

COMMITTEE OF THE WHOLE OCTOBER 21, 2002

RAIN BARREL WATER CONSERVATION REPORT

Recommendation

The Commissioner of Engineering and Public Works recommends:

That this report be received for information.

Purpose

The purpose of this report is to provide information to Council on a rain barrel water conservation program.

Background - Analysis and Options

Council, at its meeting of April 15, 2002, requested staff to prepare a report regarding the feasibility of implementing a rain barrel water conservation program for the City of Vaughan residents.

Several districts in the City of Toronto have a rain barrel conservation program in place as part of their Downspout Disconnect program. In many parts of Toronto, the storm and sanitary sewers are combined. During severe rain events, the sewers may receive more water than they are designed to convey. This condition is referred to as surcharging. Surcharging can cause basements and roadways to flood and untreated sewage to enter watercourses. In addition, the storm water combined with the sanitary sewage must be treated at the sewage treatment plant at great expense to the taxpayer. By encouraging the residents to capture some of the rainwater in barrels for outdoor watering, it helps reduce the occurrence of surcharging and reduces wastewater treatment costs.

The City of Vaughan, on the other hand, has separate sewers for both storm water and sanitary sewage. Surcharge conditions in the storm sewer are rare and only occur under extreme conditions. The policy in the City, with regard to residential storm water, is to direct the roof leaders to drain onto the ground. This practice assists in the natural recharge of ground water and reduces the surcharge conditions. Surcharge conditions in storm sewer system are unlikely to be further reduced with the introduction of a rain barrel program.

Residents in Vaughan are acutely aware of the incidents of West Nile Virus in the GTA. According to information prepared by the Ontario Ministry of Health and Long-Term Care, rain barrels would be a perfect environment for breeding mosquitoes to lay their eggs. Depending on the temperature, eggs can hatch and develop into adult mosquitoes in as little as 12 days. This can continue throughout the summer so long as the water supply lasts. If a City-wide rain barrel water conservation program was implemented, the rain barrels must be equipped with screens over the top openings, and those residents using them must be aware of the importance of keeping the screens in place.

The Region of York currently has a rain barrel program in place as part of their Water for Tomorrow program. The Region, in cooperation with United Utilities Canada Limited, have negotiated a discount coupon system with various retailers to benefit the residents of York Region, including those in Vaughan. They have arranged a 10% discount on the purchase of a rain barrel. The cost of a rain barrel can vary from \$100 to over \$200. The Region sees the promotion of rain barrels as an effective public education tool directing attention to the excessive demand for water in summer. However, as the average rain barrel holds only 315 litres, it is not a

substitute supply of water during a drought period, as its contents would be consumed in the first week or so and cannot be replenished without rain.

The Region evaluated the benefits of directly subsidizing a rain barrel program. They have concluded that from a benefit/cost perspective, a payback would not be realized for many years, if at all. In their view, the limited benefits do not justify any changes to their existing arrangement with the supplier, and do not justify providing any direct subsidy to the residents.

The cost for the City of Vaughan to provide rain barrels free of charge to residents could be quite high. As was indicated earlier, rain barrels range from \$100 to over \$200 each, depending on the type and style. There are approximately 60,000 houses in the City of Vaughan. At this point, there is no way to determine what the participation rate would be in such a program, so for cost estimating purposes only, the participation rate has been set at 10%, or 6,000 houses. Using the 10% participation rate, the cost of providing one (1) free rain barrel to each participating household would be at least \$600,000, plus program administration costs. Higher participation rates, or increased purchase costs, would result in higher program costs.

Conclusion

The Region of York, through their Water For Tomorrow program, has a discount program in place to aid residents in the purchase of rain barrels.

The cost to provide one free rain barrel to 10% of the households in the City would result in an expenditure of over \$600,000, with higher costs for increased participation levels.

The benefit to the City implementing a rain barrel water conservation program is limited, with minimal benefit in reducing outdoor water usage and sewer surcharging.

Attachments

N/A

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Respectfully submitted,

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