

# **Greensville Drinking Water System**

## **Municipal Class Environmental Assessment**

*City of Hamilton*

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### **Online Public Information Centre #2**

April 4, 2024

# Land Acknowledgement

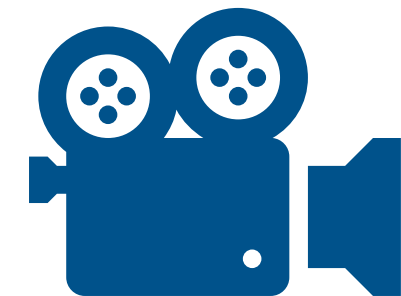


The City of Hamilton is situated upon the traditional territories of the Erie, Neutral, Huron-Wendat, Haudenosaunee and Mississaugas. This land is covered by the Dish With One Spoon Wampum Belt Covenant, which was an agreement between the Haudenosaunee and Anishinaabek to share and care for the resources around the Great Lakes.

Today, the City of Hamilton is home to many Indigenous people from across Turtle Island (North America) and we recognize that we must do more to learn about the rich history of this land so that we can better understand our roles as residents, neighbours, partners and caretakers.

# Virtual Meeting Facilitation

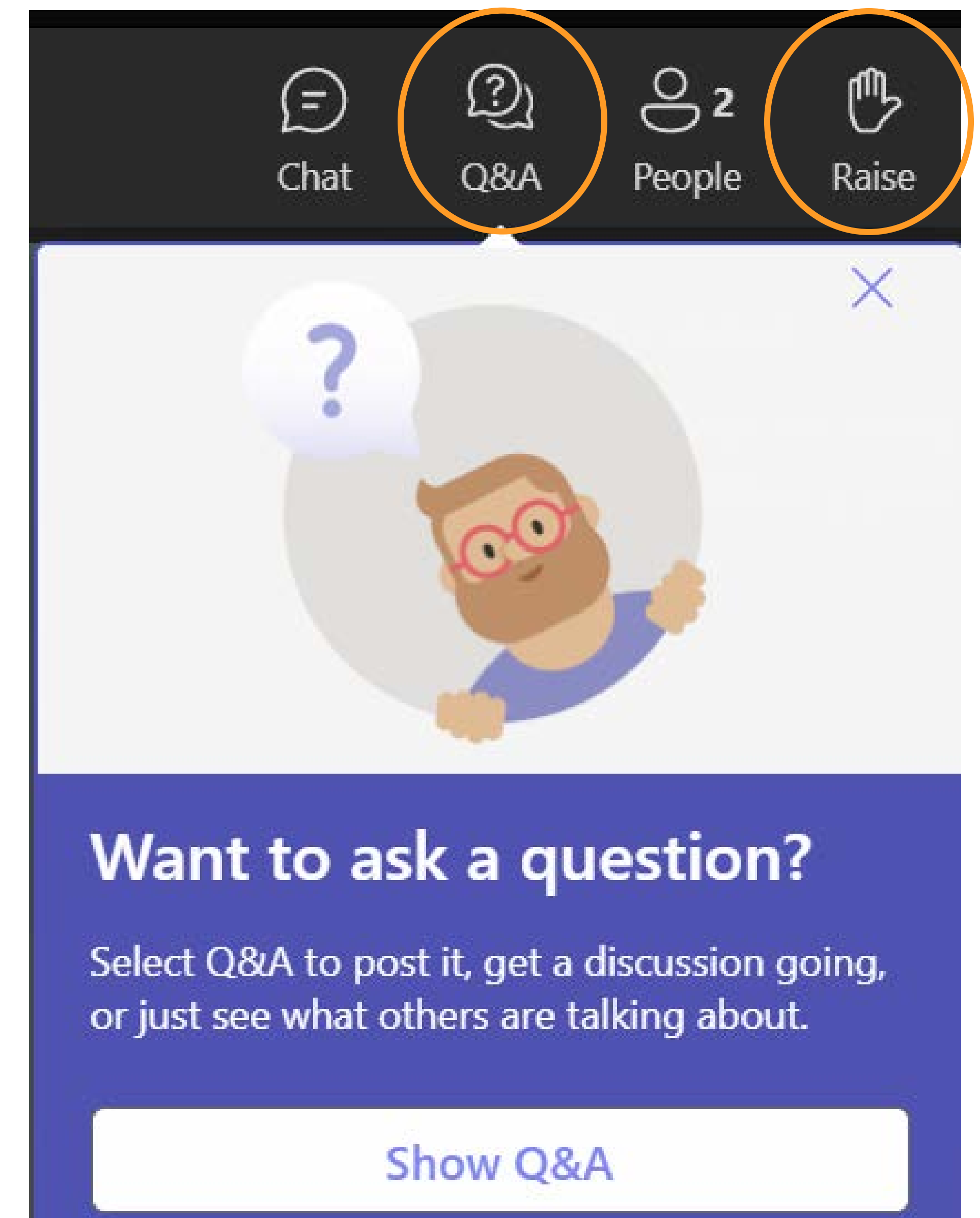
Please take note:



- This meeting is being recorded.
  - No personal information will be made available in the recording.



- Questions can be asked by:
  - Submitting questions to the “**Q&A**”
  - Or, “**Raise hand**” and “unmute” to ask question when called upon.



**Questions will be taken at the end of the presentation.  
We look forward to your participation and feedback.**





# Welcome!

The goals of this Public Information Centre (PIC) are to:



- Provide an update on the project since PIC #1
- Present the alternative design concepts
- Present the evaluation of alternative design concepts
- Present the recommended design
- Answer questions you may have and provide an opportunity to get involved in the project

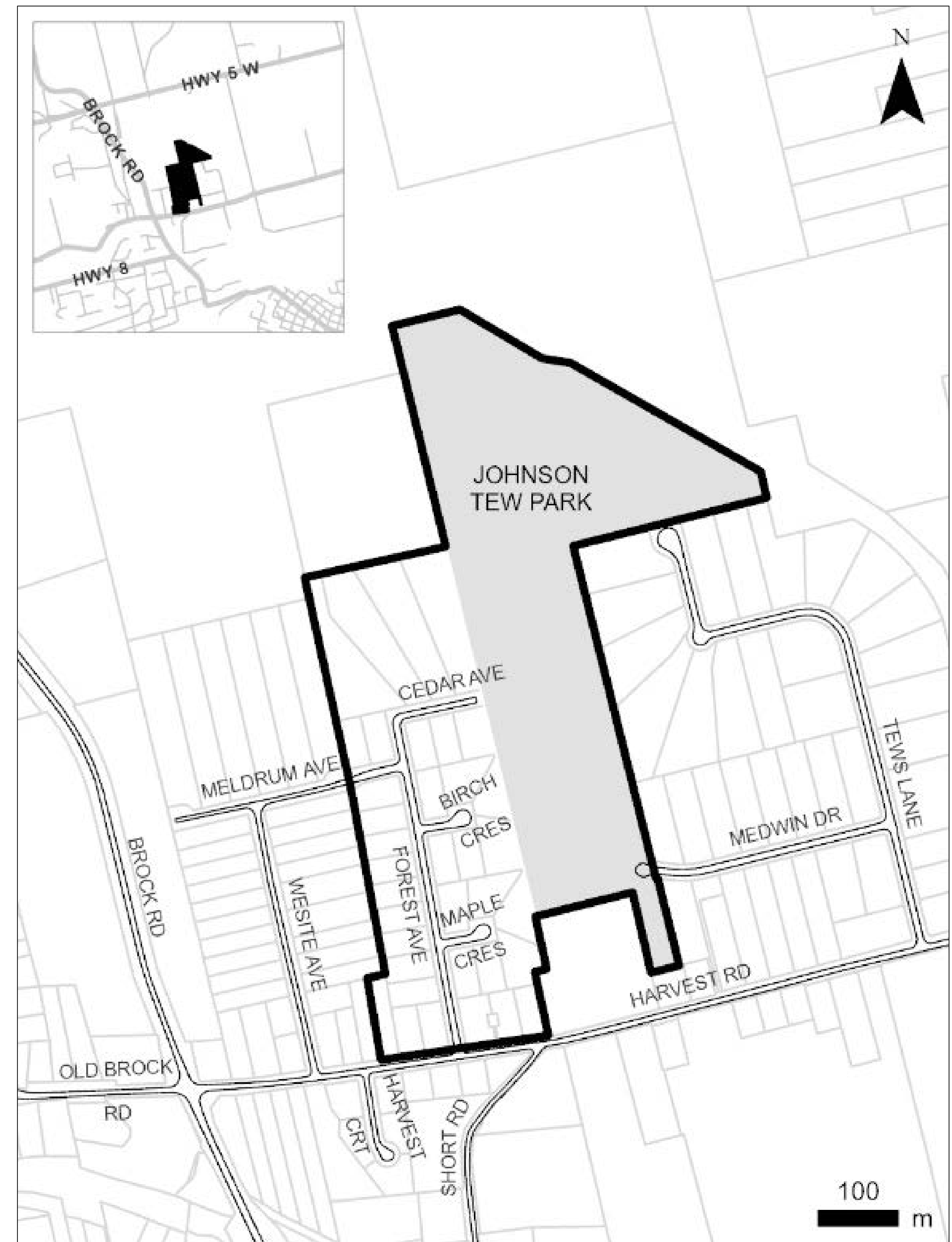
**Comments received during this study will be used to help identify the approach for current and future improvements within the City of Hamilton.**

# Purpose & Study Area

The City of Hamilton has initiated a Schedule C Municipal Class Environmental Assessment (EA) study for improvements to the Harvest Road Water Supply System (WSS) in the Greensville Rural Settlement Area (RSA),

The WSS supplies water to 36 homes within the Greensville RSA from one municipal well and pumping / treatment station.

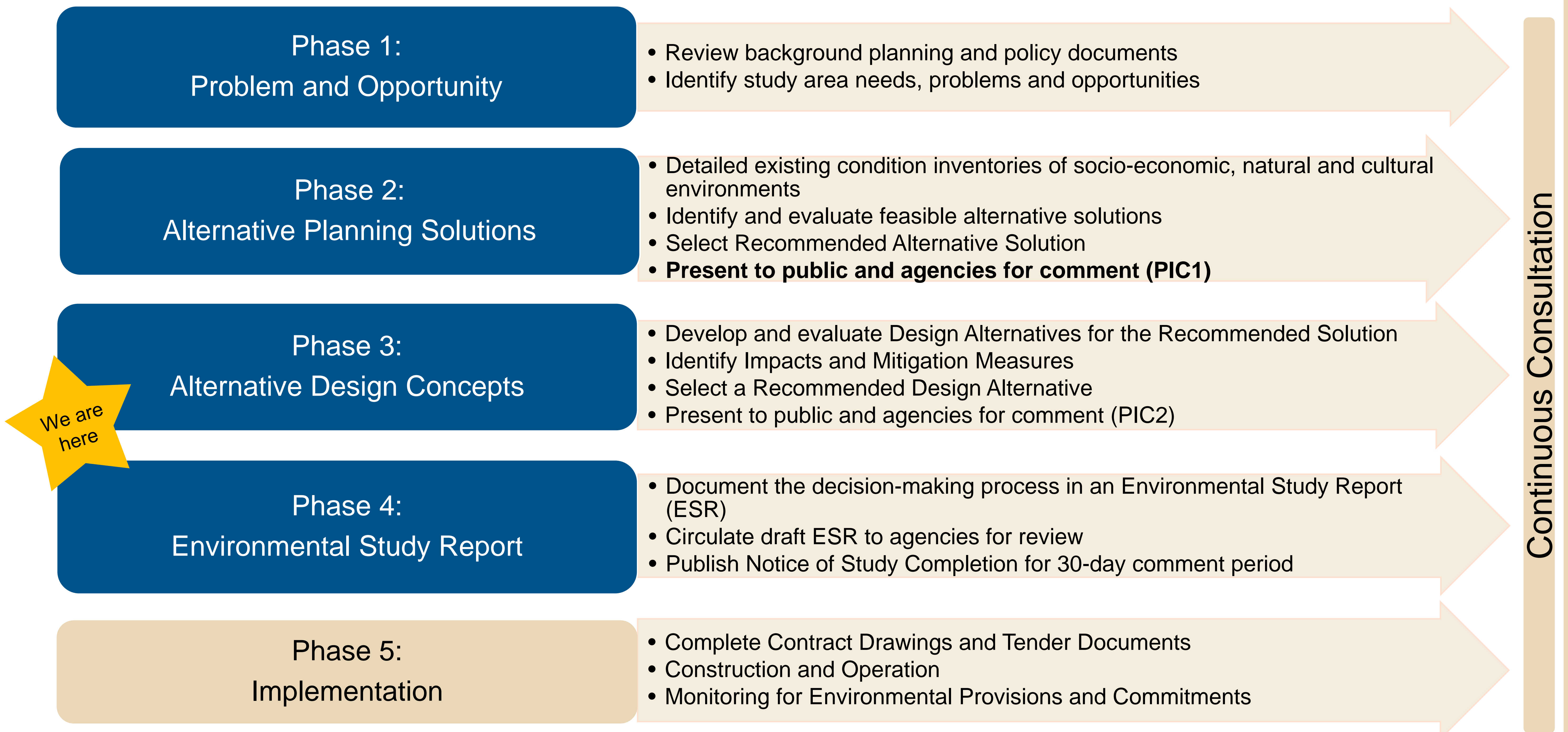
**The purpose of this study is to develop a preferred water servicing strategy including a backup water supply for the Harvest Road Water Supply System.**



**The Study Area includes the 36 connections to the Harvest Road Water Supply System (HRWSS).**

# Municipal Class EA Process

The Municipal Class Environmental Assessment (EA) study process frames the planning and implementation of municipal infrastructure and is legislated through the *Ontario Environmental Assessment Act*. This study is being conducted as a Schedule 'C' project and will cover Phases 1 to 4 of the EA process:





# PIC #1 Overview

PIC #1 was held virtually on October 11, 2023. The following alternative servicing solution for the Greensville Drinking Water System was recommended at PIC #1.

## **Alternative 5A – One Station**

The system will transition to a single primary supply from one new well head from the existing Test Well 2-13 (TW2-13) and include a reservoir for backup water supply and treatment building in Johnson Tew Park (FDG02). The existing FDG01 treatment station will be decommissioned.

Comments raised during the PIC included the following:

- Will the park and park access be impacted during construction?
- Where will the treatment building be located?
- Will the new reservoir have capacity to service additional properties?
- What are the water quality characteristics of the new water supply?

A list of *Frequently Asked Questions* and responses from the project team were made available on the project website for public review.

**Project Website:** <https://engage.hamilton.ca/greensvilledws>

# Alternative Design and Station Locations

The alternative locations for a new treatment building under review for this study for the Greensville DWS are listed below:

- **Location 1:** to the South of the park path at the end of Cedar Avenue
  - Lot identified and secured by the City
  - Near alternative well supply (TW2-13)
- **Location 2:** to the North of the park path at the end of Cedar Avenue
  - Lot would require identification and ownership by City
  - Further away from TW2-13
- **Location 3:** at the end of Medwin Ave.
  - Lot would require identification and ownership by City
  - Furthest away from TW2-13 and existing distribution system
  - Would require easement and additional construction and costs to connect to the distribution system on Harvest Road





# Evaluation Criteria

The alternative locations were evaluated using the factors and criteria below to identify the recommended servicing solution. Comments received from agencies, community interested partners, Indigenous communities and members of the public have been integrated as required.

## Socio-Economic

- Existing Land Uses
- Aesthetic Value
- Benefit to the Community and Public Acceptance – Consistent with 2022 Feasibility Study

## Natural Environment

- Terrestrial Habitat (i.e., natural heritage features)
- Wildlife (i.e., Species at Risk)
- Groundwater and Surface Water Quality and Quantity
- Source Protection
- Climate Change

## Transportation/Engineering

- Maintenance Requirements / Operability
- Constructability
- Land Requirements
- Utilities
- Water Quantity

## Financial

- Life Cycle Costs

## Cultural Environment

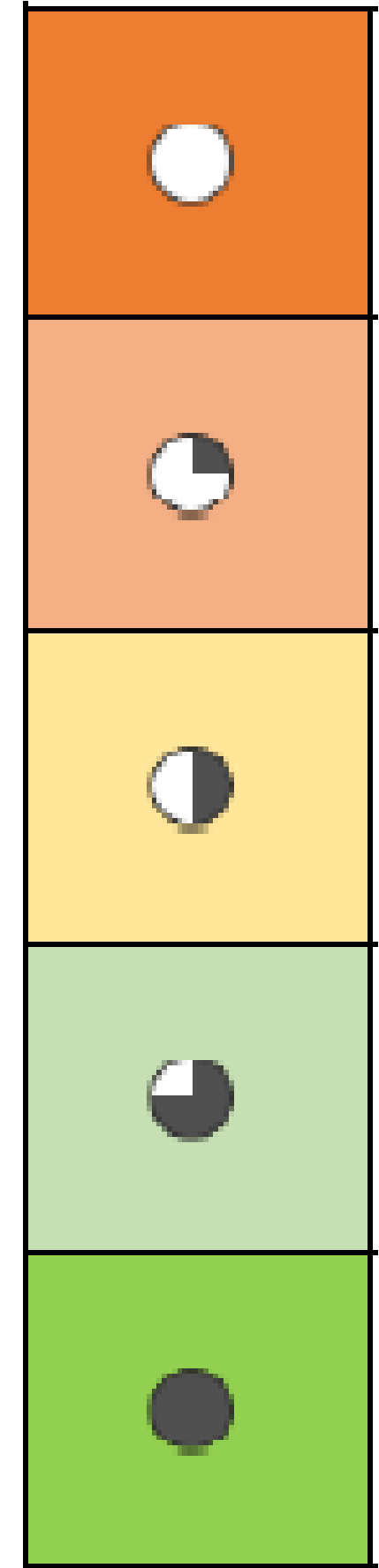
- Archaeological Resources
- Built Heritage Resources and Cultural Heritage Landscape

# Evaluation of Alternative Design and Station Locations

Following PIC #1, after further analysis and consultation with agencies, community interested partners, and members of the public, it was determined that **Alternative Location 1 – South of the Park Path Entrance at the end of Cedar Avenue** is the Most Preferred location.

	Alternative Location 1	Alternative Location 2	Alternative Location 3
Evaluation Criteria	<u>South</u> of Park Path Entrance at the end of Cedar Avenue	<u>North</u> of Park Path Entrance at the end of Cedar Avenue	End of Medwin Ave.
Natural Environment	●	◐	◐
Socio-Economic Environment	◐	◐	◐
Cultural Environment	●	●	●
Technical Engineering	●	◐	◐
Financial	●	●	◐
Overall	<b>Most Preferred</b>	Moderately to Most Preferred	Moderately Preferred

Least Preferred



Most Preferred

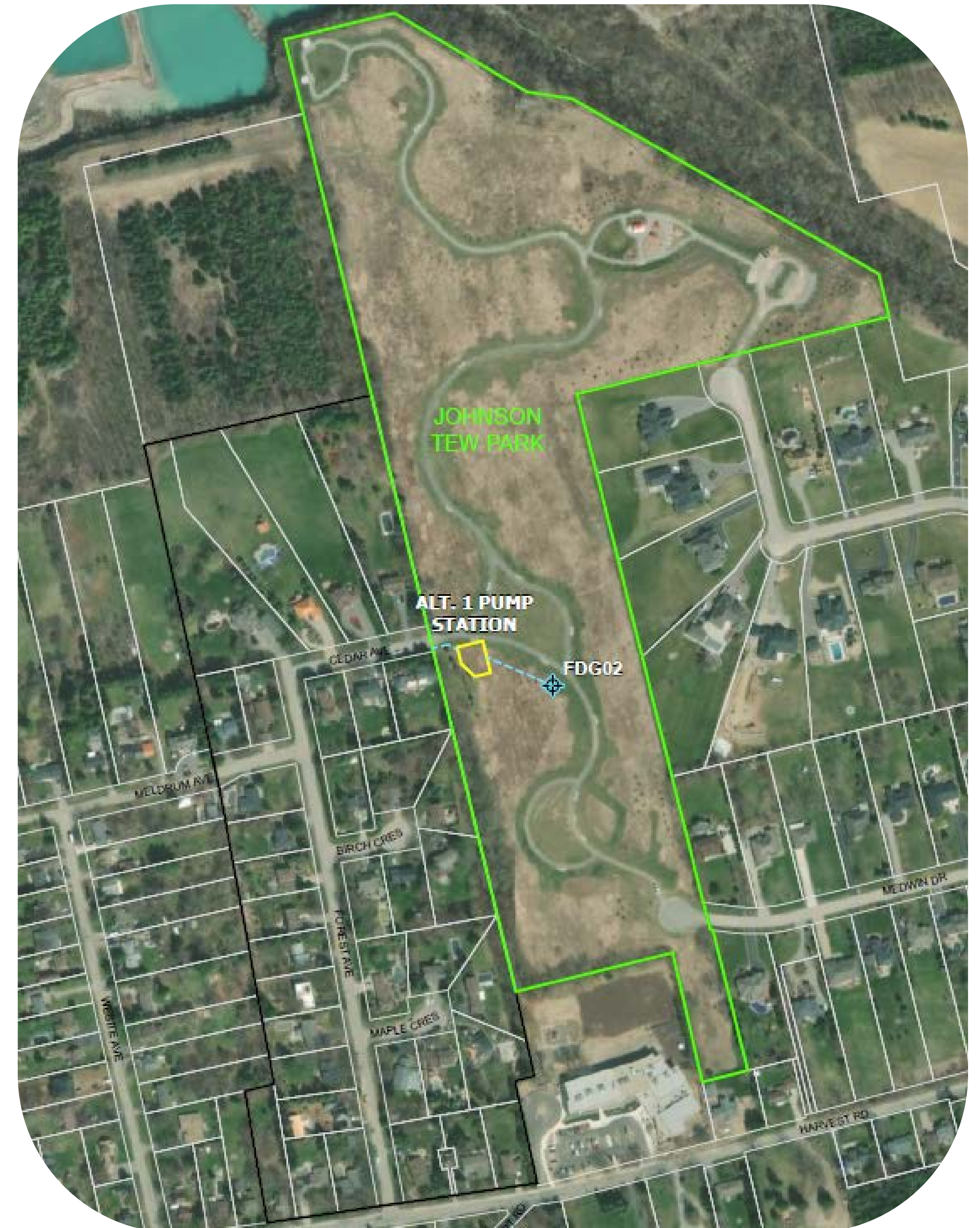


# Overall Recommended Strategy

The overall recommended strategy for the Greenville Drinking Water System is:

- One new well head, reservoir and treatment building in Johnson Tew Park.
- Decommission existing FDG01 pump station / treatment building.
- Build new treatment building south of the park path entrance at the end of Cedar Avenue

The proposed park layout for Johnson Tew Park is displayed on this slide.

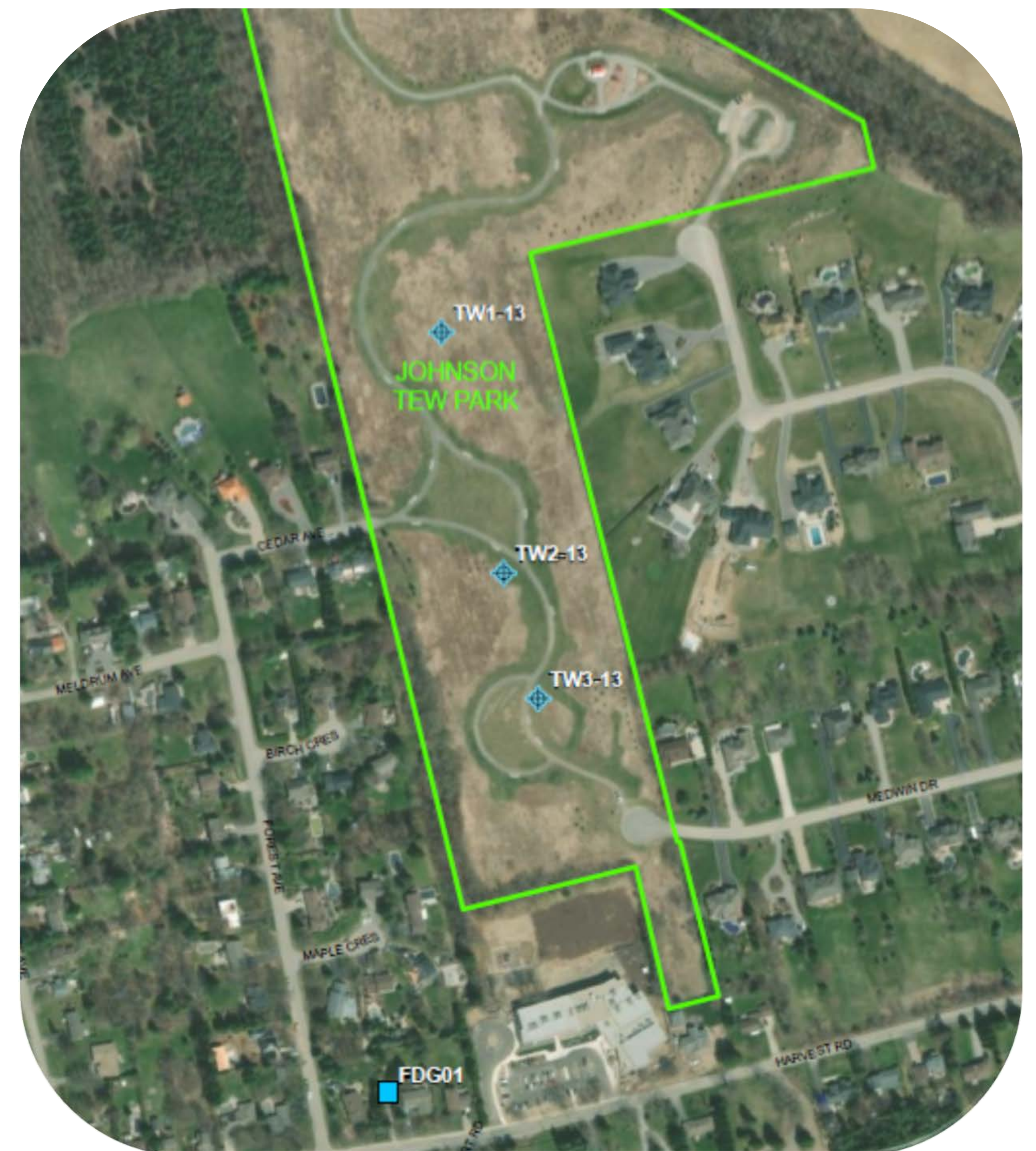




# Providing Reliable Water Quality

Details of the water quality from the proposed new well supply are listed below. The proposed design involves supplying Greensville entirely from the new well with a buried reservoir for backup water supply and disconnecting the existing well from the system.

- **Existing Supply FDG01 well:**
  - Provides a safe supply but requires additional treatment because it is considered ground water under the direct influence (GUDI) of surface water
  - Has elevated sodium
  - Nitrates have been detected below the maximum acceptable concentration (MAC) but have been rising over the past several years
  - Permit to Take Water (PTTW) daily rated capacity of 197 cubic meters per day.
- **Proposed Supply FDG02 well (TW2-13):**
  - No water quality exceedances
  - Not expected to be considered GUDI and therefore will require less treatment and energy requirements
  - Lower sodium and nitrate concentrations not expected to rise substantially over time
  - Expected long-term water taking rate of 129 cubic meters per day





# Potential Site Location



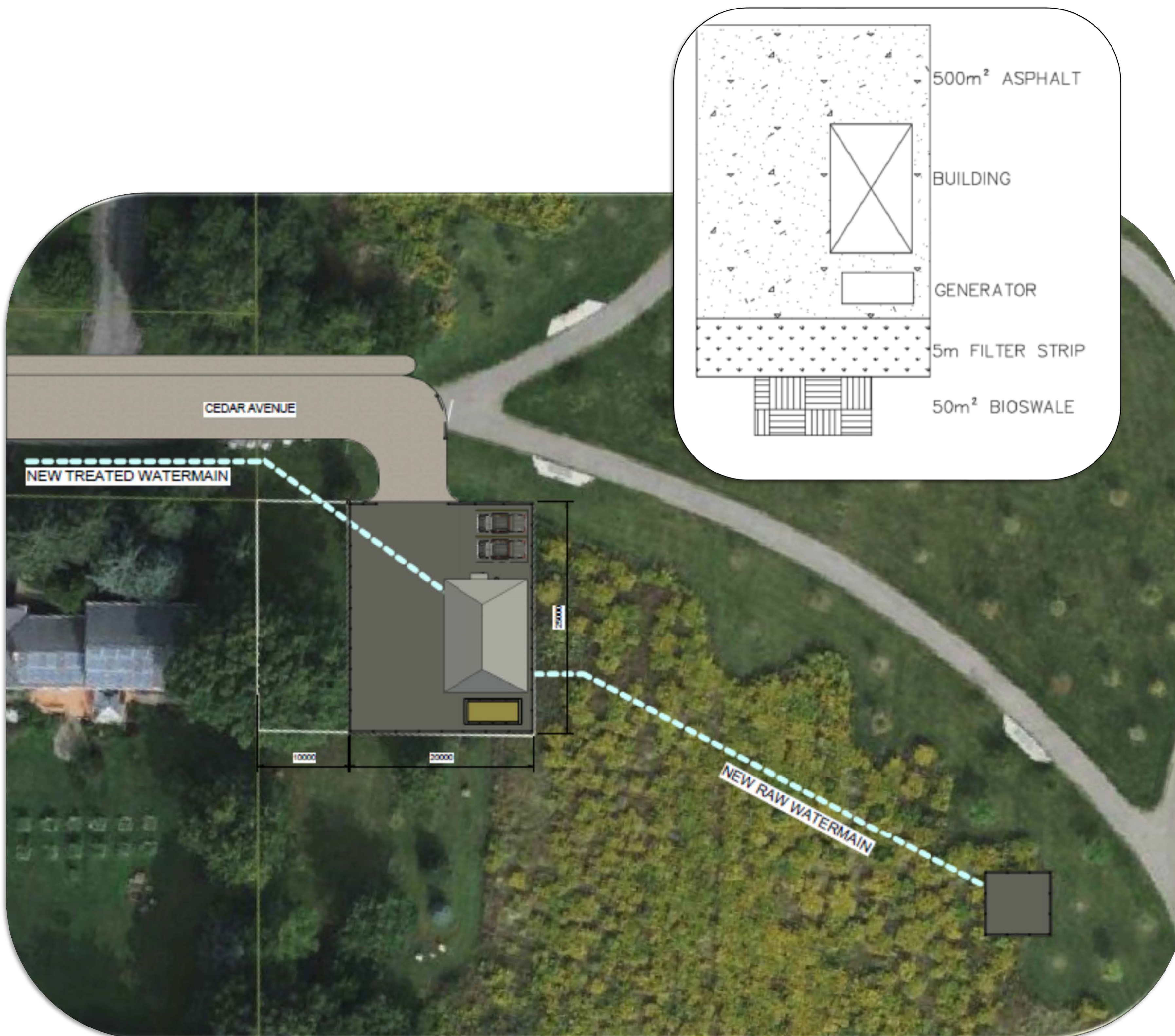
This slide displays a conceptual site location for the proposed treatment station with the following considerations:

- Situated to minimize impacts to existing large native trees
- Site is compact to minimize impact on park lands

**Please note these configurations are conceptual and are subject to change.**



# Potential Site Plan Configuration



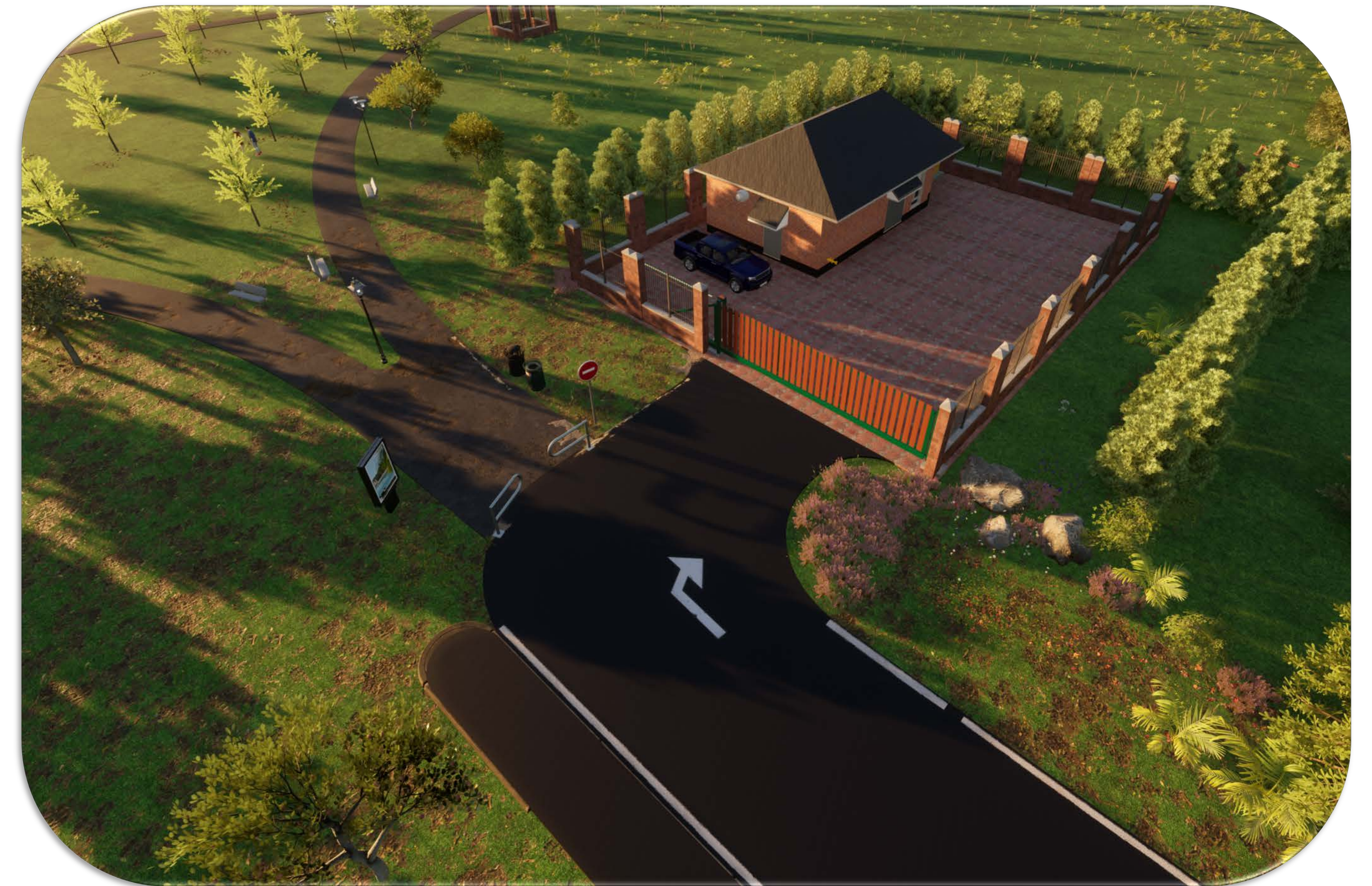
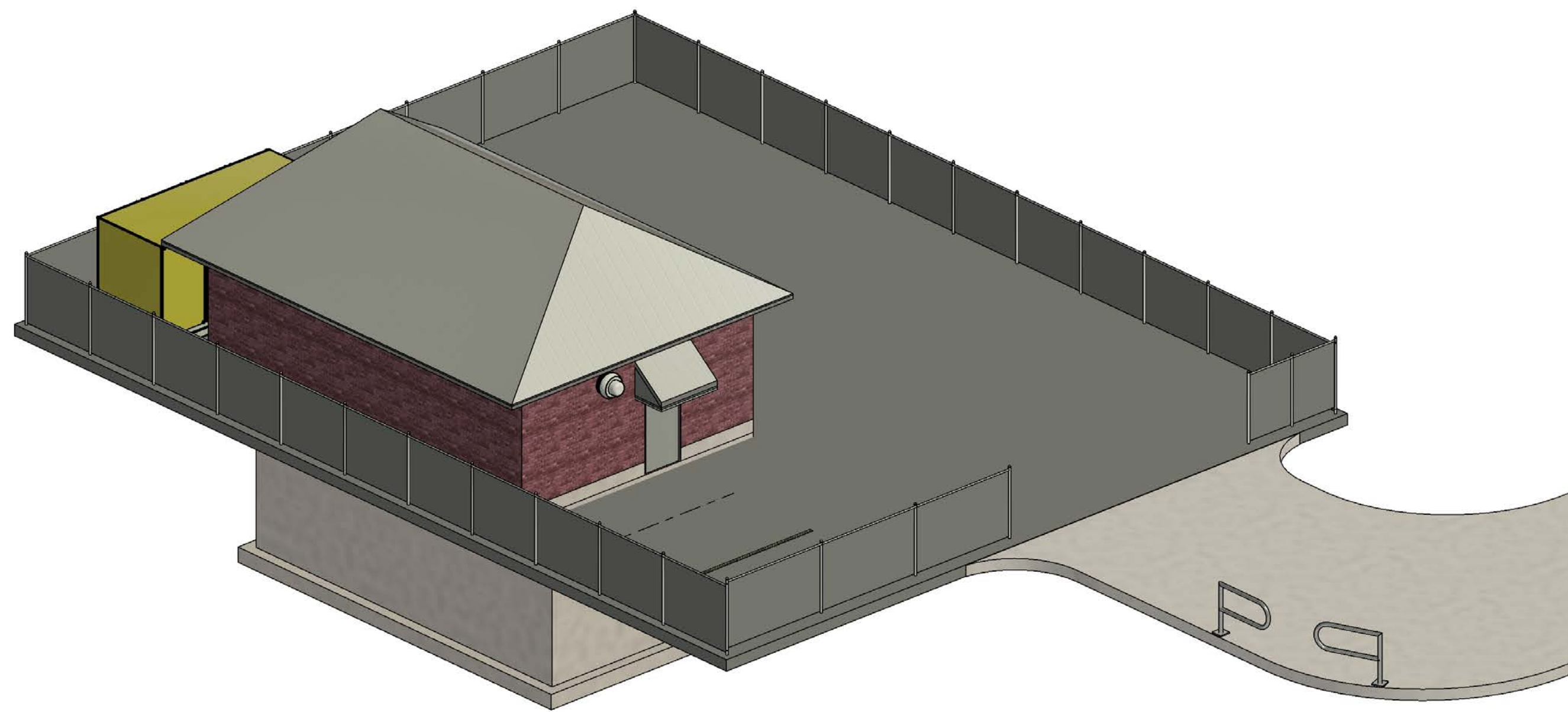
This slide displays a conceptual site plan for the proposed treatment building. The following is shown:

- Fenced Site layout of building, parking, and backup power supply (yellow rectangle)
- Watermain Locations and Fenced Wellhead
- Low-Impact Development (LID) considerations for site drainage

Please note these configurations are conceptual and are subject to change.



# Site Rendering – with Buried Reservoir for Backup Water Supply



- Underground reservoir for backup water supply will be located beneath the well house.
- Tree screening and tree-planting plan to be developed in detailed design in consultation with City Parks and Landscape Architecture

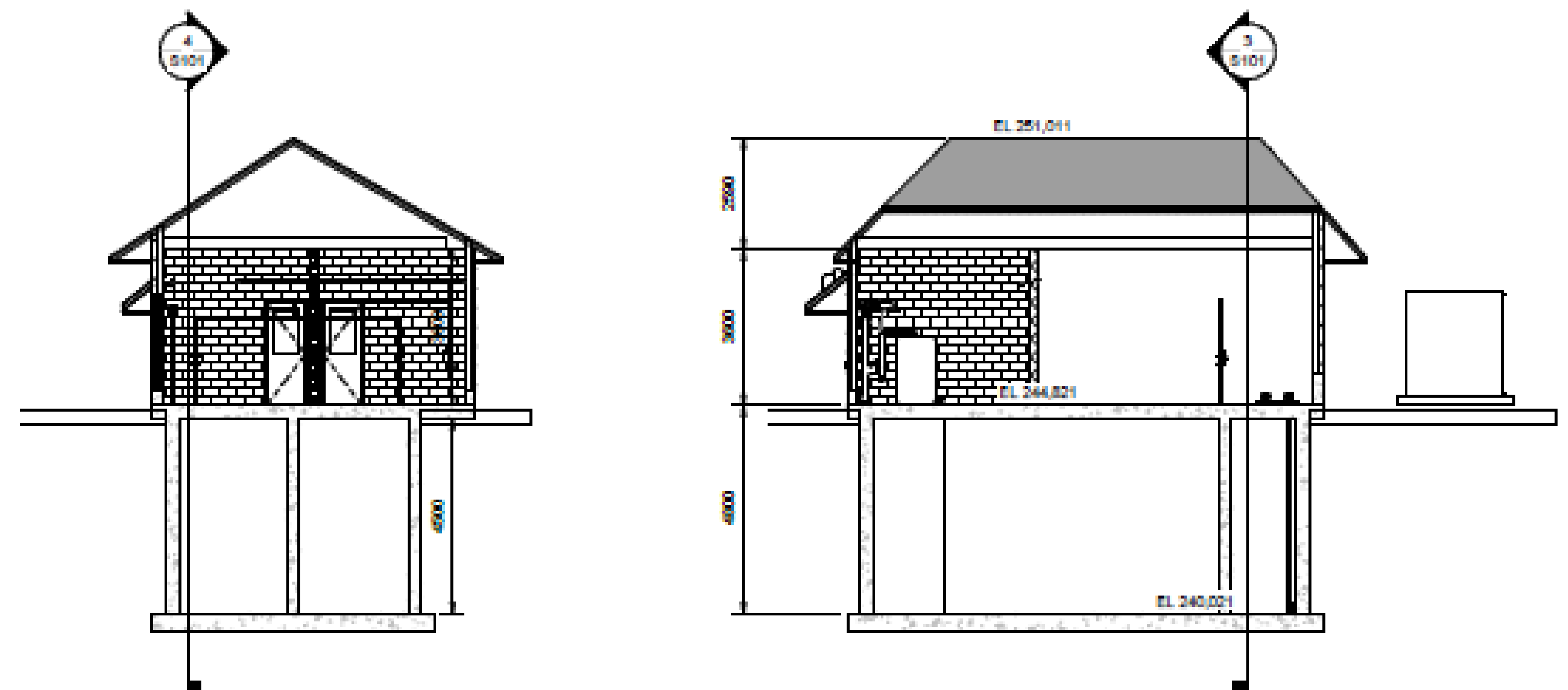
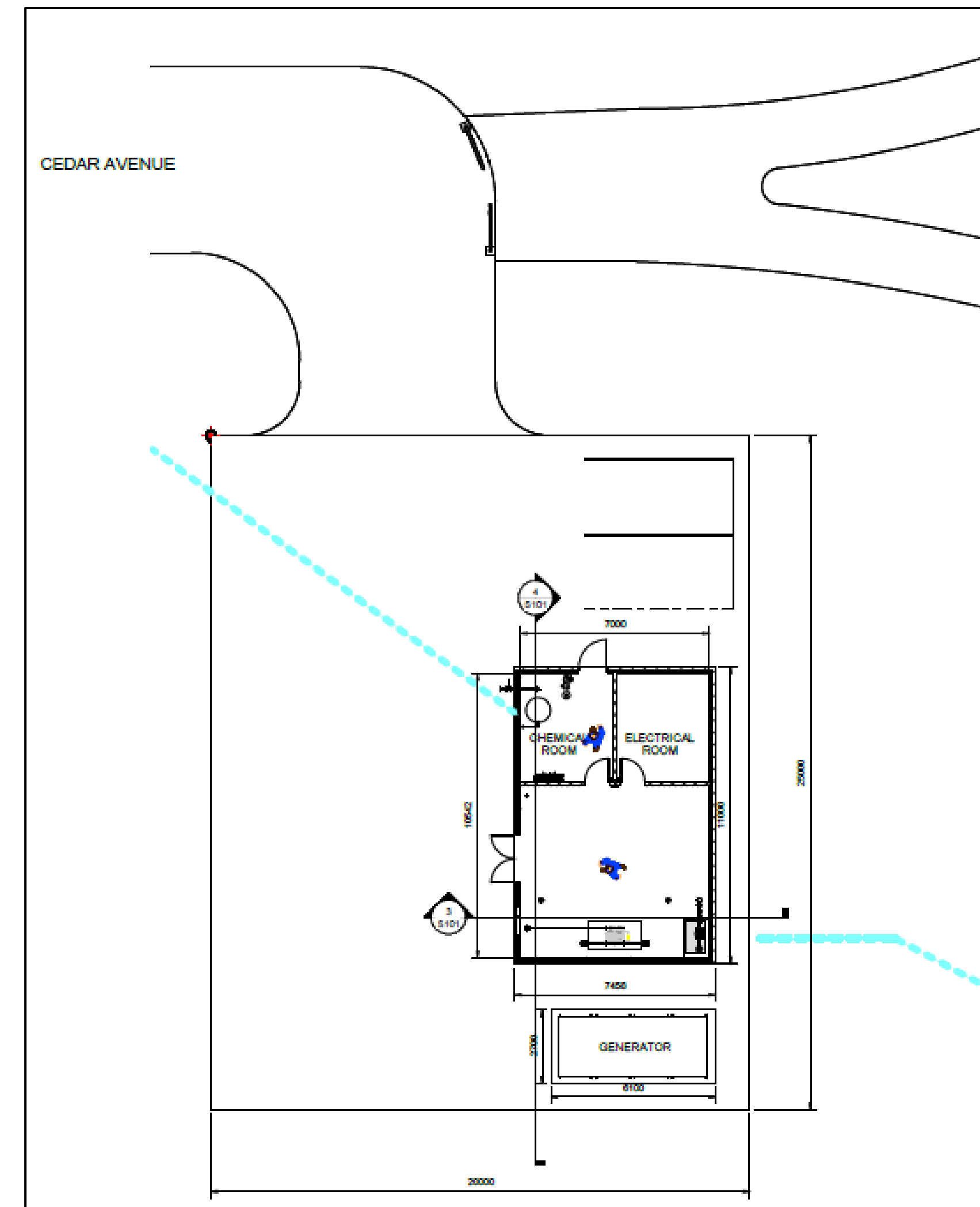
**Please note these configurations are conceptual and are subject to change.**



# Potential Water Treatment Site

## Design Elements

- Treatment Building will have pitched metal roof and brick exterior
- Facility will be supplied by one (1) well with one (1) underground reservoir for backup water storage for 1 day at maximum day demand (MDD) (93.4 m<sup>3</sup>)
- Facility will be equipped to meet municipal disinfection requirements
- Site will meet the City's Water Outstation Design Manual including:
  - Separate chemical room and electrical room
  - Safety equipment including eye-wash, shower
  - Maintenance and storage facilities
  - Redundant equipment as necessary
- Generator to be located at site for backup power supply



**Please note these configurations are conceptual and are subject to change.**



# Potential Impacts and Proposed Mitigation Measures [Hamilton](https://www.hamilton.ca)

- The Recommended Design Alternative will be subject to a final assessment of impacts, considering community, cultural, natural environment and socio-economic factors
- Based on the impacts, preliminary mitigation measures will be recommended in the Environmental Study Report along with commitments for future work
- These measures will be based on City of Hamilton policies, standards and best practices as well as regulatory agency requirements and conditions of approval
- Preliminary measures will be refined during the future detailed design phase and then implemented during and following construction, with appropriate monitoring programs in place



# Next Steps

Following this PIC, the project team will complete the next steps identified below:

Review and respond to comments received

Continue to engage Indigenous communities, and consult with the public and agencies

Confirm the Recommended Servicing Strategy Design

Complete Technical Studies

Prepare the Environmental Study Report for 30-day public review

The results of the study will be summarized in an Environmental Study Report, which will be available for 30-day public review. The ESR is tentatively scheduled for Summer 2024.



# Thank you!

Thank you for participating in this Public Information Centre for the City of Hamilton, Municipal Class Environmental Assessment for the Greensville Drinking Water Supply study. Your feedback is valuable and appreciated.

Please provide comments by filling out the online survey or by contacting a member of the project team below by May 3, 2024:



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