



Report to: General Committee

Report Date: December 7, 2015

SUBJECT: Stormwater Management Facilities Retrofit Study Class Environmental Assessment

PREPARED BY: Robert Muir, Manager, Stormwater, ext 2894
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RECOMMENDATION:

- 1) **THAT** the report entitled “Stormwater Management Facilities Retrofit Study Class Environmental Assessment” be received;
- 2) **AND THAT** Asset Management staff be authorized to file the Notice of Completion for the Environmental Study Report with the Ministry of the Environment and Climate Change (MOECC) and post it for the 30 day public review;
- 3) **AND THAT** Council endorse the recommended stormwater management facilities retrofit implementation plan to retrofit existing and construct new stormwater management facilities as detailed in the Environmental Study Report;
- 4) **AND THAT** staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

The purpose of this report is to:

- 1) Update Council on the results and recommendations of the Stormwater Management Facilities Retrofit Study Class Environmental Assessment;
- 2) Obtain Council’s authorization to finalize the study and file the report with the Ministry of the Environment and Climate Change (MOECC);
- 3) Obtain Council’s endorsement of the recommended stormwater management facility retrofit implementation plan to retrofit existing and construct new stormwater management facilities so as to bring the City’s stormwater management systems toward current standards and to contribute to watershed regeneration goals; and,
- 4) The retrofits be implemented through requests via the annual capital budget process.

BACKGROUND:

There are approximately 111 Stormwater Management (SWM) facilities within the City, 73 of which are owned by the City (**Attachment “A”**). Stormwater management criteria in Ontario have changed vastly since the City’s earliest SWM facilities were built pre-1980. The majority of these SWM facilities that have been assumed by the City were built prior to the implementation of the current SWM criteria, especially the criteria requiring temperature

mitigation in coldwater streams which was endorsed by the Ministry of Natural Resources starting in 2007. As a result, the City has the opportunity to retrofit many of the existing SWM facilities, including those that are within the relatively new subdivisions. Retrofit activities contribute to the paramount strategies of the Don River Watershed Plan, including the “regeneration of what is degraded”, and are consistent key priority action areas in Markham, and the Don River Watershed Plan Implementation Guide, specifically, “retrofits in existing urban areas”. Both the Don Watershed Plan and Don River Watershed Plan Implementation guide were endorsed in principle by Council on May 11, 2010. Additionally, there are many uncontrolled storm sewer outlets within the City, which provide an additional opportunity to construct new SWM facilities or controls. Some of these outlets are associated with other works where SWM retrofits can be readily integrated with other projects or maintenance activities. All of the uncontrolled outlets have erosion stresses in receiving downstream watercourses and, accordingly, retrofits can contribute to the prevention of erosion hazards and mitigate long term restoration needs.

A previous study, *Town of Markham Stormwater Retrofit Study*, was completed by the Toronto and Region Conservation Authority (TRCA) in 1999 which identified the most cost-effective potential retrofit projects according to cost, engineering feasibility and benefits to the environment. Retrofits identified in the study have been completed by others including Hydro One at the Outfall #6 project site north of 14th Avenue (i.e., Parkway Transformer Station development). Other retrofits not identified in the study have been completed by the City on an opportunity basis in conjunction with new facility construction, road works and park retrofits.

In 2012, the City retained Cole Engineering Group Limited to update the SWM Facilities Retrofit Study. The primary objective of the SWM Facilities Retrofit Study Class Environmental Assessment (“Study”) is to identify a prioritized list of SWM facilities and uncontrolled outlets within the geographic boundary of the City that need to be retrofitted to help meet current standards and guidelines and watershed regeneration goals. The Study also identifies and prioritizes opportunities for the construction of new SWM facilities within the existing urban catchment areas that lack SWM measures.

The following criteria were used to rank the priority sites: capital cost, treated drainage area, number of SWM objectives achieved, unique benefits, and ease of implementation. Depending on factors such as the types of SWM deficiency of the drainage areas to the SWM facilities and availability of land, different SWM solutions are proposed at different priority sites.

Public consultation for retrofit study was completed according to Municipal Class Environmental Assessment (MCEA) requirements including advertisement of a Notice of Commencement, and the holding of two Public Information Centres to share retrofit opportunities. Stakeholder meetings were held with approval agencies including the TRCA and MOECC and input from the Ministry of Natural Resources (MNR) has been considered in the study regard Species at Risk pre-screening of retrofit sites.

OPTIONS/DISCUSSION:

Completion of the Study

The Stormwater Management Facilities Retrofit Study Class Environmental Assessment was completed in summer of 2015 and is available online at the following link:

<https://www.dropbox.com/s/puji8vvh3mjpgw5/Final%20Compiled-ES12-0316%20Project%20File%2009%2023%2015.pdf?dl=0>

The recommendations of the study were presented to and reviewed by the public, stakeholders and TRCA. To finalize the Study, staff recommends issuing a Notice of Completion and filing the study to MOECC for the mandatory 30 day public review.

Recommended Implementation Plan

The recommended SWM facilities retrofit implementation plan detailed in the Study included retrofit of 21 priority sites as listed in **Attachment “B”** and mapped on **Attachment “C”**. Within these 21 priority sites, 11 sites are existing SWM facilities recommended for retrofit to improve water quality/quantity controls and upgrade these facilities toward meeting current SWM standards. The remaining 10 sites are recommended as new retrofit opportunities located strategically within drainage catchment areas that currently receive no SWM treatment.

The types of retrofit improvements include:

- (a) Installation of an Oil/Grit Separator (OGS);
- (b) Installation of an underground erosion control tank; and,
- (c) Modifications to the existing pond and outlet structure.

Subject to budget and Council approval, six (6) priority retrofit sites could be implemented in the next 10 years (i.e., the period over which the MCEA is valid) as shown in the table below.

Retrofit Site	Proposed Retrofit Works
Uncontrolled Outlet UCO-63W (Proctor Park)	<ul style="list-style-type: none"> • Install Oil/Grit Separator (OGS) • Install Underground Erosion Control Tank
Pond P-62 (north-east of Denison St. and Markham Rd.)	<ul style="list-style-type: none"> • Modifications to the Pond and Outlet Structure
Uncontrolled Outlet UCO-66 (Pinevale Rd. and Grandview Ave.)	<ul style="list-style-type: none"> • Install Oil/Grit Separator (OGS)
Pond P-47 (14 th Ave. and Roxbury St.)	<ul style="list-style-type: none"> • Install Oil/Grit Separator (OGS) • Install Underground Erosion Control Tank
Pond P-55 (south of Lemsford Dr.)	<ul style="list-style-type: none"> • Modifications to the Pond and Outlet Structure

Retrofit Site	Proposed Retrofit Works
Pond P-5 (north of Ashton Meadows Park, South of Bates Way)	<ul style="list-style-type: none">• Install Underground Erosion Control Tank

The recommended retrofits will be coordinated with other capital projects and funding will be requested through annual capital budget process.

FINANCIAL CONSIDERATIONS AND TEMPLATE:

The purpose of this report is only to outline the study, preferred retrofit works and implementation proposals. No funding requests are included in this report.

Staff from Asset Management will seek Council's authorization through the annual capital budget process or will provide separate reports to Council seeking financial approvals prior to the implementation of each phase, including retrofit costs and funding source(s).

HUMAN RESOURCES CONSIDERATIONS:

Not applicable.

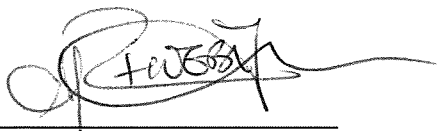
ALIGNMENT WITH STRATEGIC PRIORITIES:

The SWM facilities retrofit study report provides an implementation plan of retrofitting existing SWM facilities that do not meet current environmental standard and constructing new SWM facilities in areas which currently do not receive any treatment at all. Stormwater management is a municipal service, and the proposed retrofit works would enhance and protect the quality of the receiving watercourse, which align with the City's strategic priorities.

BUSINESS UNITS CONSULTED AND AFFECTED:

Not applicable.

RECOMMENDED BY:



Phoebe Fu, M.Eng., P.Eng., PMP
Director, Asset Management



Brenda Librecz
Commissioner, Community & Fire Services

ATTACHMENTS:

Attachment "A": Study Overview

Attachment "B": Top 21 SWM Retrofit Priority Sites

Attachment "C": Top 21 SWM Retrofit Priority Site Locations