




## INFORMATION REPORT

<b>TO:</b>	Mayor and Members General Issues Committee
<b>COMMITTEE DATE:</b>	September 7, 2022
<b>SUBJECT/REPORT NO:</b>	Chedoke Creek Order – Remediation Update (PW19008(q)) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Tim Crowley (905) 546-2424 Ext. 5063
<b>SUBMITTED BY:</b>	Cari Vanderperk Director, Watershed Management Public Works Department
<b>SIGNATURE:</b>	

### COUNCIL DIRECTION

N/A

### INFORMATION

The City was served an Order by the Ministry of the Environment, Conservation and Parks (MECP) on December 4, 2020, as a result of the Main/King combined sewer overflow discharge that occurred between January 2014 and July 2018. The goal of the Order is to improve the condition of Chedoke Creek and Cootes Paradise. A status update on the activities undertaken to date to address the requirements of the Order and a summary of next steps to remediate the impacts is provided below. With regards to the court proceedings for this matter, the Judicial Pre-trial has been postponed to November 1, 2022, by the courts.

#### Chedoke Creek Workplan Overview

The Chedoke Creek Workplan, as required by the Order and approved by the MECP, identifies the remedial strategy for targeted dredging in Chedoke Creek. Construction mobilization was initiated in July 2022, with the targeted dredging formally starting the week of August 22, 2022. Operations are currently underway and are conducted seven

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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.

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days a week, 7 a.m. to 7 p.m. Dredging is scheduled to be completed by December 31, 2022 or sooner, which aligns with Order deadline as revised by the MECP from the original October 31, 2021 deadline, and previously reported to Council through a Communications Update dated October 25, 2021, and Information Report PW19008(n) presented to General Issues Committee on Jan 12, 2022.

The targeted dredging, which started at the north end of Chedoke Creek and will move southwards toward the Kay Drage Park access road, is guided by an on-board GPS system used on the hydraulic suction dredger. The average combined dredge depth is approximately 1.0 m which is expected to remove an estimated 11,300 m<sup>3</sup> of sediment from the bottom of the creek.

Prior to the in-water dredging activities, each work area in the creek is isolated from the surrounding water environment using a turbidity/silt curtain that includes a weighted line to maintain bottom contact, and a floating line to isolate the work area at the surface. Fish and wildlife are excluded from the work area prior to the dredging activities by a qualified aquatic biologist, mitigating potential interaction with the dredging operations. The turbidity/silt curtains also isolate the work area in order to contain sediment and debris within the immediate zone of dredging and prevent contaminant transport downstream.

To support the transportation of the sediment/water slurry, a floating pipeline was assembled on shore in sections and floated into position. The floating pipeline is connected to the hydraulic suction dredger and the land-based pipeline leading to the Dredge Material Management Area located in Kay Drage Park. The maximum pipeline length from the north dredge area to the Dredge Material Management Area is approximately 850 m. This will be shortened in length as the project progresses to the south.

The Dredge Material Management Area consists of an automated polymer injection system, two Geotube dewatering cells, a temporary holding pond and piping to the sewer discharge point. Dewatering cell one has eight (8) Geotubes while cell two (2) has three (3) Geotubes. Each dewatering cell was constructed with one (1) metre high perimeter berms and lined with an impermeable membrane prior to setting up the Geotubes.

The dewatering process begins with pumping the dredged sediment/water slurry from the hydraulic suction dredger into the polymer injection system to help bind the solids together. The slurry then moves into the appropriate Geotube dewatering cell. The water then drains by gravity from the Geotubes while the sediment remains inside.

The separated water leaving the Geotubes enters a collection trench and subsequently flows into the temporary holding pond, both of which are also lined with an impermeable

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membrane. Water from the holding pond is discharged continuously over a 24-hour period through the approved sewer discharge location. The contractor will stop the water discharge to the sewer during heavy rain events as outlined in the Construction Dewatering Permit. However, dredging and dewatering operations are not required to stop during rainfall because the temporary holding pond will be able to handle excess Geotube filtrate water. Only if the temporary holding pond nears its 1,000 m<sup>3</sup> capacity during a rainfall event will dredging and dewatering operations be required to cease. Sediment remaining in the Geotubes is planned to be transported to a non-hazardous waste disposal facility in late 2022 and/or early 2023. The disposal timeline will depend on the dredging completion date and the dewatering rate of the sediments. The contractor will monitor the dewatered sediment prior to disposal to ensure the material is fully dewatered, dry and passes a slump test to be classified as solid non-hazardous waste. Once the sediment is fully removed from site, the dewatering cells and temporary holding pond will be decommissioned with restoration work resuming in Spring 2023 to return affected areas of Kay Drage Park back to its preconstruction state.

#### Cootes Paradise Workplan Overview

The purpose of the Cootes Paradise Workplan, as required by the Order and approved by the MECP, is for the City to complete enhanced remedial measures that will improve the condition of Cootes Paradise in addition to the targeted dredging.

The Cootes Paradise Workplan includes the works listed in the following table which mainly fall into two (2) forms, those that reduce the nutrients from the inflowing water, and those in-water works that treat or remove the nutrients and other contaminants either through a one-time reduction or continuously through uptake. In order to determine which works will be preferred, the City is also required under the *Environmental Assessment (EA) Act* to evaluate any large-scale initiatives through the Municipal Class EA process.

#### Potential Works:

Annual Removal Projects	Large Scale Floating Vegetative Mats
	Outcomes from Lower Chedoke Master EA Study
One-Time Removal Projects	Exploratory Study to Dredge in specific locations within Cootes Paradise
	Sediment Nutrient Inactivation within Cootes Paradise

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Watershed Projects	Outcomes from Chedoke Watershed Stormwater Retrofit Master EA Study
(Point/Non-Point Annual Removals)	Outcomes from Application of Redevelopment Sites – Stormwater Management Policy
	Outcomes from Application of Retrofits for Road Rehabilitation Projects / Low Impact Development Best Management Practices Policy
Other	Ainsley Woods Class EA (Sewer Separation)

Consultant assignments for each of the three (3) Master Planning EA’s identified in the table above are in various stages of initiation. The studies will include a detailed environmental, social, and economic assessment of opportunities to improve water quality and address related water quantity matters. Viable alternatives will be evaluated through additional fieldwork, analysis (modelling), stakeholder, and Indigenous Peoples and Nations engagement. The timing and capital budgets of the identified preferred solutions from each Class EA study will be further identified once each study is completed.

Next steps for the Cootes Paradise Workplan will consist of the execution of the three (3) Master Planning EA’s and subsequent development of the EA websites and Public Information Centres. The Road Retrofits Rehabilitation and Stormwater Management Policy reviews will continue throughout 2022 and into 2023 with the appropriate City departments. Lastly, the exploratory study to dredge in Cootes Paradise and sediment nutrient inactivation have been combined into one (1) assignment with the investigative field work which started in August 2022.

It is important to note that the Order does not specify completion deadlines for the proposed initiatives identified in the Cootes Paradise Workplan, however the City is expected to complete each of the three (3) Cootes Paradise Workplan Class EA studies by the end of 2023, as communicated to the MECP.

**Costs**

The Order required the City to retain the services of a Qualified Person. Wood Environment & Infrastructure Solutions (Wood) was originally procured under a Policy 10 (Emergency) to act as the Qualified Person. The total amount invoiced and paid under the Emergency procurement is shown in the table below. Also included are the costs previously reported to the General Issues Committee on March 24, 2021 (PW19008(l)), for the period of 2018 to 2020.

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Summary of Costs Incurred to Date:

Item	Cost
Small Scale Offsetting	\$ 35,933
Costs from 2018-2020	\$ 2,008,290
Emergency Procurement - Wood's Services (Workplans, Data Collection, Design and Permitting)	\$ 791,144
Total	\$ 2,835,367

At the General Issues Committee on August 8, 2022, a recommendation report (PW19008(p)) was provided to change the procurement method for Wood's services from a Policy 10 (Emergency) to a Policy 11 (Non-Competitive). The continuing services include completing the Qualified Person requirements under the Order along with contract administration for the targeted dredging of Chedoke Creek and investigative field work for the potential dredging and sediment nutrient inactivation projects in Cootes Paradise. The total budgeted amount of this work, including the tendered construction bid price for the targeted dredging, is shown in the table below. Combined the costs shown in both tables total approximately \$9.5M, which is within the allocated budget for the dredging project.

Summary of Budgeted Ongoing Work

Item	Cost
Non-Competitive - Wood's Services (Contract Administration, Investigative Field Work and Post Monitoring)	\$ 780,156
Tender - Milestone Environmental Contracting Inc. (Targeted Dredging of Chedoke Creek)	\$ 5,919,992
Total	\$ 6,700,148

Approximately \$20M has been programmed into the Water, Wastewater, and Stormwater Rates Capital Budget within the next five years and once known, any additional required resources will be added into future budgets accordingly.

Communications Strategy

The City's Communications and Strategic Initiatives team is continuing to support this project with a robust communications strategy. The strategy includes various

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approaches including media releases, webpage updates and the use of social and print media. This ensures the community and stakeholders are kept apprised of the Chedoke Creek remediation progress.

To date a virtual public meeting was held by the Ward 1 office for local residents to learn about the upcoming construction activities and for the project team to address any concerns. In addition, a new webpage for the remediation efforts was launched to support ongoing communications along with approximately 4,000 project notices sent to residents in the surrounding area.

To learn more about the status of dredging activities and the remediation efforts identified in the Cootes Paradise Workplan, please visit;  
[www.hamilton.ca/chedokecreekremediation](http://www.hamilton.ca/chedokecreekremediation).

**APPENDICES AND SCHEDULES ATTACHED**

N/A