

Preferred Solution – Stormwater Improvements

A stormwater management (SWM) report was prepared in support of the Lakeshore Road EA that considers the impacts of the preferred alternative recommendations, including the need for new creek channel crossings and a stormwater strategy for proposed road works. In addition, the recommendations are in accordance with the direction provided from within the Town's Stormwater Master Plan and the Coronation Park Drainage Study, both of which are approved EA studies. Staff from Conservation Halton has been engaged from the inception of the study

The key recommendations for stormwater management are the following:

- In general, stormwater management quantity controls are not required to reduce peak flows to the drainage outlets due to the close proximity to the lake. The only exception to this rule for this project is dealing with deficient storm sewers at Dorval and Lakeshore at St Jude's Cemetery, where we are proposing stormwater quantity controls, since the downstream channel is conveyed through residential properties prior to discharging to the lake.
- Numerous new and upgraded storm sewers will be required to provide adequate flow conveyance and will be carried out through detailed design.
- The proposed storm sewer system at the Westminster Drive and Lakeshore Road West intersection should be connected to the recently improved east channel within Coronation Park.
- To meet the water quality control, infiltration trenches are recommended for the storm sewer systems draining to Fourteen Mile Creek and McCraney Creek. The infiltration trenches discharging to Fourteen Mile Creek would also provide thermal mitigation to address MNRF redside dace habitat thermal mitigation requirements.
- An infiltration trench has been recommended for the road area draining to Birch Hill Lane.
- Roadside bioretention facilities have been recommended in select locations for water quality treatment (Reference ESR- Table 6.6).
- Various locations have been recommended to use Silva Cells as a water quality measure (Reference ESR-Figure-6).
- Various LID BMP measures (Reference ESR-Figure E-4) have been proposed to be implemented in the Lakeshore Road West corridor to provide source control (infiltration) as per the recommendations of the town's Stormwater Master Plan (Wood, June 2020). The size and level of treatment provided by each of the LID BMP units can be assessed at the next stages of planning and detailed design.
- In accordance with the recommendations of the Stormwater Master Plan, existing ditches will be maintained to the extent possible to provide an informal water quality benefit to treat runoff from the right of way prior to conveyance to the storm sewer system. Converting these existing ditches to enhanced swales would provide the opportunity to formalize the water quality benefits of the roadside ditches. Several areas have been identified as through the EA as a preliminary list of potential opportunities to maintain or enhance existing ditches.

The concerns raised regarding stormwater improvements and how it was addressed are noted below:

Concern / Opportunities	Response
All natural solution without pipes?	<p>Current system includes stormwater pipes. Full natural solution (e.g. ditches) cannot convey the 100 year storm, therefore was not evaluated in the EA. A 100% natural solution will result in building a large channel. This is not recommended due to significant negative impact to the corridor.</p> <p>As shown in Figure F-1 below, swales and LID (where applicable) have been included throughout the corridor to provide the scenic corridor character and will be further reviewed at detailed design.</p>
Maintain rural cross section?	<p>Curb and gutter has multitude of benefits from providing safe delineation between sidewalk/MUT/intersection and the road, holds the road structure together, and is also required to “channel” water to appropriate outlets.</p> <p>Areas where the curb and gutter is not required for the above purposes will be reviewed during detail design for the possibility of implementing a “rolled curb” to maintain the scenic corridor character.</p>

Figure F-1 LID BMP Recommended Implementation Location Plan

