

9.0 ENVIRONMENTAL IMPACTS AND MITIGATION

Under the Conservation Authorities Act, TRCA has implemented policies to further its objectives in conservation, restoration, development, and management of natural resources. TRCA follows technical guidelines and procedural information found in the Living City Policies (LCP). Policy areas in the LCP are applied throughout the planning, design and development of multi-use trail systems in the watersheds of TRCA include:

- Wetland policies in accordance with Ontario Regulation 166/06;
- Stormwater Management polices based on TRCA’s Stormwater Management Criteria Document (2012) that includes managing water balance for natural features and groundwater recharge through options such as low impact development;
- Natural System protection polices based on the science from TRCA’s Terrestrial Natural Heritage System Strategy (2007) and as refined in watershed plans and municipal official plans;
- Environmental Assessment, Master Plan and Infrastructure policies that incorporate the consideration of cumulative impacts and adaptive management;
- Natural System management policies for redevelopment of existing urban lands that emphasize restoration of degraded natural areas’
- Policies that emphasize an ecosystem service perspective in which human health and urban design benefits draw on both the natural and built elements of green infrastructure;
- Polices to address flood risk reduction and redevelopment through comprehensive planning to integrate engineering and ecological design into urban areas; and
- Sustainable Communities policies that advocate for other Living City program interests in the planning and development process.

As with any trail project, implementation of the preferred alignment has the potential to impact various components of the natural, social, cultural/archaeological environment. Potential effects and proposed mitigation measures are summarized in the following and in Table 9-1. A more detailed table including proposed monitoring activities is included in Appendix L.

9.1 Ecological Impacts and Mitigation

Trails contribute significantly to the public good through enhancing access to nature, providing opportunities for exercise and education, and reducing dependency on vehicular modes of transportation. However, trails can negatively affect natural heritage systems if not managed appropriately. Clearing of trees, shrubs and ground vegetation has the potential to disturb or destroy nests of migratory birds, wildlife habitats and habitats for species at risk. The trail route will be refined and can be “field-fit” to limit tree removal to the extent possible. Additionally, by formalizing a paved trail system and decommissioning or preventing access to

informal trails, public use can be redirected away from sensitive natural areas and reduce trampling.

To minimize impacts to fauna, any vegetation clearing will take place outside of the breeding bird and bat roosting timing window; generally, from April 1 to September 30. New plantings will be incorporated into the design and opportunities for invasive species removal will achieve an overall net ecological benefit.

Work around the rail bridge has a minor potential to disturb active Cliff Swallow nests and potential Barn Swallow nests if large equipment is needed in the area during construction. All requirements under the *Endangered Species Act* will be met. In addition, the Contractor will contact the MECP to discuss applicable mitigation options as needed.

Work in close proximity to the banks of the Humber River has the potential to cause bank instability and sediment and erosion issues, potentially affecting the flow and function of the watercourse as well as fish habitat quality. A sediment and erosion control plan will be developed in accordance with the TRCA Erosion and Sediment Control Guidelines for Urban Construction (2019). Bank stabilization measures will be incorporated into the design, as required, based on future geotechnical studies and will use natural methods to the extent possible. Riparian areas beyond the trail will be re-vegetated and naturalized.

No in-water work is anticipated. Should an unanticipated need for in-water work be identified during detailed design, all required permits and approvals will be undertaken in consultation with DFO and MECP and all fish-timing windows will be adhered to (in-water activity restricted to July 15 and September 15 of any given year).

There is potential for spills of fuels or other hazardous materials to occur during fueling of construction equipment or other construction activities. All materials and equipment used for the purpose of site preparation and project construction shall be operated and stored in a manner that prevents any deleterious substances (e.g., petroleum products, silt, etc.) from entering natural features as per TRCA requirements under Ontario Regulation 166/06 permitting. Refueling and maintenance activities, as well as stockpiled material, will occur and/or be stored at least 30 m away from the water course.

There is potential to introduce invasive species into natural areas during construction. Construction equipment should be cleaned prior to bringing it to the site to avoid introducing exotic species from other sites. All disturbed areas of the construction site will be re-vegetated as soon as conditions allow. Where re-vegetation is required seed mixes which do not contain invasive species will be used.

9.2 Social, Property and Public Safety Impacts and Mitigation

Portions of private property owned by the WGCC and the private land trust will be required in order to construct the preferred alternative. Pending final trail designs, some private land will need to be permanently acquired by the City, with additional areas required temporarily to permit construction. Consultation and negotiation of related agreements with private landowners regarding the acquisition of land required for construction will continue as the project progresses past the MCEA phase.

Concerns around trespassing, vandalism, and littering will need to be factored into the trail design. Anti-climb fencing will be installed along key locations to limit trespassing and vandalism on private lands. Waste receptacles will be provided at appropriate locations along the trail route, which will be included as part of the trail's regular maintenance plan.

Visual and auditory distractions from the trail may impact golfers during play. Overhead canopy, architectural safety screening and opportunities for natural plantings will be incorporated into subsequent levels of design to minimize impacts.

Construction access through WGCC property will be required. Construction will be staged to avoid work on the golf course during the open golf course season, to the extent possible. Any impacts to private property during construction will be remedied by the City/TRCA as per ongoing agreements developed in consultation with private landowners. Use of some existing sections of the HRT may be disrupted due to temporary closure during construction. Appropriate notification will be provided to trail users prior to closures.

Similar to other trail projects within Toronto ravines, the project has the potential to be affected by seasonal flooding and future climate change conditions. Warning signage will be in place at strategic points along the trail to warn users of the floodplain and to be aware of seasonal conditions (e.g., spring freshet).

Due to the design of the bridge approach ramps, access to the WGCC portion of the trail by EMS vehicles is restricted. The City will work with Toronto EMS to ensure this section of trail is documented in EMS's database as an area inaccessible by ambulance so alternate access plans are prepared in case of emergency.

9.3 Cultural and Archaeological Impacts and Mitigation

The rail bridge and Humber River (a Canadian Heritage River) are both cultural heritage features. Given that neither will be directly affected by the project, the City's Cultural Heritage Office has confirmed that no impacts to the features are expected, and no mitigation is required.

Archaeological resources may be present at the site and require further study. A Stage 2 Archaeological Assessment will be completed as outlined in the Stage 1 report, provided in Appendix F.

The Mississaugas of the Credit First Nation, Six Nations of the Grand River, the Haudenosaunee Confederacy, and the Huron Wendat Nation will be contacted by staff prior to any Stage 2 work or additional work beyond Stage 2, if required, and will be offered an opportunity to participate in field studies and/or report review.

Despite future archaeological surveys, unexpected archaeological resources may be found during construction. In the event that previously undocumented archaeological remains are found during construction activities, the proponent or person discovering the archaeological resources will cease alteration of the site immediately, and the consultant archaeologist, approval authority, and the Cultural Programs Unit of the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) will be immediately notified.

Table 9-1: Summary of potential impacts and proposed mitigation measures

Environmental Feature	Potential Impacts	Proposed Mitigation
Natural Environment		
<p>Migratory birds and Species at Risk</p>	<p>Clearing of trees, shrubs and ground vegetation has the potential to disturb or destroy nests of migratory birds and roosting habitat for endangered bats.</p> <p>Construction around the rail bridge has the potential to disturb active Cliff and Barn Swallow nests located on the bridge structure.</p>	<ul style="list-style-type: none"> • Any tree clearing will take place outside of the breeding bird and bat roosting timing window; generally, from April 1 to September 30. • If tree clearing must occur within this window, a qualified Ecologist will first assess the trees to determine if potential bat maternity roosting habitat is present, in accordance with provincial guidelines. If trees exhibit characteristics that could provide bat roosting, no clearing will be permitted without further review by MECP and/or a permit under the Endangered Species Act is obtained • Any active nests will be flagged and all clearing within the associated habitat will be avoided until the Ecologist/Avian Biologist confirms that the birds have fledged, and the nest is no longer active. • All requirements under the <i>Endangered Species Act</i> will be met.
<p>Terrestrial features/Vegetation</p>	<p>Removal of trees to accommodate the project will reduce tree cover in the Study Area.</p>	<ul style="list-style-type: none"> • A Tree Inventory and Preservation Plan will be completed during detailed design. Tree removals will be minimized. • Tree removals should be compensated in accordance with the TRCA Guideline for Determining Ecosystem Compensation (2018) and will need to satisfy City of Toronto's Urban Forestry (RNFP) replacement planting compensation ratios and requirements. • Construction equipment should be cleaned prior to bringing it to the site to avoid introducing exotic species from other sites. • All disturbed areas of the construction site will be re-vegetated as soon as conditions allow.
<p>Humber River</p>	<p>Work on, and around, the banks of the Humber River have the potential to cause bank instability and sediment and erosion, affecting the flow and functions of</p>	<ul style="list-style-type: none"> • Detailed grading, construction, dewatering and erosion and sediment control plans will be submitted to TRCA for review and comment at detailed design. • A sediment and erosion control plan will be developed in accordance with TRCA Erosion and Sediment Control Guidelines

	<p>the watercourse as well as fish habitat.</p>	<p>for Urban Construction (2019). Bank stabilization measures will be incorporated into the design, as required, based on future geotechnical studies. Bank stabilization measures will use natural methods to the extent possible. Riparian areas beyond the trail will be re-vegetated and naturalized.</p> <ul style="list-style-type: none"> No in-water work is anticipated. All construction will be carried out from riverbanks. Should an unanticipated need for in-water work be identified during detailed design, no in-water work will occur between July 15 and September 15 of any year and submission of a request for review to DFO at the detailed design stage of the project as well as screening the project with MECP will clarify mitigation to be employed during the construction of any proposed in-water work.
<p>Humber River and Local Groundwater</p>	<p>There is potential for spills of fuels or other hazardous materials to occur during fueling of construction equipment or other construction activities.</p>	<ul style="list-style-type: none"> All materials and equipment used for the purpose of site preparation and project construction shall be operated and stored in a manner that prevents any deleterious substances (petroleum products, silt, etc.) from entering natural features. Any stockpiled materials will be stored at least 30 m away from the Humber River. Refueling and maintenance of construction equipment should occur a minimum of 30 m from a natural feature.
<p>Natural Areas</p>	<p>There is potential to introduce invasive species into natural areas during construction.</p>	<ul style="list-style-type: none"> Construction equipment should be cleaned prior to bringing it to the site to avoid introducing exotic species from other sites. All disturbed areas of the construction site will be re-vegetated as soon as conditions allow. Where re-vegetation is required seed mixes which do not contain invasive species will be used.
<p>Social Environment, Property and Public Safety</p>		
<p>Private Property</p>	<p>Portions of property owned by WGCC and the private land trust will be required. Some land will be required permanently, and some additional land will be required temporarily during construction.</p>	<ul style="list-style-type: none"> Appropriate agreements and compensation for the use of the land will be arranged prior to construction. Construction will be staged to avoid work on the golf course during the open golf course season, to the extent possible. Any impacts to private property during construction will be remedied by the City/TRCA in consultation with the landowner.

	<p>Trail construction may result in an increase in trespassing beyond the trail limits and lead to increased trampling, littering and vandalism on WGCC and land trust properties.</p> <p>Visual and noise distractions from the trail may impact golfers during play.</p>	<ul style="list-style-type: none"> • Anti-climb fencing will be installed in key locations to limit trespassing and vandalism. Waste receptacles will be provided at appropriate locations along the trail route to limit littering. • The architectural safety screening and plantings will be designed to minimize effects.
<p>Public Safety</p>	<p>The project has the potential to be affected by flooding and future climate change conditions. The entire project is located within the floodplain.</p>	<ul style="list-style-type: none"> • An analysis of user risk and safety for the proposed trail and boardwalk will be undertaken in detailed design, which will explore potential measures to help mitigate safety and security concerns. Appropriate warning signage will be in place around the proposed pedestrian-cycle bridge and trail to warn that the site is within a floodplain and that flood conditions may occur. Opportunities to utilize TRCAs Flood Forecasting and Warning Program will also be explored, along with other operational measures to close trails that may be impacted by flooding events • Additional hydraulic assessment studies will be undertaken at the detailed design stage to ensure structures placed within the floodplain meet City/TRCAs policies and plans.
<p>EMS Access</p>	<p>Access to the WGCC portion of the trail by EMS vehicles is restricted</p>	<ul style="list-style-type: none"> • The City will work with Toronto EMS to ensure this section of trail is documented in EMS's database as an area inaccessible by ambulance so alternate access plans are prepared in case of emergency.
<p>Cultural/Archaeology</p>		
<p>Archaeology</p>	<p>Potential for archaeological resources to be disturbed</p>	<ul style="list-style-type: none"> • A Stage 2 Archaeological Assessment will be completed as outlined in the Stage 1 report. • The Mississaugas of the Credit First Nation, Huron-Wendat Nation, Six Nations of the Grand River First Nation, and the Haudenosaunee Confederacy will be contacted by staff prior to

		any Stage 2 work or additional work beyond Stage 2, if required, and will be offered an opportunity to participate in field studies and/or report review.
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