Ballantrae Water

Ballantrae Long-Term Water Supply
Class Environmental Assessment

PUBLIC CONSULTATION CENTRE #1
November 21, 2016

York Region

Study Background

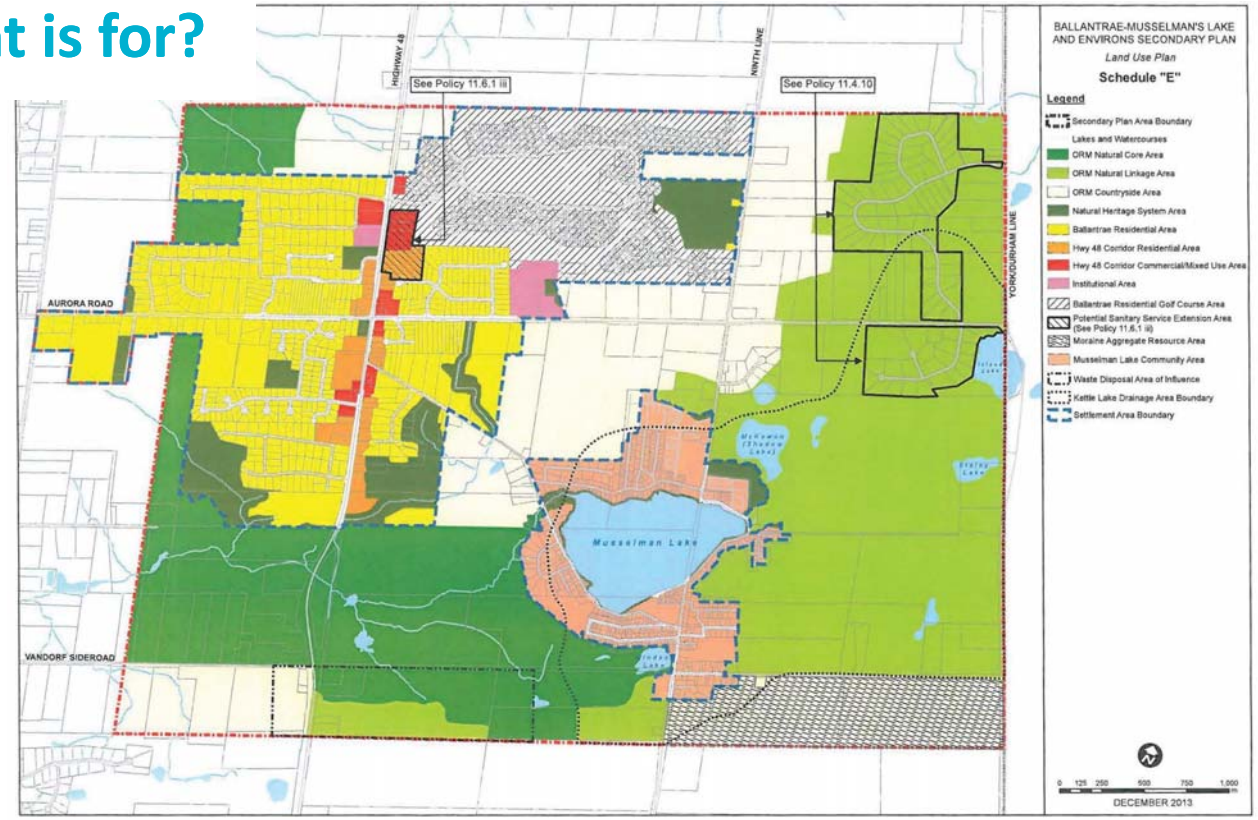
Are you wondering what this Class Environmental Assessment is for?

Town of Whitchurch-Stouffville Official Plan Amendment (OPA-136)

The Region is reviewing OPA-136, which proposes to increase the long-term population within the Ballantrae and Musselman Lake Settlement Areas from 5,900 residents to approximately 6,300.

Regional Water Supply

The Region must determine how best to supply water to this projected growth.



OPA-136 Proposed Land Use Plan *(source: Town of Whitchurch-Stouffville)*
Provided for information purposes only

Study Area

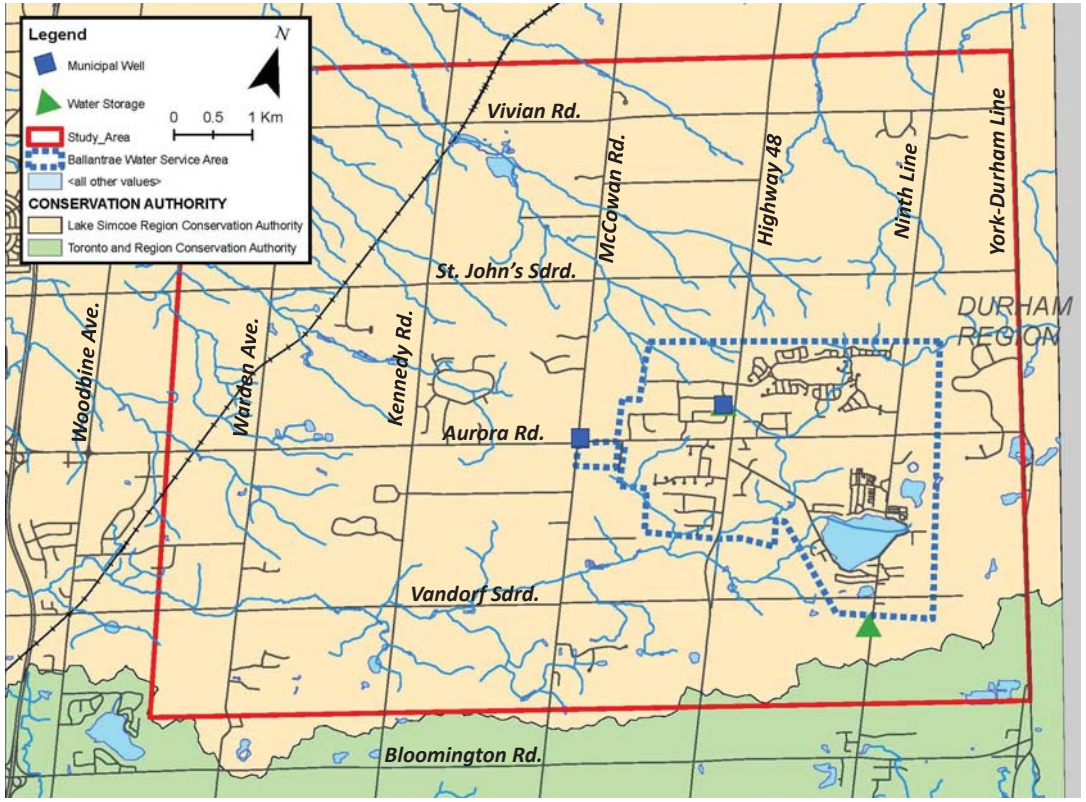
The Class EA Study Area extends beyond the Water Service Area.

Service Area

The Ballantrae Water Service Area includes the Regional Well facilities, the Elevated Tank, and the area containing all currently-serviced residents.

Class EA Study Area

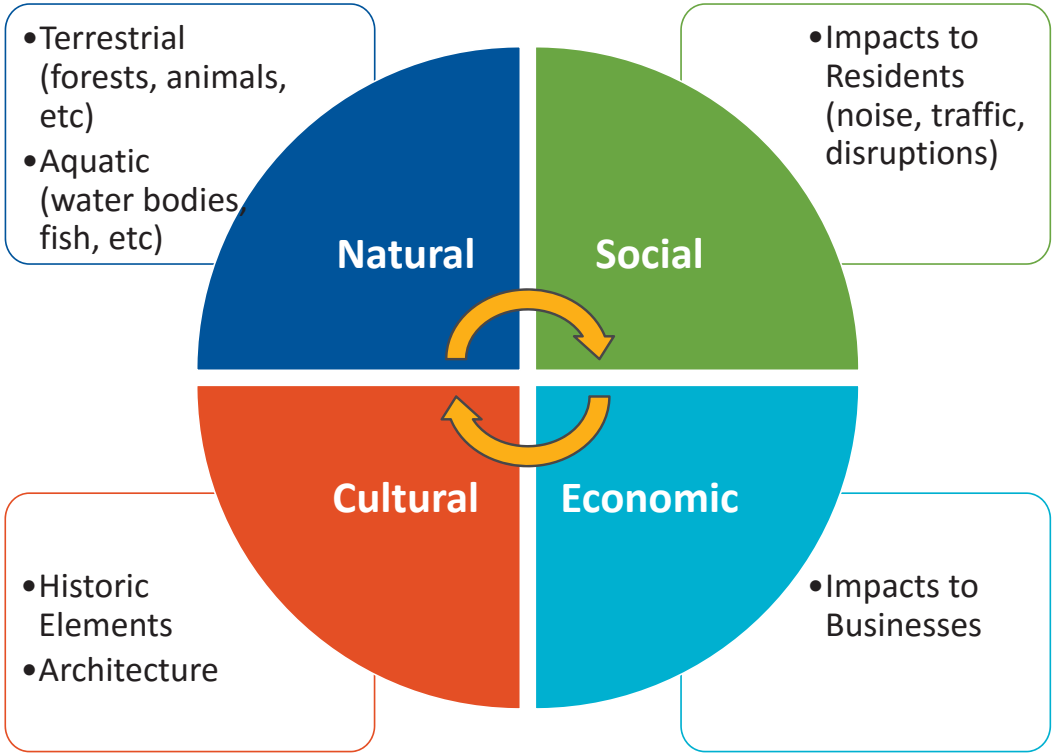
The Class EA Study Area includes the Service Area plus an assessment of the lands that *could potentially be impacted* by any new infrastructure requirements.



Class EA Study Area

Class EA Process Explained

The Class EA Process ensures that the environment is protected.



Public Consultation

Through the Class EA Process, there are several opportunities for you to provide input:

- Notice of Commencement (June 2016)
- Public Consultation Centres:
  - **PCC #1: Tonight**
  - PCC #2: Spring 2017
- Notice of Completion (Fall 2017)

We need you to participate in the process!

Where We Are

We are currently part-way through Phase 2.

Identify the Problem

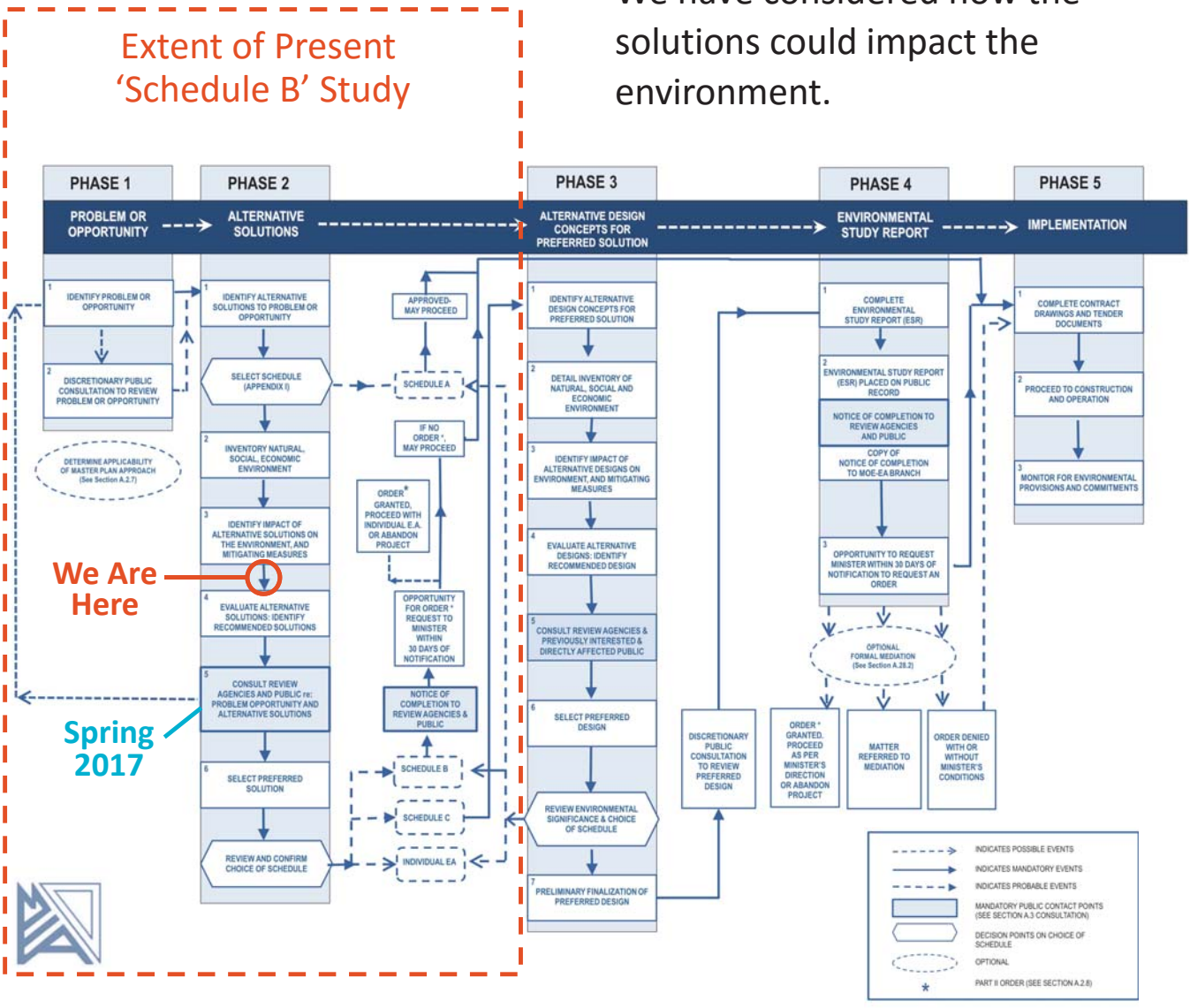
There is not enough supply for the proposed growth

Identify Alternative Solutions

Several viable alternative solutions are being considered.

Inventory of the Environments

We have considered how the solutions could impact the environment.



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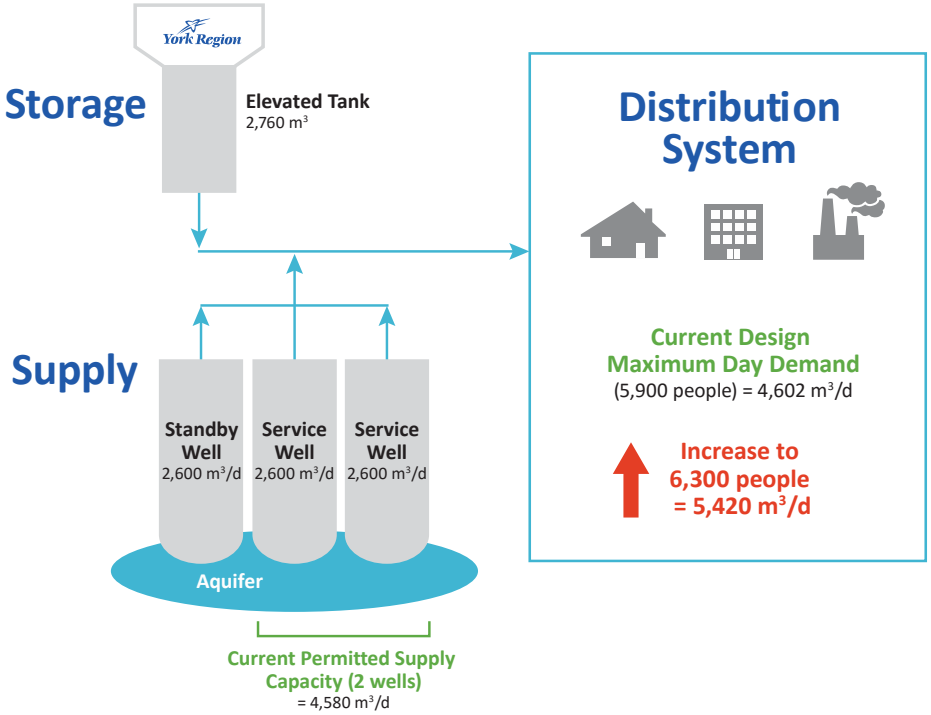
Existing Water Supply System

What facilities currently exist?
What do we need for the future?



Current Water System Capacity

The supply infrastructure is the responsibility of the Region, and currently consists of:

- 3 Supply Wells (2 Service, 1 Standby)
- 1 Elevated Tank
- Capacity for 5,900 residents and businesses

Required Future Water Supply Capacity

To service the projected growth to approximately 6,300 residents, the water supply capacity needs to be increased slightly, to 5,420 m^3/day.

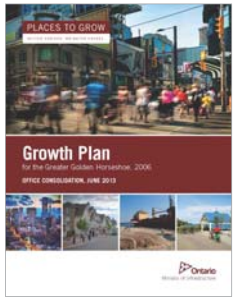
Class EA Problem Statement

Environmental Assessments must have clear Problem Statements.

There is growth proposed for Ballantrae/Musselman Lake.	Amendment No. 136 (OPA 136) to the Town of Whitchurch-Stouffville Official Plan (Ballantrae-Musselman Lake and Environs Secondary Plan) proposes to increase the population of Ballantrae-Musselman Lake. Regional approval of the Amendment is pending.
There is insufficient supply capacity to service the future growth.	The Firm Capacity of the municipal water supply and the existing water storage volume are not adequate to meet the long-term water supply requirements of the community, based on York Region's current design criteria.
The Class EA Process will assess the water supply alternatives.	Servicing the proposed growth may require an increase in the water supply and storage volumes, and also the Permit to Take Water maximum daily water taking. For this, a Schedule B Class EA is required.

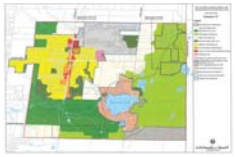
Other Studies & Reports

This Class EA must also consider input from the following documents.



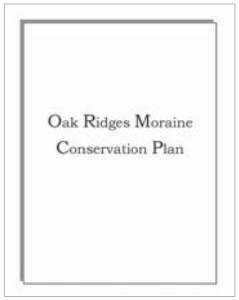
Places to Grow

This Provincial Policy establishes growth within the Greater Golden Horseshoe Area (including York Region).



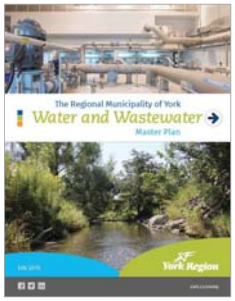
Whitchurch-Stouffville OPA-136

This OPA establishes the base servicing requirements that the Region will have to provide should the OPA ultimately be approved.



Oak Ridges Moraine Conservation Plan

The ORMCP places some environmental restrictions on infrastructure projects, recognizing the sensitivity of the lands within the Oak Ridges Moraine.



York Region 2016 Water/Wastewater Master Plan

This recently-updated Master Plan establishes the water supply and servicing strategy for all communities within the Region.

Alternative Solutions

What are the possible solutions to address the future water supply needs?

1. **Do Nothing:** Permit the growth, but do not increase the supply.
2. **Limit Community Growth:** Limit growth to the capacity of the existing supply.
3. **Implement Water Conservation:** 'Stretch' the water supply by using less.
4. **Expand the Existing Well Sites:** Provide an additional well, or bigger pumps.
5. **Develop a New Well, on a New Site:** Establish a third well site, and a new groundwater treatment process.
6. **Rely on Private Wells:** Permit new development to be serviced by private wells
7. **Develop a New Surface Water Supply**: Build a treatment plant .
8. **Extend a Nearby Water System:** Pipe water in from Stouffville or Newmarket.
9. **Water Reclamation or Re-Use:** Reduce reliance on the Regional water supply by encouraging adoption of "grey-water" systems.

Alternatives Not Carried Forward

Two of the Alternatives Identified are *not* being carried forward.

7. Develop a New Surface Water Supply

- Musselman Lake is the closest water body;
- It is a 'Kettle' lake, with no inlets or outlets;
- This alternative would require stringent regulatory and environmental approvals;
- There would be operational challenges related to merging a surface-water supply with a groundwater supply;
- This would require a separate treatment process, which had significant financial considerations.

This alternative will not be carried forward in the EA at this time.

9. Water Reclamation or Re-Use

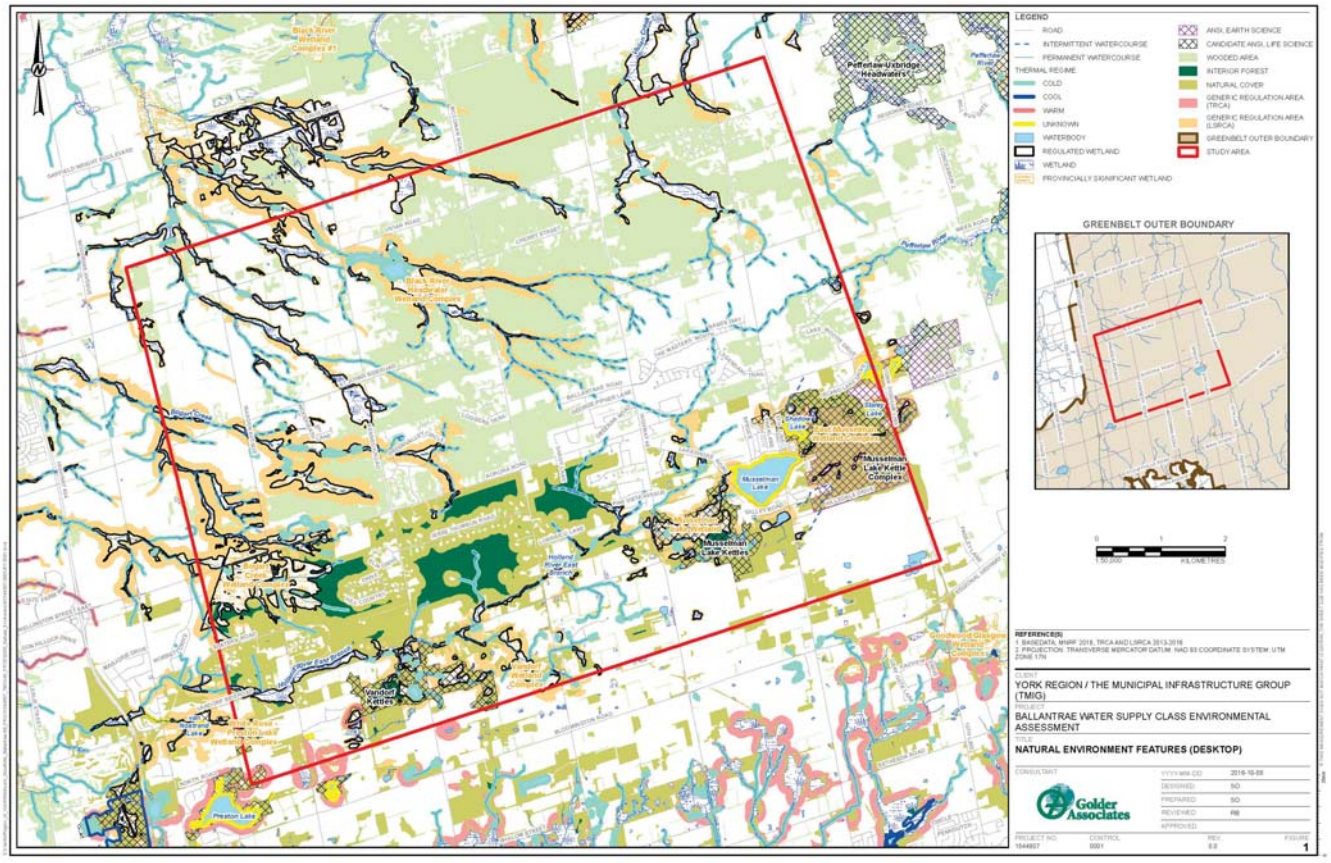
- This would require treatment equipment installed in private homes;
- Some of the household water use (irrigation, toilet flushing) could come from these "grey water" systems, reducing the demand on the municipal system;
- This can be considered as an optional component of an overall "Water Conservation" strategy.

This alternative will be considered as part of Alt. 3.

Natural Environment

The Study Area contains numerous natural environment features.

- Numerous creek tributaries, lakes, and ponds
- Oak Ridges Moraine
- Greenbelt Planning Area
- Designated Greenlands system
- Meadows, forests, woodlands
- Provincially-significant wetlands
- Areas of natural scientific interest
- Warm, cool, and coldwater fish species
- Species at risk and Supporting Habitat



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Cultural Heritage

There are four known cultural heritage resources on two existing sites.

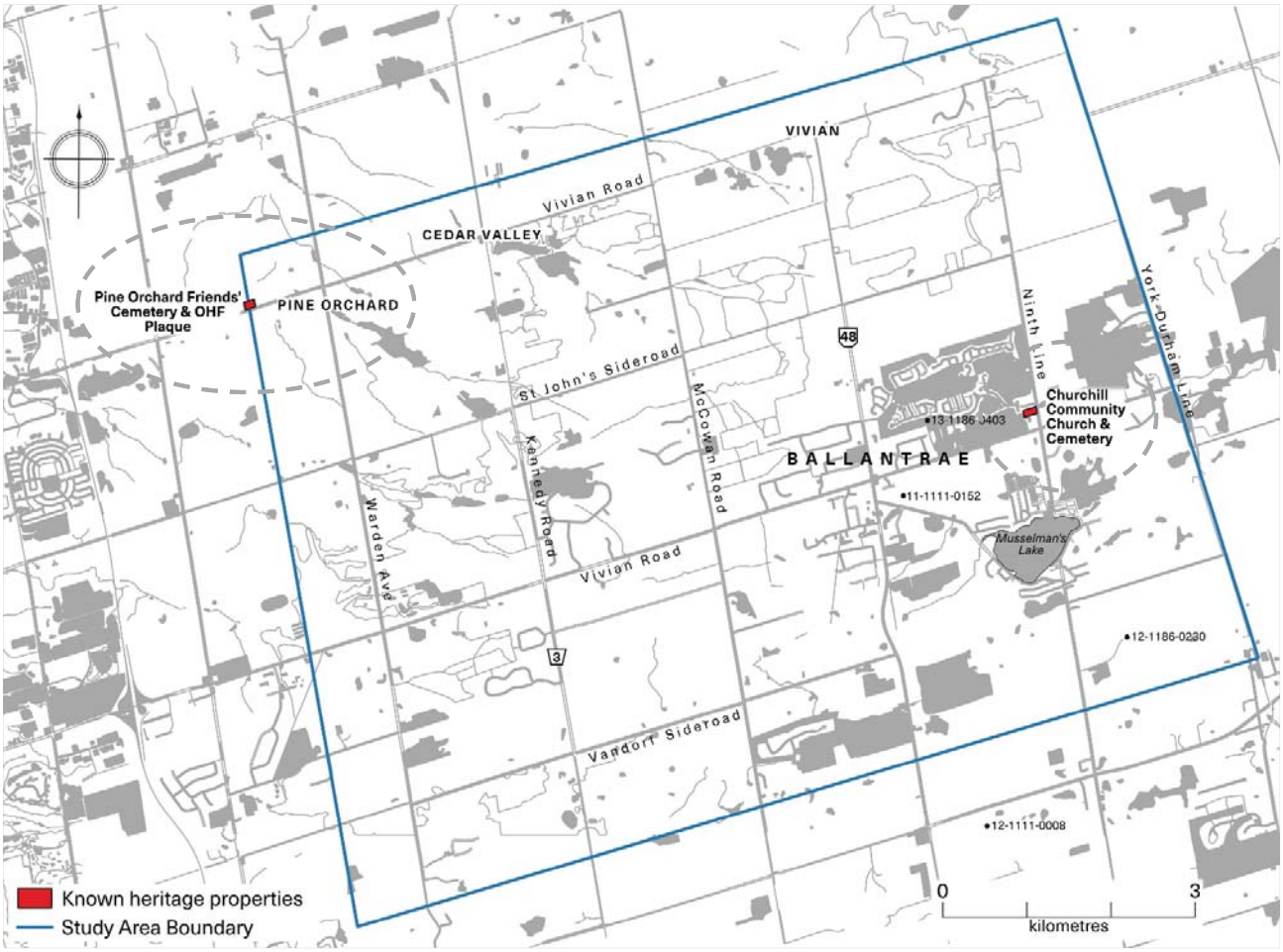
#15336 Ninth Line

- Churchill Community Centre (a congregational church, *c. 1841*)
- Churchill Cemetery

#2684 Vivian Road

- Pine Orchard Friends' Cemetery (a pioneer cemetery, *c.1814*)
- Ontario Heritage Foundation Plaque on the Pine Orchard Union Church

Other potential cultural heritage resources may also exist.



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Archaeology

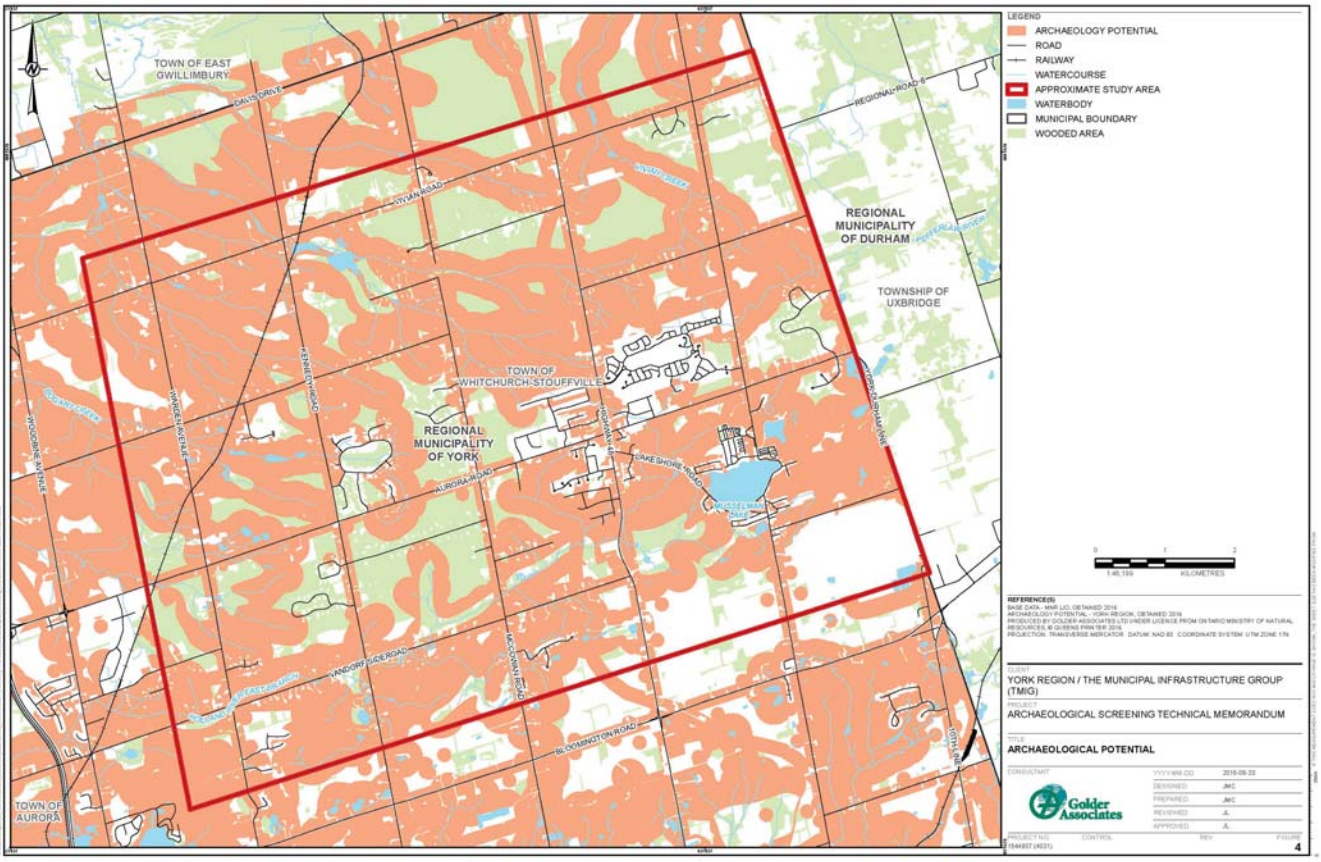
Whitchurch Township was established in 1792, and has high archaeological potential.

York Region's Archaeological Potential Model indicates much of the study area exhibits archaeological potential for the identification of pre-contact Aboriginal and historical Euro-Canadian archaeological resources.

Confirmed Archaeological Sites

There are 26 Registered Sites within the Study Area:

- 13 pre-contact Aboriginal
- 10 historical Euro-Canadian
- 3 of unknown cultural affiliation



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Geotechnical

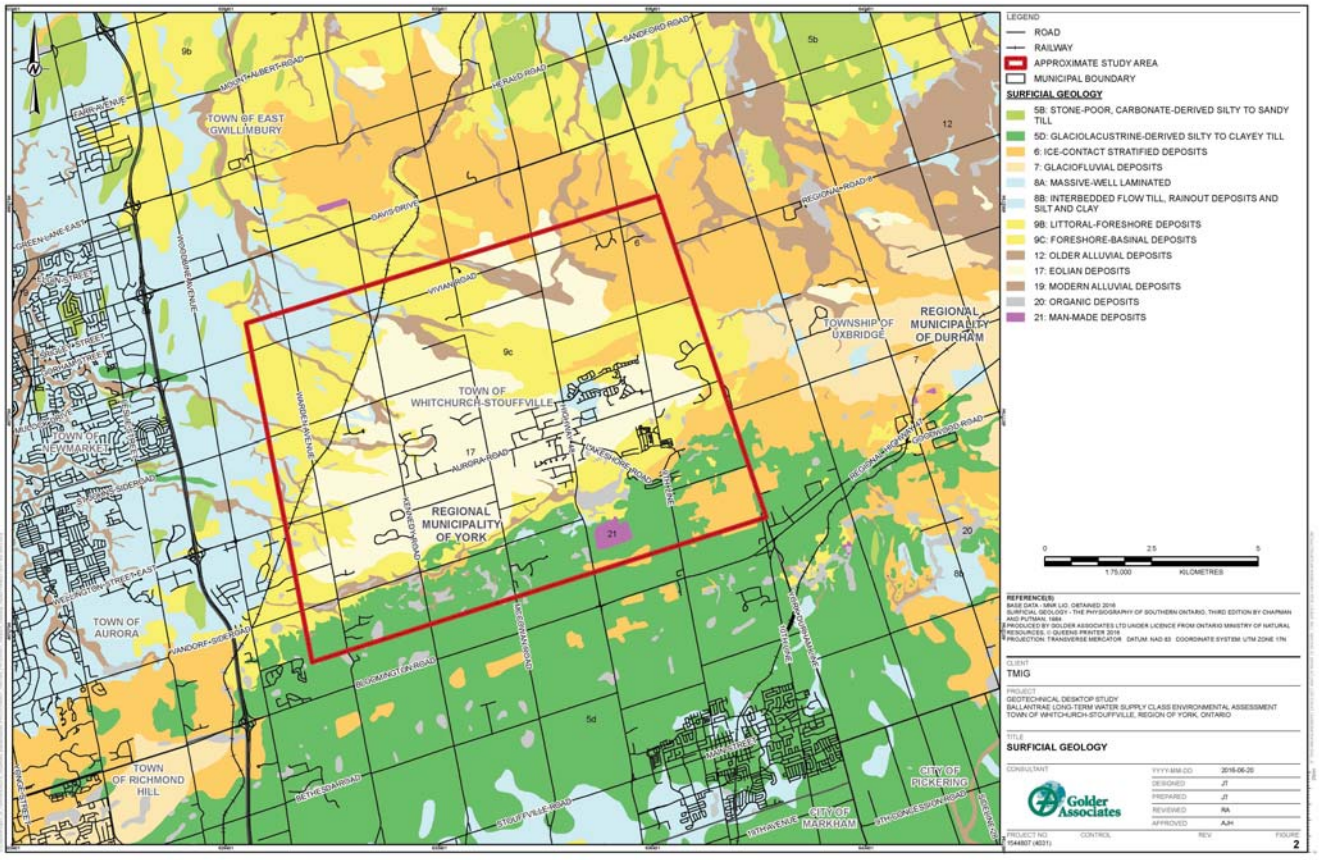
Subsurface conditions were reviewed to assess potential construction challenges.

Surficial Geology

- Mostly silt, sand and gravel deposits
- Sand and clay found in the N-W portion of the Study Area
- Silt and clay till present in the South of the Study Area

Glacially-Derived Till

- Retreating glaciers have deposited boulders, which may have to be removed to build new infrastructure (like watermains).
- Could have cost impacts.



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Hydrogeology

Hydrogeology deals with the movement of groundwater in the soil and rocks.

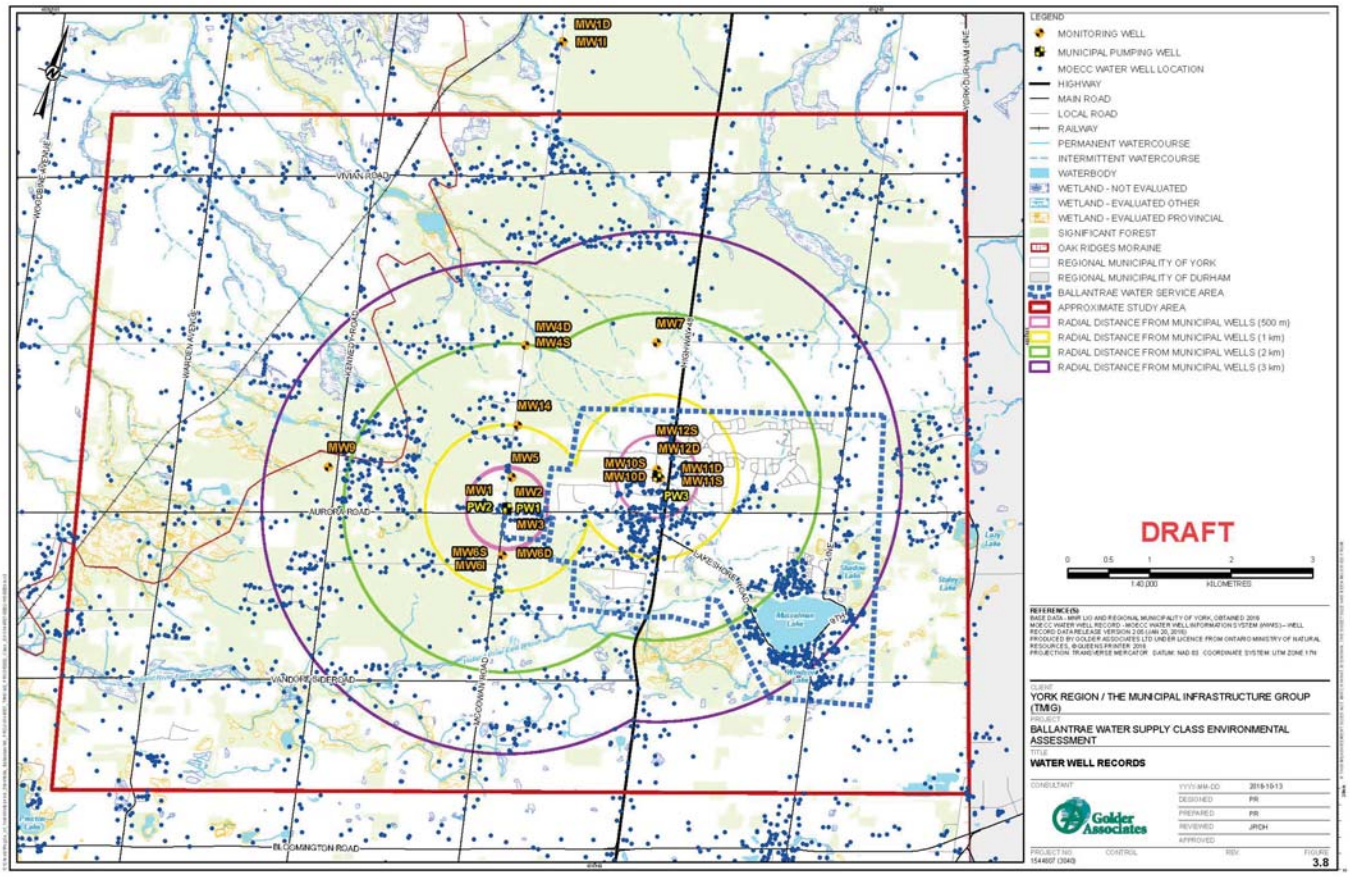
Municipal Supply Wells

The Region currently operates three municipal supply wells on two sites:

- Wells 1 and 2 are at Aurora Road and McCowan Road
- Well 3 is on Highway 48

Other Permitted Users

- Seven other Permits To Take Water in the Study Area, issued by the MOECC.
- Hundreds of private wells within the Study Area.



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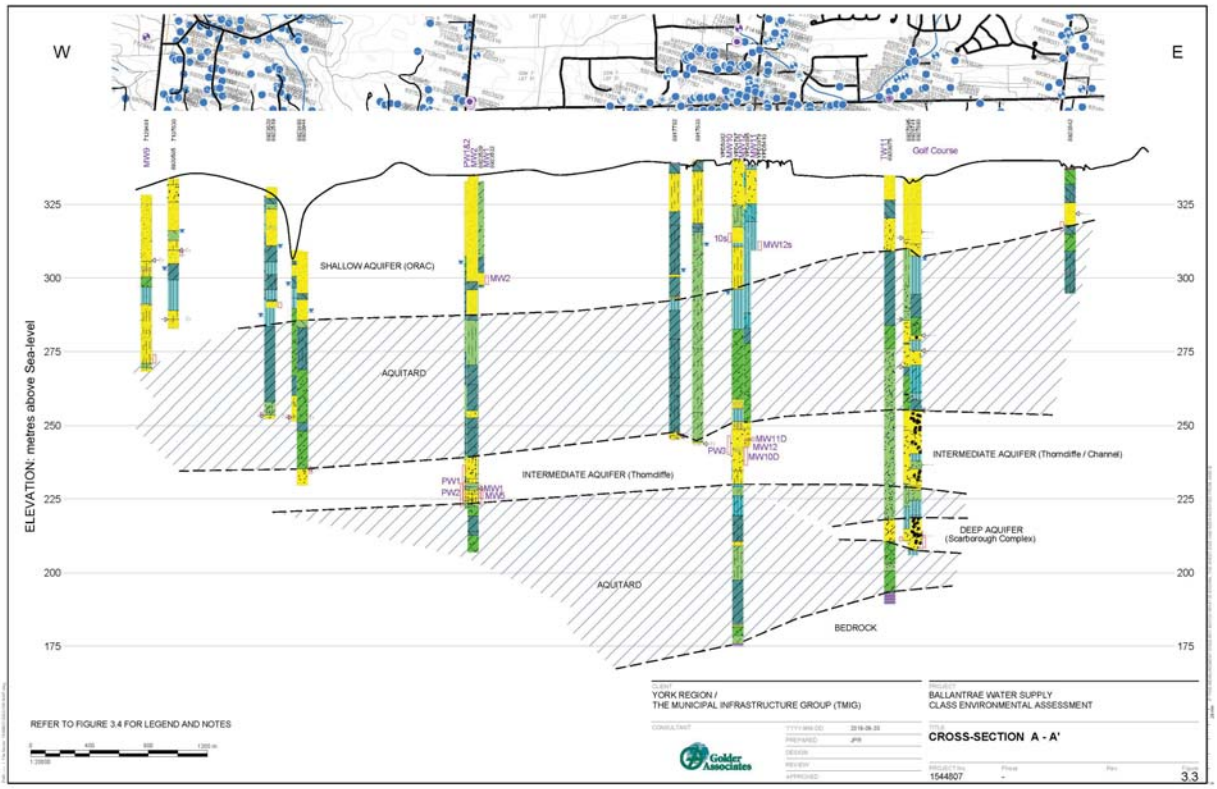
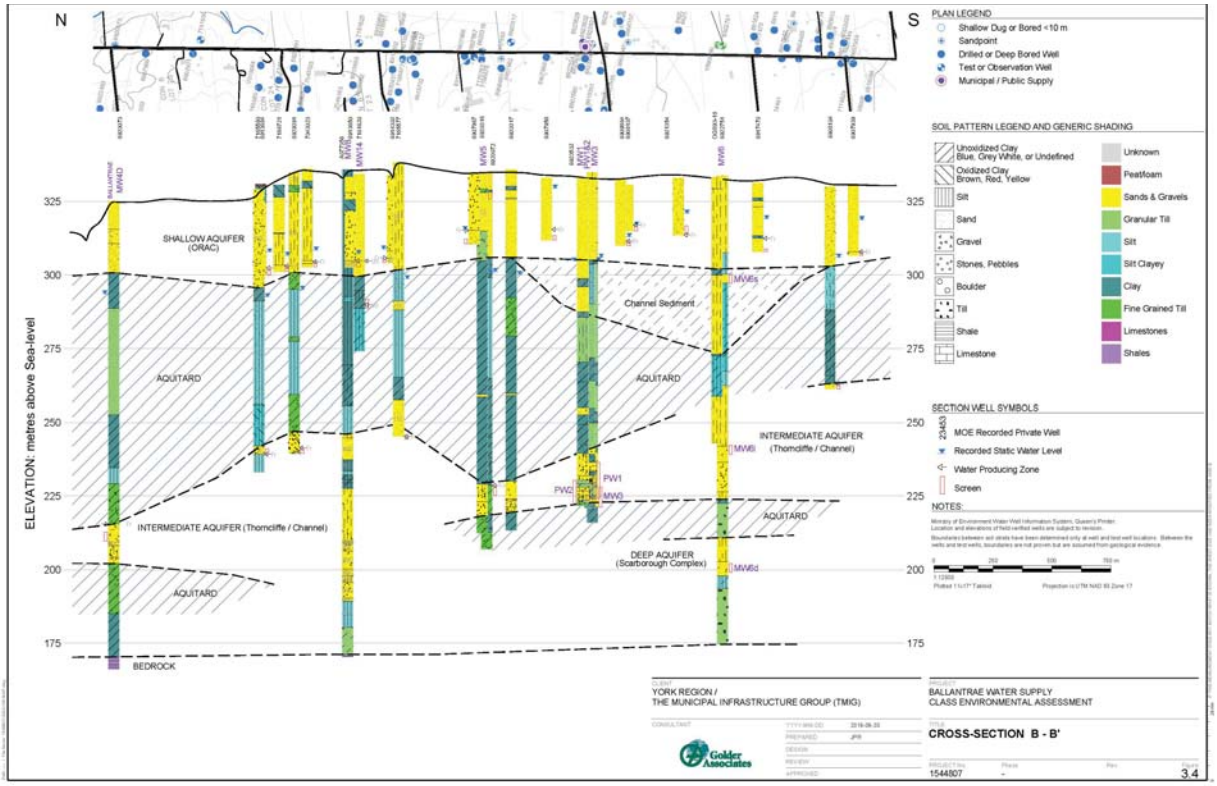
Hydrogeology





Environmental Impacts

How solutions could impact the environment

Technical, policy, and financial impacts will also be considered in the overall recommendation.

	Alternative 1: Do Nothing	Alternative 2: Limit Community Growth	Alternative 3: Implement Water Conservation	Alternative 4: Expand the Existing Well Sites	Alternative 5: Develop a New Well on a New Site	Alternative 6: Rely on Private Wells	Alternative 8: Extend a Nearby Water System
Aesthetics -Removal of vegetation -Compatibility with Landscape	(no impact)	(no impact)	(no impact)	(no impact)	Small site required	(no impact)	(no impact)
Heritage Properties -Disruption and/or destruction of archaeological, cultural, or heritage sites	(no impact)	(no impact)	(no impact)	(no impact)	Impact will depend on the proximity of the proposed site to a Heritage property	(no impact)	Impact will depend on the selected alignment, and the presence of Heritage properties
Noise and Vibration -Changes in Existing noise and vibration levels -Disruption during construction	(no impact)	(no impact)	(no impact)	There would be only minor works associated with well upgrades	Disruption will be isolated to the selected site	Construction duration would be extended	Disruption will extend over several kilometres
Residential, commercial, industrial, institutional -Temporary disruption during construction -Safety and movement patterns of pedestrian traffic -Change in use or layout due to property loss	Possible future water shortages if the supply capacity is not increased as the population increases	(no impact)	Requirement to decrease the volume of water used compared with current use	(no impact)	Disruption will be isolated to the selected site and the immediate area	Construction duration would be extended. New properties would be responsible for maintaining their private wells	Disruption will extend over several kilometres
Utilities -Effects on other utilities	(no impact)	(no impact)	(no impact)	(no impact)	Most of the construction work would be confined to the selected site	(no impact)	Works would be installed along existing right-of-ways
Agriculture -Change in crop yield -Reduced viability due to land loss	(no impact)	(no impact)	(no impact)	(no impact)	Small site required	(no impact)	(no impact)
Fish, Aquatic Wildlife and Vegetation -Presence of Endangered / threatened species -Effects of timing or construction activities	(no impact)	(no impact)	(no impact)	(no impact)	Impact will depend on the selected site	Potential impacts depending on number and location of private wells	Impact will depend on the selected alignment
Groundwater -Change in quantity -Interference with private wells -Impact on levels	(no impact)	(no impact)	(no impact)	Small increase in the aquifer drawdown (depth and radius)	Impact will depend on the proximity of the proposed site to existing wells	The private wells will be relatively small, but potentially cumulative	Impact during construction only
Soil and Geology -Erosion or compaction during construction	(no impact)	(no impact)	(no impact)	(no impact)	Geological Impacts will be isolated to a relatively small site	(no impact)	Potential geological impacts along several kilometres of construction
Watercourses and Surface Drainage -Diversion and/or channelization of watercourses -Effects on floodplain -Water level impacts	(no impact)	(no impact)	(no impact)	(no impact)	Impact will depend on the selected site	Potential impacts depending on number and location of private wells	Impact will depend on the selected alignment
Terrestrial Vegetation and Wildlife -Presence of Endangered/Threatened Species or their habitat	(no impact)	(no impact)	(no impact)	Some potential for impact to the forest on Well 1/2 site.	Impact will depend on the selected site	(no impact)	Impact will depend on the selected alignment

Key to Magnitudes of the Potential Impacts:				
No Impact	Low Impact	Moderate Impact	High Impact	Undefined

Next Step: Detailed Evaluation

We will recommend a Preferred Alternative. We will consult the public again at that time.

Receive and Review Comments

The Study Team will review and consider all comments.

Evaluation of Alternatives

We will review the Alternatives in greater detail.

Public Consultation Centre #2

In the Spring, we will return to present the 'Recommended Preferred Alternative', and invite you to review and comment again.

Draft Evaluation Matrix (to be completed by Spring 2017)

	Alternative 1: Do Nothing	Alternative 2: Limit Community Growth	Alternative 3: Water Conservation	Alternative 4: Expand Existing Wells	Alternative 5: Construct New Well on a New Site	Alternative 6: Allow Servicing of New Development Through Private Wells	Alternative 8: Extend Adjacent System
Satisfies OPA-136	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)
Satisfies Regional Design Standards	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)
Complies with Legislative Requirements	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)
Operational Flexibility	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)
Impact on Socio-Cultural Environment	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel
Impact on Natural Environment	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel	See Previous Panel
Potential Additional Considerations	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)	(TBD)

We Want to Hear from You!

Your feedback is very important.
Let us know what you think.

Speak with Us

If any of the information presented is not clear, please track down a member of the Project Team (we're wearing name tags).

Complete a Comment Form

Comment forms and pens are available on the tables in the room. All responses are reviewed and considered, and become part of the Project File. Personal identifying information will be kept confidential.

Follow the Process

Information will be updated on the Region's Website: **york.ca/ea**
You can also call Shivan Narine (Region PM) at 1-877-464-9675 (x75370) or e-mail BallantraeWater@york.ca to request to be kept updated.