

COMMITTEE OF THE WHOLE - JUNE 17, 2002

REGION OF YORK WATER FOR TOMORROW WATER-USE EFFICIENCY PROGRAM – LEAK MANAGEMENT STRATEGY

Recommendation

The Commissioner of Engineering and Public Works recommends that this report be received for information purposes.

Purpose

This report is intended to provide Council with information on the Region of York's Water for Tomorrow Water-Use Efficiency Program – Leak Management Strategy in Vaughan.

Background - Analysis and Options

In 1998, the Region of York established a Long Term Water Strategy Master Plan to meet the rapidly increasing demand on the water system from urban growth. A comprehensive Water-Use Efficiency Program is included as a component of this Water Strategy.

Water-use efficiency is essentially the wiser use of existing resources. It has been estimated that the Region could potentially save a minimum of 19 million litres of water per day through the implementation of water efficient measures. The Region's Water-Use Efficiency Program consists of several components including residential toilet and showerhead retrofit, commercial and industrial water-use audits, public education and leak management/control.

All water distribution systems have leaks. Leaks can occur at joints, valves and through small pinholes or splits in pipes. As the water system ages, these leaks typically become more significant. Recognizing this fact, the goal of the Leak Management component of the Program is to identify, repair and quantify unreported leakage within the water distribution systems of the Region's area Municipalities.

The Region retained the firms of United Utilities Canada Limited and Veritec Consulting Inc. to carry out the Leak Management initiatives. During the period between April 2000 and October 2001, Veritec Consulting Inc. completed the assessment of 14 distinct districts called District Metered Areas (DMA) within the City's water distribution system for leakage. The location of the 14 DMA covered the majority of the water systems in Woodbridge, Kleinburg, Maple and Thornhill, and comprised approximately 370 kilometres of watermain in all. The results of this assessment revealed that the majority of the City's water system are free of any specific and significant leaks. However, the study did identify four areas that exhibit higher than average "background Water Losses", which are smaller leaks that may not be possible or economical to locate and repair. Recognizing that under less water pressure small leaks are reduced, the Region is proposing to create permanent Pressure Management Areas (PMA) as a means of reducing undetectable background water losses. PMA will use an advanced flow modulated pressure control device to reduce water pressure within the distribution system at off peak times without restricting the ability to meet the required domestic and fire demands. This pressure control device is typically installed in an underground chamber. The Region, in consultation with the City, is proposing to complete the preliminary design and location selection for these PMA in early August 2002 at which time the anticipated water savings can be better estimated. The cost for the design, installation and maintenance of these devices for four years will be covered under the Region's Water-Use Efficiency Program. Thereafter, the City has the option to continue operating the PMA.

Conclusion

The results of the Leak Management component of the Region's Water-Use Efficiency Program revealed that the majority of the City's water distribution system is free of any specific and significant leaks. The study did, however, identify four areas within the City's water system that exhibit higher than average "background water losses". The Region is proceeding with the design and installation of pressure modulating controls in these areas, at no cost to the City, as a means of reducing this background water loss.

Attachments

N/A

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Respectfully submitted,

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