

wood.

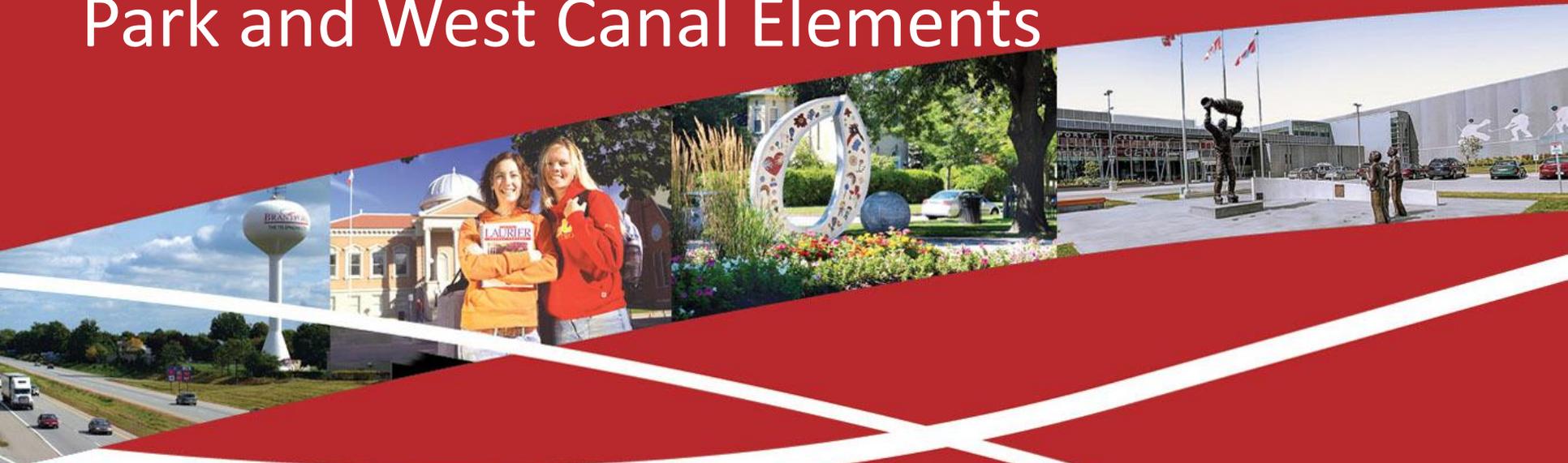
Mohawk Lake and Canal Cleanup and Rehabilitation Project



Virtual Public
Information Session

June 2022

Design Update – for Shallow Creek Park and West Canal Elements



Mohawk Lake Rehabilitation

Public Information Session Purpose



Provide an overview of the study; further details are available at:
<https://www.brantford.ca/en/your-government/mohawk-lake-and-mohawk-canal-cleanup-and-rehabilitation-project.aspx>



Review the highest priority measures being advanced to construction; the proposed design of works in Shallow Creek Park and West Mohawk Canal



Review function and layout design plans



Review landscaping and restoration plans



Outline the next steps in the Design and Construction Process



Hear from you! Your input is very important to us!

Mohawk Lake Rehabilitation

Historical Overview

- Mohawk Lake was constructed in the 1800s as part of a canal system to provide access for barges traveling through Brantford and to enable the barges to turn around
- In the early 1900s, the lake and the surrounding parkland provided the community with recreational opportunities for residents and continues to offer valuable natural heritage for the City
- For decades, concern has been expressed about the deteriorating environmental conditions in the lake and canal
- As early as 1950, studies were conducted to improve the flow and to address siltation issues in the lake and canal
- The Mohawk Lake and Mohawk Canal Cleanup and Rehabilitation Project was partly initiated in response to these concerns



Mohawk Lake Rehabilitation

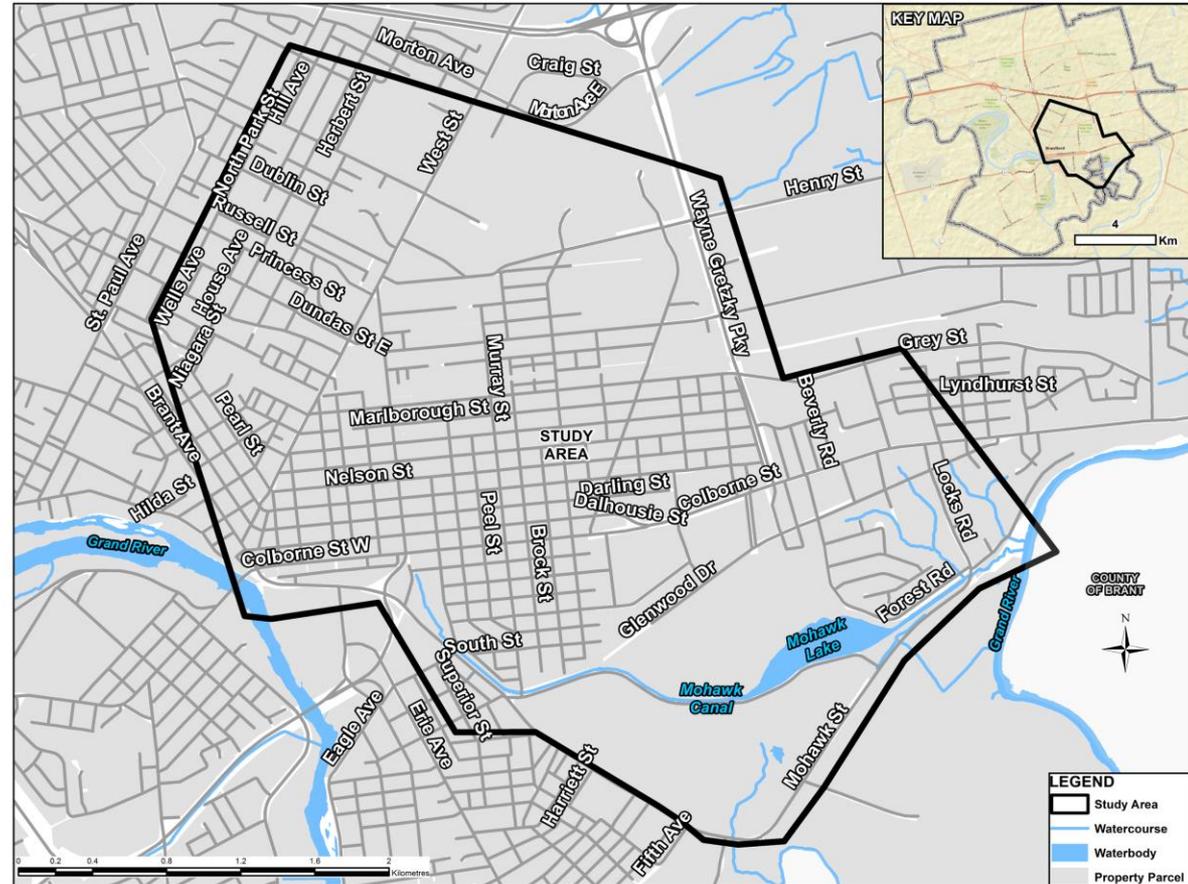
Overall Study Area and Purpose

The purpose of the Study is to consider ways to improve the environmental quality of Mohawk Lake and Canal by providing:

- *Improved water quality conditions*
- *Enhanced recreational opportunities*
- *Enhanced fish & wildlife habitat*

Potential benefits that remediation and restoration can provide to Mohawk Lake and Mohawk Canal may include:

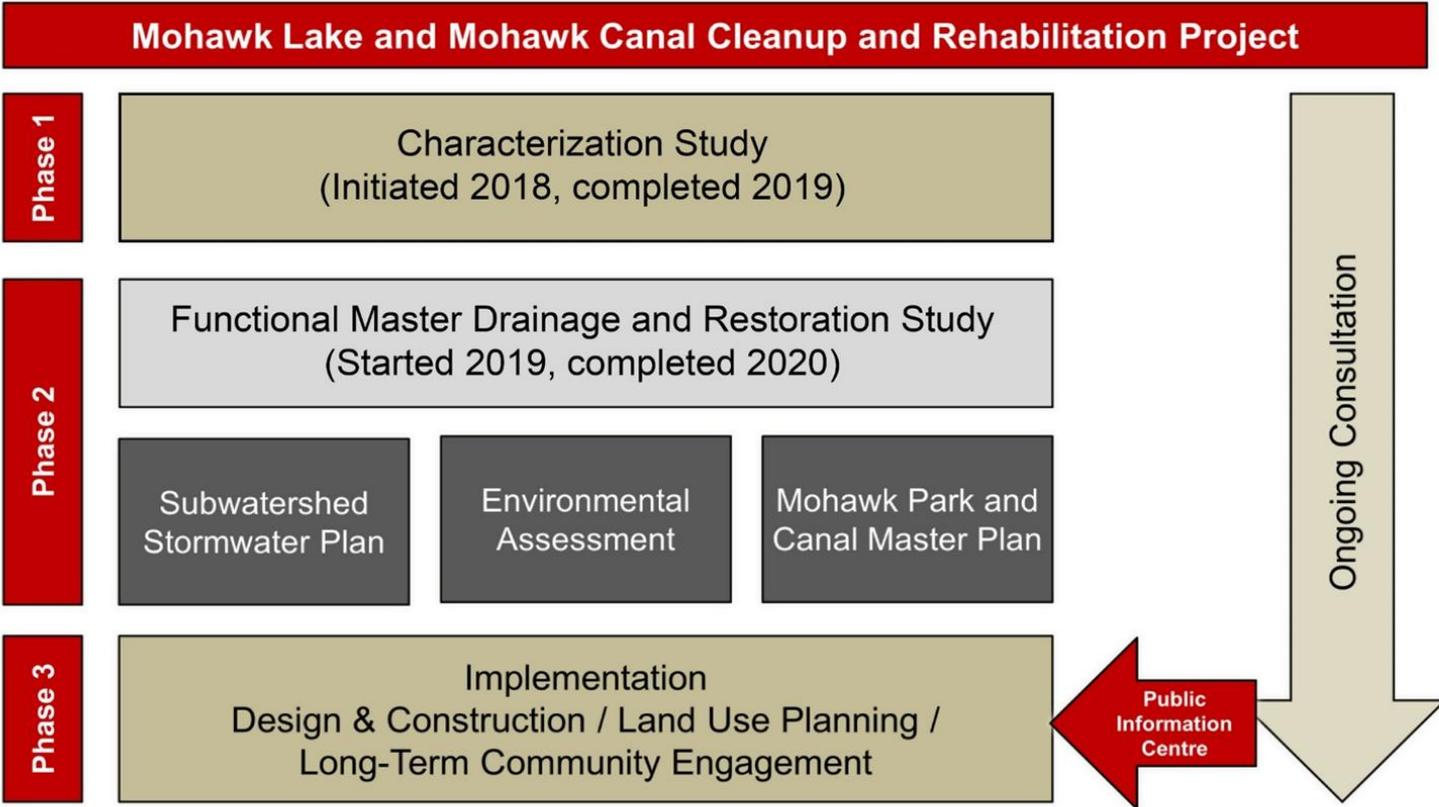
- Improved aquatic & wildlife habitat
- Protection & interpretation of cultural heritage resources
- Opportunities for enhanced water recreation



Map of Study Area

Mohawk Lake Rehabilitation

Project Phases

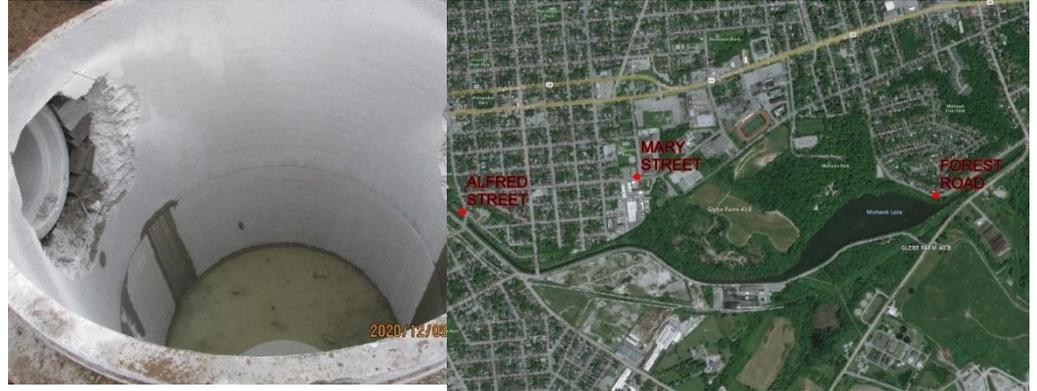


Mohawk Lake Rehabilitation

Preferred Alternatives from Class Environmental Assessment

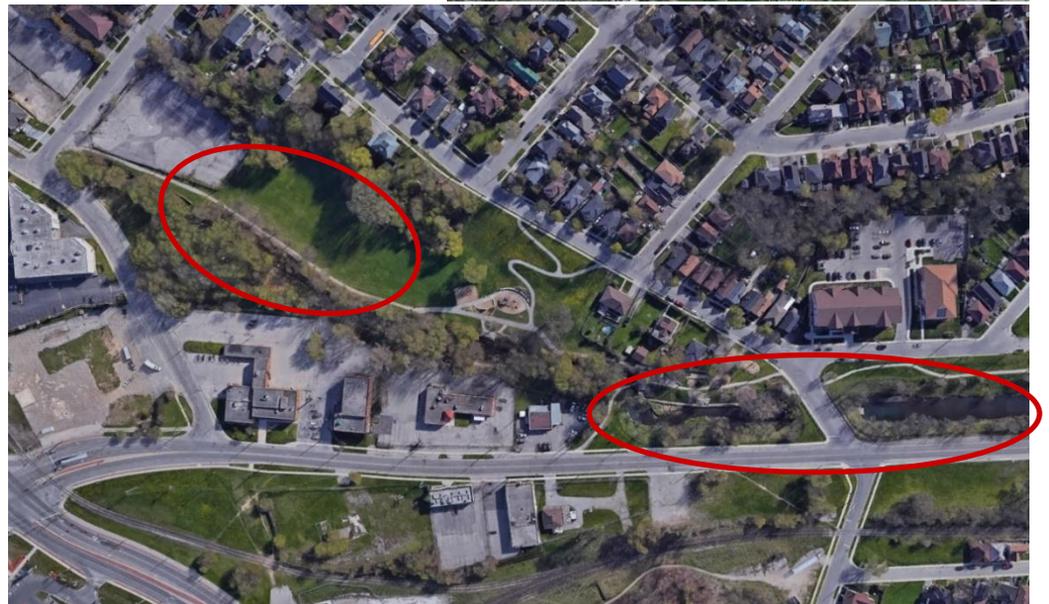
3 – Oil/Grit Separator Retrofits

- Treat storm sewer contaminants upstream of lake
- Constructed in December 2020



Shallow Creek Park and West Mohawk Canal

- Currently being designed



Mohawk Lake Rehabilitation

Shallow Creek Park Area

- The first priority location is Shallow Creek Park
- A wet pond (permanent pool) is proposed
- Low flow from the upstream drainage would be diverted to the pond for water quality treatment



Mohawk Lake Rehabilitation

Work completed as part of Design Phase

Water Resources

- Floodplain mapping of Shallow Creek

Geotechnical/Environmental/Hydro-Geology

- Soils, contaminants, and groundwater levels

Natural Environment

- Tree inventory, terrestrial and aquatic ecology

Structural Engineering

- Condition of retaining walls, culverts, and pedestrian bridges

Fluvial Geomorphology

- Creek form and erosion potential

Mohawk Lake Rehabilitation

Site Constraints

- Shallow Creek park has legacy soil contamination issues which need to be considered as part of the design
- An impermeable liner is required in Shallow Creek park to isolate works from affected soils and groundwater impacts
- Some ongoing channel erosion along Shallow Creek
- Poor condition of gabion baskets and wooden boards on channel banks along West Mohawk Canal (tow path); requires replacement



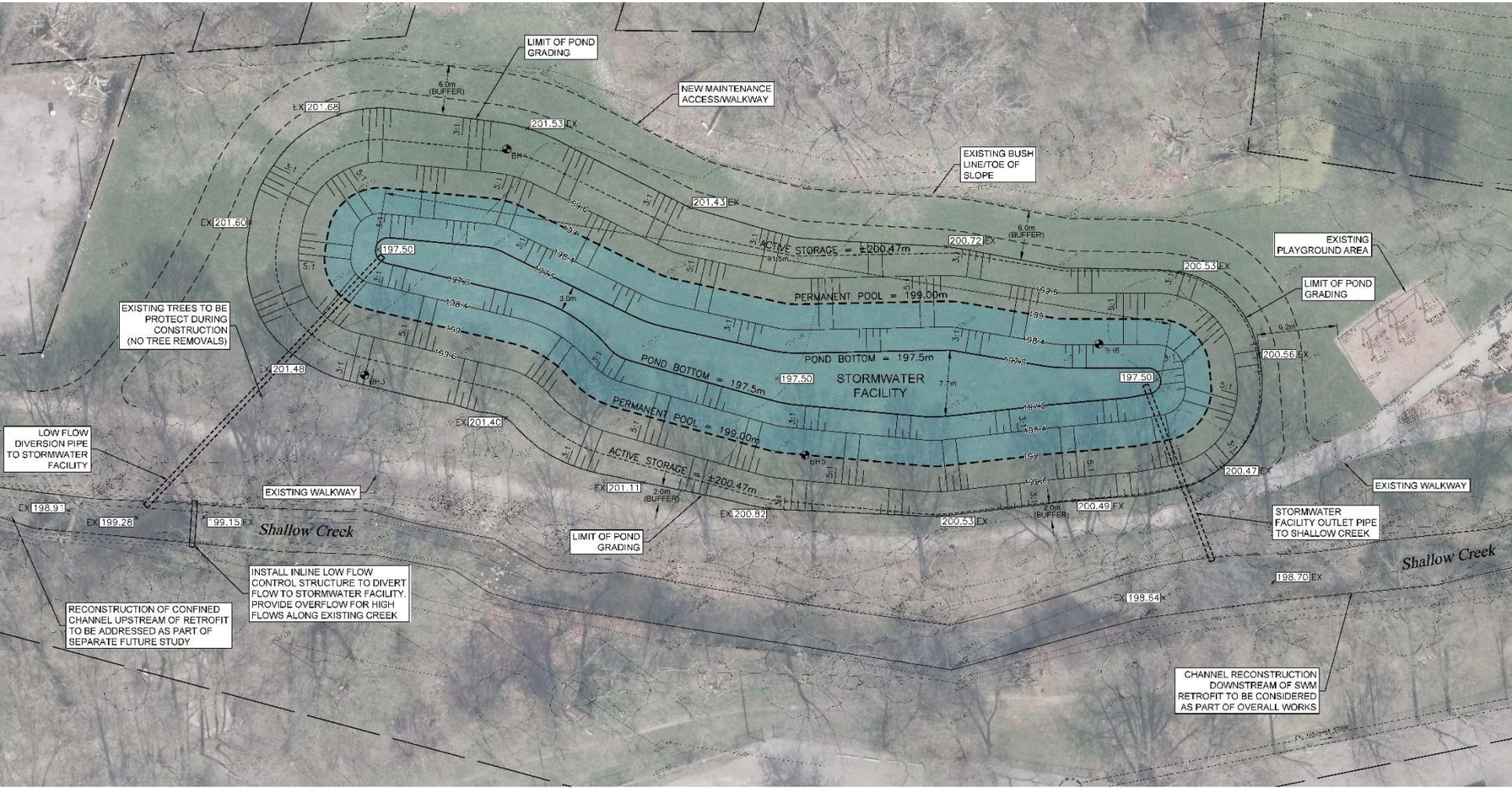
Mohawk Lake Rehabilitation

Alternative Evaluation

- Based on the work completed and site constraints, a design evaluation process was undertaken
- Multiple alternatives were considered and reviewed with City staff and a Technical Advisory group
- The focus is upon measures that maximize the water quality benefit to Mohawk Lake downstream
- Preferred design alternatives were selected based on the preceding, balanced against local impacts (social and environmental) and other factors, including cost
- Resulting preferred alternatives are presented

Mohawk Lake Rehabilitation

Shallow Creek Park Retrofit (Off-line Wet Pond Stormwater Management Feature)



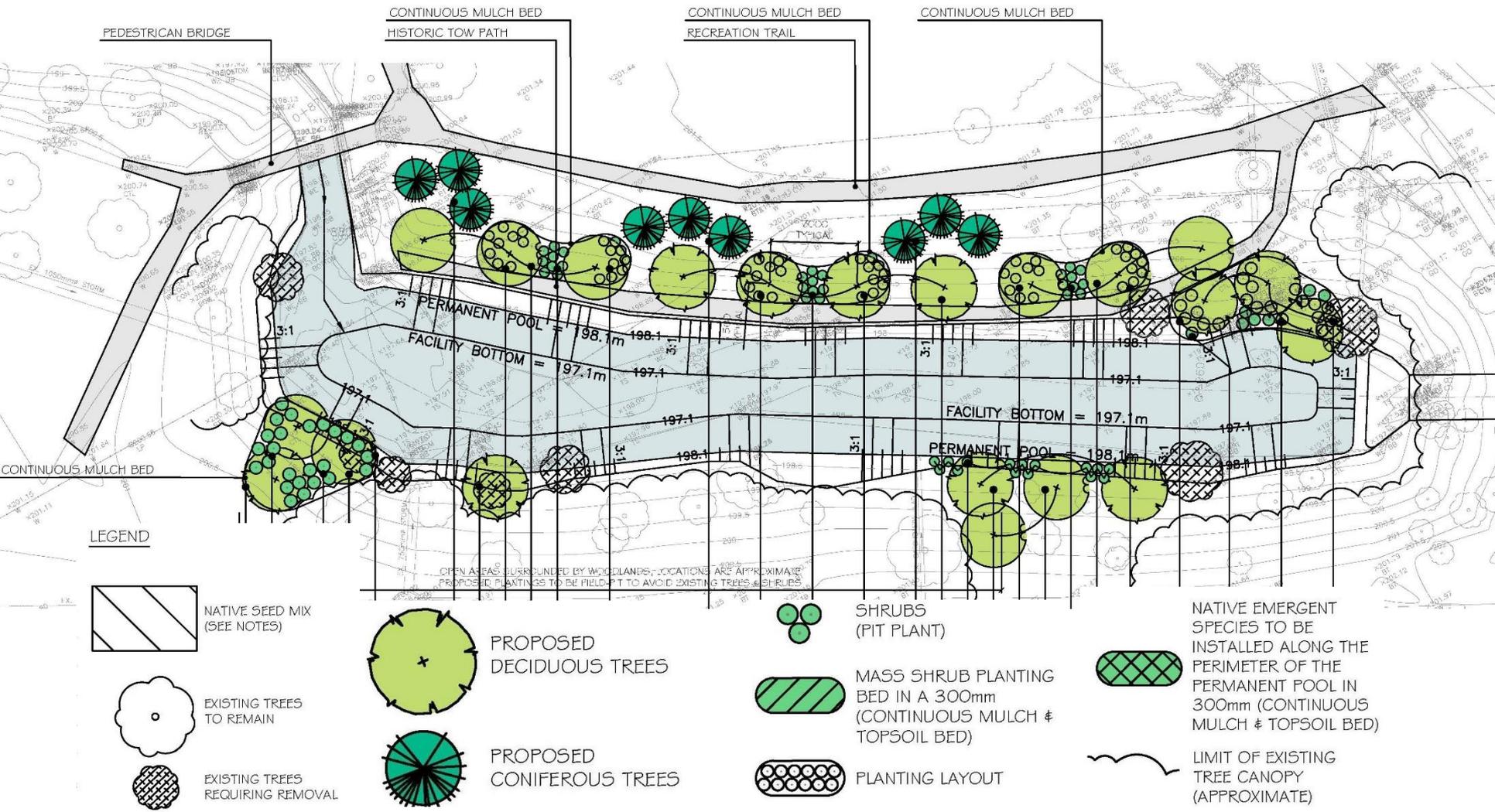
Mohawk Lake Rehabilitation

Shallow Creek Park Retrofit – Design Features and Benefits

- Optimal location for water quality treatment at most upstream location relative to Mohawk Lake
- Provides treatment for part of the Mohawk Lake Watershed catchment area that currently receives no water quality treatment
- Minimizing disturbance to creek and trees to the extent possible
- Includes construction of new trail feature around pond perimeter; complete loop
- Enhanced park landscaping and restoration
- Ensure safety consideration for adjacent areas

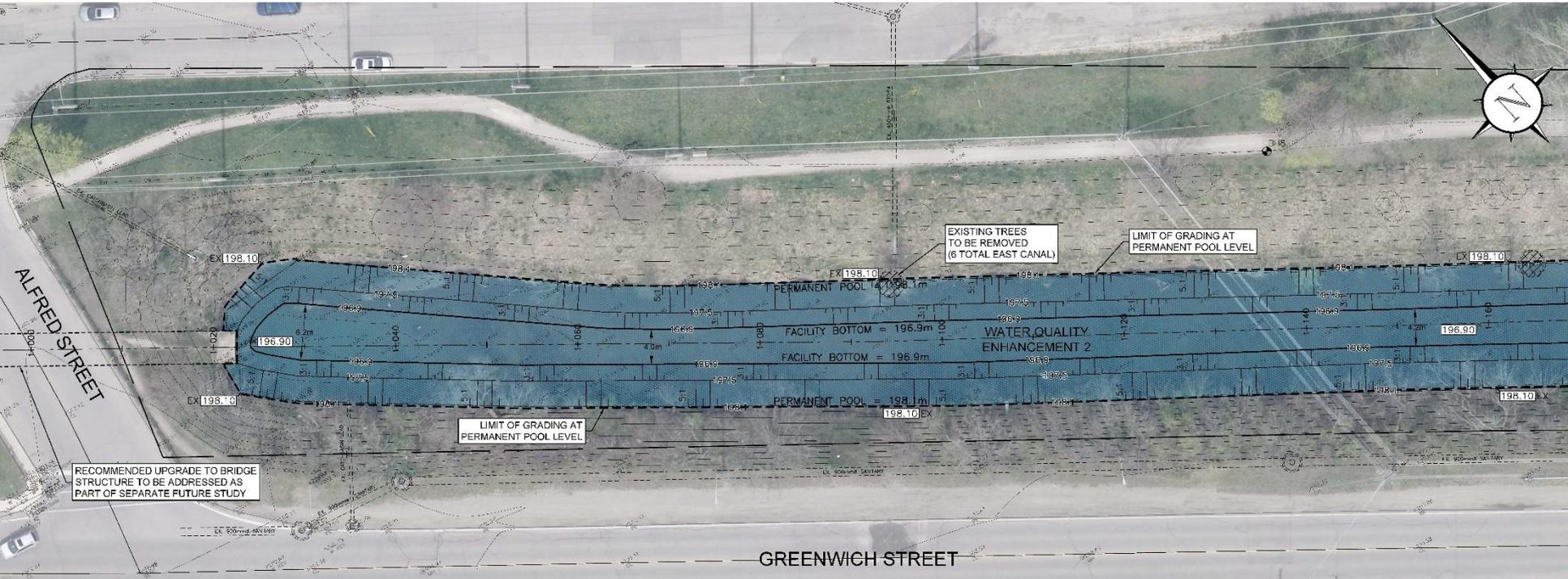
Mohawk Lake Rehabilitation

West Canal Retrofit (Section 1 – Landscaping Plans)



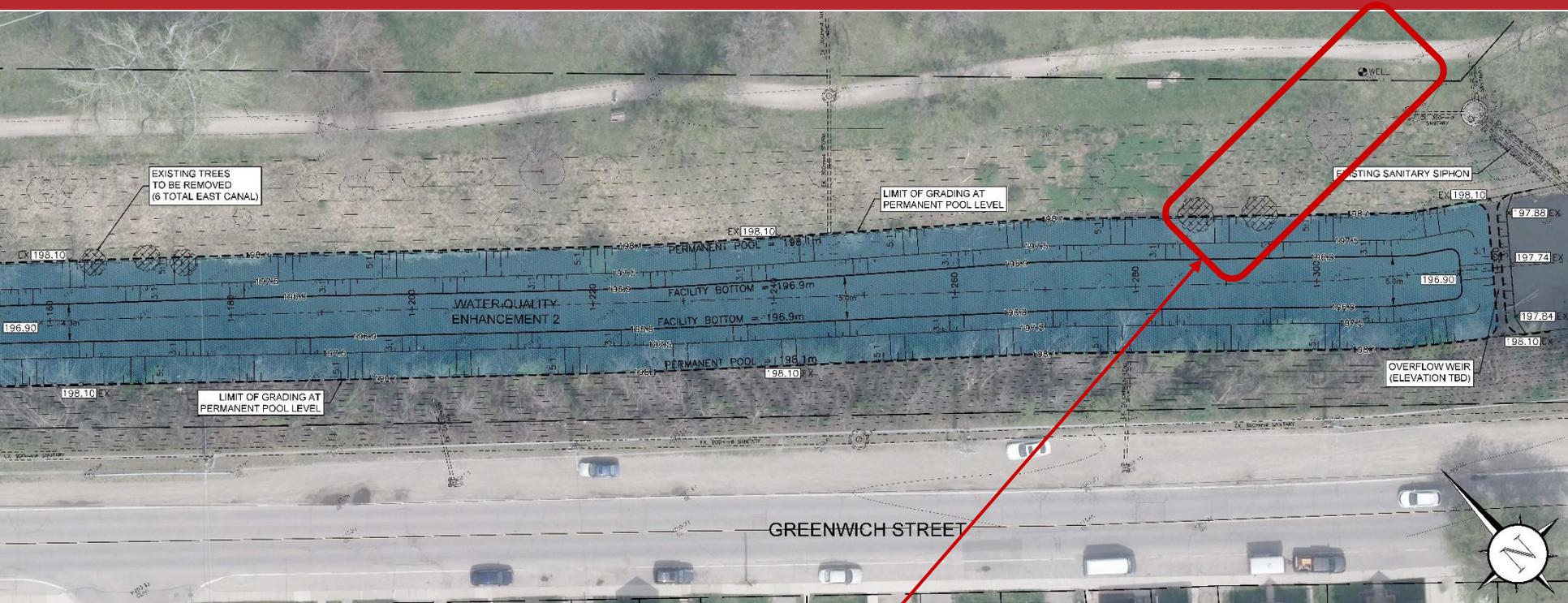
Mohawk Lake Rehabilitation

West Canal Retrofit (Section 2 – Alfred Street to Murray Street)



Mohawk Lake Rehabilitation

West Canal Retrofit (Section 2 – Alfred Street to Murray Street)

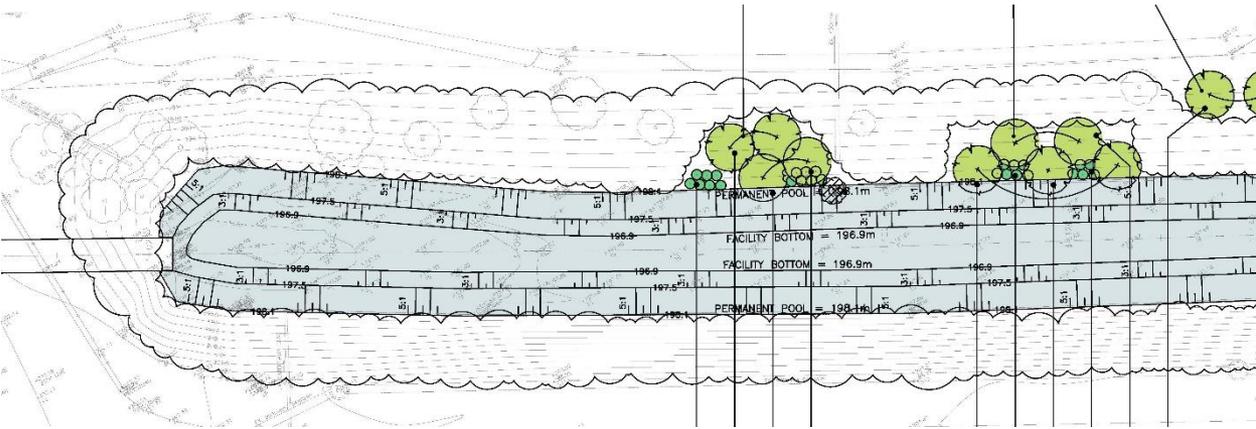


Maintenance access road from Riddolls Avenue; match grades at Shallow Creek Park Trail

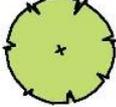


Mohawk Lake Rehabilitation

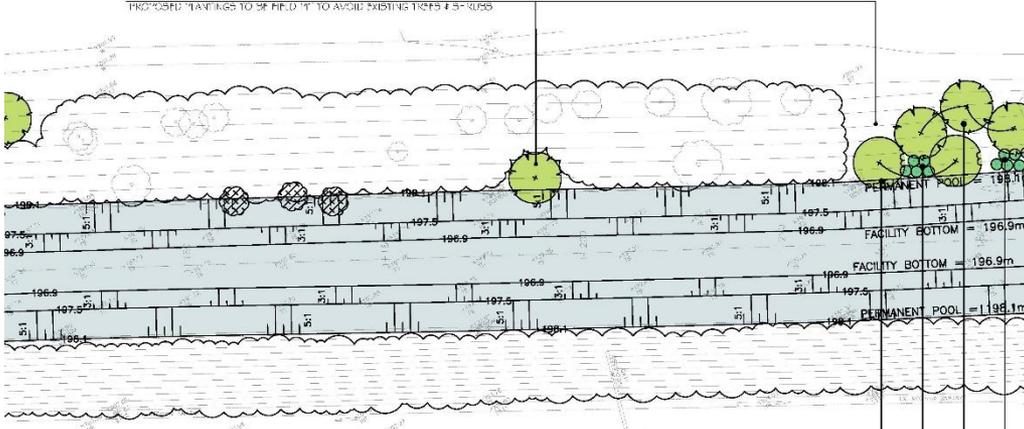
West Canal Retrofit (Section 2 – Landscaping Plans)



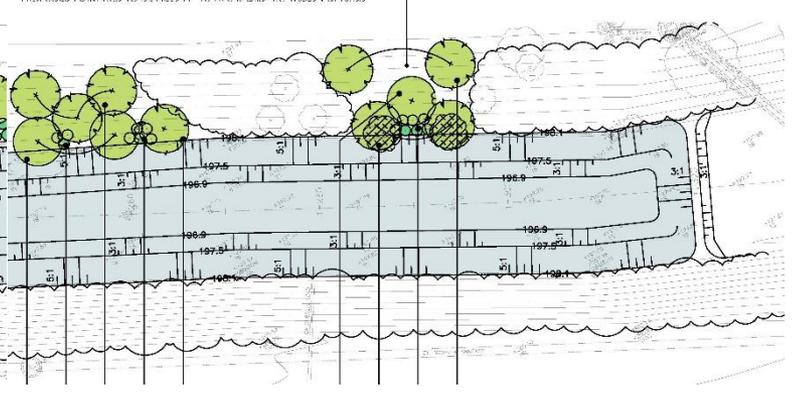
LEGEND

-  EXISTING TREES TO REMAIN
-  EXISTING TREES REQUIRING REMOVAL
-  PROPOSED DECIDUOUS TREES
-  SHRUBS (PIT PLANT)
-  LIMIT OF EXISTING TREE CANOPY (APPROXIMATE)

OPEN AREAS SURROUNDED BY WOODLANDS, LOCATIONS ARE APPROXIMATE. PROPOSED PLANTINGS TO BE FIELD TO AVOID EXISTING TREES & SHRUBS



OPEN AREAS SURROUNDED BY WOODLANDS, LOCATIONS ARE APPROXIMATE. PROPOSED PLANTINGS TO BE FIELD TO AVOID EXISTING TREES & SHRUBS



Mohawk Lake Rehabilitation

West Canal Retrofits – Design Features and Benefits

- Next location downstream of Shallow Creek and upstream of Mohawk Lake; greatest overall benefit after Shallow Creek
- Similar aesthetics to existing conditions
- Enhanced landscaping works
- Towpath recommended to be restored; part of cultural heritage system (path along a river or canal originally used as a pathway for towing barges)
- Create a maintenance access via Greenwich Street for future clean-out to minimize disturbances
- Create a maintenance access via Riddolls Avenue for future clean-out; maintain existing trail crossing

Mohawk Lake Rehabilitation

Immediate Next Steps and Schedule

- Virtual Public Information Centre (this video presentation)
- Appreciate Feedback from public within two (2) weeks of the posting of the presentation
- Final Design and Agency Permitting – Quarter 3 of 2022
- Budget review and confirmation of preferred project to advance to construction – Quarter 3 of 2022
- Construction tender release and Construction startup – Quarter 4 of 2022 or Quarter 1 of 2023 – timing may be affected by permitting restrictions on creek works

Mohawk Lake Rehabilitation

Have questions or want more information?

Nahed Ghbn P.Eng.

Senior Project Manager

City of Brantford

Tel: 519-759-4150 ext. 5262

Email: NGhbn@brantford.ca

Matt Senior, M.A.Sc., P.Eng.

Senior Water Resources Engineer

Wood Environment & Infrastructure Solutions

Tel: 905-335-2353

Email: matt.senior@woodplc.com



Thank you for
your
participation!

Thank you



wood.