



# Toronto and Region Conservation Authority

## Board of Directors Meeting Revised Agenda

May 28, 2021  
9:30 A.M.

The meeting will be conducted via a video conference  
Members of the public may view the livestream at the following link:  
<https://video.isilive.ca/trca/live.html>

### Pages

1. **ACKNOWLEDGEMENT OF INDIGENOUS TERRITORY**
2. **MINUTES OF MEETING HELD ON APRIL 30, 2021**  
[Meeting Minutes Link](#)  
*(April 30, 2021 Closed Session Minutes will be circulated to Board Members separately)*
3. **DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF**
4. **DELEGATIONS**
5. **PRESENTATIONS**
6. **CORRESPONDENCE**
  - 6.1. **An letter dated April 28, 2021 from Kathryn Moyle, Director of Corporate Services/Township Clerk, in regard to Oak Ridges Moraine proposed resolution in support of establishment of East Humber Headwaters Park** 6
7. **SECTION I - ITEMS FOR BOARD OF DIRECTORS ACTION**
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Establishment of Natural Science and Education Committee

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8.3.	EMERGENCY PREPAREDNESS PLANS FOR TRCA DAMS Emergency Preparedness Plans for Dam Emergencies at Claireville Dam, Stouffville Dam, Milne Dam and Palgrave Dam.  <i>Attachments 3-6 are confidential attachments, which will be circulated to Board Members separately, pursuant to subsection C.4.(2)(h) of TRCA's Board of Directors Administrative By-Law, as the subject matter may be discussed in closed session under subsection 2.1(7) of the Emergency Management and Civil Protection Act.</i>	49
9.	MATERIAL FROM SPECIAL EXECUTIVE COMMITTEE MEETING HELD ON APRIL 30, 2021  <u>Meeting Minutes Link</u>  (April 30, 2021 Closed Session Minutes will be circulated to Board Members separately)	
9.1.	APRIL 30, 2021 EXECUTIVE COMMITTEE CLOSED SESSION ITEMS	
9.1.1.	RESULTS OF THE INVESTIGATION OF THE COMPLAINT UNDER THE BOARD OF DIRECTORS CODE OF CONDUCT <i>(Executive Committee RES.#B38/21, as amended)</i> PDF Page 2/28  <i>(April 30, 2021 Closed Session Minutes will be circulated to Board Members separately)</i>	
10.	MATERIAL FROM EXECUTIVE COMMITTEE MEETING HELD ON MAY 14, 2021  <u>Meeting Minutes Link</u>	
10.1.	SECTION I – ITEMS FOR BOARD OF DIRECTORS ACTION	
10.1.1.	2022 PRELIMINARY MUNICIPAL BUDGET Update on the 2022 preliminary municipal levies and submission process. <i>(Executive Committee RES.#B42/21)</i> PDF Page 2/143	

- 10.1.2. DEVELOPMENT AND ENGINEERING SERVICES - PLANNING AND PERMITTING ADMINISTRATIVE FEES UPDATE 2021**  
Assessment of Cost Recovery and workload volume supporting the 2021-2022 Planning, Permitting and Infrastructure Planning Fee Schedules.  
(Executive Committee RES.#B43/21)  
PDF Page 7/143
- 10.1.3. VENDORS OF RECORD ARRANGEMENT FOR SUPPLY AND DELIVERY OF VARIOUS AGGREGATES**  
Award of Request for Proposals (RFP) No. 10035681 for a Vendors of Record (VOR) arrangement for supply and delivery of various aggregates from July 1, 2021 to July 1, 2022.  
(Executive Committee RES.#B44/21)  
PDF Page 39/143
- 10.1.4. REQUEST FOR LIMITING DISTANCE AGREEMENT FOR TORONTO AND REGION CONSERVATION AUTHORITY-OWNED LAND**  
Receipt of a request from Kingbird Developments Inc., to enter into a Limiting Distance Agreement for Toronto and Region Conservation Authority-owned lands located on the north side of Marine Parade Drive and east of Park Lawn Road municipally known as 156 Marine Parade Drive, in the City of Toronto, Lake Ontario Waterfront (CFN 63120).  
(Executive Committee RES.#B45/21)  
PDF Page 43/143
- 10.1.5. CITY OF TORONTO**  
Receipt of a request from the City of Toronto, for a conveyance of Toronto and Region Conservation Authority-owned lands located at 5 Shoreham Drive, in the City of Toronto, required for a daylight triangle at the corner of Shoreham Drive and Murray Ross Parkway, Humber River watershed (CFN 60170).  
(Executive Committee RES.#B46/21)  
PDF Page 47/143
- 10.1.6. TORONTO HYDRO**  
Receipt of a request from Toronto Hydro, for a permanent easement required for New Administrative Office Building line connection, located at 5 Shoreham Drive, in the City of Toronto  
(Executive Committee RES.#B47/21)  
PDF Page 51/143
- 10.2. SECTION III - ITEMS FOR THE INFORMATION OF THE BOARD**
- 10.2.1. 2021 THREE MONTH FINANCIAL REPORT**  
Receipt of Toronto and Region Conservation Authority's (TRCA) unaudited expenditures as of the end of the first quarter, March 31st, 2021, for informational purposes.  
(Executive Committee RES.#B48/21)  
PDF Page 55/143

**10.2.2. Q1 2021 COMMUNICATIONS SUMMARY**

Information report regarding Toronto and Region Conservation Authority's (TRCA) corporate media communication activities during the first quarter of 2021 (January – March).  
(*Executive Committee RES.#B49/21*)  
PDF Page 60/143

**10.3. SECTION IV - ONTARIO REGULATION 166/06, AS AMENDED**

Receipt of Ontario Regulation 166/06, as amended, for applications 11.1-11.2, which were adopted or received at the May 14, 2021 Executive Committee Meeting.  
(*Executive Committee RES.#B50/21 and RES.#B51/21*)  
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**10.4. MAY 14, 2021 EXECUTIVE COMMITTEE CLOSED SESSION ITEMS**

(*Executive Committee RES.#B52/21*)  
PDF Page 143/143

(*May 14, 2021 Closed Session Minutes will be circulated to Board Members separately*)

**10.4.1. PAID TIME OFF POLICY UPDATES**

(*Executive Committee RES.#B52/21*)  
PDF Page 143/143

(*May 14, 2021 Closed Session Minutes will be circulated to Board Members separately*)

**11. CLOSED SESSION**

(*Closed Session reports will be circulated to Board Members separately*)

**11.1. 24 NORFIELD CRESCENT, CITY OF TORONTO**

Pursuant to subsection C.4.(2)(l) of TRCA's Board of Directors Administrative By-Law, as the subject matter pertains to a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of TRCA.

**11.2. BRUCE'S MILL CONSERVATION AREA PROPOSED HERITAGE DESIGNATION RESOLUTION**

Settlement of Proposed Heritage Designation

Pursuant to subsection C.4.(2)(g) of TRCA's Board of Directors Administrative By-Law, as the subject matter includes an advice that is subject to solicitor-client privilege.



**11.3. 230 GRAND TRUNK AVENUE, CITY OF VAUGHAN – DUFFERIN VISTAS  
PHASE 2**

Update on the Local Planning Appeal Tribunal (LPAT) Appeal

Pursuant to subsections C.4.(2)(e) and C.4.(2)(g) of TRCA's Board of Directors Administrative By-Law, as the subject matter relates to litigation or potential litigation, including matters before administrative tribunals (e.g. Local Planning Appeal Tribunal), affecting TRCA and includes an advice that is subject to solicitor-client privilege.

**12. NEW BUSINESS**

NEXT MEETING OF THE BOARD OF DIRECTORS TO BE HELD ON JUNE 25, 2021  
AT 9:30 A.M. VIA VIDEOCONFERENCE

John MacKenzie, Chief Executive Officer

/am



King Township  
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King City , Ontario  
Canada L7B

Phone: 905.833.5321  
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Website: [www.king.ca](http://www.king.ca)

April 28, 2021

Hon. Doug Ford  
Premier of Ontario  
Legislative Building, Queen's Park  
Toronto, ON M7A 1A1

via email: [premier@ontario.ca](mailto:premier@ontario.ca)

Honourable Premier Ford,

**RE: SUPPORT RESOLUTION – OAK RIDGES MORAINÉ (“ORM”) PROPOSED  
RESOLUTION IN SUPPORT OF ESTABLISHMENT OF EAST HUMBER  
HEADWATERS PARK**

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At its meeting of April 26, 2021, Council of the Township of King received and unanimously supported a Notice of Motion with respect to an opportunity to support the potential for the establishment of a park to be known as the East Humber Headwaters Park on land within the Oak Ridges Moraine located between the 15<sup>th</sup> Sideroad south to King Road, between Dufferin Street and Bathurst Street, including significant tributaries and headwaters of the East Humber River.

Council of the Township of King formally requests that the Regional Municipality of York and the Toronto Region Conservation Authority (TRCA) endorse and convey support of the following Resolution and with further intent to enter into discussions:

**“WHEREAS** the Township of King has long supported the preservation and expansion of natural heritage areas and the objectives of the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan;

**AND WHEREAS the Township of King** supports the protection and appreciation of natural areas through land-use practices that will protect biodiversity and maintain, improve or restore elements that contribute to the ecological and hydrological functions of the ORM;

**AND WHEREAS** there is a unique opportunity to achieve the objectives of the Greenbelt Plan and the Oak Ridges Conservation Plan and more specifically, to enhance the ecological quality and natural habitats of one of the most critical linkage areas in King Township and Richmond Hill and make it open and accessible to Ontarians as a landmark public space in the heart of York Region;

**AND WHEREAS** one of the most critical Natural Linkage areas in the ORM Conservation Plan consists of lands in King running north-south from the 15<sup>th</sup> Sideroad to King Road, between Dufferin Street and Bathurst Street, including significant tributaries and headwaters of the East Humber River;

**AND WHEREAS** these lands measure 207 hectares in size, are privately owned, are currently in an agricultural state and therefore not fulfilling its intended critical linkage function, and unable to support the healthy ecosystems and biodiversity that the ORM Conservation Plan intended;

**AND WHEREAS** the owner of these lands filed an application to develop the lands and further filed an appeal to the Ontario Municipal Board, the predecessor to the Local Planning and Appeal Tribunal which, if successful, would allow resort-type accommodation and a golf course that would permanently eliminate the ability to bring the majority of these lands into public ownership;

**AND WHEREAS** the owner of the property has advised the Township of King that it is prepared to abandon the appeal and forego any potential development of its lands in exchange for the transfer to the current landowner of provincially owned developable land in another location;

**AND WHEREAS** the proposed East Humber Headwaters Park has previously been endorsed by the Township of King by resolution dated December 11, 2017 as well as by the Regional Municipality of York, the Toronto Region Conservation Authority (TRCA) and the City of Toronto;

**AND WHEREAS** the Province of Ontario has previously secured and protected large land areas for the purpose of conservation and recreation, including lands in; the Rouge River Valley, Bronte Creek Provincial Park, the Niagara Escarpment, and the Don Valley Brick Works;

**AND WHEREAS** our local Member of Provincial Parliament, Minister Stephen Lecce, has been a strong and continuous advocate for the creation of this historic park and engaged partner of the municipality;

**AND WHEREAS** there is no comparable natural heritage/park area in York Region;

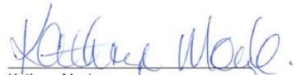
**NOW THEREFORE BE IT RESOLVED THAT** the Township of King formally requests that the Province of Ontario:

1. Negotiate with the owner the abandonment of its development proposal for the King lands in return for the transfer of lands owned by the Province elsewhere;
2. Once in possession of the King lands, transfer them to the Provincial Park portfolio or at nominal cost to King Township to create a showcase East Humber Headwaters Park; and

**AND FURTHER BE IT RESOLVED THAT** the Township of King formally requests that:

3. The Council of the Region of York endorse this motion and convey its support to the Province of Ontario;
4. The Province, the Region, the TRCA and Township of King enter into discussions about the best way to ensure the long-term preservation and restoration of the King lands and establishment of the **East Humber Headwaters Park.**

Yours truly,



Kathryn Moyle  
Director of Corporate Services  
Township Clerk

- c.c. Hon. Jeff Yurek, Minister, Ministry of the Environment Conservation & Parks  
[minister.mecp@ontario.ca](mailto:minister.mecp@ontario.ca)  
Hon. Laurie Scott, Minister, Ministry of Infrastructure [laurie.scott@pc.ola.org](mailto:laurie.scott@pc.ola.org)  
Hon. Stephen Lecce, MPP, King-Vaughan [Stephen.lecce@pc.ola.org](mailto:Stephen.lecce@pc.ola.org)  
Chris Raynor, Clerk, Regional Municipality of York [regional.clerk@york.ca](mailto:regional.clerk@york.ca)  
John MacKenzie, CEO, Toronto Region Conservation Authority (TRCA)  
[John.MacKenzie@trca.ca](mailto:John.MacKenzie@trca.ca)  
Mayor Steve Pellegrini, King [spellegrini@king.ca](mailto:spellegrini@king.ca)

## Section I – Items for Board of Directors Action

**TO:** Chair and Members of the Board of Directors  
Friday, May 28, 2021 Meeting

**FROM:** Darryl Gray, Director, Education and Training

**RE:** **NATURAL SCIENCE AND EDUCATION COMMITTEE**  
Establishment of Natural Science and Education Committee

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### KEY ISSUE

Establishment of Natural Science and Education Committee, as per recommendations of the Outdoor Education Task Force and TRCA Board of Directors.

### RECOMMENDATION

**WHEREAS** at its Meeting #6/18 held on July 20, 2018, Toronto and Region Conservation Authority's Authority approved the establishment of an Outdoor Education Task Force comprised of elected officials from local school boards and TRCA's Authority;

**AND WHEREAS** at its Meeting held on February 26, 2021, TRCA's Board of Directors endorsed the Final Report and Recommendations of the Outdoor Education Task Force, including the establishment of a multi-stakeholder Natural Science and Education Committee as a sub-committee of TRCA's Board of Directors;

**THEREFORE, LET IT BE RESOLVED THAT** the Natural Science and Education Committee be established as outlined in Attachment 1: Natural Science and Education Committee Terms of Reference;

**THAT** a formal request for representation on the Natural Science and Education Committee be made to member organizations, as per Attachment 1: Natural Science and Education Committee Terms of Reference;

**AND FURTHER THAT** staff report on proposed appointments to the Natural Science and Education Committee for Board of Directors approval at the October 22, 2021 Board of Directors meeting.

### BACKGROUND

At Meeting #6/18 on July 20, 2018, Toronto and Region Conservation Authority's (TRCA) Authority approved the establishment of an Outdoor Education Task Force comprised of Trustees from area school boards and representatives from TRCA's Authority. The Outdoor Education Task Force was convened with an eighteen (18) month term and mandate to study, develop, and recommend strategic future directions related to out-of-classroom learning as it pertains to natural science, conservation and the environment in the Greater Toronto Area (GTA), specifically including Peel, York and Durham Regions and the City of Toronto.

TRCA's Board of Directors convened the Outdoor Education Task Force as a multi-stakeholder approach to identifying opportunities that will sustain the current system of publicly built and operated school board and conservation authority out-of-classroom learning centres and programs into the future.

## Item 7.1

The Outdoor Education Task Force was comprised of the following School Board Trustees and TRCA Board members:

- Durham Catholic District School Board: Trustee Morgan Ste. Marie
- York Region District School Board: Trustee Cynthia Cordova
- York Catholic District School Board: Trustee Jennifer Wigston
- Peel District School Board: Trustee Will Davies
- Dufferin-Peel Catholic District School Board: Trustee Frank Di Cosola
- Toronto District School Board: Trustee Anu Sriskandarajah
- Toronto Catholic District School Board: Trustee Garry Tanuan
- Conseil scolaire catholique MonAvenir: Chair Melinda Chartrand
- TRCA (City of Brampton): Regional Councillor Rowena Santos
- TRCA (City of Toronto): Mr. Basu Mukherjee

On January 25, 2021 the Outdoor Education Task Force completed its work and submitted five (5) recommendations for review and endorsement by TRCA's Board of Directors, which were endorsed on February 26, 2021, as noted above. The Outdoor Education Task Force recommendations form the basis for strengthened collaboration amongst and between TRCA and area school boards as well as other learning organizations within the broader public sector. A key goal of the Outdoor Education Task Force was to build on Section 197 of the Education Act and establish mechanisms to better leverage the public learning assets and natural resources of both school boards and conservation authorities while maximizing the use of finite financial public and private funding in delivering important nature-based outdoor education experiences for students of our watersheds.

TRCA's Board of Directors, at its meeting held on February 26, 2021, adopted Resolution #A17/21 as follows:

*WHEREAS at its Meeting #6/18 held on July 20, 2018, Toronto and Region Conservation Authority Board of Directors approved the establishment of an Outdoor Education Task Force comprised of elected officials from local school boards and TRCA's Board of Directors;*

*AND WHEREAS the Outdoor Education Task Force has been convened to study, develop and recommend strategic future directions related to natural science, conservation and environmental out-of-classroom learning in the Toronto region;*

*AND WHEREAS at Meeting #5/20 held on January 25, 2020, the Outdoor Education Task Force endorsed the final report, Vision Statement and Strategic Recommendations, as amended, for submission to Toronto and Region Conservation Authority Board of Directors;*

*THEREFORE, LET IT BE RESOLVED THAT the final report of the Outdoor Education Task Force be received;*

*THAT the Vision Statement, as amended at the January 25, 2021 Outdoor Education Task Force meeting, be endorsed;*

*THAT the following recommendations of the Outdoor Education Task Force be approved for action:*

## Item 7.1

*Recommendation #1: Establish Shared Governance Model – Natural Science and Education Committee as a Subcommittee of Toronto and Region Conservation Authority's Board of Directors*

*Recommendation #2: Establish Consistent Access and Curricular Standards Across TRCA and School Boards*

*Recommendation #3: Establish a Unified Performance Measurement System*

*Recommendation #4: Advance Shared-Ownership and Access Models That Enhance and Sustain an Overall Out-Of-Classroom Learning System*

*Recommendation #5: Develop a Long-Term Equitable Access Financial Plan*

*THAT the approved Vision Statement and Strategic Recommendations be circulated to area Boards of Trustees for consideration and endorsement;*

TRCA has worked with local schools and school boards to provide outdoor education programs and services since 1953. Enabling this work, Section 197 of the *Education Act* provides for school boards to enter into agreements with conservation authorities for the purposes of providing out-of-classroom learning related to natural science, conservation or other out-of-classroom programs. Currently TRCA is one of Ontario's largest providers of out-of-classroom experiential learning with over 155,000 students engaging in TRCA learning programs annually through a network of education centres, conservation areas and local greenspaces, in addition to in-school programs. TRCA educational offerings are curriculum-linked and enable student learning related to a wide range of subjects that both meet curricular objectives while advancing TRCA strategic goals and supporting TRCA's core mandate. Further to learning program services, TRCA provides access to TRCA lands and greenspaces for area school boards for board-operated outdoor education centres through lease or other formal agreements either on, or adjacent, to TRCA-owned land, thereby maximizing public-sector partnerships through efficient use of publicly owned land for learning purposes.

Central to the Outdoor Education Task Force recommendations is the establishment of the Natural Science and Education Committee to provide a shared governance framework to advance the recommendations of the Outdoor Education Task Force. TRCA has historically brought key stakeholders together as necessary for important discussions related to the segment of the formal education system that relates to natural science, conservation and the environment, most recently through the Outdoor Education Task Force. The convening of the Natural Science and Education Committee was seen as an essential component of TRCA's work as a leader in this field by members of the Outdoor Education Task Force.

### **RATIONALE**

Building on the success of the Outdoor Education Task Force, the Natural Science and Education Committee will provide for a multi-stakeholder governance framework to advance shared objectives pertaining to out-of-classroom learning related to natural-science, conservation and the environment in the Greater Toronto Area. By bringing together key stakeholders, including the Ministry of Education, area school boards, indigenous communities and youth, TRCA and school board partners will be better able to leverage the value of the publicly built and operated system that supports out-of-classroom learning related to natural science, conservation and the environment more effectively, while also ensuring the current and future learning needs are met.

## Item 7.1

The Natural Science and Education Committee will be an advisory board of TRCA's Board of Directors with a mandate to:

Study and make recommendations to the Board of Directors of TRCA regarding recommendations to TRCA and government and agency partners on improvements and future needs as it pertains to the provision, planning or access for students to out-of-classroom learning related to natural science, conservation and the environment in the Greater Toronto Area region.

The objectives of the Natural Science and Education Committee will be to advise TRCA and partner agencies on the effective implementation and advancement of the recommendations of the Outdoor Education Task Force, specifically the following:

- (a) Establish Consistent Access and Curricular Standards Across TRCA and School Boards.
- (b) Establish a Unified Performance Measurement System.
- (c) Advance Shared-Ownership and Access Models That Enhance and Sustain an Overall Out-Of-Classroom Learning System.
- (d) Develop a Long-Term Equitable Access Financial Plan.

In order to ensure representation from key public-sector stakeholders, membership will be comprised of representatives from the following:

- (a) School Board Trustee from each of the area school boards (up to 10);
- (b) TRCA Board of Directors Member (up to 2);
- (c) Ministry of Education (up to 2);
- (d) Indigenous representatives with a Treaty right or historical affiliation to TRCA's jurisdiction (up to 2);
- (e) Youth representatives (up to 2) attending an educational institution in TRCA's jurisdiction.

Representatives from indigenous communities will ensure that appropriate voice is given to those with Treaty Rights or historic affiliation with TRCA's jurisdiction, which are historically under-represented in decision-making structures as it relates to this type and nature of experiential learning. Additionally, youth representation at future tables such as the Natural Science and Education Committee was an important point of discussion for members of the Outdoor Education Task Force, and as such has been integrated into the Terms of Reference for this new committee.

To align with municipal and school board election cycles, committee members will be appointed for a four-year term aligned with municipal and school board Terms of Council or until their successors are appointed, with meetings held, at minimum, three times per year.

As an advisory board of TRCA's Board of Directors, the Natural Science and Education Committee will report to TRCA's Board of Directors with minutes and action items circulated to participating member organizations as required.

### **Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan**

This report supports the following strategies set forth in the TRCA 2013-2022 Strategic Plan:

#### **Strategy 3 – Rethink greenspace to maximize its value**



**Strategy 5 – Foster sustainable citizenship**

**Strategy 7 – Build partnerships and new business models**

**Strategy 9 – Measure performance**

## **FINANCIAL DETAILS**

TRCA's 2020 budget for school-based education programs and activities was \$5.1 million, with \$3.77M (74%) generated through user fees, grants and other revenue and the remaining \$1.33M (26%) supported through municipal funding for special programs, such as Peel EcoSchools, Watershed on Wheels, Water Festivals and others.

The operational costs for administration of the Natural Science and Education Committee is estimated to be \$30,000 per year, primarily funded through operating account 365-01.

## **DETAILS OF WORK TO BE DONE**

With TRCA Board of Directors approval of the establishment of the Natural Science and Education Committee, TRCA staff will prepare a call for appointments to member organizations, including supporting documentation and information for prospective members.

Following the call for appointments, staff will report to TRCA's Board of Directors for approval of appointments at the October 22, 2021 Board of Directors meeting, with the anticipated inaugural meeting of the Natural Science and Education Committee taking place in November 2021.

**Report prepared by: Darryl Gray, (416) 791-0327**

**Emails: [darryl.gray@trca.ca](mailto:darryl.gray@trca.ca)**

**For Information contact: Darryl Gray, (416) 791-0327**

**Emails: [darryl.gray@trca.ca](mailto:darryl.gray@trca.ca)**

**Date: May 17, 2021**

**Attachments: 1**

Attachment 1: Toronto Region Natural Science and Education Terms of Reference

**TORONTO AND REGION NATURAL SCIENCE AND EDUCATION COMMITTEE TERMS OF REFERENCE**

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**1. PURPOSE**

- 1.01. To establish a multi-stakeholder committee as a subcommittee of the Board of Directors of TRCA to advise and coordinate the efficient implementation of recommendations from the Outdoor Education Task Force advisory board as it pertains to the provision, planning or access for students to out-of-classroom learning related to natural science, conservation, and environment in the Toronto region.
- 1.02. To meet the current and future needs of the student population in the Greater Toronto Area region as it pertains to out-of-classroom learning related to natural science, conservation, and the environment, and ensure equity of access to programs and services.

**2. OBJECTIVES**

- 2.01. Through working with TRCA and government, agency and community partners advance implementation of the recommendations of the Outdoor Education Task Force as endorsed by the TRCA Board of Directors (2021) by leveraging expertise, assets and capacity within the out-of-classroom learning system related to natural science, conservation, and environment, with a particular emphasis on deriving enhanced value from publicly-owned and managed facilities and programs through improved collaboration and integration:
  - (a) Establish Consistent Access and Curricular Standards Across TRCA and School Boards.
  - (b) Establish a Unified Performance Measurement System.
  - (c) Advance Shared-Ownership and Access Models That Enhance and Sustain an Overall Out-Of-Classroom Learning System.
  - (d) Develop a Long-Term Equitable Access Financial Plan.

**3. AUTHORITY**

- 3.01. To study and make recommendations to the Board of Directors of TRCA regarding recommendations to TRCA and government and agency partners on improvements and future needs as it pertains to the provision, planning or access for students to out-of-classroom learning related to natural science, conservation and the environment in the Greater Toronto Area region.
- 3.02. The work of the Subcommittee of the Board is to meet needs located wholly or partially within the school boards of TRCA's participating municipalities.

**4. MEMBERSHIP AND ELECTIONS**

- 4.01. Membership to consist of:
  - (a) School Board Trustee from each of the area school boards (up to 10);
  - (b) TRCA Board of Directors Member (up to 2);
  - (c) Ministry of Education (up to 2);

- (d) Indigenous representatives with a Treaty right or historical affiliation to TRCA's jurisdiction (up to 2);
- (e) Youth representatives (up to 2) attending an educational institution in TRCA's jurisdiction.

Membership for School Board Trustees will be based on proportional membership from School Boards in TRCA's jurisdiction. The Minister of Education will be formally requested by the TRCA Chair to designate two senior officials (one at a minimum Director level) within the Ministry of Education. Membership for Youth representatives will be advertised on TRCA's website and announced to TRCA's existing Youth Council that is part of the Regional Watershed Alliance subcommittee of the TRCA Board of Directors. Membership recommendations for Indigenous representatives will be requested by the TRCA Chair to the Chief of Indigenous communities with a Treaty Right or historical affiliation to TRCA's jurisdiction.

Committee members will be appointed for a four-year term aligned with municipal and school board Terms of Council or until their successors are appointed.

- 4.02. The Chair and Vice-Chair for this subcommittee of the Board of Directors will be elected from amongst its Members for the term of the Committee at the inaugural meeting of the term. The Board of Directors may appoint an interim Chair until such time as an election can take place. The election procedures and procedural matters used for this election and in the administration of the subcommittee will be that outlined in the Board of Directors Administration By-law.

## 5. ROLES AND RESPONSIBILITIES

- 5.01. The **Chair** is responsible for:

- (a) Presiding over Committee meetings, setting the agenda and generally ensuring the effectiveness of meetings;
- (b) Calling special meetings, as required;
- (c) In the absence of the Chair, the Vice-Chair will perform the above functions;
- (d) In the absence of the Chair and Vice-Chair, Members shall appoint an Acting Chair who, for the purposes of that meeting has all the powers and shall perform all the duties of the Chair.

- 5.02. **Committee Members** are responsible for:

- (a) Working collaboratively to study and develop recommendations related to the mandate;
- (b) Represent their school board or organization;
- (c) Represent the interest of TRCA and/or those of their participating municipality, when representing TRCA's Board of Directors;
- (d) Attending Committee meetings as required;
- (e) Acting as a resource to TRCA, TRCA's municipal partners and the Toronto and Region Conservation Foundation by providing advice on matters of community interest;
- (f) Collaborating with other conservation authorities and lower tier municipalities on opportunities that transcend TRCA jurisdictional boundaries;
- (g) Maximizing the collective impact of the Committee through resource and data sharing, measuring, and reporting on regional priorities;
- (h) Reporting to the Board of Directors on a regular basis.

- 5.03. **TRCA's Director, Education and Training** is responsible for providing general support in regards to the activities and actions of the Committee and setting agenda for the meetings.
- 5.04. **TRCA's Clerk's Office** is responsible for acting in a Committee Clerk capacity, arranging meeting logistics, preparing the agenda, maintaining meeting minutes, tracking and delegating action items.

## **6. GOVERNANCE**

- 6.01. The Committee is an advisory board of the Board of Directors and as such does not have decision-making power but shall make recommendations to the Board of Directors.
- 6.02. The Committee may establish subcommittees/working groups or standing committees as needed.
- 6.03. The Committee shall meet at minimum three times per year or more frequently as required. Members are required to attend all meetings of the Committee.
- 6.04. A quorum will consist of one-third of appointed Members. If there is no quorum within one half hour after the time appointed for the meeting, the Chair for the meeting shall declare the meeting adjourned due to a lack of a quorum, or shall recess until quorum arrives, and the Clerk shall record the names of the Members present and absent. If during a meeting a quorum is lost, then the Chair shall declare that the meeting shall stand recessed or adjourned, until the date of the next regular meeting or other meeting called in accordance with the provisions of the Board of Directors Administrative By-law. Agenda items may be covered and presented, and issues discussed, but no formal recommendation may be made by the remaining Members which do not constitute a quorum.
- 6.05. At official Committee meetings, Members will be eligible for travel expenses according to Board of Directors Administrative By-Law, where these are not covered by their agency or other source. Members shall not receive a per diem or honorarium for attendance at meetings and functions.
- 6.06. If any part of the Terms of Reference conflicts with any provisions of the Board of Directors Administrative By-Law, the *Municipal Conflict of Interest Act* or the *Municipal Freedom of Information and Protection of Privacy Act* or a provision of a Regulation made under one of those Acts, the provision of that Act, Regulation, or By-Law prevails.
- 6.07. In all matters of procedure not specifically dealt with under the Terms of Reference, Board of Directors Administrative By-Law shall be binding.

**7. REPORTING**

- 7.01. The Committee is considered an advisory board of TRCA and shall make recommendations and report to the Board of Directors.
- 7.02. The minutes of the Committee will be received by the Board of Directors.
- 7.03. Each member shall report back to their appointing agency as required.

**8. DEFINITIONS**

None.

**9. ADMINISTRATION**

<b>Review Schedule:</b>		<b>Next Review Date:</b>	
<b>Revision History</b>			
<b>Version Number</b>	<b>Approval Authority and Date</b>		
1			

### Section I – Items for Board of Directors Action

**TO:** Chair and Members of the Board of Directors  
Friday, May 28, 2021 Meeting

**FROM:** John MacKenzie, Chief Executive Officer

**RE:** **CONSERVATION ONTARIO GOVERNANCE ACCOUNTABILITY AND  
TRANSPARENCY INITIATIVE**

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#### KEY ISSUE

A report seeking endorsement of the Conservation Ontario Governance Accountability and Transparency Initiative and an overview of the required actions by Toronto and Region Conservation Authority (TRCA) to fulfill the eight proposed Best Management Practices.

#### RECOMMENDATION

**WHEREAS on February 2, 2021 a number of legislative amendments to the *Conservation Authorities Act* primarily related to governance, administration and accountability, were proclaimed;**

**AND WHEREAS Toronto and Region Conservation Authority (TRCA) remains committed to the principles of accountable and transparent governance;**

**AND WHEREAS Conservation Ontario Council requested that all conservation authorities endorse its Governance Accountability and Transparency Initiative;**

**AND WHEREAS TRCA had already implemented six out of eight proposed Best Management Practices actions under the CO Council initiative;**

**LET IT BE RESOLVED THAT TRCA staff report back in Q4 2021 with updates to the Board of Directors By-Law addressing the two outstanding Business Management Practices;**

**AND FURTHER THAT Conservation Ontario and the Minister of Environment, Conservation and Parks be so advised.**

#### BACKGROUND

On November 5, 2020, the Province of Ontario introduced *Bill 229, Protect, Support and Recover from COVID-19 Act (Budget Measures)*, 2020. Schedule 6 of Bill 229 proposed a number of amendments to the *Conservation Authorities Act* (CA Act) and the *Planning Act*, discussed in detail in the November 13, 2020 Board report (amended Res.#A176/20) and presentation (Res.#A175/20) and further during the January 29, 2021 Board of Directors Education session.

Bill 229 received Royal Assent on December 8, 2020. New section 28.0.1 associated with the requirements for conservation authorities to issue permits where development has been authorized by a Minister's Zoning Order (MZO) was proclaimed upon the passing of the legislation and is discussed in greater detail in a separate February 26, 2021 Board report (RES.#A22/21). Additionally, following Royal Assent, a number of governance, permitting and enforcement amendments were scheduled to be proclaimed at a later date.

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On February 5, 2021, the Ministry of Environment, Conservation and Parks (MECP) informed all conservation authorities that a number of amendments to the Act, largely related to governance, administration and accountability, were proclaimed on February 2, 2021.

Following the proclamation, Conservation Ontario developed a Governance Accountability and Transparency Initiative to demonstrate conservation authority commitment to transparency and governance accountability, which was adopted at the CO Annual General Meeting on April 12, 2021. The initiative is focused on three (3) key actions:

1. **Updates to CA Administrative By-Laws**, with a focus on capturing legislative amendments to the CA Act;
2. **Proactive Reporting on Governance Accountability and Transparency Priorities** to ensure CAs compliance and enable the analysis of CA issues/impacts raised in relation to implementation of the clauses; and
3. **Promotion/ Demonstration of Results**, which includes development of a QA/QC governance checklist to be made available on CA websites to encourage ease of access.

As part of the adopted initiative Conservation Ontario circulated a list of recommended Conservation Authority Best Management Practices to guide CAs change management as it relates to the key actions. Out of eight (8) identified practices, TRCA had already implemented six (6) items with the final two (2) relating to minor outstanding updates targeted to be addressed during the scheduled Administrative By-Law update in Q4 2021.

### RATIONALE

TRCA staff have been closely following relevant legislative amendments throughout 2020 and 2021 to ensure TRCA remains compliant with legislation. Following Bill 229 Royal Assent on December 8, 2020, TRCA's Board of Directors Administrative By-Law ("By-Law") and current governance and accountability practices were examined for compliance with legislation. Following February 2, 2021 CA Act amendment proclamation, TRCA staff reported to the Board on the implication of proclaimed amendments for TRCA (RES.#A18/21, as amended). At the moment TRCA is fully compliant with the Act, with a couple minor proposed changes to the By-Law pending, which does not impact compliance. The same applies to the Conservation Ontario Governance Accountability and Transparency Initiative BMPs. The detailed review of TRCA fulfillment of these Business Management Practices is outlined in the table below.

Table 1: TRCA's status of action items proposed in the CO Governance Accountability and Transparency Initiative

Section and Change to the Act	Proposed CO Action and TRCA Status
<p>Section 14 (1.1): Council of a participating municipality shall ensure that at least 70 per cent of its appointees are selected from among the members of the municipal council.</p> <p>Section 14 (1.2) Exception: Minister may grant permission to a municipality to select less than 70 per cent of its appointees to an authority from among the members of the municipal council, subject to such conditions or restrictions as the Minister considers</p>	<p><b>Proposed CO BMP</b> Immediate circulation of letters to municipalities notifying them of changes, exception process, and next scheduled appointment date, and an update to By-Law to reflect the change.</p> <p><b>TRCA Status - COMPLETE</b> On December 8, 2020, the City of Toronto and the Town of Mono/ Township of Adjala-Tosorontio, the only TRCA municipalities that appoint members of the public, were advised of the amendments to the CA Act. The municipalities submitted requests for exception to the Minister. TRCA staff will further remind the</p>



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<p>appropriate.</p>	<p>municipalities of the changes during the next scheduled appointment process.</p>
<p>Section 14(2.2): CAs are required to make public and provide to the Minister copies of municipal member agreements in respect to the total number of municipally appointed members.</p>	<p><b>Proposed CO BMP</b> Send existing agreements to the Minister, with a copy to CO and make them available on the website.</p> <p><b>TRCA Status - COMPLETE</b> TRCA staff prepared a letter, outlining TRCA membership agreement history and posted it on the TRCA Board of Directors webpage.</p>
<p>Section 14(4): Minister's power to appoint a member from the agricultural sector with limitations added to the member's voting rights.</p>	<p><b>Proposed CO BMP</b> Include reference to the prospective new member in the By-Law.</p> <p><b>TRCA Status - PENDING</b> TRCA staff intend to include a reference to this requirement into the By-Law, during the next scheduled update in Q4 2021.</p>
<p>Sections 15 (2.1) and Sections 15 (2.2): Authority will make agendas and minutes available to public within specific time parameters.</p>	<p><b>Proposed CO BMP</b> Make agendas and minutes available to public on CA website. Ensure agendas are available in advance of meetings and minutes are available within 30 days after the meeting. Update to the By-law accordingly.</p> <p><b>TRCA Status - COMPLETE</b> Under section B5(3) of the By-Law agendas for meetings are made available to the public on TRCA's website at least seven (7) calendar days in advance of the meeting, except in unforeseen circumstances preventing timely circulation. In special circumstances an amended agenda may be circulated at least two (2) days in advance of the meeting.</p> <p>According to section C19(4) of the By-Law the minutes of the previous meeting are posted on the TRCA website as soon as they are approved by the Chief Executive Officer and within 30 days of the Meeting.</p>
<p>Section 17 1.1): Limiting the term of the chair or vice-chair to one year with a maximum of two consecutive terms.</p> <p>Section 17(1.2): Requirement to rotate chair and vice-chair positions among CA's participating municipalities.</p> <p>Section 17(1.3) Exception: Minister may grant an exception to the above-mentioned sections, which would allow a chair/vice-chair to hold office for more than two one year terms, or a</p>	<p><b>Proposed CO BMP</b> Review Chair/Vice Chair election history, adjust elections accordingly or request an exception, and update the By-law as appropriate.</p> <p><b>TRCA Status - COMPLETE</b> TRCA was granted a Minister's exception under subsection 17(1.3) on February 25, 2021, which permits continuation of two-year terms. As such no update to the Board of Directors Administrative By-Law is required at this time.</p> <p>The next Chair and Vice-Chair elections are scheduled</p>

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member to succeed an outgoing chair, vice-chair, appointed from the same participating municipality.	for January 2023. In advance of this will evaluate whether a further exception is sought or if updates to the By-Law are required.
Section 21(1): Minor amendments to the ‘powers of authorities’: integrating the CA power to “cause research to be done” with the CA power to “study and investigate the watershed” in order to support the programs and services the CA delivers.	<p><b>Proposed CO BMP</b> Update to the By-law as appropriate.</p> <p><b>TRCA Status - COMPLETE</b> Appendix 9 – Sections of the Conservation Authorities Act in the By-law was amended accordingly. Board of Directors approval was not required for the update due to its administrative nature.</p>
Subsections under sections 23.1 and 23.2: Enable the Minister to issue a binding directive to a CA following an investigation and enable the province, upon recommendation by the Minister, to appoint a temporary administrator to assume control of a CA’s operations following an investigation or the issuance of a binding directive, if the directive is not followed. Immunity is provided for the administrator.	<p><b>Proposed CO BMP</b> Consider including reference to these new sections in the By-Law.</p> <p><b>TRCA Status - PENDING</b> TRCA staff will include a reference to these new sections in the By-Law during the next scheduled update in Q4 2021.</p>
Section 38(1): Conservation authorities will transition to the use of generally accepted accounting principles for local government and ensure that key conservation authority documents are made available to the public.	<p><b>Proposed CO BMP</b> Review current audit practices and make any required adjustments to align with legislative requirements. Make audit report available to public on CA website within 60 days of receipt.</p> <p><b>TRCA Status - COMPLETE</b> TRCA is already fully compliant with this requirement. Audit reports are made available through the Board of Directors Agendas and Minutes.</p>

### Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:  
**Strategy 7 – Build partnerships and new business models**

### FINANCIAL DETAILS

There are no financial implications associated with this report.

### DETAILS OF WORK TO BE DONE

TRCA staff will circulate the resolution and the report to Conservation Ontario and to the Minister of Environment, Conservation and Parks.

The final two Business Management Practices items will be addressed in TRCA’s By-Law update in Q4 2021.

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**Date: May 13, 2021**

## Section III – Items for the Information of the Board

**TO:** Chair and Members of the Board of Directors  
Friday, May 28, 2021 Meeting

**FROM:** Michael Tolensky, Chief Financial and Operating Officer

**RE:** **2021 COVID-19 THREE MONTH UPDATE**

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### KEY ISSUE

To provide an update to Toronto and Region Conservation Authority's (TRCA) Board of Directors regarding the financial impacts of COVID-19 in the first three months of 2021.

### RECOMMENDATION

**IT IS RECOMMENDED THAT this 2021 COVID-19 Three Month Update report be received.**

### BACKGROUND

Since the commencement of COVID-19's impact on TRCA operations in March 2020, staff have provided updates to the Board of Directors regarding the ongoing response to the pandemic in the form of reports, memos, and presentations. These updates provide an overview of the changing circumstances around the work environment, financial implications, and operational restrictions that TRCA continues to face. The impact of COVID-19 on TRCA's operating budget was successfully managed by staff throughout 2020, this can be directly attributed to the hard work of staff across the organization to adapt ongoing programming to meet the provincial directives. Staff are now prepared to offer adapted programming as required throughout 2021 and are preparing to offer in-person programming when conditions allow.

### RATIONALE

COVID-19 restrictions have continued to impact TRCA's business models and has resulted in the cancellation of in-person events and programming in the first three months of 2021. At the end of 2020, a province-wide Stay-at-Home order was enacted and maintained until February 16, 2021 at which point Durham Region entered the red zone of Ontario's *Framework for Reopening our Province*, with York Region followed shortly after on February 22, 2021. Peel Region and the City of Toronto remained in lockdown during this time. On April 1, 2021, a second province-wide Stay-at-Home was announced and is anticipated to stay in effect until May 20, 2021.

Albion Hills and Lake St. George Field Centres and Claremont Nature Centre have been closed to the public for the duration of the COVID-19 pandemic. Lake St. George is currently under agreement with York Region for use as a COVID-19 isolation centre. Black Creek Pioneer Village has been closed to the public since 2020 with minor commercial filming taking place in keeping with public health regulations. Restart plans are in place to begin to resume programming pending public health conditions. Kortright Centre for Conservation has been open for pre-booked admission for use of the grounds since January. Family programs and The Nature School were suspended during the January and April stay-at-home orders and will resume pending public health conditions.

### Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:  
**Strategy 9 – Measure performance**

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### FINANCIAL DETAILS

As noted in COVID-19 financial updates provided throughout 2020, TRCA's operating budget and more specifically, authority generated revenue, is most heavily impacted by restrictions. To examine the financial impacts of COVID-19 in the first three months of 2021, TRCA's operating budget performance is compared to the same period of 2020 in *Table 1* below:

**Table 1 - TRCA Operating Budget (Actual Three-Month Performance)**

	2021	2020	Variance (\$)
Expenditures	8,441,525	9,671,169	(1,229,644)
TRCA Generated Revenue	5,686,210	3,809,049	1,877,162
<b>Excess of Revenue over Expenditures</b>	<b>-2,755,314</b>	<b>-5,862,120</b>	<b>3,106,806</b>

### Operating Variance Explanation

In analyzing TRCA's service area performance over the three-month period, thresholds consistent with those utilized to analyze TRCA's expenses to date in the *2020 Three Month Financial Report*, +/- 10% and \$500,000, were applied to the organization's Service Areas. As shown in *Table 2* below, the first three months of 2021 have generated a 48% increase in authority generated revenue compared to the first three months of 2020.

**Table 2 – Authority Generated Revenue (Actual Three-Month Performance)**

Authority Generated Revenue	2021	2020	Variance (\$)	Explanation
Watershed Planning & Reporting	-	-	-	
Water Risk Management	-	-	-	
Regional Biodiversity	1,058,680	385,250	673,430	<b>A</b>
Greenspace Securement and Management	412,910	489,443	(76,533)	
Tourism and Recreation	1,531,595	483,231	1,048,364	<b>B</b>
Planning and Development Review	1,940,407	1,805,223	135,185	
Education and Outreach	468,516	459,621	8,895	
Sustainable Communities	215,206	136,800	78,406	
Corporate Services	58,895	49,480	9,414	
<b>Grand Total</b>	<b>5,686,210</b>	<b>3,809,049</b>	<b>1,877,162</b>	

The following explanations for the increased revenue are outlined in *Table 3* and *Table 4* below:

### A – Regional Biodiversity

**Table 3 – Regional Biodiversity (Actual Three-Month Performance)**

Regional Biodiversity	2021	2020	Variance (\$)	Variance (%)
TRCA Generated Revenue	1,058,680	385,250	673,430	174.8%
Expenditures	260,669	236,713	23,956	10.1%
<b>Excess of Revenue over Expenditures</b>	<b>798,011</b>	<b>148,537</b>	<b>649,474</b>	<b>437.2%</b>

All of the TRCA generated revenue in *Table 3* above is tipping fee revenue generated at the Brock North and Brock South sites. Once this is taken into consideration the variance is within the acceptable threshold. This revenue has not been impacted by the COVID-19 pandemic, as

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essential construction projects and services have remained operational during the Stay-at-Home order. The revenue generated at these sites will offset all development and operating expenditures and surplus revenue will be used for the future restoration of the Brock North lands and Greenwood Conservation Area lands.

### B - Tourism and Recreation

**Table 4 – Tourism & Recreation (Actual Three-Month Performance)**

<b>Tourism &amp; Recreation</b>	<b>2021</b>	<b>2020</b>	<b>Variance (\$)</b>	<b>Variance (%)</b>
TRCA Generated Revenue	1,531,595	483,231	1,048,364	216.9%
Expenditures	1,112,194	1,592,315	(480,121)	(30.2%)
<b>Excess of Revenue over Expenditures</b>	<b>419,401</b>	<b>(1,109,084)</b>	<b>1,528,485</b>	<b>(137.8%)</b>

Tourism & Recreation's increase in authority generated revenue is due to an increase of \$873,000 of commercial filming revenue generated at Claireville Conservation Area. Once this is taken into consideration the variance is within the acceptable threshold. This revenue will be used to offset any revenue losses as a result of COVID-19 restrictions, cover unique one-time expenses such as Gypsy moth spray at Boyd Conservation Park, provide financial support for the installation of automated gates and contribute to corporate reserves.

TRCA continues to mitigate financial impacts during the ongoing pandemic, however throughout the first quarter, the following operational impacts directly related to Tourism and Recreation should be noted.

TRCA was not able to offer rentals of ski equipment or snowshoes through the winter months at Albion Hills which negatively impacted revenues. Albion Hills did however experience an increased number of visitors throughout the winter months entering the park both through the gate and walking in from alternate entrances to hike, fat bike, toboggan, snowshoe or ski with their own equipment.

As restrictions continued, the annual Sugarbush Maple Syrup Festival was cancelled at both Kortright and Bruce's Mill Conservation Parks. In collaboration with Education & Training and Corporate Services, Kortright and Bruce's Mill were able to sell a portion of the 2021 Maple Syrup inventory online through May 2, 2021.

As spring had an early start, golf programs were able to open at Bathurst Glen and Bruce's Mill. Both driving ranges and the golf course at Bathurst Glen experience high usage given the public's desire for outdoor recreation close to home. However, due to the recent Stay-at-Home Order, Bathurst Glen and Bruce's Mill are now closed. The popularity of the initial opening would indicate that golf will continue to see high rates of use once restrictions lift.

Similar to 2020, campgrounds remain open for seasonal campers who have washrooms in their trailers and can hook up to sites that are fully serviced or to the dump stations. Short term camping will remain closed until Provincial restrictions are lifted.

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### **DETAILS OF WORK TO BE DONE**

TRCA's Human Resources team will continue to lead the monitoring of public health, legislative changes and partner practices to ensure TRCA is legislatively compliant and has adopted the most current public health requirements and recommendations and is aligned to our partners.

Staff will continue to offer virtual programming and are preparing to offer in-person programming when conditions allow. Summer camp planning is underway at TRCA Education Centres with registration having opened in early April. The delivery of summer camps is pending appropriate public health conditions. Additionally, staff are in discussions with area school boards to begin to plan for a safe reintroduction of class field trips when appropriate and public health conditions permit, with day field trips anticipated in late 2021 and overnight excursions in 2022.

Staff will continue to monitor the financial health of the organization and investigate all opportunities provided to mitigate financial losses.

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**Date: April 16, 2021**

### Section III – Items for the Information of the Board

**TO:** Chair and Members of the Board of Directors  
Friday, May 28, 2021 Meeting

**FROM:** Anil Wijesooriya, Director, Restoration and Infrastructure

**RE:** **2021 EROSION RISK MANAGEMENT PROGRAM UPDATE**

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#### KEY ISSUE

An information report regarding the Erosion Risk Management Program and related services and strategic updates from the Erosion Risk Management business unit.

#### RECOMMENDATION

**IT IS RECOMMENDED THAT this staff report on TRCA's Erosion Risk Management Program be received.**

#### BACKGROUND

Managing the risk associated with the natural hazards of flooding and erosion is one of the primary roles of conservation authorities under the *Conservation Authorities Act*. Toronto and Region Conservation Authority (TRCA) fulfills this role through the delivery of multiple natural resource management programs and services, including the Erosion Risk Management Program (ERMP). The ERMP focuses on the identification and remediation of shoreline and valley land erosion hazards throughout TRCA's jurisdiction and encourages proactive prevention, protection, and management of erosion issues on private and public property.

The main TRCA business unit that manages erosion hazards is Erosion Risk Management (ERM) under the Restoration and Infrastructure Division (R&I). Under the ERMP, erosion hazards across TRCA's watersheds are identified and ranked on a priority basis. ERM staff regularly conduct site visits throughout the year to assess and reprioritize erosion hazards in response to major weather events. As such, the list of priority sites is not static, and the ranking of sites may change within any given year as site conditions evolve or as new erosion hazard sites are identified. Stabilization works are conducted annually to address erosion hazards based on the available funding. In general, the ERMP is capially funded through TRCA's partners at the City of Toronto, Region of Peel, and Region of York and in some specific cases local municipalities. Enhanced funding and fee-for-service work with municipal partners has also contributed greatly to the growth and expansion of the ERMP.

Federal grant funding which TRCA expects to start receiving this year through the Disaster Mitigation & Adaptation Fund (DMAF) continues to have a positive impact on the projects being actively planned and delivered by the ERM group under several project portfolios. Of the approximately 90 projects being actively planned this year by ERM, 48% of them are being partially funded through DMAF.

#### RATIONALE

The following will provide a brief overview of the various portfolios and major programs operated under the ERMP.

#### **Toronto Ravine Major Maintenance**

The Toronto Ravine Major Maintenance portfolio focuses on the maintenance and repair of

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TRCA's permanent erosion control assets within the City of Toronto. These structures are found along valley corridors, ravines and along natural slopes. Several factors are considered when prioritizing work including: current condition of the asset; remaining service life; proximity to permanent buildings or essential infrastructure; consequence of asset failure; and asset age.

In 2021, TRCA is planning 16 projects under the Toronto Ravine Major Maintenance portfolio. TRCA's main implementation priority for this year is the Home Smith Park Bank Stabilization Project.

### **Toronto Waterfront Major Maintenance**

The Toronto Waterfront Major Maintenance portfolio handles the repair and maintenance of TRCA's network of permanent shoreline erosion control assets along the City of Toronto waterfront. These structures are found along the north shore of Lake Ontario and are designed to protect the shoreline, adjacent tableland, public amenities, and infrastructure from erosion. Many of these assets are nearing the end of their lifespan and over the past four years catalogued damages to the structures have increased significantly due to multiple severe weather events.

In 2021, TRCA is planning 7 projects under the Toronto Waterfront Major Maintenance portfolio. The major projects being implemented this year include the Long Branch Park Major Maintenance Project and Prince of Wales Park Major Maintenance Project.

### **Valley Erosion Hazards**

The Valley Erosion Hazards portfolio addresses erosion hazards and slope instability issues impacting private and public property throughout the ravine systems in the City of Toronto. The July 8, 2013 severe weather event was the catalyst for a funding increase to this portfolio that prompted TRCA to extend assistance to private properties where homes have been deemed at risk by erosion or slope instability. The goal of each project is to provide a cost-effective solution to protect essential infrastructure, such as residential dwellings and municipal assets. Projects are implemented on a priority basis to the limit of available funding each year. Each year, a portion of the annual portfolio budget is allocated towards the completion of slope stability and erosion risk assessments for newly identified sites. The results of these assessments determine whether there exists any risk in the long term to essential structures on a property. This information is then used to quantitatively rank sites for work through the ERMP based on risk.

While most working relationships with private landowners participating in the ERMP are constructive and positive, a few relationships have been strained and have led to tense interactions during negotiations. In these situations, private landowner concerns are typically focused around:

- TRCA's recommended solution to address the erosion hazards and impact on their property and existing vegetation/trees and/or encroachments that may be impacted by the proposal;
- How properties are prioritized and associated timelines to complete the project given municipal funding considerations and TRCA's procedural and procurement obligations;
- Requirements under TRCA's *Private Landowner Contribution for Erosion Control Works* Policy for the property owner(s) to either financially contribute to the cost of the project or convey hazard lands where the stabilization work will take place;



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Due to confidentiality concerns on ongoing property discussions, a briefing memorandum detailing specific examples of the above can be provided as a confidential report in closed session if requested. Staff are planning to clarify and better communicate expectations to private landowners by updating the *Private Landowner Contribution for Erosion Control Works Policy* and improving overall messaging by refining the content of the ERM webpage on TRCA's website and through links to partner websites. Specific outreach initiatives will also occur on a site or area-specific basis.

In 2021, TRCA is planning 26 projects under the Valley Erosion Hazard portfolio. There is currently a backlog of 95 high-risk sites known to TRCA that will not be addressed in the next 10 years due to funding constraints, and the number of sites is projected to increase with more frequent and more intense severe weather events. Implementation priorities this year include the Peacham Crescent Slope Stabilization Project and a few minor works sites that will be confirmed later this year.

### **York Region Streambank Infrastructure Erosion Control Management Program**

The York Region Streambank Infrastructure Erosion Control Management Program (SIECMP) provides long-term erosion hazard management for Environmental Services infrastructure assets along ravines and watercourses. The portfolio includes the monitoring, study, design, maintenance and implementation of erosion control works for infrastructure protection in TRCA's jurisdiction of York Region. Studies and remedial works are prioritized based on a risk framework that considers number of factors such as: depth of cover; infrastructure type; remaining service life; consequence of failure; and current condition of the asset.

In 2021, TRCA is planning to complete detailed design development and obtain the necessary permits and approvals for 3 projects under this portfolio. The main implementation priority for 2021 includes minor maintenance works at 15 infrastructure erosion hazard sites. The implementation of minor works will mitigate the need for future major maintenance works at York Region SIECMP sites.

### **TRCA Maintenance & Other Hazards (York Region)**

The TRCA Maintenance & Other Hazards (York Region) portfolio is established for maintaining TRCA's existing permanent erosion control assets and developing new erosion control protection measures on TRCA lands within York Region. These assets are often found along ravine and valley corridors or along natural slopes. Repairs are prioritized based on a number of factors such as: asset age; remaining service life; proximity of permanent buildings or essential infrastructure; consequence of failure; and current condition of the asset.

In 2021, TRCA is planning to complete detailed design development and obtain the necessary permits and approvals for 3 projects under this portfolio. A minor maintenance works schedule for various other sites within this portfolio will also be developed throughout 2021. The implementation of minor works in subsequent years will mitigate the need for future major maintenance works on TRCA owned assets.

### **Region of Peel Erosion Control & Infrastructure Protection**

The Region of Peel Erosion Control & Infrastructure Protection portfolio monitors the risk to TRCA owned erosion control structures, Region of Peel infrastructure hazard monitoring sites, and other erosion hazards impacting public and private land. This portfolio includes the monitoring, study, design, maintenance and implementation of erosion control works to remedy these hazards. Mitigation measures and repairs are prioritized based on several factors such as: depth of cover or closest distance; remaining service life; infrastructure type; consequence

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of failure; and current condition or exposure of the asset. Prioritization is based on the highest risk locations, which in recent years tends to be infrastructure sites.

Beginning in 2017, TRCA delineated 1,382 infrastructure hazard sites within the Region of Peel in TRCA's jurisdiction to establish long-term monitoring sites with first inspections at most sites being completed between 2017-2019. In addition to these infrastructure sites, TRCA currently monitors a total of 143 erosion control structures and 57 erosion hazard sites.

In 2021, TRCA is planning 4 projects under the Region of Peel Erosion Control and Infrastructure Protection portfolio. The main implementation priorities for 2021 include the Brandon Gate Park Bank Stabilization Project and the Wegenast Valley Erosion Control Project.

### **Toronto Water Monitoring**

In 2010, the City of Toronto and TRCA developed a long-term monitoring partnership to assess the risks to Toronto Water infrastructure in ravine and valley systems. This program aims to inspect Toronto Water infrastructure within the City of Toronto's stream valleys and along the shoreline of Lake Ontario for the purpose of identifying Toronto Water infrastructure that is at risk or has been damaged due to erosion before a complete failure occurs. The program reduces environmental and public health and safety risks and allows Toronto Water staff to plan, prioritize and budget for asset maintenance, improvement, replacement and protection effectively and efficiently.

In 2020, TRCA staff assessed a total of 3,153 assets, and it is anticipated that approximately 2,500 assets will be inspected in 2021.

### **Fee-for-Service Projects**

ERM also undertakes projects for TRCA's regional and municipal partners on a fee-for-service basis to help address their priorities. These projects vary in scale and complexity. Typical fee-for-service projects focus on providing erosion protection for critical public infrastructure and are often located in natural or environmentally-sensitive areas.

In the City of Toronto, TRCA partners with the Parks, Forestry & Recreation (PF&R) and Transportation Services divisions through a Master Service Agreement. TRCA expects to establish similar service level agreements with the Toronto Water division, as well as other municipalities and regions to help deliver additional fee-for-service projects while strengthening TRCA's partnerships and financial resilience.

In 2021, ERM expects to undertake planning/implementation activities on 33 fee-for-service projects with various municipal/regional partners. Some of the major fee-for-service projects that are being implemented this year include the Ashbridges Bay Landform Project and the Mud Creek Restoration – Reach 3 Project.

### **ERMP – Other strategic updates**

In addition to the capital and recoverable projects & programs described above, ERM staff have been working on some key updates to the ERMP to improve operational efficiency. A brief overview below has been provided on these initiatives and on some of the high-profile and emergency works projects ERM staff are working on.

- In 2019, ERM and Property & Risk Management staff embarked on significant updates to existing agreement templates and operating procedures to ensure contributions under TRCA's *Private Landowner Contribution for Erosion Control Works Policy* were received

## Item 8.2

prior to commencing work. This will reduce liability to TRCA by ensuring that financial contributions to projects are received so that land transfers take place in a timely manner.

- Staff will be proposing updates to TRCA's *Private Landowner Contribution for Erosion Control Works Policy* (last updated January 27, 2017) through 2021. The planned changes will clarify landowner eligibility requirements and will include other refinements based on extensive staff experience, knowledge, and lessons-learned. The updated policy will outline the planning process for these types of projects in a simple and concise manner. A plan for communicating the updated policy will be prepared as part of this review.
- Building on the response to the January 11<sup>th</sup>, 2020 jurisdiction-wide storm event, ERM staff continued to monitor storm events and high-wave warnings to coordinate post-storm inspections of TRCA owned erosion control assets. During the Spring months of 2020, ERM staff performed 4 site inspections along the waterfront, whose inquiries were most likely a direct result of the 2019 high lake levels. During the 2020 summer storm season 5 storm events occurred which were less severe than recent years. The largest of these events occurred 7 years to the date of the July 8<sup>th</sup>, 2013 storm event. Throughout 2020, ERM staff utilized their **Flood Risk Analysis Network (FRANK)** tool to schedule 14 site inspections of TRCA owned and maintained erosion control assets, as well as 17 inspections of municipal partner infrastructure hazard sites. Over the fall and winter months of 2020, ERM staff also noted 4 high wind and wave events providing senior staff with notifications as wave heights and wind directions may have directly impacted shoreline construction sites.
- Over the course of 2020, ERM staff's post-storm monitoring supported the Flood Risk Management (FRM) group's Incident Management System structure, communicating with FRM staff before and during storm events, as well as providing and receiving summary metrics to assist in the evaluation of flood levels and potential damages, as well as erosion hazards. ERM's collaborative efforts have assisted in further development and refinements of TRCA's Remotely Piloted Aircraft System (RPAS) team, including an organization-wide RPAS working group.

### **Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan**

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan:  
**Strategy 2 – Manage our regional water resources for current and future generations**

**Report prepared by: Ashour Rehana, extension 5524**

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**For Information contact: Matt Johnston, extension 5525**

**Emails: [matthew.johnston@trca.ca](mailto:matthew.johnston@trca.ca)**

**Date: April 26, 2021**

**Attachments: 4**

Attachment 1: Table of projects being planned under the ERMP in 2021

Attachment 2: Map of projects being planned under the ERMP in 2021

Attachment 3: ERM Portfolio/Program Factsheets

Attachment 4: Private Landowner Contribution for Erosion Control Works Policy

Attachment 1: Table of projects being planned under the ERMP in 2021

Municipality	Ward	Project Name	Portfolio	2021 Project Status
City of Brampton	2	Wegneast Valley Erosion Control Project	Region of Peel Erosion Control & Infrastructure Protection	Construction
City of Brampton	7	I-360/I-361	Region of Peel Erosion Control & Infrastructure Protection	Study, Planning or Design
City of Markham	1	German Mills Settlers Park Sites 2-3 Sanitary Infrastructure Protection	York Region Streambank Infrastructure Erosion Control Management Program	Study, Planning or Design
City of Markham	4	70 Main Street South Erosion Control Project	TRCA Maintenance & Other Hazards (York Region)	Construction
City of Mississauga	5	Brandon Gate Park - Bank Stabilization Project	Region of Peel Erosion Control & Infrastructure Protection	Construction
City of Mississauga	5	I-700	Region of Peel Erosion Control & Infrastructure Protection	Study, Planning or Design
City of Richmond Hill	5	Patterson Creek I-066, I-067, I-065, I-064, P-102	York Region Streambank Infrastructure Erosion Control Management Program	Post-Construction
City of Richmond Hill	5	Patterson Creek near North Richvale Sanitary Infrastructure Protection	York Region Streambank Infrastructure Erosion Control Management Program	Construction
City of Richmond Hill	5	Patterson Valley South Richvale Erosion Hazards	Fee For Service	Post-Construction
City of Toronto	1	22-24 Bucksburn Road Erosion Control and Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	1	Hadrian Drive Slope Stabilization	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	1	Lakeland Drive Major Maintenance Slope Stabilization Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	1	Norfield Crescent Minor Works	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	2	Mimico Creek behind Kevi Lane Stope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	3	Area 1 - Mimico Creek (MC01.1, MC01.2, MC03) Major Maintenance Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	3	Area 2 - Humber River (HR81.1) Major Maintenance Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	3	Beaucourt Road Major Maintenance Project	Toronto Ravine Major Maintenance	Post-Construction
City of Toronto	3	Home Smith Park Road Weir (FCC16.03) Major Maintenance Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	3	Humber Bay Park East Major Maintenance Project	Fee For Service	Construction
City of Toronto	3	Humber Bay Park West Boat Launch Repair	Fee For Service	Study, Planning or Design
City of Toronto	3	Humber Bay Park West Major Maintenance Project (WF11.01, 11.02, 11.06, 11.08, 11.09)	Toronto Waterfront Major Maintenance	Study, Planning or Design
City of Toronto	3	Humber Bay Park West Major Maintenance Project (WF11.03, 11.04, 11.05, 11.07 )	Fee For Service	Study, Planning or Design
City of Toronto	3	Long Branch Park Major Maintenance Project	Toronto Waterfront Major Maintenance	Construction
City of Toronto	3	Palace Pier Court Headland Maintenance Project	Fee For Service	Post-Construction
City of Toronto	3	Prince of Wales Park Major Maintenance Project	Toronto Waterfront Major Maintenance	Construction
City of Toronto	3	Waulron Street (EC29) Erosion Control Project	Toronto Ravine Major Maintenance	Pre-Planning
City of Toronto	4	Sunnyside Park Revetment Maintenance Project	Fee For Service	Construction
City of Toronto	5	Bexley Crescent Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	5	Denison Road Upper Slope Stabilization Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	5	Gaffney Park Erosion Control Project (13-59 Terry Drive)	Fee For Service	Study, Planning or Design
City of Toronto	5	Ridge Point Crescent Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	6	Black Creek Tributary behind Appletree Court and Seeley Drive Erosion Control and Slope Stabilization Project (Phase 2)	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	6	Canyon Avenue (DR15.1) Major Maintenance Project	Toronto Ravine Major Maintenance	Pre-Planning
City of Toronto	6	Eldorado Court Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design

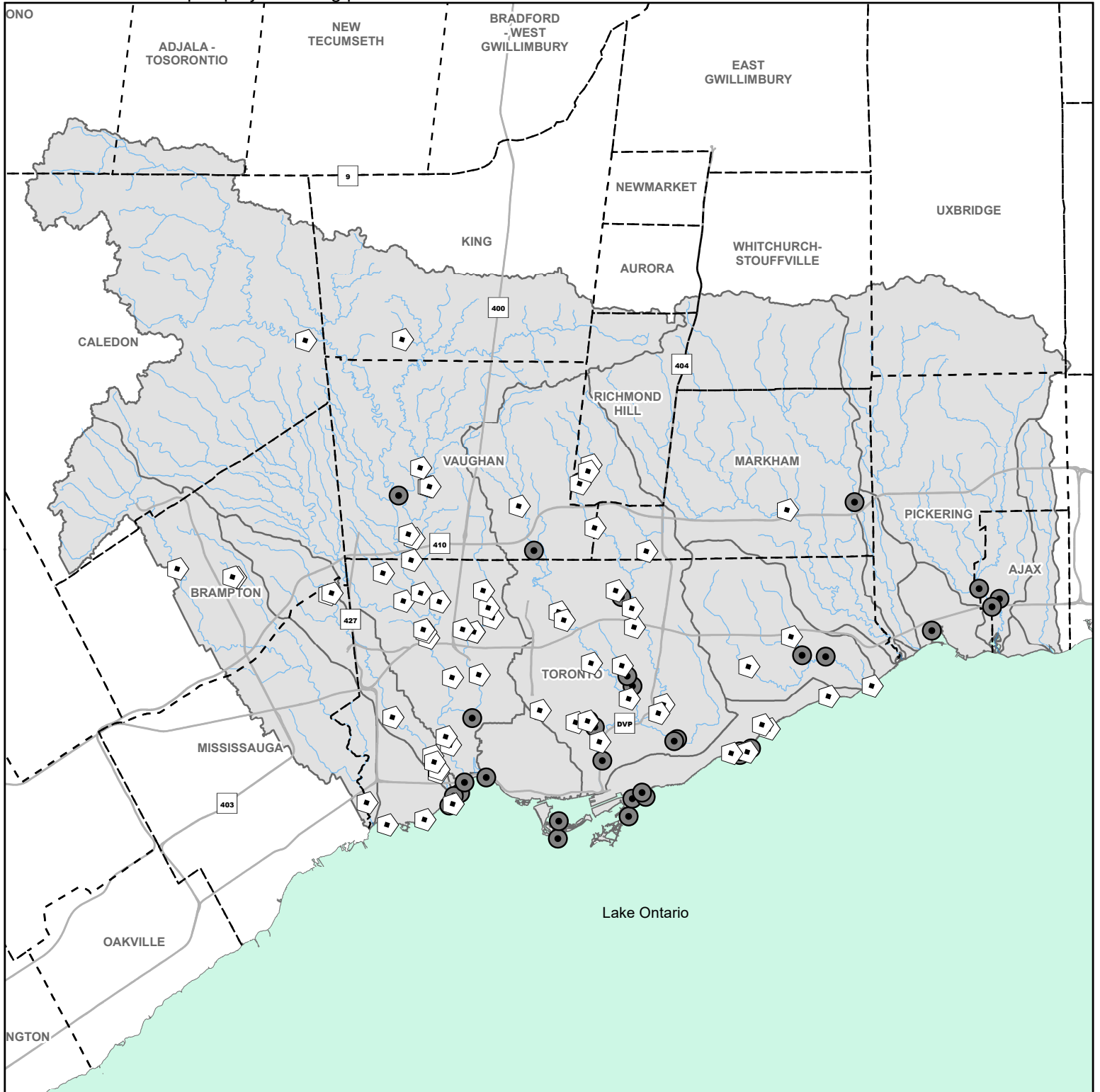
Attachment 1: Table of projects being planned under the ERMP in 2021

Municipality	Ward	Project Name	Portfolio	2021 Project Status
City of Toronto	6	Peacham Crescent Slope Stabilization	Valley Erosion Hazards	Construction
City of Toronto	7	25-31 Gravenhurst Avenue Minor Works	Valley Erosion Hazards	Construction
City of Toronto	7	98-104 Windhill Crescent Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	7	Archway Crescent (HR27.1,27.2) Major Maintenance Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	7	Azalea Court Slope Stabilization Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	7	Topcliff Avenue Erosion Control and Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	10	Toronto Island Park Flood and Erosion Mitigation Project	Fee For Service	Study, Planning or Design
City of Toronto	11	30 - 36 Rose Park Crescent Slope Stabilization Project	Valley Erosion Hazards	Post-Construction
City of Toronto	11	Hudson Drive Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	11	Yellow Creek near Heath Street East Erosion Control and Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	12	72 Heath Street East Slope Stability and Erosion Risk Assessment	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	14	Area 3 - Don River (DR90) Major Maintenance Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	14	Don Valley Drive Slope Stabilization Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	14	Tommy Thompson Park - East Shore and Peninsula D Restoration Project	Fee For Service	Study, Planning or Design
City of Toronto	15	150 Kilgour Road Storm Sewer Remediation Project	Fee For Service	Study, Planning or Design
City of Toronto	15	Alderbrook Drive Slope Stabilization Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	15	Leslie Street Culvert and Drainage Channel Stabilization Project	Fee For Service	Study, Planning or Design
City of Toronto	15	Roslin Avenue Slope Stabilization	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	15	Wilket Creek Park Retaining Wall (DR83.01) Repair	Fee For Service	Pre-Planning
City of Toronto	15	Woodsworth Road (DR70) Maintenance Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	16	Bartley Drive Erosion Control and Slope Stabilization	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	16	Don Mills Bridge over East Don River Major Maintenance Project	Fee For Service	Study, Planning or Design
City of Toronto	17	Burbank Drive Slope Stabilization	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	17	East Don River behind Clarinda Drive Erosion Control and Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	17	Newtonbrook Creek Bridge Replacement Project	Fee For Service	Study, Planning or Design
City of Toronto	19	305 Dawes Road Project	Fee For Service	Study, Planning or Design
City of Toronto	19	Ashbridges Bay Landform Project	Fee For Service	Construction
City of Toronto	19	Ashbridges Bay Park Major Maintenance Project	Fee For Service	Construction
City of Toronto	19	Coatsworth Cut Maintenance Dredging	Fee For Service	Construction
City of Toronto	19	Parkview Hill Crescent Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	20	90 Meadowcliffe Drive Slope Stabilization Project	Valley Erosion Hazards	Post-Construction
City of Toronto	20	Bluffer's Park Beach (WF22.03) Major Maintenance Project	Fee For Service	Study, Planning or Design
City of Toronto	20	Bluffer's Park Entrance Channel Maintenance Dredging	Fee For Service	Construction
City of Toronto	20	Bluffer's Park South Headland and Beach Major Maintenance Project - Phase II (Headland WF22.04)	Fee For Service	Construction
City of Toronto	20	Bluffer's Park South Headland and Beach Major Maintenance Project - Phase III (Beach WF22.05)	Fee For Service	Construction
City of Toronto	20	Bluff's Landslide Cleanup	Toronto Waterfront Major Maintenance	Construction
City of Toronto	20	Fishleigh Drive Erosion Control Project	Toronto Waterfront Major Maintenance	Post-Construction

Attachment 1: Table of projects being planned under the ERMP in 2021

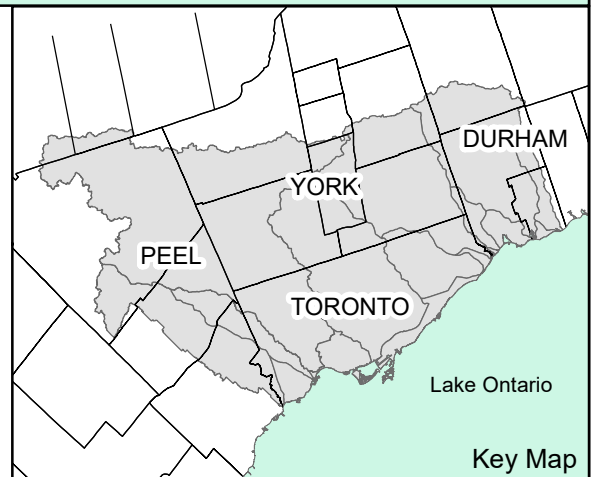
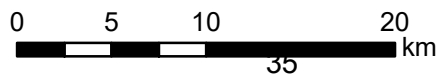
Municipality	Ward	Project Name	Portfolio	2021 Project Status
City of Toronto	21	St. Andrews Cemetery Slope Stabilization	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	24	Area 4 - Highland Creek (HC19) Major Maintenance Project	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	24	Upper Highland Creek Pan Am Path Connection Project (Phase 1)	Fee For Service	Construction
City of Toronto	25	Greyabbey Ravine Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	25	Port Union Waterfront Park Major Maintenance Project	Toronto Waterfront Major Maintenance	Study, Planning or Design
City of Toronto	25	Rouge Beach Park Shoreline Protection Works	Fee For Service	Study, Planning or Design
City of Toronto	25	Toronto Zoo Indo Malaya Slope Stabilization Project	Valley Erosion Hazards	Study, Planning or Design
City of Toronto	25	Toronto Zoo Trail Realignment	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	25	University of Toronto Scarborough Campus (UTSC) Area B Bank Stabilization Project	Fee For Service	Study, Planning or Design
City of Toronto	15 & 11	Mud Creek Restoration - Reach 3	Fee For Service	Study, Planning or Design
City of Toronto	15 & 11	Mud Creek Restoration - Reach 6	Fee For Service	Post-Construction
City of Toronto	15 & 16	E.T. Seton Park Major Maintenance	Toronto Ravine Major Maintenance	Study, Planning or Design
City of Toronto	Various	2019 Slope Stability and Erosion Risk Assessments	Valley Erosion Hazards	Study, Planning or Design
City of Vaughan	2	Granger Greenway EMS789 Maintenance Project	TRCA Maintenance & Other Hazards (York Region)	Study, Planning or Design
City of Vaughan	2	Granger Greenway HR72.1 Major Maintenance Project	TRCA Maintenance & Other Hazards (York Region)	Study, Planning or Design
City of Vaughan	2	Humber River P004/P005 Sanitary Infrastructure Protection Project	York Region Streambank Infrastructure Erosion Control Management Program	Study, Planning or Design
City of Vaughan	2	Legion Court Road Bank Stabilization	TRCA Maintenance & Other Hazards (York Region)	Study, Planning or Design
City of Vaughan	2	Rainbow Creek Decommissioned Sewer Protection and Abatement	York Region Streambank Infrastructure Erosion Control Management Program	Study, Planning or Design
City of Vaughan	47	McMichael Canadian Art Collection Erosion Gully Project	Fee For Service	Study, Planning or Design
Region of York	Multiple	Region of York Infrastructure Minor Maintenance for Debris and Sediment Removal	York Region Streambank Infrastructure Erosion Control Management Program	Construction
Town of Ajax	1	Ajax Bridge 104 Maintenance Project	Fee For Service	Post-Construction
Town of Caledon	5	Bolton Sanitary Infrastructure Protection Project	Region of Peel Erosion Control & Infrastructure Protection	Post-Construction

Attachment 2: Map of projects being planned under the ERMP in 2021



**Legend**

-  Fee for Service
-  Capital Projects
-  Municipal Boundaries
-  Watercourse
-  Watersheds



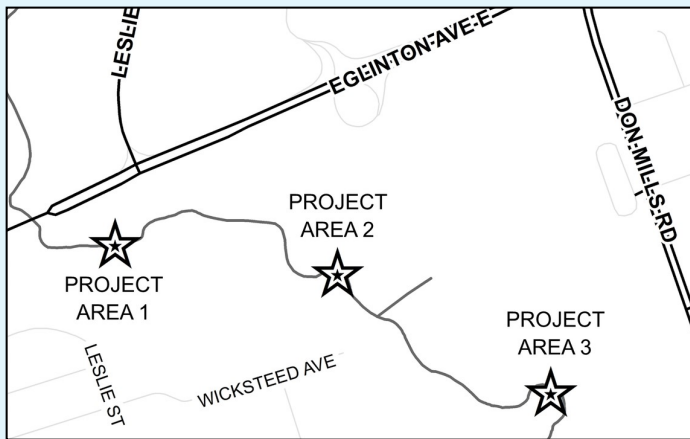


# WEST DON RIVER IN E.T. SETON PARK MAJOR MAINTENANCE PROJECT



## PROJECT OVERVIEW

- The E.T. Seton Park Major Maintenance Project is being planned under the **Toronto Ravine Major Maintenance** portfolio.
- This project aims to mitigate erosion risks at three erosion sites along the West Don River which poses risks to surrounding sanitary infrastructure, parklands and trails.
- To determine the best approach for completing maintenance works, Toronto and Region Conservation Authority (TRCA) is undertaking a *Conservation Ontario Class Environmental Assessment for Remedial Flood and Erosion Control Projects (amended 2013)* (“Class EA”).
- As part of the Class EA, a range of alternative solutions are being evaluated for environmental effects. The preferred approach is expected to improve bank stability and health of the watercourse.
- TRCA in collaboration with their consultant, Palmer Inc., plans to complete the Class EA by Fall 2021.



## PROJECT BENEFITS

TRCA’s monitoring of erosion control structures along this section of West Don River over many years has shown that several of these structures are in failing condition. Erosion concerns within the project area are threatening existing trails, parkland and sanitary infrastructure. This project intends to address bank stability and erosion issues to protect public health and safety while enhancing the surrounding environment.

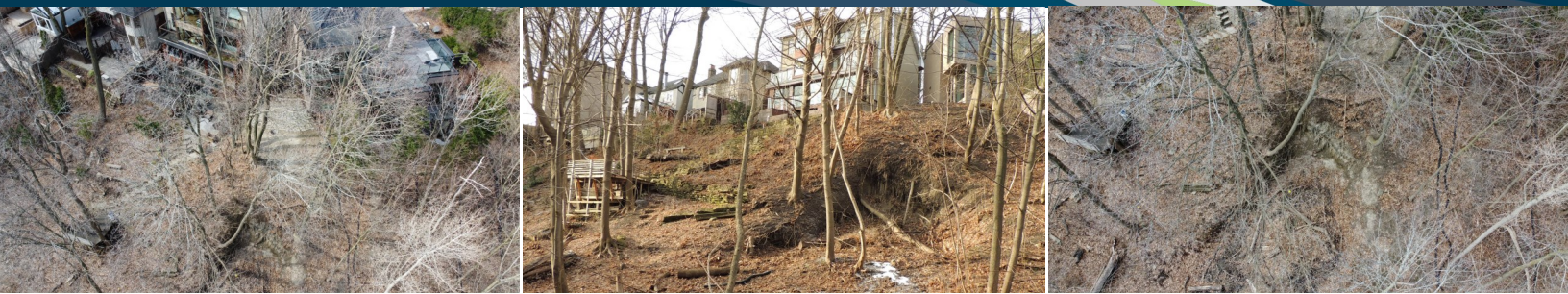
## DESCRIPTION OF PROPOSED WORKS

In 2021, TRCA intends to continue the ongoing Class EA with support from Palmer. To-date, TRCA has prepared concept alternatives for each of the priority areas and held two consultation meetings (with the public and key stakeholders). Based on feedback received from these meetings, TRCA is refining the preferred concept. In Summer 2021, TRCA will proceed with preparation and review of the project plan and detailed designs, and lastly, obtain Project Approval in late Fall 2021. A tentative schedule for project implementation is provided below for reference purposes; actual implementation timelines for each priority area may vary.

WORK DESCRIPTION (AREAS 1, 2 AND 3)	SCHEDULE
Planning and Design	September 2020-December 2021
Permitting and Approvals	January 2022-June 2022
Implementation	2022 – 2024

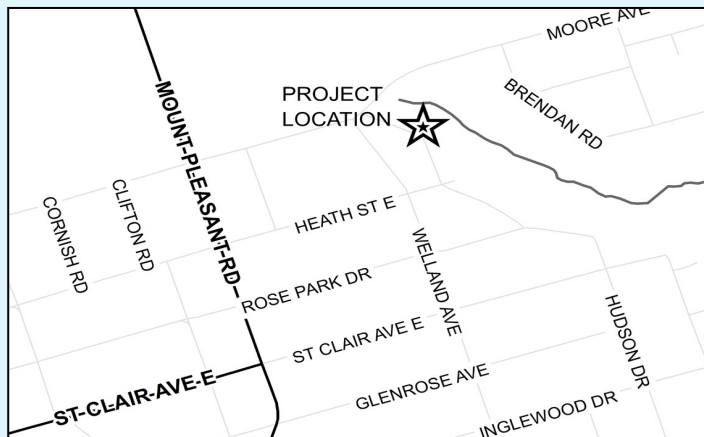


# MOORE PARK RAVINE BETWEEN 193 & 195 HUDSON DRIVE SLOPE STABILIZATION PROJECT



## PROJECT OVERVIEW

- This project has is planned as part of the **Valley Erosion Hazards** portfolio
- Reports of slope instability affecting residential properties and a City of Toronto parkette date back to 2008
- The results of a 2008 geotechnical investigation indicate long term risk to the residential homes at 193 & 195 Hudson Drive
- From 2016 through 2020, additional geotechnical and soil characterization investigations were completed confirming the extent of risk to the residential homes.
- TRCA will be soliciting proposals for design-build services through 2021 based on constraints identified in the previously completed engineering studies
- The slope stabilization solution will be determined during detailed design phase of the design-build



## PROJECT BENEFITS

- Long term, low maintenance protection of two residential homes on Hudson Drive which were confirmed as at-risk from slope instability
- Homeowners at 193 and 195 Hudson Drive are contributing financially to this project in accordance with TRCA policies
- Cost-effective solution that minimizes environmental impacts and fosters resiliency in Mud Creek

## DESCRIPTION OF PROPOSED WORKS

- Request for Pre-Qualification (RFPQ) and Request for Proposal (RFP) for design-build services
- Preparation and execution of Erosion Control Agreements (ECAs) for participating properties.
- Design-Build contractor to secure all necessary permits and approvals to proceed
- Design-Build contractor to proceed with construction in 2022

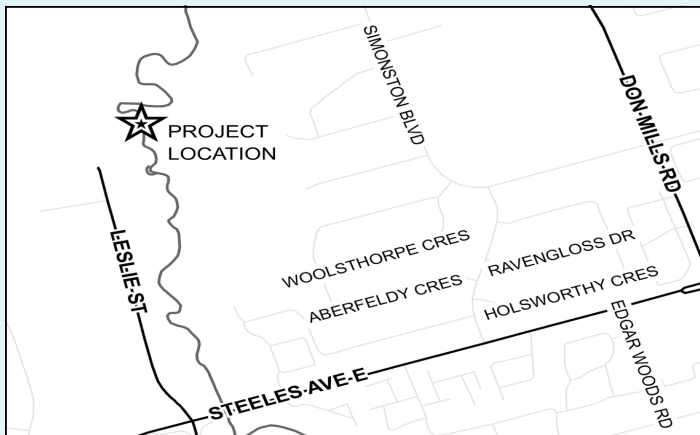
WORK DESCRIPTION	SCHEDULE
Planning and Design	January 2021-March 2022
Permitting and Approvals	January 2022-May 2022
Implementation	June 2022-December 2022

# GERMAN MILLS SETTLERS PARK SANITARY INFRASTRUCTURE PROTECTION PROJECT



## PROJECT OVERVIEW

- The project is being planned in coordination with York Region Environmental Services under the **Streambank Infrastructure Erosion Control Management Program (SIECMP)** and in partnership with the City of Markham
- Channel erosion has placed the Region’s Leslie Collector sewer at risk of exposure in six locations along a 260 metre section of German Mills Creek in German Mills Settlers Park
- A Schedule B Municipal Class Environmental Assessment was completed in 2019 and determined the preferred alternative for a major channel realignment and pedestrian bridge extension
- The Lake to Lake multi-use trail and pedestrian bridge are also at risk from erosion within the project area. The City of Markham is partnering with TRCA and York Region to replace the pedestrian bridge and protect the trail through this initiative



## PROJECT BENEFITS

- Protect the Leslie Collector Sewer from exposure and secure long-term sewer maintenance access
- Protect and enhance Lake to Lake Trail infrastructure
- Mitigate safety risks to the general public
- Enhance aquatic habitat through the creation of two new online wetlands and terrestrial habitat through native riparian plantings

## DESCRIPTION OF PROPOSED WORKS

- Finalization of detailed design drawings for sewer protection, trail infrastructure improvements and natural channel design
- Obtain all permits & approvals, including a Fisheries Act Authorization from the Department of Fisheries and Oceans Canada
- Implementation of a 300 metre major channel realignment, pedestrian bridge extension & aquatic and terrestrial restoration
- Post-construction regulatory approval monitoring

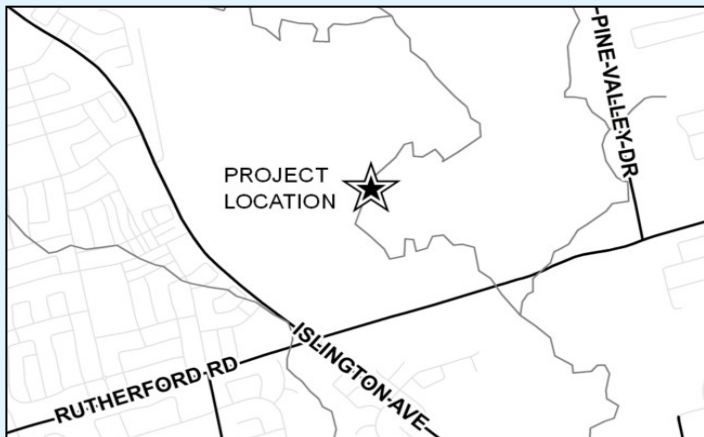
WORK DESCRIPTION	SCHEDULE
Planning and Design	January 2018-July 2021
Permitting and Approvals	September 2020-January 2022
Implementation	September 2022-March 2023





## PROJECT OVERVIEW

- An erosion hazard threatening a pedestrian bridge and trail is currently being monitored under the **TRCA Maintenance & Other Hazards (York Region)** portfolio
- The at-risk trail and bridge abutment is a part of the William Granger Greenway trail system located within the City of Vaughan
- Construction of bank stabilization works along the east bank of the watercourse have been deemed necessary given the potential risk to public safety



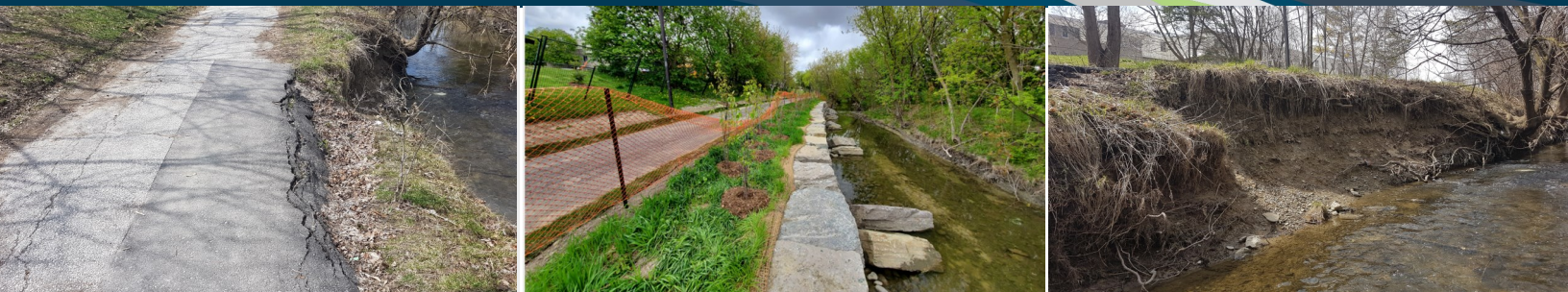
## PROJECT BENEFITS

- Addressing erosion hazard on heavily used recreational trail
- Mitigation of any potential safety risk to the general public
- Provide protection to publicly owned assets
- Enhancement of the surrounding riparian and aquatic habitat through the installation of native shrub plantings

## DESCRIPTION OF PROPOSED WORKS

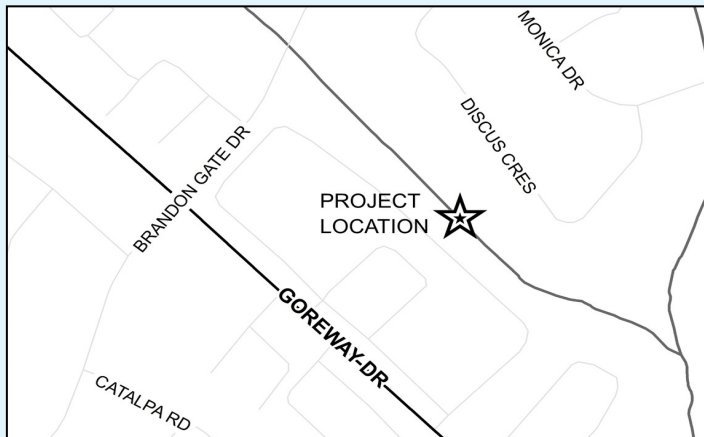
- Development of detailed designs for remedial bank stabilization measures that may include a vegetated rip rap revetment
- Implementation of bank stabilization measures to mitigate risk and provide protection to the William Granger Greenway pedestrian bridge and trail

WORK DESCRIPTION	SCHEDULE
Planning and Design	June 2021—April 2022
Permitting and Approvals	November 2021—May 2022
Implementation	Summer 2022



## PROJECT OVERVIEW

- Project works are being completed under the **Peel Capital and Special Projects Portfolio**
- The site is located within Brandon Gate Park in the City of Mississauga on the west bank of East Mimico Creek
- TRCA Erosion Hazard Monitoring staff have been inspecting this site since 2010 and observed a rapid increase in erosion in 2016
- Slumping and scouring of the bank had impacted an adjacent asphalt pedestrian path
- During a planning visit by ERM staff, a second scour was observed downstream of the original site and was incorporated into the scope of work
- Implementation is being completed under Schedule A+ of the *Municipal Class Environmental Assessment*



## PROJECT BENEFITS

- Improved public safety with reduced risk of failure of the pedestrian path
- Localized protection minimizes the footprint of the works while providing protection against further erosion of the bank

## DESCRIPTION OF PROPOSED WORKS

- The implemented works involved construction of a 45 meter long armourstone retaining wall along the right bank with eight (8) flow deflectors installed along the base of the wall
- A double row of brush layering was installed at the transition from the existing bank and new armourstone retaining wall
- Restoration included Terraseeding, planting of native trees and shrubs, and repaving of the asphalt pedestrian path

WORK DESCRIPTION	SCHEDULE
Planning and Design	November 2019 –November 2020
Permitting and Approvals	September 2020—November 2020





**PROGRAM OVERVIEW**

In 2010, The City of Toronto and Toronto and Region Conservation Authority (TRCA) developed a long-term monitoring partnership to assess the risks to Toronto Water infrastructure within the City’s stream valleys and along the shoreline of Lake Ontario.



**PROGRAM BENEFITS**

- Identify Toronto Water infrastructure that is at risk or has been damaged due to erosion before a complete failure occurs
- Supports Toronto Water with asset management activities by identifying current potential future concerns

**DESCRIPTION OF WORK**

- Inspections performed by trained technical assistants that utilize high accuracy GPS units and rugged computers to enter information directly into an internet accessible database
- Imminent or urgent hazards to Toronto Water infrastructure are immediately flagged to identified staff
- Monthly summary reports from May to November are prepared and submitted to Toronto Water to document progress
- A final report is submitted that describes any observations, conclusions, or trends that pertain to the findings from the fieldwork and subsequent analysis

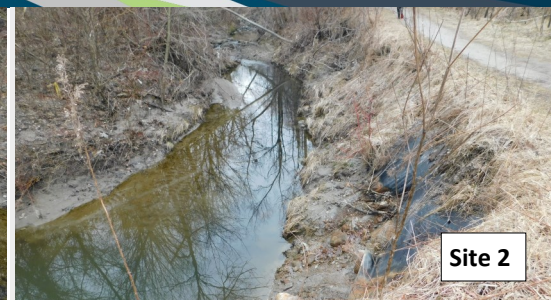
WORK DESCRIPTION	SCHEDULE
Monitoring fieldwork	April 26, 2021 - November 26, 2021
Quality control of records and report preparation	April 1, 2021 - March 31, 2022



Site 1



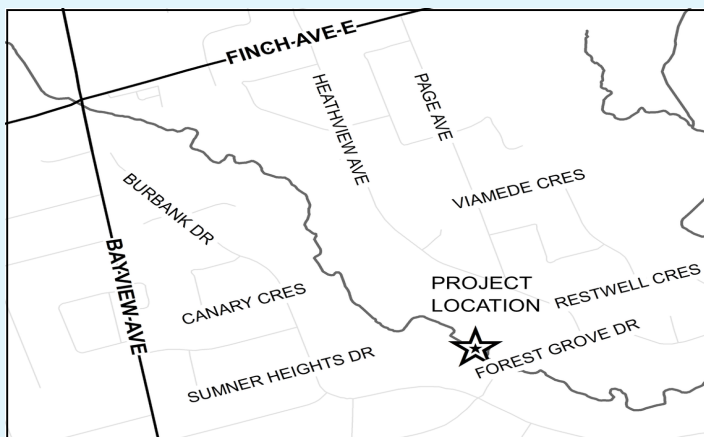
Site 2



Site 2

## PROJECT OVERVIEW

- This is a **fee-for-service** project funded by City of Toronto’s Parks, Forestry, and Recreation Division
- Implementation will be completed under a Schedule A+ of the *Municipal Class Environmental Assessment*
- The site is located within Newtonbrook Park along the north bank Newtonbrook Creek, a tributary of the East Don River in the City of Toronto
- The City has identified four (4) erosion sites along the East Don River Trail on the north bank of the creek requiring stabilization
- The current scope of work involves interim erosion control works at the two highest risk sites to protect the trail and pedestrian bridge abutment



## PROJECT BENEFITS

- Interim works shall reduce the rate of erosion at Sites 1 and 2 and will provide the City with time to acquire funds for long term stabilization works for all four (4) erosion sites
- Improved public safety

## DESCRIPTION OF PROPOSED WORKS

- The Project Team is currently in discussions with the City and is working on an addendum to the existing Phase 2 agreement
- The proposed works under this addendum shall include updates to baseline data, contract management for engineering design services, development of interim erosion control works at Site 1 and 2 and bridge abutment protection, coordination of permits and approvals for construction, and preparation of a cost estimate for implementation

WORK DESCRIPTION	SCHEDULE
Planning and Design Permitting and Approvals	*May—September 2021 *August—October 2021

# Private Landowner Contribution for Erosion Control Works

Category	<b>Application to the General Public or Have Significant Implications</b>	
Approved by	Authority	
Approval date ( <i>last amendment</i> )	January 27 2017	
Approval resolution ( <i>if applicable</i> )	#A227/16	
Responsible Business Unit ( <i>Who Authored</i> )	Erosion Risk Management	
Responsible program manager ( <i>For Implementation</i> )	Matt Johnston matthew.johnston@trca.ca	
Review Cycle	5 Years	Date Required by: 31/01/2022

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## PREFACE

The prevention, elimination or reduction of risk to life and property from flooding and erosion is one of the core mandates of Toronto and Region Conservation Authority. TRCA's Erosion Management Program seeks to fulfill this mandate through the ongoing identification and remediation of erosion hazards, carried out on a priority basis and subject to available funding. The Conservation Authorities Act gives conservation authorities the power to establish and undertake programs that help achieve its objectives, from developing watershed plans, to policies that guide the review of development applications, to various programs ranging from education and stewardship to the implementation of restoration activities. With respect to erosion control and remediation, TRCA has a long-standing management program to monitor erosion and instability-prone areas, and to implement stabilization works on a priority basis to the limit of available funding each year. This program is funded annually by TRCA's partners at the City of Toronto, and Peel, York and Durham regions, and on a project-by-project basis by the Ministry of Natural Resources and Forestry.

The majority of funding is applied toward the maintenance of existing erosion control structures along TRCA's rivers and valleys that protect public greenspace, park amenities and municipal infrastructure; however this program is extended to the protection of private property where homes and other essential structures have been confirmed as at-risk by erosion or instability as funding and priorities permit. Although TRCA is not compelled legally to assist private landowners with erosion control works, TRCA offers this assistance recognizing that staff has considerable experience in erosion hazard management, and the ability to support TRCA's municipal partners by mitigating past development decisions with cost-effective solutions that also foster resilient watersheds and contribute to the expansion of safe and enjoyable public greenspace.

Where staff has recommended that erosion control works be carried out to benefit private property, the benefiting landowners are subject to the execution of a binding erosion control agreement which, amongst other conditions, requires the benefiting landowner(s) to contribute to the cost of the project through the conveyance of land or a financial contribution in accordance with the approved scale provided herein.



## **1. PURPOSE**

The purpose of this policy is to ensure that private landowners benefiting from publicly-funded erosion control works contribute to the project. While it is preferred that this contribution be in the form of land conveyance to foster the expansion of public greenspace, it is recognized that situations exist where such conveyance is not achievable or desirable, therefore the policy also provides the option of contributing financially toward the cost of the work.

## **2. AUTHORITY**

This policy is being provided as an internal requirement for all erosion control projects funded by TRCA that provide a benefit to private property. This policy may be updated at any time, by the lead of TRCA's Erosion Management Program, with input from Property and Legal Services.

## **3. SCOPE**

This policy applies to TRCA's Erosion Management Program and all erosion control projects that provide a benefit to private property.

## **4. POLICY STATEMENTS / ACTION ITEMS**

### **4.1. Erosion Management Program**

TRCA has a long-standing Erosion Management Program (EMP) that aims to eliminate or reduce erosion and slope instability hazards throughout TRCA's jurisdiction, on a priority basis and subject to available funding.

### **4.2. Preference for Natural, Cost-effective Solutions**

TRCA endeavors to implement solutions that mimic natural solutions that are cost-effective and low maintenance to the fullest extent possible.

### **4.3. Voluntary Assistance**

TRCA is under no obligation to carry out erosion control works to protect private property, and offers this assistance on a limited and conditional basis.

### **4.4. Ineligible Properties**

Properties with known violations issued by TRCA or any of its regulatory partner agencies will not be eligible for assistance with erosion control works until the violation is resolved.

### **4.5. Land Conveyance**

The lands where the works are located are to be transferred to TRCA as the benefiting landowner's contribution to the project; to permit TRCA to monitor and maintain the completed works; to foster resilient ravine systems; and to expand public greenspace.

**4.6. Permanent Easement**

TRCA will require a minimum of a permanent easement over the work area and access routes where TRCA does not require title to the lands. A cash contribution in accordance with the approved scale will also be required.

**4.7. Full Cost Recovery**

Where agreement to policy 4.5 or 4.6 and 4.14 if applicable cannot be achieved, the benefiting owner(s) will be responsible for 100% of the cost of the works.

**4.8. Additional Conditions**

TRCA may add additional conditions to the contribution requirement depending on the cause(s) of the hazard and type and extent of works required to mitigate the hazard(s).

**4.9. Future Monitoring and Maintenance**

Where benefiting owners are responsible for 100% of the cost of the works, the benefiting landowner(s) assumes all responsibility for future monitoring and maintenance of such works.

**4.10. Reimbursement Option**

Where TRCA has identified funding to assist a property with erosion control works but is unable or unwilling to implement the work with its own forces, the option to reimburse landowners will be made available at TRCA's sole option, subject to confirmation that all permits and approvals have been obtained and the execution of a binding indemnification.

**4.11. Reimbursement Amount**

Where the reimbursement option has been selected by TRCA, the eligible reimbursement amount shall be determined based on staff's estimate of the cost to construct the work with its own forces, minus the property owner's financial contribution in accordance with the approved scale if no land is conveyed.

**4.12. No Contribution Required**

Where works are carried out on TRCA-owned lands for the protection of private property, the cash contribution will be waived.

**4.13. Indemnification Agreement**

In all cases, TRCA will require some form of binding indemnification agreement signed by the benefiting landowner(s) which may be registered on title.

**4.14. Restrictive Covenant**

In addition to conveyance or an easement, TRCA may require some form of restrictive covenant registered on title to protect the structural integrity of the works.

**4.15. Guarantee of Payment**

Where a cash contribution is required, the benefiting landowner(s) are required to agree to provide a Letter of Credit or other promissory note to TRCA's satisfaction prior to the commencement of work.

**4.16. Breach of Payment**

If the benefiting landowner(s) fail to make payment in accordance with the agreed payment terms, collection efforts up to and including legal action will be taken

**4.17. Representation to the Authority**

The benefiting owner(s) may make representation to the Authority, Executive Committee, or any advisory board with regard to any aspect of the erosion control programs in accordance with procedures adopted by Authority Resolution #A227/16.

**4.18. Financial Contribution Schedules**

Where required, the cash contribution from the benefiting landowner(s) will be based on Schedules A and B for residential and commercial properties, respectively.

**Schedule A. Owner Contribution Schedule – Residential Properties**

Value of Works	Owner Contribution	Maximum Contribution
\$0 - \$15,000	20% of the total cost	\$3,000
\$15,000 - \$30,000	20% of the total cost	\$6,000
\$30,000 - \$50,000	20% of the total cost	\$10,000
\$50,000 - \$75,000	20% of the total cost	\$15,000
\$75,000 - \$100,000	20% of the total cost	\$20,000
\$100,000 - \$200,000	25% of the total cost	\$50,000
\$200,000+	30% of the total cost	TBD

**Schedule B. Owner Contribution Schedule – Commercial Properties**

Value of Works	Owner Contribution	Maximum Contribution
\$0 - \$15,000	25% of the total cost	\$3,750
\$15,000 - \$30,000	25% of the total cost	\$7,500
\$30,000 - \$50,000	25% of the total cost	\$12,500
\$50,000 - \$75,000	25% of the total cost	\$18,750
\$75,000 - \$100,000	25% of the total cost	\$25,000
\$100,000 - \$200,000	30% of the total cost	\$60,000
\$200,000+	35% of the total cost	TBD

## 5. AUDIT COMPLIANCE

Procedures and guidelines pursuant to the Private Landowner Contribution for Erosion Control Works policy shall be developed to ensure audit implementation compliance.

## 6. DEFINITIONS

**Conveyance** - the legal process of transferring property from one owner to another.

**Easement** - The right to cross or otherwise use someone else's land for a specified purpose.

**Erosion** – River erosion is the wearing away of the bed and/or banks of a stream or river. Slope erosion is the movement of soil from wind or water from the face of the slope.

**Flooding** – An overflow or inundation of water that comes from a river or other body of water and causes or threatens damage. It occurs as the results of relatively high streamflow overtopping the banks of a river or stream.

**Indemnification Agreement** – A legal contract that indemnifies (holds harmless) one of the parties in a contract for specific actions that might cause damage to the other party.

**Letter of Credit** - A letter issued by a bank to another bank to serve as a guarantee for payments made to a specified person under specified conditions.

**Restrictive Covenant** - A covenant imposing a restriction on the use of land so the integrity of the erosion control works are preserved.

## 7. REFERENCES

**Ontario Regulation 166/06: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses**

<http://www.trca.on.ca/dotAsset/15293.pdf>

**Technical Guide – River and Stream Systems: Flooding Hazard Limit (Ontario Ministry of Natural Resources)**

<http://www.renaud.ca/public/Environmental-Regulations/MNR%20Technical%20Guide%20Flooding%20Hazard%20Limit.pdf>

**Technical Guide – River and Stream Systems: Erosion Hazard Limit (Ontario Ministry of Natural Resources)**

Electronic copy available upon request from TRCA at [erosionmonitoring@trca.on.ca](mailto:erosionmonitoring@trca.on.ca)

## Section III – Items for the Information of the Board

**TO:** Chair and Members of the Board of Directors  
Friday, May 28, 2021 Meeting

**FROM:** Sameer Dhalla, Director, Development and Engineering Services

**RE:** **EMERGENCY PREPAREDNESS PLANS FOR TRCA DAMS**  
Emergency Preparedness Plans for Dam Emergencies at Claireville Dam,  
Stouffville Dam, Milne Dam and Palgrave Dam

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### KEY ISSUE

Overview of the Emergency Preparedness Plans developed to assist municipal response during dam emergencies at Claireville Dam, Stouffville Dam, Milne Dam and Palgrave Dam.

### RECOMMENDATION

**IT IS RECOMMENDED THAT this Emergency Preparedness Plans for Toronto and Region Conservation Authority (TRCA) Dams report be received.**

### BACKGROUND

TRCA owns and operates numerous flood control assets including dams, flood control channels and dykes. TRCA's dam inventory consists of 12 dams, of which 5 were specifically built to provide flood protection. The other dams are historical mill, recreational, and industrial dams inherited through various TRCA land acquisition programs. Dams can provide society with many benefits, including flood protection, hydroelectricity, irrigation, and recreation. Conversely, reservoirs behind dams carry immense energy potential that, if released uncontrolled, could cause threat to life and widespread damage to property. Recent dam failures around the world have resulted in loss of life, billions of dollars in property damage, and irreversible environmental losses. Dam regulatory agencies in Canada, and around the world, are continually upgrading guidance criteria to ensure the safe operation and management of dams. Over the last 15 years, TRCA has invested significant resources towards increasing dam safety measures. Many of these initiatives are directed towards upgrading or repairing the physical condition of dams, however, preparing for the unlikely event of a dam failure has also been a priority. A critical component of dam safety is the development of an emergency management program to reduce the impact of a dam failure on the communities downstream of the dam. The primary document of a dam's emergency management program is the Emergency Preparedness Plan (EPP). The EPP consolidates all available information that may be required by municipalities and first responders to carry out response actions, including evacuation, in the unlikely event of a dam failure.

TRCA's two largest dams, G. Ross Lord Dam and Claireville Dam, have had EPPs in place since 2009. Additionally, G. Ross Lord Dam, Claireville Dam, Milne Dam and Stouffville Dam have had dam break mapping in place to assist emergency response since 2004. In recent years, dam industry guidelines have been developed to formalize the requirements and contents of EPPs to ensure consistency across Canada. TRCA's first dam to have an EPP in place using the new guidelines was G. Ross Lord Dam in 2018. This dam was a priority because of the extreme risk to life and property in the downstream community.

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At Authority Meeting #5/18, held on June 22, 2018, Resolution #A103/18 was approved as follows:

*THAT Toronto and Region Conservation Authority's (TRCA) Emergency Preparedness Plan for G. Ross Lord Dam be received.*

After the Board received the report, TRCA engaged with City of Toronto staff and first responder agencies to conduct training in the interpretation and use of the EPP. Concurrent to the finalization of the G. Ross Lord Dam EPP, TRCA's Engineering Services began working on EPPs for other dams that pose a risk to life and property. Through analysis of various studies, it was determined that Claireville Dam, Stouffville Dam, Milne Dam and Palgrave Dam also required EPPs. Using the approved G. Ross Lord Dam EPP as a template, EPPs were developed for each of these dams. The format of the EPPs remain the same, however, specific contact information and notification flow charts are modified to meet the requirements of the municipality responding to the dam emergency. TRCA's seven other dams do not require EPPs at this point because their risk is much lower. The seven other dams include:

- Black Creek Dam
- Osler Dam
- Secord Dam
- Glen Haffy East Dam/Glen Haffy West Dam (2)
- Glen Haffy Extension Property Upper Dam and Lower Dam (2)

These dams will be monitored for changes in risk, and if required, TRCA will develop EPPs.

### **RATIONALE**

Dam failures and accidents are potential hazards that dam owners must manage to reduce the risk to life and property. TRCA's dam safety program includes regular inspections, maintenance, and repairs. However, weather, human error and sudden structure failure can lead to a catastrophic release of water that can severely impact downstream communities.

Internationally, there have been several recent major dam incidents that demonstrate the need for robust emergency management plans. One specific incident where emergency plans were implemented was the Oroville Dam near-failure in 2017. Located in California, the dam is one of the largest in North America. Extreme rainfall caused the main spillway to erode, and the dam was at extreme risk of failure. Dam officials initiated the emergency plans and over 180,000 people were evacuated from the downstream areas at risk. Although the dam did not fail, the implementation of the emergency plans and the successful evacuation of downstream communities is regarded as a success. A critical component of the Oroville Dam emergency plans was the inundation mapping that allowed first responders to target the areas at risk from the dam's potential failure. Inundation maps have been developed for Claireville Dam, Milne Dam, Stouffville Dam and Palgrave Dam, and are the most important tool in TRCA's EPPs.

There are currently two agencies that regulate and provide guidance for dam owners. Dam safety in Ontario is regulated by the Ministry of Natural Resources and Forestry (MNRF) under the Lakes and Rivers Improvement Act (LRIA). They are responsible for developing the criteria that dams must meet, and for regulating dam owners in the safe operation and maintenance of dams. The Canadian Dam Association (CDA) is an advisory body comprised of voluntary dam safety experts supported by dam owners in Canada, including TRCA. The CDA provides technical and management guidance for dam owners using internationally recognized best practices. TRCA uses a combination of both MNRF and CDA guidelines for managing

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structures. This is because there are cases where one set of guidelines do not cover specific topics. For example, LRIA guidelines do not address emergency management of dams and therefore TRCA uses the CDA Draft Emergency Management for Dam Safety technical bulletin. The Draft Emergency Management for Dam Safety technical bulletin has been under development since 2015. TRCA has helped inform the development of this bulletin by attending two workshops to get input from dam owners across Canada. At the 2018 CDA conference, the draft technical bulletin was released for review. The technical bulletin remains in draft form, but it is expected that it will be finalized within the next year or so. Even though it is still in draft, it is the only Canadian document that speaks to emergency management and dams and therefore TRCA has chosen to use it for guidance when developing EPP's. In addition, TRCA has adopted the Ontario Power Generation's (OPG) organization and contents format for the layout of the EPP. OPG is Ontario's largest dam owner with over 240 dams in its inventory. OPG has significant resources for emergency management development and has been a leader in sharing this information with other dam owners in Canada and around the world.

The naming conventions for dam emergency documentation varies across the industry. For TRCA, there are two specific documents that make up the emergency management plans. The Emergency Response Plan (ERP) is the internal document containing all the information that TRCA would need to know internally to respond to a dam safety situation. The ERP contains internal and external contact information, emergency identification descriptions, site specific response and other information that would only benefit TRCA in an emergency. The EPP is the document tailored for external agencies to help them respond to dam emergencies to mitigate risk to life and property. Information found in the EPP includes TRCA contact information, notification charts and inundation mapping showing the areas at risk should a dam fail. This information helps municipal responders understand the emergency and where the hazard will impact communities. Ultimately it is up to municipalities to order and undertake evacuations; the EPP delineates the area that is threatened by a dam emergency.

EPPs are comprised of several critical sections that provide the information necessary for first responders and municipal staff to understand and delineate the area of risk. These sections include:

- **Purpose of the EPP:** This section provides a brief description of the dam and location. It also provides dam access information with location maps.
- **Emergency Conditions:** This section provides a description of the types of emergencies that could be expected at the dam. Scenarios may include dam failure or gate operations resulting in downstream flooding.
- **Downstream Flood Vulnerability:** This section provides a description of the locations downstream of the dam that could be affected by a dam emergency. These locations include road crossings, critical infrastructure, high consequence buildings (schools, long-term care homes, etc.).
- **TRCA Contacts:** Contact information for TRCA's Flood Duty Officer and radio communications is provided.
- **Roles and Responsibilities:** This section clearly describes the roles and responsibilities of the various agencies who would be involved in responding to a dam emergency. Agencies include TRCA, municipal emergency management staff, police, fire, transportation/road crews, MNR and Office of the Fire Marshall and Emergency Management. This section also describes the Incident Management System (IMS) structure for dam emergencies. The IMS provides a framework for organizing agencies to better manage emergencies. The IMS structure divides responding agencies into sections:

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- **Command Section:** The Command Section is responsible for carrying out the corporate objectives, strategies, and tactics during a major flooding event through continued communications with municipalities, emergency responders and internal staff.
- **Operations Section:** This Operations Section is responsible for field activities including dam security, coordination of repairs/mitigation at the dam, and setting up the incident command post onsite.
- **Planning Section:** The Planning Section will be responsible for collecting, evaluating, analyzing, and disseminating incident information. This includes the gathering of situational information that will be used for current and future action plans.
- **Logistics Section:** The Logistics Section coordinates the provision of all resources. Major activities of this section include obtaining, maintaining and accounting for essential personnel, equipment and supplies beyond those immediately accessible to the Operations Section.
- **Finance and Administration:** The Finance and Administration Section provides financial and cost analysis support to an incident. Major activities of this section include monitoring of sources of funding, tracking and reporting financial usage, tracking timesheets for incident personnel and equipment.
- **Inundation Maps:** Inundation maps are the most critical part of the EPP. These maps delineate the area that would flood during a dam incident. First responders would use these maps to plan evacuations, road closures and safe ingress and egress routes. Maps are designed to be easy to interpret as there could be a variety of municipal services using the map during an emergency.

The CDA is the lead technical dam safety agency providing guidance for emergency management for dam owners. The CDA Dam Safety Guidelines 2007 contains the requirements for developing and maintaining EPP's. Principle 3c) of the CDA's Dam Safety Guidelines 2007 state that:

*"The emergency management process shall ensure that effective emergency preparedness procedures are in place for use by external response agencies with responsibilities for public safety within the floodplain".*

Additionally, the CDA Dam Safety Guidelines 2007 Section 4.1 state that:

*"EPPs should be in place for all dams where lives are at risk or if implementation of emergency procedures could significantly reduce the consequence of failure".*

Using the criteria for emergency management from the CDA, Flood Infrastructure and Hydrometric staff determined that four dams, in addition to G. Ross Lord Dam, require the development of EPP's. Using previous Dam Safety Reviews (DSR) conducted on these dams, staff determined that Claireville Dam, Stouffville Dam, Milne Dam and Palgrave Dam require EPP's based on risk to life.

Risk to life is based on the Hazard Potential Classification (HPC) assigned to a dam during a DSR. Engineering consultants create a model of the worst-case scenario dam breach, which is based on the most severe possible flood (greater than Hurricane Hazel) plus the failure of the dam. Maps are created of the expected flooded area downstream of the dam for this scenario, and the potential number of people affected by the dam breach flood are counted. DSRs conducted on Claireville Dam, Stouffville Dam, Milne Dam and Palgrave Dam determined that at



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least one person was at risk should the dam fail. Table 1 summarizes the persons at risk during a severe flood event plus dam breach. The location of each dam is provided in **Attachment 1**. Photos for each dam are provided in **Attachment 2**.

Table 1

Dam	Hazard Potential Classification – Flood plus Failure	Persons at Risk
Claireville Dam	Very High	247
Stouffville Dam	Very High	>100
Milne Dam	Very High	101
Palgrave Dam	Very High	68

As these dams pose a risk to life, TRCA's Flood Infrastructure and Hydrometric and Flood Risk Management staff developed EPPs for each structure that are tailored for each dam's unique risks. Specific communication information is included in each EPP for the different municipalities at risk from a dam emergency. Draft confidential EPPs will be circulated to Board Members separately (**Attachments 3-6**).

### Relationship to Building the Living City, the TRCA 2013-2022 Strategic Plan

This report supports the following strategy set forth in the TRCA 2013-2022 Strategic Plan: **Strategy 2 – Manage our regional water resources for current and future generations**

### FINANCIAL DETAILS

Funding for the development of the EPPs was provided by operational accounts 108-01 (Flood Infrastructure Operation and Maintenance Supervision) and 115-62 (Flood Risk Management and Communications). Future EPP roll out and testing will also use funding from these accounts.

### DETAILS OF WORK TO BE DONE

TRCA, through the Flood Risk Management section, will introduce the EPPs to partner municipalities affected by potential dam emergencies. EPPs will be presented to municipal emergency management and first response staff to ensure these agencies fully understand the risk and impacts of dam emergencies. The primary objective is to reduce the threat to life, and thereafter to infrastructure and property to the fullest extent possible.

TRCA will also request partner municipalities to consider using dam emergencies presented in the EPPs as possible scenarios for tabletop and full functional emergency management testing and training exercises for first responders and emergency response staff. TRCA will work closely to ensure inter-agency cooperation and communications are practiced during these exercises.

Dam EPPs are a key document supporting emergency management within TRCA's dam safety program. Simultaneously, continued investment in regular inspections, maintenance, and major repairs is critical to avoiding scenarios that would necessitate the activation of the EPPs.

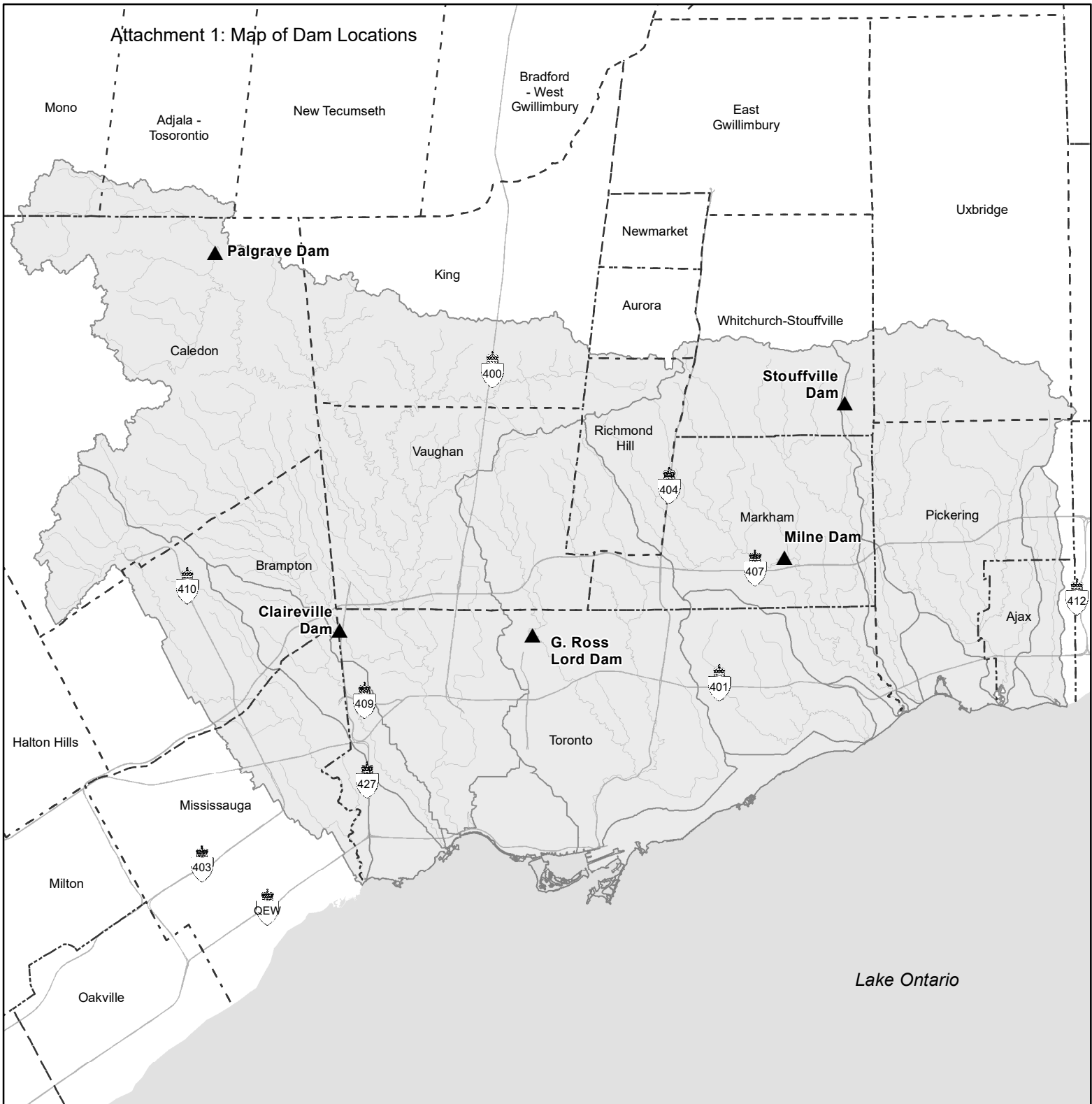
## Item 8.3

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**Date: April 7, 2021**  
**Attachments: 6**

Attachment 1: Map of Dam Locations  
Attachment 2: Photographs of TRCA Dams Requiring Emergency Preparedness Plans  
Attachment 3: Claireville Dam EPP  
Attachment 4: Stouffville Dam EPP  
Attachment 5: Milne Dam EPP  
Attachment 6: Palgrave Dam EPP

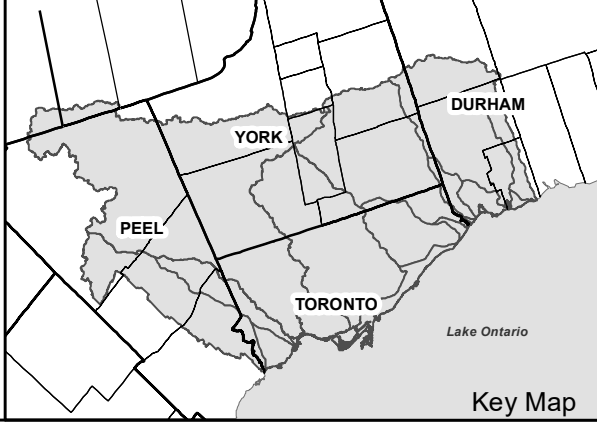
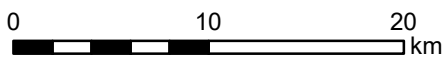
Attachments 3-6 are confidential attachments, which will be circulated to Board Members separately, pursuant to subsection C.4.(2)(h) of TRCA's Board of Directors Administrative By-Law, as the subject matter may be discussed in closed session under subsection 2.1(7) of the *Emergency Management and Civil Protection Act*.

# Attachment 1: Map of Dam Locations



## Legend

- ▲ Dam
- - - Municipal Boundaries
- Watercourse
- Watersheds





Attachment 2: Photographs of TRCA Dams Requiring Emergency Preparedness Plans



**Figure 1** G. Ross Lord Dam carries the highest potential risk of any TRCA dam based on risk to life and property. G. Ross Lord Dam's EPP was finalized in 2019.



**Figure 2** Claireville Dam looking upstream.



**Attachment 2: Photographs of TRCA Dams Requiring Emergency Preparedness Plans**



**Figure 3** Milne Dam.



**Figure 4** Stouffville Dam and Reservoir.



**Attachment 2: Photographs of TRCA Dams Requiring Emergency Preparedness Plans**



**Figure 5** Palgrave Dam.