

Date: 2021-06-23

Subject: Recommendation Report: Lake Enhancement Strategy - All Wards (RM 131/2019)

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Report Number: Public Works & Engineering-2021-175

Recommendations:

1. That the report titled **re: Lake Enhancement Strategy – City-wide – All Wards** to the Committee of Council meeting of June 23, 2021 be received; and
2. That the **Lake Enhancement Strategy** be endorsed by Council.

Overview:

- **The Lake Enhancement Strategy helps achieve Term of Council Priorities (Implement a Green Framework, Healthy Citizens) by integrating and enhancing natural heritage spaces into our communities, and by encouraging active lifestyles and mental wellbeing.**
- **The Lake Enhancement Strategy was prepared as requested through Council Resolution CW477-2019 from November 2019.**
- **Initial lake enhancement efforts are focused on four (4) Priority Lakes: Norton Place Park, Donnelly Ponds, Loafer’s Lake and Professor’s Lake.**
- **Short Term Recommendations and Long Term Considerations outlined in the Lake Enhancement Strategy are based on the Council-approved Eco Park Strategy, review of best practices, site evaluations, and consultation with internal and external stakeholders.**
- **In the short term, a Lake Habitat and Water Quality Monitoring Program will direct future water quality improvements for each Priority Lake.**

- **The purpose of the report is to seek Council endorsement of the Lake Enhancement Strategy.**

Background:

In September 2019, City Council directed City staff to report back to the Committee of Council by the end of November 2019, on the opportunities, costs, and benefits to more actively maintain, improve, and celebrate our local waterbodies within Brampton, particularly Heart Lake, Professor's Lake, Loafer's Lake, Claireville Reservoir, and stormwater management ponds (Resolution # CW342-2019).

In November 2019, City Staff presented a report that included past and current City and Conservation Authorities' efforts and projects to improve and enhance Brampton's lakes and stormwater ponds, and high-level steps to further maintain and celebrate Brampton's waterbodies. In response, City Council further directed Staff to "develop a timeline, plan and costing to improve water quality related to the water bodies" (Resolution # CW477-2019)."

The most recent comprehensive assessment of the water quality, vegetation, wildlife, and fisheries of Brampton's lakes was the Citywide Lake Management and Monitoring Report – Interim Report (2006), based on field investigations conducted in 2004 and 2005. Significant water quality issues in Brampton's lakes were identified in the 2006 Citywide Lake Management and Monitoring Report.

Recently, Brampton's lakes have seen some additional challenges, including increasing number of summer beach closures at Professor's Lake due to high levels of E. coli, and Loafer's Lake with its ongoing challenges with algae blooms.

In 2020, Council approved the Brampton Eco Park Strategy that reinforced the City's commitment to improving environmental performance and celebrating its green spaces, by integrating natural heritage systems within our communities, and improving recreational opportunities within parks and natural spaces.

Brampton has 14 lakes, but only a few are widely known, such as Professor's Lake, Loafer's Lake, and Heart Lake. Currently, only one Brampton lake (Professor's Lake) allows swimming and has on-going water quality monitoring, and only three lakes (Professor's, Chinguacousy and Heart Lake) allow on-water recreational activities (kayaking, canoeing, paddle boating etc.). Fishing is also popular at a number of Brampton lakes, however, it is not actively promoted nor is there infrastructure and regulations that support fishing.

Brampton lakes have an abundance of valuable, yet underutilized, natural and recreational characteristics. Brampton lakes can be a showcase for the City, increase community cohesion and pride, and attract visitors, while also helping connect people with nature responsibly. To improve the awareness, appreciation and utilization of these lakes, an innovative framework is required.

The Lake Enhancement Strategy (Appendix 1) utilizes the recent approach of the Eco Park Strategy as a lens to achieve Council's vision and builds upon the 2006 Citywide Lake Management and Monitoring Report – Interim Report. The Lake Enhancement Strategy is the first example of an Eco Park lens being strategically applied to Brampton's community parks and signature natural features that service and attract a broad range of users and community members.

Current Situation:

Brampton is unique in its large number of picturesque lakes and river systems still maintaining fair water quality within the urban boundaries of a large and growing city.

Significant population growth is predicted for Brampton's future, which will bring with it increasing pressure on Brampton's environmental, recreational, and infrastructure systems. Brampton lakes provides a great opportunity to meet Brampton's growing local recreational needs while achieving environmental enhancements. With strategic enhancements, these lakes can become citywide destinations offering a host of active and passive recreational amenities.

The Covid 19 pandemic has further highlighted the importance of our public and natural spaces and the irreplaceable services they provide to the community. These unique times require a re-evaluation of how we think about, design, and use public outdoor spaces and require more thought in the maintenance, sustainability and multi-functional use of spaces.

As an immediate action of the Lake Enhancement Strategy, a Lake Habitat and Water Quality Monitoring Program will be implemented for the Priority Lakes identified in the Strategy. This Lake Habitat and Water Quality Monitoring Program has been identified and approved in the 2021 budget. This program will aim to find ways to identify the source of water quality issues at Priority Lakes and provide appropriate and feasible mitigation measure to improve water quality and lake habitat

Lake Enhancement Strategy

The Lake Enhancement Strategy aims to transform Brampton lakes into signature citywide destinations within Brampton's recreational open spaces by presenting conceptual park and lake improvements and recreational programming expansion. This Strategy also aims to incorporate Brampton's lakes into the Brampton Eco Park by creating animated Eco Spaces that integrate the utilization of outdoor spaces for recreational activities with natural heritage conservation.

It is important to note that this Strategy only provides a framework (Vision, Goals and Objectives) to guide decision making in future lake improvements and programming *and should not be taken as the only path forward for improving Brampton's Priority Lakes*. The Strategy's framework was developed in consultation with the Community Services Department, including their Recreation and Parks Maintenance & Forestry Divisions, as well as with the Toronto & Region Conservation Authority.

Staff have prioritized recommendations for initial efforts on four (4) Priority Lakes (See Appendix 2):

1. Norton Place Park Lake,
2. the Donnelly Ponds,
3. Loafer's Lake, and
4. Professor's Lake

The four Priority Lakes were selected as they provide a good cross-section of the type of lakes found in Brampton. They provide the best opportunity to express the principles of the Brampton Eco Park Strategy and offer opportunities to establish citywide destinations, expanded lake-based recreational programs, and natural heritage restoration.

Additionally, to further help direct efforts it is recommended the four Priority Lakes be ranked as listed in the Strategy (1. Norton Place Park Lake, 2. the Donnelly Ponds, 3. Loafer's Lake, and 4. Professor's Lake). Recommended ranking of the four lakes is based on existing park and recreation infrastructure, costs of proposed enhancements, recent park upgrades, funding opportunities, and ability to utilize existing city assets and programs.

Regardless of recommended ranking, immediate actions towards enhancing all four lakes include:

- Establishment of a Lake Monitoring Program to assess water quality and lake habitat for Priority Lakes;

- Integrating existing City programs such as park tree plantings and adopt a park program into Priority Lakes;
- Reviewing bylaws to ensure they facilitate desirable recreational use of the lakes;
- Developing a citywide Lake Promotion Strategy; and
- Engaging residents in the Priority Lake enhancement design process.

Lake Enhancement Framework

Vision:

Transform Priority Lakes into signature features of Brampton's Eco Park

Goals:

Natural Heritage

- Improve lake habitat and water quality

Parks

- Connect people with lakes

Recreation

- Expand sustainable water-related programming

Communication and Engagement

- Engage community and park users and build awareness of Brampton lakes

Objectives, Short Term Recommendations, Long Term Considerations and Concept Plans have been prepared for each of the four Priority Lakes. The Concept Plans are aspirational visualizations to help articulate the potential opportunities at each Priority Lake. Short Term Recommendations are displayed in tables and reflect potential opportunities to investigate and possibly be initiated in the next three years. Long Term Considerations are future opportunities to explore and could be implemented in the next three to ten years subject to available budget and operational capacity.

Norton Place Park – The Hidden Gem

Norton Place Park is host to a diverse range of natural habitats and in the Citywide Lake Management and Monitoring Report – Interim Report (2006), was deemed to have one of the best water quality scores among Brampton lakes. It is expected that at Norton Place Lake, the Lake Enhancement Strategy's Lake Habitat and Water Quality Monitoring Program will provide long term mitigation measures to enhance and maintain the water quality at the Lake and provide measures to protect the lake from increasing salt, litter and nutrient loading from local trails and amenity use.

In 2017, a \$2 million revitalization project to Norton Place Park was completed. The project involved improvements to park amenities including construction of the boardwalks, pier, shade structure, picnic areas, community garden, information signage, and labyrinth. The project also upgraded existing trails, retrofitted the playground and undertook shoreline restoration activities.

Despite the City's recent investments in park improvements, Norton Place Park is still underutilized by residents. Norton Place Park Lake also suffers from a reputation of being unsafe partly rising from a number of very publicized police incidents in the area. Littering is also a significant issue in an around the lake.

Providing more programming, addressing safety and littering concerns and increasing public awareness of amenities can turn Norton Place Park into a central natural and recreational destination for residents across the city.

Donnelly Ponds - A Natural Oasis

Situated between Heart Lake Conservation Area and White Spruce Park, the Donnelly Ponds lie within Brampton's largest contiguous interconnected natural heritage area. The primary way of experiencing the Donnelly Ponds is by trailing through the park on the Esker Lake Trail. The park has limited seating and viewing opportunities and no picnicking infrastructure.

The Donnelly Ponds are within one of the most biodiverse areas in Brampton, offering a watercourse corridor, a thriving woodland, and wetland that is a part of the Heart Lake Provincially Significant Wetland Complex. The most recent assessment from the Citywide Lake Management and Monitoring Report – Interim Report (2006) indicated a poor water quality score that is primarily attributed to stormwater runoff from Sandalwood Parkway. The Lake Enhancement Strategy's Lake Habitat and Water Quality Monitoring Program will focus on improving water quality and lake and shoreline habitat, including identifying measures to reduce nutrient inputs into the pond from Sandalwood Parkway and other local sources.

Currently, the Donnelly Ponds are not being utilized to their fullest potential as a citywide destination. The Donnelly Ponds offer the opportunity to establish a citywide picnicking space offering a diverse range of outdoor passive recreational experiences including, fishing and bird watching and outdoor environmental education opportunities.

Loafer's Lake – Urban Retreat

Loafer's Lake provides a beautiful scenic lake setting and is physically connected to many recreational amenities through trails including the Etobicoke Creek Trail, Loafer's

Lake Recreation Centre, Cyril Clark Library, the new Camden Park East Dog Park, Jim Archdekin recreation centre and active recreation amenities available nearby in an adjacent parkland.

Though physically connected to many amenities, use of the lake area is low and is mostly experienced by walking or cycling through the lake area along the Etobicoke Creek trail. There is currently no active recreational programming around the lake, nor many amenities that allow the public to appreciate and enjoy the lake.

For a number of years, Loafer's Lake has suffered from excessive algae growth in the summer, leading to discoloration of the lake water. The most recent water quality testing of the lake in the Citywide Lake Management and Monitoring Report – Interim Report (2006) indicated the lakes water quality as the third worst of all lakes in Brampton with high nutrient concentrations; however, it still maintained fair fisheries potential. In 2019, the City installed six aerators in Loafer's Lake to combat the algae growth, however algae continues to be present during July and August, likely due to the high nutrient concentrations within the lake. To combat the algae growth, the Lake Enhancement Strategy's Lake Habitat and Water Quality Monitoring Program will assess Loafer's Lake's internal and external nutrient loads and define target nutrient load reductions to help identify feasible mitigation measures.

Currently, the relationship between the lake and the Loafer's Lake Recreation Centre could be strengthened to enhance the use of the lake area and improve the amenities and programs offered by the recreation centre. Loafer's Lake Park's many natural features are underappreciated, which is made worse by the algae growth in the lake, the lack of access to the water, and limited work on maintaining or enhancing the lakes shoreline.

Professor's Lake – A Day at the Lake

Professor's Lake is the largest and one of the most well-known lakes in Brampton. It offers many active and passive recreational opportunities including being the City's only swimmable lake. Professor's Lake has a water slide, a beach, a beach volleyball court, boat rentals, two playgrounds, a recreation centre offering a variety of community programs and classes, multi-use trails.

There are challenges that limit Professor's Lake's potential. Increasingly, Professor's Lake is experiencing summertime water quality issues due to high levels of the bacteria *Escherichia coli* (E.coli). In 2020, due to high E.coli measurements, the beach was closed and swimming prohibited 20 times between July and August. To address the growing E.coli outbreaks and determine appropriate mitigation measures, the Lake

Enhancement Strategy's Lake Habitat and Water Quality Monitoring Program will identify causes of elevated nutrients and investigate microbial source tracing techniques to track E. coli inputs into the lake.

Another challenge is that the infrastructure and amenity capacity at Professors Lake is currently limited. The communities surrounding Professor's Lake has experienced significant growth since Professor's Lake beach and amenities opened in the early 1980's. This, including its growing popularity, has seen visitation significantly increase over the years and beach amenities regularly reaching maximum capacity during the summer period. Since its construction, minimal infrastructure or amenity improvements have been implemented at Professor's Lake, with most upgrades focused on maintaining the trail around the lake.

Additionally, City's by-laws, such as Park Lands By-law 161-83, restrict community use of the Professor's Lake's for water based-recreational purposes. Review of water-based activities and associated regulations may be warranted to ensure desirable recreational use of the lake is facilitated.

Finally, historically local residents have expressed concern over proposed park enhancement projects around the lake. A number of initiatives to improve the lake's water quality, recreational amenities and programs have faced local opposition situated along the lake.

To become a citywide destination, the City and community must take collective action to improve Professor's Lake water quality, update facilities, raise awareness about the lake, review local regulations and facilitate engagement with the local community.

Cost Estimates

The Lake Enhancement Strategy focuses on providing Short Term Recommendations and Long Term Considerations. Short Term Recommendations utilize existing City programs and partnerships to implement many of its goals, such as water quality monitoring, shoreline restoration, pathway improvements, tree planting and communication plans. The Strategy's Long Term Considerations will require future study and additional costs that will be considered in future City budgets.

To provide a general idea of scale and budget associated with the Strategy's Short Term Recommendations and Long Term Considerations, high-level costing estimates were developed for each lake. These estimates provide an approximation of the *accumulative* cost of achieving lake enhancement goals over the long term *and are preliminary, order of magnitude costing for initial consideration only.*

- Norton Place Park Lake: \$1,500,000 – \$3,500,00
- Donnelly Ponds: \$3,500,000 – \$6,500,000
- Loafer's Lake: \$3,500,000 – \$6,500,000
- Professor's Lake: \$3,500,000 – \$6,500,000

Estimates do not consider operational costs or internal capacity required to implement recommendations. Departments would need to determine these requirements at the time of budget deliberations and submission for specific actions.

Next Steps

Implementing the Lake Enhancement Strategy requires collaboration between various departments and divisions to achieve its goals. Community Services Department will play a significant role, with Recreation and Parks Maintenance & Forestry Divisions taking the lead to deliver on the goals of the Lake Enhancement Strategy. Groups outside of Community Services that will need to play an important supporting role to achieve certain goals and objectives include Environmental Planning, Strategic Communications, and Culture & Events. Externally, the City will work with Toronto Region Conservation Authority on water quality monitoring and ecological restoration actions.

Subsequent to Council approval, immediate next steps for all four Priority Lakes would include:

- Public Works and Engineering Department commencing a Lake Habitat and Water Quality Monitoring Program for the Priority Lakes with assistance of Toronto Region Conservation Authority and Region of Peel. This Lake Habitat and Water Quality Monitoring Program has been identified and approved in the 2021 budget.
- Community Services Department to review the Short Term Recommendations and prioritize these in ongoing programs such as the 1 Million Trees Program and Open Space Naturalization Program.
- Community Services Department to review the Strategy's Long Term Considerations and determine additional staff resources needed to implement them. Those Long Term Considerations deemed feasible for implementation will be submitted through capital and operating budgets in subsequent budget submissions.
- Community Services Department developing a citywide Lake Awareness Campaign, in partnership Strategic Communications.

Corporate Implications:

Financial Implications:

There are currently no financial implications resulting from the recommendations in this report. Any resources and funding required to implement actions of the Lake Enhancement Strategy will be identified and brought forward to Council for approval, as part of the annual budget process.

Term of Council Priorities:

The Lake Enhancement Strategy contributes to the “**Brampton is a Green City**” Term of Council priorities particularly “Implement a Green Framework” and the effort to “integrate and enhance natural heritage within our communities”.

In addition, the Strategy contributes to promoting “**Brampton is a Mosaic**” and “**Brampton is a Healthy and Safe City**”, by developing inclusive and flexible spaces, promoting community events, engagement and outreach programs encouraging active community, and building assessable spaces and recreational elements for all residents and abilities.

Conclusion:

The Lake Enhancement Strategy aims to transform Brampton lakes into signature features of Brampton’s recreational open spaces. The Strategy outlined in this report aims to enhance and integrate the social and recreational services offered at Brampton lakes while maintaining the natural heritage features and valuable ecosystem services. An integrated approach to improve Brampton’s lakes involving the City and community stakeholders is ideal to maximize the opportunities the lakes offer. Applying these enhancement techniques and measures throughout the city will create attractive eco spaces and continue to bring awareness to the beautiful lakes present throughout Brampton. While the Strategy identified a number of priority opportunities at specific lakes, the Strategy is intended to be used as a foundation for future lake enhancements that encompasses all Brampton lakes.

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Appendix 1: Lake Enhancement Strategy

Appendix 2: Map of Priority Lakes



LAKE ENHANCEMENT STRATEGY

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1.0 A Green Framework

The City of Brampton is committed to improving the sustainability of the city, with its efforts guided by the Brampton Grow Green Environmental Master Plan. Reinforcing its commitment to improving environmental performance and celebrating its green spaces, the current Term of Council Priorities call for the implementation of a Green Framework, which includes better integration of natural heritage systems within our communities, and improving sustainable practices within parks and natural spaces. A major advancement of this Priority was the Council endorsement of the Brampton Eco Park Strategy in 2020. Shortly thereafter, Council directed City Staff to develop recommendations on how to recreationally and naturally enhance Brampton's lakes.

This Lake Enhancement Strategy is the first example of an Eco Park lens being applied to community parks and signature natural features that service and attract a broad range of users and community members.

Brampton Lakes

One of Brampton's best-kept secrets is its picturesque lakes and river systems. Brampton is unique by virtue of the large number of good quality lakes and ponds within the urban boundaries of a large and growing city. Brampton's water system is a defining component of the city both in its role in shaping the present urban form and identity, and in the services it delivers to the community.

There are 14 freshwater lakes situated within Brampton. The majority of Brampton lakes are a result of natural glacial deposits situated along the Brampton Esker and Brampton Kame that have undergone aggregate extraction activities and urban development. They are mostly ground water-fed with limited to no direct surface outlet. Only a few are surface water dominated and associated with river/creek systems.

The most recent information on lake water quality is provided in Brampton's 2006 City-wide Lake Management and Monitoring Report. This report includes assessments of each lake for water quality, fisheries, vegetation, and wildlife (Appendix A).

Within Brampton's urbanizing landscape, Brampton lakes offer a peaceful and natural oasis for residents and visitors to enjoy. Additionally, lakes are a vital component of Brampton's ecosystem, as lakes provide critical resources and habitat to a variety of species. They also offer many critical ecosystem services to the community, including flood mitigation and water filtration. Lastly, Brampton lakes provide relaxing and beautiful locations to visit and enjoy, as well as opportunities to engage in a number of social and recreational activities unique to their type of landscape.

While Brampton has an abundance of lakes, only a few are widely known, such as Professor's Lake, Loafer's Lake, and Heart Lake. Brampton lakes have an abundance of valuable, yet underutilized, natural and recreational characteristics. To improve the awareness, appreciation and utilization of these lakes, an innovative framework is required.

Strategy Intentions

The Lake Enhancement Strategy aims to transform Brampton lakes into signature features of Brampton's recreational open spaces. This report aims to incorporate Brampton's lakes into the Brampton Eco Park by creating animated Eco Spaces that integrate the utilization of outdoor spaces for recreational activities with natural heritage conservation and restoration. The Short Term Recommendations and Long Term Considerations outlined in this report offer opportunities to explore towards revitalizing four chosen Priority Lakes, and can be used by City Staff to guide decision making in future improvements. This Strategy can also be used as a foundation for a lake enhancement framework that eventually encompasses all Brampton lakes.

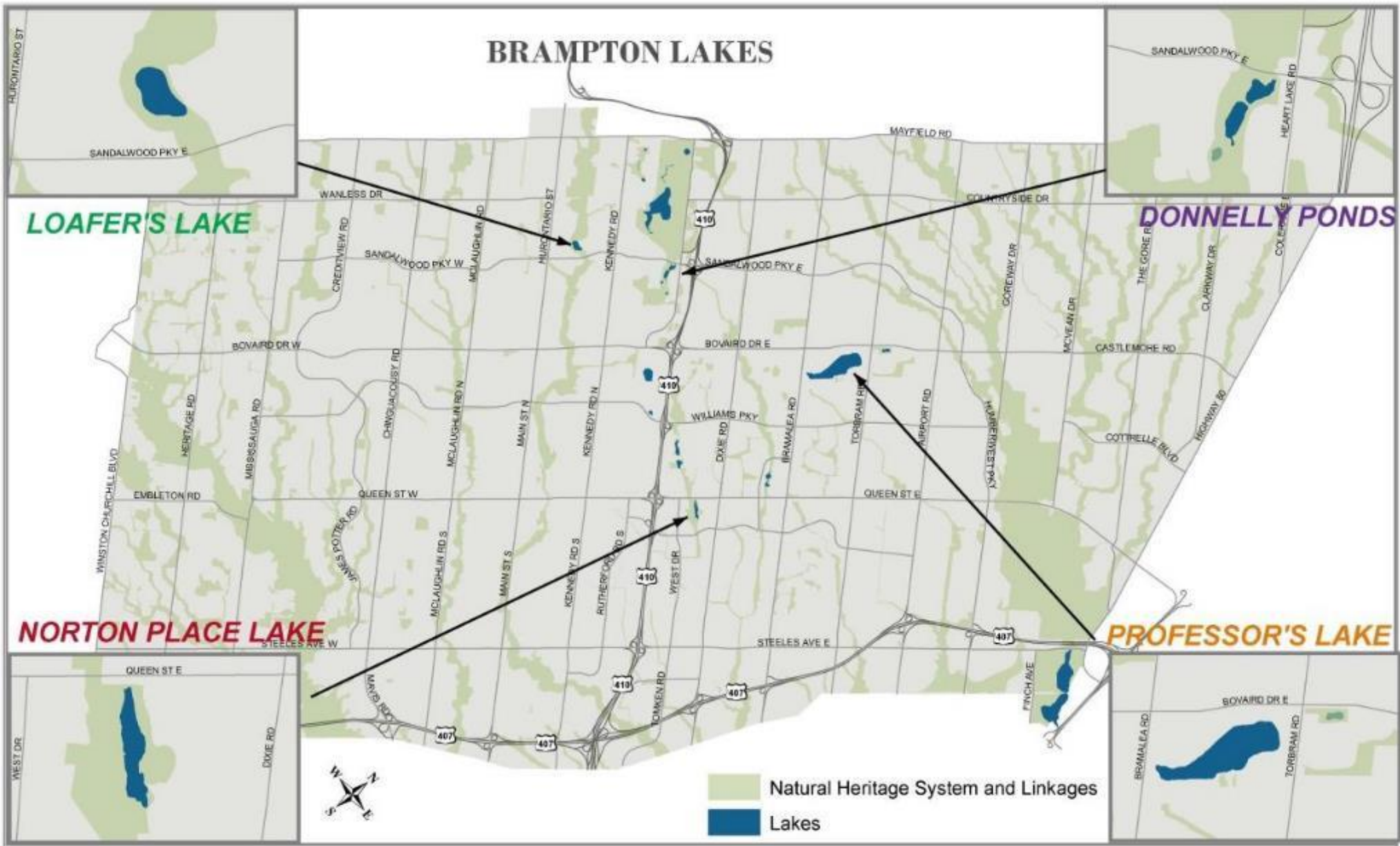
1.1 Strategic Framework for Lake Enhancements

In response to Council's direction to develop a lake enhancement plan, City staff prioritized recommendations for initial efforts on four (4) Priority Lakes:

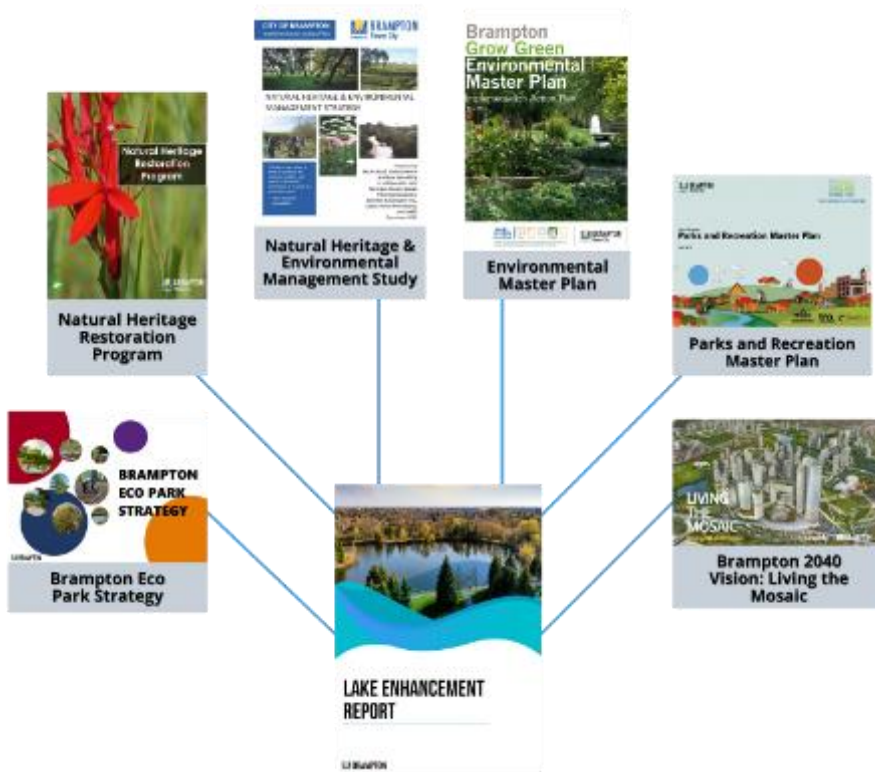
- Norton Place Park Lake,
- the Donnelly Ponds,
- Loafer's Lake, and
- Professor's Lake.

These lakes were selected because they provide a good cross-section of the type of lakes found in Brampton, and provide the best opportunity to express the principles of the Brampton Eco Park Strategy. In addition, the Priority Lakes offer opportunities to establish:

- city-wide destinations;
- expanded lake-based recreational programs; and
- natural heritage restoration.



A number of City strategies, including the Brampton 2040 Vision, Environmental Master Plan and Parks and Recreation Master Plan, informed the development of the Lake Enhancement Strategy. However, the recently approved Brampton Eco Park Strategy serves as the foundation for the Strategy’s recommendations. Appendix B provides details on supporting City documents.



The Brampton Eco Park Strategy aims to utilize and bring together established City initiatives, such as the Brampton One Million Trees Program, Naturalization Program, and Adopt-a-Park Program, as well as provides a framework for collaboration and opportunities to leverage partnerships that can foster efficiencies and project success.

Brampton Eco Park Strategy

Brampton Eco Park is the interconnected network of sustainable urban and natural/green spaces (i.e. Eco Spaces) interwoven and embedded into the fabric of the city’s urban systems and landscapes. Providing both vital natural habitat and recreational activities, Brampton’s lakes present an easy opportunity to establish Eco Spaces and expand Brampton’s Eco Park.

Eco Space Spectrum



Eco Spaces are sustainable green spaces that integrate the urban and the natural environment by:

- enhancing and maintaining natural systems and processes on site;
- integrating opportunities for meaningful social and environmental interactions and experiences for visitor and residents; and
- actively striving to incorporate the seven guiding Eco Park principles.

The following seven (7) **Eco Park principles** were used to guide the development of this Strategy's recommendations.

1. **Maximize ecological value:** Natural features are enhanced and restored to conserve nature and maintain and improve the benefits they provide to humans.
2. **Provide opportunities for social services:** Spaces provide a diverse range of recreational opportunities and integrate recreational and community programming.
3. **Make nature visible:** Natural and 'eco-friendly' features become focal points and the services and benefits they provide are highlighted and celebrated.
4. **Design with nature:** Design, creation, and maintenance of site integrates itself with natural processes and reflects environmental sustainable practices.
5. **Integrate with the surrounding community:** Site should not be an isolated feature within the City, but should instead be integrated and connected with the surrounding community and spaces physically (e.g. transit, trails, accessibility, connecting natural features/systems) and socially (e.g. engagement, stewardship, partnerships, community programs, events, rental space).

6. **Support innovation:** Innovation is encouraged to achieve sustainable goals of the site, solve environmental challenges and meet the needs and expectation of today's residents and visitors.
7. **Reflect local identity:** Spaces are constructed to reflect the cultural and demographic identity and social needs of the local community, which can be realized by proper engagement of park users and local residents during design and construction as well as fostering long term stewardship of the park.

The COVID-19 Lesson: The Importance of Natural Areas

The COVID-19 pandemic has led to significant changes in people's daily lives. The health and safety of individuals and the community are being prioritized during this unprecedented time. People have been required to socially distance themselves, and the closures of stores and indoor facilities have occurred for the majority of the 2020 year. As a result, people have turned to outdoor spaces to alleviate stress, undertake physical activity, safely interact with others at a distance, and experience Brampton's natural environment.

These unique times require a re-evaluation of how we think about, design, and use public outdoor spaces. A shift to doing more activities outdoors will require more thought in the multi-functional use of spaces, including increasing accessibility and use through all seasons, while also managing the increasing pressures this will bring on our natural landscapes. The Eco Park Principles serve well as a lens in which to achieve this.

Categories and Eco Park Principles

Lake Enhancement Goals, Objectives and Recommendations are divided into four Categories: Natural Heritage, Parks, Recreation, and Communication and Engagement. Eco Park Principles can be seen reflected throughout all categories; however, certain principles are more strongly associated within specific categories.

CATEGORY	ECO PARK PRINCIPLE(S)
NATURAL HERITAGE	Maximize ecological value
PARKS	Make nature visible Design with nature Support innovation Provide opportunities for social services
RECREATION	Provide opportunities for social services Integrate with the surrounding community
COMMUNICATIONS AND ENGAGEMENT	Integrate with the surrounding community Reflect local identity

Vision, Goals, Objectives and Recommendations

Vision and Goals

The vision of the Lake Enhancement Strategy provides the overarching direction and aligns with Council priorities and other strategic frameworks of the City. The Lake Enhancement Strategy goals reflect the desired outcomes for all the Priority Lakes.

Objectives

Objectives can be found under each Priority Lake and are the steps required to achieve goals at each specific lake. The objectives for each lake were informed by consultations with internal departments and the Toronto & Region Conservation Authority. They were also guided by the Brampton Eco Park principles and best practices from successful waterfronts and public spaces in Canada.

Short Term Recommendations and Long Term Considerations

Short Term Recommendations and Long Term Considerations are provided to guide and inspire future lake decisions, projects, and actions by providing site-specific opportunities to investigate that would assist in achieving the lake objectives and goals. This includes General Short Term Recommendations and Long Term Considerations that apply to all lakes, as well as Short Term Recommendations and Long Term Considerations for the individual Priority Lakes.

Short Term Recommendations are displayed in tables and reflect potential opportunities to investigate and in which possibly could be initiated in the next three years. Long Term

Considerations are future opportunities to explore that could be implemented in the next three to ten years subject to available budget and operational capacity.

The development of recommendations and considerations included consultations with, and review by, internal departments and divisions, including Recreation, Forestry and Parks, facility supervisors and the Toronto & Region Conservation Authority.

1.2 Vision

Transform Priority Lakes into signature features of Brampton's Eco Park

1.3 Lake Enhancement Goals

Natural Heritage

- Improve lake habitat and water quality.

Parks

- Connect people with lakes.

Recreation

- Expand sustainable water-related programming.

Communication and Engagement

- Engage community and park users and build awareness of Brampton lakes.




1.4 Lake Prioritization

Immediate actions towards achieving lake objectives can be taken for all Priority Lakes; however, certain lakes provide more immediate and attainable objectives than others. To further help direct efforts, it is recommended the four Priority Lakes be prioritized as presented (1. Norton Place Park, 2. Donnelly Ponds, 3. Loafer's Lake, 4. Professor's Lake). Recommended ranking is based on:

- recent infrastructure and park upgrades already implemented at the lake;
- the ability and opportunity to utilize existing City initiatives and programs to achieve objectives;
- funding opportunities;
- expected cost of enhancements; and
- logistic requirements and time to achieve lake objectives.

1.5 General Recommendations and Considerations

1.0 	Short Term General Recommendations <p>The below provides recommendations for all Priority Lakes to help achieve the vision of enhancing Brampton lakes and establish them as signature city destinations.</p>
Natural Heritage	
NH 1.1	Establish a water quality monitoring program for lakes that includes determining the current state of lakes, identifying sources of water quality issues, analysis and recommendations to improve water quality, and long term monitoring and reporting of lake water.
NH 1.2	Conduct aquatic and lake habitat study, to establish a baseline and inform enhancements at each lake, including an inventory of present fish species and recommendations to improve lake habitat.
NH 1.3	Update the Official Plan to recognize Brampton Lakes in policy and mapping.
NH 1.4	Investigate “no mow” opportunities around lakes.
NH 1.5	Integrate Priority Lakes into the City’s Naturalization Program.
NH 1.6	Integrate Priority Lakes into the City’s park tree planting initiatives.
Parks	
P.1.1	Develop a Wayfinding and Signage Strategy for the Priority Lakes that includes: <ul style="list-style-type: none"> • site maps posted at each Priority Lake to improve user wayfinding, and • signage to direct park users to amenities and points of interest.
P.1.2	Integrate cultural heritage information into signage around Priority Lakes.
P.1.3	Install interpretive signage at all Priority Lakes to build awareness of the natural heritage features and functions of the park.
P.1.4	Promote Priority Lakes using standup signs on the side of the roads near the specified lake (specify address and available activities).
Recreation	
R.1.1	Prioritize the neighbourhood surrounding Priority Lakes in the Nurturing Neighbourhoods Program.
R.1.2	Review the parks by-laws to ensure they facilitate desirable recreational use of the lakes including the Park Lands By-law 161-83.

Communication and Engagement

CE.1.1	Develop a city-wide Promotion Strategy of Priority Lakes that includes a variety of communication tactics such as social media, news outlets, brochures at community centres, and bus posters.
CE.1.2	Create a “Brampton Lakes” page on the brampton.ca website.
CE.1.3	Advertise priority lakes and their opportunities at public facilities.
CE.1.4	Implement the Water Safety and Awareness Program and included: <ul style="list-style-type: none">• a communication and education strategy for the public;• targeted approach for communities around Priority Lakes; and• an education program targeting schools and youth.
CE.1.5	Develop a Lake Stewardship Strategy for Priority Lakes that includes; <ul style="list-style-type: none">• encouraging the creation of “Adopt-a-park” groups for each Priority Lake;• providing and promoting Citizen Science opportunities;• expanding the City’s Stewardship Education Program to include stewardship programming at the Priority Lakes for schools and youth;• collaborating with stewardship initiatives from Conservation Authorities, local organizations and community groups such as the TRCA’s Youth Council;• developing a planning and design process for Lake Enhancement Projects that engages residents and park users from the design phase of the lake, to implementation (e.g. plantings) and monitoring; and• integration with parks operations and management.

General Long Term Considerations

The following provides long term considerations to explore for all priority lakes:

- Developing a Parks Operations and Management Plan for each Priority Lake to improve and support ecosystem services, safety, and recreational programming on site.
- Building an Active Recreation and Transit Plan with Transit and Active Recreation to improve accessibility to Brampton Priority Lakes and reduce the reliance on cars for access.
- Update park entrance signs to improve visibility and include standard icons indicating amenities available at each park (lake, trails, playground, picnic, washrooms, snowshoeing, bird watching, swimming, fishing, etc.).
- Developing a Public Art strategy for Priority Lakes that implements public art project(s) in collaboration with the local community.
- Developing a Year-Round Outdoor Programming Plan for Priority Lakes.



NORTON PARK LAKE

THE HIDDEN GEM

2.0 Norton Lake – The Hidden Gem

Situated within Brampton's most densely populated area, Norton Lake is the "hidden gem". Norton Lake resides in Norton Place Park, surrounded by a combination of high-rise residential towers, industrial and commercial buildings on the south, east and west sides, with Queen Street to the north. Once a quarry, Norton Lake is now a public green space that contains an Esker lake that offers many surrounding recreational opportunities including a playground, recreational trail that meanders through the woodland, a picnic area, boardwalk, pier, community garden, and labyrinth.

Norton Lake was once a widely used park for walking and picnicking that also offered water-based recreation activities, including paddleboats and swimming. Today, the general public perceives Norton Place Park as an unsafe park in part, arising from a number of publicized police incidents in the area and large amount of litter present. Though security has been increased in the area, this unsafe perception is believed to have contributed to the underutilization of the park and surrounding natural features.

The Norton Place Park recreation centre was constructed in 2015, however, it was repurposed as a Parks operation depot due to lack of participation in recreational programming in 2015 and 2016. In 2017, Norton Place Park completed a \$2 million dollar revitalization project to improve the park amenities. The project included the construction of the boardwalks, pier, shade structure, picnic areas, community garden, information signage, and labyrinth. The project also upgraded existing trails, retrofitted the playground and undertook lake shoreline restoration activities.

Today, Norton Place Park offers many passive recreation opportunities, including the Esker Lake Recreational Trail, playground, picnicking, and community gardening. However, with the closure of the recreation centre there are no washroom amenities, or recreational programming in the park. This situation affects the use of the park.

Norton Place Park is host to a diverse range of natural habitats, including the spring-fed lake, creek, woodlands and wetlands. In the 2006 Lake Report, Norton Lake was deemed to have one of the best water quality scores, on par with Professor's Lake; however, containing only fair fisheries (Appendix A).

Spring Creek, a tributary of the Etobicoke Creek flows through the park's woodland and wetlands with Norton Lake being the middle link serving as an important connectivity function for wildlife.

Despite the City's recent investments in park amenities improvements, Norton Place Park is still underutilized. Norton Place Park suffers from littering issues and a reputation of being unsafe. Addressing safety and littering concerns, providing more programming on site and increasing public awareness of amenities can turn Norton Place Park into a central natural and recreational destination for residents across the city.


2.1 Objectives

The objectives for Norton Place Park focus on bringing awareness to this ‘hidden gem’ within the city and expanding recreational opportunities to promote use.


The following lake objectives guide the recommendations for Norton Place Park:


- Improve the water quality of the lake.
- Enhance natural heritage systems and features within park.
- Establish recreational and community programming at the lake.
- Increase city-wide awareness of the park.
- Improve the local stewardship of the park.
- Improve the park’s safety and image.

2.2 Recommendations and Considerations

<p>NH.2</p> 	<p>Short Term Natural Heritage Recommendations</p> <p>Norton Place Park has abundant natural features that can attract local residents and contribute to the health of Brampton’s’ natural heritage system.</p> <p>The following recommendations aim to enhance the natural aspects of this park through further restoration projects and management techniques.</p>
<p>Water Management</p>	
<p>NH2.1</p>	<p>Develop and commence implementation of a Norton Lake Shoreline Management Plan that:</p> <ul style="list-style-type: none"> • investigates opportunities to expand on shoreline habitat; • improves quality of water runoff that enters the lake; • reduce the presence and controls the spread of invasive species; and • enhances aquatic and terrestrial habitats.
<p>Woodlands</p>	
<p>NH.2.2</p>	<p>Develop and commence implementation of a Norton Place Park Woodland Management Plan to address:</p> <ul style="list-style-type: none"> • invasive species, • planting opportunities, and • establishing a formalized trail network and mitigation measures to prevent access to sensitive areas of the woodland.

P.2	Short Term Park Recommendations
	Norton Place Park is the perfect destination for residents to enjoy a variety of outdoor recreational opportunities. The following recommendations improve the parks use of natural features and open spaces to facilitate successful passive and active recreation activities.
Park Infrastructure	
P.2.1	Focus future tree planting efforts around picnic areas.
P.2.2	Investigate converting the underused labyrinth on the east side of the park into an outdoor classroom.
P.2.3	Increase the availability and collection of waste receptacles (garbage and recycling) within the park.
P.2.4	Enhance the Clark Drive entrance with community plantings of native species.
Safety	
P.2.5	Develop and commence the implementation of a Crime Prevention Through Environmental Design (CPTED) plan that balances public safety with natural heritage conservation.

R.2	Short Term Recreation Recommendations
	The park recently received significant upgrades; however, park use is still low. The following recommendations promote the use and safety of the Park, and investigate the possibility of offering water-based activities and fishing to the public.
Programming	
R.2.1	Investigate opportunities to improve programming at Norton Place Park.

CE.2 	Short Term Communication and Engagement Recommendations
Engagement	
CE.2.1	Develop an Engagement Strategy with surrounding neighbourhoods to gain a deeper understanding of their safety concerns and recreational interests.
CE.2.2	Develop a strategy that addresses littering in and around the lake that includes: <ul style="list-style-type: none"> • Working with an Adopt-a-Park group to host community clean ups and educational workshops to manage the litter and vandalism issues. • Engaging adjacent commercial and industrial landowners to address the litter entering Norton Place Park from their properties.
CE.2.3	Engage with nearby Royal Canadian Legion Branch 609 to undertake and promote park stewardship activities.
CE.2.4	Investigate opportunities to have local schools conduct restoration and monitoring projects within the park (e.g. Balmoral Drive Senior Public School, Sainte Jeanne-D'arc Elementary Catholic School, Clark Boulevard Public School, HF Loughin Public School, etc.)
CE.2.5	Engage local residents in the development of a Crime Prevention Through Environmental Design (CPTED) plan.

Norton Place Park Long Term Considerations

The following provides long term considerations to explore for Norton Place Park:

- Developing an improvement plan for Norton Place Park that includes engagement and input from local residents and the public. The plan should investigate:
 - optimize the placement and usage of the picnic spaces,
 - designating a portion of the picnic area as rental space for small events and gatherings,
 - the potential for outdoor cooking facilities
 - formalizes walking trails around the lake
 - connecting to woodland trails and surrounding neighbourhoods;
 - re-establishing deteriorated boardwalk paths.
- Investigating how to provide recreational programming for residents at Norton Place Park to improve use and safety of the park.

2.3 Conceptualization

The following maps and figures are conceptual aids to demonstrate some of the potential short term recommendations and long term considerations of Norton Place Park. Conceptual maps and images are for illustrative and inspiration purposes only and do not reflect final designs or actions to be implemented.

Conceptual Map



Conceptual Images



1a. Increase signage at entrances



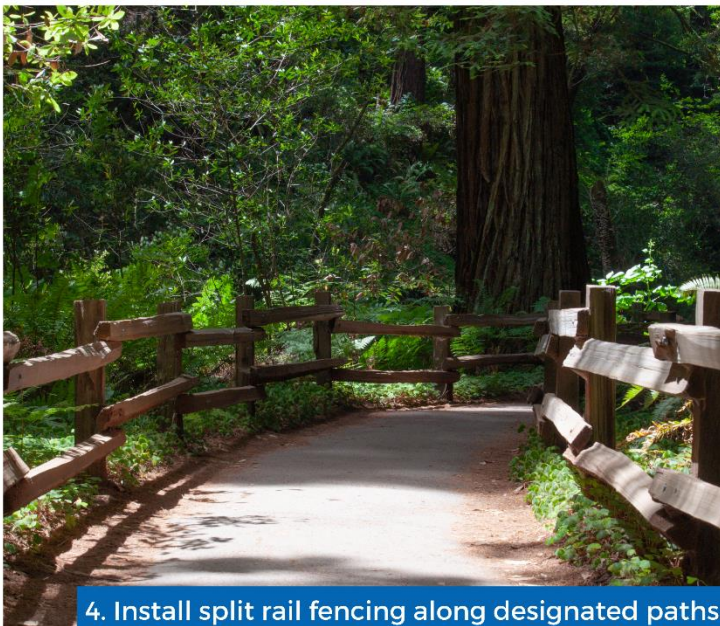
1b. Add wayfinding signage



2. Develop a Park Safety Plan



3. Investigate water related opportunities



4. Install split rail fencing along designated paths



5. Add natural heritage interpretive signage

Conceptual Images



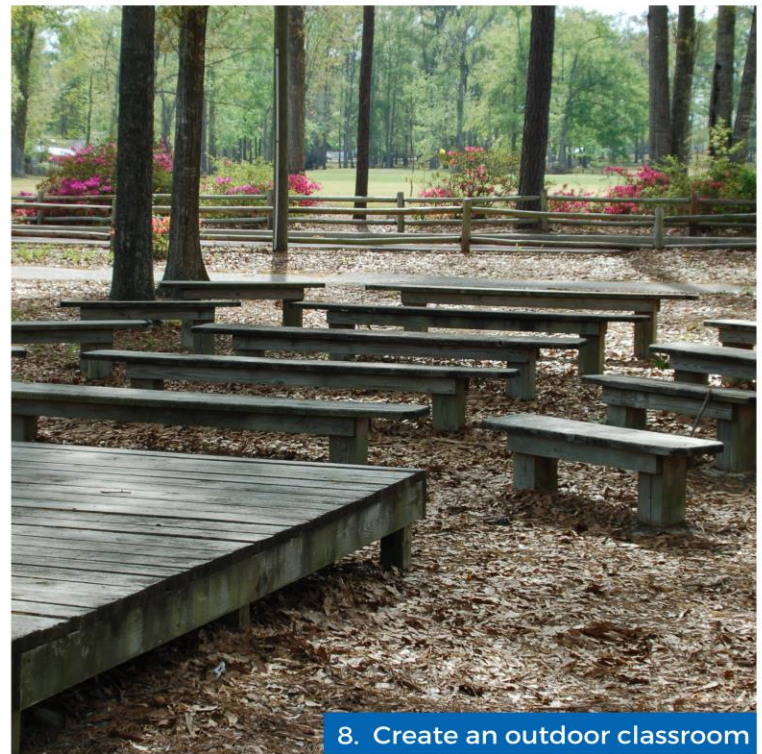
6. Add picnic tables



7a. Develop evening programming



7b. Improve daytime programming



8. Create an outdoor classroom



DONNELLY PONDS

A NATURAL OASIS

3.0 Donnelly Ponds - A Natural Oasis

The Donnelly Ponds lie within Brampton's largest contiguous interconnected natural heritage area. This "natural oasis" has had multiple names over the years, including Esker Lake North and South and the Donnelly Ponds. While there has been no singular name announced for these ponds, this report will refer to these ponds as Donnelly Ponds. Situated on the Brampton Esker, the Donnelly Ponds offer passive recreation opportunities through the Esker Lake Trail that connects to the Heart Lake Conservation area.

Surrounding the Donnelly Ponds low-density residential development are White Spruce Valley Park, Donnelly Park East, Heart Lake Conservation area and Esker Lake Public School. Entry from Sandalwood Parkway offers access to parking, an open field with a baseball diamond, and Esker Lake Trail, which can also be accessed through a walkway from the residential neighbourhood. The only formal access to the ponds shores is an asphalt walkway that bisects the north and south ponds. The low-lying walkway often floods and is often covered in Canada Geese droppings. The rest of the shores are highly vegetated with trees and shrubs.

The Donnelly Ponds are within one of the most biodiverse areas in Brampton, offering a watercourse corridor, a thriving woodland, and wetland that is a part of the Heart Lake Provincially Significant Wetland Complex. Currently, there is no ongoing water quality monitoring of the ponds. Brampton's 2006 City-wide Lake Management and Monitoring Report indicated a poor water quality score (Appendix A). This is primarily attributed to high concentrations of sodium and chloride from road salting of Sandalwood Parkway.

The Donnelly Ponds are primarily experienced through passive recreational use by local residents and users of the Esker Lake Trail. The park and ponds do not have any formal recreation programs, however, there is a baseball diamond that is occasionally used for baseball practices.

Currently, the Donnelly Ponds are not being utilized to their fullest potential as a city-wide destination. The Donnelly Ponds could offer diverse outdoor experiences due to its rich mix of natural features, including, picnicking, bird and wildlife watching, outdoor education, fishing, biking, and trail-walking. However, there are currently minimal visual or physical linkages to the park's main feature (the two ponds), few seating options, picnic areas or gathering spaces, and a lack of restrooms. By addressing these issues, the Donnelly Ponds can transform into an Eco Space that will be a nature and picnic destination in Brampton.


3.1 Objectives

The objectives for Donnelly Ponds focus on providing a comfortable nature experience for visitors and a place for residents to build a connection to nature and each other within the City.

The following lake objectives guide the recommendations for Donnelly Ponds:

- Enhance and restore natural heritage features and water quality of the ponds.
- Provide visual and physical connections to the ponds.
- Provide nature watching opportunities and promote nature based recreation.
- Establish a city-wide picnic destination.
- Strengthen environmental and recreational connectivity to the surrounding parks and Heart Lake Conservation Area.
- Increase public awareness and stewardship of the park.


3.2 Recommendations and Considerations

<p>NH.3</p> 	<p>Short Term Natural Heritage Recommendations</p> <p>The Donnelly Ponds has natural features that significantly contribute to the city’s natural heritage system including one of the City’s largest woodland features. The Ponds have the potential to attract local residents and visitors through nature based education and recreational opportunities.</p> <p>To enhance and protect the natural heritage of the Donnelly Ponds, this report recommends:</p>
<p>Water Management</p>	
<p>NH.3.1</p>	<p>Explore opportunities to enhance the vegetated buffer and surface drainage along Sandalwood Parkway to reduce the impact of salt on Donnelly Ponds.</p>
<p>NH.3.2</p>	<p>Partner with TRCA to initiate a water quality monitoring program.</p>
<p>NH.3.3</p>	<p>Develop and commence implementation of a Shoreline Enhancement Plan that:</p> <ul style="list-style-type: none"> • establishes vistas of the ponds; • controls the spread of invasive species; and • enhances fish and wildlife habitats.
<p>Habitat Enhancement and Wildlife</p>	
<p>NH.3.4</p>	<p>Develop and commence the implementation of a Restoration Plan for habitats surrounding the ponds.</p>
<p>NH. 3.5</p>	<p>Partner with TRCA to determine wildlife road mortality along Sandalwood PWY.</p>

P.3.	Short Term Park Recommendations
	<p>The placement of the Donnelly Ponds provides a perfect picnic oasis for residents and visitors as well as an opportunity to create a safe and comfortable space for residents to engage with each other, the outdoors and nature. The following recommendations aims to achieve this.</p>

Park Infrastructure

P.3.1	Develop a holistic Master Plan for Donnelly Park East, White Spruce Valley and White Spruce Park that is guided by the Eco Park Strategy.
P.3.2	Initiate a plan to optimize the placement and usage of picnic sites for reservations. It will investigate integrating permanent tables, umbrellas and shade structures to rent for small gatherings and families.
P.3.3	Where viewing areas are identified through the Shoreline Management Plan add trees, benches and logs for seating.
P.3.4	Increase the availability of waste receptacles within the park areas.
P.3.5	Investigate ways to improve safety of tunnel under Sandalwood Pkwy.

R.3	Short Term Recreation Recommendations
	<p>Donnelly Ponds offers many nature based opportunities. To promote the coexistence of people with the environment, this report recommends:</p>

Programming

R.3.1	Initiate process towards the removal of the baseball diamond.
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CE.3	Communication and Engagement Recommendations
	There are multiple communication and engagements opportunities. To increase the awareness of the Donnelly Ponds and foster local community stewardship for natural spaces as outlined in the objectives, this report recommends:
Education	
CE.3.1	Collaborate with Esker Lake Public School to conduct educational programming on natural heritage restoration in the Donnelly Ponds area.
Visibility	
CE.3.2	Market Donnelly Ponds as a picnic and natural heritage destination.
CE.3.3	Communicate the opportunities for nature photography at the lake.
Engagement	
CE.3.4	Conduct a workshop with local residents to understand the priorities and interests of the surrounding community.
CE.3.5	Promote the Adopt-a-Park program to local schools, residents, community and nature groups, organizations and business.
CE.3.6	Develop a citizen science program to build an inventory of the local flora and fauna that includes local schools, residents and nature organizations.
Cultural Heritage	
CE.3.7	Investigate integrating the underpass that crosses Sandalwood Parkway into the public art strategy and incorporate lighting with the design.

Donnelly Ponds Long Term Considerations

The following provides long term considerations to explore for Donnelly Ponds:

- Developing an improvement plan for Donnelly Ponds that includes engagement and input from local residents and the public. The plan should investigate:
 - Replace the asphalt recreational trail bisecting the two lakes with a boardwalk.
 - Family and small event picnic areas
 - Installing additional piers on one or both ponds that includes information signage about the park's natural heritage.
 - Construction of a nature-viewing tower to allow views and opportunities for nature appreciation.
 - Installation of washrooms.
- Providing a public reservation system for picnic spaces.
- Offering nature-based summer camp programs in Donnelly Park that include aquatic and water restoration and monitoring.

3.3 Conceptualization

The following maps and figures are conceptual aids to demonstrate some of the potential s short term recommendations and long term considerations of Donnelly Ponds. Conceptual maps and images are for illustrative and inspiration purposes only and do not reflect final designs or actions to be implemented.

Conceptual Map



Conceptual Images



1a. Improve underpass safety through lighting and art



Source: Visit Port Elgin

1b. Improve visibility of park road signage



2. Add trail map signage



3. Add washrooms

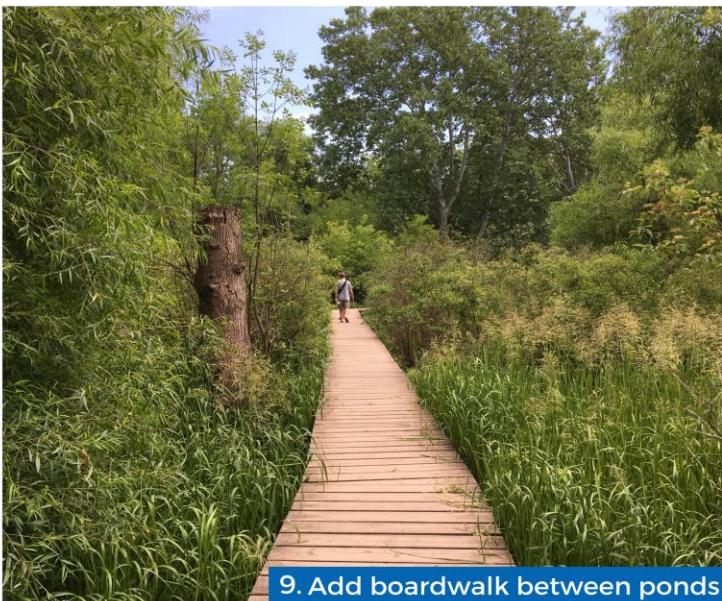


4a. Add more seating



4b. Plant natives species in place of baseball diamond

Conceptual Images





LOAFER'S LAKE

AN URBAN RETREAT

4.0 Loafer's Lake – An Urban Retreat

Loafer's Lake was constructed by a local developer in the 1970's for the purpose of providing local beautification and recreational opportunities for the local residents and Brampton community. Loafer's Lake is connected to the Etobicoke Creek Trail and the Loafer's Lake Recreation Centre, and the Etobicoke Creek flows adjacent to the lake.

For many years, Loafer's Lake Recreation Centre offered rental paddle boats to tour the lake. However, today Loafer's Lake is experienced only through walking and cycling along the Etobicoke Creek trail.

The general public views of Loafer's Lake are favourable. The community values the Lake's proximity and trail connection to community amenities, such as Loafer's Lake and Jim Archdekin Recreation Centres, the Cyril Clark Library and the new "naturalized" Camden Park East Dog Park. Community members also appreciate the lake's peaceful and natural surroundings, and its various passive recreational opportunities on site including picnic space, scenic views of the lake, looping trails, and the Rotary Centennial Gardens.

The Loafer's Lake Recreation Centre offers organized recreational activities inside the facility, including an indoor pool, fitness centre, two squash courts, and a sauna/hot tub. Active recreation is also available immediately adjacent parkland that includes a playground, new outdoor workout equipment, a baseball diamond, and two soccer fields. This area is visually separated from the lake area by the Etobicoke Creek, however, connected by a trail to the lake area and Recreation Centre. In 2020, the Loafer's Lake Recreation Centre is underwent renovations to replace the electrical and HVAC systems, add new change rooms and a sensory room, complete accessibility upgrades, and upgrade the pool, lobby and parking lots.

Loafer's Lake provides an incredible scenic setting; however, for a number of years the lake has been battling excessive algae growth in the summer, leading to discoloration of the lake water. The most recent water quality testing of the lake in 2006 indicated the lakes water quality as the third worst of all lakes in Brampton; however, it still maintained fair fisheries (Appendix A). The overload of nutrients going into the lake combined with the lack of water movement results in the excessive algae growth in the hot summer months. In 2019, the City installed six aerators in Loafer's Lake to combat the algae growth, however, the algae persist during July and August.

Loafer's Lake is adjacent to the Etobicoke Creek and is part of the Natural heritage system. The lake currently has a turtle population and regularly sees the presence of beavers.

The design of Loafer's Lake offers Brampton residents outdoor recreational opportunities along a prominent recreational trail. Currently, the relationship between the lake and the Loafer's Lake Recreation Centre could be strengthened to enhance the use of the lake area and improve the amenities and programs offered by the recreation centre. Many

natural features are underappreciated at Loafer's Lake Park, which is made worse by the algae growth in the lake, the lack of access to the water, and limited work on maintaining or enhancing the lakes shoreline. Addressing these matters will give Loafer's Lake the potential to become one of the most attractive and sought out recreational destinations in the city.


4.1 Objectives


The objectives for Loafer's Lake focus on merging natural and urban elements to provide Brampton residents a recreational urban oasis to relax at and enjoy.


The following lake objectives guide the recommendations for Loafer's Lake:


- Improve the water quality of the lake to support water-based recreational activities, fish habitat and improve aesthetics.
- Improve terrestrial and shoreline habitats and diversity.
- Establish water-related recreational opportunities.
- Strengthen the physical, visual and programming connections between Loafer's Lake recreation centre and the lake.
- Improve outdoor passive and active recreational programs for all season activities around the lake.
- Increase community participation and stewardship.
- Increase city-wide awareness of the park.

4.2 Recommendations and Considerations

<p>NH.4</p> 	<p>Short Term Natural Heritage Recommendations</p> <p>Loafer’s Lake was designed to be a natural feature within the urban and recreational settings of its surroundings. Over the years, water quality and algae growth in Loafer’s Lake has damaged the public’s perspective of this lake, leading to less enjoyment and usage from the community</p> <p>Enhancing and maintaining the natural features within and around the lake is important to sustain Loafer’s Lakes unique experience as well as all the benefits and services it provides to park visitors and wider community. The following recommendations address these challenges.</p>
<p>Water Management</p>	
<p>NH.4.1</p>	<p>Develop and commence implementation of a Water Quality Improvement Plan to address and monitor the persistent algae problem in Loafer’s Lake.</p>
<p>NH.4.2</p>	<p>Develop and commence implementation of Shoreline Management Plan that</p> <ul style="list-style-type: none"> • establishes formal vistas of the lake; • reduces nutrient and sediment inputs into the lake; • reduces and controls the spread of invasive species including Praghmites; • enhances fish and animal habitats; and • investigate opportunities to improve the protection of native species (e.g. turtles and their nests).
<p>NH.4.3</p>	<p>Develop and commence implementation of a Lake Restoration Plan that aims to improve fish and wildlife habitats.</p>

P. 4 	Short Term Park Recommendations Loafer’s Lake offers many ways to be active outdoors. The following recommendations provide opportunities that improve the lake experience.
Park Infrastructure	
P.4.1	Plant pollinator gardens around the lake to support pollinator species and attract pollinators to proposed community gardens.
P.4.2	Increasing the number of seating areas along the lakeshore.
P.4.3	Install a splash pad at Loafer’s Lake recreation centre.
P.4.4	Identify more picnic areas in the park.
P.4.5	Explore the opportunity to create an accessible water bottle filling station on the exterior of the recreation centre to promote reusable water bottles.
P.4.6	Investigate the feasibility of installing a community garden near the recreation centre to foster community education and promote local and sustainable agricultural practices.
Trails	
P.4.7	Promote active transportation by implementing bike racks at trail access points.

R.4. 	Short Term Recreation Recommendations Recreational programming at Loafer’s Lake offers many ways to be active outdoors. The following recommendations offer opportunities that strengthen the connection between the recreation centre to the lake, improve the inclusiveness of the activities on site and to engage residents during all four seasons.
Programming	
R.4.1	Explore establishing spaces for an outdoor fitness program, including yoga and exercise classes (“Fitness in the Park” has been piloted at other recreation centres around Brampton).
R.4.2	Establish ecological, environmental and/or nature-based programming at the Lake through the Loafer’s Lake Recreation Centre or Cyril Clark Library.

CE.4 	Short Term Communication and Engagement Recommendations To promote the use and appreciation of Loafer’s Lake, the following communication strategies are recommended to engage with the community.
Communication	
CE.4.1	Develop a comprehensive signage/wayfinding plan for the park and connected trails.
CE.4.2	Advertise Loafer’s Lake recreational opportunities at Loafer’s Lake Recreation Centre and Cyril Clark Library.
Engagement	
CE.4.3	Work with the Loafer’s Lakes ‘Adopt-a-Park group’ to help facilitate community engagement for the design, plan, and stewardship opportunities during enhancements.
CE. 4.4	Work with local community groups, including Loafer’s Lakes Adopt-a-Park group and Turtle Awareness Team to build greater long term local stewardship of the park.

Loafer’s Lake Long Term Considerations

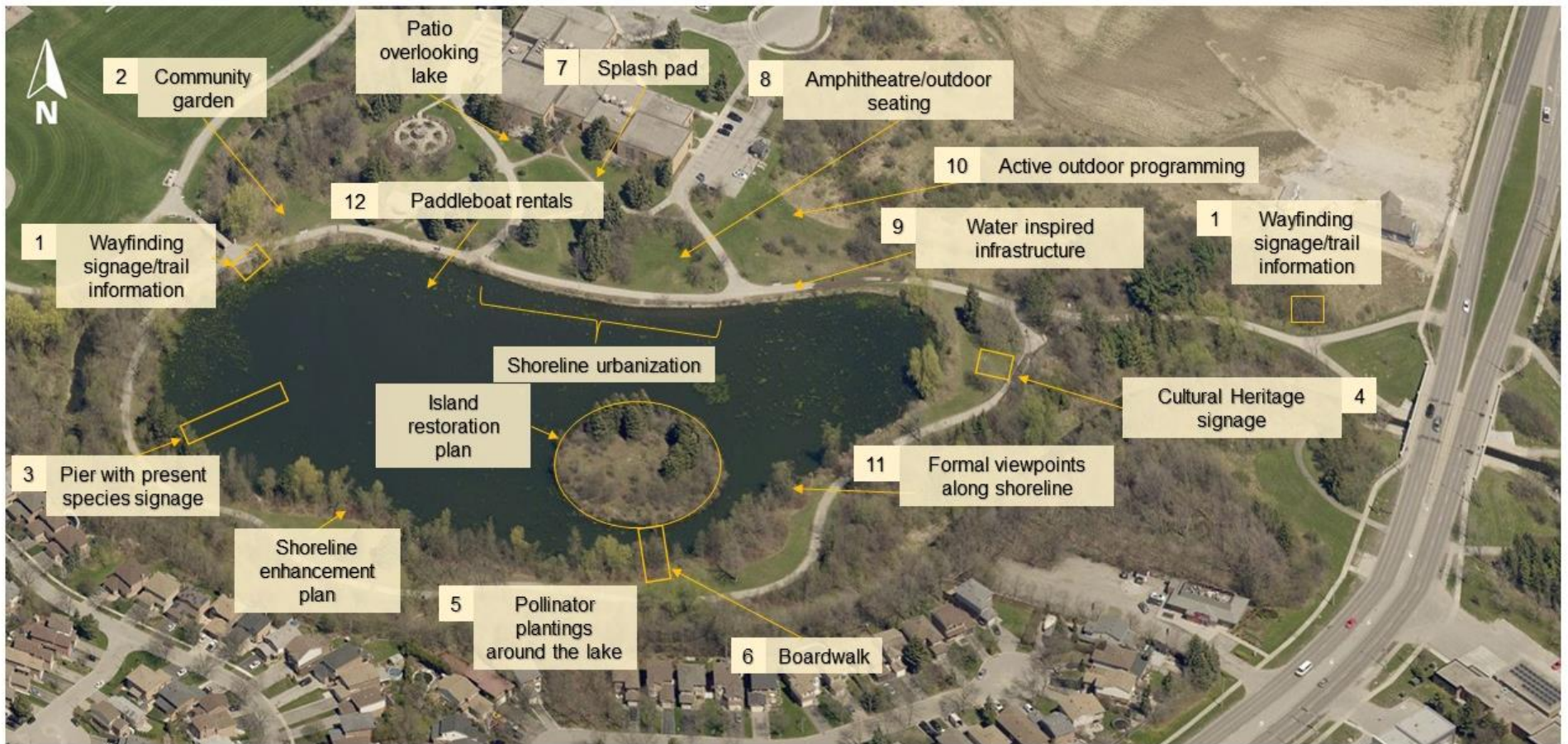
The following provides long term considerations to explore for Loafer’s Lake:

- Developing an improvement plan for Loafer’s Lake that includes engagement and input from local residents and the public. The plan should investigate:
 - Feasibility of establishing a physical connection to the Loafer’s Lake island through the construction of a boardwalk
 - Explore the possibility of constructing a pier into the lake at the southwest corner to create a lookout spot.
 - Investigate the opportunity to install an amphitheater/outdoor classroom on the north side of the lake.
 - Investigate the feasibility of creating an urban boardwalk along the north shoreline.
- Offering water-related recreational opportunities at the site including:
 - Investigate the possibility of reinstating the paddleboat rentals through the recreation centre.
 - Investigate the possibility of providing an introductory fishing program such as Tackle Share program, through the Brampton Library’s Library of Things.
 - Establish a “Music by the Lake” program to promote local musicians.

4.3 Conceptualization

The following maps and figures are conceptual aids to demonstrate some of the potential short term recommendations and long term considerations of Loafer's Lake. Conceptual maps and images are for illustrative and inspiration purposes only and do not reflect final designs or actions to be implemented.

Conceptual Map



Conceptual Images



1. Add wayfinding signage



2. Add community gardens



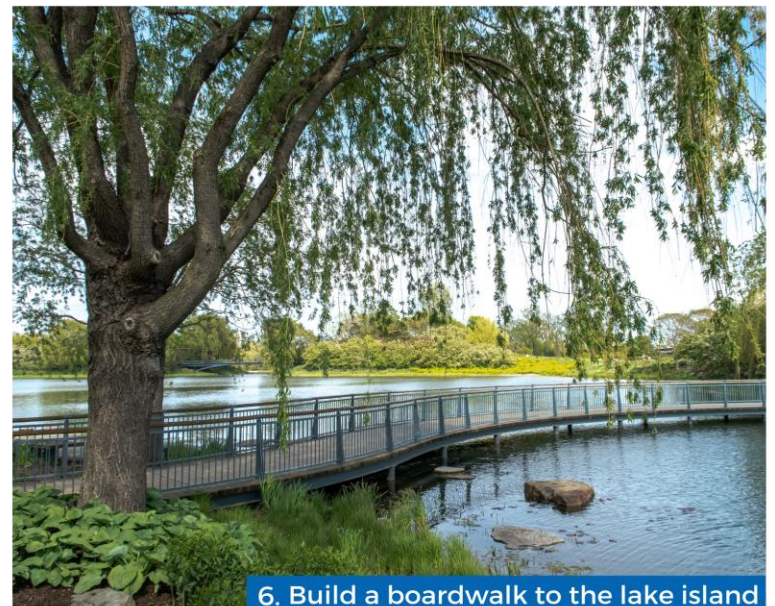
3. Add pier structure



4. Add cultural heritage signage

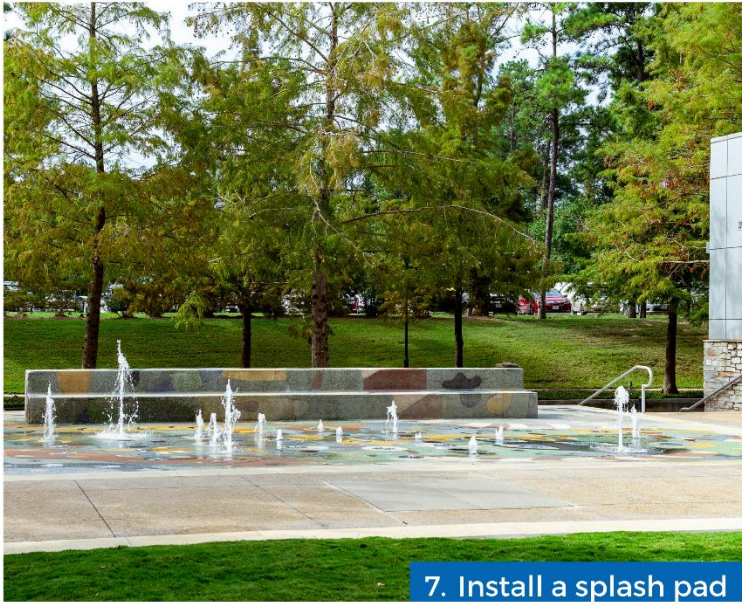


5. Add pollinator plantings



6. Build a boardwalk to the lake island

Conceptual Images



7. Install a splash pad



8. Add amphitheatre/outdoor classroom

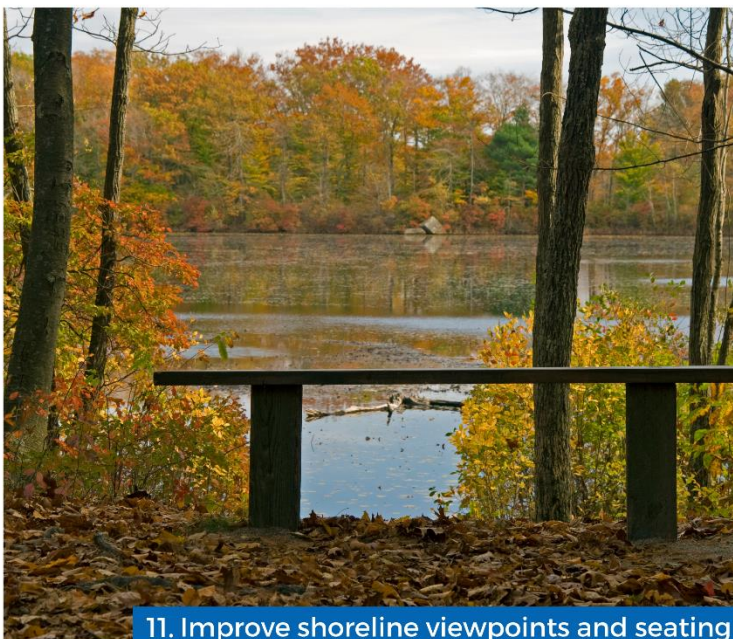


Source: WaterFront Toronto

9. Water inspired infrastructure



10. Develop outdoor programming



11. Improve shoreline viewpoints and seating



12. Reinstate paddleboat rentals



PROFESSOR'S LAKE

DAY AT THE LAKE

5.0 Professor's Lake - Day at the Lake

Professor's Lake is the largest and one of the most well-known lakes in Brampton, due to its many active and passive recreational opportunities. It is well positioned to become a signature recreation destination in the City.

Formerly a quarry, Professor's Lake is now a public green space that contains the only lake where swimming is permitted in Brampton. The lake offers many recreational opportunities and services for visitors including an outdoor swimming area with a water slide, a beach, a beach volleyball court, boat rentals, two playgrounds, a recreation centre offering a variety of community programs and classes, trails, a woodland, fishing and parking for visitors.

The community surrounding Professor's Lake contains a mix of uses that include Brampton Civic Hospital, low and medium density housing, places of worship, retail and several schools. Professor's Lake is wrapped by a multi-use recreational trail with multiple residential access points.

Two major green spaces are also associated with the lake. The first green space is located near the main parking lot accessible from North Park Drive, directly adjacent to the beach and recreational facilities. This space includes a woodland, wetlands, and manicured lawn adjacent to the beach. The second green space, along Professor's Lake Parkway, offers a scenic viewpoint on a hill overlooking the lake. The remainder of the lake is surrounded by homes that either back directly onto the lake or are slightly set back from the lake to offer space for the public recreational trail.

There are a few challenges that limit Professor's Lake's potential. These include water quality issues, prohibitive by-laws and local concerns.

Increasingly, Professor's Lake is experiencing summertime water quality issues due to high levels of the bacteria *Escherichia coli* (E.coli). This has forced the City to close the beach area and restrict swimming. In 2020, the beach was closed and swimming prohibited a total of 20 times between July and August.

City's by-laws, such as Park Lands By-law 161-83, restrict community use of the Professor's Lake's for water based-recreational purposes. Review of water-based activities and associated regulations may be warranted to ensure desirable recreational use of the lake is facilitated.

Additionally infrastructure and amenity capacity at Professors Lake is currently limited. The communities surrounding Professor's Lake has experienced significant growth since Professor's Lake beach and amenities opened in the early 1980's. This, including its growing popularity, has seen visitation significantly increase over the years and beach amenities regularly reaching maximum capacity during the summer period. Since its construction, minimal infrastructure or amenity improvements have been

implemented at Professor's Lake, with most upgrades focused on maintaining the trail around the lake.

Finally, local residents have expressed concern over proposed projects within Professor's Lake Park in the past. A number of initiatives to improve the lakes recreational amenities and programs have faced local opposition from landowners situated around the lake. There is an opportunity to work with local neighbourhood groups to facilitate meaningful engagement with area residents in order to gather input and alleviate concerns about future lake enhancements and stewardship of the lake.

To become a city-wide destination, the City and community must take collective action to protect Professor's Lake water quality, raise awareness about the lake, reviewing water-related activities around the lake, update facilities, and facilitate meaningful community engagement.


5.1 Objectives


The objectives of Professor's Lake focus on providing a signature recreation destination in the City where residents and visitors can enjoy a day out by the water.


The following objectives guide the recommendations for Professor's Lake:


- Improve water quality to ensure long term sustainability of water related activities on the lake.
- Expand water-related recreational opportunities.
- Establish a city-wide destination with a diverse range of recreational opportunities.
- Enhance the lake's natural heritage features and functions.
- Build on and improve existing park infrastructure to improve active and passive recreation opportunities, improve accessibility and equity, and increase all season use.
- Create a comprehensive engagement and communication plan for the design and development of the lake enhancements, and
- Develop a collaborative approach to the long term stewardship of the lake for local residents, park visitors and city.

5.2 Recommendations and Considerations

<p>NH.5</p> 	<p>Short Term Natural Heritage Recommendations</p> <p>Professor's Lake Park includes a lake, two woodlots and a wetland and as such offers many natural heritage enhancement opportunities. It is also a favored fishing spot for visitors. Increasing E.coli outbreaks during the summertime in Professor's Lake restricts the community from taking full advantage of the lake's potential. The following recommendations aim to help mitigate this issue.</p>
<p>Water Quality</p>	
<p>NH.5.1</p>	<p>Develop and commence implementation of a Professor's Lake Water Quality Management Plan in collaboration with the TRCA and Region of Peel to manage E.coli levels.</p>
<p>NH.5.2</p>	<p>Develop and commence implementation of a Professor's Lake Shoreline Management Plan that:</p> <ul style="list-style-type: none"> • investigates opportunities to expand on shoreline restoration proposed by TRCA Shoreline Restoration projects; • establishes formal access points and vistas to the lake; • deters Canada Geese to help reduce E.coli inputs; • helps filter runoff inputs and reduces erosion; and • enhances fish and wildlife habitats.
<p>NH.5.3</p>	<p>Increase the enforcement of "poop and scoop" requirements (Parklands By-Law 161-83) and install additional waste receptacles to facilitate proper disposal of the dog waste.</p>
<p>Lake Habitat</p>	
<p>NH.5.4</p>	<p>Continue stocking lake with native fish species in consultation with TRCA and the Ministry of Natural Resources and Forestry.</p>
<p>Woodlands</p>	
<p>NH.5.5</p>	<p>Develop and commence implementation of a Professor's Lake Park Woodland Management Plan for the woodlands that includes invasive species management and a trail plan.</p>
<p>Wetlands</p>	
<p>NH.5.6</p>	<p>Conduct a study to investigate opportunities to mitigate parking lot flooding issues.</p>

P.5	Short Term Park Recommendations
	Professor's Lake offers many recreational opportunities, including a beach, two park areas and trail system around the lake. The following recommendations aim to enhance these opportunities and improve the inclusiveness of the amenities on site.
Park Infrastructure	
P.5.1	Install log seating in the woodlot adjacent to the recreation centre.
P.5.2	Plant and maintain native perennial flower gardens in high use areas (e.g. surrounding the recreation centre, Professor's Lake Park North, residential entry points).
Water-related infrastructure	
P.5.3	Integrate recreational piers into Phase 2 of the TRCA's Shoreline Restoration Plan.
Trails	
P.5.4	Investigate opportunities to install water bottle filling stations along trails and high use park locations.
P.5.5	Review upgrading bike infrastructure including placing racks and air pumps near the lake entrances and access points.
Signage and Wayfinding	
P.5.6	Increase size and visibility of Park entrance signage along North Park Drive.

R.5	Short Term Recreation Recommendations
	Recreational Programming at Professor's Lake provide many active recreational opportunities. The following recommendations focus on improving user experience and further engaging residents during all four seasons.
Programming	
R.5.1	Investigate opportunities to incorporate natural heritage programming and engagement such as through "treasure hunts", geocaching, interpretative signage, and citizen science programs.

CE.5 	Short Term Communication and Engagement Recommendations
Professor's Lake offers a variety of opportunities to engage the surrounding community and residents. The following recommendations aim to increase awareness of Professor's Lake and foster local community engagement.	
Educational	
CE.5.1	Develop a focused communication strategy to educate local homeowners on how they can help reduce E.coli in Professor's Lake.
Engagement	
CE.5.2	Draft a community vision for the lake to help guide future enhancements of the lake.
Cultural Heritage	
CE.5.3	Investigate opportunities to incorporate art along lake trail from local schools, organizations and artists.

Professor's Lake Long Term Considerations

The following provides long term considerations to explore for Professor's Lake:

- The development of an improvement plan for Professor's Lake that includes engagement and input from local residents and the public. The plan should investigate:
 - A park retrofit strategy for the Professor's Lake North Park that includes:
 - more seating, picnic and shade options,
 - outdoor cooking opportunities,
 - fishing/angler friendly signage, and
 - planting flowering and/or visually attractive native trees.
 - Expanding the beach area to accommodate the growing number of visitors;
 - Incorporating more shaded seating opportunities in the beach area.
 - Adding a splash pad near the beach to provide water-based recreation for when the beach is full or closed during the summer season.
 - Providing greater access to the beach.
 - Improving food opportunities, including allowing food trucks.
 - Providing Wi-Fi for the beach area through the recreation centre.

5.3 Conceptualization

The following maps and figures are conceptual aids to demonstrate some of the potential short term recommendations and long term considerations of Professor's Lake. Conceptual maps and images are for illustrative and inspiration purposes only and do not reflect final designs or actions to be implemented.

Conceptual Map 1



Conceptual Map 2



Conceptual Map 3



Conceptual Images



Conceptual Images



6. Add rock seating



7. Designate parking for food trucks



8. Install a splash pad



Source: Visit Port Elgin

9. Improve road sign



10. Add natural heritage interpretive signage



11. Log seating options

6.0 Next Steps

Implementing the Lake Enhancement Strategy requires collaboration between various departments and divisions to achieve its goals. Community Services Department will play a significant role, with Recreation and Parks Maintenance & Forestry Divisions taking the lead to deliver on the goals of the Lake Enhancement Strategy. Groups outside of Community Services that will play an important supporting role to achieve certain goals and objectives, include Environmental Planning, Strategic Communications, and Culture & Events. Externally, the City will work with Toronto Region Conservation Authority on water quality monitoring and ecological restoration actions.

Subsequent to Council approval, immediate next steps for all four Priority Lakes would include:

- Subsequent to Council approval, immediate next steps for all four Priority Lakes would include:
- Public Works and Engineering Department commencing a Lake Water Quality Monitoring Program for the Priority Lakes with Toronto Region Conservation Authority and Region of Peel.
- Community Services Department to review the Short Term Recommendations and prioritize these in ongoing programs such as the 1 Million Trees Program and Open Space Naturalization Program.
- Community Services Department to review the Long Term Considerations and determine additional staff resources needed to implement them. Those Long Term Considerations deemed feasible for implementation will be submitted through capital and operating budgets in subsequent budget submissions.
- Community Services Department developing a citywide Lake Awareness Campaign, in partnership Strategic Communications.

7.0 Conclusion

The recommendations outlined in this report aim to enhance and integrate the social and recreational services offered at Brampton lakes while maintaining the natural heritage features and valuable ecosystem services. All recommendations and actions are aligned with the Brampton Eco Park Strategy, the Brampton Grow Green EMP, Parks and Recreation Master Plan and the natural heritage initiatives of the City of Brampton.

An integrated approach to improve Brampton's lakes involving the City, community stakeholders and the private sector is ideal to maximize the opportunities the lakes offer. Applying these enhancement techniques and measures throughout the city will create attractive Eco Spaces and continue to bring awareness to the beautiful lakes present throughout Brampton. It is time for the hidden potential of Brampton lakes to be acknowledged, harnessed and shared with the local community and beyond.

Appendix A – 2006 Brampton Lake Evaluations

Table 4. Lake Evaluation Results

Lake Name	Water Quality	Fisheries	Vegetation and Wildlife	Total Score	Overall Assessment	Management Priority
Chinguacousy Park Ponds	1	1	1	3	Poor	High
Esker Lake North ^a	1	1	1	3		
Loafer's Lake	1	5	1	7		
Esker Lake South ^a	5	1	1	7		
Ackroyd Lake ^a	5	5	1	11	Fair	Moderate
Major Oaks Pond	5	5	5	15		
Donnelly Ponds	1	10	5	16		
Professor's Lake	10	5	1	16		
Teapot Lake ^b	5	n/a	10	15	Good	Low
Norton Place Park Pond	10	5	5	20		
Parr Lake North	10	5	5	20		
Parr Lake South	10	1	10	21		
Kenpark Pond	1	10	10	21		
Heart Lake	10	5	10	25		

Note: a: Esker Lake North, Esker Lake South and Ackroyd lake are currently undergoing development. Their scores are expected to change over time as the shorelines naturalize.

b: Teapot Total score is out of 20

n/a: a fisheries evaluation was not conducted for Teapot Lake

Source: Gartner Lee Limited (June, 2006) Interim Report- City-wide Lake Report Management and Monitoring Report

Appendix B – Supporting Strategic Documents

In addition to the Eco Park Strategy, several City policies, plans, and programs support the Lake Enhancement Strategy.

Brampton 2040 Vision: Living the Mosaic

Created in 2018, the City of Brampton’s 2040 Vision is a strategic plan that captures the community’s vision for how Brampton should evolve until 2040. It provides seven target vision statements, with the first vision statement, “Sustainability and the Environment”, focuses on establishing “sustainable urban places, sitting within an interconnected green park network, and its people as environmental stewards”. Brampton’s Lake Enhancement Strategy complements this vision by identifying recommendations to revitalize Brampton’s lakes by improving recreational opportunities and natural heritage functions.

Brampton Grown Green Environmental Master Plan (EMP)

Brampton’s Grow Green Environmental Master Plan (EMP) aims to conserve, enhance and balance the City’s natural and built environments to create a healthier, resilient, and environmentally sustainable city. The Lake Enhancement Strategy focuses on addressing three of the EMP core goals - People, Land and Water - through innovation, community engagement, and the enhancements of our natural and built environments.

Parks and Recreation Master Plan (PRMP)

The Parks and Recreation Master Plan (PRMP) looks at providing a sustainable system of parks, facilities, and programs throughout the city. In addition to providing recreational and social opportunities and spaces, one of the goals of PRMP is to protect and enhance Brampton’s natural heritage features through initiatives including the naturalization of park spaces. The PRMP is a primary guiding document for the implementation of the Lake Enhancement recommendations within city parks, outlining social and recreational city standards and goals.

Natural Heritage Environmental Management Strategy (NHEMS)

The NHEMS is a proactive approach to ensure that the abundance of natural heritage and built green spaces found in the city are conserved, restored, and connected to support the health and diversity of the natural and built environments. It addresses the implementation and enhancement of the City’s open spaces and urban forest that contribute to sustaining the natural heritage system and ecosystem services. NHEMS serves as a guiding document for the recommendations of the Lake Enhancement Report as it will provide best practices and city standards for altering and enhancing ecological systems.

Natural Heritage Restoration Program (NHRP)

The Natural Heritage Restoration Program's (NHRP) primary focus is on restoring and naturalizing areas within the natural heritage system, parks, and infrastructure to enhance Brampton's Natural Heritage System. It will provide best practices and guidance for recommending realistic and effective restoration efforts for the four Priority Lakes.

BRAMPTON LAKES

