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Public Information Centre

Rosehill Water Treatment Plant New Intake and Outfall Schedule B Class Environmental Assessment Addendum

The goal of this Public Information Centre is to present the following:

- Project Background
- Technical Considerations
- Evaluation Criteria
- Preliminary Preferred Alternative
- Next Steps and How to Get Involved

PIC information is available on the Region's project webpage:
niagararegion.ca/projects/rosehill-intake

First Published: August 13, 2025

Land Acknowledgment

We would like to start with an acknowledgement that the Rosehill Water Treatment Plant is situated on treaty land. This land is steeped in the rich history of the First Nations such as the Hatiwendaronk, the Haudenosaunee, and the Anishinaabe, including the Mississaugas of the Credit First Nation. There are many First Nations, Métis and Inuit people from across Turtle Island that live and work in Niagara today. The Regional Municipality of Niagara stands with all Indigenous peoples, past and present, in promoting the wise stewardship of the lands on which we live.

Previous Class EA Study

Existing Intake and Outfall Conditions

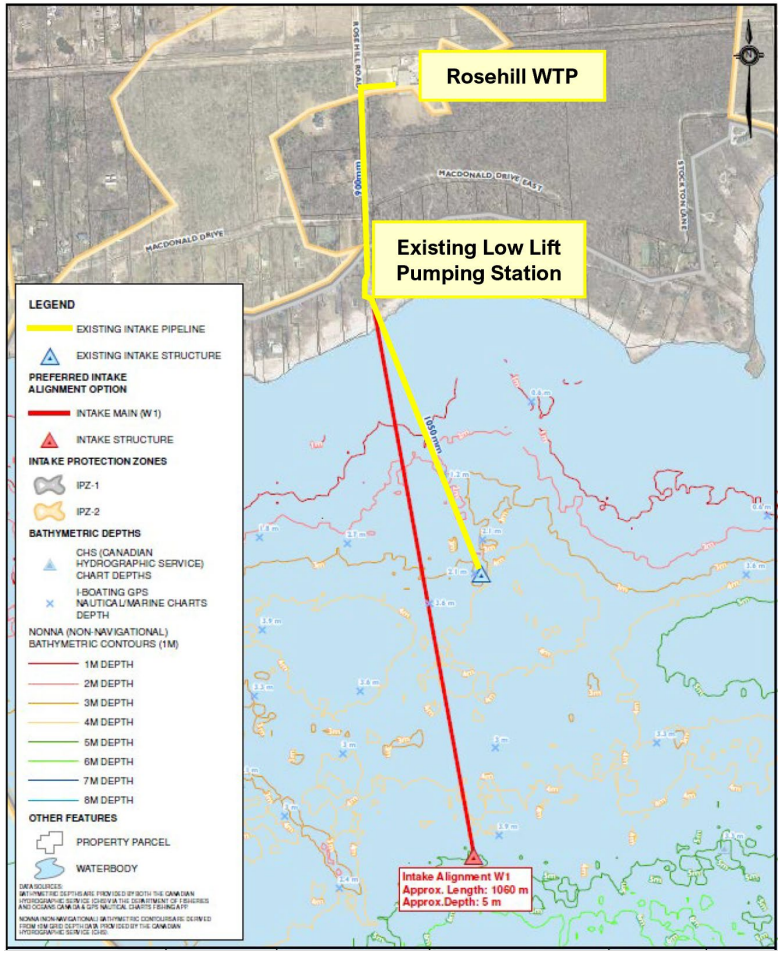
The existing **intake** has reached the end of its service life (accumulation of sediments & zebra mussel shells; structural deficiencies).

The existing **outfall** structure has been modified to address buildup of sand and debris, however, a more permanent solution is required.

Overview of Previous Class EA Study

In 2022, Niagara Region completed a “Schedule B” Class EA for the Rosehill Water Treatment Plant (WTP) New Intake Project. The preferred solution outlined in the Class EA project file report included:

- New intake structure at an approximate lakebed depth of 5 m.
- New intake pipeline via open cut marine trenching.
- New connection between the new intake pipeline and the existing Low Lift Pumping Station on the shore.



Previous Class EA’s Preferred Alternative for New Intake

Class EA Addendum Process

What is a Class EA Addendum?

A Class EA Addendum is a process to review any significant modifications to the project that occurred after the completion of the Class EA. In a Class EA Addendum, only the proposed changes to the recommended alternative(s) are open for review.

Why do we need an Addendum?

As the project proceeded, a constructability review was completed. The review concluded that the open trenching construction method outlined in the Class EA would be complicated and risky as a result of site access constraints and lack of available space for construction laydown.

As such, new alternatives need to be identified to improve constructability and project phasing.

2022 Rosehill WTP New Intake Class EA Completed

2023 Constructability Review, including site investigations as well as consultations with agencies and marine contractors

2024 Rosehill WTP Class EA Addendum

2025

Step 1:
Update problem and opportunity and identify alternative solution(s)

Step 2:
Complete required background studies and evaluate alternatives

We Are Here

Step 3:
Prepare a Class EA Addendum Report for public review

Implementation (Design and Construction)

Problem and Opportunity Statement

Niagara Region wishes to identify, evaluate, and select the preferred location and design concept for a **new Rosehill WTP intake** and associated infrastructure, including **a new Low Lift Pumping Station** and a **new outfall structure**.

Existing Low Lift Pumping Station

Existing Outfall Structure

The preferred alternative shall:

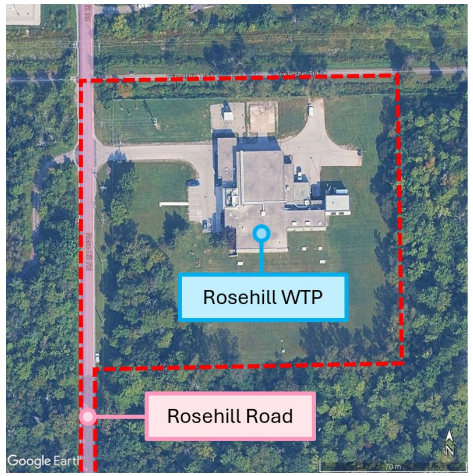
- Comply with applicable regulations to provide adequate water supply
- Address operational and maintenance requirements
- Be financially viable
- Be technically feasible and adaptable to future needs
- Be socially and environmentally responsible

New recommended solution should identify:

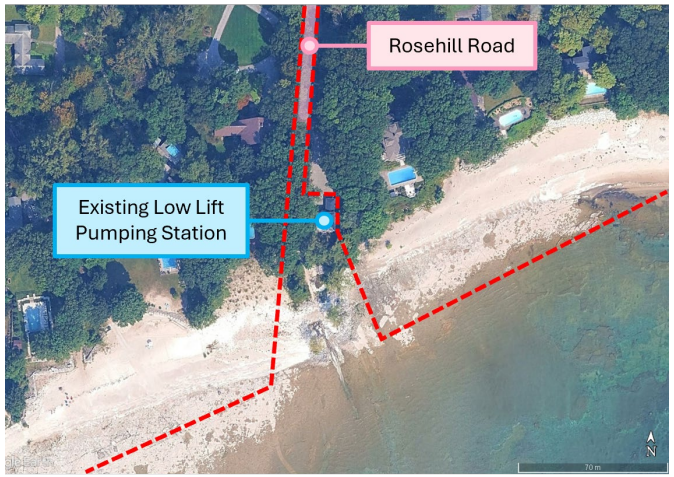
- A new intake structure and pipeline with alternative construction methods to address site space and access constraints
- Required rehabilitation / replacement / relocation work with the existing infrastructure

Study Area Overview

The **on-land** portion of the study area includes the existing Rosehill WTP, the easement that the Region owns along Rosehill Road from the WTP to the shoreline, and the existing Low Lift Pumping Station (LLPS) property.

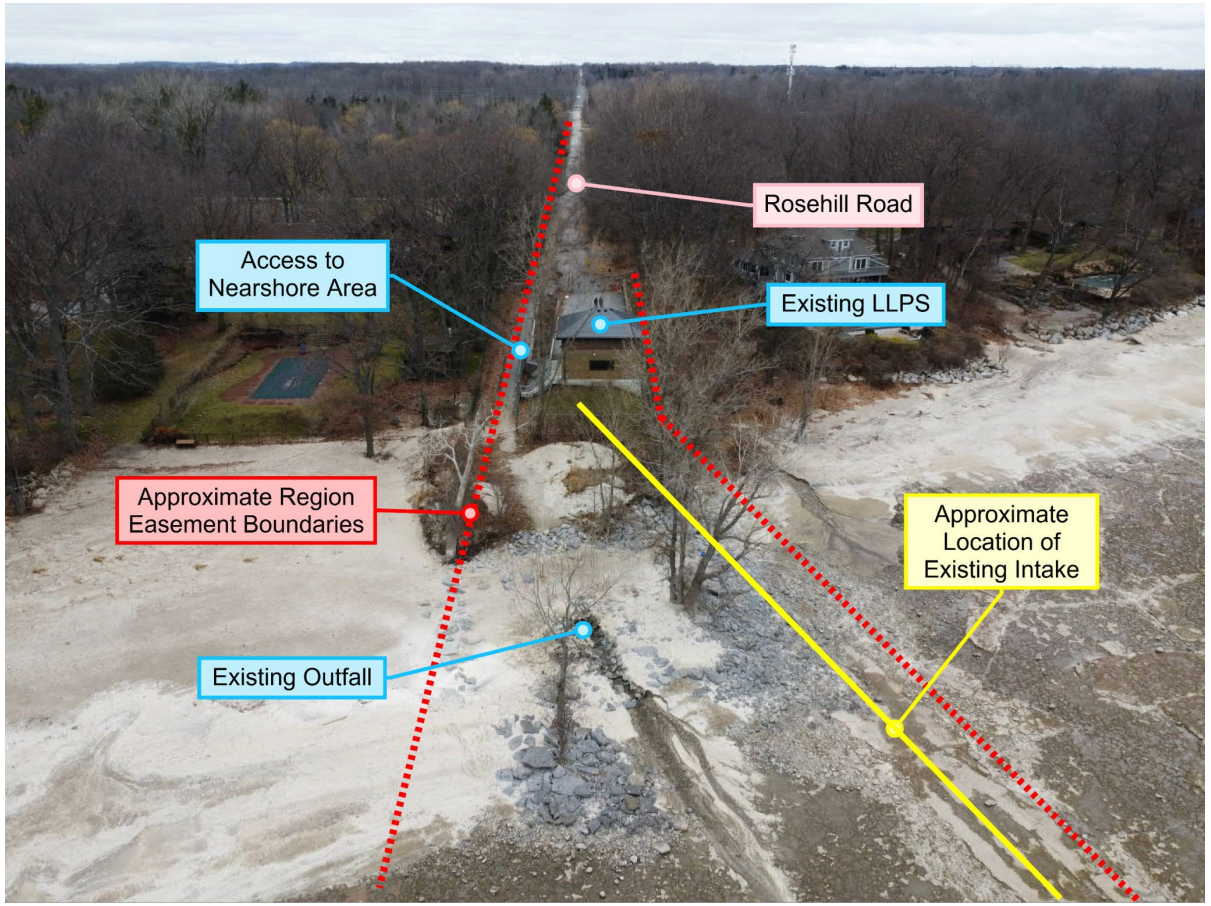


Plan View of Rosehill WTP



Plan View of Low Lift Pumping Station

Note: Study Area boundaries are shown as dashed red lines in the figures above.



Class EA Addendum Study Area – Nearshore Area and Existing LLPS

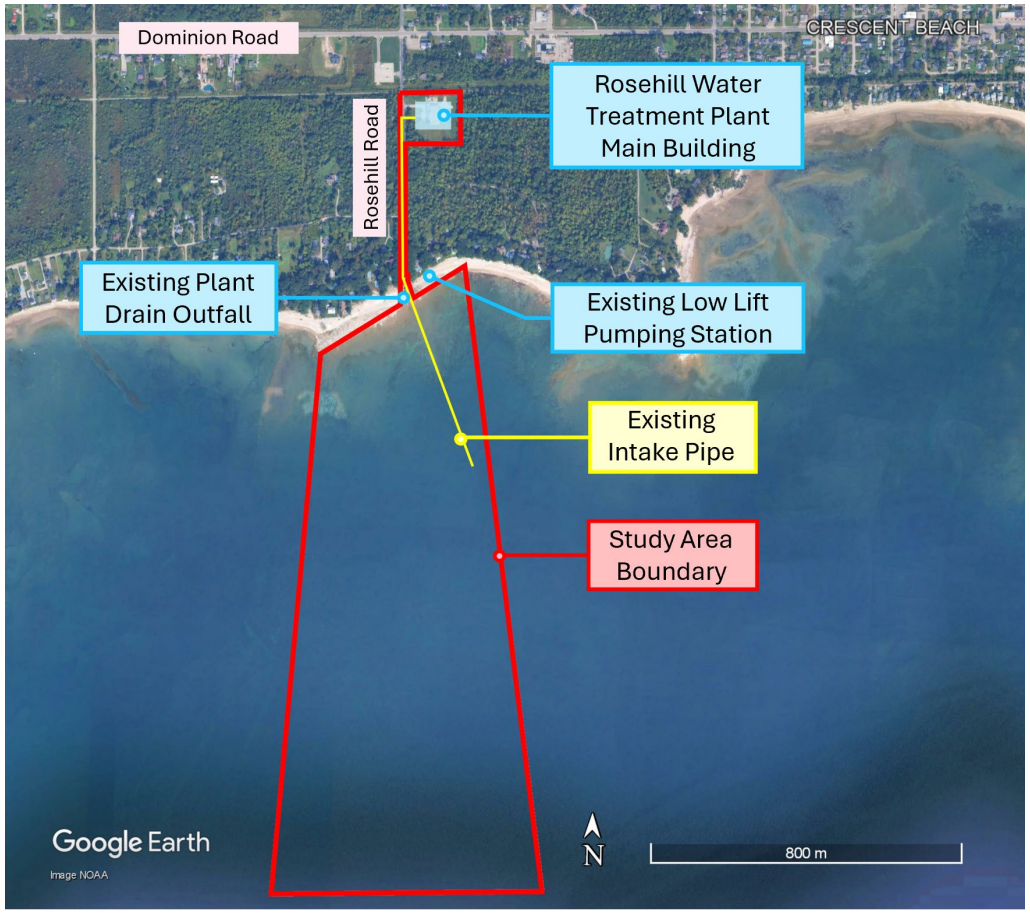
Study Area Overview

The **offshore** study area includes the Region's waterlot easement for the existing intake pipe, as well as adjacent areas where the new intake structure could be located. The offshore study area extends approximately 1.5 km offshore.

The following **investigative studies** have been performed for the study area (onshore/offshore):

- Topographic Survey and Subsurface Utility Engineering Survey
- Natural Environment Assessment
- On-land Stage 1 Archaeological Assessment
- Desktop Marine Archaeological Assessment
- Cultural Heritage Screening Memorandum
- Marine Hydrographic and Geophysical Survey

Results of these studies were considered during the identification and evaluation of alternatives. Study reports will be included in the Class EA Addendum Project File Report Appendices.



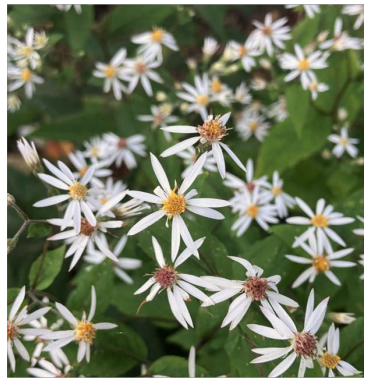
Class EA Addendum Study Area

Study Area Overview

Black Ash

Shumard Oak

Fowler's Toad



White Wood Aster

Natural Environment Assessment: Species at Risk (SAR)

- Notable floral SAR: White Wood Aster, Black Ash, Shumard Oak
- Fowler's Toad: confirmed nearshore habitat within study area, vulnerable to construction impacts

On-Land and Marine Archaeological Assessments

- The on-land study area had archaeological potential due to the study area being within 50 m of Lake Erie (a primary water source) and fronting two early transportation routes.
- The offshore, marine study area had archaeological potential due to evidence of Indigenous archaeological sites and land use patterns near the Lake Erie shoreline, and the presence of a sunken pier and two unidentified shipwrecks within 300 m of the study area.

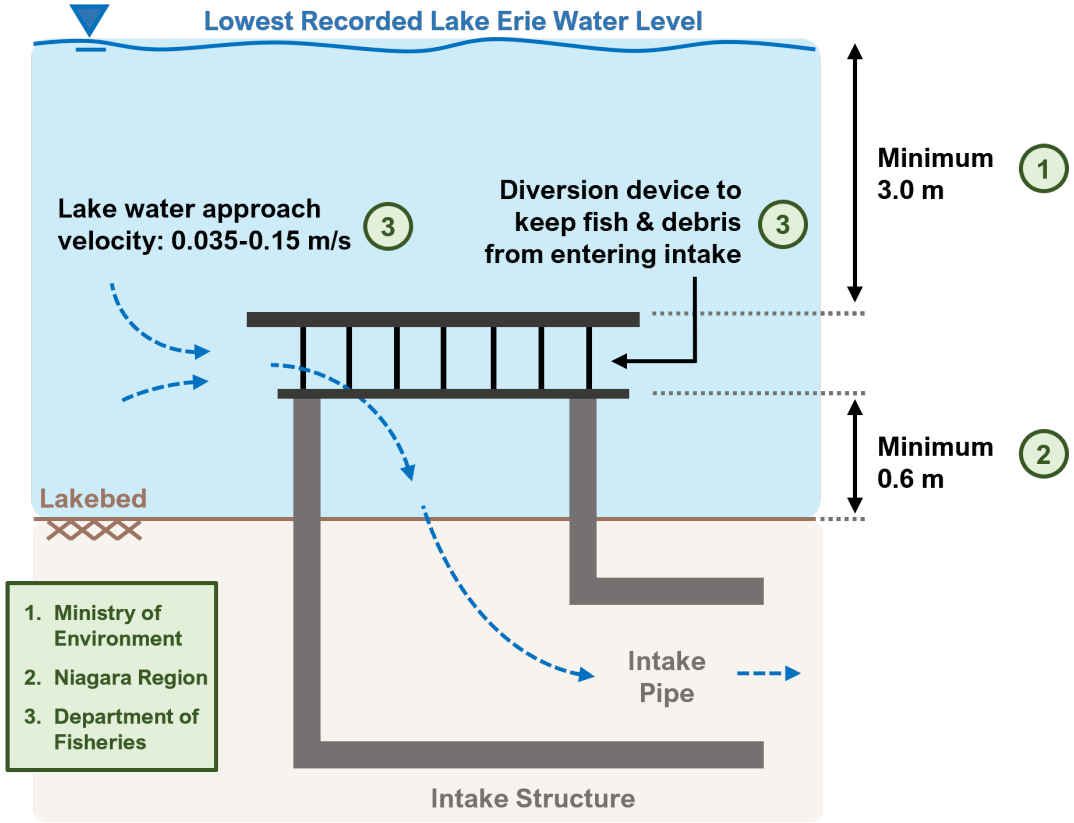
Cultural Heritage Screening Memorandum

- The study area did not contain known Built Heritage Resources (BHRs) or Cultural Heritage Landscapes. Two structures over 40 years of age located within adjacent properties to the study area are potential BHRs.

To further verify the findings above, additional field investigations will be completed in the future during the implementation phase of this project.

Key Technical Considerations for New Intake

Agency Requirements for Intake Design Concepts



* This schematic is for conceptual understanding only.
* Diagram is not to scale.

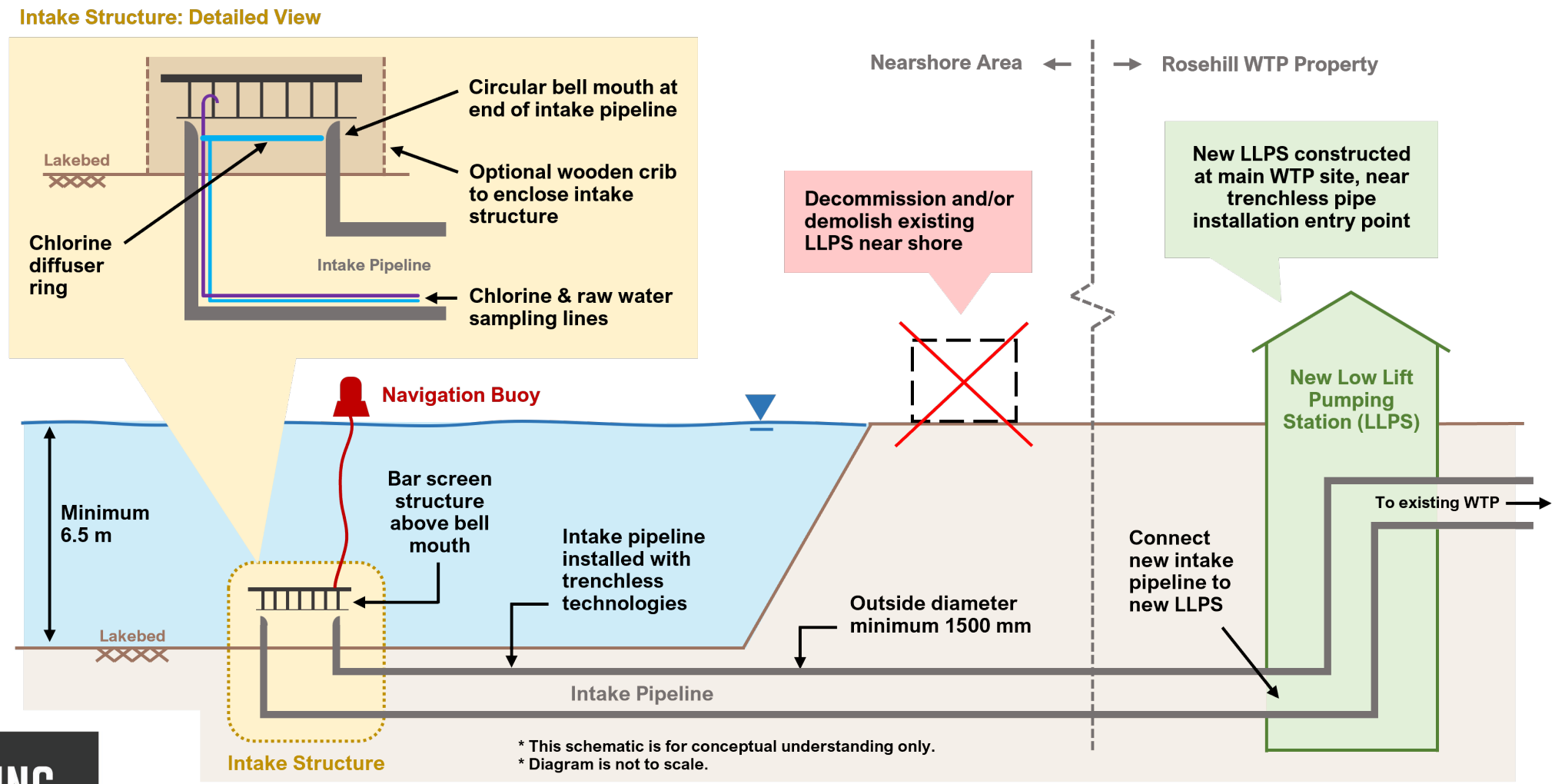
Improving Constructability for Pipe Installation

- Consider trenchless construction method to minimize construction impacts on surrounding residential neighbourhood and contain construction within narrow property limits.
- Most suitable method is likely tunnelling.
- Available space at existing WTP could be used for construction laydown and equipment setup.

Improving Constructability for Tie-in with Existing Low Lift Pumping Station (LLPS)

- Staged construction would be required to maintain continuous operation of the WTP during construction. This is not feasible due to property limits and lack of equipment space.
- Future expansion of existing LLPS is anticipated but is not feasible due to property constraints. A new LLPS would eventually be needed at a different location, where tunnelling may be required to tie-in with the new intake pipe.
- Therefore, construction of a new LLPS must be considered as part of this Class EA Addendum.

Alternative Intake Solution



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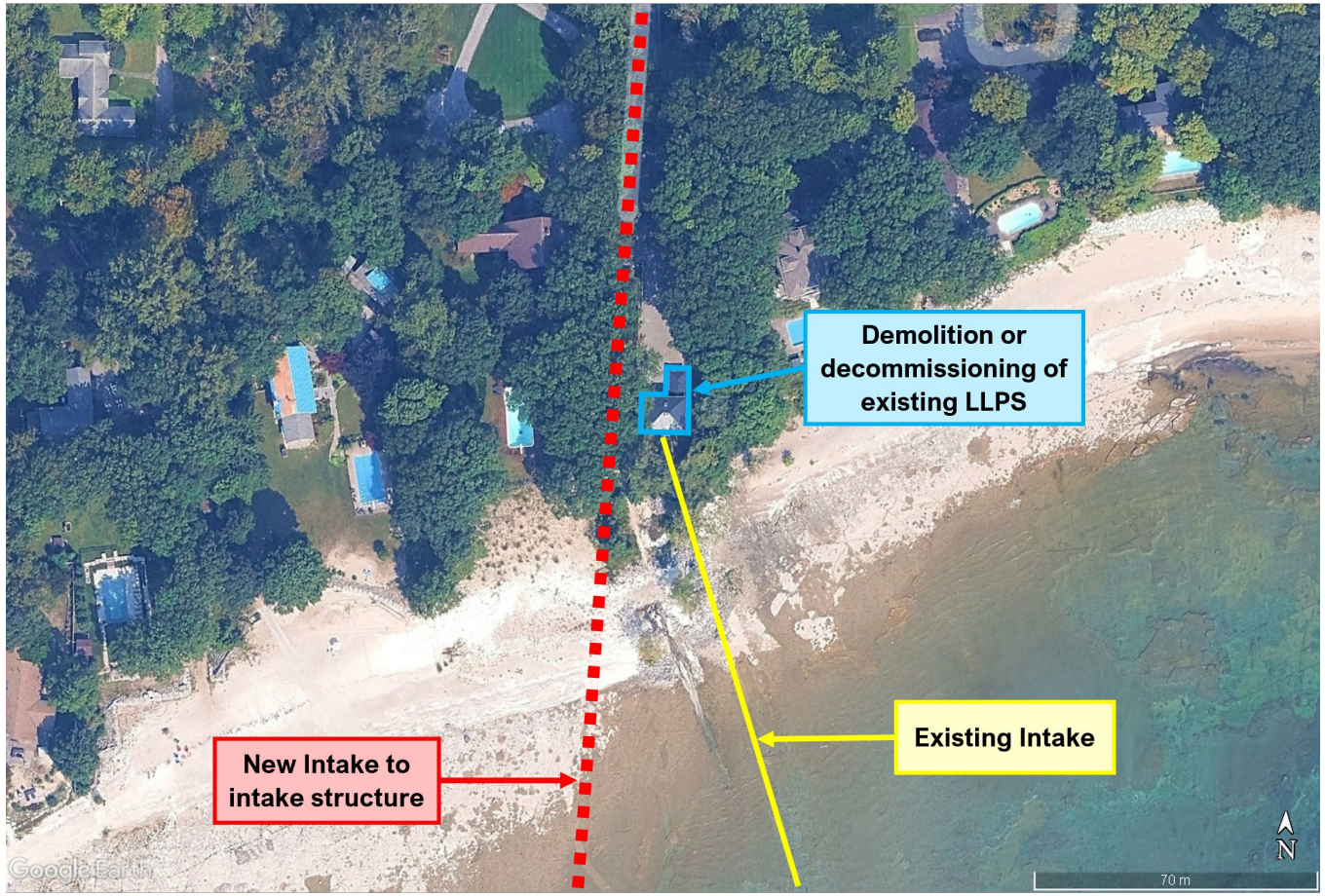
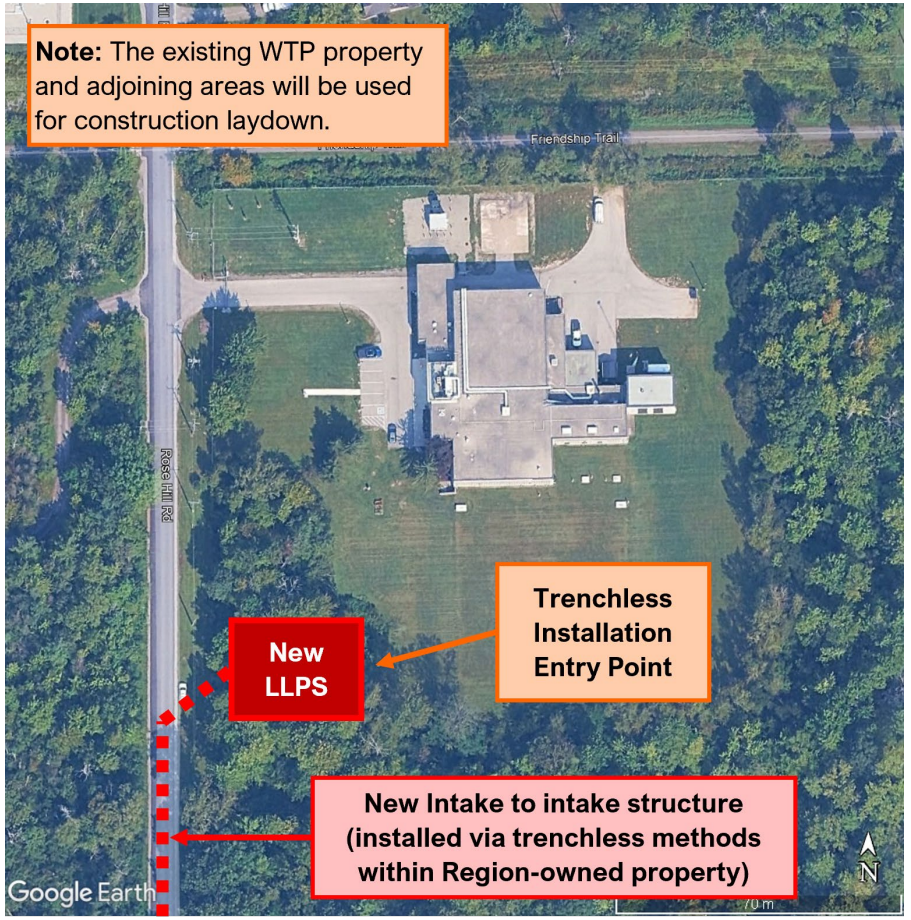
Alternative Intake Solution



Alternative Solution at LLPS / Nearshore Area



Alternative Solution at Rosehill WTP Site

Evaluation Criteria

The Previous Class EA preferred solution and the alternative solution were evaluated with respect to their social, economic, technical, cultural, and environmental impacts. See table to the right.

A graphical scoring method, shown below, was used to evaluate alternatives. The lowest impact (i.e. the most positive solution) is shown as the circle symbol coloured fully green.

				
Highest Impact	**High Impact**	**Moderate Impact**	**Low Impact**	**Lowest Impact**
Most Negative	Negative	Neutral	Positive	Most Positive

Criteria	Considerations
Social	• Effects on neighbouring properties • Sensory impacts during and after construction
Economical	• Comparative cost (capital cost, operation & maintenance cost)
Technical	• Constructability and construction impact to maintaining operations of the existing system • Compatibility and potential impacts to existing infrastructure • Implementation phasing & ease of implementation • Optimization of existing or available infrastructure • Operations and maintenance requirements • Ability to meet existing and future water demands • Resiliency and adaptability to future needs • Regulatory and approval requirements
Cultural	• Effects on archaeological resources • Effects on built heritage resources and cultural heritage landscapes
Environmental	• Effects on wildlife and vegetation • Effects on habitats and air quality • Effects on Source Water Protection • Effects on Climate Change

Evaluation of Alternative Intake Solution

Criteria	Previous Class EA Preferred Solution	Rating	Alternative Intake Solution	Rating
Social	• Higher construction impacts (such as marine blasting, nearshore marine excavation, noise, dust, vibration, heavy truck traffic) to nearby residents due to near shore area construction and open cut trenching installation. • Construction near shore requires space from neighbouring properties.		• Lower construction impacts to nearby residents. Entry point for trenchless pipe installation can be within main WTP site. • Construction can be restricted to Region property.	
Economical	• Higher marine construction cost due to open cut trenching for the full length of new intake pipe. • Additional future costs when existing LLPS requires expansion. Potentially requires the "New Recommended Solution" to be implemented regardless. • Additional cost to secure lands near shore from neighbouring properties for construction laydown and equipment usage. • Similar operation and maintenance cost.		• Higher on-land tunneling cost. • Reduced marine construction cost (marine work is only required for intake structure, not for entire pipeline). • Long-term cost savings when incorporating the planning, design, and construction of the new LLPS with the new intake. • Similar operation and maintenance cost.	
Technical	• Lack of space and narrow access to shore. • Limited construction window for in-water works. • WTP production interruptions when connecting to existing LLPS. • Potential for damages to existing intake pipe during the connection. • Use of existing raw watermain pipe from existing LLPS to main WTP. • Lack of space at existing LLPS property cannot accommodate need for future LLPS expansions. • Similar permit and approval efforts. Construction is **more** disruptive.		• Improved constructability (trenchless installation utilizes available space at the main WTP site for construction laydown and storage). Year-round construction is also possible. • Less risk of interruptions to plant production. • Use of available intake pipeline from entry point at main WTP site to the shore. • Ability to meet future growth in demands. • Ease of implementation for future LLPS expansions. • Similar permit and approval efforts. Construction is **less** disruptive.	

 **Highest Impact: Most Negative**

 **High Impact: Negative**

 **Moderate Impact: Neutral**

 **Low Impact: Positive**

 **Lowest Impact: Most Positive**

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Evaluation of Alternative Intake Solution

Criteria	Previous Class EA Preferred Solution	Rating	Alternative Intake Solution	Rating
Cultural	• Impacts to marine archeological resources due to open cut trenching. • Similar impacts to built heritage resources.		• Trenchless technology would have less impacts on marine archeological resources (amount of lakebed disruption is reduced). • Similar impacts to built heritage resources.	
Environmental	• Higher impacts to aquatic habitats and species due to open cut trenching, dredging, and blasting. • Moderate impact to wildlife and terrestrial wildlife habitats. Mitigation required during design/construction. • Higher impact to nearshore aquatic habitat for Fowler's Toad (SAR), due to construction activities near shore.		• Lower impacts (in terms of extent and duration) to aquatic habitats and species as lakebed disruption would only be required at the intake structure location. • Moderate impact to wildlife and terrestrial wildlife habitats. Mitigation required during design/construction. • Minimized impact to the nearshore aquatic habitat for Fowler's Toad (SAR), due to the use of trenchless technology. • Moderate impact to terrestrial vegetation due to potential clearing of woody vegetation for the trenchless installation launch point and the new LLPS. Mitigation required during design/construction.	
Conclusion	**Alternative LESS Preferred**		**Alternative MORE Preferred**	

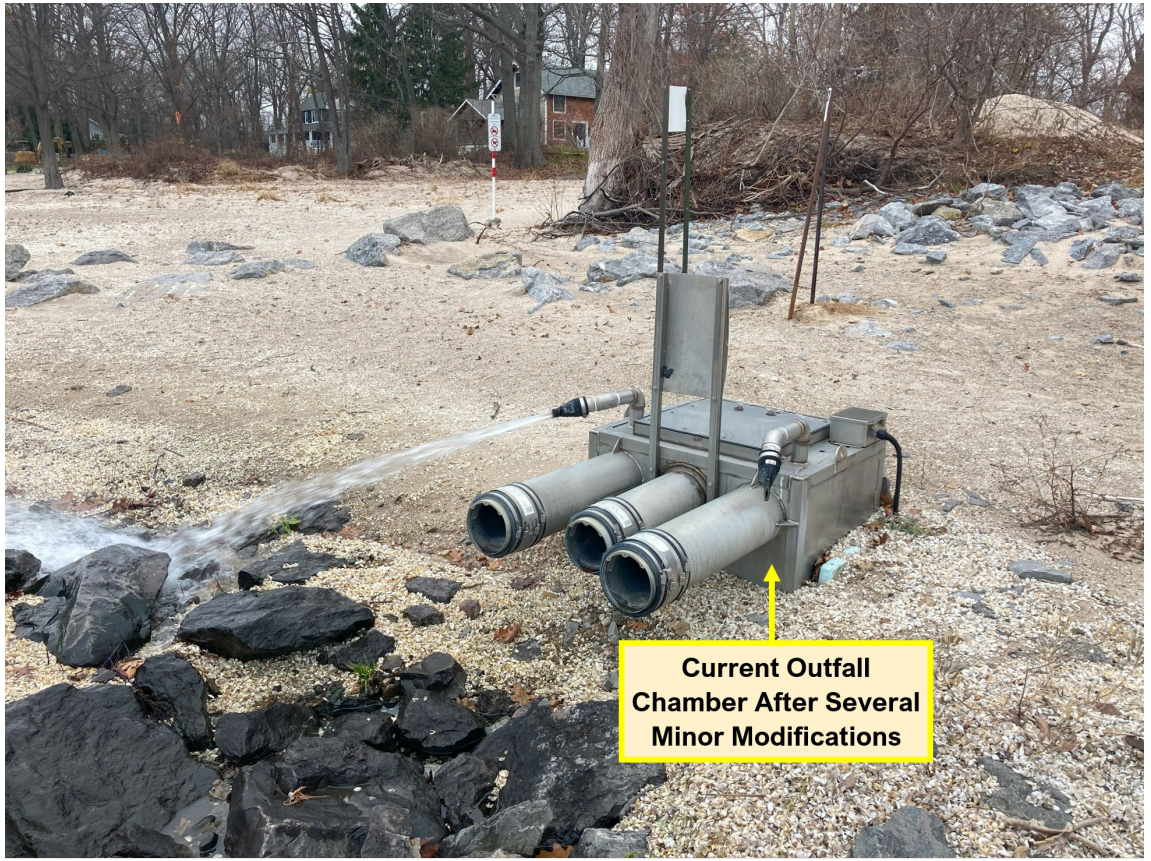
Existing Outfall Chamber

These figures show the progressive installation of the current outfall chamber – a water diversion chamber serving as a temporary solution to overcome debris buildup. The chamber has discharge pipes and overflow pipes. The entire structure is sitting on bedrock.

Plant Drain Outfall Alternatives

Three alternatives were identified to address the buildup of sand and debris at the plant drain outfall outlet:

1. **Do Nothing.** The temporary outfall chamber would remain as-is. However, the existing chamber may require structural repair and repositioning due to build-up of debris.
2. **Upgrade the Existing Outfall Chamber.** The existing outfall chamber would be upgraded to a more permanent solution. This includes 1) structural modifications to improve chamber hydraulics and reinforce its resilience against debris build-up, 2) modifications of the existing submersible pumps to increase capacity, and 3) electrical, instrumental and controls modifications to improve ease of operation and maintenance.
3. **Construct a New Outfall.** A new, submerged outfall would be constructed via open trenching and extend into Lake Erie.



Current Outfall Chamber as of December 2022

Evaluation of Plant Drain Outfall Alternatives

Criteria	Alternative 1: Do Nothing	Rating	Alternative 2: Upgrade the Existing Outfall Chamber	Rating	Alternative 3: New Outfall	Rating
Social	• Minor construction impacts to nearby residents. The required excavation to repair or reposition the existing chamber can be limited to the chamber's general area.		• Minor construction impacts to nearby residents. The required upgrades can be limited to the same general area of the existing outfall chamber.		• Highest construction impacts to nearby residents due to the use of heavy machinery for new outfall construction and the proximity of the work area to neighbouring properties.	
Economical	• No upfront capital cost. • Long-term costs due to repair or repositioning of the existing outfall chamber.		• Moderate capital cost for upgrades. • Lower maintenance cost once upgraded due to improvements in discharge capacity and process automation.		• Highest capital cost due to required trench and backfill near shore. • Lower maintenance cost once upgraded due to improvements in discharge capacity and process automation.	
Technical	• Higher operation and maintenance efforts as the existing chamber is only a temporary solution. • Not able to meet future growth in required capacity.		• Improved constructability to restrict construction activities within Region-owned easement. • Minor interruptions to plant production. • Optimization of the existing outfall chamber. • Able to meet future growth in required capacity. • Less permit and approval efforts.		• Poor constructability due to lack of space near shore and narrow access to shore. • Longer duration of Interruptions to plant production. • Able to meet future growth in required capacity. • Significant permit and approval efforts.	
Cultural	• Possible impacts to archaeological resources, cultural heritage landscapes, and built heritage resources, with mitigation required during construction.		• Possible impacts to archaeological resources, cultural heritage landscapes, and built heritage resources, with mitigation required during construction.		• Impacts to marine archaeological resources due to open cut trenching.	
Environmental	• Moderate impacts to the nearshore aquatic habitat for the identified SAR, Fowler's Toad, with mitigation required during design/construction.		• Moderate impacts to the nearshore aquatic habitat for the identified SAR, Fowler's Toad, with mitigation required during design/construction.		• Significant impacts to the nearshore aquatic habitat for the identified SAR, Fowler's Toad, due to the extent of open cut trenching near shore, with mitigation required during design/construction.	
Conclusion	**Alternative Less Preferred**		**Alternative More Preferred**		**Alternative Less Preferred**	

 **Highest Impact: Most Negative**

 **High Impact: Negative**

 **Moderate Impact: Neutral**

 **Low Impact: Positive**

 **Lowest Impact: Most Positive**

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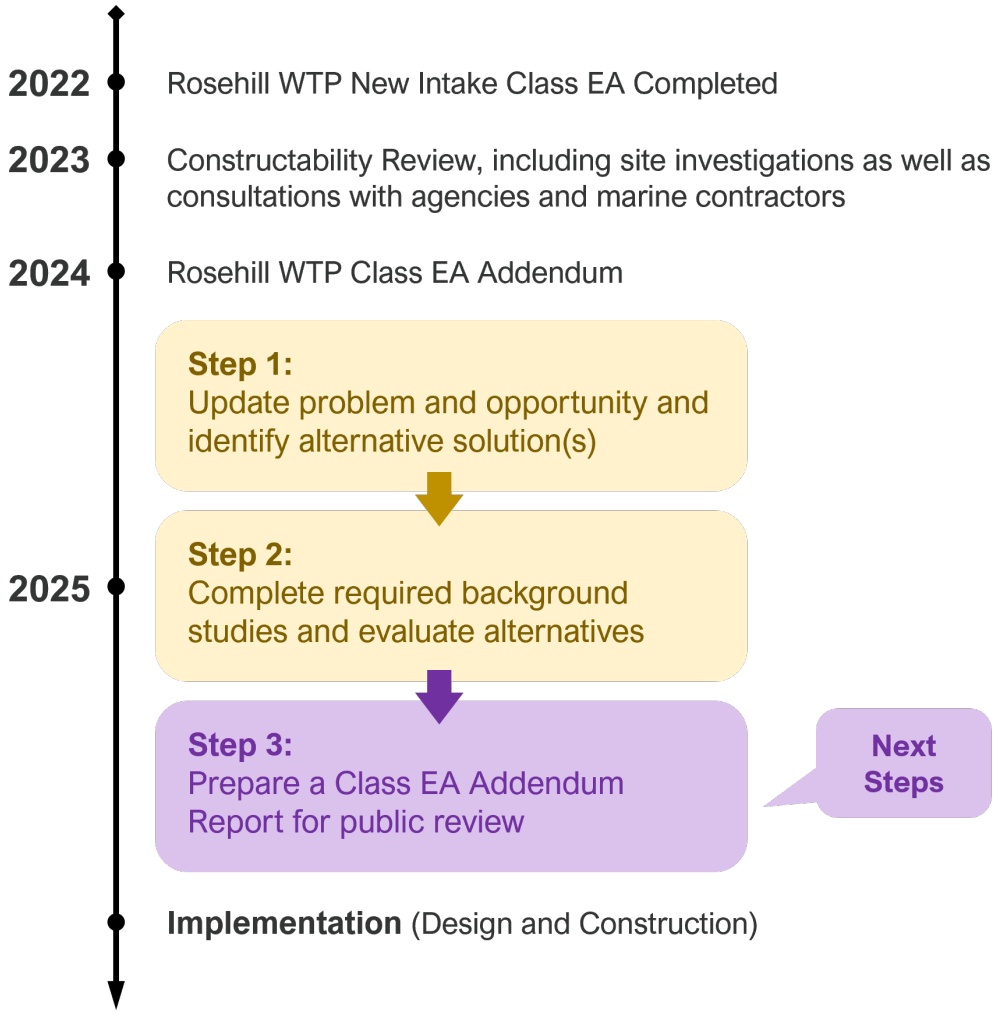
Next Steps

Next Steps:

- Preparation of a Class EA Addendum Report
- Publishing of the Class EA Addendum Report for public review (30-day review period as approved by Niagara Regional Council)
- **Note:** Implementation will occur after the Class EA Addendum Report has been published for public review, and all comments have been received.



Thank You for Your Participation!

How can you stay engaged and updated on this Class EA Addendum?

- Review presentation materials on the Region's project webpage: niagararegion.ca/projects/rosehill-intake/
- Submit any questions, comments or suggestions using the online comment form available on the Region's project webpage, or by contacting the Project Team.
- Request to be added to the Contact List to receive future notices.
- Visit the Region's project webpage for updates.

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Please Provide Comments by September 10, 2025