

Mid-Halton Wastewater Treatment Plant Expansion Municipal Class Environmental Assessment Study

**Public Information Centre #2
November 6 to December 5, 2025**



Live.
Grow.
Thrive.

Purpose of Public Information Centre #2

Welcome to the virtual Public Information Centre (PIC) #2 for the Mid-Halton Wastewater Treatment Plant (WWTP) Expansion Municipal Class Environmental Assessment (MCEA) Study.

The purpose of this PIC is to:

- Share considerations for capacity expansion at the Mid-Halton WWTP
- Share information on the evaluation process and recommended design concept for expansion
- Gather input and share the next steps in the study.



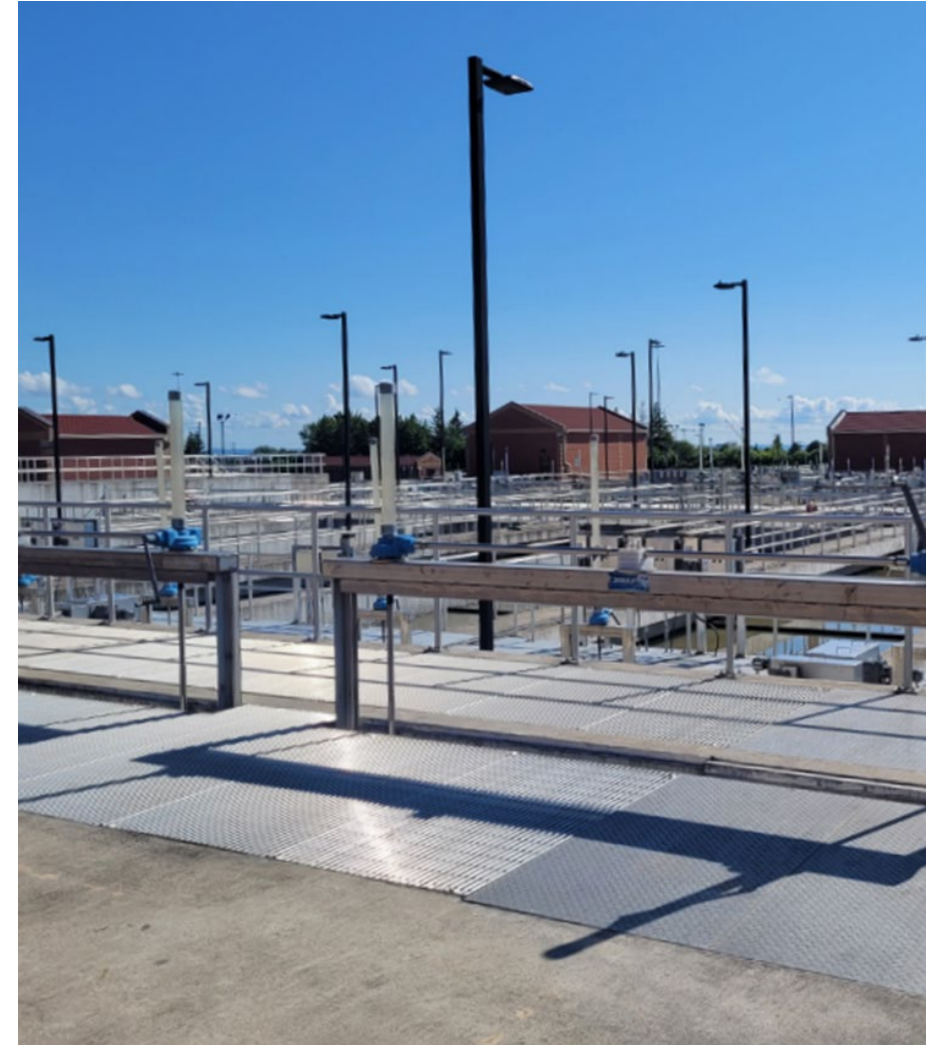
We value your input!

Your input will help to shape the decision-making process for this project

Visit the Municipal Class Environmental Assessment (MCEA) Studies webpage on **halton.ca** to submit your comments

Background

- As part of the Region's overall strategy for meeting existing and future wastewater servicing needs for a growing population, the Mid-Halton WWTP must be expanded by 2031.
- The original strategy included a plan to increase the plant capacity from 125 million litres per day (ML/d) average daily flow (ADF) to 175 ML/d by 2031.
- Based on optimization opportunities identified in the early stages of the study, it was determined that 195 ML/d could be achieved within a similar footprint. This increased capacity will better support local municipal growth priorities within the Region and will provide cost and operational efficiencies.
- The purpose of this MCEA is to develop a solution for increasing the capacity of the plant to 195 ML/d.



Key Considerations for Plant Expansion

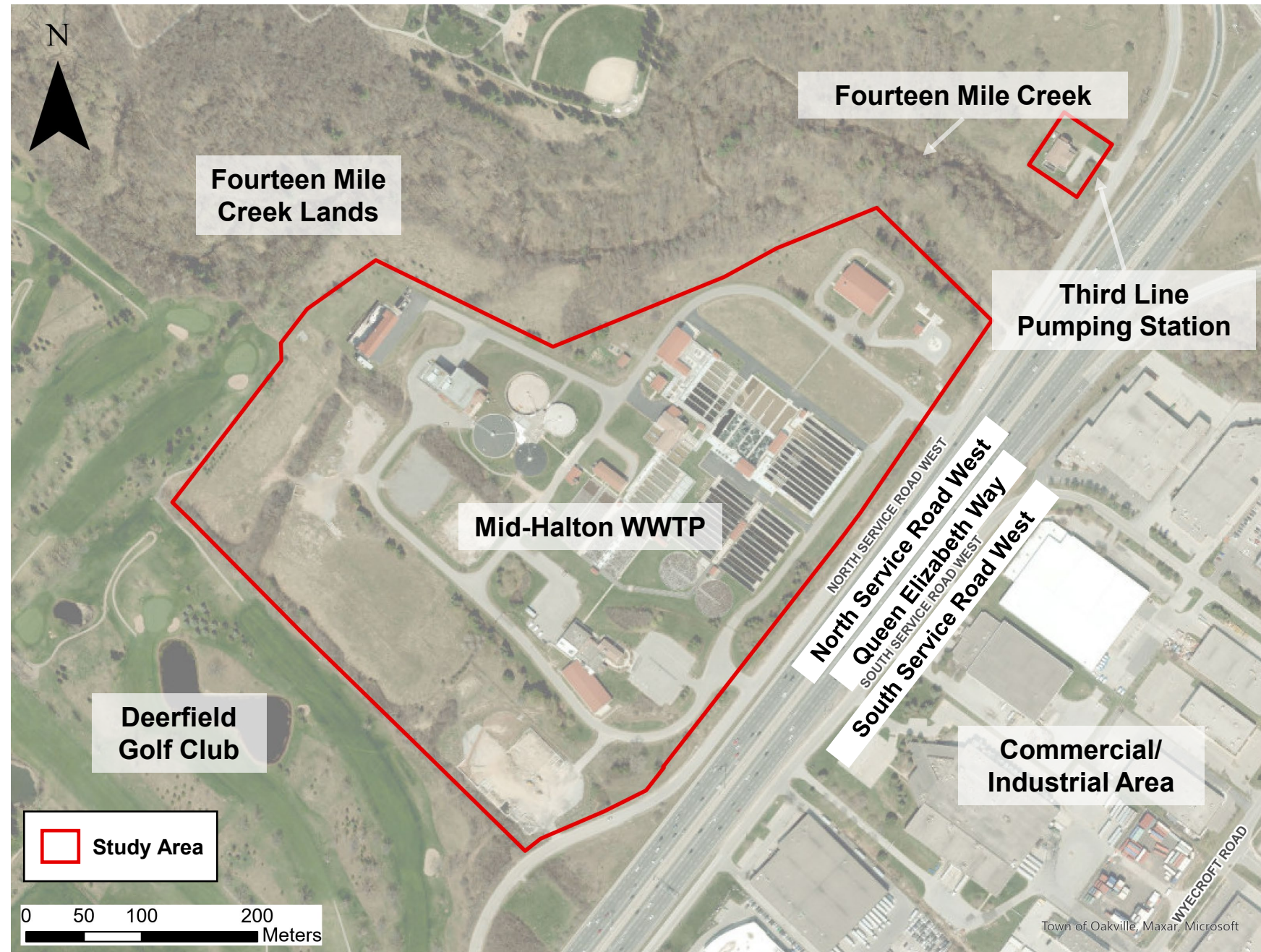


- Increasing capacity to 195 ML/d to meet existing and future treatment needs
- Maintaining flexibility on-site to allow for future expansions
- Optimizing operation and plant performance
- Protecting the environment and community
- Minimizing Greenhouse Gas Emissions
- Controlling Odour and Noise

Study Area

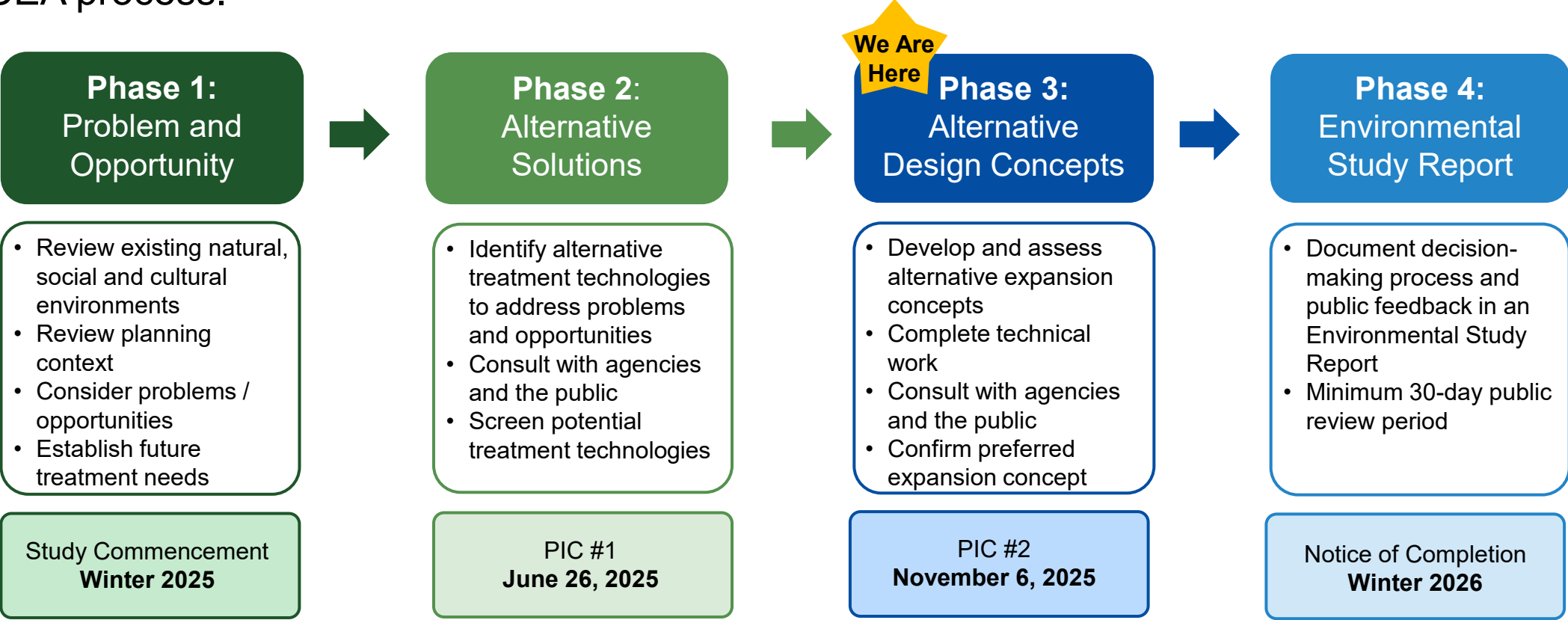
The Study Area for the project is within the Mid-Halton WWTP site, located at 2195 North Service Road W. in Oakville.

To protect the environment and the local community, measures to mitigate impacts within the Study Area and surrounding lands have been considered.



Study Process and Schedule

- This Study follows the planning and approval process for municipal infrastructure that follows Ontario’s *Environmental Assessment Act*.
- This study has been identified as a Schedule ‘C’ project and will follow Phases 1 through 4 of the MCEA process.



Key Themes from PIC #1 Feedback



Air, odour and noise: Determining and mitigating potential odour and noise impacts resulting from the WWTP expansion is a key concern.

The project team included mitigation of odour and noise during construction and operation as integral parts of the evaluation of expansion alternatives. Air/Odour and Noise Studies are currently underway that will identify measures to control emissions, odour and noise. These control measures will be included in the detailed design.

Natural environment: Protecting the natural environment in proximity to the WWTP from potential impacts of the expansion is a key concern.

The project team included protection of the environment as an integral part of the evaluation of expansion alternatives. A natural heritage assessment and field survey was completed to identify natural habitats and species on and around the WWTP and mitigation measures that will be implemented during construction to protect these habitats and species.

Supporting Studies – Key Findings

To define existing conditions, assess expansion alternatives and establish appropriate mitigation measures for potential expansion impacts, several supporting studies were initiated.



Air, Odour and Noise Assessments: Assessments are ongoing and will be completed during the design process to ensure the expansion meets regulatory requirements and minimizes impact on neighbouring communities.



Climate Change and Greenhouse Gas (GHG) Emissions: GHG emission calculations were developed for all process alternatives, as reducing GHG emissions is an important goal for Halton Region. Process alternatives with low GHG emissions were considered in developing the recommended expansion alternative.



Natural Environment Features: Natural Features and Species at Risk (SAR) did not occur within the study area but were identified in the surrounding area. Mitigation measures will be included in the detailed design to minimize impacts on these areas.

Supporting Studies – Key Findings



Archaeological Assessment: The land within the Mid-Halton WWTP site does not retain archaeological potential. No further investigations are required based on the proposed scope of work.

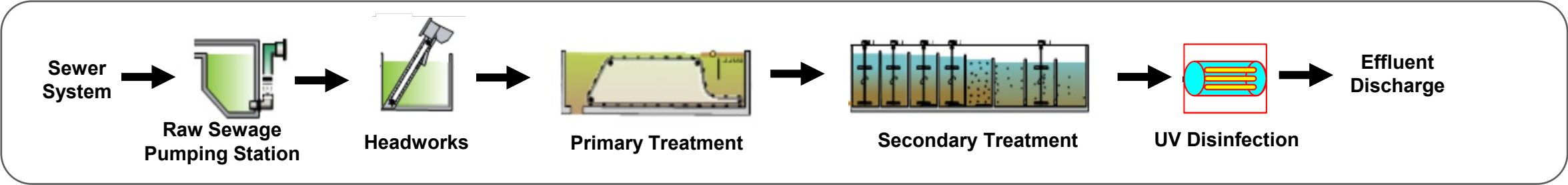


Cultural Heritage Features: The Merton-Mount Pleasant cemetery located across the road from the Mid-Halton WWTP was identified as a recognized heritage property. The plant expansion will not impact the Merton-Mount Pleasant Cemetery.



Receiving Water Impact Assessment: The results showed that increasing the flow at the Mid-Halton WWTP from 125 ML/d to 195 ML/d will not result in any adverse impacts on drinking water intakes and key recreational locations near shore.

Existing Liquids Treatment Processes



Raw Sewage Pumping Station

- Directs flow to the plant



Headworks

- Includes screening and grit removal to eliminate large solids



Primary Treatment

- Primary clarifiers remove suspended solids



Secondary Treatment

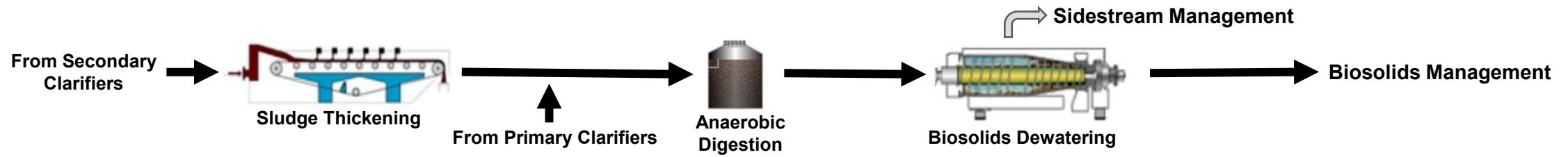
- Aeration tanks promote biological treatment and secondary clarifiers remove solids



UV Disinfection

- Seasonal disinfection of final effluent

Existing Solids Treatment Processes



Sludge Thickening

- Concentrates the sludge by removing water



Anaerobic Digestion

- Sludge stabilization, producing biosolids and biogas



Biosolids Dewatering

- Further concentrates the biosolids



Sidestream Management

- Liquid portion goes to an equalization tank for sidestream management

Mid-Halton WWTP Upgrades and Expansion Areas

An analysis of the existing facility identified that some processes at the plant could be upgraded to handle the additional flow within their current footprint. Other processes require expansion to meet the future demands.

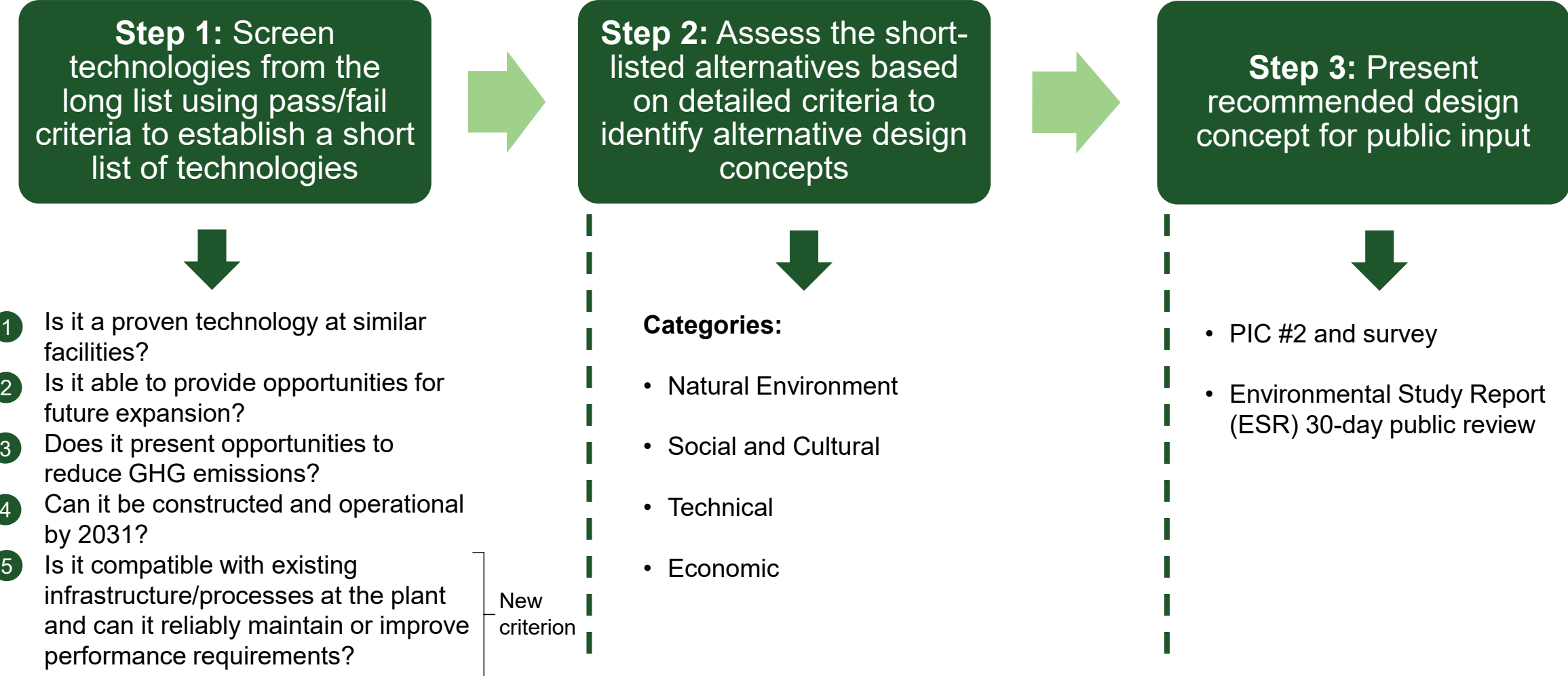
Four key expansion areas were identified as requiring further analysis to determine the preferred alternative. They include:

- Primary Treatment
 - Secondary Treatment
 - Solids Treatment
 - Sidestream Management
- } Liquids Treatment

A detailed evaluation process was completed for each of these areas.



Evaluation Methodology



Detailed Evaluation Criteria

The following detailed evaluation criteria were established to evaluate the short-listed technologies:

Natural Environment

- Significant terrestrial habitats
- Significant aquatic habitats
- Species at Risk (SAR)
- Groundwater quantity and quality
- Surface water quality
- Greenhouse Gas (GHG) Emissions

Social and Cultural

- Odour
- Noise
- Traffic impacts
- Construction impacts
- Property impacts
- Archaeological resources
- Built heritage resources and Cultural heritage landscapes
- Visual/ aesthetics

Technical

- Treatment performance, reliability and robustness
- Flexible for future WWTP expansion
- Ease of implementation
- Compatibility with existing processes and operations
- Flexibility for future regulatory requirements and market conditions
- Ease of operation
- Ease of maintenance

Economic

- Capital Costs
- Operations & Maintenance Costs
- Lifecycle Costs

Evaluation Results – Primary Treatment

The Mid-Halton WWTP currently uses Conventional Sedimentation for primary treatment which involves removing large particles through gravity settling. Chemically Enhanced Primary Treatment (CEPT) was examined as an alternative technology. CEPT involves adding additional chemicals to speed up the removal process.

Detailed Evaluation Categories	Conventional Sedimentation (Existing Process)	Chemically Enhanced Primary Treatment (CEPT)
Natural Environment	✓	✓
Social and Cultural	✓	■
Technical	■	■
Economic	✓	■
Preferred Alternative	Preferred	

✓

Higher Score

■

Medium Score

✗

Lower Score

Key Takeaways

- Both technologies require similarly sized tanks, however CEPT would require an additional chemical building to be constructed.
- Conventional sedimentation is the preferred technology, which is consistent with the existing process.

Evaluation Results – Secondary Treatment

The secondary treatment process currently uses Chemical Phosphorus Removal (Chem P). Chemicals are added to reduce the concentration of phosphorus in the final effluent. Enhanced Biological Phosphorus Removal (EBPR) is an alternative technology that was considered that removes phosphorous biologically but requires more equipment for process intensification.

Detailed Evaluation Categories	Conventional Activated Sludge with Chemical P (Existing Process)	Process intensification with EBPR
Natural Environment	✓	✓
Social and Cultural	✓	✓
Technical	✓	■
Economic	■	✓
Preferred Alternative	Preferred	Provisional

✓

Higher Score

■

Medium Score

✗

Lower Score

Key Takeaways

- The footprints for both technologies are similar and the total evaluation scores are comparable. Further financial analysis is required before making a final decision during detailed design.
- Conventional activated sludge (CAS) with Chem P is the preferred technology, and process intensification with EBPR is being carried as a provisional option.

Evaluation Results – Solids Treatment

Conventional anaerobic digesters are currently used at Mid-Halton WWTP for sludge stabilization. Primary sludge thickening was considered as an alternative technology, which would add an additional process step to sludge treatment but optimize anaerobic digestion.

Detailed Evaluation Categories	Conventional Digester Expansion (Existing Process)	Primary Sludge Thickening (PST)
Natural Environment	✓	✓
Social and Cultural	✓	✓
Technical	✓	✓
Economic	✓	■
Preferred Alternative	Preferred	

✓

Higher Score

■

Medium Score

✗

Lower Score

Key Takeaways

- Conventional digester expansion is the selected technology for capacity expansion as it maintains current operation practices and has lower costs.

Evaluation Results – Sidestream Management

Sidestream management is required to handle liquid produced during the solids dewatering process and to manage ammonia levels. Currently the Mid-Halton WWTP uses equalization tanks to manage sidestreams flows. This study considered additional sidestream treatment to further manage ammonia levels.

Detailed Evaluation Categories	Equalization (Existing Process)	Sidestream Treatment
Natural Environment	✓	✓
Social and Cultural	✓	✓
Technical	✓	■
Economic	✓	■
Preferred Alternative	Preferred	Provisional

✓

Higher Score

■

Medium Score

✗

Lower Score

Key Takeaways

- Sidestream treatment is not currently required to meet ammonia targets for the expansion.
- The preferred alternative is expanding equalization capacity. Sidestream treatment is provisional and will be triggered if ammonia management requirements change.

Recommended Design Concept

North PS Expansion

- Upgrade existing pumps

Headworks

- Add 3rd screen in existing spare channel
- Add 3rd grit tank adjacent to existing ones

New Treatment Train

- Conventional Primary Clarifier (similar to existing)
- Conventional Activated Sludge (CAS) with Chem P (similar to existing)

UV Disinfection

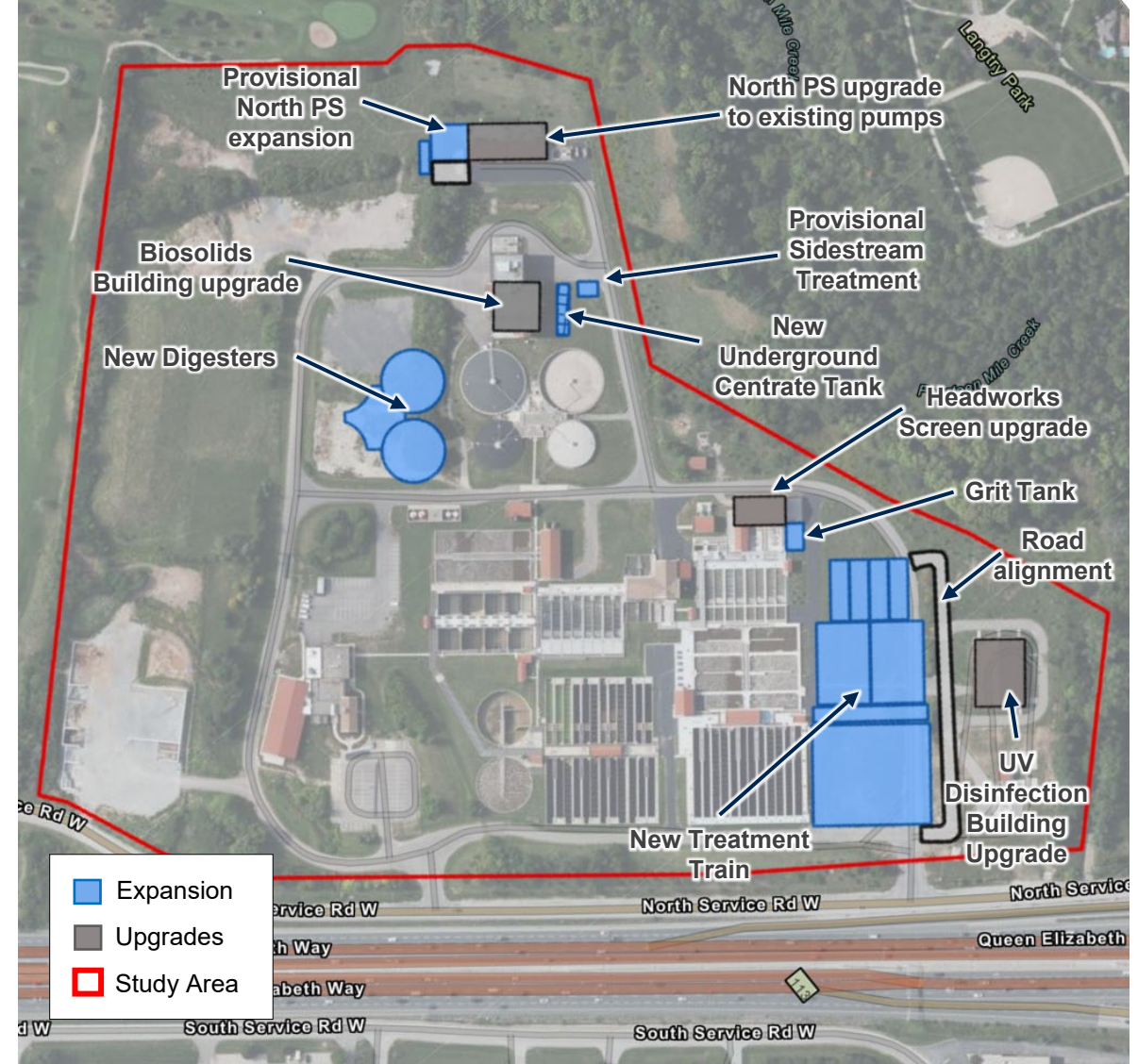
- Add UV equipment in existing 5th channel

Solids Treatment

- Digester expansion with two new digesters
- Add 4th rotary drum thickener and 3rd centrifuge in existing Biosolids Building

Sidestream Management

- Add new underground centrate tank adjacent to existing tank



Recommended Design Concept Layout

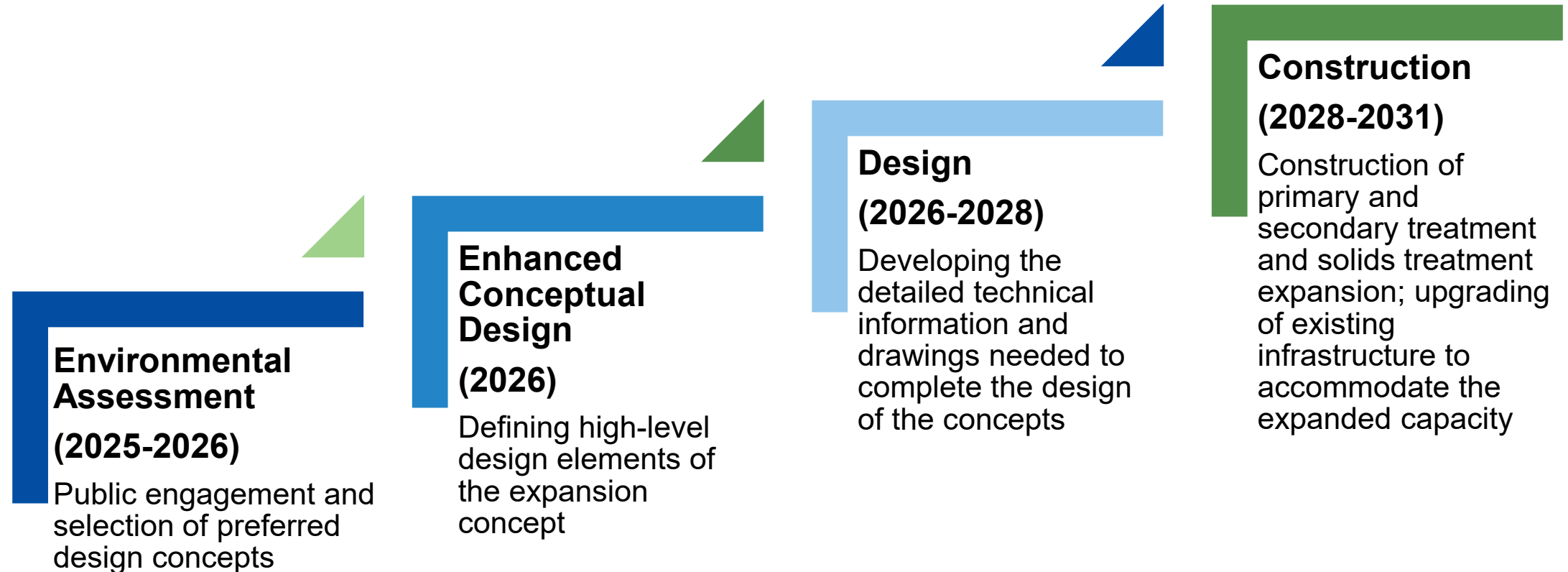


Existing Mid-Halton WWTTP Layout



Recommended Design Concept Layout

Anticipated Project Implementation Schedule

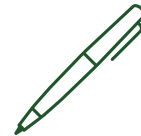


Next Steps in the MCEA Study

Following this Public Information Centre, the Project Team will:

- Review and consider feedback from agencies, stakeholders, Indigenous Communities, and the public
- Develop an Environmental Study Report and make it publicly available for review and input in Winter 2026

How to stay involved:



Online survey

Provide your feedback by **December 5, 2025**



Study webpage

Learn more about the project at halton.ca



Contact the Project Team

Reach out to the Project Manager

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