



CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Hamilton Water Division

TO:	Mayor and Members Committee of the Whole
COMMITTEE DATE:	April 29, 2020
SUBJECT/REPORT NO:	Chedoke Creek Ministry Order Update (PW19008(h)) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Susan Girt (905) 546-2424 Ext. 3250
SUBMITTED BY:	Andrew Grice Director, Hamilton Water Public Works Department
SIGNATURE:	

RECOMMENDATION(S)

That Report PW19008(h) be received.

EXECUTIVE SUMMARY

This Report PW19008(h) contains information relating to the evaluation of the impacts to Cootes Paradise as a result of the combined sewage discharge from the Main/King Combined Sewer Overflow (CSO) tank. More specifically it includes the following:

- An update on the status of the Director's Order served on the City of Hamilton (City) by the Ministry of the Environment, Conservation and Parks (MECP);
- A summary of the Environmental Impact Evaluation (EIE) completed for Cootes Paradise by SLR Consulting (Canada) Ltd. (SLR) to satisfy the requirements of the MECP Director's Order, and the complete EIE attached as Appendix "A" to Report PW19008(h); and
- The City's decision on appropriate remedial actions, based on the results of the EIE to be submitted to the MECP on May 1, 2020, as required in the MECP Director's Order.

The City was served Director's Order No. 1-MRRCX (Director's Order) by the MECP on November 28, 2019, pursuant to their authority under the *Environmental Protection Act (EPA)* and the *Ontario Water Resources Act (OWRA)*.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

The Director's Order requires the City to undertake several studies to evaluate the environmental impacts of the combined sewage spill from the Main/King CSO tank. In response to the first two items of the Director's Order, on February 14, 2020 the City submitted a comprehensive Environmental Risk Assessment and associated remediation recommendations for Chedoke Creek to the MECP.

Since that time staff have worked closely with SLR to complete an EIE on Cootes Paradise which is the downstream receiver for the Main/King CSO tank. The EIE, along with the City's proposed remediation recommendations, must be submitted to the MECP by May 1, 2020 to satisfy the third requirement of the Director's Order.

The EIE was completed to assess whether there was an environmental impact to Cootes Paradise from the combined sewage discharged between January 28, 2014 and July 18, 2018 from the Main/King CSO outfall along Chedoke Creek. The evaluation included four ecosystem components: water quality, sediment quality, aquatic vegetation, and fish community. Using a variety of over 90 existing information sources, the EIE included comparisons of data (where available) representing conditions before, during and after the Main/King CSO discharge event. Locations in Cootes Paradise were compared with locations near Lower Chedoke Creek to evaluate the impacts of CSO discharge on Cootes Paradise.

The City recognizes the value of the information provided and the good faith shown by the Royal Botanical Gardens in order to respond to the Director's Order.

Generally, it was found that the CSO discharge event created short-term water quality impacts but no long-term impacts on Cootes Paradise we observed based on the information reviewed. The EIE concluded that no remediation activities are recommended pertaining to the CSO spill event and that there is also no evidence of ongoing environmental impact. Accordingly, a surface water monitoring program for the area subjected to the sewage spill, prescribed as the fourth item of the Director's Order, is unwarranted.

From an overall watershed perspective, staff are working on a water quality program, in consultation with external stakeholders, that will improve our governance of urban watercourses that receive discharges from City infrastructure. The City of Hamilton is in the process of retaining a Water Quality Technologist to oversee this program, an outline of which will be provided to the MECP by May 1, 2020, in response to the fourth item of the Director's Order.

Alternatives for Consideration – Not applicable

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: As part of the 2020 Water, Wastewater and Stormwater Rate Budget, Council approved the addition of a Full Time Equivalent for the development of a water quality monitoring program. Recruitment for this position is underway, and the cost of the program is accounted for in the approved operating budget.

Staffing: There are no staffing implications associated with the recommendations in this report.

Legal: Legal and Risk Management Services staff will continue to provide legal assistance as this matter unfolds.

HISTORICAL BACKGROUND

Provincial Orders:

The City has been served three orders related to Chedoke Creek. Provincial Officer's Order No. 1-J25YB (First Order) was served on the City of Hamilton (City) by the MECP on August 2, 2018; Provincial Officer's Order No. 1-J3XAY (Second Order) was served on the City by the MECP on November 21, 2019, and the subsequent Director's Order No. 1-MRRCX (Director's Order) was served on the City by the MECP on November 28, 2019, pursuant to their authority under the *Environmental Protection Act (EPA)* and the *Ontario Water Resources Act (OWRA)*.

Members of the General Issues Committee were advised verbally by Legal Services staff on November 20, 2019, and in Report PW19008(d)/LS1904(d) on November 27, 2019, that the second MECP Order included requirements to expand the investigation to Cootes Paradise which was unexpected and outside of the scope of the First Order and discussions staff had with the MECP. Expanding the scope of work to include Cootes Paradise would require a significant extension to the timeline and therefore on November 21, 2019, the City filed a formal request that this Second Order be reviewed by the MECP, with the hope that the new language in relation to Cootes Paradise be removed, or the timeline for completion of work be extended. Appended to the City's request for review was an opinion from the City's technical consultant, SLR Consulting (Canada) Ltd. (SLR), regarding the constraints to the feasibility of the additional work.

The results of the review by the MECP were received by the City on November 28, 2019, in the form of a Director's Order which, in summary, maintains the intent of the second Order with a deadline of February 14, 2020 for the report related to Chedoke Creek, and a deadline of May 1, 2020 for the report related to Cootes Paradise.

The City complied with the deadline for the Chedoke Creek report and on February 14, 2020 submitted a letter to the MECP indicating the City does not recommend remediating Chedoke Creek as a result of the unintended discharge from the Main/King CSO tank between January 2014 and July 2018.

Staff retained the services of SLR to complete the Environmental Impact Evaluation for Cootes Paradise to satisfy the remaining requirements of the Director's Order, which is discussed in further detail in this report.

The Director's order also requires the City to provide the MECP with written, biweekly progress updates. Bi-weekly meetings with the MECP are ongoing and the progress reports are being posted on the City's website.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

N/A

RELEVANT CONSULTATION

Hamilton Water staff have been working closely with Public Health Services, Legal and Risk Management and Corporate Communications staff regarding this matter. In addition, external legal counsel who is a specialist in environmental law, and has significant experience with environmental investigations and charges, has been retained to assist City staff as this matter progresses.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

Environmental Impact Evaluation (EIE) Results:

SLR, in response to the MECP Director's Order, prepared an EIE to assess the environmental impacts to Cootes Paradise from the Main/King CSO discharge that occurred between January 2014 and July 2018.

The EIE of the Main/King CSO discharge to Cootes Paradise was based on existing information from over 90 sources. The information reviewed included reports, research publications, memoranda, emails, data sets, figures and photographs. The assessment focused on four ecosystem components:

- Water quality
- Sediment quality
- Aquatic vegetation
- Fish community

Contaminants of potential concern (COPCs) associated with a combined sewage discharge were identified for the evaluation of surface water quality. This process was intended to focus on COPCs that potentially caused or may continue to cause adverse impacts to the abiotic or biotic media in Cootes Paradise.

The COPCs selected for evaluation of surface water included:

- Physicochemical – Dissolved Oxygen and Total Suspended Solids
- Nutrient - Ammonia (as NH₃, N), Nitrite, Total Kjeldahl Nitrogen, Total Phosphorus
- Metals – Copper
- Bacteria – E. coli

The overarching findings of the evaluation for each ecosystem component are summarized below, with detailed results available in the EIE report attached as Appendix “A” to Report PW19008(h).

Water Quality: The evaluation of surface water quality indicated that the unintended discharge from the Main / King CSO tank contributed to a short-term increase in E. coli levels at monitoring stations close to the mouth of Chedoke Creek. A potential short-term localized increase in total phosphorus concentrations was also noted for Cootes Paradise. The surface water quality data reviewed supports the conclusion that there is no evidence of long-term impact on Cootes Paradise based on water quality measurements.

Sediment Quality: Despite some data limitations, comparisons of nutrients and metals concentrations in the sediment samples obtained in Cootes Paradise near the mouth of Chedoke Creek before and after the CSO discharge event did not indicate changes in concentrations resulting from the CSO discharge event. This finding is based on the limited sediment quality data for Cootes Paradise which only includes a few sampling events and to monitoring stations near the mouth of Chedoke Creek. In addition, physical disturbance through wave action and/or bioturbation impede the ability to evaluate sediment profiles within watercourse.

Aquatic Vegetation: Information assessed does not show impacts on aquatic vegetation in Cootes Paradise associated with CSO discharge, independent from other potential influencing factors.

Fish Community: Information assessed does not show impacts on fish species relative abundance in Cootes Paradise associated with the CSO discharge, independent from other potential influencing factors.

For the above reasons, the EIE concludes that remediation of Cootes Paradise would appear unnecessary to address impacts from the Main/King CSO discharge that occurred from 2014 to 2018, and no remediation actions are recommended.

The absence of any long-term impacts in Chedoke Creek and correspondingly within Cootes Paradise due to the discharge event supports the conclusion that there is no evidence of ongoing environmental impact. Accordingly, a surface water monitoring program for the area subjected to the sewage spill is not warranted. Staff intend to submit a letter identifying this decision to the MECP Director, with the SLR report appended, by the May 1, 2020 deadline.

However, outside of the scope of this particular spill event, staff are working on a surface water quality monitoring program that will improve our overall governance of urban watercourses that receive discharges from City infrastructure. Staff have reached out to representatives from stakeholders such as Hamilton Conservation Authority, Hamilton Harbour Remedial Action Plan, Environment Hamilton and the Royal Botanical Gardens, in order to solicit feedback for this program, and to ensure communication lines between the City and our community partners remain open. The City of Hamilton is in the process of retaining a Water Quality Technologist to oversee this program, an outline of which will be provided to the MECP by May 1, 2020 as required by the Director's Order.

ALTERNATIVES FOR CONSIDERATION

Not applicable

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

Healthy and Safe Communities

Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Clean and Green

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure

Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance

Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" – Cootes Paradise: Environmental Impact Evaluation, SLR Consulting (Canada) Ltd. (SLR)