Shadow Ridge Well Improvements

Online public engagement opportunity

March 17 to March 31, 2025

Welcome

Welcome to the Online Engagement Opportunity for the Shadow Ridge Well Improvements Study.

The City has a proactive communications approach. The Project Team will update you on the project using different methods to communicate including letters and posting information on ottawa.ca.

The purpose of this Online Engagement Opportunity is to present information and gather your feedback on the alternative solutions for the Shadow Ridge Well Improvements Study.

Please review the information presented and **provide your comments by phone or email**, as noted on the last page of this document, **between March 17 and March 31.**

Land acknowledgement

We recognize that Ottawa is located on unceded territory of the Anishinabe Algonquin Nation.

We extend our respect to all First Nations, Inuit and Métis peoples for their valuable past and present contributions to this land.

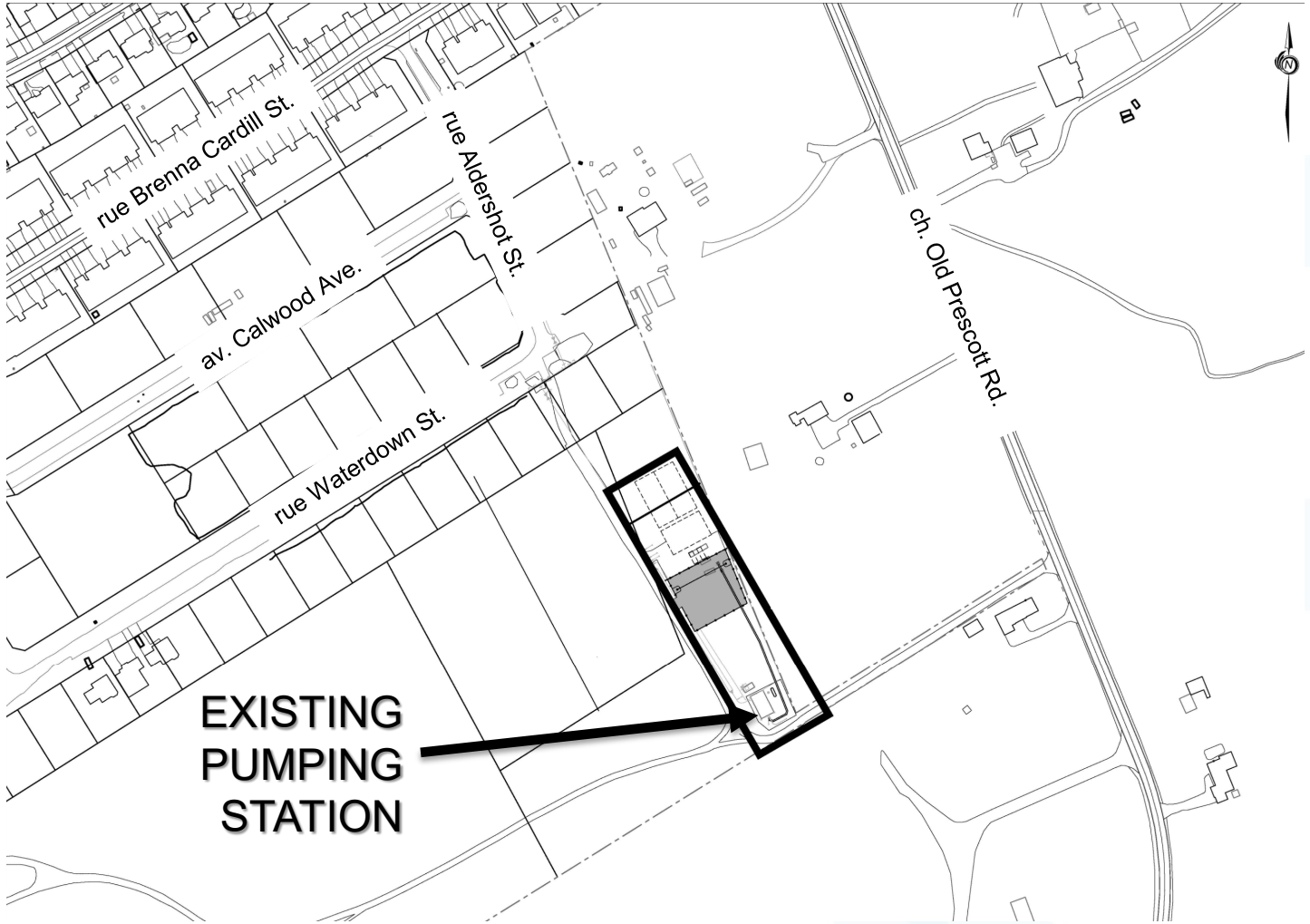
We also recognize and respect the cultural diversity that First Nations, Inuit and Métis people bring to the City of Ottawa.

Purpose of online engagement opportunity

To present information and gather your feedback on:

- Study background and purpose
- Existing site and facility
- Existing water quality
- Existing environmental conditions
- Evaluation criteria
- Evaluation of alternative solutions and recommended alternative
- Environmental impacts and mitigation measures
- Schedule
- Next steps

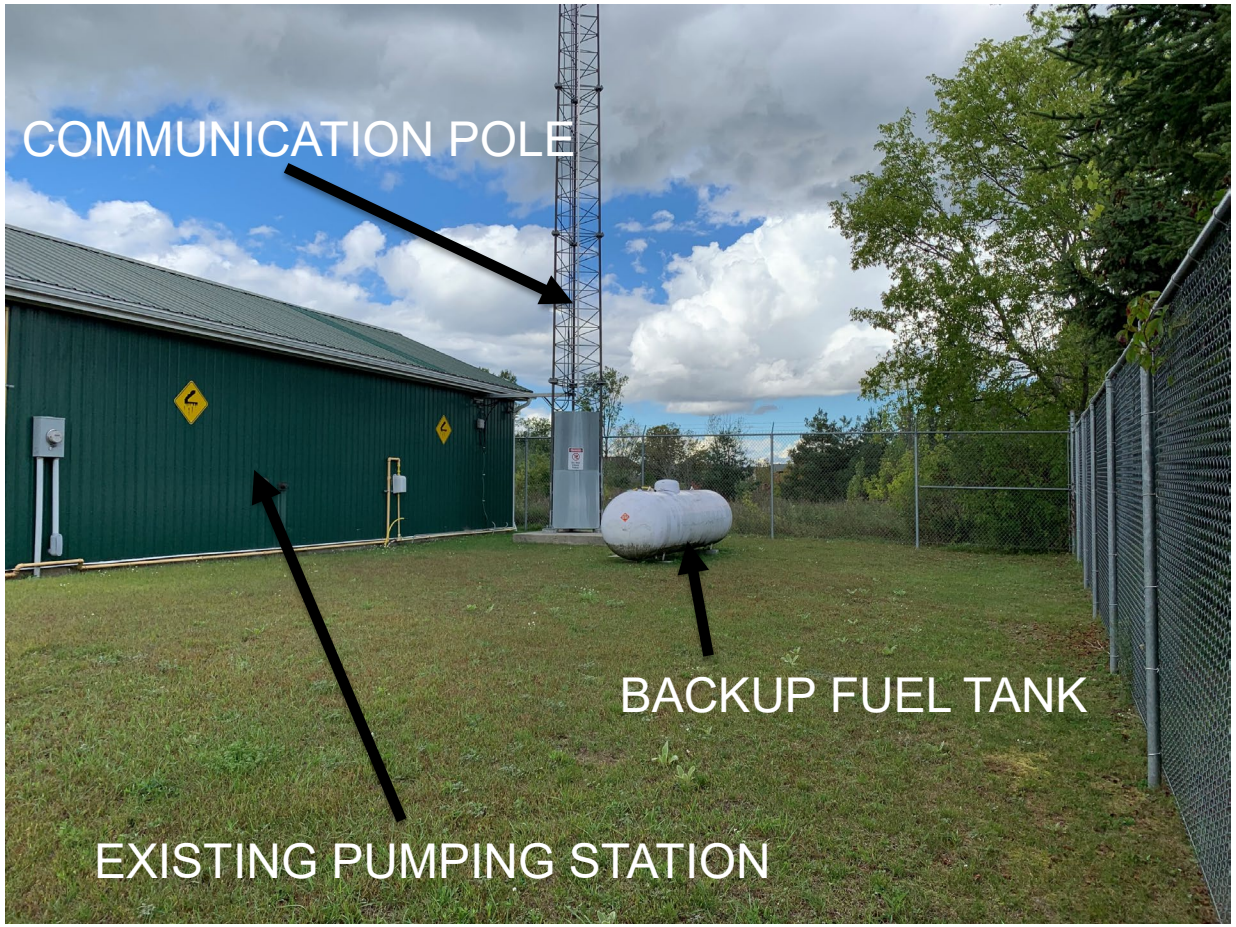
Project area: 6505B Waterdown Street



Project history

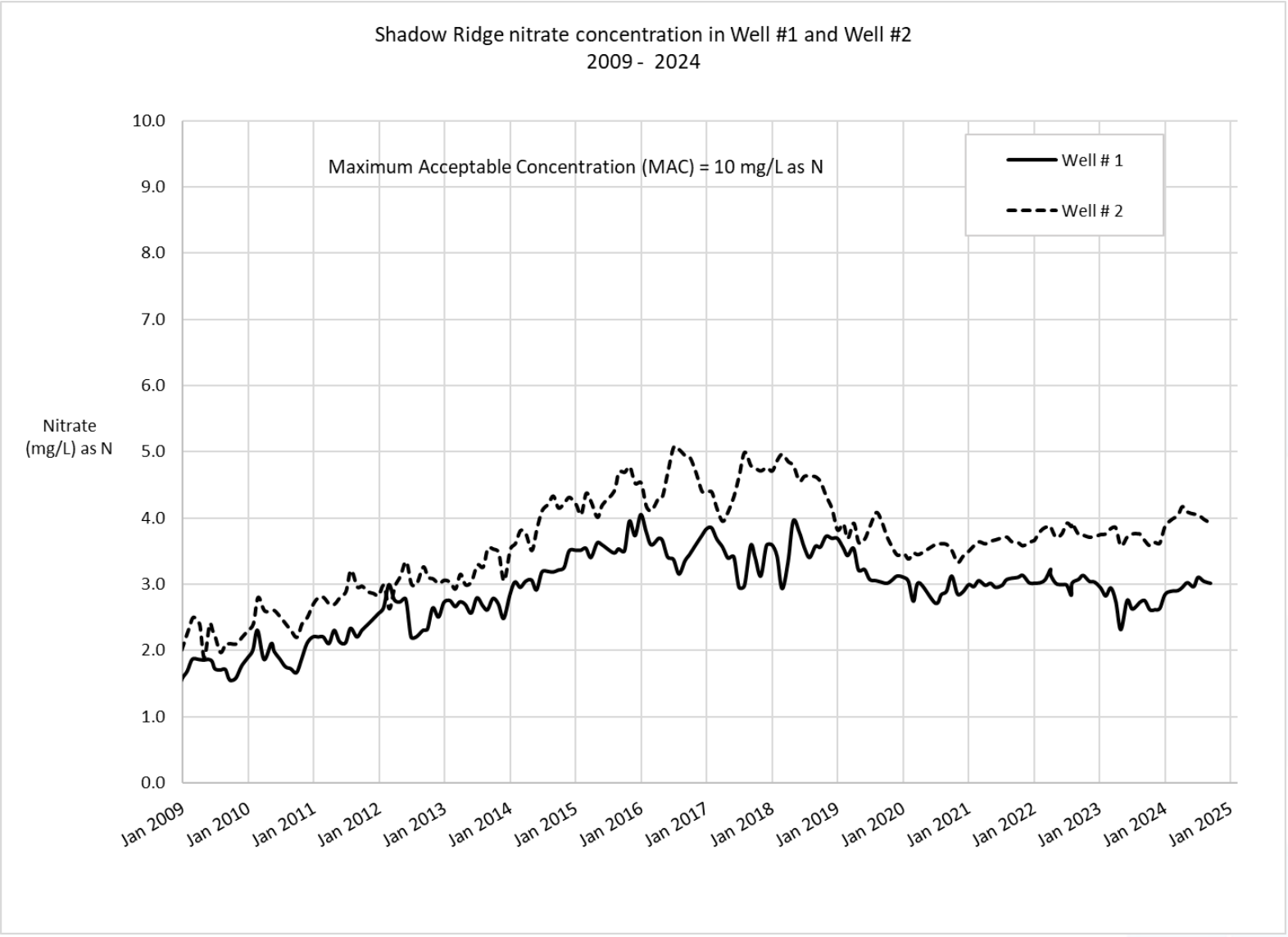
2017	First public information session (December 2017)
	First deep well into the Nepean Aquifer
2018	Private property acquisition underway
2019	Private property acquisition completed
	Second deep well into the Nepean Aquifer
2020	Third deep well into the Nepean Aquifer, including pump testing
2021	Shadow Ridge Well Improvement System Design started
2022 - 2023	Deep well drilling to confirm groundwater supply and quality

Existing site



Existing Shadow Ridge shallow well system

- **Safe to drink** – meets all Federal and Provincial drinking water standards
- The existing shallow wells are 19 m in depth
- Water quality is excellent, except for nitrate concentrations
- Nitrate concentrations are within the safe drinking water standard of 10 mg/L and do not pose a health concern
- The nitrate source is not known, but likely comes from surface water sources (septic, agriculture)



Understanding water quality - Nitrate

Nitrate levels increased from 2008 to 2017 in the existing shallow wells. Declining and now relatively stable trend began in 2019.

Nitrate concentrations have always been safely below the 10 mg/L Drinking Water standard.

Nitrate can be removed by reverse osmosis or ion exchange, but treatment is complicated and costly.

Problem and opportunity statement

The existing shallow groundwater supply wells have been experiencing rising nitrate levels, which raise potential quality concern for residential end users.

The purpose of the Shadow Ridge Deep Wells Class EA is to identify feasible water servicing alternatives to improve the water quality of the Shadow Ridge Communal Well System.

Natural environment

Based on the findings of a natural heritage screening undertaken within and surrounding the project area:

- No Species at Risk have been identified within or 50 m from the Project Area
- There may be potential habitat for tree, bird and bat Species at Risk within the Project Area.

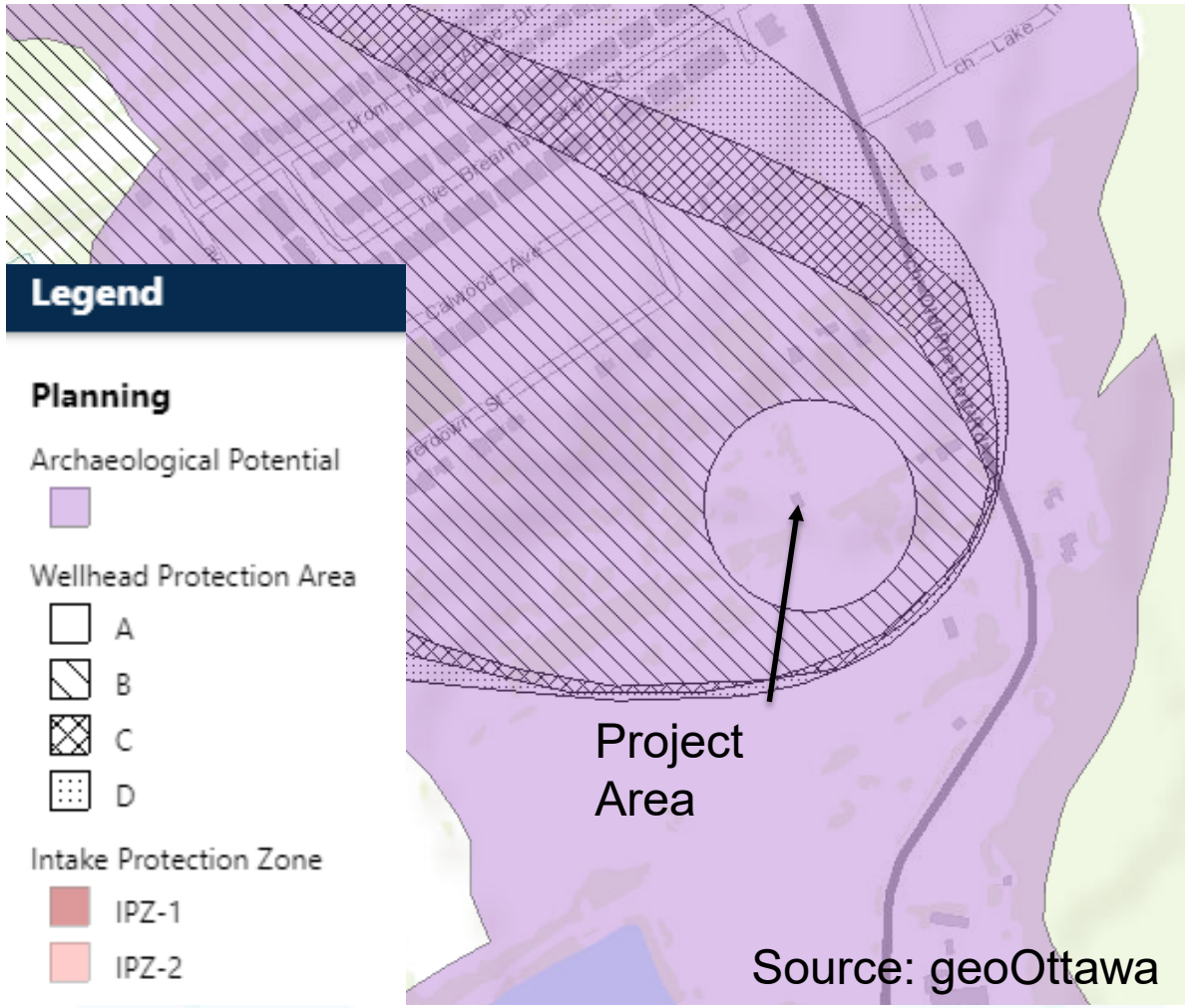
Cultural heritage

- The City of Ottawa maintains a register of properties that have local cultural heritage value

- One (1) heritage building is listed ~550 m away from the facility:
    - 1847 Old Prescott Road – detached residential T-shaped Ontario Cottage style house built circa 1850

Archaeological conditions

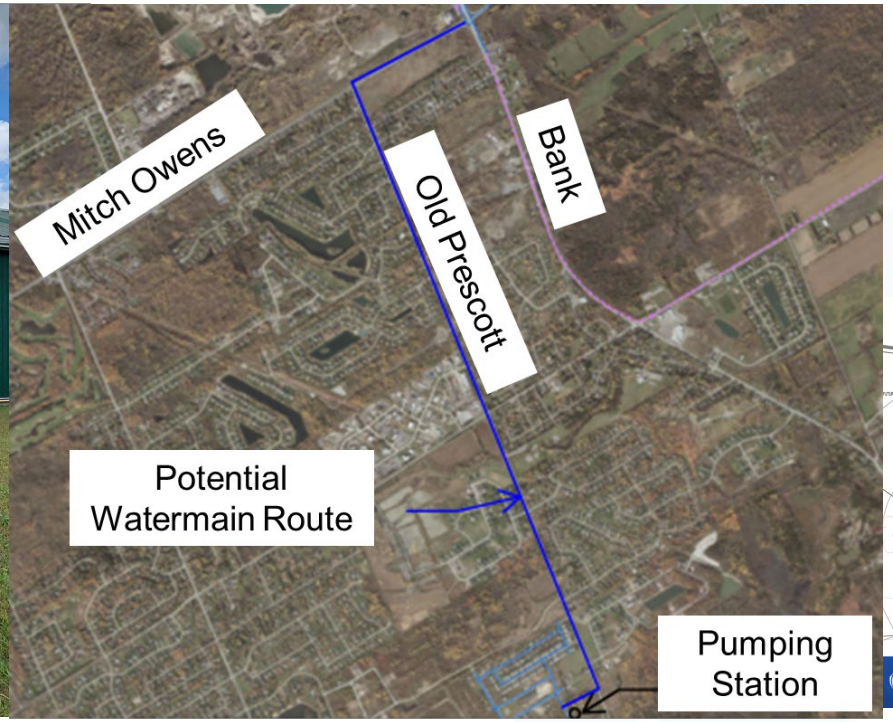
- As part of the City of Ottawa, the site is built on un-ceded Anishinabe Algonquin territory
- The current site is designated as area that may have archaeological potential (geoOttawa)
- Proposed impact areas were cleared of archaeological potential due to being previously disturbed
- *0478E - Criteria for Evaluating Archaeological Potential* checklist provided by Ministry of Citizenship and Multiculturalism will be required once a Preferred Alternative is chosen



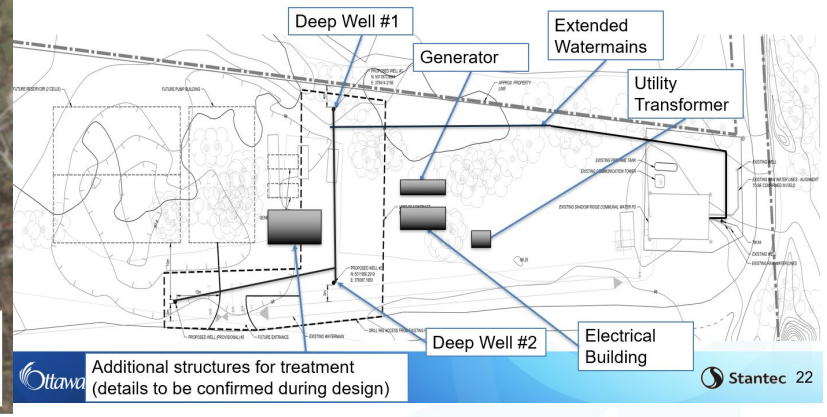
Proposed alternative solutions

(1) Do nothing

(2) Connect to municipal water supply



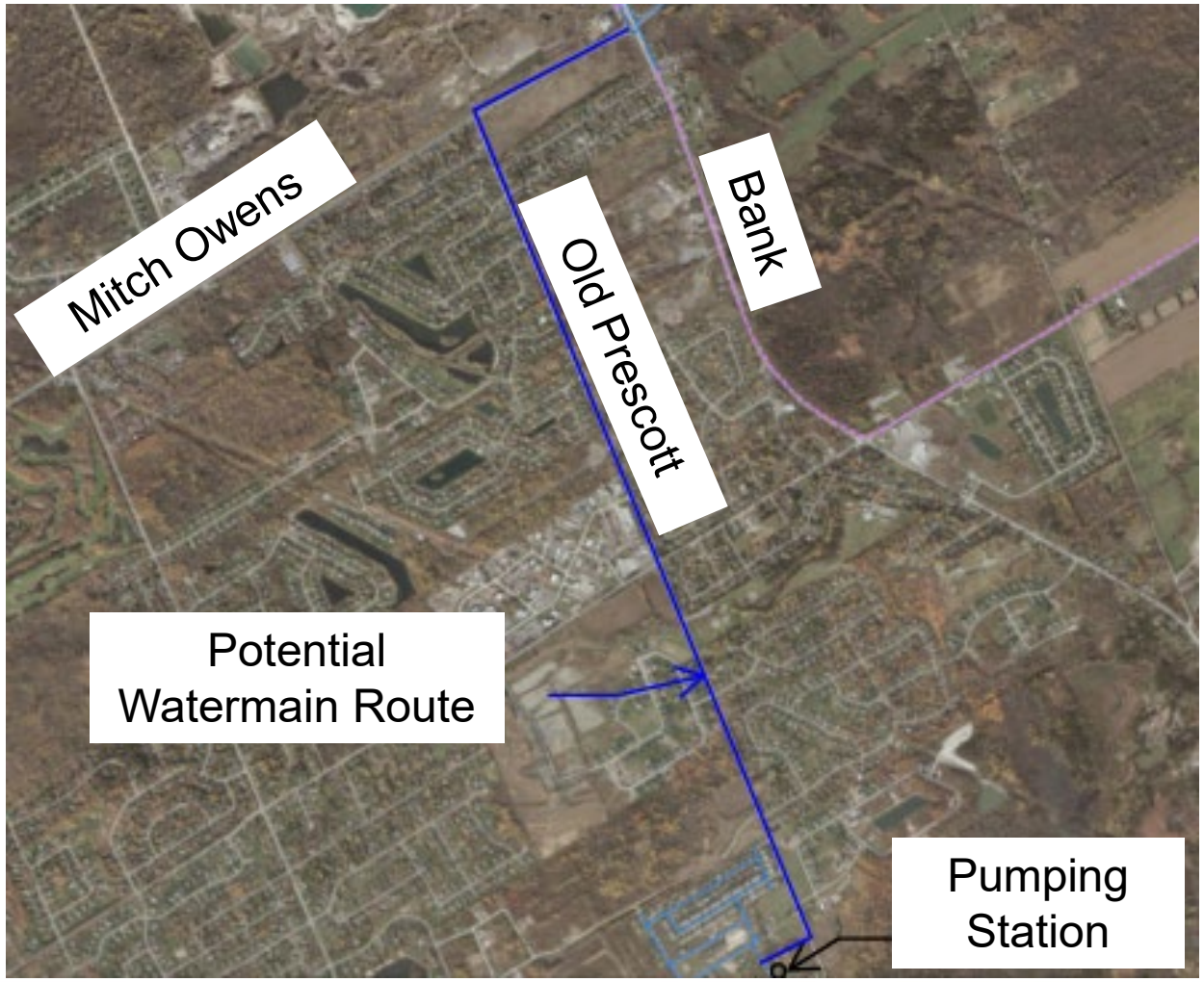
(3) Improved groundwater supply from deep wells



Alternative 1: Do nothing

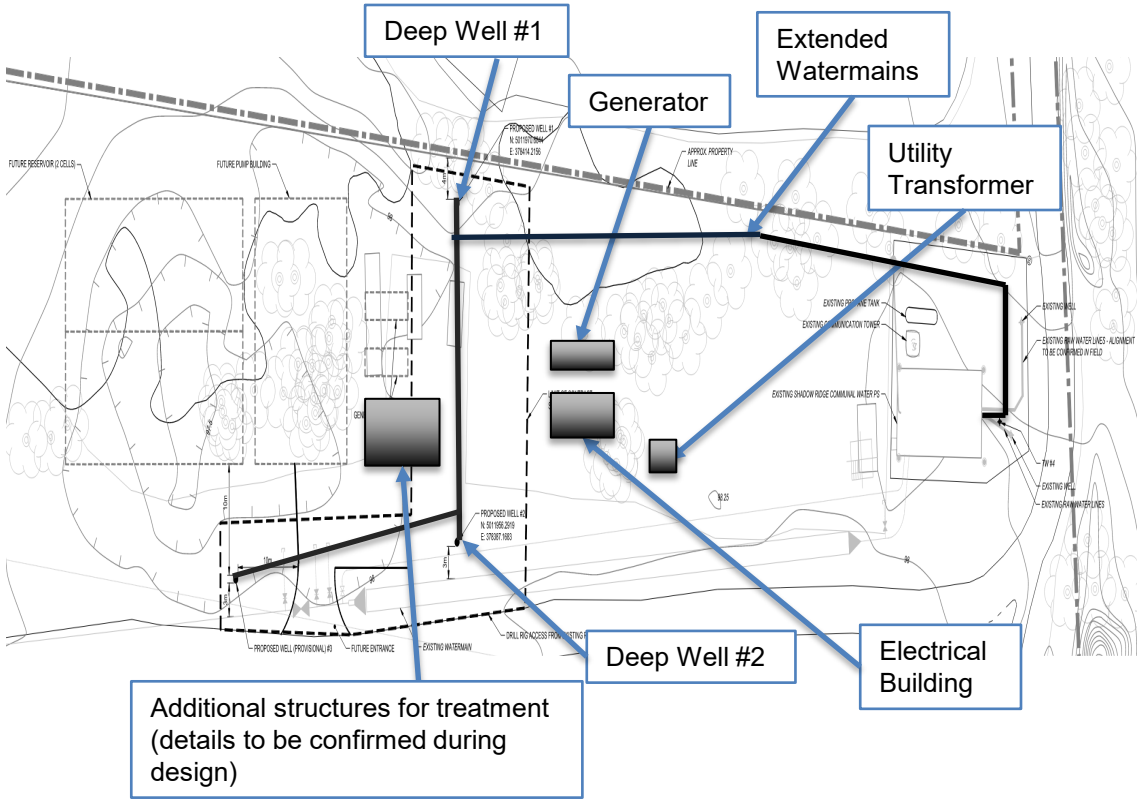
- Pumping facility had experienced rising nitrate concentrations between 2008 and 2017, due to the shallow nature of the existing wells.
- Nitrate concentrations declined starting in 2019 and have remained relatively stable since then.
- Nitrate concentrations have always been safely below the 10 mg/L drinking water standard.
- The existing pump station does not have capacity to support future expansion of residential development in the area beyond Phase 2B, therefore this will remain unchanged with the ‘Do Nothing’ option

Alternative 2: Connect to municipal water supply



- Decommission pumping facility and connect to municipal (City of Ottawa) water
- Build new watermain along City roadway, with the closest potential connection location approximately 4.5 km away (Bank Street and Mitch Owens Road).
- Ministry of the Environment, Conservation and Parks approvals due to the increased environmental impacts of a new watermain:
  - Potential creek or culvert water course crossings
  - Water quality considerations such as chlorine residual and residence time
- High construction cost due to length of watermain
- Significant public impacts and inconvenience created by construction on active arterial and collector roadways

Alternative 3: Improved groundwater supply from deep wells



- Environmental approvals and water servicing arrangements are already in place for existing infrastructure
- Expanded facility would include additional and deeper wells, improvements to the electrical supply system, instrumentation and controls, emergency backup generator, water quality and treatment systems.
- Construction largely restricted to the site itself
- Testing concluded water quantity can be obtained with improved deeper wells at the existing site. Water treatment to be provided.
- City staff maintenance practices easily adaptable to an expanded facility, simplifying training and maintenance effort.

Evaluation criteria

Natural environment

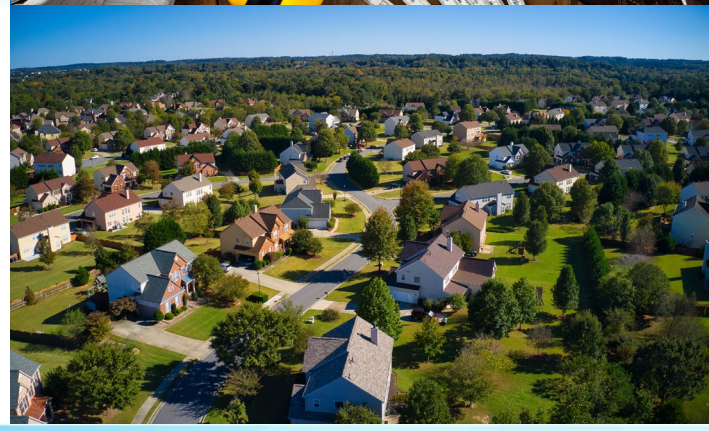
- Terrestrial environment
- Aquatic environment

Technical consideration

- Functionality
- Constructability & feasibility
- Cost

Socio-economic & cultural environment

- Archaeological resources
- Built Heritage resources / Cultural landscape
- Land use
- Noise/vibration
- Air quality
- Community access
- Socio-economic impacts



Evaluation of alternative solutions

Measuring the net effect includes analyzing and classifying the range of impact, such as high positive, low positive, no impact, low negative and high negative

	Alternative 1: Do Nothing	Alternative 2: Connect to Municipal Water Supply	Alternative 3: Improved Groundwater Supply from deep wells
Natural environment	**Preferred**	Not preferred	Not preferred
Socio-economic & cultural environment	**Preferred**	Not preferred	Not preferred
Technical considerations	**Preferred**	Not preferred	Not preferred
CONCLUSION	**Recommended solution**	Not recommended	Not recommended

Preferred solution: Alternative 1

The ‘Do Nothing’ solution is preferred because:

- It will maintain the current water quality with no impacts to surrounding natural and socio-economic environment.
- As nitrate concentration in the shallow wells is now stable, has improved somewhat, and acceptable quality standards are maintained, no modifications to the existing system are required.
- It best supports the identified need for the project, which was driven by a previously increasing trend in nitrate concentration.

Alternatives 2 and 3 will impact the natural and socio-economic environment and are considering more impactful than Alternative 1 due to greater environmental impacts, higher capital costs, longer construction periods and numerous permit requirements. Alternative 3 is anticipated to incur the highest operational and maintenance costs, due to the need to mitigate and manage iron and manganese and have the greatest potential for aesthetic water quality complaints.

Environmental impacts & mitigation measures

As part of the Class EA process, measures should be identified to offset potential environmental impacts of the proposed undertaking.

Since the preferred alternative is to do nothing, and there will be no impacts to the natural and socio-economic environment, there is no need for mitigation.

Next steps: Schedule

2025

- Complete Municipal Class Environmental Assessment
- Issue the ‘Notice of Completion’ which begins the 30-day public review of the project file
- Closure of comment period: March 31, 2025
- Posting of final report and comments: Spring 2025

Future works

Consideration will be given to future site growth requirements, as known and when practical, in a parallel or successive fashion.

Based on demand and reliability needs, such requirements could include:

- Future pumping station improvements
- Treated water storage reservoirs
- New pumping station
- Additional standby power
- New watermains, etc.

Thank you

Thank you for reviewing the project's information boards. We encourage and welcome your feedback on the alternatives and preferred solution presented.

Please email your comments to the address below between **March 17 – 31, 2025.**

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