park, the Sports Complex, and City Hall. Weather based irrigation control technology uses local weather and landscape conditions to tailor irrigation schedules to actual conditions on the site. Instead of irrigating according to a preset schedule, the irrigation controllers allow irrigation to more closely match the water requirements of plants. Where weather based controllers are not in place, irrigation timers are manually calibrated seasonally to meet climatic demands.

Irrigation, using potable and recycled water, of all City landscaping takes place only between the hours of midnight and 5 A.M. to minimize evapotranspiration. All landscape irrigation systems have been fitted with high efficiency nozzles that constrict and direct water flow to accommodate watering area geometry, thereby minimizing or eliminating street runoff. Energy savings have been realized through the installation of solar powered irrigation systems that have been installed at the Rosecrans, Manhattan Beach Blvd, Artesia, Aviation, Sepulveda median islands.

Water conservation benefits have also been realized in landscape modifications. All grass at Manhattan Village Park soccer field has been replaced with synthetic turf. This has resulted in a savings of 2.4 million gallons of water per year, and eliminated expenses tied to irrigation infrastructure and grounds maintenance. Turf has been removed from the Rosecrans median island and replaced with drought tolerant plants, reducing water needs. Also, the Street Scape area of Downtown Manhattan Beach was replanted with drought tolerant landscaping.

The majority of City facilities, including City Hall, Public Works Yard, Fire Station 2, Joslyn Community Center, Creative Arts Center, and City park comfort stations, have been retrofitted with waterless urinals, low flush toilets, faucet aerators, and low flow shower heads. The Fire and Police complex was designed and constructed to maximize the efficient use of potable, reclaimed and recirculated water. All water related fixtures in Police/Fire are of the low-flow variety. There is an opportunity to install twelve water-less urinals at Police/Fire, which could result in water savings of 240,000 gallons of water per year. Water used at the Fire Station for fire fighting exercises and training is captured and recirculated through a sump/ pump system, and landscaping is comprised of drought tolerant plants.

Operating/Behavioral Changes

A concerted effort is in the works to develop water conservation practices as a function of permanent behavioral changes, many of which have little or no associated cost. Beyond behavioral changes, the costs associated with the installation of water efficient facilities and landscaping will either be implemented through minor expenses, or as future Capital Improvement Projects.

1. Operational/ Behavioral

To reduce waste the Department of Public Works has implemented the practice of washing its fleet of 55 vehicles from weekly to once a month, resulting in an estimated water savings of

43,000 gallons per year. Also, staff has coordinated an effort with True Green to reduce the compressor spray pressure and spray nozzle diameter in order to reduce the amount of water used for the Streetscape sidewalk washing contract.

By July, 2009, water system mainline flushing program will have been evaluated in the Water Master Plan flow modeling to determine an optimal flushing regimen that simultaneously assures water quality while minimizing wasted water.

Staff is in the process of developing water conservation graphics and messages that will roll out onto the City's website by May, 2009. Also by May, 2009, water conservation messages will be printed in the water bill envelopes and onto the bimonthly water bill. The website and billing water conservation messages will be submitted to the Water Subcommittee for conceptual review and input.

2. Minor Expenses

Public information programs that appeal to a water user's sense of conservation are proven vehicles used in behavior changes. Businesses, such as restaurants can be encouraged to convey conservation messages to customers by offer water upon request, and through the placement of table placards that convey a water conservation message. By extension, water conservation messages/ads will periodically be printed in the local press.

A comprehensive review of water production and sales records will be performed by May, 2009, to determine "unaccounted-for-water". If unaccounted-for-water is higher than the industry standard of 6-10%, a water system audit, leak detection/repair, and meter repair/replacement program will be developed. By May, 2009, Staff will have the estimated cost to replace grass from all median islands with drought tolerant landscaping and Begg Pool will be inspected for leakages in April, 2009.

3. Capital Improvement Projects

Cost benefits of use of reclaimed water use at schools, parks and median islands, that were previously deemed to not be cost effective, will be reevaluated from both a cost and water savings perspective and considered for a future CIP project. Efforts to encourage remaining large water users, such as the Marriott Hotel and Pacific School will be continued; and a "second look" at those City facilities, median islands and parks which have not been converted to reclaimed water use will take place.

Staff will work with West Basin Municipal Water District to install hydrants on the existing west Basin reclaim waterline along the Veteran's Parkway. The City will consider mandating the use of the hydrants for City permitted construction projects, and contracts that utilize potable water in the normal course of construction or operations, such as street sweeping. Pending a determination of viability, these hydrants can be designed to double as a water source to be used by the Fire Department for enhanced/alternate fire protection capability. City sewer and storm water line cleaning equipment will be retrofitted for operational use of reclaimed water. Staff's goal is to have an equipment retrofit design prepared for review and approval by the L.A. County Department of Health and West Basin Municipal Water District by July, 2009.

The costs of constructing a recirculating water car wash station at the City's Public Works Yard will be submitted in the for consideration in the 2009/10 CIP.

CONCLUSION

The high degree of success of conservation programs that had previously been implemented underscores the City's longstanding commitment to water conservation. Prospective projects that will enhance the City's operating practices can be considered by the Environmental Task Force Water Subcommittee for economic and practical viability. All coupled with the finalization of the Water Conservation Ordinance and Conservation Rate structure, the City of Manhattan Beach will establish its full commitment to water conservation.

As a reminder, this report focused on City owned facilities and operations as a measure of the City's historic and ongoing commitment to water conservation. By extension, and furthering its commitment as a responsible steward of the environment, the City formed the Environmental Task Force to help shape policy and examine areas that will influence on private sector water conservation practices.