

**PROPOSED
SHANTZ STATION ROAD
GRAVEL PIT:
DEFICIENCIES IN THE APPLICATION**

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REPRESENTING

HOPEWELL CREEK RATEPAYERS ASSOCIATION

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OUTLINE

1. Past Experience of Dr. Fitzgerald
2. Peer reviews of studies identified deficiencies
3. Identified deficiencies represent risk to existing habitats, water, wildlife, plants, and residents
4. Need to assess risk to surface waters and wells with follow up studies.
5. Deficiencies identify all the boxes are not 'checked' for this proposal and it is incomplete

PAST EXPERIENCE OF DR. FITZGERALD

1. Numerous peer reviews during last 20 years
2. Examples from last three years include:
 - Mines
 - Gravel pits
 - Quarry
 - House Developments
3. Provided expert testimony for these reviews
4. Senior author for environmental review of pit proposal

INTRODUCTION

1. Information strongly suggests this proposed gravel pit will require below water table extraction of gravel
2. Below water table gravel extraction implies risk to groundwater
3. Below water table extraction identifies modified water drainage to Hopewell Creek and un-named tributary is possible
4. Studies of risk to surface water and wells lacking.

Frind and Frind (2020) stated:

“The potential impact of the pit on Hopewell Creek should be recognized as a complex issue that requires re-assessment.”

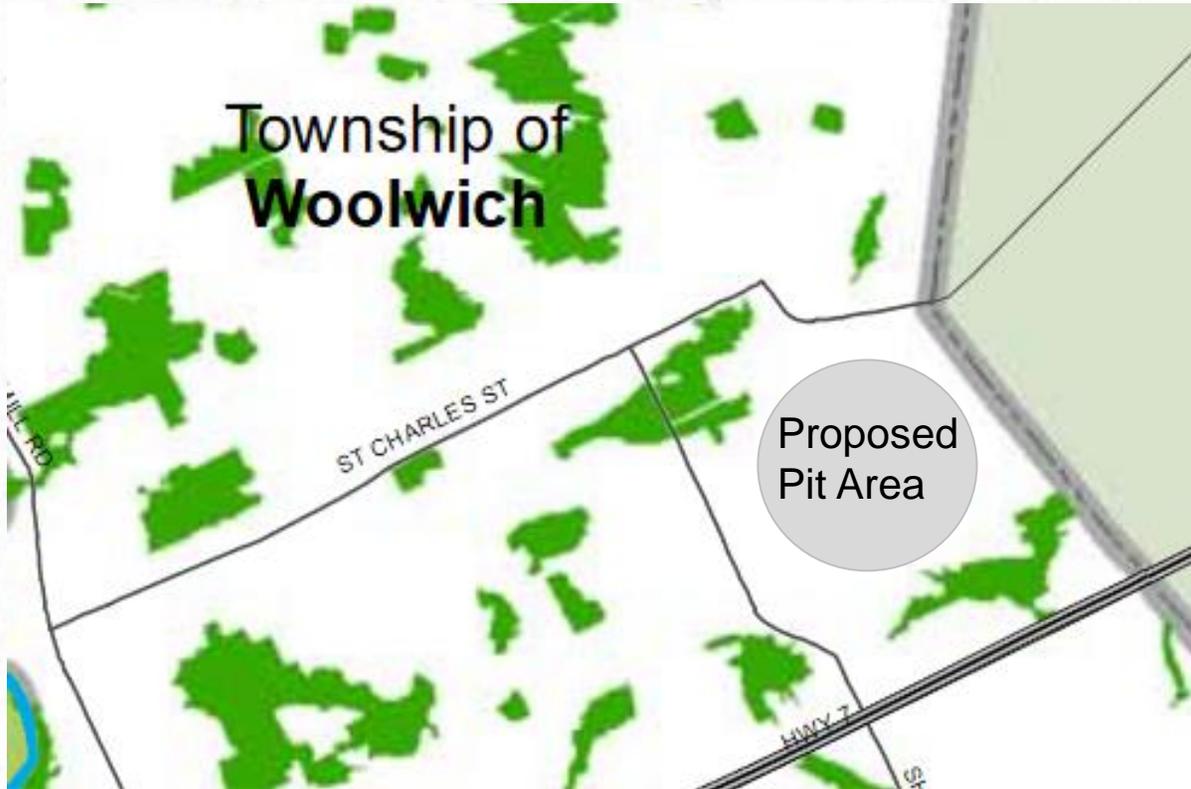
“Potential impacts on private and municipal wells, both in terms of water quantity and water quality, should be investigated.”



REGIONAL OFFICIAL PLAN

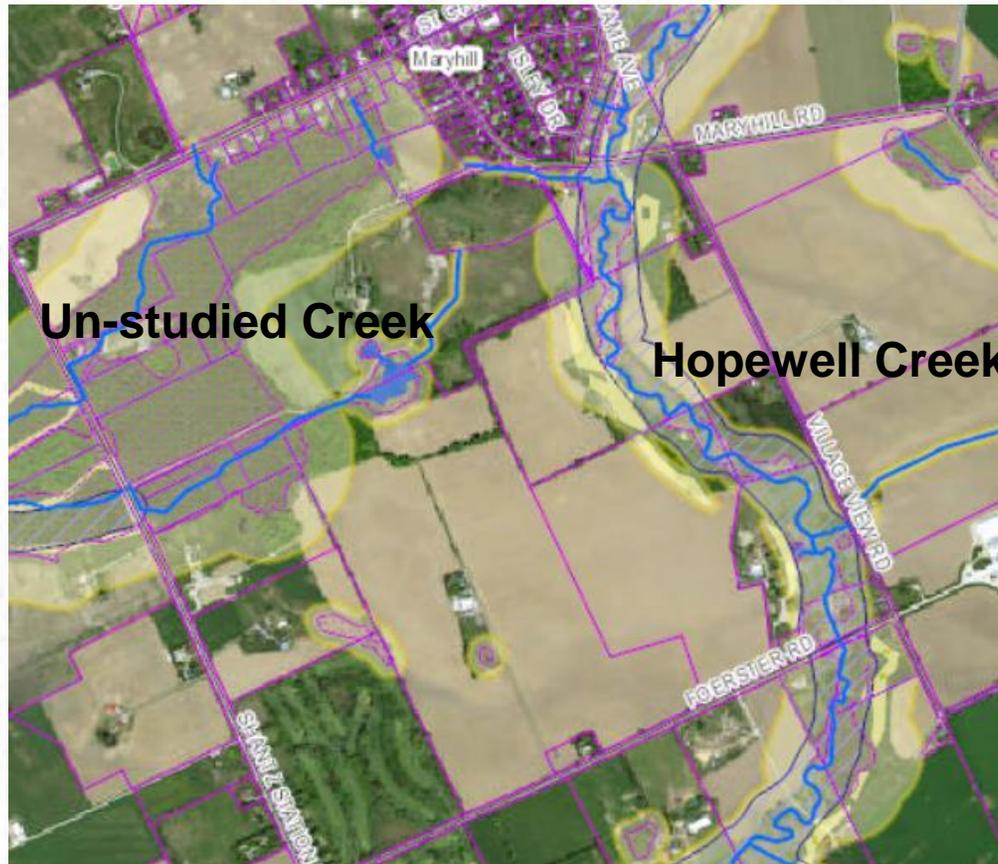
1. Core Environmental Features in Regional Official Plan:
 - Requires study to ensure no disturbance from pit
 - No such studies done due to assumption of no change in water discharge to wetlands
2. Hopewell Creek
 - Requires study to ensure no disturbance from pit
3. Two branches of an unnamed creek north side of pit
 - No studies completed
 - Requires study to ensure no disturbance from pit
4. No risk assessment of environmental features

Water water water every where in study area



***Core Environmental Features Near Proposed Pit:
Provincially Significant Wetlands***

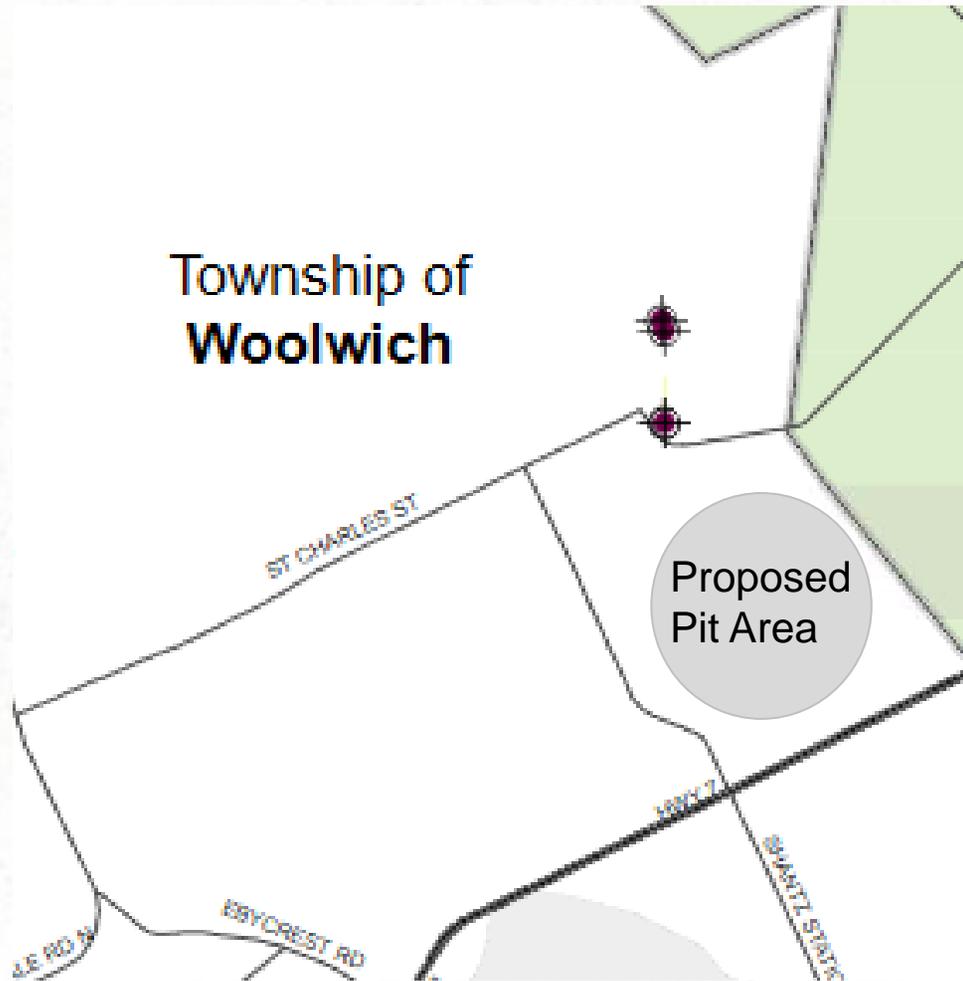
Water water water every where in study area



***Environmental Features Near Proposed Pit:
Creeks that were not studied***



Water water water every where in study area



Regional Official Plan does not allow aggregate extraction pits in close proximity to municipal water wells.

Municipal Water Wells 1 km from Proposed Pit

ANALYSIS OF CREEKS

1. No scenario of risk of disturbance for two creeks:
 - No disturbance scenario resulted in no detailed studies of Hopewell Creek or un-named tributary

2. Detailed studies for the two creek should have included:
 - Before-After Control-Impact (BACI) baseline studies
 - Due to lack of BACI, no way to identify changes in Hopewell Creek or un-named tributary

3. Lack of BACI studies for pit:
 - No way to assess disturbance on creeks
 - Only benefit is to proponent not creek
 - Much cheaper and quicker for proponent

SURFACE WATER ANALYSIS

1. Proposed pit included no scenario of water loss in creeks:
 - Potential for lost water volumes to Hopewell Creek
 - Potential for lost water volumes to unnamed creek
2. Proposed pit included no analysis of water chemistry:
 - Potential for degraded water to Hopewell Creek
 - Potential for degraded water to unnamed creek
3. Proposed pit included no analysis of water temperature:
 - Potential for warmer water to Hopewell Creek
 - Potential for warmer water to unnamed creek
4. Changes in water quantity or chemistry not assessed

ANALYSIS OF CREEKS

1. Detailed studies for two creeks should have:
 - Assessed common fish and wildlife in two creeks
 - Assessed Species At Risk (e.g., turtles) in two creeks

2. Past studies for proposed Highway 7:
 - Assessed water flows and chemistry in Hopewell Creek
 - Assessed common fish and wildlife in Hopewell Creek
 - Assessed Species At Risk in Hopewell Creek

3. Proposed pit studies could have used Highway 7 studies or similar approach but elected cheap and fast approach

SUMMARY

1. Environmental and groundwater features at risk from proposal
2. Gravel deposits likely exist below water table
3. Likely will require extraction of gravel below water table
4. Risk of pit to Hopewell Creek not-assessed
5. Risk of pit to wetlands and other features also not completed
6. Need to complete risk assessment to all surface waters including multi-season surveys of animals, plants, water volumes, chemistry, and temperature
7. All the boxes are not checked to assess risk from this proposal