



INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	August 11, 2021
SUBJECT/REPORT NO:	Old Dundas Road Sewage Pumping Station (HC005) Emergency Overflow to Ancaster Creek Feasibility Study (PW14107(a)) (Ward 12)
WARD(S) AFFECTED:	Ward 12
PREPARED BY:	Sharon McPherson-Nemeth (905) 546-2424 Ext. 2087
SUBMITTED BY:	Mark Bainbridge Director, Water and Wastewater Planning and Capital Public Works Department
SIGNATURE:	

COUNCIL DIRECTION

At the Public Works Committee meeting of September 15, 2014, the following was approved: "That the General Manager, Public Works, be authorized and directed to proceed with the Emergency Overflow Schedule "C" Municipal Class Environmental Assessment."

INFORMATION

This report provides an update on the basement flooding protection measures assessed through a Municipal Class Environmental Assessment (EA) for the Old Dundas Road (HC005) Sewage Pumping Station. Through EA recommended capital improvements and inflow and infiltration reductions in the sanitary sewer system, a 1:100-year storm level of basement flood protection is expected in the future and subsequently, an emergency overflow is not recommended. Project details are discussed throughout the remainder of this report.

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In 2015, the Old Dundas Road Sewage Pumping Station (HC005) Wet Weather Relief Master Plan and Class EA Study was completed to find a solution to alleviate basement flooding in the pumping station catchment area during wet weather events. The completion of the study included four (4) preferred alternative solutions:

1. Construction of an Underground Inline Storage Facility
2. Reduction of Inflow/Infiltration in the Public Property Works
3. Removal of Sources of Private Property Inflows
4. Provision of an Emergency Overflow to Ancaster Creek

Collectively, the first three (3) alternatives provide in excess of a 100-year level of flood protection against basement flooding for the study area. The fourth option, if implemented, would provide relief to homeowners that experience flooding during storms which exceed the 100-year level.

Upon completion of the 2015 Master Plan and Class EA Study, the Ministry of Environment, Conservation and Parks (MECP) received seven (7) Part II Orders relating specifically to the emergency overflow project requesting that the City of Hamilton (City) be required to prepare an individual environmental assessment (EA). The MECP denied all seven (7) Part II Order requests due to the emergency overflow project being incomplete at the time of the Master Plan filing since it still required completion of Phase 3 and Phase 4 of the Municipal Class EA Process.

Since completion of the 2015 Master Plan and Class EA Study, the following preferred alternatives were implemented:

- The majority of works identified to reduce inflow and infiltration from public properties were completed in 2016 (only two (2) Old Dundas Road sanitary pipe segments remain which are scheduled for grouting and lining in 2021); and,
- An underground inline storage facility was constructed on Montgomery Drive in 2018.

To evaluate the effectiveness of the implemented works, follow up flow monitoring and modelling analysis were completed in 2019. The results indicate that hydraulic conditions within the sewershed have improved significantly. At present, a plan to remove sources of inflows from private properties, a very cost-effective solution to flooding, is forthcoming.

In 2016, Hamilton Water commenced a Schedule 'C' Municipal Class EA to complete Phase 3 and Phase 4 of the Municipal Class EA Process to determine the location and design of an emergency overflow to Ancaster Creek, the fourth preferred alternative from the 2015 Master Plan and Class EA Study. In 2017, based on recommendations

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from MECP, Hamilton Conservation Authority (HCA) and Niagara Escarpment Commission (NEC), an extensive field work program commenced to determine baseline flows, water quality conditions and the hydraulic/hydrologic conditions in the study area to aid in the design of the new emergency overflow pipe. The “Do Nothing” alternative as well as two (2) types of emergency overflow designs were evaluated including the following:

- Emergency Overflow with Treatment - A long linear filtration system, installed within the road right of way including a wetland feature for filtration and perforated pipes to encourage infiltration of partially treated wastewater, that would discharge into Ancaster Creek; and,
- Emergency Overflow without Treatment - Sanitary flow would be directly discharged into the Ancaster Creek to prevent surcharging.

The evaluation was based on a list of criteria including cost, ability to alleviate sewage backup to homes, impacts to fisheries and natural environment, and effects to community and recreation.

In 2020, the Municipal Class EA Emergency Sanitary Overflow to Ancaster Creek Study was concluded and the “Do Nothing” alternative was chosen as the preferred solution. In essence, the Municipal Class EA process was abandoned for this project and the study findings were documented through a feasibility report attached as Appendix “A” to Report PW14107(a). It was determined there was no reasonable plan that would be approved by the MECP mainly due to the following reasons:

- Constructability concerns exist due to a hydraulic constraint in the proposed discharge area as the existing storm sewer in the vicinity of the overflow is significantly submerged during flood events resulting in potential backflow into the overflow pipe;
- Utility conflicts present for the “Emergency Overflow with Treatment” option;
- Provincial agencies expressed their concerns:
 - The overall purpose and objectives of the Niagara Escarpment Plan is to maintain and enhance the quality and character of natural streams and water supplies, therefore, the NEC were opposed to the overflow since the subject area is designated Escarpment Protection Area in the Niagara Escarpment Plan and discharge from the overflow would result in the contamination of the stream thereby degrading the quality of water representing a possible threat to fish and wildlife stocks downstream
 - HCA was in objection to the overflow since the development could adversely affect a significant fishery resource
- An emergency overflow pipe to Ancaster Creek would discharge to Cootes Paradise. This discharge would be in opposition to the new Canada-Ontario

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Agreement on Great Lakes Water Quality and Ecosystem Health which includes the promotion of infrastructure planning and eligible investments that support the reduction of excess nutrients from point sources such as municipal wastewater treatment systems, including overflows as well as enhanced environmental protection policies related to sewage overflows;

- The overt opposition that Hamilton Water received from area residents who in 2015 issued seven (7) Part II Orders specific to the implementation of an emergency overflow; and,
- Hamilton Water is leading various initiatives focused on total combined sewer overflow reduction. The introduction of a new sewage pumping station emergency overflow would be contrary to this endeavor.

In consideration of all the above noted points, allowing the spillage of raw sewage into a tributary of Cootes Paradise and Hamilton Harbour seems counterproductive considering the expenses incurred in restoring these areas and such a project could be harmful to the City's reputation for environmental stewardship. In addition, recent capital works implemented upon completion of the 2015 Master Plan and Class EA Study, including construction of the inline storage pipe and implementation of inflow and infiltration reduction solutions, are expected to provide a level of service in the study area above that of other areas in Hamilton.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report PW14107(a) - Old Dundas Road Sewage Pumping Station (HC005) Emergency Sanitary Overflow to Ancaster Creek Feasibility Study