
Toronto Water

Toronto City Hall, 24th Floor, East Tower
100 Queen Street West

Toronto, ON M5H 2N2

Tel: 416-392-8200

Fax: 416-392-4540

2007 BUDGET BRIEFING NOTE

Installation of Water Meters in Parks, Forestry and Recreation Facilities

Issue/Background:

- The installation of water meters in all Parks, Forestry and Recreation (PF&R) facilities is required to monitor actual water consumption so that water-efficiency measures that will advance the achievement of the targets in the Water Efficiency Plan (WEP) can be determined, implemented and monitored for savings.

Key Point(s):

- Over-watering is a common practice associated with many in-ground automatic irrigation systems. Computer controlled irrigation is a technology available to optimize watering practices.
- The City currently owns and operates computer controlled irrigation systems in various locations. It is estimated in the WEP that there are approximately 250 municipal sites with automatic irrigation systems in the City of Toronto. The Parks, Forestry and Recreation Division manage a majority of the sites.
- Where irrigation systems are already installed, changes can be made to optimize watering according to weather and off-peak periods by using a computer controlled irrigation system.
- Where this computer controlled irrigation technology has been applied in City parks, there have been water savings in excess of 40%.
- Computer controlled irrigation systems also help reduce the Peak Day Demand (PDD) on the water supply and distribution system, which occur during extended periods of hot dry weather in summer.
- The Water Efficiency Plan proposed to link all facilities and parks owned and operated by the City that have irrigation systems to the existing computer controlled system that uses actual weather data to operate irrigation systems (rather than relying on manually set controllers and potentially improperly set schedules).
- The targets in the Water Efficiency Plan were formulated based on the assumption that 100% of all of the City's in-ground automatic irrigation systems will be linked to the computer controlled irrigation system.
- The target water savings to 2011 for the Computer Controlled Irrigation Program in City parks are 8 ML/d.
- Monitoring and evaluation of this program would require the City to complete 'pre' and 'post' water demand monitoring using water-metering data to verify actual water savings.

- All metered automatic and manual irrigation systems will be considered for funding through the WEP towards the purchase of the computer linking equipment. Funding will cover the cost to convert to the computer-controlled system, not the irrigation system itself.
- As the Parks, Forestry and Recreation Division do not pay for the water they use, there are no offsetting cost reductions available to them to recover the installation costs of this technology.
- The cost for the capacity buy-back for water savings portion of the WEP program only, is estimated at \$1,867,000. This does not represent the full cost of installation. It has been identified that the capacity buy-back incentive of the WEP would not be sufficient to cover the cost of converting to the computer-controlled system.
- To monitor and report on actual water consumption across the Parks Division, meter reading would have to be completed for one full cycle of spring and summer season, which is the peak water demand season for Parks from activities such as swimming pool filling and irrigation of grounds and golf courses, etc.
- To capture accurate and complete data, a review of the Parks, Forestry and Recreation Division's actual water use processes may also be required (i.e. in some locations, filling of swimming pools may be done from hook ups to water hydrants which are un-metered).
- Therefore, to capture actual water consumption, it is anticipated that at least a full year of meter reading is required once all sites are metered.
- For computer controlled irrigation system installation to be fully operational, after installation of meters, an additional 2 – 3 years is required to put all equipment and monitoring measures in place (e.g. installation of valves, satellite dishes and other equipment and refined for individual site needs/profiles such as turf and soil condition considerations).
- Water Revenue Services in Corporate Finance has determined that 2005 water consumption for Parks was 2,196,540 cubic meters, which at current water rates would cost approximately \$3.2 million. This may be understated if practices such as filling pools by hook ups to un-metered hydrants are common.
- City Council at its meeting on July 25, 26 and 27, 2006 adopted the recommendation that *“the General Manager, Toronto Water, in consultation with the General Manager, Parks, Forestry and Recreation, bring forward a report on how Parks, Forestry and Recreation can implement measures to reduce their use of water, including computer controlled irrigation systems, and on other initiatives that will advance the achievements of the targets within the Water Efficiency Plan.”*

Prepared by: Bani Bawa

Contact for further information: Pamela Georgopoulos
Manager, Service Programs
Business Unit Support
Toronto Water
Tel: 416-392-1459
E-mail: pgeorgop@toronto.ca

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