

A background graphic featuring a network of interconnected nodes and lines. The top half is dark gray with dark gray nodes and lines. The bottom half is a solid blue band with light blue nodes and lines. The text is centered in the upper half.

MOVING WATER FORWARD

CONNECTING MORE PEOPLE TO MORE POSSIBILITIES

Public Information Centre No. 1

Grimsby Water Treatment Plant Expansion

Class Environmental Assessment



*First Published:
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Niagara  Region

Welcome!

Goals of this Public Information Centre

- Provide background information on the Grimsby Water Treatment Plant and anticipated growth
- Present the Problem and Opportunity Statement
- Provide the criteria for the screening and evaluation of alternatives
- Summarize the evaluation of alternative solutions and present a recommended solution
- Provide an opportunity to get involved in the project

Project Overview



What are we doing?

Niagara Region is considering different ways to provide additional water supply for the Grimsby Water Treatment Plant (WTP) service area to support growth to 2051. This study will look at the best way to do this.



Why are we doing it?

Additional water demand is required to provide water to the growing population. The Grimsby WTP has been identified as requiring expansion or upgrades to meet the anticipated water demands. We are taking steps now to confirm that this is the right solution and to ensure we are ready to meet these future demands.

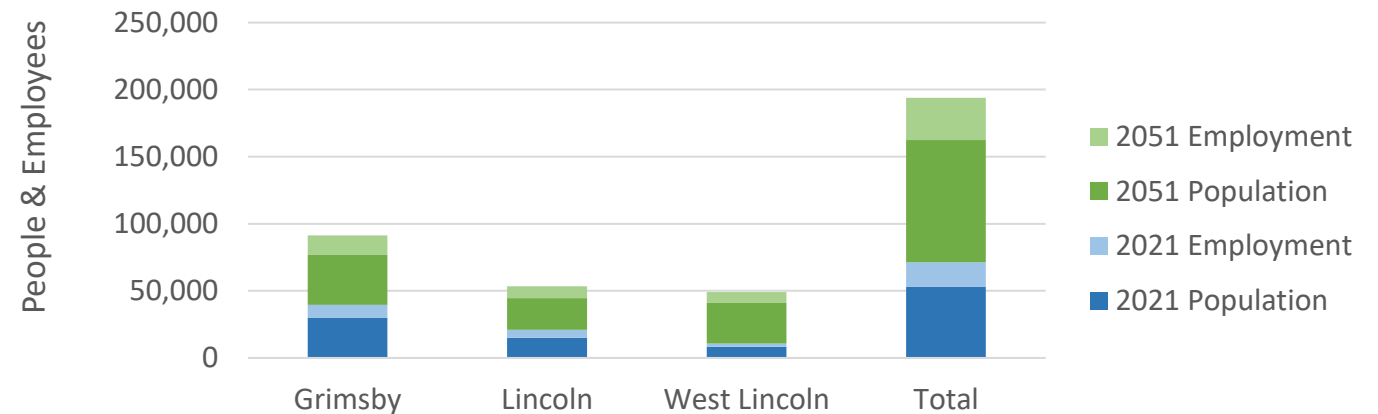
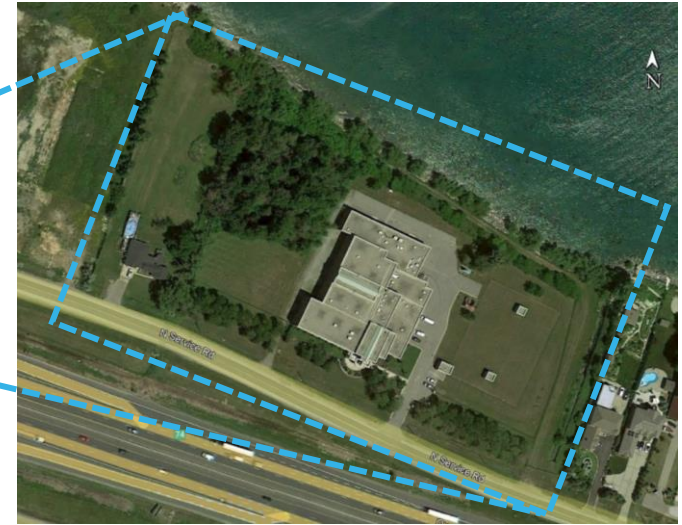
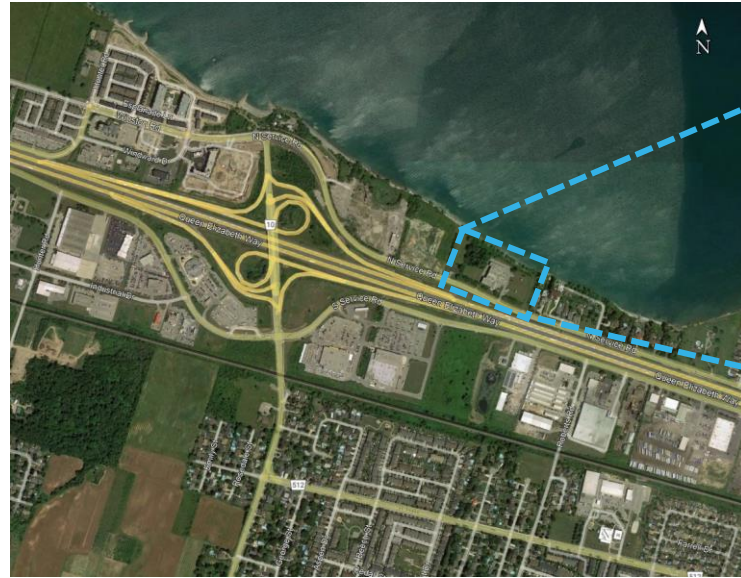


What does it mean to you?

Providing more water supply capacity can be done in different ways and could mean expanding the Grimsby WTP or building a new treatment facility or making other investments in the water system. It is expected that any construction will likely be limited to the Grimsby WTP property and more information about potential impacts will be provided as the study progresses.

Purpose and Location of Project

- Grimsby WTP services the Town of Grimsby, Town of Lincoln, and the Township of West Lincoln
- Schedule C Municipal Class Environmental Assessment (EA)
- 2021 Water and Wastewater (WWW) Master Servicing Plan Update (MSP) and 2022 Official Plan (OP) anticipate significant growth in Town of Grimsby, Town of Lincoln, and Township of West Lincoln
- Additional capacity is needed to accommodate the planned growth
- 2021 WWW MSP Update anticipates significant growth and recommended increasing the capacity of the WTP by 22 Million Litres per Day (MLD) along with increasing the high lift pumping capacity



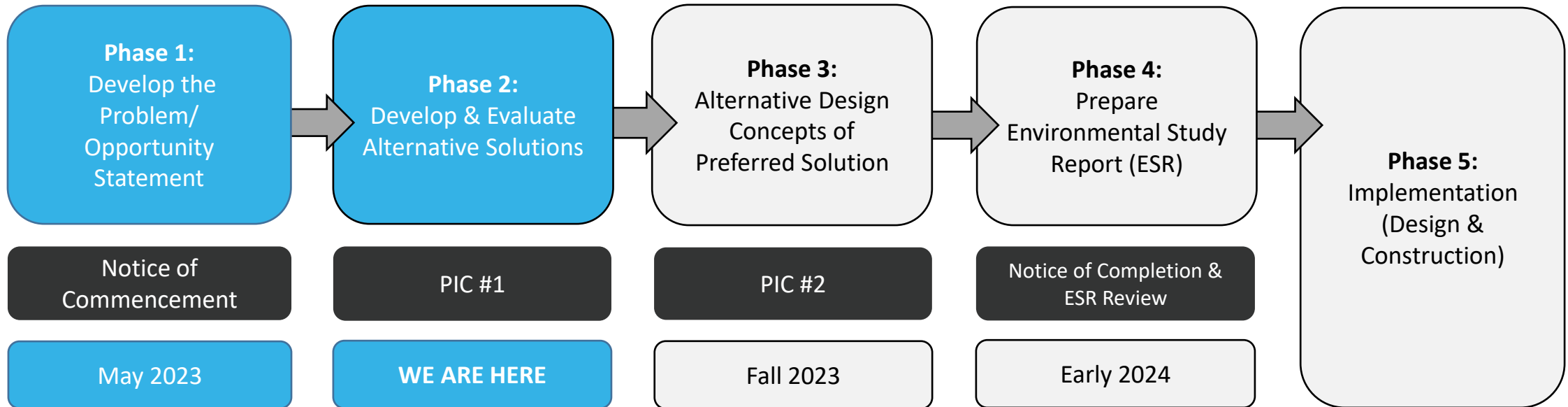
Projected Water Demand Requirements

Criteria	Value	Rationale
Population Consumption Rate	240 L/c/d	2021 WWW MSP Update
Employment Consumption Rate	270 L/c/d	2021 WWW MSP Update
Maximum Day Factor	2.2	3-year historical data (2019-2021)

- Total capacity of approximately 67 MLD required to service growth to 2051, or one additional treatment train
- The estimated capacity upgrades are similar to the values recommended in the 2021 WWW MSP Update

Municipal Class EA Process

This project is classified as a **Schedule 'C' Municipal Class EA** and is subject to **Phases 1 through 4** of Municipal Class EA process.



Upon completion of Phase 4 of the study, an Environmental Study Report (ESR) will be prepared to document the Municipal Class EA planning and decision-making process and made available for a 30-day public review period. A Notice of Completion will be issued at that stage.

Technical Considerations



- Conventional WTP with a rated capacity of 44 MLD, split between two 22 MLD trains and an intake capacity of 67 MLD
- Maximum day demand reached 81 per cent of the WTP's capacity in the last three years
- Improvements to treatment processes would help the efficiency and overall operation of the facility
 - Increase low lift pump capacity
 - Increase wash water capacity
 - Increase Alum bulk storage tank capacity
 - Improve/alter rapid mix, sedimentation, and filtration process
 - Improve/allow for more redundancy throughout the treatment process

Problem and Opportunity Statement

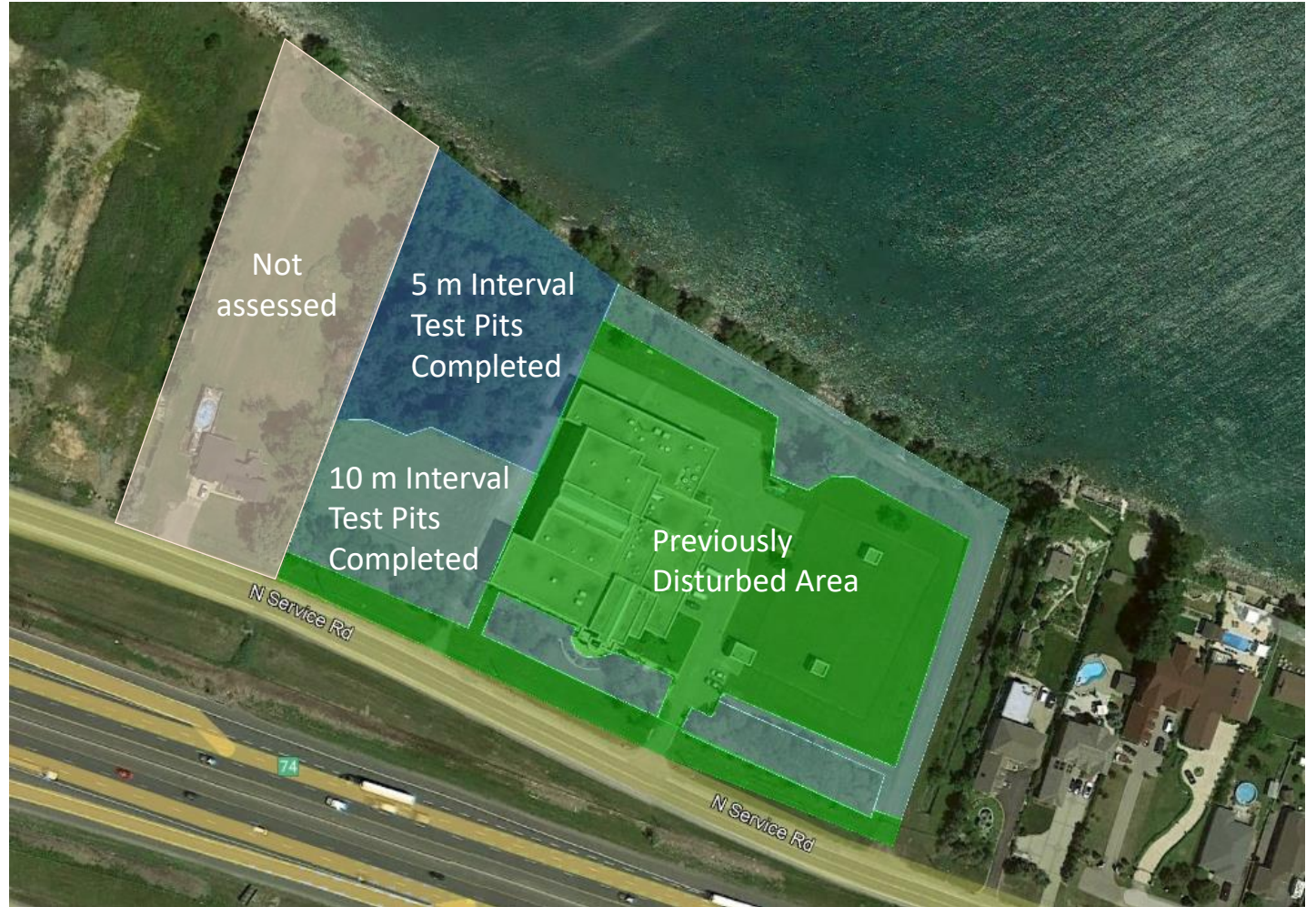
Niagara Region is completing this study to identify a preferred solution for expansion of the Grimsby WTP to service future growth to 2051. The preferred solution will:

- Support service area growth to 2051 while considering opportunities for operational flexibility and redundancy;
- Provide resiliency to potential future changes to regulatory, climatic, and raw water quality conditions;
- Balance environmental, social, technical, and economic considerations.



Archaeological Potential

- Stage 1 and 2 Archaeological Assessment (AA) completed on the existing Grimsby WTP property
- Study concluded that this property does not retain archaeological potential and no further AA is required
- 320 North Service Road property has not been assessed. Phase 3 of this Class EA will confirm footprint requirements, and if the recommended solution is anticipated to impact this property, additional AA will be undertaken



Ecological Assessment



- Environmental Impact Study and Tree Inventory was completed on the Grimsby WTP property
- Study concluded that this property has little retained ecological interest due to the small size and relative isolation of the woodland area
- Candidate for significant wildlife habitat for bat maternity colonies
- Additional Environmental Impact Studies are not anticipated

Identification of Alternatives

- 1. Do Nothing**
- 2. Do Not Allow Growth**
- 3. Increase Servicing Capacity**
 - a. Construct a New Water Treatment Plant**
 - b. Expand the Existing Water Treatment Plant**
 - c. Increase Water Conservation**
 - d. Connect to an External Water Distribution System**
 - i. City of Hamilton, Woodward Avenue WTP**
 - ii. Niagara Region, DeCew Falls WTP**

Long List Screening Criteria

The alternatives identified above were screened against pass or fail criteria to confirm feasibility before proceeding to a detailed evaluation. For an alternative to proceed, it must pass all three criteria.

Criteria	Considerations
Is the Alternative Feasible and Reasonable?	• Is the alternative technically feasible and reasonable? • Can the alternative be constructed for a reasonable cost? • Are the ecological, social, or other impacts anticipated to be unreasonably high relative to other alternatives? • Does the alternative provide a long-term solution?
Does the Alternative Address the Problem and Opportunity Statement?	• Does the alternative address the considerations listed in the Problem and Opportunity Statement? • Does the alternative support planned growth to 2051? • Can the alternative offer resiliency to potential future changes to regulatory, climatic, and raw water quality conditions?
Does the Alternative meet Applicable Planning Policies	• Does the alternative meet local, regional, and provincial planning policies?

Screening of Alternative Solutions

Alternative	Is the Alternative Feasible and Reasonable?	Does the Alternative Address the Problem and Opportunity Statement?	Does the Alternative meet Applicable Planning Policies?	Summary
1. Do Nothing	✗	✗	✗	Carried forward to detailed evaluation as a baseline for comparison of all short-listed alternatives.
2. Do Not Allow Growth	✗	✗	✗	Not a long term solution and does not meet Problem and Opportunity Statement or Applicable Planning Policies.
3a. Construct a New Water Treatment Plant	✗	✓	✓	Meets Problem and Opportunity Statement and Planning Policies, but significant cost and land acquisition would be expected.
3b. Expand the Existing Water Treatment Plant	✓	✓	✓	Allows for growth, provides a long term solution, and meets Problem and Opportunity Statement and Planning Policies.
3c. Increase Water Conservation	✗	✗	✗	Not a feasible long term solution and would not be able to support planned growth to 2051.
3d. i. Connect to City of Hamilton Woodward Avenue WTP	✗	✗	✓	Not a feasible long term solution and does not address considerations related to increasing resiliency against future regulatory, climatic, or raw water changes.
3d. ii. Connect to Region of Niagara DeCew Falls WTP	?	✓	✗	Meets Problem and Opportunity Statement but would not meet conditions of the Niagara Escarpment Plan for this project.

Short List Evaluation Approach and Criteria

The short listed alternative solutions were evaluated with respect to their impact on the following:

Criteria	Considerations	
Social	• Effects on neighbouring properties • Sensory impacts during and after construction (noise, dust, etc.)	• Effects on Indigenous communities • Effects on the municipality, local businesses, etc. • Future growth as per the Region Official Plan
Technical	• Compatibility with existing systems • Ease of implementation • Effects on operations and maintenance	• Treatment complexity • Ability to meet existing and future water demands
Environmental	• Effects on wildlife and vegetation • Effects on habitats and air quality	• Effects on Source Water Protection • Climate Change
Relative Cost and Financial Risk	• Affordability • Relative magnitude of expense • Additional costs related to unknowns	• Potential construction risks that could impact cost or other financial risks

Evaluation of Alternative Solutions

Evaluation Criteria	Do Nothing	Expand the Existing WTP
Social	 No construction or change to property but growth demands are not met.	 Region owned property and meets growth demand. Potential for noise and dust impact to neighbouring area.
Technical	 No approvals, change to maintenance, but growth demands are not met.	 Minor approvals, increased water capacity, opportunity to increase redundancy, minimal construction sequencing
Environmental	 No potential impacts to wildlife, vegetation, air quality, climate change.	 Potential for moderate impacts but will be reduced through mitigation measures. Residual impacts anticipated to be low.
Relative Cost and Financial Risk	 No initial capital costs, but existing plant may require additional routine maintenance	 Initial capital costs and increase maintenance costs associated with larger facility. Grounds have been previously disturbed/investigated, low risk for unforeseen conditions
Overall Conclusion	 Not Recommended Solution	 Recommended Solution

Legend:

Low Alignment with Criteria	Not Well Aligned with Criteria	Somewhat Aligned with Criteria	Well Aligned with Criteria	Very Well Aligned with Criteria
				

Recommended Solution

Expand the Existing Grimsby Water Treatment Plant

- Capacity expansion from 44 MLD to approximately 67 MLD and will require one additional treatment train
- Expansion would be within the existing Regional property at 300 and 320 North Service Rd.
- Alternative design concepts and expansion footprint requirements will be reviewed in Phase 3 of this Class EA and presented in PIC No. 2



Next Steps



Niagara Regional Council

Niagara Regional Council will provide approval to file the Environmental Study Report for a **30-day review period for public** comment.

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Thank you for your participation!

How can you stay engaged and up to date on this Municipal Class EA?



Review presentation materials on the Region's project webpage



Submit any questions, comments or suggestions use the online comment form or by contacting the Study's Project Team.



Request to be added to the Study Contact List to receive future notices.



Visit the Region's project webpage for study updates

<https://niagararegion.ca/projects/grimsby-water-treatment-plant/>



Attend future Public Information Centre No. 2

Questions

Your feedback is important. Your comments will be reviewed and considered as the Study progresses. To submit questions/comments/suggestions after this PIC, please use the online comment form available on the project webpage **by July 7, 2023**.

<https://niagararegion.ca/projects/grimsby-water-treatment-plant/>

If you have further questions, please contact a member of the Project Team:

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