

For Information

DATE: April 6, 2013

REPORT TITLE: **WATER EFFICIENCY PLAN: ANNUAL UPDATE ON 2012 IMPLEMENTED WATER EFFICIENCY MEASURES**

FROM: Dan Labrecque, Commissioner of Public Works

OBJECTIVE

To provide an update on the progress of the Water Efficiency Plan, quantify savings experienced as a result of implemented water efficiency measures, and outline upcoming water conservation initiatives within Peel.

REPORT HIGHLIGHTS

- The Water Efficiency Plan has contributed to an average annual day demand savings of 22.9 Million Litres per day and peak day demand savings of 24.2 Million Litres per day.
- Water Efficiency Plan measures included the Residential Toilet Replacement, Humidifier Rebate, Fusion Landscape Consultation, Industrial Commercial Institutional; Toilet Rebate, Indoor Water Audit and Outdoor Irrigation Audit, Peel Living Multi-family Residential Irrigation Audit and Residential Irrigation Audit Pilot programs.
- The Water Efficiency Plan was revised in 2012 and outlines updated measures and targets for 2013-2025.

DISCUSSION**1. Background**

The Water Efficiency Plan (WEP) was implemented in 2005 in response to increasing demands on the Region of Peel's water and wastewater treatment systems. Implementing the Water Efficiency Plan reduces excessive water use, and supports management of Peel's water and wastewater infrastructure assets. The goals of the WEP for reducing water consumption support the Term of Council Priority No. 3 to reduce per capita water consumption. The WEP helps Peel meet legislative requirements, most significantly those of the *Water Opportunities Act*. It aligns with regional environmental objectives through conserving energy and reducing greenhouse gas emissions. As of year end 2012, Peel's WEP has saved approximately 22.9 Million Litres per day (MLd), or almost 17.2 Litres per capita per day (Lcd).

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WATER EFFICIENCY PLAN: ANNUAL UPDATE ON 2012 IMPLEMENTED WATER EFFICIENCY MEASURES**2. Accomplishments to Date**

Since the WEP was approved, several water efficiency measures have been implemented for both the residential and industrial, commercial and institutional sectors (ICI). By the end of 2012, these initiatives contributed to a total average annual day demand (AADD) reduction of 22.9 MLd.

In 2012, six water efficiency measures including the Residential Toilet Replacement Program, Humidifier Rebate Program, Fusion Landscape Consultations, ICI Toilet Replacement Program, ICI Indoor Water Audits, and ICI Outdoor Irrigation Audits contributed to an average annual day savings of 3.8 MLd, and a peak day savings of 4.0 MLd. Water savings by program for 2012 are shown in Table 1.

Table 1- WEP Savings

Water Efficiency Measure	AADD Savings (L/day)	Peak Day Savings (L/day)
Residential Toilet Replacement	2,607,000	2,607,000
Humidifier Rebate	4,292	N/A
Fusion Landscape Consultation	12,708	122,000
Toilet Replacement for Business	81,000	81,000
ICI Indoor Water Audit	1,056,000	1,056,000
ICI Outdoor Irrigation Audit	72,876	190,000
TOTAL	3,833,876	4,056,000

3. Current and Upcoming Water Efficiency Measures- Residential**a) Residential Toilet Replacement Program**

Effective September 1, 2012, the guidelines for residential toilet rebates changed to a reduction from \$60 to \$25 with a two rebate limit maximum per household. Furthermore, in September 1, 2013, the Toilet Replacement Program will be discontinued. All eligible rebate applications for toilets purchased before September 1, 2013 will be accepted until December 1, 2013.

Because of changes in technology and the marketplace, an incentive program is no longer required for toilets. Awareness and education about water efficient technologies will be promoted at point of purchase and through community outreach.

b) Humidifier Rebate Program

As with the Residential Toilet Replacement Program, the Humidifier Rebate Program will be discontinued as of September 1, 2013. All eligible rebate applications for humidifiers purchased before September 1, 2013 will be accepted until December 1, 2013.

c) Fusion Landscape Consultations

To increase awareness about efficient outdoor water use and to reduce peak day demand, the Region offers Fusion Landscape Consultations to residents. Consultations focus on promoting eco-friendly gardening techniques and integrating residents' unique visions of their landscapes with water efficient designs. Over 1,200 consultations were completed during the summer of 2012.

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To complement the Fusion Landscape Consultations, the Region of Peel, in partnership with Sheridan and Humber Nurseries, offered a series of workshops that provided water efficient landscape education to over 180 residents.

To monitor the impacts of Fusion Landscaping on sustainable residential landscape design and outdoor water use, a long term study in the Clarkson neighbourhood of Mississauga began in 2009. Five residential demonstration Fusion Landscapes were installed within the neighbourhood to aid in the evaluation of water use. A long term monitoring program has been established for the pilot area to measure sustainability of this program.

d) Residential Irrigation Audit Pilot Program

The Residential Irrigation Audit Pilot Program was developed to identify the potential for peak day reduction at residential properties and reduce overwatering due to improper scheduling and inefficient irrigation system configuration. Larger scale residential properties using irrigation systems with significant outdoor water use were selected.

The pilot program examined irrigation in three study areas (Caledon, Brampton and Mississauga). Estimated savings from the 15 homes audited totaled 1.8 ML per year, or an average of approximately 0.129 ML per year per house. Based on estimated savings and resident feedback, the Residential Irrigation Audit Program will be expanded in 2013.

4. Current and Upcoming Water Efficiency Measures - Industrial, Commercial and Institutional (ICI)

a) ICI Indoor Water Audit Program

Peel ICI facilities account for over 30 percent of the total water demand within Peel. Eligible facilities are provided with an audit and a report detailing potential water savings, estimated rebate and approximate return on investment.

In 2012, five facilities completed process changes that have accounted for approximately 1.05 MLd of water savings. Additional facilities, audited in 2012, may complete the audit process throughout 2013. It takes approximately one to two years for a facility to successfully complete the process.

b) ICI Outdoor Irrigation Audit Program

The ICI Outdoor Water Audit Program is aimed at identifying potential peak day water savings that may be achieved through proper scheduling and irrigation system upgrades at large ICI facilities in Peel.

Since the program began in 2009, 17 ICI facilities have made irrigation system changes resulting in a savings of approximately 0.412 ML per summer day. Ongoing monitoring of billing data is performed by Peel staff to monitor the summer water demands and ensure reduction in water consumption is sustained.

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c) Toilet Replacement Program for Business

As with the Residential Toilet Replacement Program, the Toilet Replacement Program for Business will be discontinued as of September 1, 2013. All eligible rebate applications for toilets purchased before September 1, 2013 will be accepted until December 1, 2013.

5. Water Efficiency Strategy (WES) Update

Over the past few years there have been many technological and marketplace changes since the WEP was developed in 2004. To account for these changes and align the new strategy with current Regional Strategic Plan, the WEP underwent review in 2012. The new strategy, the 2013 Water Efficiency Strategy (WES), accounts for the recent marketplace changes, Regional strategic goals, and is in line with current legislation including the Ontario Water Opportunities Act and the Ontario Water Resources Act.

The Water Efficiency Strategy outlines updated measures and targets for 2013 – 2025. The annual update to Regional Council in 2014 will reflect the updated goals and targets and the achievements of 2013.

CONCLUSION

The water efficiency targets and measures outlined in the WES were approved in July 2012. These revisions were made to better suit our new goals and to focus the core direction towards education and outreach. Progress from programs detailed in the WES will be reported annually and will continue to be evaluated and amended as necessary to ensure program success.



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Approved for Submission:



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