



Report to: General Committee

Date Report Authored: April 4, 2011

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<b>SUBJECT:</b>	Pomona Mills Erosion Restoration and Habitat Enhancement Class EA Study
<b>PREPARED BY:</b>	Soran Sito, Manager, Environmental Assets      Ext. 2521

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**RECOMMENDATION:**

- 1) **THAT** the April 4, 2011 staff report entitled “Pomona Mills Erosion Restoration and Habitat Enhancement Class EA Study” be received;
- 2) **AND THAT** Staff be authorized to finalize the Study and file it with the MOE;
- 3) **AND THAT** Council endorse in principle the recommendations of the study and direct staff to implement the preferred option (Option 2, Selective Restoration) in 5 phases over the next 5-10 years;
- 4) **AND THAT** prior to the implementation of each phase of the Study, the Engineering Department report back to Council on proposed restoration work, costs and funding source;
- 5) **AND THAT** staff be authorized and directed to do all things necessary to give effect to this resolution.

**EXECUTIVE SUMMARY:**

Not required

**PURPOSE:**

The purpose of this report is to:

- 1) Update Council on the results and recommendations of the Pomona Mills Creek Erosion Restoration and Habitat Enhancement Class EA Study;
- 2) Obtain Council’s authorization to finalize the study and file the report with MOE;
- 3) Obtain Council’s endorsement on the recommendations of the Study and the implementation strategy of the preferred restoration option (Option 2 - Selective Restoration) in 5 phases over the next 5-10 years; and
- 4) Advise the Engineering Department through the annual capital budget process to report back to Council on proposed restoration work, costs and funding source(s) prior to the implementation of each of phase of the Study.

**BACKGROUND:**

The Pomona Mills Creek watershed is located within the Towns of Markham, Richmond Hill and the City of Vaughan (Refer to **Attachment A**). The watershed is approximately 640 ha of which 393 ha are located in Markham. The creek is approximately 3.8 km long and has its headwaters near Garden Avenue in the Town of Richmond Hill. The portion

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of the watershed within Markham is fully urbanized. There are very limited stormwater quantity and quality controls within this watershed. Pomona Mills Creek discharges into the East Don River immediately north of John Street.

Pomona Creek is showing many signs of degradation. Currently, there are 13 in-line metal weir structures throughout the creek preventing fish movement which is inconsistent with the Toronto Region Conservation Authority's (TRCA's) stream rehabilitation and protection policies. Most of these weir structures are deteriorating and on the verge of collapse (examples are shown in **Attachment E**). These weir structures were placed during 1960s as an erosion control measure to reduce the creek's slope. In addition, there are also a number of erosion and bank failure sections in the creek which are threatening the integrity of existing pedestrian trails, sewer headwalls and pipes, retaining walls, and bridge/culvert crossings (example is shown in **Attachment E**).

The Town of Markham has been working together with the TRCA to rehabilitate and restore deteriorated watercourses in Markham in the past. The Town recognizes the need for the restoration work proposed in this Study which is in line with the TRCA "Forty Steps to a New Don" regeneration plan. The proposed restoration work in this Study will not only improve the environmental conditions in the creek, but also provide reasonable protection against accelerated erosion rates and municipal hydraulic structure deterioration. To accomplish this, in September 2004 Markham Council approved the initiation of the Pomona Class EA Study (herein referred to as the "Study") and authorized staff to establish a Task Force Committee to guide the Study and provide strategic support during the public consultation process. The Task Force Committee was established from the following members/organization:

- Town Ward 1 Councillor
- Town Staff
- TRCA
- Glynnwood Property
- Shouldice Hospital
- Don Watershed Regeneration Council
- Residents/Business representatives
- Ladies' Golf Club of Toronto

Preliminary results of the Study were presented to the Development Service Committee in April 2007. Subsequently, the 1<sup>st</sup> public meeting was held on December 6, 2007.

In summer of 2008, the Region of York discovered that their main trunk sewer along the east bank of Pomona Creek immediately south of the Holy Cross Cemetery was at the stage of collapse due to severe bank erosion. The Region contacted Town staff and offered cost-sharing to remediate 2 erosion sites (refer to **Attachment B**). On June 16, 2008, Town Council directed staff to proceed with the joint effort and the cost-sharing with the Region to complete the restoration of the 2 sites (called phase 1 restoration). The phase 1 restoration work was completed in late fall of 2008. Before and after restoration photos are included in **Attachments C1 and C2**.

## OPTIONS/ DISCUSSION:

### Completion of the Study

The Pomona Mills Creek Class EA Study was completed in late 2010. The recommendations of the Study were presented to and approved by the Pomona Task Force Committee and the TRCA. Since this is a schedule B project, the 2<sup>nd</sup> public meeting is not mandatory. In addition, the recommendations of the Study are mainly focused on improving the environmental conditions in Pomona Creek. To finalize the Study staff recommends filing it with the Ministry of Environment (MOE) for review and approval.

### Recommended Restoration Work

The Study recommended restoration Option 2 (Selective Restoration) as the preferred restoration option at an estimated cost of \$3.8M (refer to **Attachment D**). This restoration work includes:

1. Removal of 13 existing metal weirs and restoration of each of the 13 sections of the channel with step-pools consisting of natural rip-rap material to reduce grades, minimize localized erosion through stabilization of channel bed and banks and to allow fish movement/migration within the channel;
2. Selective channel bed and bank restoration;
3. Removal of earth fill culvert and replacement of pedestrian crossing at Thorny Brae Drive; and
4. Removal of concrete structure and replacement of pedestrian crossing at historic dam site in Pomona Mills park.

### Implementation

The phase 1 restoration work was completed in June 2008 with financial assistance from the Region of York. Phase 2 restoration work is proposed for implementation in 2011. Subject to budget and Council approval, the remaining 3 phases could be implemented over the next 3-8 years. The table below provides further details regarding the implementation of the 5 phases of the Study:

Implementation Phase	Proposed Restoration
Phase 1	Restoration of 2 erosion sites: <ul style="list-style-type: none"> <li>- site 1 located between Thornheights Rd. and Kirk Dr.</li> <li>- site 2 located near Henderson Ave. immediately south of the Toronto Ladies' Golf Course.</li> </ul> <p>This Phase was completed in early 2009 with financial assistance from the Region of York</p>
Phase 2	Earth filled pedestrian crossing replacement + removal of 2 metal weirs: <ul style="list-style-type: none"> <li>- remove 1 earth filled pedestrian bridge crossing along Thorny Brae</li> </ul>

Implementation Phase	Proposed Restoration
	<p>Drive and replace it with a new open bottom single span bridge</p> <ul style="list-style-type: none"> <li>- remove two metal weirs (No 4 &amp; 5), one upstream of the pedestrian crossing and the second downstream of the pedestrian crossing and replace with rip-rap step pools channel bottom</li> </ul> <p>Funding is approved in the 2011 capital budget to cover the proposed work in phase 2</p>
Phase 3	<p>Restoration of one erosion site immediately north of the Toronto Ladies Golf Club (TLGC)+ removal of 3 metal weirs:</p> <ul style="list-style-type: none"> <li>- restore one erosion site immediately north of the TLGC (also recommended in the Town-wide Erosion Implementation Plan)</li> <li>- remove 3 metal weirs (No 8, 9 &amp; 10) located between Royal Orchard Blvd. &amp; the Toronto Ladies Golf Club and replace with rip-rap step pools channel bottom</li> </ul>
Phase 4	<p>Restoration of 4 metal weirs:</p> <ul style="list-style-type: none"> <li>- remove 2 metal weirs (No 2 &amp; 3) located south of Kirk Dr. and replace with rip-rap step pools channel bottom</li> <li>- remove 2 metal weirs (No 6 &amp; 7) located immediately north of Royal Orchard Blvd. and replace with rip-rap step pools channel bottom</li> </ul>
Phase 5	<p>Replacement of 1 historic dam site in Pomona Mills park + removal of 2 weir structures</p> <ul style="list-style-type: none"> <li>- remove 1 historic dam site in Pomona Mills park and replace with a new open bottom single span bridge</li> <li>- remove two metal weirs (No 12 &amp; 13), one upstream of the pedestrian crossing and the second downstream of the pedestrian crossing and replace with rip-rap step pools channel bottom</li> </ul>

The proposed restoration work is consistent with the TRCA Forty Steps to a New Don (TRCA, 2000), Markham's Town-wide Erosion Implementation Study (Aquafor Beech, 2007), and the TRCA Sustainable Neighborhood Retrofit Action Plan (SNAP). The Engineering Department will manage the implementation of each phase of the Study in coordination with the Town-wide Erosion study in a consistent and cost effective way to maximize benefit, reduce disruption to residents and reduce impact on aquatic habitats in the Creek.

Similar to the implementation of phase 1 of this project, Staff from the Engineering Department will seek Council's authorization through the annual capital budget to implement each phase. Staff will also investigate funding opportunities from external sources (e.g. Region of York, Federation of Canadian Municipalities, TRCA, etc.) to support the implementation of each phase of this project.

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**FINANCIAL CONSIDERATIONS AND TEMPLATE:**

The purpose of this report is only to outline the study, preferred restoration work and phasing and implementation proposals. No funding requests are included in this report. Similar to the implementation of phase 1 of this project, the Engineering Department will provide separate reports to the Council seeking financial approvals prior to the implementation of each phase, including restorations costs and funding source(s).

**HUMAN RESOURCES CONSIDERATIONS**

Not applicable

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

The proposed restoration work in this report supports Markham Council's goal of *Environmental Focus*, as it relates to the protection and management of our natural environment. The restoration work is also in support of the 'Forty Steps to a New Don' blueprint workplan and the TRCA Sustainable Neighborhood Retrofit Action Plan (SNAP).

**BUSINESS UNITS CONSULTED AND AFFECTED:**

This report was circulated internally to the Engineering Department and their comments have been incorporated.

**RECOMMENDED****BY:**

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Gary Adamkowski, P.Eng.  
Acting Director, Asset  
Management

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Brenda Librecz,  
Commissioner, Community  
& Fire Services

**ATTACHMENTS:**

Attachment 'A': Pomona Mills Creek Subwatershed Study Area

Attachment 'B': Pomona Mills Cr. Restoration Project – Phase 1

Attachment 'C1': Pomona Mills Creek – Phase 1 Restoration – Site 1

Attachment 'C2': Pomona Mills Creek – Phase 1 Restoration – Site 2

Attachment 'D': Alternative 2 – Selective Works

Attachment 'E': Pomona Mills Creek - Examples of Bank Erosion and Failing Weir  
Structures