



City of
Peterborough

To: Members of the Peterborough Environmental Advisory Committee

From: Michael Papadacos, Director, Asset Management & Capital Planning

Meeting Date: January 15, 2025

Report: Harper Creek Subwatershed Study Update, Report PEAC25-001

Subject

A presentation to the Peterborough Environmental Advisory Committee on the progress of the Harper Creek Subwatershed Study and draft Implementation Plan.

Recommendation

That the Peterborough Environmental Advisory Committee approve the recommendation outlined in Report PEAC25-001, dated January 15, 2025, of the Director of Asset Management and Capital Planning as follows:

That the presentation from Aquafor Beech Ltd. on the Harper Creek Subwatershed Study (SWS) be received for information.

Background

The Harper Creek Subwatershed Study (Study) is investigating water quality degradation, climate change impacts, urban flooding, and changes to natural heritage in one of Peterborough's most ecologically sensitive areas. The Study's goals are to provide policy recommendations and a capital program to protect hydrological functions, enhance water quality, restore ecosystems, and support socio-economic activities reliant on a healthy watershed.

Key Phases of the project included the following, with a brief description of each.

1. Existing Conditions:

- Review of all relevant background material, including collection of various forms of environmental data throughout the subwatershed.

2. Impact Assessment:

- Assessment of the subwatershed conditions related to hydrology, hydraulics, natural heritage, fisheries and climate change. Included an updated evaluation of the Harper Creek Provincially Significant Wetland.

3. Implementation Plan:

- Development of a prioritized list of actions, projects or plans to enhance and protect the subwatershed.

The Implementation Plan is the third and final phase of the SWS and is the subject of the presentation. A summary of the proposed actions is provided below.

Proposed Actions

Stormwater Management

- Construction of new Stormwater Management Facilities (SWMFs) and retrofitting existing ones.
- Implementation of Low Impact Development (LID) techniques to reduce runoff and peak flows.
- Upgrades to storm sewers and residential flood mitigation measures.

Geomorphic Restoration

- Restoration and realignment of stream reaches to address erosion and maintain channel stability.
- Erosion site monitoring for ongoing management.

Aquatic Ecology Enhancements

- Removal or mitigation of fish barriers at crossings.
- Riparian planting along the Rye Street tributary to improve habitat (e.g., dogwood and willow).

Terrestrial Ecology Initiatives

- Updates to Natural Heritage Designations and wetland boundaries.
- Public awareness campaigns on ecological preservation.
- Installation of wildlife road crossings and invasive species management.
- Renaturalization of Dainard Park and strategic land acquisition.

Groundwater Protection

- Maintain recharge areas and mitigate contamination risks through a risk-based approach tailored to specific land uses.

Monitoring and Collaboration

- Comprehensive monitoring programs, including water quality, flow, erosion, and ecological health.
- Partnerships with local residents, researchers, Indigenous groups, and organizations like Kawartha Land Trust.

Climate Adaptation Strategies:

- Reduce peak flows through private and municipal LID implementation
- Enhance resilience of natural heritage features by mitigating invasive species, restoring fragmented areas, and preventing development encroachment

Proposed Timelines and Prioritization

10-Year Prioritization (2025–2035)

Immediate Priorities (2025–2027):

- Dainard Park feasibility studies, design, and construction
- Wildlife road crossing studies and invasive species management strategies
- Watercourse crossing evaluations and riparian planting along the Rye tributary

Medium-Term Actions (2028–2031):

- Construction of new SWMFs and retrofits
- Continued invasive species management and ecological restoration projects

Long-term Projects (beyond 2031):

- Major pond construction
- Channel restoration projects requiring further environmental assessments

Strategic Plan

Strategic Pillar: Community & Well-being

Strategic Initiative: Demonstrate strong leadership in environmental stewardship by proactively addressing issues and challenges of climate change and the environment.

Watershed Planning and subwatershed planning initiatives provide foundational data and guidance to ensure protection of the natural environment and to mitigate and adapt to a changing climate.

Budget and Financial Implications

There are no budgetary or financial implications associated with the recommendations.

Submitted by,

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