



CITY OF BEVERLY HILLS STAFF REPORT

Meeting Date: December 2, 2008
To: Honorable Mayor & City Council
From: Arnetta Eason, Management Analyst
Subject: Metropolitan Water District - Water Audit of City Facilities
Attachments:

1. All Site Summary of Recommended Water Savings Retrofits and Payback Analysis
2. Site-by-Site Summary of Fixture Count and Recommendations

INTRODUCTION

The City of Beverly Hills in partnership with Metropolitan Water District of Southern California (MWD) is striving to protect one of our greatest resources, water. In June 2008, Public Works and Transportation Department staff applied for the Public Sector Program (PSP) for water audits offered by MWD at no cost to agency members and/or public sector customers. A public sector customer is defined as a city, county, state or federal facilities funded through public funding.

Twenty-four audit application requests were submitted to MWD. Nine primary locations were surveyed in mid-July/early-August and will be used as a base for the remaining locations requested. The primary locations are City Hall, Fire Department Headquarters at Rexford Drive, Sunset Boulevard Median, Greystone Mansion (Doheny Park), Beverly Gardens, La Cienega Park, La Cienega Community Center, Beverly Hills' Library, and the Police Department.

In addition to City facilities, staff submitted audit requests with the permission of Facility Managers, Messrs. Fahey, and Lindsay on behalf of the Beverly Hills Unified School District and school sites, and Virginia Robinson Gardens respectively.

In the past couple of months water audits were performed on the aforementioned sites, which included irrigation systems and restroom facilities, to identify more efficient ways to conserve water. PSP provides a detail analysis with recommendations on how to achieve savings with water-use efficiency devices such as, smart irrigation controllers (weather-based), central computer

irrigation controllers (weather-based), toilets, urinals, cooling towers, pressurized water brooms, rotating spray nozzles, high efficiency nozzles, and synthetic turf.

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DISCUSSION

On October 20, 2008, Public Works and Community Services staff met with auditors on their findings. The Beverly Hills Unified School District and school sites, and Virginia Robinson Gardens will receive their reports separately. Attached is a summary of City's recommended water saving retrofits along with payback analysis, and a site-by-site summary of recommendations as a result of the audit.

The recommended replacements can potentially save 9,275,256 gallons in water usage per year and 113,497,660 gallons over the life of the products combined. Upon review of the detailed audit, staff will determine the feasibility of replacement and retrofits, taking into consideration possible construction and renovation that could conflict with installation and timeframe.

As staff proceeds site-by-site with installation recommendations, an incentive request with vendor quotes will need to be submitted and approved by MWD; upon approval, funding for the devices will be provided by MWD upfront with the City responsible for installation costs. Due to the number of locations involved, staff determined that Facilities Maintenance will be responsible for indoor facilities incentive requests and Parks responsible for outdoor facilities/site incentive requests.

On November 6, 2008 the first incentive request was submitted for the City Hall for the replacement of 19 toilets. Staff is awaiting approval of this submission. Upon approval by MWD, installations will be performed in-house for this submission. There is a 90-day installation period upon receipt of incentive funding.

Due to the overwhelming response from agency members, the MWD Board approved \$15,000,000 (\$5,000,000 each year for a three-year period) to fund this project. As of now, the \$5,000,000 allotted for this year is already accounted from a backlog of requests. Additionally, the Board is considering restricting funding to agencies that have a "No Water Waste" Ordinance, which needs to be defined.

FISCAL IMPACT

The total estimated cost of equipment is \$77,630 which is assumed will be paid by MWD. The annual water and sewer dollar savings is \$88,590; installation estimates of equipment installs if contracted out is \$44,425. Based on the cost of equipment compared to water and sewer dollar savings, staff anticipates a payback within a six-month period, if not sooner, depending on whether installations are performed in-house or by a contractor.

At this time, the full fiscal impact is unknown, as staff is awaiting a response from MWD on the Board's decision in response to disbursements.

RECOMMENDATION

Submitted for information only.



David Gustavson

Approved By

All Site Summary of Recommended Water Saving Retrofits and Payback Analysis

Equipment	Recommendation	Number of Recommended Replacements	Average Equipment Cost	Estimated Total Equipment Costs	Incentive Through MWD Programs	Avg Equipment Costs After MWD Incentives	Estimated Labor Cost	Estimated Total Labor Costs	Annual Water and Sewer Dollar Savings	Payback in Years
High Efficiency Flush Valve Wall Mounted Toilets	Replace old 3.5+ gallons per flush with high efficiency models	101	\$ 350	\$ 35,350	Cost of the Fixture Up to \$425	\$ -	\$ 350	\$ 35,350	\$ 11,473	3
High Efficiency Tank Type Toilets	Replace old 3.5+ gallons per flush with high efficiency models	5	\$ 280	\$ 1,400	Cost of the Fixture Up to \$425	\$ -	\$ 150	\$ 750	\$ 568	0.0
High Efficiency Tank Type Toilets	Upgrade old 1.6 gallons per flush with high efficiency models	2	\$ 280	\$ 560	Cost of the Fixture Up to \$75	\$ 410.00	\$ 150	\$ 300	\$ 42	1.7
Ultra Low Volume Urinals	Replace old 1.5+ gallons per flush with ultra low volume models	23	\$ 400	\$ 9,200	Cost of the Fixture Up to \$1,225	\$ -	\$ 225	\$ 5,175	\$ 7,541	0.7
Ultra Low Volume Urinals	Upgrade old 1.0 gallons per flush with ultra low volume models	10	\$ 400	\$ 4,000	Cost of the Fixture Up to \$310	\$ 900	\$ 225	\$ 2,250	\$ 823	1
Water Brooms	Utilize Water Broom for weekly sidewalk wash down instead of hose	4	\$ 255	\$ 1,020	Cost of the Fixture Up to \$380	\$ -	\$ -	\$ -	\$ 1,641	0.0
Clothes Washers	Upgrade old clothes washers with high efficiency models	1	\$ 900	\$ 900	Cost of the Fixture Up to \$540	\$ 360.00	\$ -	\$ -	\$ 287	1
Cooling Tower Conductivity Controllers	Replace standard conductivity controller with a pH model	1	\$ 2,500	\$ 2,500	Cost of the Fixture Up to \$4,860	\$ -	\$ 600	\$ 600	\$ 5,200	0.1
Rotating Spray Nozzles for pop-up spray heads	Replace standard spray nozzles with Rotating Spray Nozzles for pop-up spray heads	4540	\$ 5	\$ 22,700	Cost up to \$10 each, 25 nozzle min. No max.	\$ -	\$ -	\$ -	\$ 47,359	0.0
GRAND TOTAL RECOMMENDATION									\$ 44,425	\$ 88,590

4687 \$ 77,630 \$ 1,670 \$ 44,425 \$ 88,590

All Site Summary of Recommended Water Saving Retrofits and Payback Analysis

Device		Total Dollar Savings over the life of the product	Annual Savings in Gallons (per future)	Total annual savings in gallons over the life of the product
20		\$ 229,452	13,849	1,398,749
20		\$ 11,359	13,849	69,245
20		\$ 835	2,542	5,034
20		\$ 150,823	39,917	918,091
20		\$ 16,455	10,004	100,040
5		\$ 8,203	49,986	199,944
10		\$ 2,874	35,029	35,029
5		\$ 26,000	633,454	633,454
10		\$ 473,885	1,303	5,915,620
GRAND TOTAL RECOMMENDATION		\$ 1,056,161	924,768	9,275,256
				113,487,660

Recommendation	Number of Recommended Replacements	Average Equipment Cost	Annual Water and Sewer Dollar Savings	Payback in Years
High Efficiency Flush Valve Wall Mounted Toilets	101	\$ 350	\$ 11,473	3
High Efficiency Tank Type Toilets	5	\$ 280	\$ 568	0.0
High Efficiency Tank Type Toilets	2	\$ 280	\$ 42	17
Ultra Low Volume Urinals	23	\$ 400	\$ 7,541	0.7
Ultra Low Volume Urinals	10	\$ 400	\$ 823	4
Water Brooms	4	\$ 255	\$ 1,641	0.0
Clothes Washers	1	\$ 900	\$ 287	1
Cooling Tower Conductivity Controllers	1	\$ 2,500	\$ 5,200	0.1
Recessing Spray Nozzles for pop-up spray heads	4540	\$ 5	\$ 47,389	0.0
GRAND TOTAL RECOMMENDATION	4687		\$ 88,590	

Site-by-Site Summary of Fixture Count and Recommendations

Site Name	Dishwasher	*Upgrade	Clothes Washers	*Upgrade	Water brooms	*Use pressurized	Cooling towers	*Upgrade to ph	Toilets	*Replace	*Upgrade	Urinals	*Replace	*Upgrade	Faucet Leaks	Shower head Leaks	Irrigation Controllers	*Replace to WB	*Upgrade to CCIC	Total Sinks	*Repair or Replace
	4	0	3	1	0	0	1	0	118	97	2	33	26	6	0	0	16	1	16	5321	6540
Fire Station	2						1	0	19	19		5		5			4		4	928	930
Fire Station	1		3	1					23	19		5	5								
Sanchez Blvd Madlans																	5	1	5	1475	1511
Doherty Park																	1		1	224	190
General Park																	2		2	484	455
La Canigo Park									20	10		6	6				2		2	1245	995
La Canigo Community Center									10	8	2										
Library	1								18	18		9	9				1		1	382	363
Police Department									28	23		8	6	1			1		1	363	300

Attachment 2