



Appendix I



Measures Not for Consideration at this Time

The following measures are not recommended for implementation at this time because they provide minimal water savings, require further detailed study, or are restricted by provincial codes or regulations and are therefore, not considered.

Pressure management

Municipal water distribution systems experience leakage from both watermain breaks and from background leakage (caused by the many smaller holes and cracks that occur throughout the system). Background leakage is generally reduced by replacing or relining effected watermains or by reducing the water pressures within the system. A reduction in background leakage of approximately 7.5% is obtained for every 10 pounds per square inch of excess system pressure reduction.

By avoiding excess system pressures in specific areas or during periods of low demand, there can be substantial water and revenue savings. Of course, reducing system pressures to reduce leakage is only practical where excess pressures exist. Without the results of a complete hydraulic analysis, many system operators are hesitant about reducing even excess system pressures. This measure may be reconsidered as more field data becomes available.

Rainwater re-use

This measure involves the use of rain barrels to collect and re-use rainwater for landscape irrigation. The primary objective is to support downspout disconnection and reduce storm water flows. Three main disadvantages were identified:

- a high inconvenience factor for the user;
- a relatively high customer cost (\$50 per barrel); and
- unreliable water savings.

Xeriscaping

Xeriscaping or water efficient landscaping is another measure that can reduce outdoor water use related to landscaping. More investigation is required to help determine the measure's applicability and effectiveness. The City may develop a demonstration site in the future.

Showerheads

The American Water Works Association (AWWA) Residential End-Use Study, published in 1999, found that only 25% of existing showerheads were not efficient. In Ontario, the Building Code mandates that all new showerheads must meet an efficiency standard of 9.5 L/p/m maximum flow rate. Virtually all of the showerheads currently commercially available in Ontario meet this requirement. It is expected that all of the remaining inefficient showerheads will be replaced naturally with efficient models during the 15-year lifetime of the program. However, during implementation of the toilet replacement program, showerheads should be tested and inefficient showerheads should be replaced.

Cooling water reduction

Cooling water reduction is addressed as part of the ICI Indoor Water Audits.

Swimming pool make-up water

Implementing a program to reduce losses from swimming pool make-up water requires the active involvement of the owners of private pools and staff working at public pools to monitor conditions and adjust operations on a daily basis. Even with trained staff to perform these functions, expected water savings are minimal. The former City of Toronto offered training to their pool staff; the new City of Toronto may wish to do the same.

Conservation related rate structures

The City is currently working to harmonize rate structures across the new City of Toronto. As part of that effort, the City is considering a rate study.

Seasonal pricing strategies

The rate study will also address issues related to seasonal pricing.

Grey water re-use

Re-using grey water for domestic purposes is currently not allowed by the Ontario Building Code, due to possible cross-contamination between potable and grey water piping systems. In a community that is accustomed to using high quality potable water for all water uses, there may also be public resistance in using grey water.

Booster control pumps

Booster pump controls may be used in high-rise multi-residential buildings as a method to reduce excess water pressure in the building supply lines, and therefore, also reduce leakage losses and energy costs. The controls are designed to reduce booster pump operation during periods of low demand, e.g., during the night. Leakage rates are generally related to both the size of the opening and to the pressure in the lines. Reducing excess pressures, therefore, has the effect of lowering the leakage rate. The City has undertaken a pilot program to determine the extent of leakage reduction and the associated costs of implementing a booster pump control program. The results of this pilot program indicated that the volume of water savings achieved was related to the amount of leaks in the building, and that a greater water savings could be achieved by simply repairing the leaks.