

Welcome

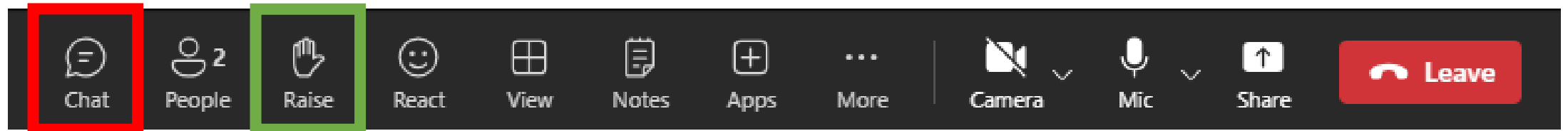
Public Information Centre #2 Carlisle Water Storage Facility Class EA



Thursday, April 25, 6:00 p.m.

Housekeeping Items

- When joining the online meeting, attendees will be muted and will not be able to use their microphones or camera.
- At the end of the presentation, there will be an opportunity to ask questions or submit comments. Please use the Chat function [in red] to submit a question or Raise hand function [in green] to verbally ask questions for the presenters to answer.



- To submit your feedback following the Public Information Centre (PIC), the presentation materials and an online survey are available on the project webpage.



Presentation Outline

- Study Area and Objectives
- Municipal Class Environmental Assessment (EA) Process
- Problem / Opportunity Statement
- Specialty Studies Completed
- Long-list of Water Storage Locations Considered
- Short-list of Suitable Water Storage Locations & Evaluation
- Types of Water Storage & Evaluation
- Recommended Solution
- Next Steps

CARLISLE WATER STORAGE FACILITY

Municipal Class Environmental Assessment

3



Study Area and Objectives

- The study area includes the Carlisle Rural Settlement Area and immediately adjacent areas
 - Households serviced by the municipal water supply;
 - Households not currently serviced by the municipal water supply; and
 - Currently undeveloped land parcels.

The goal of the study is to ensure Carlisle will have long-term, sustainable water servicing to meet the current and future needs of the community.



CARLISLE WATER STORAGE FACILITY

Municipal Class Environmental Assessment

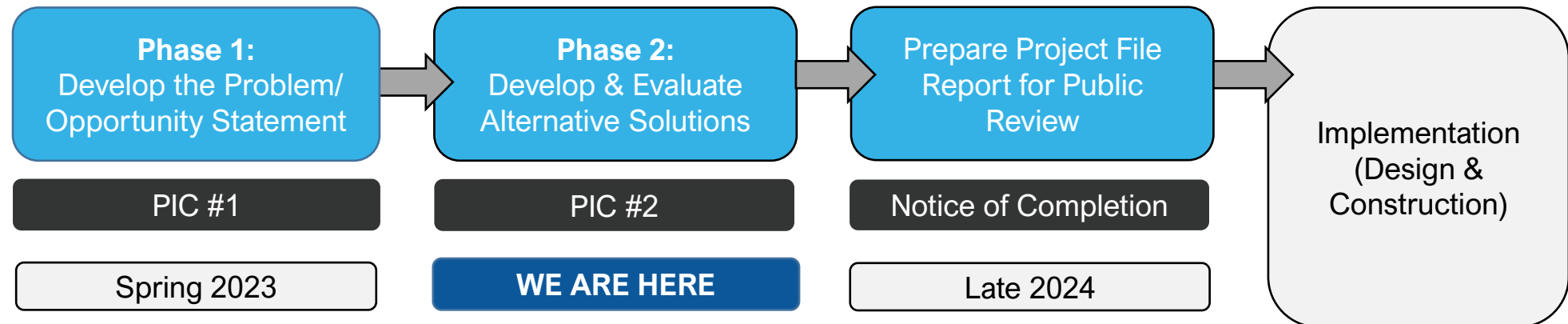


Municipal Class EA Process

A Municipal Class EA is undertaken prior to municipal road, water, wastewater and transit construction projects.

- Ensures all reasonable alternatives are considered
- Avoidance or reduced impact on the natural, cultural, social and economic environments
- Incorporation of input from the public, internal and external partners, technical agencies and Indigenous partnerships

This project is classified as a **Schedule 'B' Municipal Class EA** and is subject to **Phases 1 and 2** of EA process.



CARLISLE WATER STORAGE FACILITY

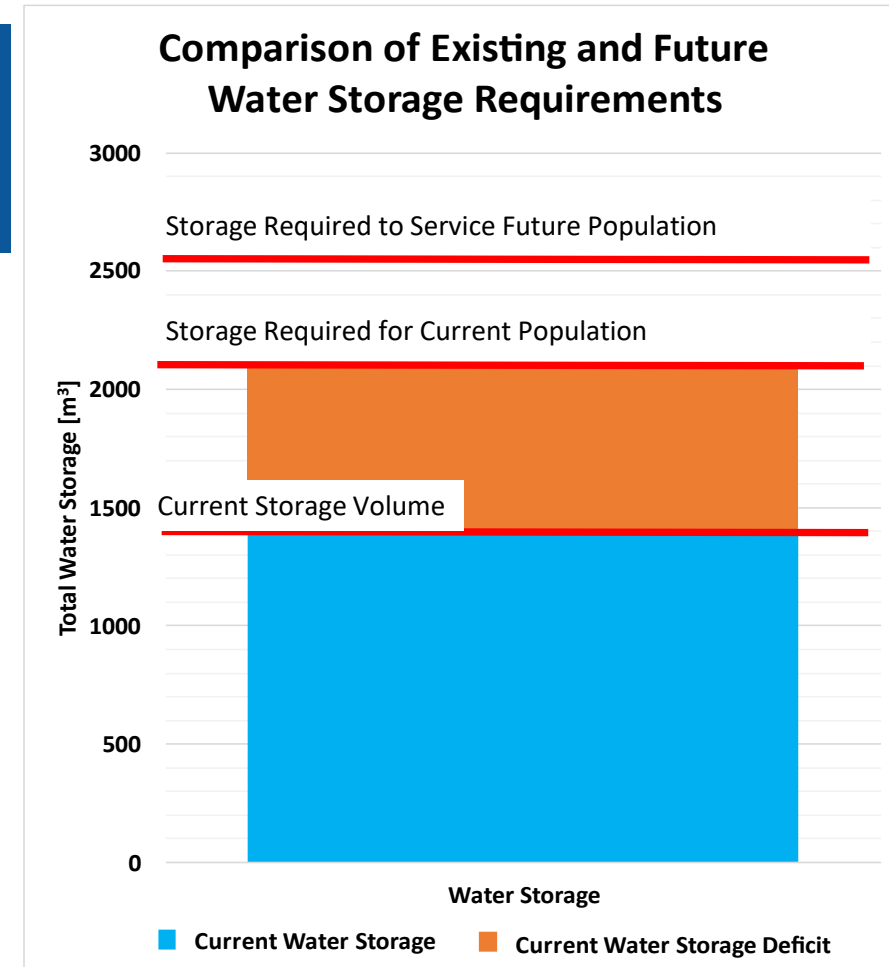
Municipal Class Environmental Assessment



Problem / Opportunity Statement

The Problem / Opportunity Statement outlines the need and justification for the overall project and establishes the general parameters, or scope, of the study.

- Additional water storage infrastructure is required within the Community of Carlisle to address the community's water storage capacity needs now, and in the future.
- This Class EA will identify and evaluate:
 - **types** of water storage facilities; and
 - potential **sites** for the required water storage infrastructure.



CARLISLE WATER STORAGE FACILITY

Municipal Class Environmental Assessment

Specialty Studies Completed

- Stage 1 Archaeological Assessment
- Cultural Heritage Assessment
- Desktop Geotechnical & Hydrogeological Assessment
- Scoped Phase 1 Environmental Site Assessment
- Natural Environment Assessment
- Hydraulic Analysis

CARLISLE WATER STORAGE FACILITY

Municipal Class Environmental Assessment

7



Long-list of Water Storage Locations Considered

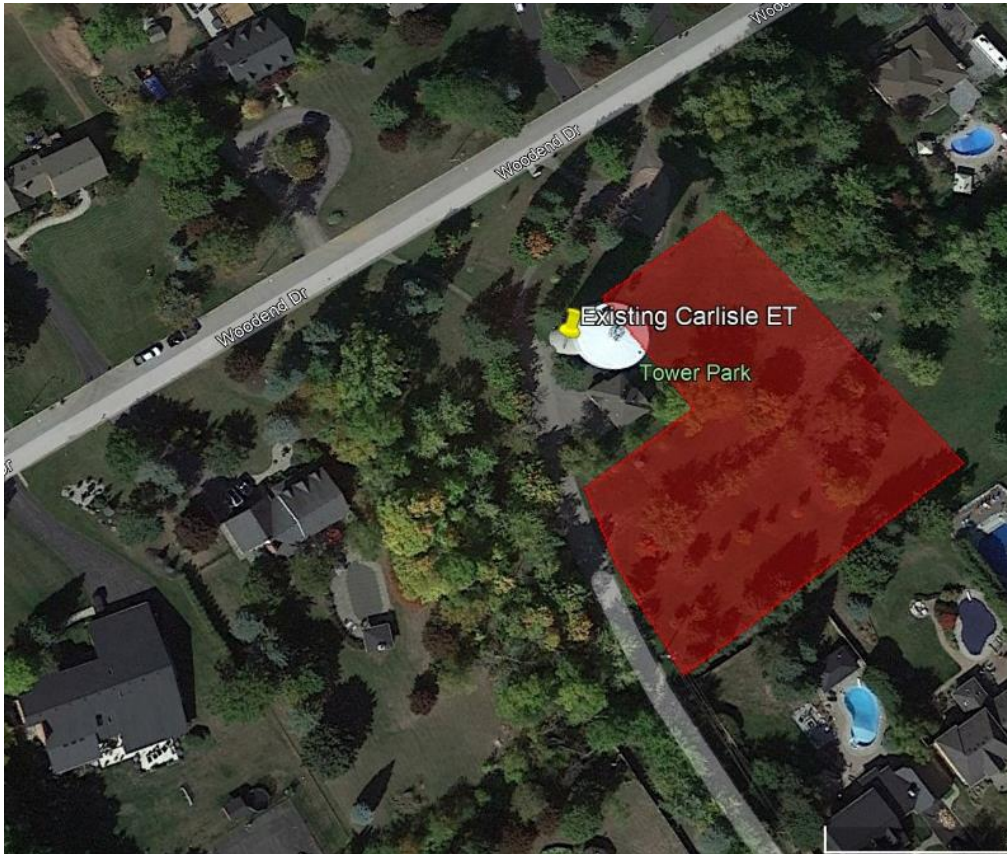
- Area 1: Existing Elevated Tank Site (Tower Park)
- Area 2: William Street Location
- ~~Area 3: Baseball Diamonds~~
- ~~Area 4: Tennis Court~~
- ~~Area 5: South of Carlisle Road~~
- ~~Area 6: Centre Road~~
- ~~Area 7: Oldenburg Road~~
- ~~Area 8: Carlisle Memorial Park~~

CARLISLE WATER STORAGE FACILITY

Municipal Class Environmental Assessment



Shortlisted Area 1: Existing Elevated Tank Location (Tower Park)

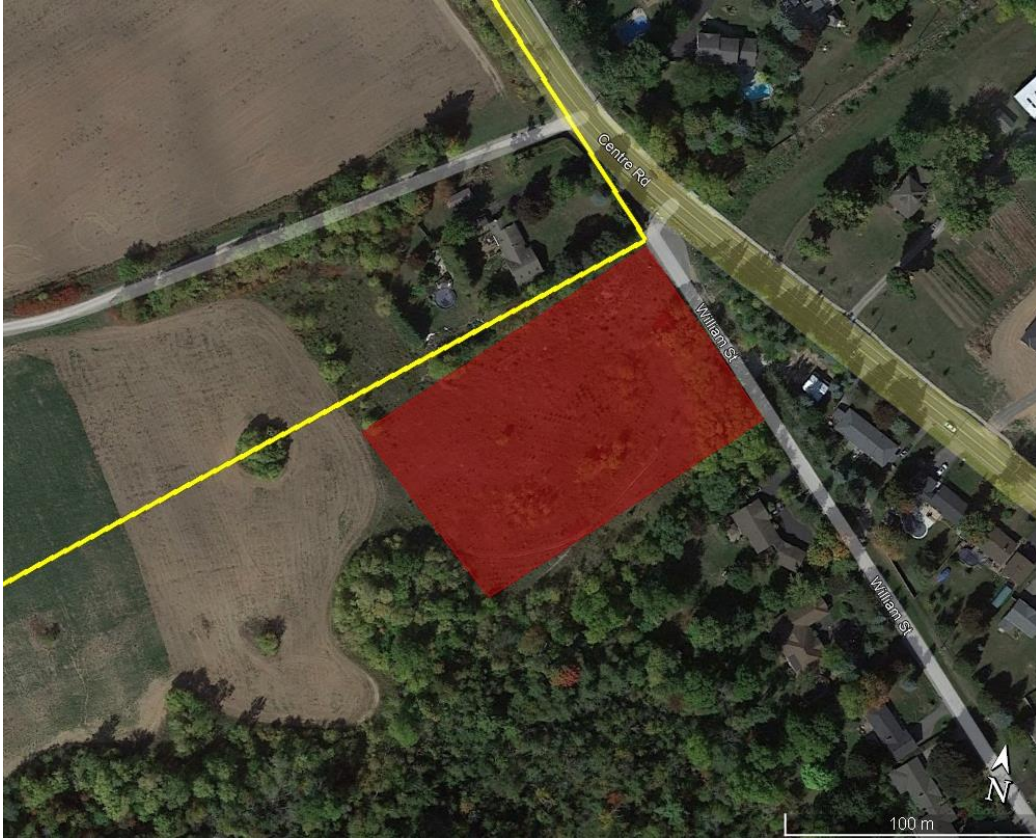


Area 1: Existing Elevated Tank Site (Tower Park)

- City owned property with existing water storage infrastructure
- Connected to existing water supply system
- Vehicle access from Acredale Drive or Woodend Drive
- Suitable for above or below ground water storage facility



Shortlisted Area 2: William Street at Centre Road



Area 2: William Street at Centre Road

- Privately owned property
- No connection to existing water supply system (350 m watermain extension from Elderberry Lane required)
- Access from William Street (dead-end street)
- Adjacent to Wetland Hazard Lands
- Suitable for above or below ground water storage facility



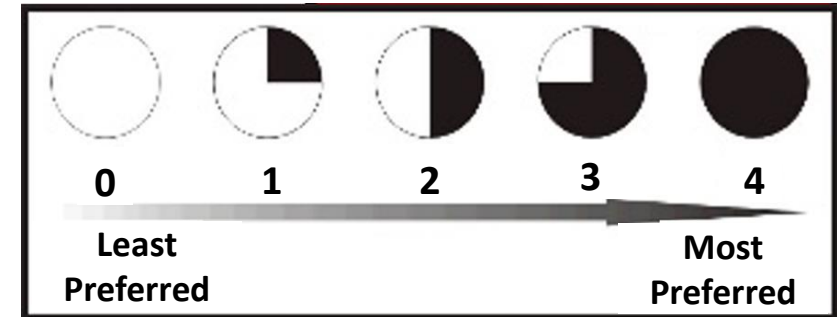
Evaluation Criteria

Criteria	Considerations	
Technical	<ul style="list-style-type: none"> Reliability Connection to existing infrastructure (including pipe network) Operational impact 	<ul style="list-style-type: none"> Long-term solution Approvals required to implement solution Constructability and access Hydraulic requirements
Social Environment	<ul style="list-style-type: none"> Effects on neighbouring properties Sensory impacts during and after construction (noise, dust, etc.) 	<ul style="list-style-type: none"> Effects on the municipality, local businesses, etc. Effects on Indigenous partnerships Future growth as per the City's Official Plan
Natural Environment	<ul style="list-style-type: none"> Effects on wildlife and vegetation Effects on habitats and air quality 	<ul style="list-style-type: none"> Effects on Source Water Protection Climate change
Cultural Heritage / Archaeological	<ul style="list-style-type: none"> Impacts areas with archaeological potential 	<ul style="list-style-type: none"> Impacts cultural heritage resources
Relative Cost and Financial Risk	<ul style="list-style-type: none"> Affordability Relative magnitude of expense Additional costs related to unknowns 	<ul style="list-style-type: none"> Potential construction risks that could impact cost or other financial risks



Evaluation of Suitable Water Storage Locations

EVALUATION CRITERIA	Area 1: Tower Park	Area 2: William Street
TECHNICAL		
SOCIAL ENVIRONMENT		
NATURAL ENVIRONMENT		
CULTURAL HERITAGE / ARCHAEOLOGICAL		
RELATIVE COST AND FINANCIAL RISK		
Overall Ranking (based on score)	1st	2nd
EVALUATION SUMMARY	Recommended	Not Recommended



CARLISLE WATER STORAGE FACILITY

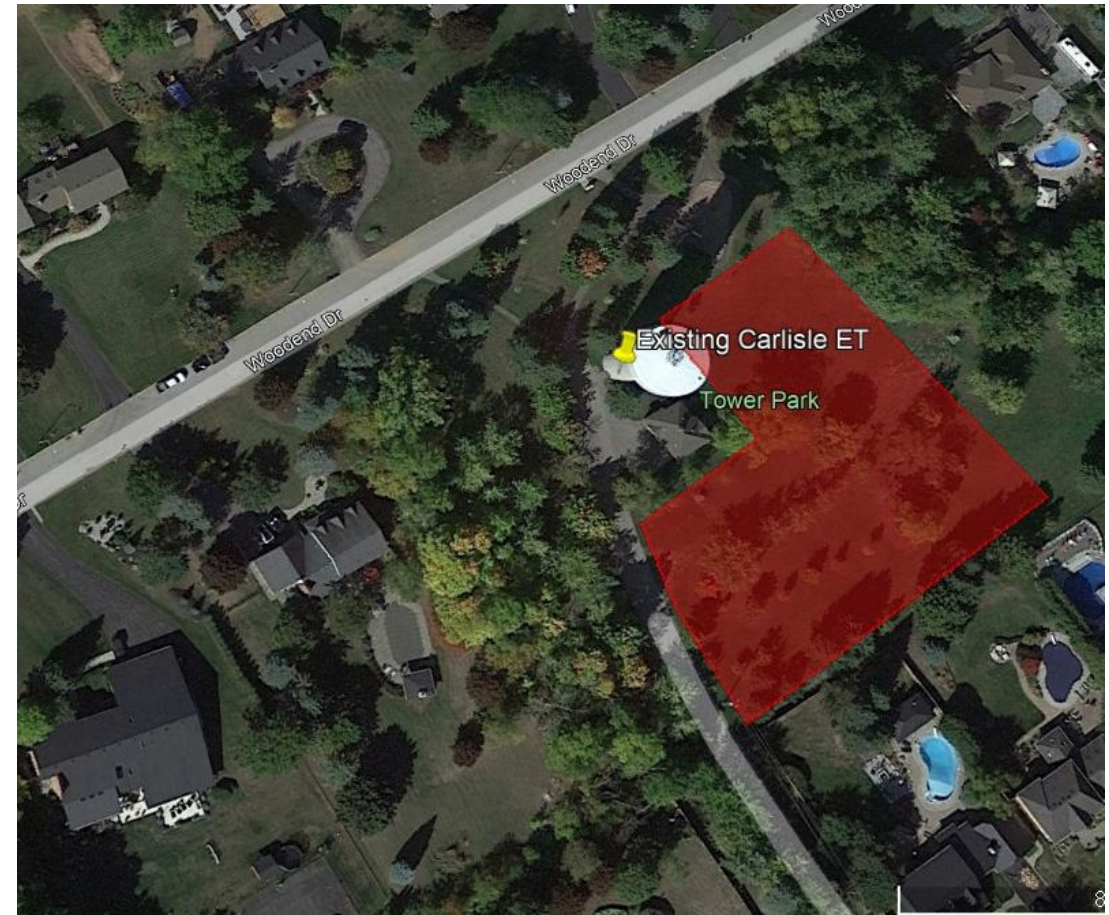
Municipal Class Environmental Assessment



Recommended Water Storage Location

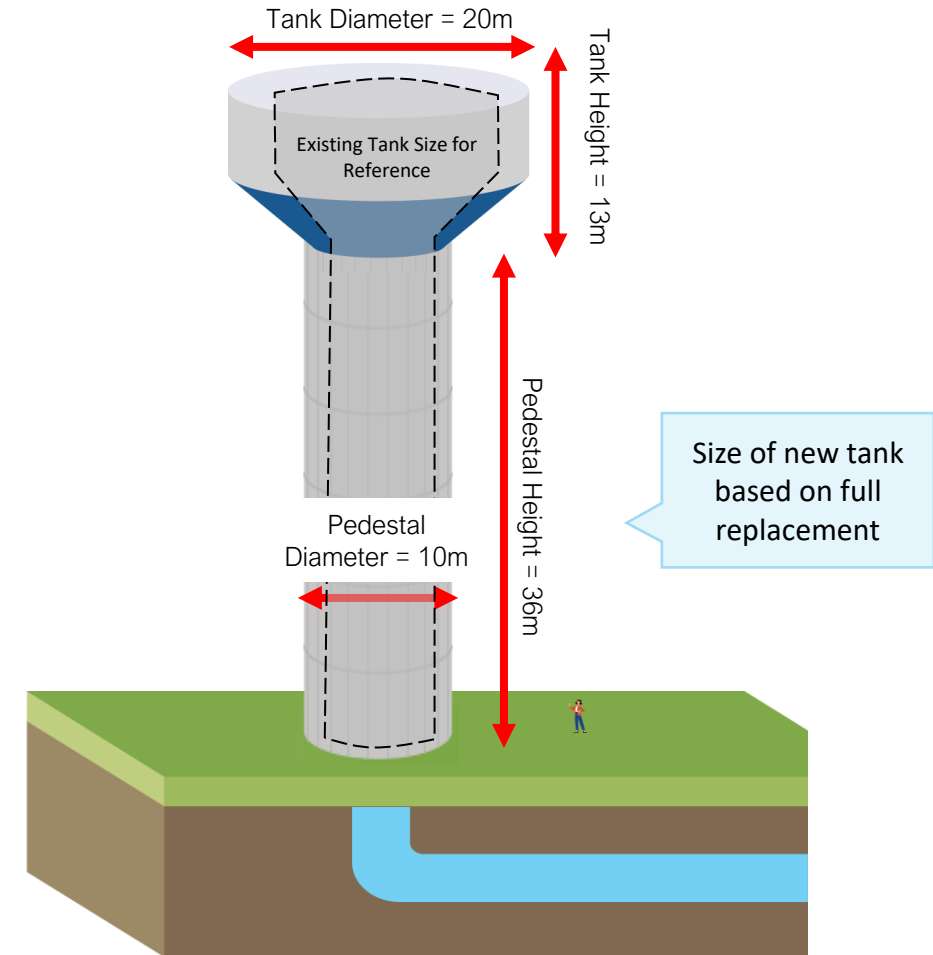
Area 1: Existing Tank Location in Tower Park

- Existing driveway access and pipe network on the property
- Property is owned by the City
- Area meets hydraulic (water pressure) requirements
- In urban area on a disturbed site, reducing impacts to natural environment
- Lower construction cost in comparison to William Street site



Types of Water Storage – Elevated Tank

- Elevated Tank
 - A storage facility supported by a tower at an elevation to provide storage and pressure (MECP, 2008).
 - Uses gravity to distribute water.
 - Approximately same height and 5m wider than existing elevated tank.



The elevated tank could either replace or be in addition to the existing facility.

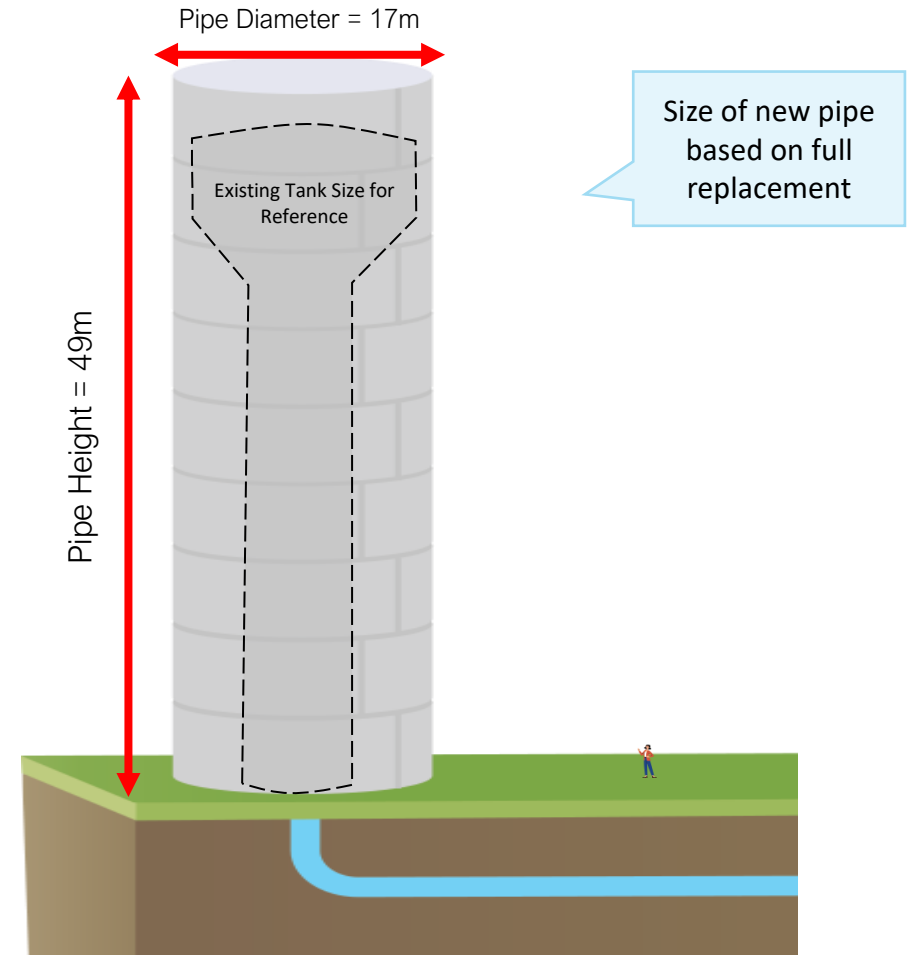
CARLISLE
WATER STORAGE FACILITY

Municipal Class Environmental Assessment



Types of Water Storage - Standpipe

- Standpipe
 - Tall tank for holding water, usually smaller in diameter compared to height (MECP, 2008).
 - Uses gravity to distribute water.



The standpipe could either replace or be in addition to the existing facility.

CARLISLE WATER STORAGE FACILITY

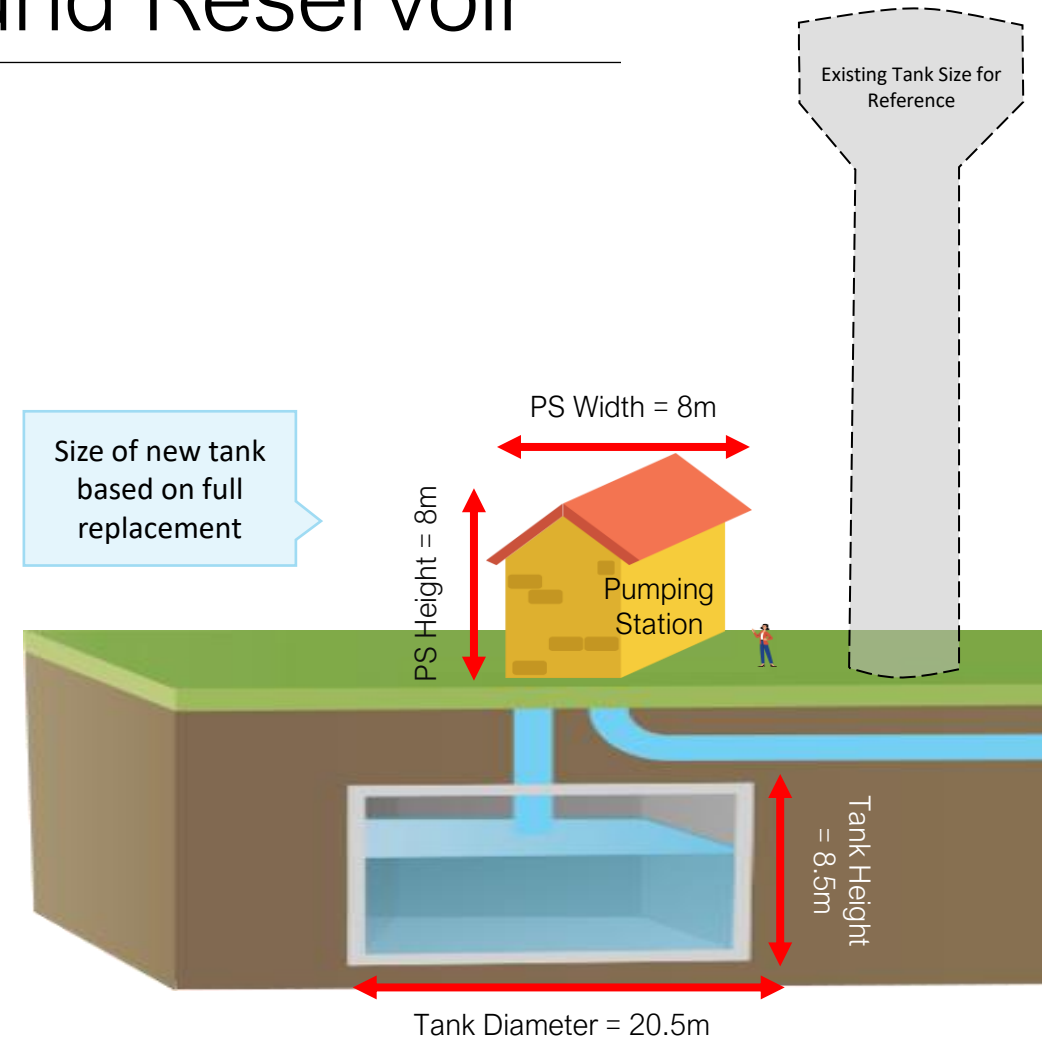
Municipal Class Environmental Assessment



Types of Water Storage – In-Ground Reservoir

- In-Ground Reservoir
 - Underground compartment used to accumulate water from a water treatment unit (MECP, 2008).
 - Requires pumps to distribute water, impacting operational reliability.
 - Increased energy usage for pumps.
 - Large excavation required.

The in-ground reservoir could either replace or be in addition to the existing facility.



CARLISLE WATER STORAGE FACILITY

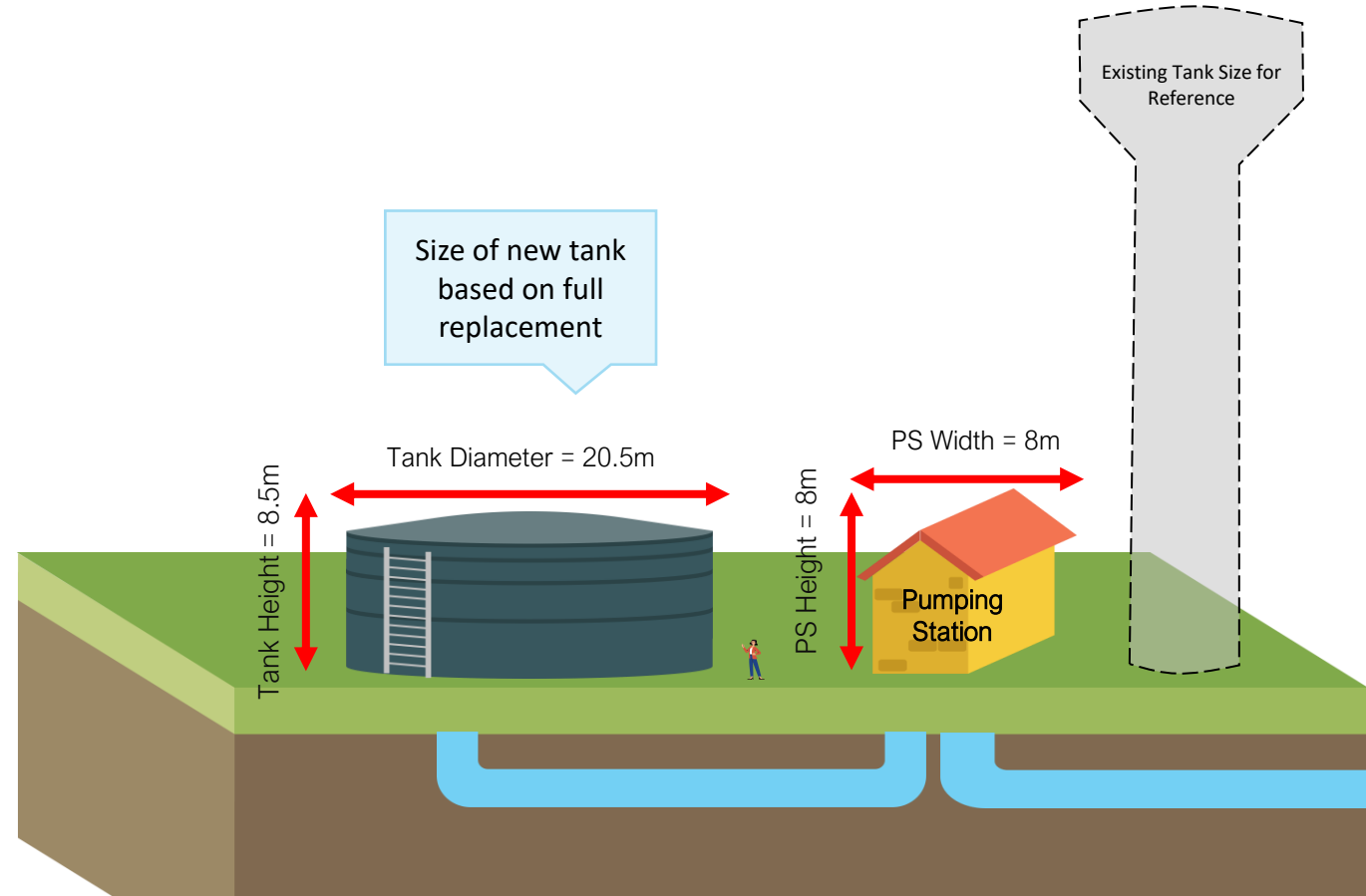
Municipal Class Environmental Assessment



Types of Water Storage – Above Ground Reservoir

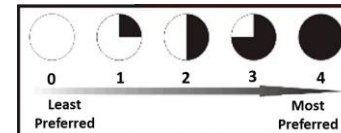
- Above Ground Reservoir
 - Above ground compartment used to accumulate water from a water treatment unit (MECP, 2008).
 - Requires pumps to distribute water, impacting operational reliability.
 - Increased energy usage for pumps.
 - Larger environmental footprint.

The above ground reservoir could either replace or be in addition to the existing facility.



Evaluation of Types of Water Storage

EVALUATION CRITERIA	1. Do Nothing	2. Elevated Tank to Replace Existing Elevated Tank	3. Second Elevated Tank with Existing Elevated Tank	4. Standpipe to Replace Existing Elevated Tank	5. Standpipe with Existing Elevated Tank	6. Below Grade Reservoir to Replace Existing Elevated Tank	7. Below Grade Reservoir with Existing Elevated Tank	8. Above Grade Reservoir to Replace Existing Elevated Tank	9. Above Grade Reservoir with Existing Elevated Tank
TECHNICAL	○	●	◐	◑	◒	◓	◔	◕	◖
SOCIAL ENVIRONMENT	●	◐	◑	◒	◓	●	◐	◑	◒
NATURAL ENVIRONMENT	●	●	◑	●	◓	●	◐	◑	◒
CULTURAL HERITAGE / ARCHAEOLOGICAL	●	◐	◑	◒	◓	◔	◕	◖	◗
RELATIVE COST AND FINANCIAL RISK	◐	◑	◒	◓	◔	◕	◖	◗	◘
Overall Ranking (based on total score)	9th	1st	3rd	2nd	5th	4th	7th	6th	8th
EVALUATION SUMMARY	Not Recommended	Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended



CARLISLE WATER STORAGE FACILITY

Municipal Class Environmental Assessment



Recommended Water Storage Type

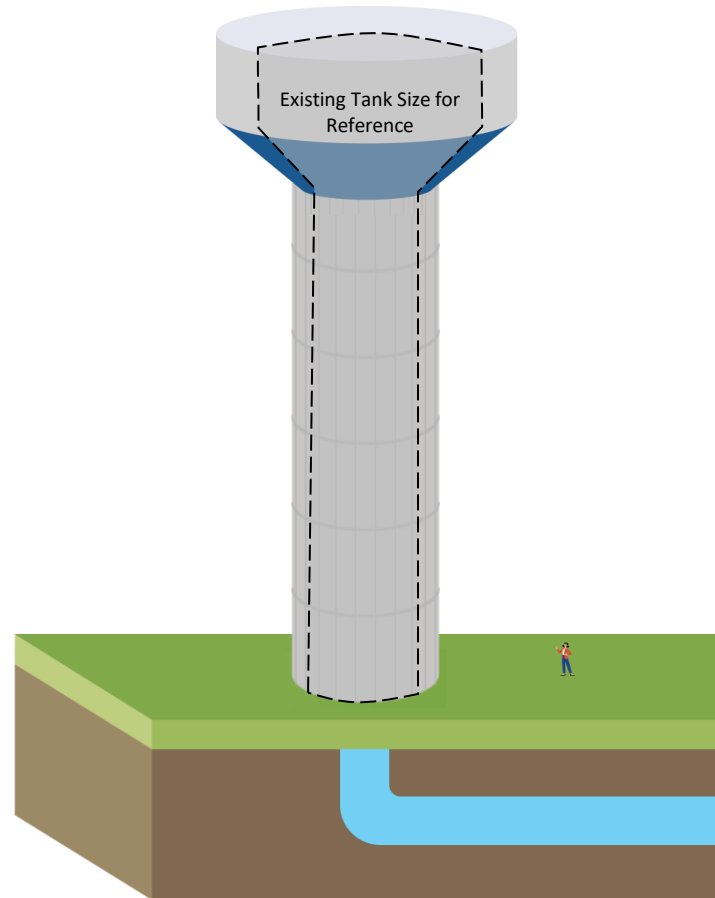
New Elevated Tank to Replace the Existing Elevated Tank

- Slightly larger elevated tank than existing
- Similar operation and functionality (gravity based)
- Similar environmental footprint as existing
- Existing infrastructure could be replaced with green space
- Approximately \$6-\$8M capital cost
- Reduced operations and maintenance costs



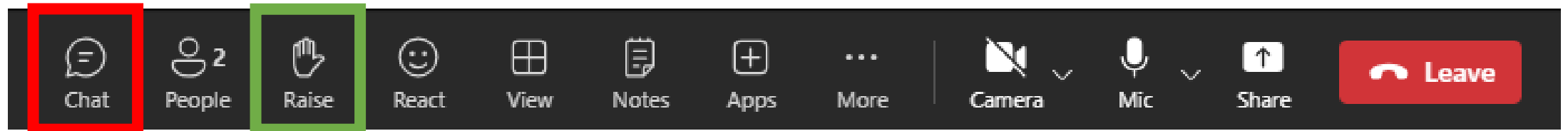
Recommended Solution

A new elevated tank replacing the existing elevated tank located within Tower Park.



Question and Answer

- Click the Raise your hand function [in green] to verbally ask your questions or submit questions using the Chat function [in red].



Next Steps

1. Confirm preferred solution in consideration of feedback received from public and technical agencies.
2. Prepare Project File Report, Conceptual Design and Class D estimate of new water tower.
3. Submit Council Report and Project File Report for 30-day public review (Council approval of recommendation and budget).
4. Proceed to detailed design and construction (subject to Council approval and budget).



Get Involved



Review presentation slides, frequently asked questions, and complete the online comment form on the project webpage by **May 13, 2024**.

For additional questions regarding the study, please contact one of the project team members:

Justin Wilson, MSc

City Project Manager

City of Hamilton

justin.wilson@hamilton.ca

Andrew McGregor, MCIP, RPP

Consultant Project Manager

R.V. Anderson Associates Ltd.

905-685-5049 ext. 4211

amcgregor@rvanderson.com

**CARLISLE
WATER STORAGE FACILITY**

Municipal Class Environmental Assessment



WE WANT TO HEAR FROM YOU!



CARLISLE WATER STORAGE FACILITY

Municipal Class Environmental Assessment



engage.hamilton.ca

