

Public Information Centre

New Fort Erie Elevated Tank and Enhanced Conceptual Design Class Environmental Assessment

November 13, 2019

Open House from 6 p.m. to 8 p.m.

City Hall Atrium, 1 Municipal Centre Drive, Fort Erie

Welcome & Please Sign In

Information presented at this Public Information Centre (PIC) includes:

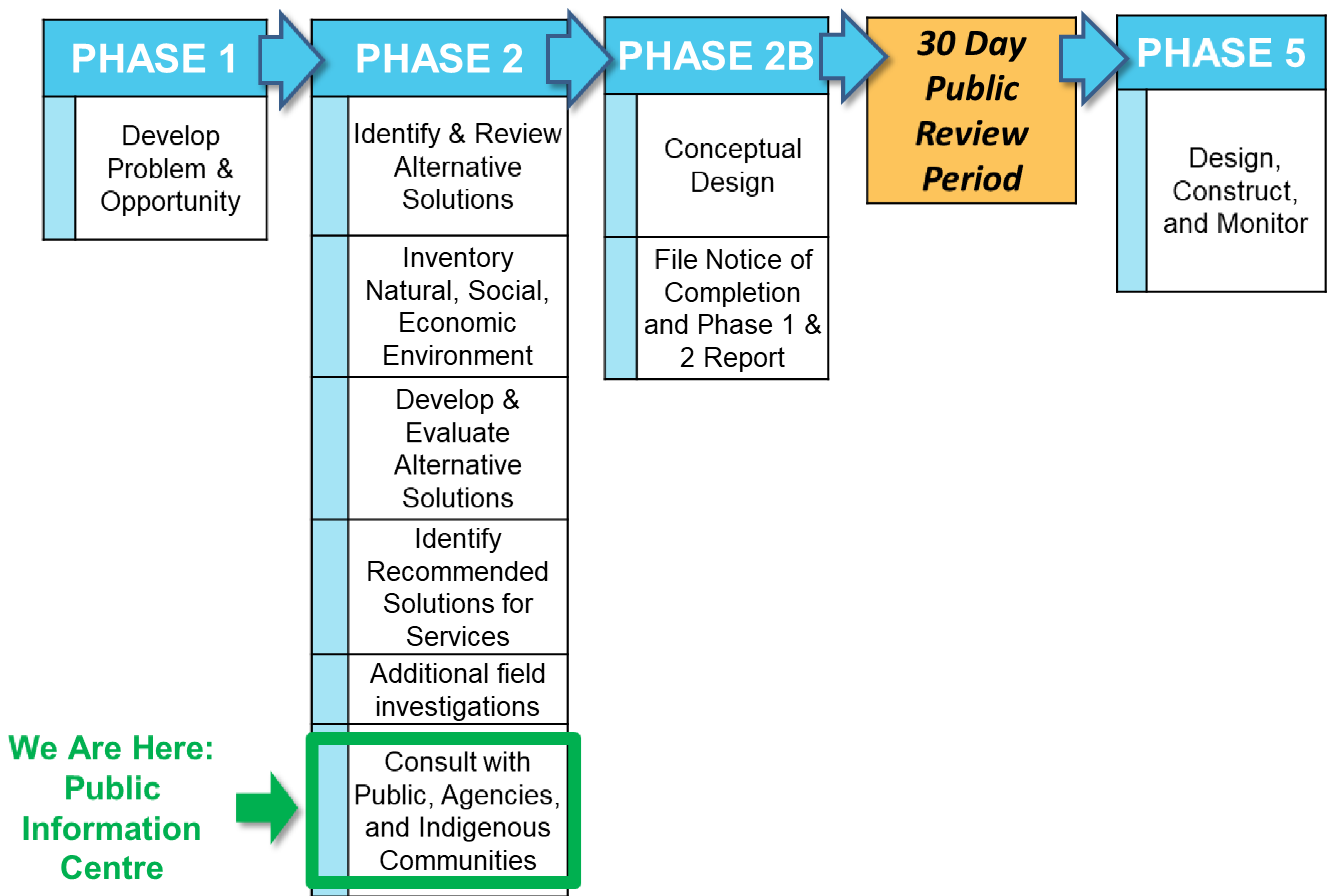
- What we plan to achieve
- Study findings to date
- Evaluation of the alternative sites
- Next steps

Please review the materials and submit your comments on the sheets provided

Municipal Class EA Process

Niagara Region is undertaking a Schedule B Municipal Class EA study for the Fort Erie Water System to plan for future water storage, pressure needs and make improvements to the water system, as required.

Schedule B Municipal Class EA Process



Problem & Opportunity (P&O) Statement

To accommodate growth to 2041, the Niagara Region Water and Wastewater Master Servicing Plan (MSP) identified improvements for the Fort Erie Water System including:

- Construction of a New Elevated Water Storage Tank (ET) and associated system upgrades to:
 - Provide opportunities for system optimization,
 - Improve the storage and pressure in the Fort Erie Water System by consolidating the storage systems

This Class EA will:

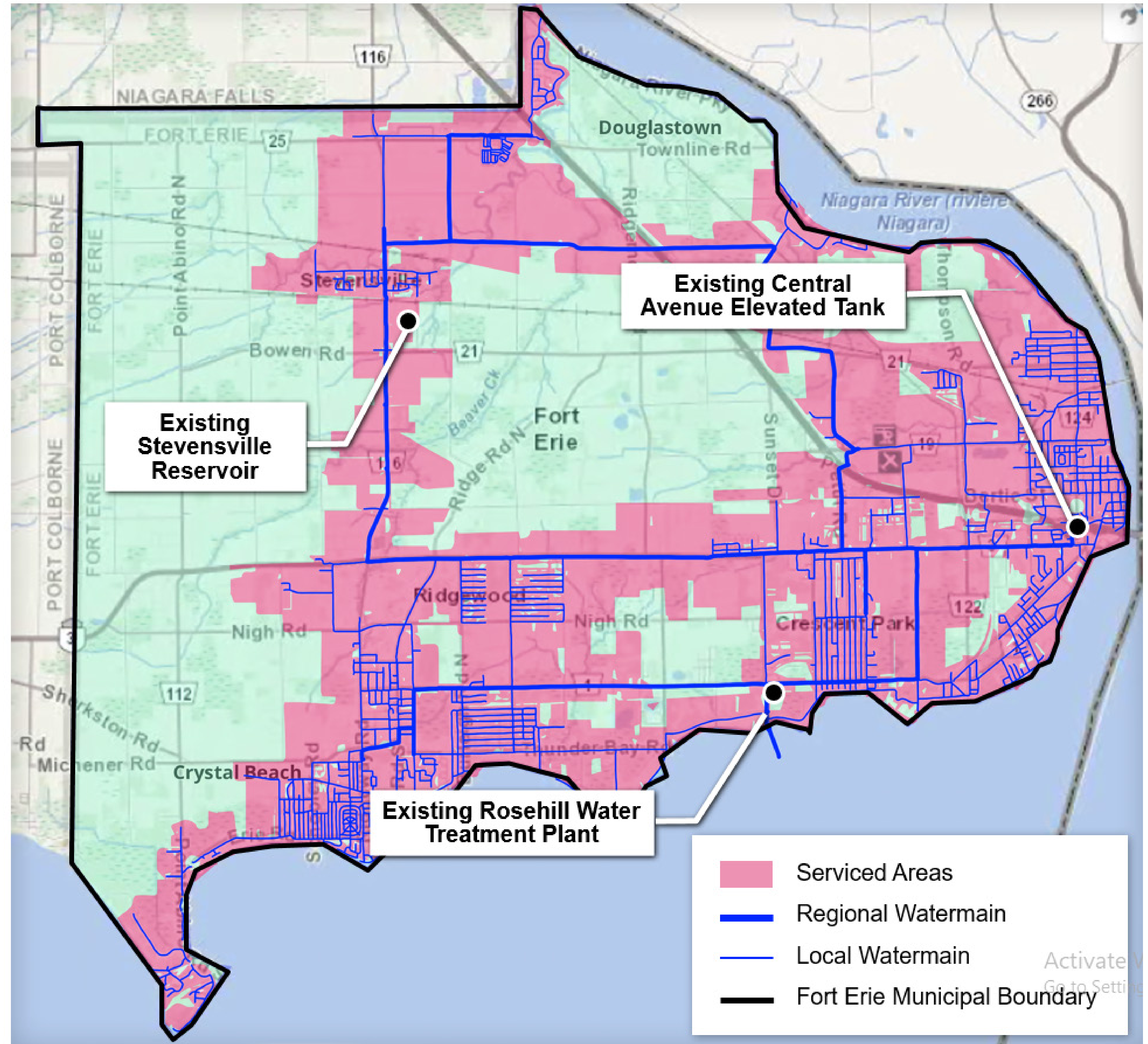
- Identify and evaluate various potential sites for the new elevated tank
- Identify necessary improvements to the existing water system
- Select a preferred site for the new ET after consideration of various factors, including social, economical, technical, archaeological, and environmental

Study Area

The study area are the areas currently serviced by the Fort Erie Water System.

How the Fort Erie Water System Works:

The Rosehill Water Treatment Plant supplies water through the water distribution system to the existing Central Avenue Elevated Tank and the Stevensville Reservoir, and to the serviced areas.



Study Area

Population, Water Demand and Water Storage

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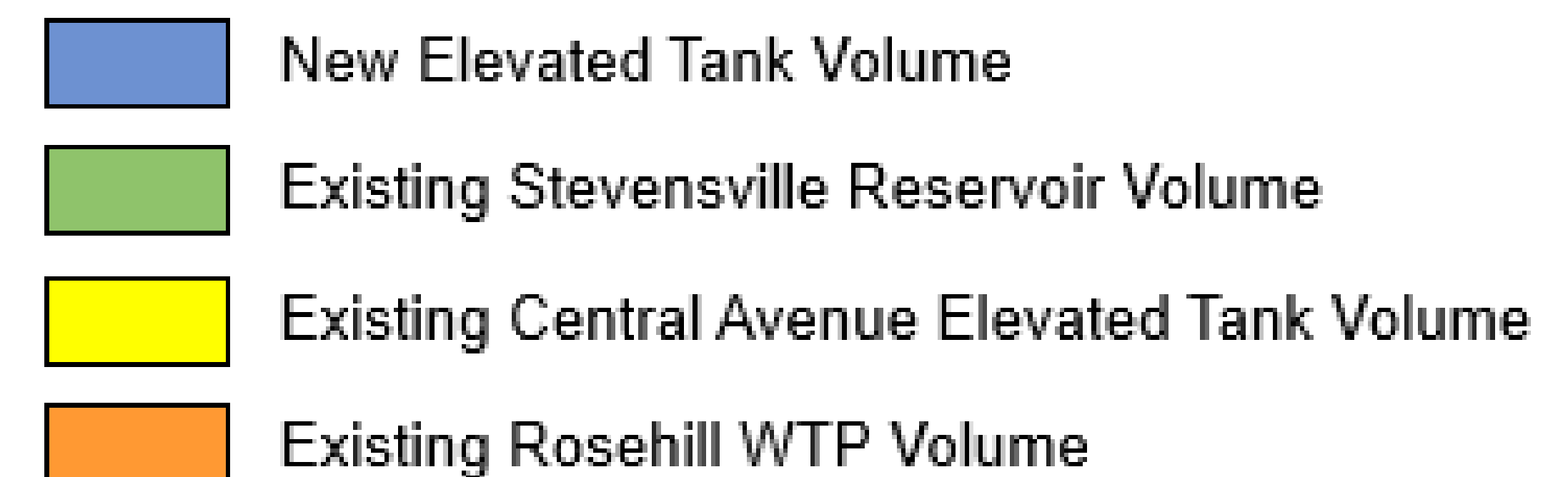
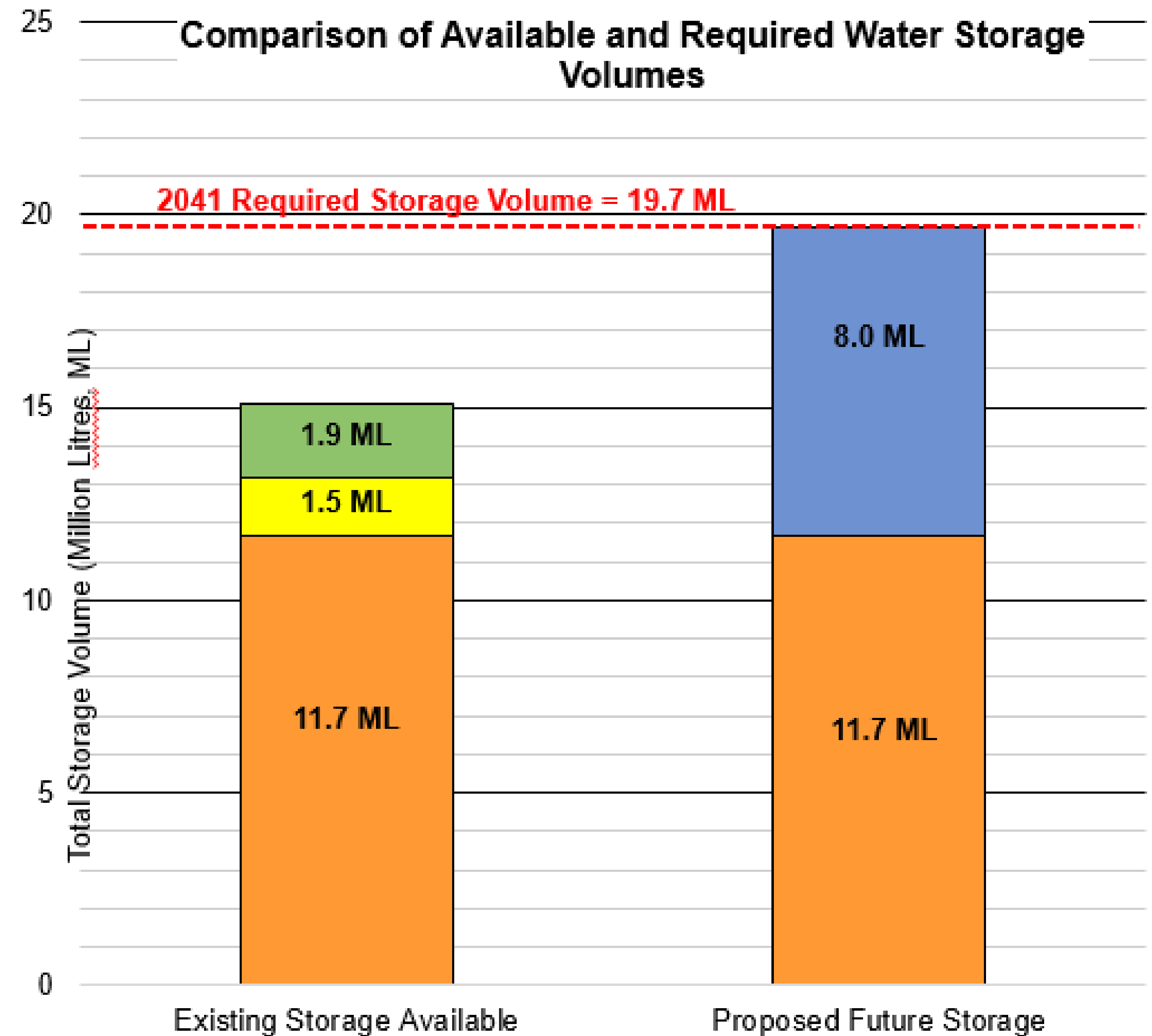
The population growth and water demands estimated for 2041 requires the water storage volume to increase.

Existing Fort Erie Water System:

- Storage volume is insufficient for 2041
- The existing in-ground Stevensville Reservoir cannot be expanded (no space) and existing pumping system is insufficient
- The existing Central Avenue Elevated Tank (ET) is approaching end of service life (cannot be refurbished)

Proposed Fort Erie Water System Improvements:

- A new 8.0 Million Litres (ML) ET at a higher elevation to address storage volume and to meet pressure requirements
- New trunk watermain along Gilmore Road to twin existing trunk watermain into Fort Erie
- Existing Central Avenue ET and Stevensville Reservoir could then be removed

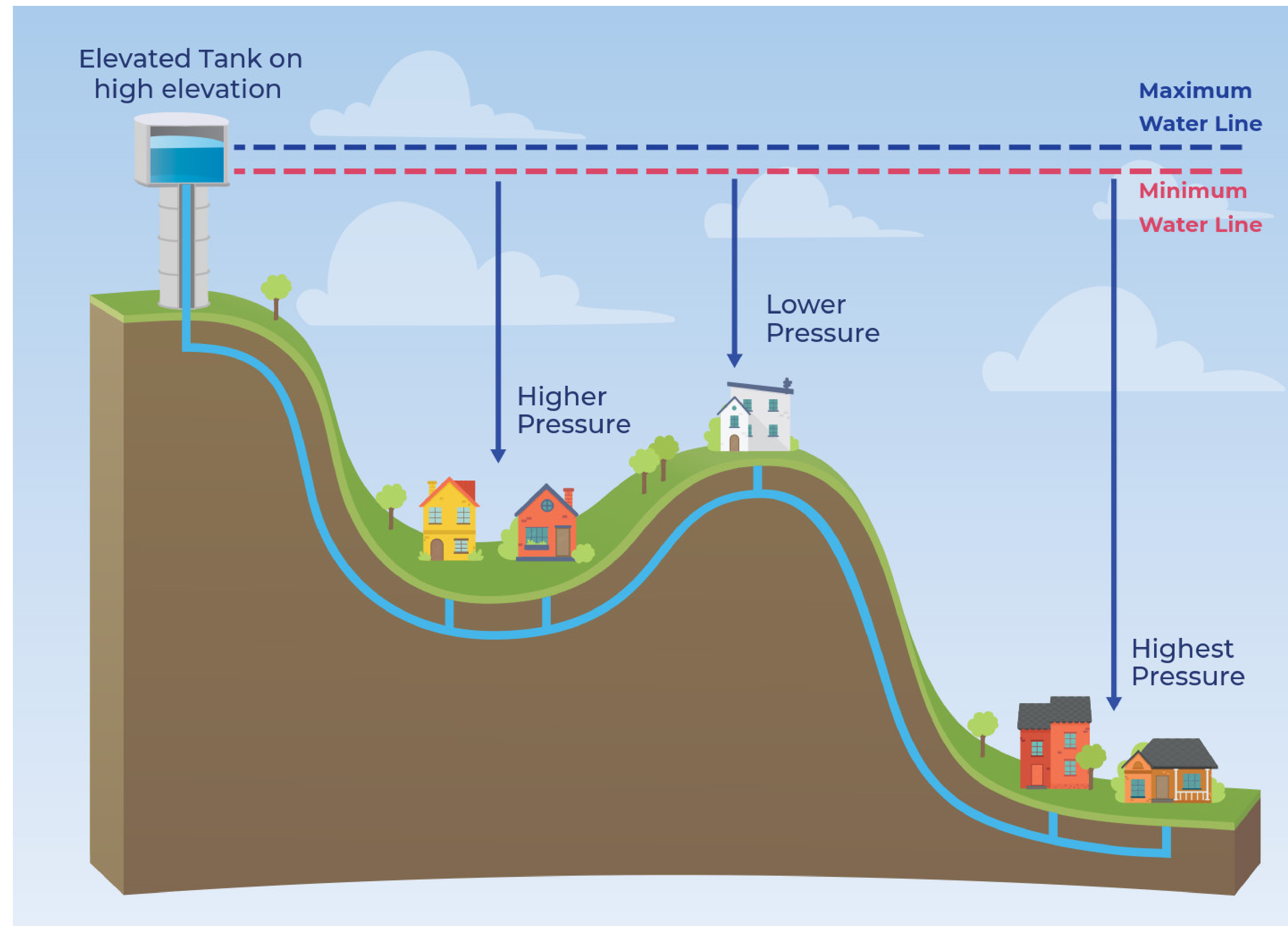


How the Water System Works

The greater the height difference between the water level in a water tank and a house, the more water pressure is available for that house.

The house at the top of the hill will have lower water pressure than the house at the bottom of the hill.

An elevated tank should be designed to provide a preferred range of 50 to 70 psi, but a minimum of 40psi to the house on the highest hill, and not more than 100psi to the house at the lowest point in the water system.



Preliminary List & Short List of Alternative Sites

Alternative Sites Legend

Screened Out
Alternative Sites

Shortlisted
Alternative Sites

New 2.8km trunk main will be constructed along Gilmore Street to improve pressure for all alternatives



Screening of Alternative Sites:

Alt. #	Description	Key Points	Carry Forward to Short List? (Yes/No)
0	Do Nothing – Baseline scenario, existing ET remains	Required for comparison with other alternatives	Yes
1	Bridge Street & Pettit Road	Adequate space, close to transmission main	Yes
2A	Bowen Road & Sunset Drive	Adequate space, close to transmission main	Yes
2B	Bowen Road & Pettit Road	Adequate space, close to transmission main	Yes
3	Bowen Road & Laur Road	Adequate space, high elevation	Yes
4	Garrison Road and Stonemill Road	Close to Rosehill WTP, will not improve overall system pressure	No

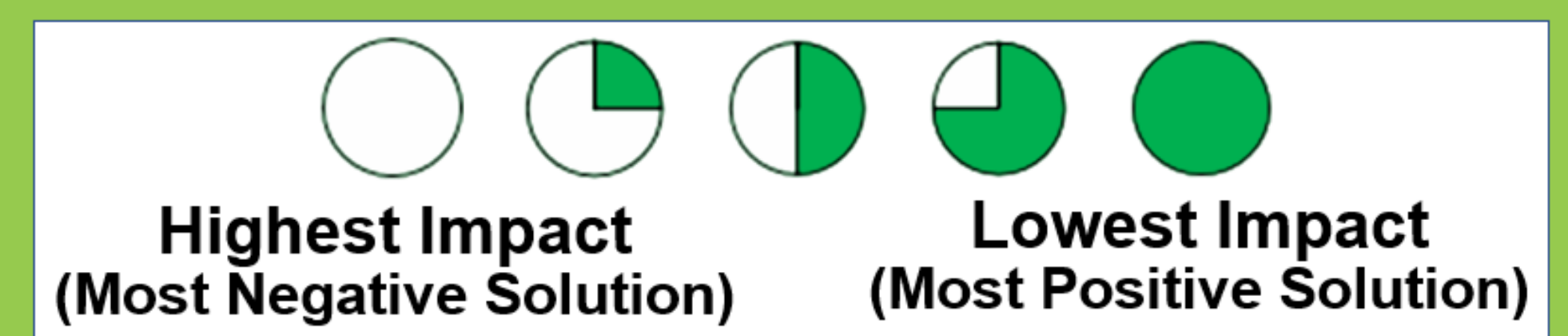
Evaluation Criteria for Reviewing Short Listed Alternatives

Each of the short listed alternatives will be evaluated based on the following criteria:

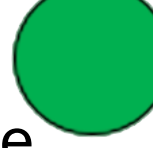
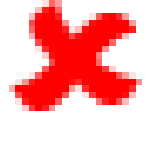
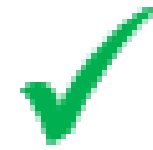
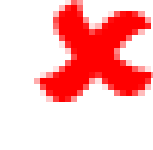
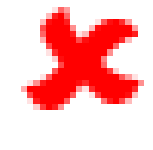
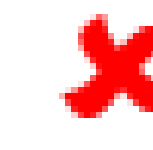
Criteria	Example Considerations
Social	• Effects on Indigenous communities • Effects on neighbouring properties • Sensory impacts during and after construction (noise, dust, etc.) • Effects on the municipality, local businesses, etc. • Future growth as per the Region Official Plan
Economical	• Life cycle costs (capital cost, operation & maintenance cost) • Sustainability and affordability

Criteria	Example Considerations
Technical	• Compatibility with existing systems • Ease of implementation • Effects on operations and maintenance • Treatment complexity • Ability to meet existing and future water demands
Archaeological	• Effects on archaeological sites or structures • Effects on cultural sites or structures
Environmental	• Effects on wildlife and vegetation • Effects on habitats and air quality • Effects on Source Water Protection • Climate Change

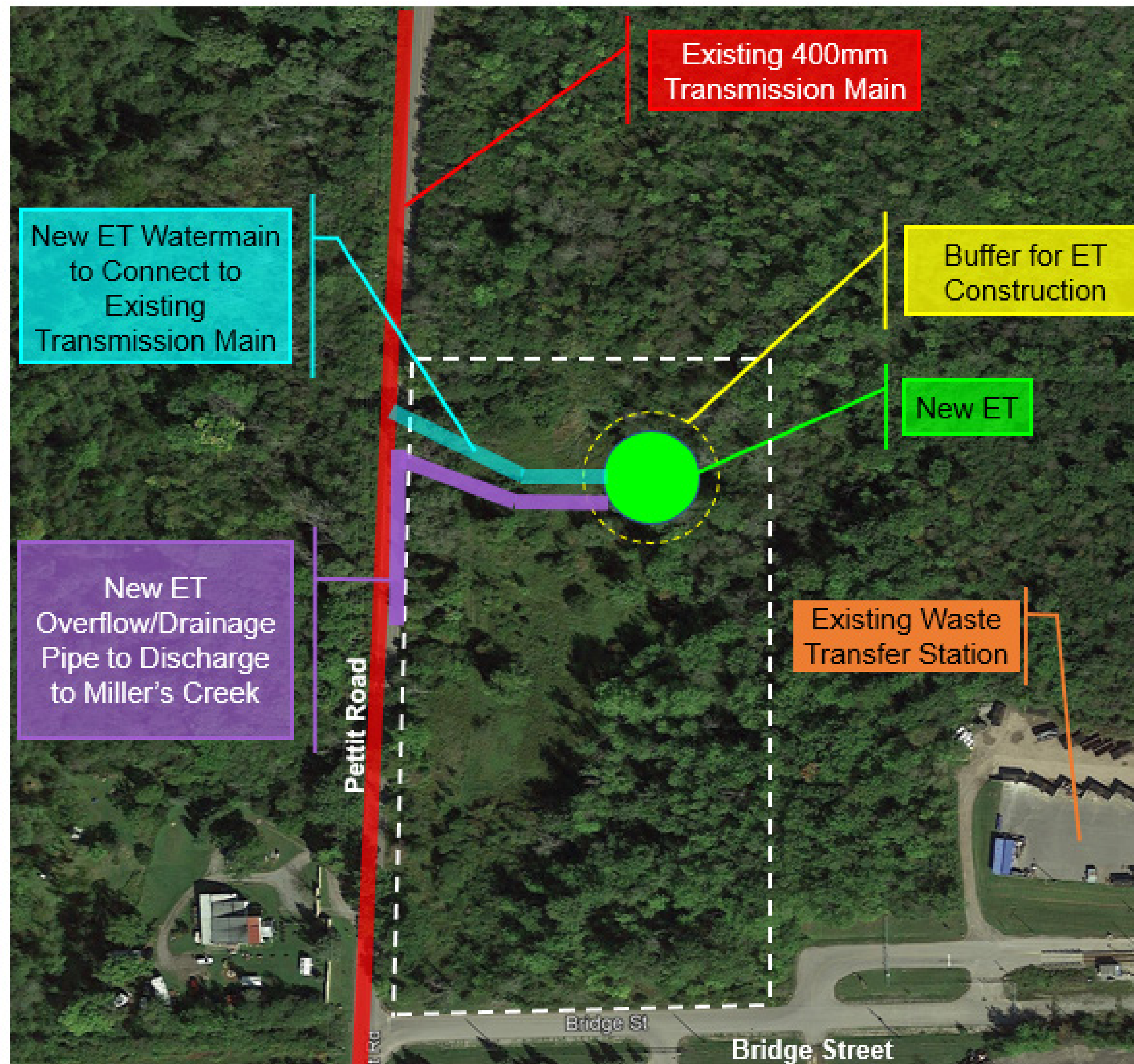
Evaluation of Short Listed Alternatives Sites



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Evaluation Criteria	Alternative 0: Do Nothing	Alternative Site 1: Bridge Street & Pettit Road	Alternative Site 2A: Bowen Road & Sunset Drive	Alternative Site 2B: Bowen Road & Pettit Road	Alternative Site 3: Bowen Road & Laur Road
Social	- Zoned as Urban Residential; rezoning not required - Land is owned by Region; no land acquisition is required - Moderate aesthetic impacts to surrounding properties 	- Zoned as Industrial; rezoning not required - Land is owned by the Region, no land acquisition required - No aesthetic impacts to surrounding properties 	- Zoned as Agricultural; rezoning not required - Land privately owned; Owner has not been approached at this stage - No aesthetic impacts to surrounding properties 	- Zoned as Dry Industrial; rezoning not required - Land privately owned; Owner has not been approached at this time - No aesthetic impacts to surrounding properties 	- Zoned as Agricultural; rezoning not required - Land privately owned; Owner has not been approached at this time - No aesthetic impacts to surrounding properties 
Econom-ical	- No capital costs for new ET and watermain - High operation cost due to need for additional pumping at the Rosehill WTP pumping station to compensate for insufficient storage - High maintenance cost due to increasingly frequent repair works - High capital cost for replacement of existing Central Ave ET, refurbishment of Stevensville Reservoir & replacement of pumping station at end of useful life 	- Lower capital costs anticipated related to land acquisition & overall ET height based on ground elevation - Lower capital cost for shorter watermain - Similar operation and maintenance lifecycle costs anticipated for all alternatives 	- Higher capital costs anticipated related to land acquisition & overall ET height based on ground elevation - Lower capital cost for shorter watermain - Similar operation and maintenance lifecycle costs anticipated for all alternatives 	- Higher capital costs anticipated related to land acquisition & overall ET height based on ground elevation - Lower capital cost for shorter watermain - Similar operation and maintenance lifecycle costs anticipated for all alternatives 	- Highest capital costs anticipated related to land acquisition & lowest overall ET height based on ground elevation - Highest capital cost for longer watermain - Similar operation and maintenance lifecycle costs anticipated for all alternatives 
Technical	- Will not satisfy the Problem & Opportunity Statement 4.6 Million Liters of storage deficit will have to be compensated by additional pumping from Rosehill WTP 	- Similar operations and maintenance effects - Similar improvements to water distribution system for pressure and fire flows - Close to an existing storm sewer for overflow and drainage of ET - Existing communications tower nearby – interruption of signals to be minimized - Bedrock likely, no groundwater, based on existing records of area. - Similar approvals anticipated to be required 	- Similar operations and maintenance effects - Similar improvements to water distribution system for pressure and fire flows - No nearby sanitary or storm sewer systems, stormwater pond required for overflow and drainage of ET - No bedrock or groundwater, cobble likely, based on existing records of area. - Similar approvals anticipated to be required 	- Similar operations and maintenance effects - Similar improvements to water distribution system for pressure and fire flows - No nearby sanitary or storm sewer systems, stormwater pond required for overflow and drainage of ET - Possible boulder and groundwater present, based on existing records of area. - Similar approvals anticipated to be required 	- Similar operations and maintenance effects - Slightly less improvements to water distribution system for pressure and fire flows - No nearby sanitary or storm sewer systems, stormwater pond required for overflow and drainage of ET - Crossing of the QEW is required for watermain connection; Approval from Ministry of Transportation will be required 
Archaeo-logical	- Existing sites are already developed. - Likely no archeological interest - Like no cultural heritage impact 	- Stage 1 Assessment showed potential for archaeological interest – known water sources within 300m, potential historical transport road within 100m. - Stage 2 Assessment confirmed no archaeological sites of interest. - Cultural heritage evaluation report confirmed no cultural heritage resource 	- Stage 1 Assessment showed potential for archaeological interest – 31 known archaeological sites within 300m, potential historical transport road within 100m - Cultural heritage evaluation report confirmed no cultural heritage resource 	- Stage 1 Assessment showed potential for archaeological interest – 31 known archaeological sites within 300m, potential historical transport road within 100m - Cultural heritage evaluation report confirmed no cultural heritage resource 	- Stage 1 Assessment showed potential for archaeological interest – 6 known archaeological sites within 300m, potential historical transport road within 100m - Cultural heritage evaluation report confirmed no cultural heritage resource 
Enviro-nmental	No impact from natural environmental perspective 	- Moderate impact from natural environmental perspective, with mitigation measures required during design/construction - Northwest and south east parts of location lie within the boundary of the Provincially Significant Wetland Complex - Parts of location is an MNRF Designated “wooded area” - A clearing within the interior of the site that could avoid regulated areas is planned to be used 	- Moderate impact from natural environmental perspective, with mitigation measures required during design/construction - Northern half of property is part of Millers Creek Provincially Significant Wetland Complex - Extreme north end of site is within a deer wintering area - General timing restrictions for vegetation clearing to protect migratory birds. 	No impact from natural environmental perspective 	No impact from natural environmental perspective 
Overall Conclusion	Alternative will not be carried forward. 	Alternative to be carried forward Recommended Alternative Site 	Alternative will not be carried forward. 	Alternative will not be carried forward. 	Alternative will not be carried forward. 

Recommended Alternative Site



Alternative 1 - New Elevated Tank (ET) on Bridge Street and Pettit Road:

- New ET approx. 43m tall above ground level
- New watermain from ET connected to existing transmission main
- New overflow/drainage pipe connected to existing storm sewer
- New access road to ET

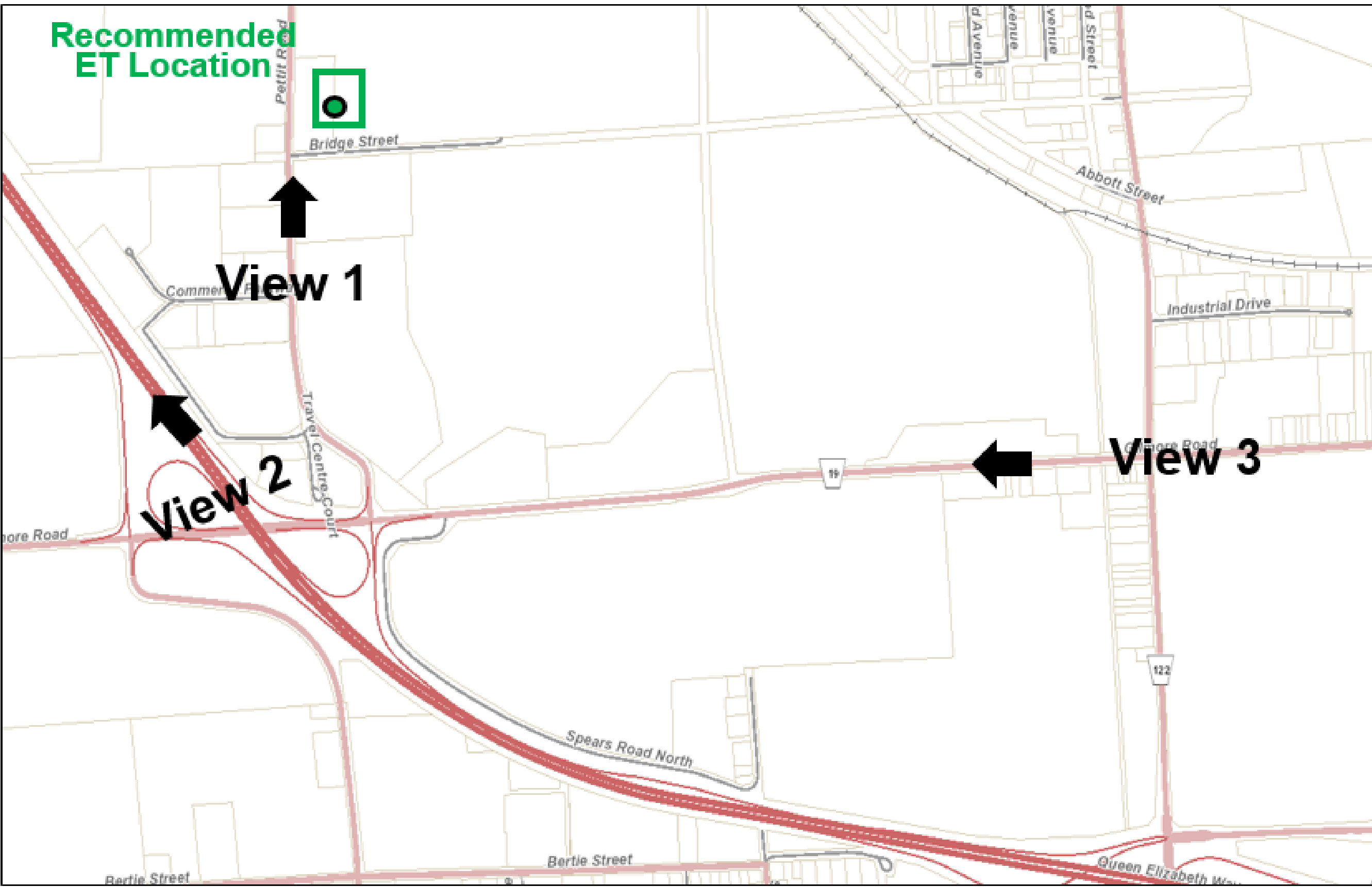
Additional Studies Completed:

- Stage 2 Archaeological Assessment was completed - field investigations concluded site is clear of archaeological concern and no further studies are required
- Geotechnical & Hydrogeological Investigation was completed, and confirmed site is viable for construction

Artistic Rendering of Recommended Location for New Elevated Tank



View 1 – Pettit Road Looking North Towards Bridge Street



Key Map



View 2 – Queen Elizabeth Way Looking North



View 3 – Gilmore Road Looking North

Following this Public Information Center, the Project Team will be confirming the preferred option based on public input and be proceeding with the conceptual design.

Public Input

Opportunity	Anticipated Date
Project File Report for Public Review	Winter 2019/2020

Questions or Comments?

Please complete a comment sheet this evening or submit comments to staff below. More information including copies of project notices and PIC materials can be found at:

<https://www.niagararegion.ca>

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