




INFORMATION REPORT

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	December 6, 2021
SUBJECT/REPORT NO:	Trillium Open Space - Erosion Protection Plan and Disaster Mitigation and Adaptation Fund Project Update (PW21072) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Wes Kindree (905) 546-2424 Ext. 2347
SUBMITTED BY:	Cynthia Graham Acting Director, Environmental Services Public Works Department
SIGNATURE:	

COUNCIL DIRECTION

Public Works Committee at its meeting of February 1, 2021, approved the following:

That the delegation from Peter Nielsen, respecting the Trillium Open Space - Erosion Protection Plan, be received and referred to appropriate staff for review and a report back to the Public Works Committee.

Information Report PW21072 fulfils this obligation, as well as providing an overall update to committee on the Disaster Mitigation and Adaptation Fund (DMAF) project.

INFORMATION

At the February 1, 2021 Public Works Committee, Peter Nielsen, a representative of the property owners of 2 Campview Drive, brought forward a delegation regarding the shoreline erosion issues adjacent to City of Hamilton (City) owned lands at 1139,1137,1135 North Service Road (also referred to as the Trillium Open Space) as well as 1121 North Service Road. Mr. Nielsen's presentation is attached as Appendix

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.

SUBJECT: Trillium Open Space – Erosion Protection Plan and Disaster Mitigation and Adaptation Fund Project (DMAF) Update (PW21072) (City Wide) - Page 2 of 5

“A” attached to Report PW21072. Mr. Nielsen expressed concerns over the damage that has and continues to occur along the shoreline of these properties. This damage is a result of recent high-water levels and the increasing frequency of significant weather events the City has experienced over the last 3 years.

The City owned property at 1121 North Service Road as identified in the delegation was purchased in 2019 after the City entered into the DMAF agreement with the Federal government, and as such it was not originally identified within the application for funding. As there is currently no dedicated funding for works associated with 1121 North Service Road, staff have been reviewing available resources to address the shoreline erosion at this property. Shoreline protective measures associated with the adjacent city owned lands of Lewis Road and watercourse no. 9 known as Trillium Open Space will be funded through the DMAF agreement.

These three assets can be generally characterized as a woodlot, road end and storm water outfall which all have a 6-meter-high continuous soil bluff shoreline. To date, staff have installed an 1800mm high chain link fence along the perimeter of the properties to protect the public and prevent access to lands where there is unstable ground above the 6m high bluff/cliff. Additionally, background studies including an Environmental Impact Statement (EIS) to identify the natural heritage characteristics within the properties and a Stage One Archaeological assessment have been initiated and will be followed by a Stage Two Archaeological Assessment, currently planned for Spring 2022. Finally, staff have engaged a coastal engineer to study the shoreline, potential climate impacts and develop shoreline protection solutions to protect the City properties from further damage. These studies will continue throughout 2022 due to the required timing windows of the monitoring and inventories required.

Staff attended the properties several times throughout 2021, as well as visited the homeowners of 2 Campview Drive on November 8, 2021 but have been unable to connect with the residents. Staff delivered a formal letter identifying the studies being undertaken on the adjacent lands, as well as providing contact information of staff if the home owners wished to discuss the planned works further. There will be ongoing efforts by staff to connect with the homeowners to provide them information on the city property, shoreline protection plans and timelines, and to gather input and address any concerns they may have.

Conceptual shoreline protection solutions will be developed in the winter of 2021/2022 with an expected completion of the concepts in the spring/summer of 2022. Upon review of those conceptual options, staff will refine the best approach in terms of shoreline protective measures through the detailed design process. During the detailed design phase, consultation with regulatory bodies will be required as these works will require permitting from the Hamilton Conservation Authority, Ministry of Natural

SUBJECT: Trillium Open Space – Erosion Protection Plan and Disaster Mitigation and Adaptation Fund Project (DMAF) Update (PW21072) (City Wide) - Page 3 of 5

Resources and Forestry and potentially Fisheries and Oceans Canada. It is anticipated that construction will begin in the fall/winter of 2023 pending the overall scope of work and approval timelines.

Disaster Mitigation and Adaptation Fund Shoreline Project general update

The shoreline properties at Lewis Rd., and Trillium Open Space (watercourse #9), excluding 1121 North Service Road, form part of the federal funding DMAF Shoreline Resiliency agreement that focuses on 31 shoreline properties and 4 storm water outfalls that are to receive new backflow devices. A complete list of these properties and outfalls are shown within Appendix “B” attached to Report PW21072

To date, 2 of the 31 shoreline properties have been completed, including:

- 33 Lakeview Ave (Watercourse No. 4) - Shoreline protective measures along with reinforcing of the existing watercourse no. 4 outfall channel; and
- Fifty Road Parkette - The redevelopment of Fifty Road Parkette within the north end of Fifty Road right-of-way. Works included the construction of new shoreline protective measures and the reinstatement of the parkette that was significantly damaged in 2017 as a result of high-water levels and extreme wave action.

In 2021, staff initiated the planning/design process of 5 additional properties as part of the DMAF program. Those properties are:

- Hamilton Harbour Waterfront Trail - Coastal Engineers SNC Lavalin have been engaged to develop detailed design documents for shoreline protection and trail re-development of the 2km stretch between the Desjardins Canal and Bayfront Park parking area. The next step in the design process is undertaking of physical modelling at the National Research Centre (NRC) in December 2021. A refined design will be prepared based on the results of the 2D modelling. It is anticipated that construction of the HHWT will take place in the winter of 2022/23 when timing windows for in-water works are open.
- Desjardins Canal Floating Bridge – Background studies and process planning required for and regulatory permitting has commenced and continues to be undertaken. This work is necessary to complete dredging of the silt build up beneath the structure which is currently preventing it from floating. The ability of the structure to freely float as part of its general emergency operations to deal with flash flooding and emergency events is critical. Works are to be coordinated with the Hamilton Harbour Waterfront Trail Shoreline Protection and Trail Redevelopment project in 2022 to minimize trail closure impacts. The funding for

SUBJECT: Trillium Open Space – Erosion Protection Plan and Disaster Mitigation and Adaptation Fund Project (DMAF) Update (PW21072) (City Wide) - Page 4 of 5

the Desjardins Canal Floating Bridge structure work will be requested as part of a future capital budget, as the structure repairs are outside of the scope of the DMAF funding.

- Millen Road end - The design of shoreline protection is underway for the Lake Ontario shoreline at the north limits of Millen Road. Coastal Engineers Baird have been engaged to develop shoreline protective measures which will be constructed in the summer of 2022 if permitting allows or will otherwise be undertaken in the winter of 2022/2023 when in-water works are permitted.
- McNeilly Road end - This road end is currently being reviewed by Coastal Engineers Baird for the development of shoreline protection measures. This project site consists of a road end that has minimal existing shoreline protection in place and has been continuously impacted by recent high-water levels and associated climate impacts.
- Bayfront Park - Coastal Engineer Golder and Associates has been engaged to assess the protective measures in place at Bayfront Park. The lands on the northeast side are exposed to problematic easterly and northerly waves that have caused extensive damage to easterly exposed shoreline. This section of shoreline within the park is the focus of the shoreline improvements at Bayfront Park and southern limits of Macassa Bay.

Projects that are anticipated to start in 2022 will be based on a review of the remaining 24 properties and prioritization of those assets being based on current conditions. Water levels and weather events taking place during the winter and spring of 2022 will have potential impacts on that prioritization.

It should also be noted that a Stage 1 Archaeological Study has been completed for the 31 shoreline properties and 4 stormwater outfalls that are to receive backflow devices as part of the DMAF agreement. Consultation with the First Nations communities is ongoing in conjunction with the Stage 1 study, and staff will continue to consult during any Stage 2, 3 and 4 works within the DMAF project.

To date the city has claimed \$2,428,768.76 of the \$31,715,000.00 DMAF project value through year 2 of 8 (2028) with Infrastructure Canada (INFC) reimbursing 40% (\$971,507.41) of those claims to date per the agreement.

Staff continue to work with INFC by providing biannual progress reports along with project update meetings through the project Oversight Committee.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” to Report PW21072 - Delegation from Peter Nielsen, respecting the Trillium Open Space - Erosion Protection Plan.

Appendix “B: to Report PW21072 - Disaster Mitigation Adaptation Fund - Shoreline Protection Resilience Project. 31 Shoreline and 4 Wastewater Infrastructure sites.