



Glen Walter Water Tower & Watermain Replacement/Extension

Public Information Centre

WELCOME

Purpose of Today's PIC

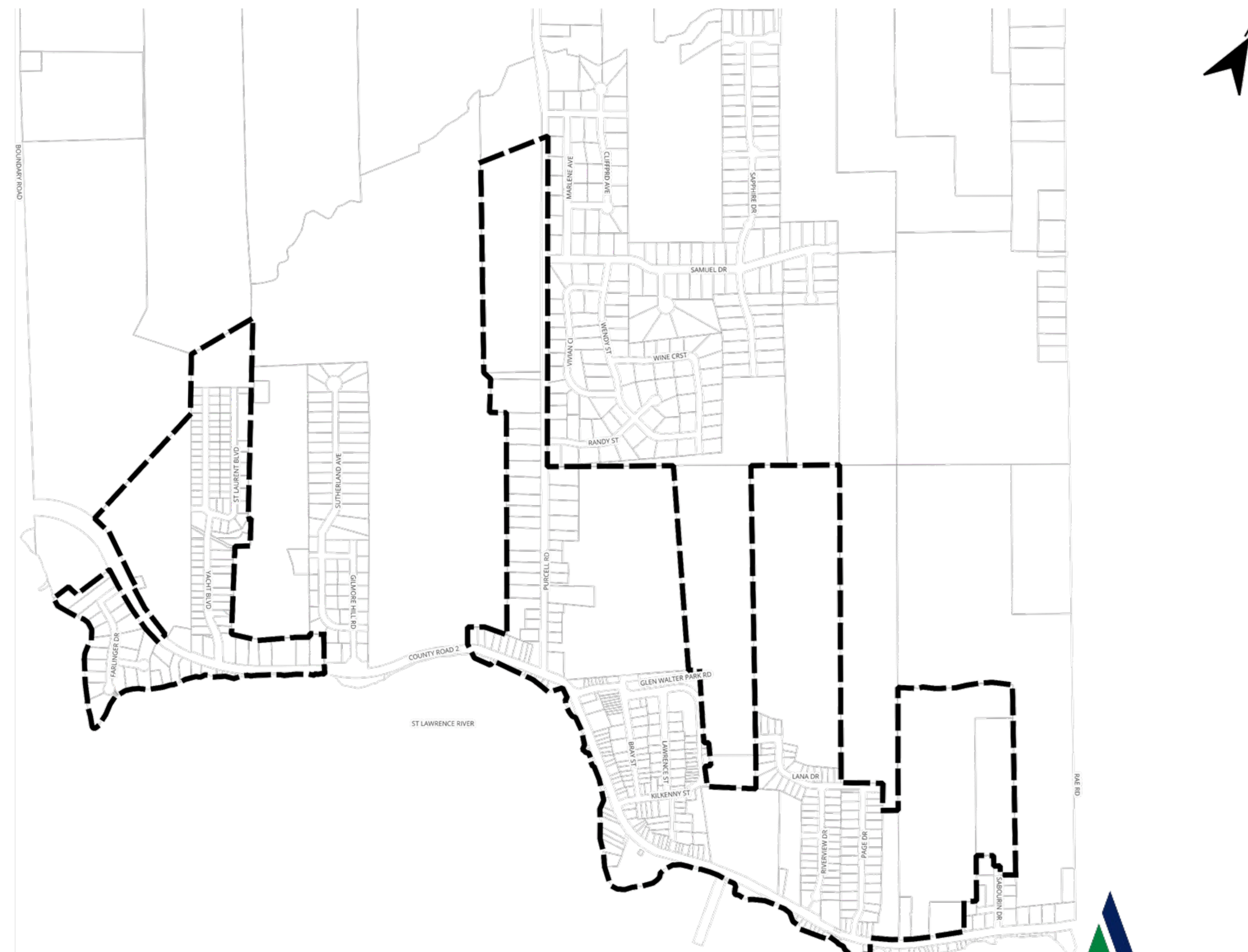


To build on the information and recommendations presented in the Water and Wastewater Servicing Master Plan for the Glen Walter Area with respect to water storage and distribution by:

- Providing rightsholders, residents and other agency stakeholders with detailed information related to the location and design aspects of a new elevated water tower & watermain replacement/extension in the community of Glen Walter
- Receiving feedback on the evaluation of alternatives and recommended solution
- Outlining the project's next steps and proposed schedule

Project History

The Township of South Glengarry (Township) completed a Water and Wastewater Servicing Master Plan (Masterplan) for the Glen Walter Area to serve the projected population growth by Year 2051 (EVB, January 2022), identified as Option 2B in the Masterplan.



Project History (continued)

- For water servicing, the Masterplan recommended the following key projects:
 - Expansion of the Glen Walter Water Treatment Plant (WTP) from 995 m³/d to 2,300 m³/d.
 - Construction of a 1,500 m³ elevated water storage tower.
 - Replacement of some areas of the water distribution system to ensure that peak flows and fire flows can be conveyed through the system.
- In addition, the Masterplan identified the general location of the new water tower on Glen Walter Park Road.
- The Township received funding up to \$1,988,800 (Federal) plus \$1,657,168 (Ontario) in May 2022 under the Green Stream of the Investing in Canada Infrastructure Program to support implementation of the storage, watermain replacement/extension and WTP reservoir rehabilitation components of the water servicing.

Project History (continued)

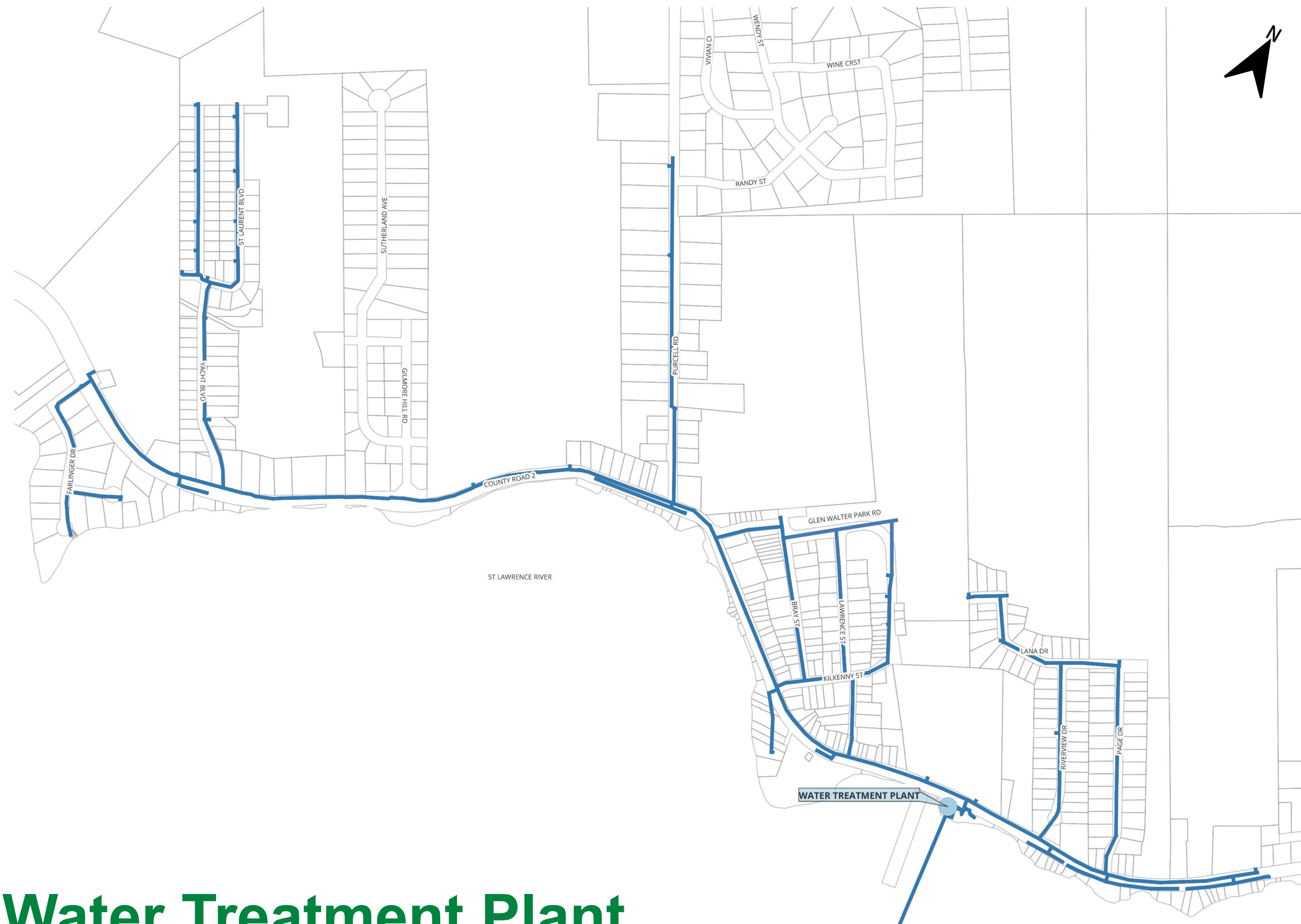
- A funding condition requires completion by October 31, 2026.
- The components receiving funding are Schedule B activities under the Municipal Class Environmental Assessment (Class EA) process.
 - A Schedule B project requires completion of Phases 1 & 2 of the Class EA process.
 - Schedule B projects have potential for some adverse environmental effects and require mandatory contact with public and review agencies
- The Masterplan satisfied most of the requirements of a Schedule B Class EA under the Class EA process; however:
 - The height of the new elevated tank, type of tank and more specific site information were not provided.
 - It was determined the extra level of detail should be presented to stakeholders prior to detailed design.

Project History (continued)



- In August 2022 the Township approved proceeding with design for the water tower, watermain replacement/ extension/looping and WTP reservoir rehabilitation, including satisfying any additional Class EA requirements.
- A separate Schedule C Municipal Class EA is concurrently underway to determine the preferred solution for expanding the water treatment plant (WTP).
 - Council Resolution 383-2022 was passed in December 2022 to include municipal servicing of Fairview Estates, Sapphire Estates and Bayview Estates within the growth component.
- The Glen Walter Water Tower and Watermain Replacement/ Extension will take into account the impacts of including these areas, with respect to sizing of the water tower.

Existing Water System



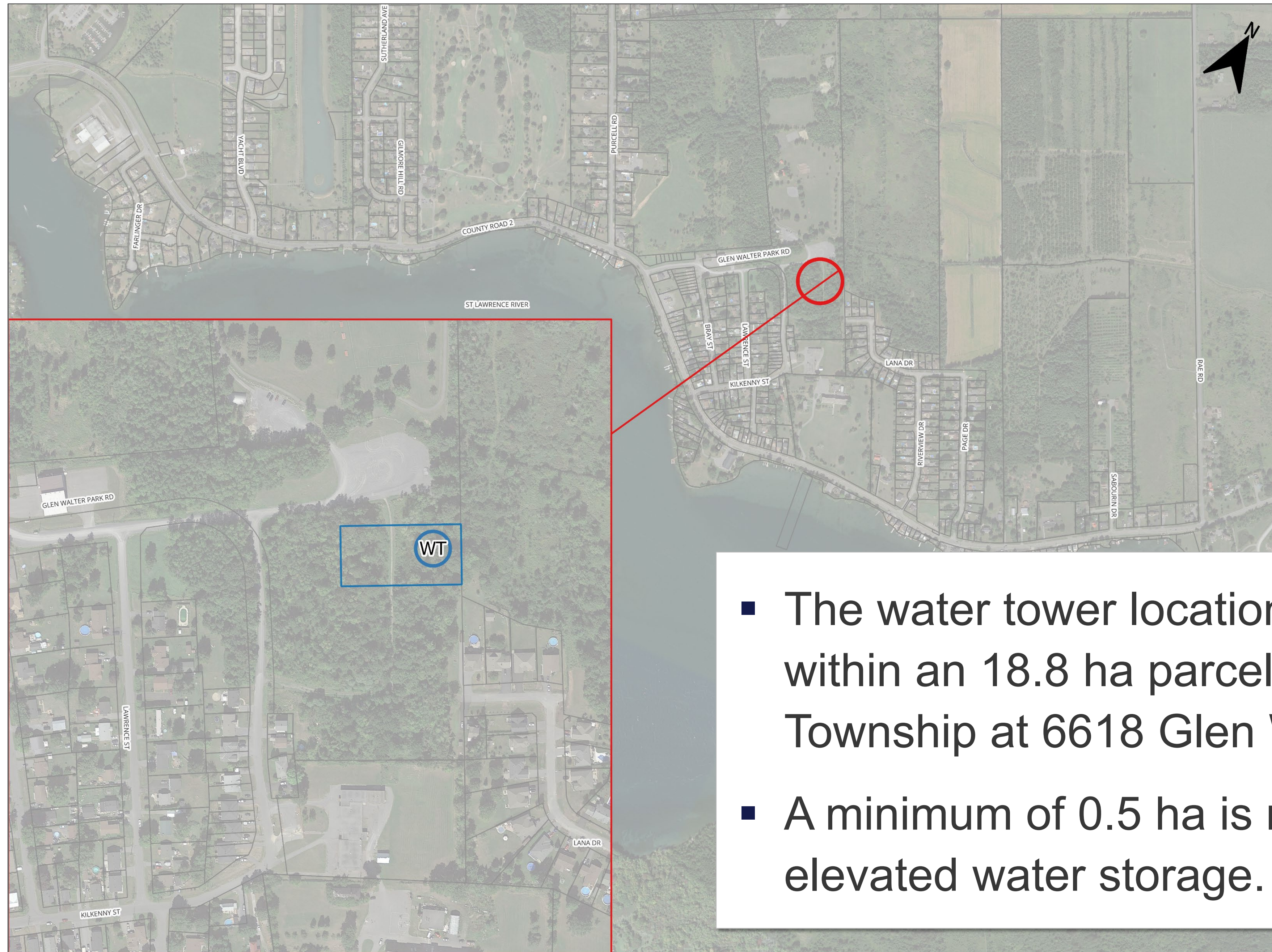
Distribution System

- Treated water from the Glen WTP is pumped directly into the distribution system, providing potable water to the Glen Walter population within the serviced area.
- There are no additional booster stations or storage tanks within the existing distribution system.
- The pipes that make up the distribution network are primarily PVC with a small number of HDPE pipes. Pipe diameters range from 50mm to 300mm.

Water Treatment Plant

- The Glen Walter WTP is located at 18352 County Road 2, Glen Walter.
- The WTP is a direct filtration plant with a rated capacity of 995 m³/d.

New Water Tower Details





- The water tower location is a 75m x 75m site within an 18.8 ha parcel of land owned by the Township at 6618 Glen Walter Park Road
- A minimum of 0.5 ha is required to accommodate elevated water storage.

New Water Tower Details (continued)




- Height of tower ~ 48 m
- Capacity of tower = 1,500 – 1,700 m³ (takes into account existing municipal properties that are currently un-serviced).
- A dedicated transmission main from the WTP is not required to fill the tower.
- Long-list of water tower type alternatives:
 - Spheroid
 - Multi-column
 - Composite
 - Composite glass-lined

Long-List of Water Tower Alternatives

	ADVANTAGES	DISADVANTAGES	RECOMMENDATION
<div>SPHEROID</div> <div>  </div>	<ul style="list-style-type: none"> Small base allows for a reduced surface area for site selection 	<ul style="list-style-type: none"> Small base does not allow for interior access Safety issues (with exterior access) Costly recoating compared with alternatives with concrete support columns Currently no Ontario supplier 	Do not carry forward as a short-listed option.
<div>MULTI-COLUMN</div> <div>  </div>	<ul style="list-style-type: none"> Well-established design history (100 years+) 	<ul style="list-style-type: none"> No interior access Safety issues (with exterior access) Aesthetically less pleasing Costly recoating compared with alternatives with concrete support columns 	Do not carry forward as a short-listed option

Long-List of Water Tower Alternatives (continued)

	ADVANTAGES	DISADVANTAGES	RECOMMENDATION
<div>COMPOSITE</div> 	<ul style="list-style-type: none"> Most common current design Established history (70+ years) Interior access Column can house piping to tank, re-chlorination pumps, instruments, etc. Competitive capital cost Low maintenance cost Highest life expectancy (80 years) 	<ul style="list-style-type: none"> Requires repainting inside and out every 20 years Requires full coating removal and repainting every 40 years 	<p>Carry forward as a short-listed option.</p>
<div>COMPOSITE GLASS-LINED</div> 	<ul style="list-style-type: none"> Lowest maintenance costs (never requires repainting) Column can house piping to tank, re-chlorination pumps, instruments, etc. Competitive capital cost Individual panels can be replaced in case of damage Reduced construction time (no field welding required) 	<ul style="list-style-type: none"> New technology (few installations and standards) Safety issues (with exterior access) Shorter life expectancy than composite (<60 years) More susceptible to wind, ice and seismic activity Wide tank base requires larger support column 	<p>Carry forward as a short-listed option</p>

Representations of Short-Listed Alternative Solutions

Alternative 1

Composite



Alternative 2

Composite Glass-Lined



Evaluation & Preliminary Recommended Solution



- To assess the short-listed alternatives, a criteria assessment table was developed.
- A rating system assigned numeric values to each of the identified criteria; 1 = Worst; 2 = Moderate; 3 = Best.
- The criteria incorporated the advantages and disadvantages of each type of elevated storage.
- Water quality, access to storage and capital cost criteria were weighted double values as these were considered of higher importance.
- Estimated capital costs for both alternatives are statistically the same – the August, 2022 tender price for a composite water tower in Lucknow, Ontario was \$6,000,000.
- Even taking into account a shorter life expectancy, major maintenance costs for the glass-lined option are about two-thirds those of the composite option.
- Routine O&M costs for both alternatives are statistically the same.

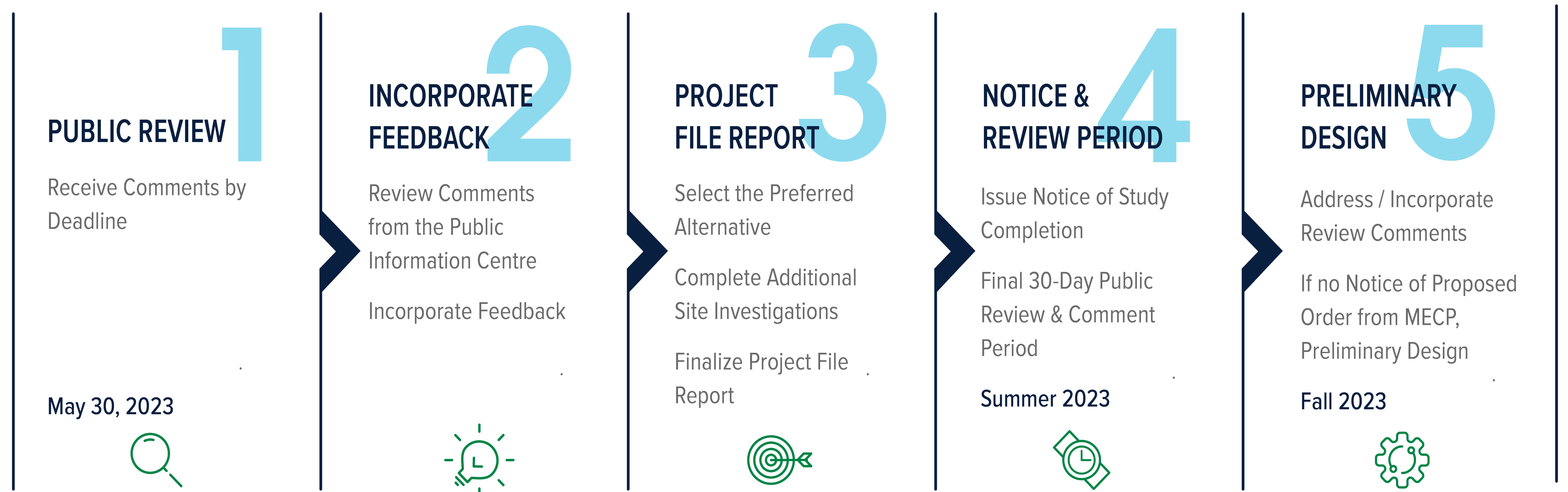
Evaluation & Preliminary Recommended Solution (continued)

- From the cost comparison and evaluation completed, Alternative 1 (composite water tower) is the best alternative with the highest score of 39.

Criteria	Alternative 1 Composite	Alternative 2 Composite Glass-lined
Land Requirement	3	3
Construction Time	2	3
Maintenance	2	3
Aesthetics	3	2
Opportunity to Create Landmark	3	2
Security of Supply	3	3
Water Quality ¹	6	6
Access to Storage ¹	6	2
Capital Cost ¹	6	6
Long Term O&M/Lifecycle Cost	2	3
Normal O&M Cost	3	3
TOTAL	39	36

1. Double weighting is applied because these criteria are considered of higher importance resulting in ratings of:
Worst = 2, Moderate = 4 and Best = 6

Next Steps & Proposed Schedule



Your Comments are Important



- Public input is encouraged and will be given consideration during the design of this project.
- Questions can be directed to members of the study team.
- Comments may be provided on the comment form (available at the entrance to today's PIC) or sent to the study team by email or regular mail.

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The deadline for submitting comments is May 30, 2023

Thank You

for visiting the Public Information Centre.
We appreciate your participation & comments