

Southdown District Stormwater Servicing and Environmental Management Plan Municipal Class Environmental Assessment

Public Information Centre #1

June 11, 2019

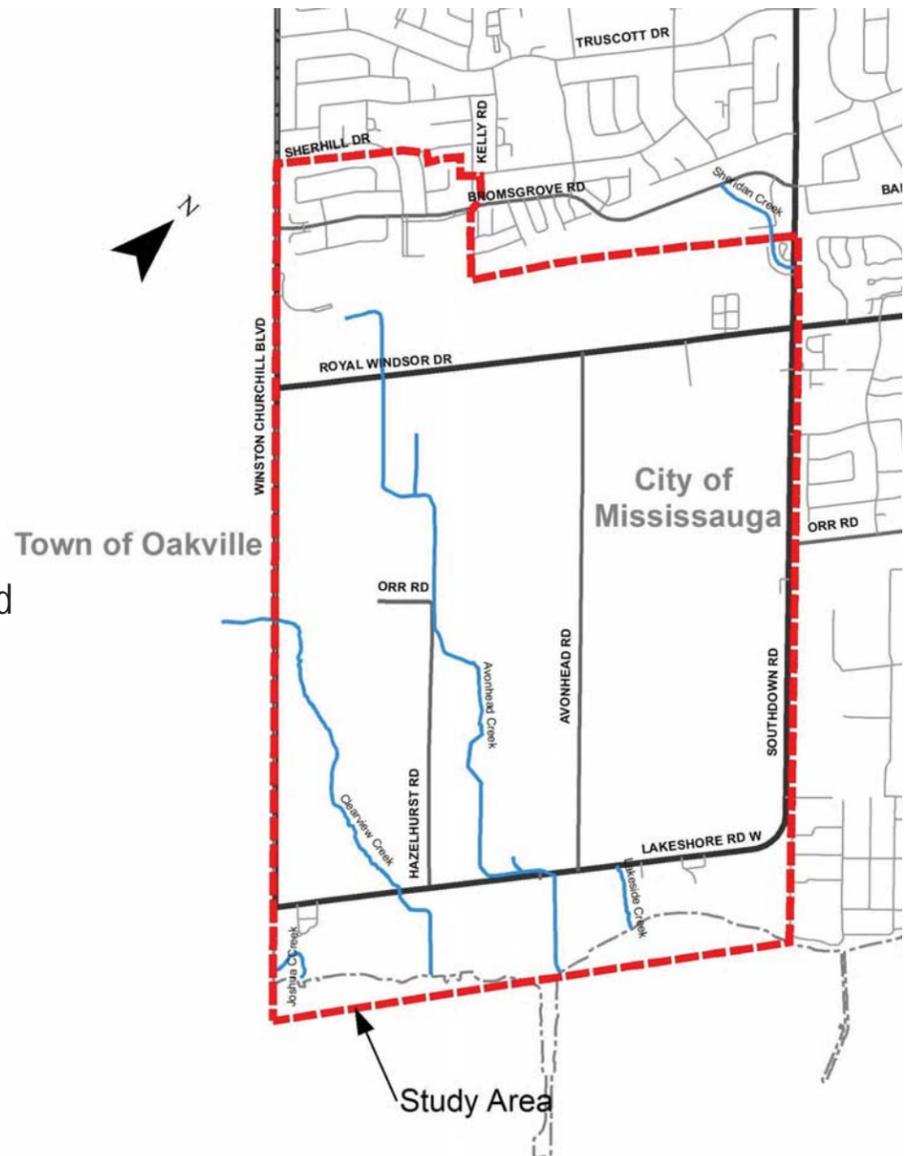
6 to 8 p.m.

Please sign in on the sheet provided. Then feel free to walk around, view the displays and fill out a comment sheet.

The purpose of this Public Information Centre (PIC) is to introduce you to this project, inform you of our progress to date, and obtain your comments.

If you have any questions, our representatives will be pleased to discuss the project with you.

We are interested in receiving any comments that you may have about the project. Should you have any questions, comments, require further information or wish to be added to the project mailing list, please contact either Steve or Greg.



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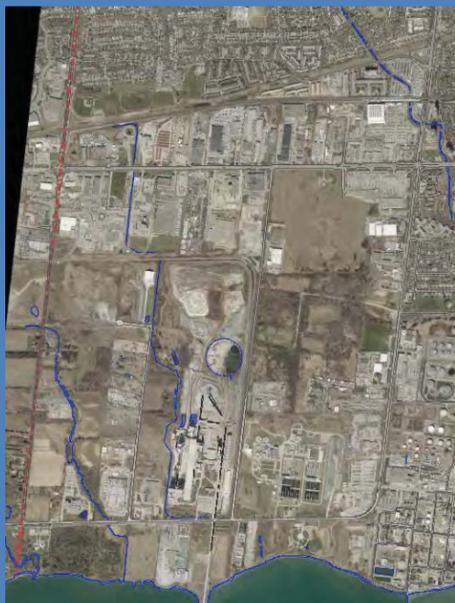
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Study Purpose

The stormwater drainage system in the Southdown area was last investigated in 2000 as part of the “Southdown Master Drainage Plan”. Since that time, stormwater management criteria and standard practices have evolved, and there have been considerable changes to the local, regional and provincial policies related to the protection and enhancement of watercourses and other natural heritage features. For that reason, a new Stormwater Servicing and Environmental Management Plan is needed *to establish updated stormwater management requirements and watercourse improvements required to support long term growth and intensification*, as defined by the urban structure framework and policy of the Southdown Local Area Plan.



2000



2019

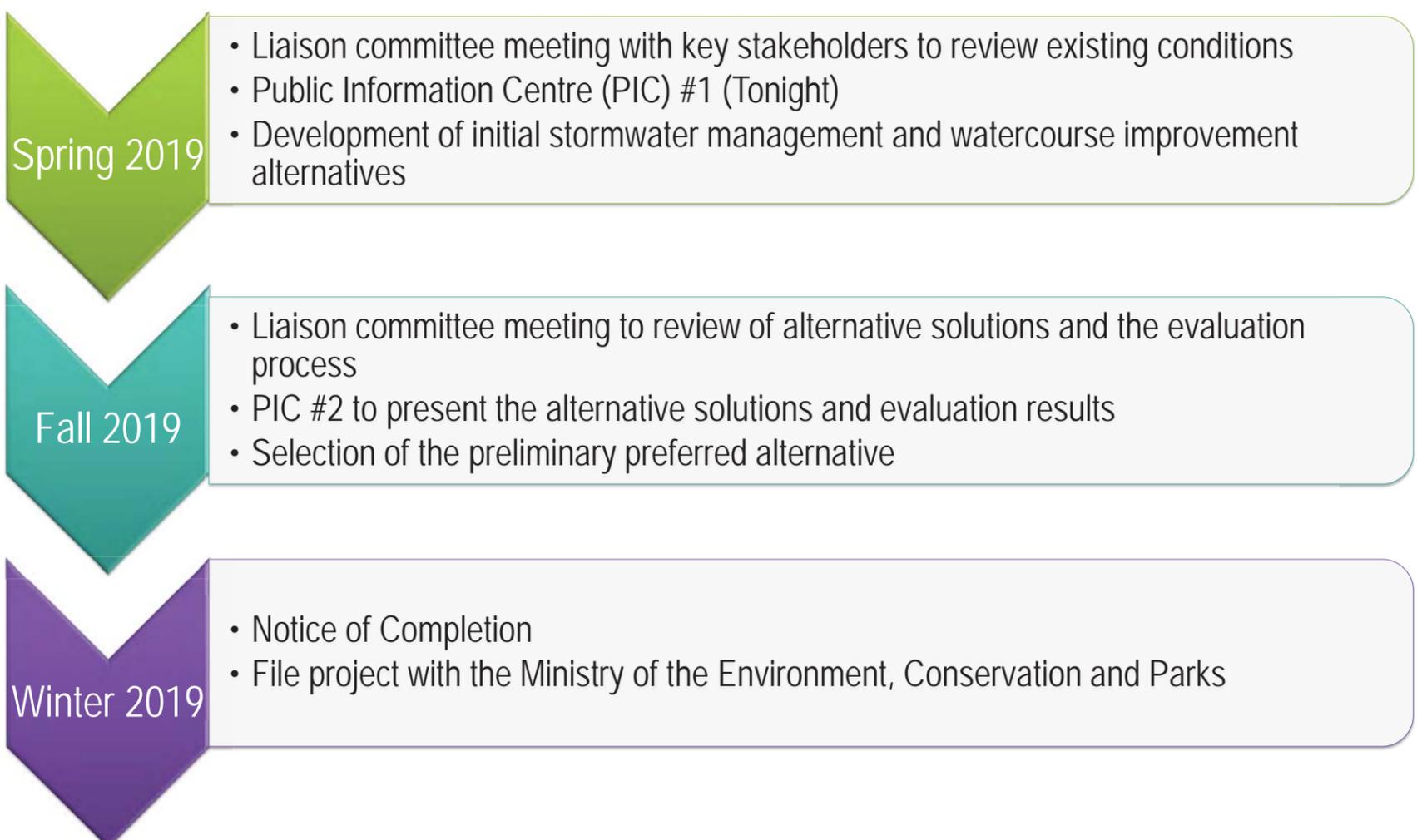
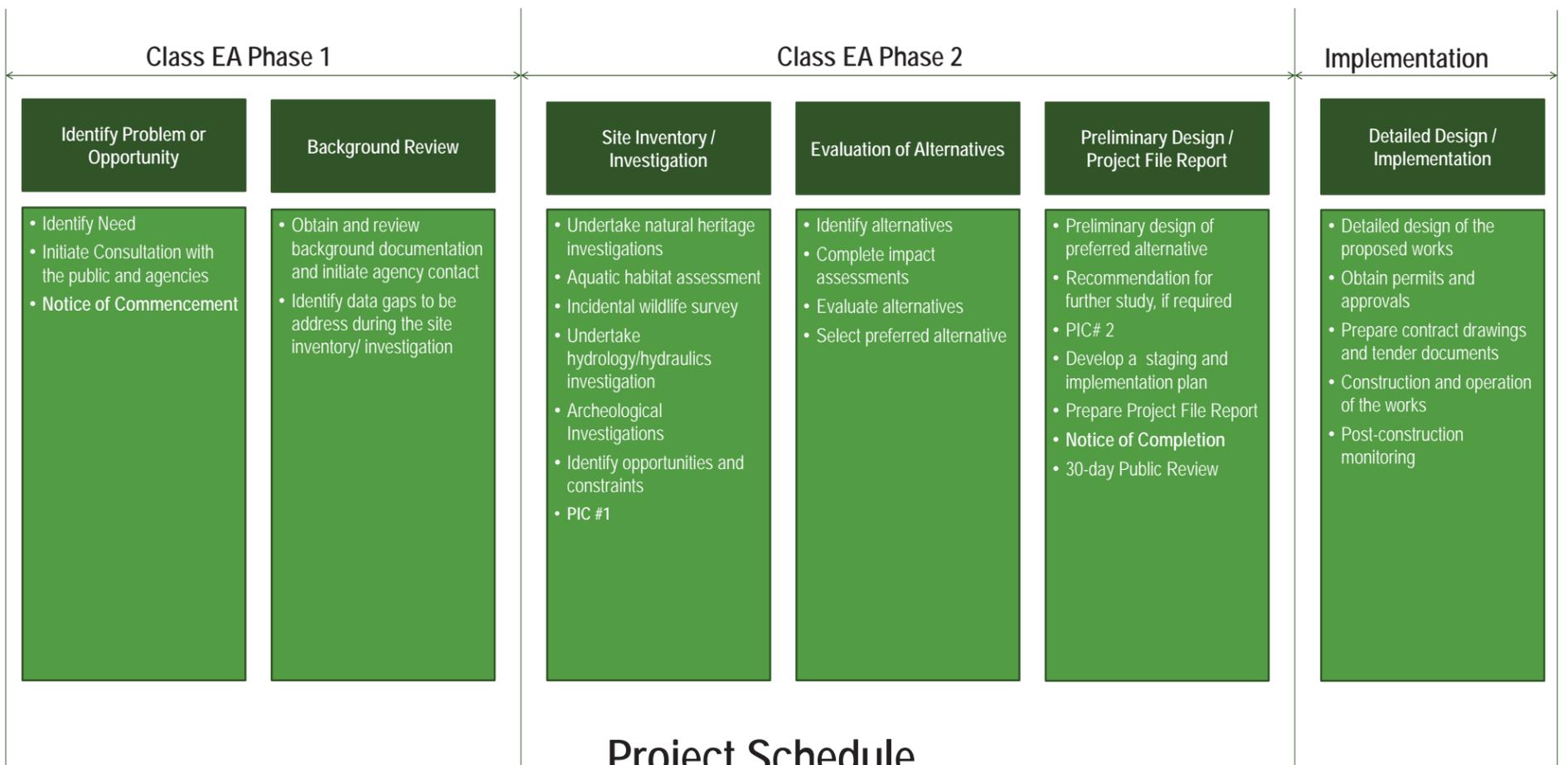


Future Growth & Intensification

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Municipal Class Environmental Assessment (EA) Process

The study is being conducted as a Master Plan and is intended to satisfy Phases 1&2 of the Municipal Class EA process. Stakeholder input is an important component of the process.



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Existing Conditions: Study Area Watercourses



Clearview Creek downstream of Winston Churchill Blvd: meandering channel through sparse vegetation on private lots



Clearview Creek: online agricultural pond



Clearview Creek upstream of Lakeshore Rd: meandering natural channel through mature riparian vegetation



Clearview Creek downstream of Lakeshore Rd: concrete engineered channel



Sheridan Creek at CNR: concrete engineered channel



Avonhead Creek downstream of Royal Windsor Drive: narrow straightened channel/swale



Avonhead Creek through concrete plant: CSP and concrete lined channel



Lakeside Creek downstream of Lakeshore Road: natural channel through mature riparian vegetation



Joshua Creek: outlet to Lake Ontario



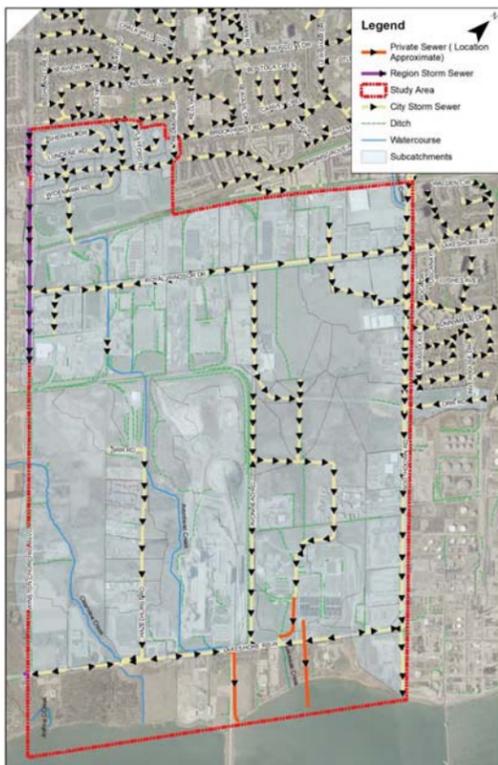
Avonhead Creek upstream of Lakeshore Road: grass-lined channel



Avonhead Creek downstream of Lakeshore Road: piped to outlet at Lake Ontario

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Existing Conditions: Storm Sewers and Road Drainage



Computer modelling was completed to assess the capacity of the existing storm sewers and road drainage:

City of Mississauga design standards:

Storm sewer and ditch (minor) systems:

- 10-year storm for small sewers (<100 hectares)
- 25-year storm for large trunk sewers (>100 hectares)

Road drainage (major) system:

- 100-year storm to be contained within the roadway or municipal easements

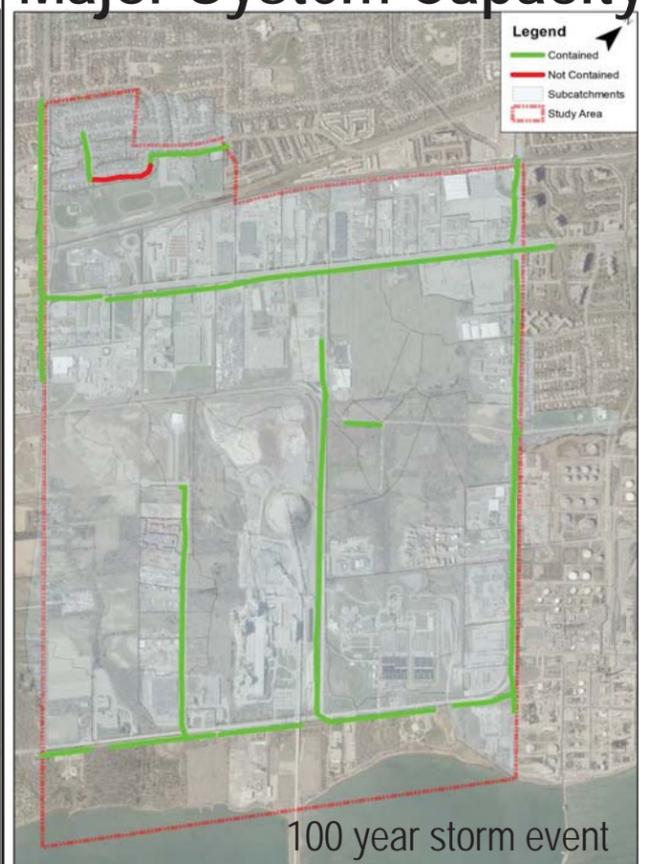
Minor System Capacity



Storm sewer segments illustrated in green are big enough to meet the City's capacity standards under the current landuses. Sewer segments illustrated in red are undersized which may cause stormwater to "backup" and pond on the road.



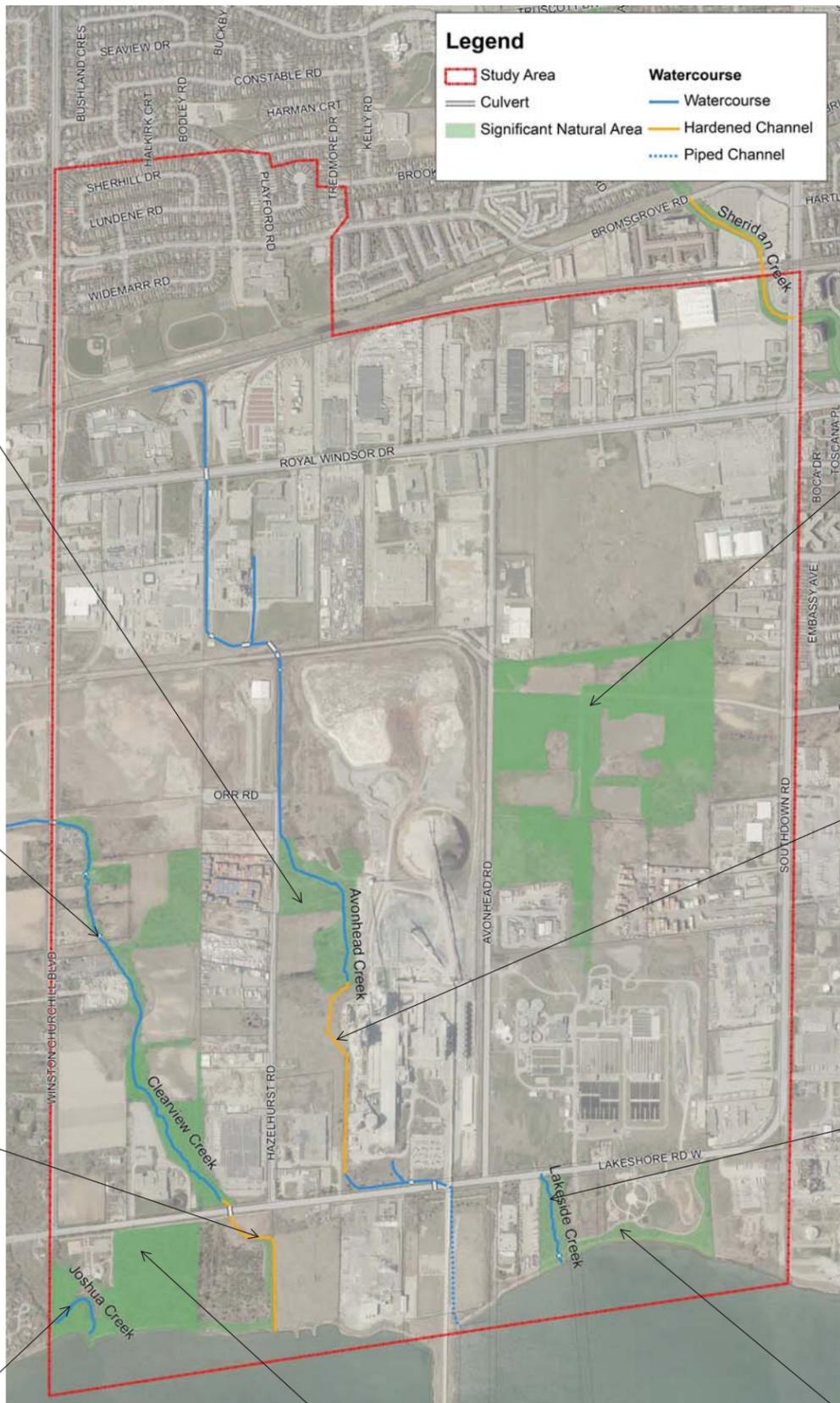
Major System Capacity



Road segments shown in green are able to contain the 100-year storm within the municipal roadway. Segments shown in red may experience spill of floodwaters onto surrounding lands.

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Existing Conditions: Natural Features

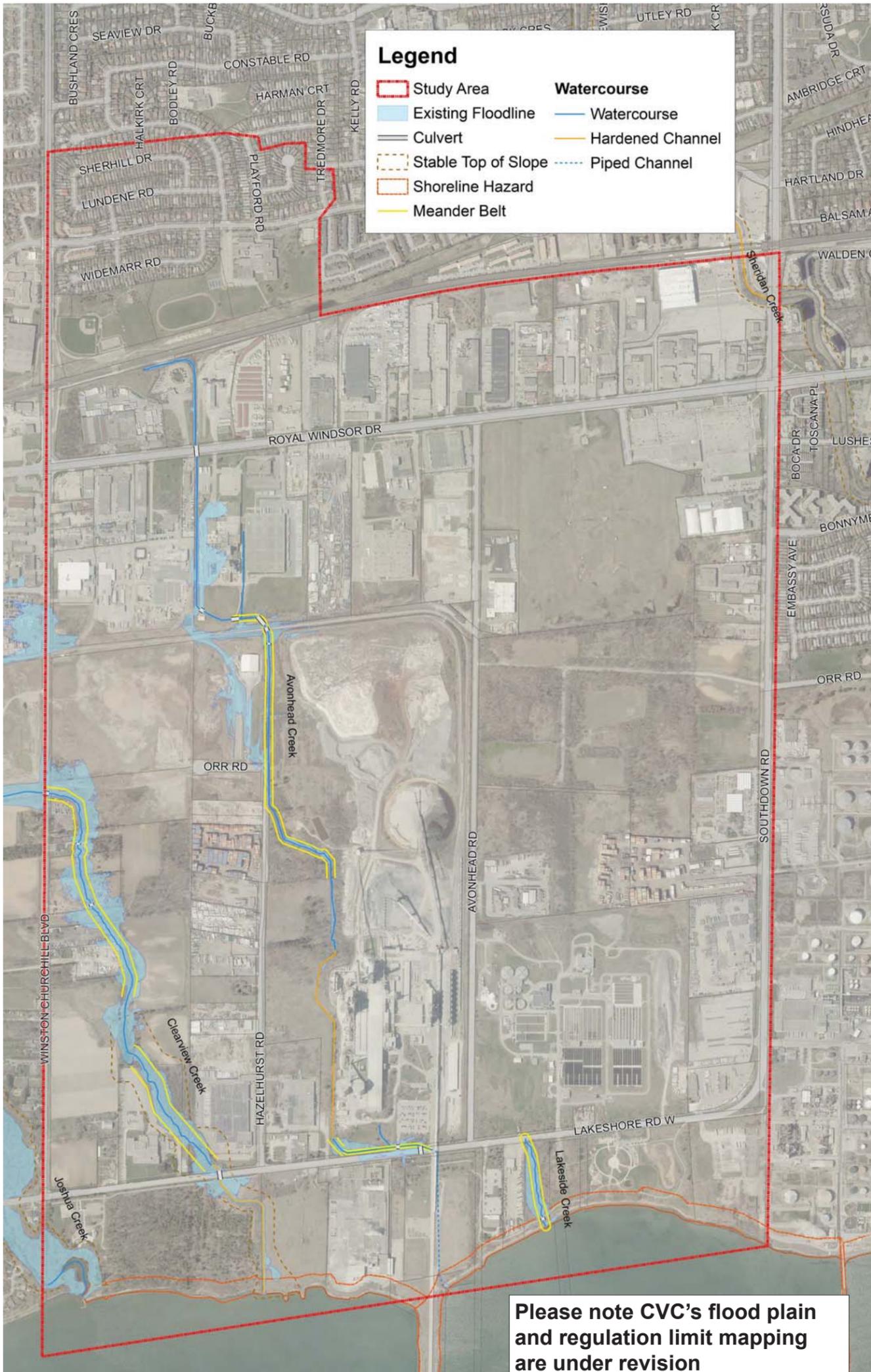


Creeks support warmwater fish typical of urban streams

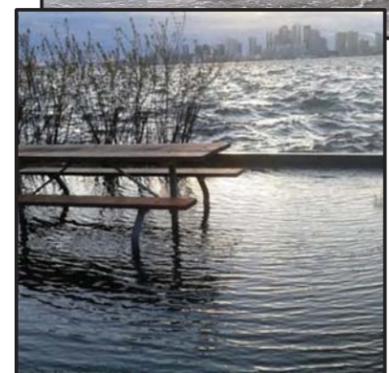


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Existing Conditions: Natural Hazards



Long-term erosion hazards were estimated through meander belt mapping



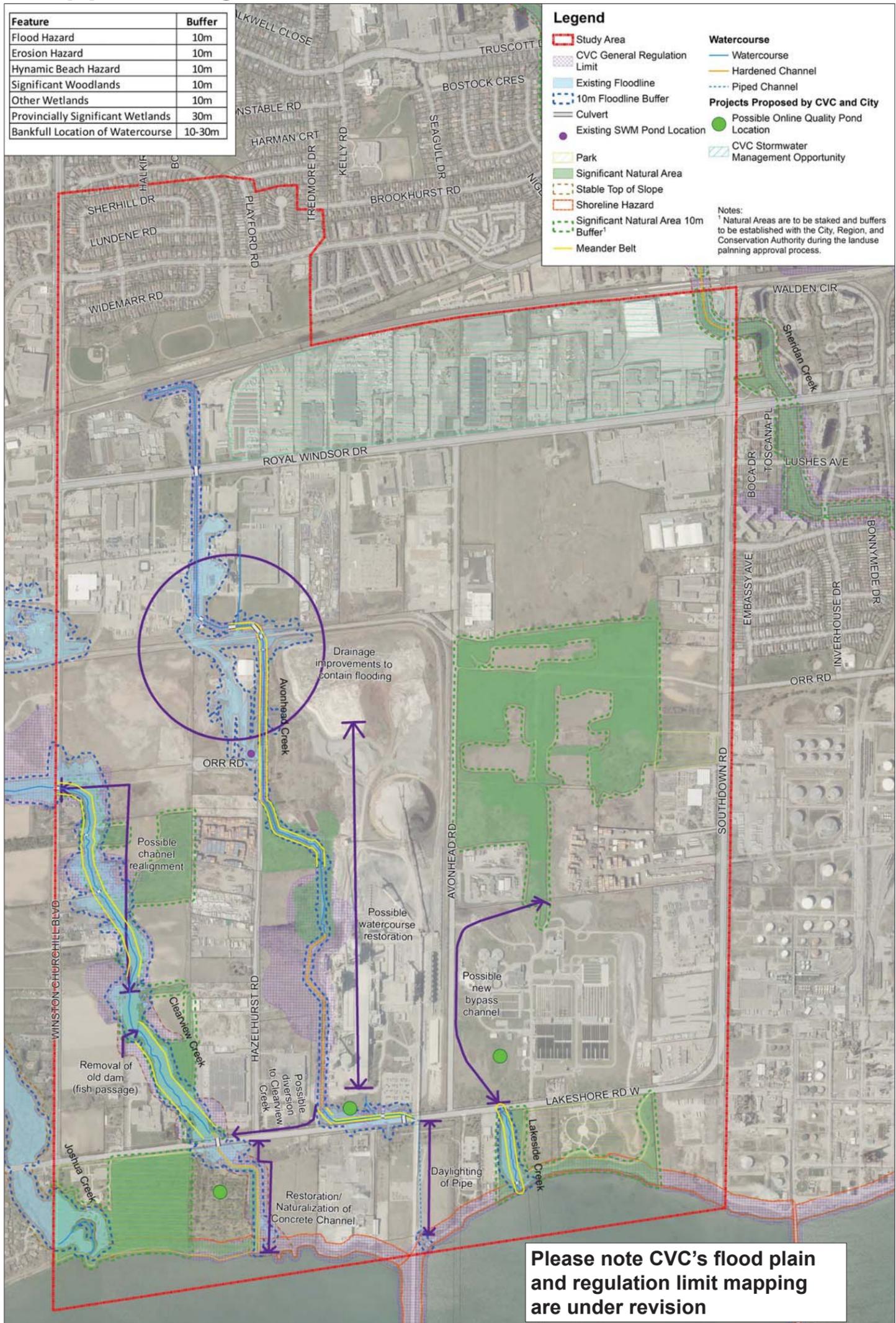
Shoreline hazards defined through Conservation Authority regulation mapping



Flood hazards along the study area watercourses identified through computer modelling

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Summary of Opportunity and Constraints



Common Impacts of Increased Urban Development (if not adequately mitigated)

- Increased stormwater runoff volumes
- Increased flooding
- Decreased water quality
- Lower groundwater recharge
- Negative impacts to downstream fisheries
- Fragmentation/isolation of wildlife habitat
- Reduced Biodiversity



Long-List of Alternative Measures to Address Existing & Future Impacts

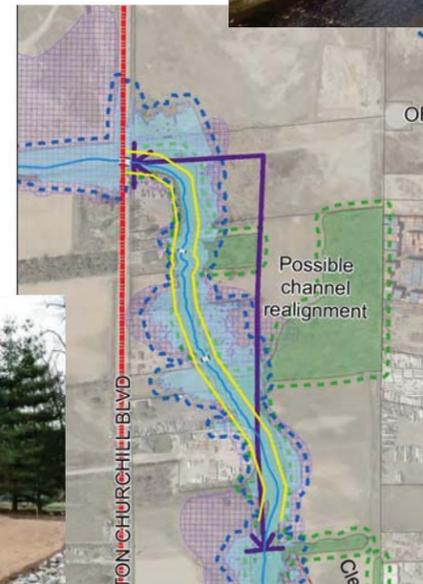
Alternative Solutions for Watercourse Improvements

Watercourse Restoration/Realignment of Clearview Creek and Avonhead Creek

Daylighting of piped creek reaches with new natural channel

Restoration/Naturalization of concrete channel

Removal of dam along Clearview Creek



Alternative Stormwater Management Solutions for Future Urban Development

Low Impact Development (Bioretention, infiltration trench, etc)

On-Site Storage (underground storage)

Centralized Stormwater Management Ponds



Long-List of Alternative Measures to Address Existing & Future Impacts



Alternative Stormwater Management Solutions for Existing Urban Development



Retrofit of existing properties using shared Low Impact Development Measures (CVC Royal Windsor Drive project)

New stormwater management ponds to serve existing development lands

Alternative Solutions for Existing Storm Drainage Systems

Replace existing undersized storm sewers

Replace undersized bridge/culvert structures

Relief sewer or channel at Clarkson Wastewater Treatment Plant

Over control flows from future development to the capacity of sewers



Alternative Solutions for Natural Heritage Systems

Protect existing features in current locations

Realign, reconfigure, consolidate and enhance natural heritage features

Improve connectivity of existing wooded areas



Evaluation of Alternatives



Natural Environment

- Potential impact on terrestrial system (vegetation, trees and wildlife)
- Potential impact on aquatic systems (aquatic life, surface water and groundwater)
- Potential to improve natural environmental conditions



Social Environment

- Disruption to existing community during construction (business disturbance, traffic, noise)
- Impacts to community in the long term (emergency access, land acquisition, aesthetics)
- Impacts to Archaeological resources and First Nations
- Timeliness of Implementation



Technical

- Effectiveness of solution in achieving current municipal and conservation authority standards
- Long term operations and maintenance
- Constructability
- Ability to meet regulatory requirements



Economic

- Estimated costs to implement project
- Estimated costs of long term operations and maintenance
- Estimated reduction in flood damages
- Consistent with/ enhancement to/ incentive for new/ re-development in study area

Next Steps

1. Modelling and assessment of impacts from future landuse changes and climate change
2. Screen the long-list of potential measures to address existing and future impacts
3. Develop a range of alternative strategies
4. Refine criteria used to evaluate the alternative strategies
5. Presentation of alternative strategies, evaluation and preliminary preferred strategy at Open House # 2, **Fall of 2019**
6. Issuance of Notice of Completion, 30 day public review period

Thank You For Attending!