

TORONTO STAFF REPORT

September 21, 2005

To: Works Committee

From: General Manager Toronto Water

Subject: Report on Progress and Findings from the Storm Outfall Monitoring Program in Taylor-Massey Creek – July to September 2005
Re: Water Quality Issues Related to Taylor-Massey Creek
Beaches - East York, Ward 31

Purpose:

To update the Works Committee on work done in the Taylor-Massey Creek watershed to address the water pollution concerns contained in a communication dated April 22, 2005 from Councillor Janet Davis, Ward 31, Beaches-East York and the directive issued by the Works Committee at their June 29, 2005 meeting.

Financial Implications and Impact Statement:

There are no financial implications to the City as a result of this report.

Recommendations:

It is recommended that this report be received for information.

Background:

At its meeting on April 27, 2005, the Works Committee approved the requests contained in the communication from Councillor Davis that the General Manager, Toronto Water prepare a report on issues related to the water quality of Taylor-Massey Creek for their meeting in May 2005. The communication from Councillor Davis was a result of a red effluent (red dye) discharged into the creek from a storm sewer on April 5, 2005 that impacted the water quality of the creek.

At its meeting on June 29, 2005, in response to the June 8, 2005 report entitled “Water Quality Issues Related to Taylor-Massey Creek”, it was requested that the General Manager, Toronto Water provide an interim report to the Works Committee for its meeting on October 11, 2005, on the progress and findings of the Storm Outfall Monitoring Program in Taylor-Massey Creek.

Comments:

Toronto Water implemented a Storm Outfall Monitoring Program in June 2005. The primary purpose of the program is to identify contaminated flows originating from storm sewer outfalls discharging to Toronto surface waters and to initiate remedial action to eliminate the source(s) of contamination. The program also involves identifying all outfalls discharging to a water body and developing a standardized nomenclature protocol to readily identify these outfalls in order to improve spill response by Toronto Water staff. The Taylor-Massey Creek watershed is the initial area to be investigated. The long term objective is to sample all outfalls within the City found to be discharging a flow during dry weather.

The Storm Outfall Monitoring Program entails collecting water samples from storm outfalls that are found to have a dry weather flow. The flows are sampled for conventional parameters such as bacteria, metals, and phosphorus. The sample results are compared to the storm sewer discharge criteria as identified in the Municipal Code Chapter 681: Sewers, and to the Provincial Water Quality Objectives (PWQO). Outfalls identified as containing contaminated flows are designated a priority outfall and are assigned to staff for investigation based on the degree of contamination and the environmental impact. The investigation includes tracing the contaminated flow upstream within the storm sewer. Further samples and observations are taken at the upstream sewer access points determined to best isolate the flows in the individual lateral lines flowing into the main storm sewer that will lead to locating the specific source of contamination.

The monitoring program commenced within the Taylor-Massey Creek watershed in June 2005. All outfalls located were photographed and documented for later addition into the Toronto Water TIADS database. Those outfalls with a flow during dry weather were sampled for E-coli. bacteria and conventional parameters such as metals and nutrients. Within the Taylor-Massey Creek watershed 153 outfalls have been surveyed to date, encompassing an estimated 60% of the watershed. The survey started at the mouth of Taylor Creek (near Don Mills Road and the Don Valley Parkway) and is currently completed to the area near St. Clair Ave. East and Kennedy Street (within the Pine Hills Cemetery property).

In total, of the 153 outfalls documented, 68 were found to have a flow and were sampled, 66 were found to have no flow, and 19 still require further investigation due to sampling constraints. The evaluation of the sample results against the Municipal Code criteria and the PWQO determined that 21 outfalls were discharging contaminated flow at the time of sampling and resulted in 15 of these outfalls being designated as high priority outfalls. The sample results for the 21 outfalls are shown in Appendix A – Table 1: Taylor Creek Outfalls Exhibiting Contamination. Outfall location descriptions are listed in Appendix A – Table 2: Taylor Creek Contaminated Outfall Locations. The priority outfalls are currently undergoing further investigation which may involve dye testing, tracing the flow upstream, additional in-sewer sampling, initiation of remedial works and possibly prosecution under the Municipal Code. The intent of these investigations is to identify and eliminate the source of the contaminants.

Toronto Water will continue the Outfall Monitoring Program in the Taylor-Massey Creek watershed which is scheduled for completion in July 2006. As additional outfalls are identified as containing contaminated flow, these outfalls will be prioritized and added to the list for further investigation. Once the initial survey is completed within Taylor-Massey Creek, Toronto Water will carry out the Outfall Monitoring Program in other watersheds within the City.

Conclusions:

The Outfall Monitoring Program in the Taylor-Massey Creek watershed has determined that 21 of the 153 outfalls examined to date were discharging contaminated flows during dry weather based on elevated levels of bacteria, metals and/or nutrients. Toronto Water staff is performing follow-up investigations at those outfalls exhibiting a contaminated flow in order to fully eliminate the source(s) of contamination. Work will also proceed with the updating of the outfall assets into the Toronto Water TIADS database, and the finalization of a standardized outfall nomenclature system for Toronto storm outfalls to improve Toronto Water spill response. Toronto Water staff is continuing with the Taylor-Massey Creek watershed survey work where 60% of the watershed has been surveyed and sampled as required. The entire watershed outfall survey is expected to be completed by July 2006. Once the Taylor-Massey Creek survey is complete, staff will roll out the Outfall Monitoring Program following the same protocols to other watersheds within the City as resources permit.

Contacts:

Rod Anderton
Acting By-law Enforcement Supervisor
Environmental Monitoring and Protection
Operational Support
Toronto Water
Tel: 416-392-9938
E-mail: randert@toronto.ca

Lou Di Gironimo
Acting General Manager
Toronto Water

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