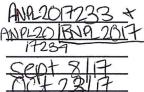
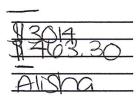
For Office Use Only:

File Number Related File Number **Application Submitted**

Pre-consultation Meeting Complete Application Public Notice Sign



SPRT Meeting Application Fee Conservation Authority Fee OSSD Form Provided Planner



Check the type of planning application(s) you are submitting.				
Official Plan Amen	Official Plan Amendment			
Zoning By-Law Am	nendment			
Draft Plan of Subd	Draft Plan of Subdivision/Vacant Land Condominium			
Condominium Exe	mption			
Site Plan Application	on			
✓ Consent/Severance	e			
✓ Minor Variance				
Extension of a Ten	Extension of a Temporary Use By-law			
Part Lot Control				
Cash-in-Lieu of Pa	rking			
Renewable Energy	Project or Radio Communication Tower			
Property Assessment R	Property Assessment Roll Number: 3310-545 020 17100			
A. Applicant Information	n			
Name of Owner	1819833 Ontario Inc. (Peter Banman)			
It is the responsibility of the owner or applicant to notify the planner of any changes in ownership within 30 days of such a change.				
Address	RR#4 437 4th Concession			
Town and Postal Code	Langton, ON N0E 1G0			
Phone Number	519 639 1419			
Cell Number	519 671 3763			
Email	county.roofing@yahoo.ca			



Name of Agent	Gary Blazak MA, RPP, MCIP	
Address	P.O. Box 444 Lambeth Station	
Town and Postal Code	London, ON	
Phone Number	519 639 1419	
Cell Number	519 639 1419	
Email	gblazak@rogers.com	
	all communications should be sent. Unless otherwise directed, es, etc., in respect of this application will be forwarded to the	
Owner	Agent	
encumbrances on the sul	any holder of any mortgagees, charges or other oject lands:	
N/A		
B. Location. Legal Des	scription and Property Information	
, , , , , , , , , , , , , , , , , , , ,	lude Geographic Township, Concession Number, Lot Number,	
Pt Lot 8 Concession	6 Township of Houghton, County of Norfolk	
Municipal Civic Addre	ss: 47 Cultus Road	
Present Official Plan [401-1	
	- Hamlet Residential	
	vision or site specific zone on the subject lands?	
Yes No If yes,	please specify:	
	ands was acquired by the current owner: September, 2016	
4. Present use of the sul	oject lands:	
vacant residential		



5.	Please describe all existing buildings or structures on the subject lands and	
	whether they are to be retained, demolished or removed. If retaining the buildings or	
	structures, please describe the type of buildings or structures, and illustrate the	
	setback, in metric units, from front, rear and side lot lines, ground floor area, gross	
	floor area, lot coverage, number of storeys, width, length, height, etc. on your	
	attached sketch which must be included with your application:	

One existing, abandoned dwelling will be removed.

6.	If known, the date existing buildings or structures were constructed on the subject
	lands: 50+ years ago

7.	If an addition to an existing building is being proposed, please explain what will it be
	used for (e.g. bedroom, kitchen, bathroom, etc.). If new fixtures are proposed,
	please describe.

N/A

8. Please describe **all proposed** buildings or structures/additions on the subject lands. Describe the type of buildings or structures/additions, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, height, etc. on your attached sketch which must be included with your application:

Two single detached residential dwellings are intended to be built on the subject lands. Each dwelling will have an approx. floor area of 232m2 (2500 ft2).

9. If known, the date the proposed buildings or structures will be constructed on the subject lands:

2018

10. Are any existing buildings on the subject lands designated under the	e Ontario
Heritage Act as being architecturally and/or historically significant?	Yes No
If yes, identify and provide details of the building:	

11. If known, the length of time the existing uses have continued on the subject lands:

50+ years

12. Existing use of abutting properties:

Residential



13	Are there any easements or restrictive covenants affecting the subject lands? Yes No If yes, describe the easement or restrictive covenant and its effect:
c.	Purpose of Development Application
No	ote: Please complete all that apply.
1.	Please explain what you propose to do on the subject lands/premises which makes this development application necessary:
	The existing abandoned dwelling will be removed, the subject lands will be severed into two building lots, and two new dwellings will be erected.
	relief of 0.05 ha from Minimum regular
2.	relief of 0.05 ha from Minimum required 104 on la of 0.4 ha to permit 0.35ha Please explain why it is not possible to comply with the provision(s) of the Zoning By-law/and or Official Plan:
	Each of the proposed residential building lots will be slightly undersized (i.e. 3497.74m2 vs. 4000m2 required in the Zoning By-law).
3.	Does the requested amendment alter all or any part of the boundary of an area of settlement in the municipality or implement a new area of settlement in the municipality? Yes No If yes, describe its effect:
4.	Does the requested amendment remove the subject land from an area of employment? Yes No If yes, describe its effect:
5.	Does the requested amendment alter, replace, or delete a policy of the Official Plan? Yes No If yes, identify the policy, and also include a proposed text of the policy amendment (if additional space is required, please attach a separate sheet):



6.	Description of land Frontage:	d intended to be severed in metric units: 33.2m
	Depth:	124.6m (average)
	Width:	23m @ rear / 33m @ front
	Lot Area:	3497.71m2
	Present Use:	vacant residential
	Proposed Use:	residential single detached dwelling
	Proposed final lot	size (if boundary adjustment): 3497.71m2
		d intended to be retained in metric units: 33.2m
	Depth:	124.6m (average)
	Width:	23m @ rear / 33m @ front
	Lot Area:	3497.74m2
	Present Use:	residential (abandoned dwelling)
	Proposed Use:	new residential single detached dwelling
7.	Description of property Frontage:	posed right-of-way/easement:
	Depth:	
	Width:	
	Area:	
	Proposed use:	
8.	Name of person(s leased or charged Unknown), if known, to whom lands or interest in lands to be transferred, (if known):



9. Site Information	Existing	Proposed		
Please indicate unit of measurement	Please indicate unit of measurement, i.e. m, m ² or %, etc.			
Lot frontage	66.446m	33.223m		
Lot depth	124.8m	124.8m		
Lot width	46m(rear)-66m(front)	23m(rear)-33m(front)		
Lot area	6995.45m2	3497.74m2+3497.71m2		
Lot coverage	1.6%	7% (approx.)		
Front yard	10.88m	15m (estimated)		
Rear yard	121m	100m (estimated)		
Left Interior side yard	1.8m	6+m		
Right Interior side yard	16.4m	6+m		
Exterior side yard (corner lot)	***************************************			
Landscaped open space	95%	90% (estimated)		
Entrance access width	2m	3m		
Exit access width				
Size of fencing or screening	1.5m	2m		
Type of fencing	chain link (partial)	chain link/board		
10. Building Size				
Number of storeys	1	2		
Building height	6m	11m		
Total ground floor area	111m2 (approx.)	232m2 (estimated)		
Total gross floor area	111m2 (approx.)	232m2 (estimated)		
Total useable floor area	0	232m2 (estimated)		
11.Off Street Parking and Loading Facilities				
Number of off street parking space	es_2	3		
Number of visitor parking spaces		2		
Number of accessible parking spaces 2 3		3		
Number of off street loading facilities N/A				
12. Multiple Family Residential (if applicable)			
Number of buildings existing:				



Number of buildings proposed: 2
Is this a conversion or addition to an existing building? OYes No
If yes, describe:
Туре
Number of Units
Floor Area per Unit in m ²
Bachelor
One bedroom
Two bedroom
Three bedroom
Townhouse
Other facilities provided (e.g. play facilities, underground parking, games room, swimming pool etc.):
13. Commercial/Industrial Uses (if applicable)
Number of buildings existing:
Number of buildings proposed:
Is this a conversion or addition to an existing building? OYes No
If yes, describe:
Indicate the gross floor area by the type of use (e.g. office, retail, storage, etc.):
Seating Capacity (for assembly halls, etc.): Total number of fixed seats:
Describe the type of business(es) proposed:



Total number of staff proposed initially:
Total number of staff proposed in five years:
Maximum number of staff on the largest shift:
s open storage required: OYes No
s a residential use proposed as part of, or accessory to commercial/industrial use?
Yes No If yes please describe:
4.4.1
14.Institutional (if applicable)
Describe the type of use proposed:
Seating capacity (if applicable):
Number of beds (if applicable):
Total number of staff proposed initially:
Total number of staff proposed in five years:
Maximum number of staff on the largest shift:
Indicate the gross floor area by the type of use (e.g. office, retail, storage, etc.):

15. Describe Recreational or Other Use(s) (if applicable)



D.	Previous Use of the Property
1.	Has there been an industrial or commercial use on the subject lands or adjacent lands? Yes No Unknown If yes, specify the uses (example: gas station, petroleum storage, etc.):
2.	Has the grading of the subject lands been changed through excavation or the addition of earth or other material? Yes No Unknown
3.	Is there reason to believe the subject lands may have been contaminated by former uses on the site or adjacent sites? Yes No Unknown
4.	Provide the information you used to determine the answers to the above questions: Owner's knowledge/familiarity with the subject lands.
5.	If you answered yes to any of the above questions in Section D, a previous use inventory showing all known former uses of the subject lands, or if appropriate, the adjacent lands, is needed. Is the previous use inventory attached? Yes No



E.	Provincial Policy
1.	Is the requested amendment consistent with the provincial policy statements issued under subsection 3(1) of the <i>Planning Act, R.S.O. 1990, c. P. 13</i> ? Yes No
	If no, please explain:
2.	It is owner's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals, including the Endangered Species Act, 2007. Have the subject lands been screened to ensure that development or site alteration will not have any impact on the habitat for endangered or threatened species further to the provincial policy statement subsection 2.1.7? Yes No
	If no, please explain:
	The property has been in residential use for several decades. There is no natural heritage component/identified habitat on any part of the subject lands.
3.	Have the subject lands been screened to ensure that development or site alteration will not have any impact on source water protection? Yes No If no, please explain:

Note: If in an area of source water WHPA A, B or C please attach relevant information and approved mitigation measures from the Risk Manager Official.



4.	Are any of the following uses or features on the subject lands or within 500 metres of the subject lands, unless otherwise specified? Please check boxes, if applicable.
	Livestock facility or stockyard (submit MDS Calculation with application)
	On the subject lands orwithin 500 meters – distance
	Wooded area On the subject lands or within 500 meters – distance
	Municipal Landfill On the subject lands or within 500 meters – distance
	Sewage treatment plant or waste stabilization plant On the subject lands or within 500 meters – distance
	Provincially significant wetland (class 1, 2 or 3) or other environmental feature On the subject lands orwithin 500 meters – distance
	Floodplain On the subject lands or within 500 meters – distance
	Rehabilitated mine site On the subject lands or within 500 meters – distance
	Non-operating mine site within one kilometre On the subject lands or within 500 meters – distance
	Active mine site within one kilometre On the subject lands or within 500 meters – distance
	Industrial or commercial use (specify the use(s)) On the subject lands or within 500 meters – distance
	Active railway line On the subject lands orwithin 500 meters – distance
	Seasonal wetness of lands On the subject lands or within 500 meters – distance
	Erosion On the subject lands or within 500 meters – distance
	Abandoned gas wells On the subject lands or within 500 meters – distance



F.	Servicing and Access
1.	Indicate what services are available or proposed:
	Water Supply
	Municipal piped water
	Communal wells
	Individual wells
	Other (describe below)
	Sewage Treatment
	Municipal sewers
	Communal system
	Septic tank and tile bed
	Other (describe below)
	Storm Drainage
	OStorm sewers
	Open ditches
	Other (describe below)
2.	Have you consulted with Public Works & Environmental Services concerning storm water management?
	○Yes No
3.	Has the existing drainage on the subject lands been altered? Yes No
4.	Does a legal and adequate outlet for storm drainage exist?
5	How many water meters are required? 1 for each of 2 dwelling units



6.	Existing or proposed access to subject lands:					
	Municipal road	Provincial highway				
	Ounopened road	Other (describe below)				
Name of road/street: Cultus Road						
G.	Other Information					
1.	Does the application involve a local but	usiness? ○Yes ●No				
	If yes, how many people are employed	d on the subject lands?				
2.	Is there any other information that you think may be useful in the review of this application? If so, explain below or attach on a separate page.					
	A Hydrogeotechnical Assessment demonstrating feasibility of private water and sewage disposal systems is appended to this application.					
	A Survey Sketch detailing the proposed severed and retained lots is appended to this application, as is a modified survey sketch with probable building envelopes.					

The existing (abandoned) well and private sewage disposal works will be excavated and removed during the construction of the new dwellings.



H. Supporting Material to be submitted by Applicant

In order for your application to be considered complete, folded hard copies (number of paper copies as directed by the planner) and an **electronic version (PDF) of the site plan drawings, additional plans, studies and reports** will be required, including but not limited to the following details:

- 1. Concept/Layout Plan
- 2. All measurements in metric
- 3. Key map
- 4. Scale, legend and north arrow
- 5. Legal description and municipal address
- 6. Development name
- 7. Drawing title, number, original date and revision dates
- 8. Owner's name, address and telephone number
- 9. Engineer's name, address and telephone number
- 10. Existing and proposed easements and right of ways
- 11. Zoning compliance table required versus proposed
- 12. Parking space totals required and proposed
- 13. Loading spaces, facilities and routes
- 14. All dimensions of the subject lands
- 15. Dimensions and setbacks of all buildings and structures
- 16. Gross, ground and useable floor area
- 17. Lot coverage
- 18. Floor area ratio
- 19. Building entrances and grades
- 20. Names of adjacent streets
- 21. Driveways, curbs, drop curbs, pavement markings, widths, radii and traffic directional signs
- 22. Fire access and routes
- 23. Location, dimensions and number of parking spaces (including visitor and accessible) and aisles
- 24. Location of mechanical room
- 25. Refuse disposal and storage areas including any related screening
- 26. Winter snow storage location
- 27. Landscape areas with dimensions
- 28. Natural features, watercourses and trees
- 29. Fire hydrants and utilities location
- 30. Fencing, screening and buffering size, type and location
- 31. All hard surface materials
- 32. Light standards and wall mounted lights



33. 34. 35. 36. 37.	Sidewalks and walkways with dimensions Pedestrian access routes into site and around site
	addition, the following additional plans, studies and reports, including but not limited may also be required as part of the complete application submission:
	Zoning Deficiency Form
	On-Site Sewage Disposal System Evaluation Form
	Architectural Plan
	Buildings Elevation Plan
	Cut and Fill Plan
	Erosion and Sediment Control Plan
	Grading and Drainage Control Plan (around perimeter and within site) (existing and proposed)
	Landscape Plan
	Photometric (Lighting) Plan
	Plan and Profile Drawings
	Site Servicing Plan
	Storm water Management Plan
	Street Sign and Traffic Plan
	Street Tree Planting Plan
	Tree Preservation Plan
	Archaeological Assessment
	Environmental Impact Study
	Functional Servicing Report
	Geotechnical Study / Hydrogeological Review
	Minimum Distance Separation Schedule
	Noise or Vibration Study
	Record of Site Condition
	Storm water Management Report



☐ Traffic Impact Study – please contac required	t the Planner to verify the scope of the study
Standard condominium exemptions will it	require the following supporting materials:
$\ \square$ Plan of standard condominium (2 pap	per copies and 1 electronic copy)
☐ Draft condominium declaration	
Your development approval might also be Climate Change, Ministry of Transportation legislation, municipal by-laws or other against the control of the contro	•
All final plans must include the owner signature and seal.	's signature as well as the engineer's
I. Development Agreements	
and condominium applications. Should be contacted by the agreement administ	red prior to approval for site plan, subdivision this be necessary for your development, you wil rator with further details of the requirements verage, professional liability for your engineer,
J. Transfers, Easements and Postpor	nement of Interest
on behalf of the owner for the registration transfer(s) of easement in favour of the 0	at if required it is their solicitor's responsibility of all transfer(s) of land to the County, and/or County and/or utilities. Also, the owner further solicitor's responsibility on behalf of the owner any charges in favour of the County.
RAFE	Aug 17/17
Owner/Applicant Signature	Date
K. Permission to Enter Subject Lands	S
Permission is hereby granted to Norfolk the premises subject to this application for associated with this application, during not application.	
Owner/Applicant Signature	Date



L. Freedom of Information For the purposes of the Municipal Freedom of Information and Protection of Privacy Act, I authorize and consent to the use by or the disclosure to any person or public body any information that is collected under the authority of the Planning Act, R.S.O. 1990, c. P. 13 for the purposes of processing this application. Owner/Applicant Signature M. Owner's Authorization If the applicant/agent is not the registered owner of the lands that is the subject of this application, the owner must complete the authorization set out below. INVE Peter Ranman ____ am/are the registered owner(s) of the lands that is the subject of this application for site plan approval. I/We authorize COM to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing. Owner Owner N. Declaration of Applicant and Agent I hereby apply for development approval and declare that all of the above statements and the statements contained in all of the exhibits transmitted herewith are accurate and true. I understand that site plan approval is required before a building permit can be issued.

NORFOLK COUNTY
COMMUNITY
PLANNING
COVEL-PAGEN AND CLE TRANS LETTURES

Applicant Signature

Agent Signature

Date

Date

O. Declaration I. GARY BLAZAK of THE CITY OF LONDON solemnly declare that: all of the above statements and the statements contained in all of the exhibits transmitted herewith are true and I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of The Canada Evidence Act. Declared before me at: 185 LODINGON STREET Owner/Applicant Signature ALISHA KATHLEEN CULL, a Commissioner, etc., Province of Ontario,

for the Corporation of Norfolk County.

Expires April 28, 2019

A Commissioner, etc.



Zoning Deficiency

Simcoe:

185 Robinson St.

Simcoe, ON

N3Y 5L6

519-426-5870 Langton:

22 Albert St. Langton, On. NOE 1G0 519-875-4485

PROPERTY INFORMATION

Address:47 Cultus Road, Cultus

Legal Decription:

HGN CON 6 PT LOT 8 RP 37R6253 PART 1 IRREG

1.73AC 218.00FR D - Parcel 1

Roll Number:331054502017100

Application #:

Information Origins: Development Services GIS/Kim Husted Survey 16-12599

amlet Residential Zone (RH)				
Main Building	REQUIRED	PROPOSED	DEFICIENCY	UNITS
7.2 a) minimum lot area				
i) new <i>lot</i>	0.40	0.35	0.05	ha
ii) lot of record	930.00		N/A	m.sq
b) minimum lot frontage				
i) interior lot	30.00	33.22	N/A	m
ii) corner lot	30.00		N/A	m
iii) lot of record	18.00		N/A	m
c) mimimum front yard	6.00		N/A	m
d) minimum exterior side yard	6.00		N/A	m
e) minimum interior side yard				
i) attached garage	1.20		N/A	m
	1.20		N/A	m
ii) detached garage	3.00		N/A	m
	1.20		N/A	m
f) minimum rear yard	9.00		N/A	m
g) maximum building height	11.00		N/A	m
Comments	1) Proposed lot does r	not meet the min	imum lot area req	uirement -
	deficient 0.05ha			

The proposed information and any supporting documents have been provided by the owner/applicant. The above information is only in respect to the associated planning application and does not relieve the owner/applicant from obtaining all other permits/approvals required. The owner/applicant hereby accepts full responsibility for the accuracy of the proposed information provided on this form.

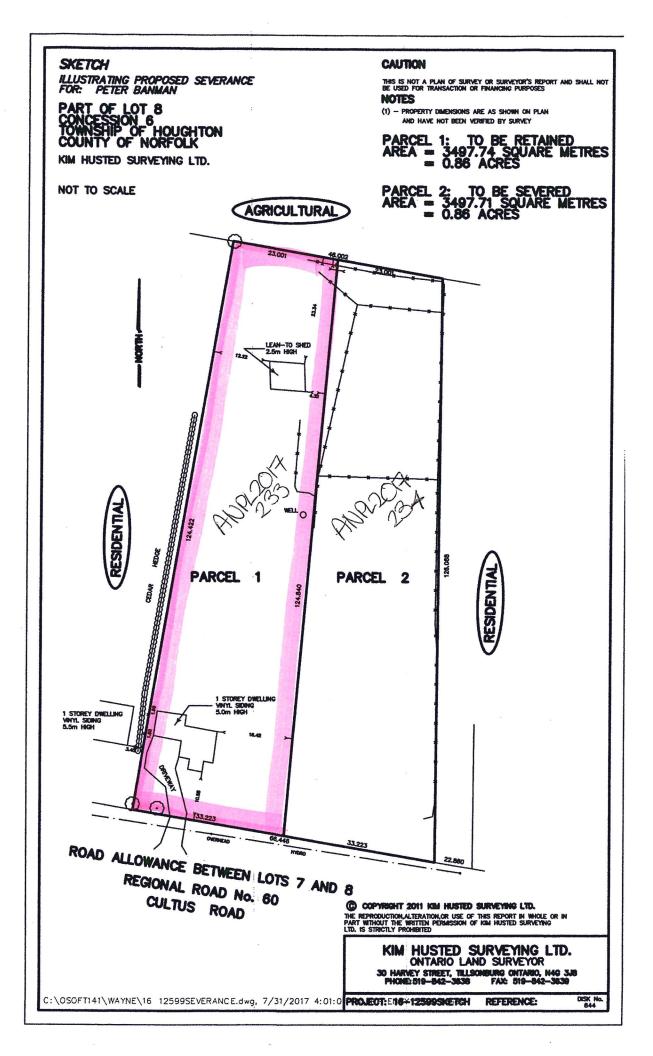
Prepared By: Scott Puillandre

I have read and understand the above.

Signature of owner or authorized agent

Signature of Zoning Administrator

AS PER: Fritz R. Enzlin. CBCO, **CRBO** - Chief Building Official Manager, Building & Bylaw Division, Norfolk County



April 18, 2017

Mr. Peter Banman 437 4th Concession ENR R.R.#4 Langton, ON N0E 1GO



Dear Mr. Banman:

Re: Hydrogeological Assessment

Proposed Residential Lot

47 Cultus Road, Community of Cultus, County of Norfolk

It is proposed to sever a residential lot from an existing 0.72ha (approximate) parcel of land located at 47 Cultus Road within part of Lot 8, Concession 6, Geographic Township of Houghton. Figure 1, derived from the Norfolk Community Web Map Service, shows the location of the proposed lot and the existing property.

It is proposed to service the lot with an individual drilled water well and an individual subsurface sewage disposal system. No municipal water and sewage is locally available.

To support the severance, a hydrogeological study was conducted involving the following:

- Exploratory test holes were completed on the existing property to collect representative soil samples for percolation rate analyses and to identify shallow groundwater conditions.
- A representative water sample was collected from one of the two test holes to characterize shallow groundwater quality.
- Sewage system impact potential under current Ministry of the Environment and Climate Change Procedure D-5-4.
- A review of water well records to provide comment regarding aquifer conditions and groundwater supply potential.

At the request of Mr. Peter Banman, the above hydrogeologic investigative requirements were addressed through a test hole and groundwater sampling program conducted March 9, 2017 and a subsequent background hydrogeologic analysis. This report provides a summary of the background hydrogeologic information, groundwater availability, upper aquifer water quality, the results of the soils suitability study and comment regarding sewage impact potential.

SITE SETTING, GEOLOGY AND HYDROGEOLOGY

The proposed lot is located within the east portion of the Community of Cultus, on the north side of Cultus Road, approximately 360m east of 6th Concession Road ENR. The existing lot is rectangularly-shaped, and has a frontage of about 68m along Cultus Road and an overall depth of about 124m.

The subject lands are mainly cleared, exhibit a shallow relief, and contain an existing residence and small barn. Lands to the west and east along Cultus Road are occupied by residential lots. Lands to the north and south are mainly in agricultural use.

No surface water bodies are located in the close vicinity of the site, however southward-flowing Clear Creek is located about 160 to the west of the site. Overall regional drainage is to the south.

The site is located within the Norfolk Sand Plain physiographic region of southern Ontario. According to the Ontario Geological Survey Map P.2624 "Quaternary Geology of the Port Burwell Area", the upper overburden consists of glaciolacustrine deposits of sand. All local well records indicate that the upper 10m of the overburden consists mainly of sand. No reported local wells are completed to a depth of greater than about 10m, however more distant well records indicate that the overburden below this depth becomes fine-grained.

The bedrock beneath the site consists of grey shale of the Marcellus Formation.

Virtually all local groundwater supplies are obtained from the granular deposits of the upper 10m of the overburden. The lower overburden typically provides little to no potential for groundwater supply due to its fine-grained character, and the bedrock is rarely utilized due to the expense of deep drilling and the potential of obtaining aesthetically poor-quality water.

Shallow groundwater on the site will follow local drainage patterns, with a possibly very slight gradient to the south or southeast.

WELL POTENTIAL ANALYSIS

To establish well yield and basic water quality probabilities, up-to-date Ministry of the Environment and Climate Change (MOECC) records for water wells located within approximately 500 metres of the proposed lots were reviewed. The MOECC water well record database contains the records for only 8 water wells within the review area, however many wells in the area will be shallow sandpoint wells, which often are unreported to the MOECC. The water well records used in the preparation of the review are attached.

The following summarizes the reported well record information within the review area.

Number of wells: 8
Drilled Construction: 0
Dug/Bored Construction: 7
Sandpoint Construction: 1

Completed in Overburden: 8 (100%)

Completed in Bedrock: 0

The following summarizes the reported well performance data.

	Maximum	Minimum	Average
Well Depth (m)	11.9	6.4	8.4
Test Rate (L/min)	182	9	50
Test Period (Hours)	4	1	2.25

Reported Water Quality:

Fresh: 7 or 88% (no objectionable tastes or odours)

Sulphurous: none Mineralized/Saline: none

Quality Not Reported: 1 or 12% (11%)

Dry Well: none

The average reported well within about 500 metres of the proposed lots is of sandpoint construction, completed in the upper overburden sand aquifer to a depth of 8.4 metres and yields 50 litres of fresh-quality water per minute over an average period of 2.25 hours. This average yield exceeds the maximum water demand of a normal four bedroom home specified by the Ministry of the Environment and Climate Change (i.e. 18L/min without inline storage).

It should be noted that the above summary and analysis is based solely on information contained in the Ministry of the Environment and Climate Change water well record database as reported by drilling contractors and is not subject to quality control, however the overall analytical summary is favourable.

SOILS INVESTIGATION

Test Holes:

Two exploratory test holes were excavated within the subject lands on March 9, 2017 using portable 5cm-diameter soil sampling auger. The test holes were each completed to a depth of 1.8m, the depth limit of the auger. The soil profile was logged in each hole and representative soil samples were collected from each identified soil horizon for subsequent classification, analysis and storage. A standpipe was installed in TH2 for subsequent water level and water quality sampling purposes. The attached diagram shows the approximate test hole locations. The following table provides a summary of the analytical results for a representative soil

sample.

Table 1: Summary of Soil Analytical Data

Test Pit/	Depth		Grain-Siz	n-Size Distribution		"k"	T-Time
Sample	(m)	Clay %	Silt %	Sand %	Gravel %	(cm/sec)	(min/cm)
TH2 S1	0.6	0	4	96	0	1x10 ⁻²	7 to 8

Note: The above coefficient of permeability ("k" values) and T-time (percolation rates) are estimates based on field observation, laboratory grain-size analysis, experience with similar soils and guidelines of the Ontario Building Code.

In summary, the soil profile at the test holes consisted of fine sand which exhibits a percolation rate in the range of 7 to 8 minutes/cm.

The grain-size analysis curve is attached.

The following provides a summary of the test hole logs:

TEST HOLE 1

Depth (m)	<u>Material</u>
0 - 0.1	black topsoil
0.1 - 1.82	grey-brown, loose, dry to wet fine SAND with traces of silt (estimated T-
	time 7 to 8 min/cm)

TEST HOLE 2

Depth (m)	<u>Material</u>
0 - 0.1	black topsoil
0.1 - 1.82	grey-brown, loose, dry to wet fine SAND with traces of silt (estimated T-
	time 7 to 8 min/cm)

Shallow Groundwater Conditions:

Emergent groundwater was observed in the open Test Holes on March 9, 2017 as follows:

Test Hole 1: Emergent groundwater observed below 0.5m below grade Test Hole 2: Emergent groundwater observed below 0.6m below grade

Test Hole 2 Standpipe - Water level 0.7m below grade March 16, 2017

A sample of shallow groundwater was collected from the Test Hole 2 standpipe on March 16, 2017. Prior to sampling, the standpipe was purged of three full volumes of standing water using a Waterra inertial pump. The sample was then collected in a laboratory-supplied bottle, stored

in an ice-packed cooler and submitted to Maxxam Analytics Inc. under chain of custody for an analysis of nitrate content. The Test Hole 2 shallow groundwater sample contained a relatively low nitrate content of 1.45mg/L. Based on regional drainage patterns, shallow groundwater flow is most likely generally southwards, and the nitrate content of shallow groundwater is likely mainly derived from upgradient (north) agricultural practices.

Septic System Design:

Under the Ontario Building Code, for a Class 4 sewage disposal system to operate effectively, the leaching bed must be located in soil with a percolation rate (T-time) of between 1 and 50 minutes per centimetre and the base of the absorption trenches must be situated at least 0.9m above the high ground water table, bedrock or a soil with a permeability of greater than 50 minutes per centimetre. To achieve a normal, in-ground installation, the high groundwater table, rock or soil with a permeability of greater than 50 min/cm must be situated at least 1.5 to 1.8 metres below grade.

Due to elevated watertable conditions, the bases of tile trenches must be set no lower than 0.3 to 0.4m above current grade. A design percolation rate of 8min/cm can be assumed.

A standard fill-based sewage disposal system will require a contact area of about 160m², including the 15m downslope mantle area, for a standard 3-bedroom home with a design sewage flow of 1,600L/day.

It is understood that the County typically requires that a full sewage system reserve area be utilized in lot design. As the retained lot and proposed lot will each be approximately 3,600m² in area, sufficient area is available for a 160m² primary sewage disposal area, 160m² reserve sewage disposal area, house envelope and setbacks to any on-site and nearby sandpoint wells (30m).

SEWAGE SYSTEM IMPACT ASSESSMENT

Under the current Ministry of the Environment and Climate Change (MOECC) "Technical Guideline For Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment" (Procedure D-5-4), each proposed development of five lots or greater utilizing individual on-site sewage systems requires an assessment of groundwater impact potential. The purpose of the assessment is to ensure that the discharge from the individual on-site sewage systems will have a minimal effect on groundwater and the present or potential use of adjacent properties. Following the determination of background shallow groundwater nitrate levels, the assessment involves a three-step process, with the need to advance to the next step dependant on the requirements of the previous step. Where the background nitrate content of shallow groundwater exceeds 10 mg/L, additional development cannot normally be supported.

The water from the on-site standpipe contained a relatively low (1.45mg/L) level of nitrate. As this background nitrate level is derived from upgradient off-site agricultural practices (rather than existing upgradient septic systems, which are absent to the north), this background nitrate content is not included in the calculation below.

Under Step 1 of the guideline, for developments where the lot size for each private residence within the development is one hectare or larger (with no lots being less than 0.8ha in area), the risk that the limits imposed by the guideline may be exceeded is considered acceptable with no additional hydrogeologic assessment. As the retained and proposed lot are less than 0.8ha in area, Step 1 of the guideline does not apply.

Step 2 of the guideline is applicable where groundwater resources can be confidently demonstrated to be hydraulically isolated from potential sewage pathways. As the primary water supply aquifer is the upper sands, groundwater resources are not hydraulically isolated from potential sewage pathways, and Step 2 of the guideline does not apply.

Under Step 3 of the guideline, a mass-balance calculation is used to determine the minimum size of the proposed lot. Under the current MOECC guideline only infiltrating precipitation and the volume of water contained in the sewage may be considered as dilutants for the nitrate contained in septic effluent. To establish the infiltration rate, the percentage of the local water surplus which may infiltrate is calculated using the Rational Method approach. According to the soil evaluation, the soil profile consists of sand (infiltration factor 40%), the overall relief is flat (infiltration factor 30%) and the cover is cleared (infiltration factor 10%), all resulting in an infiltration factor of 80%. According to the 2009 Long Point Region, Kettle Creek and Catfish Creek Integrated Water Budget Final Report, the water surplus for the area is in the range of 390mm per year (Clear Creek sub-watershed, precipitation 950mm/year, evapotranspiration 560mm/year). As such, the annual infiltration rate will be 312mm (80% of 390mm), representing 33% of average annual precipitation in the sub-watershed.

The following mass-balance formula is used to calculate the impact of the proposed development under the MOECC guideline:

$$Q_TC_T = Q_SC_S + Q_PC_P$$

Where:

 $Q_T = Sum of Q_S and Q_P$

 C_T = Nitrate concentration (C_T)

Qs = Volume of sewage (1000 L/day/lot x 2 lots, per MOECC guideline)

 C_s = Nitrate content of sewage (40 mg/L)

Q_P = Infiltration (2.3x10⁶L/year on 0.72ha at 312mm/year)

 $C_P = Nitrate$ content of shallow groundwater (0mg/L (see above))

Therefore:

```
(7.3 \times 10^{5} \text{L/year} + 2.3 \times 10^{6} \text{L/year}) \times C_{T} = (7.3 \times 10^{5} \text{L/year} \times 40 \text{mg/L}) + (2.3 \times 10^{6} \text{L/year} \times 0 \text{mg/L})

C_{T} = 9.6 \text{mg/L}
```

Based on an infiltration rate of 312mm/year, the nitrate impact of two lots on the current 0.72ha parcel will be 9.6mg/L. This is considered to meet the 10mg/L nitrate limit of the MOECC guideline.

The above assessment approach, conducted in accordance with Ministry of the Environment and Climate Change Guidelines, does not consider sewage dilution by groundwater flow-through nor does it consider denitrification processes in the subsurface. As such, the assessment will over-estimate the actual degree of groundwater impact of the proposed lots, this considered a safety factor.

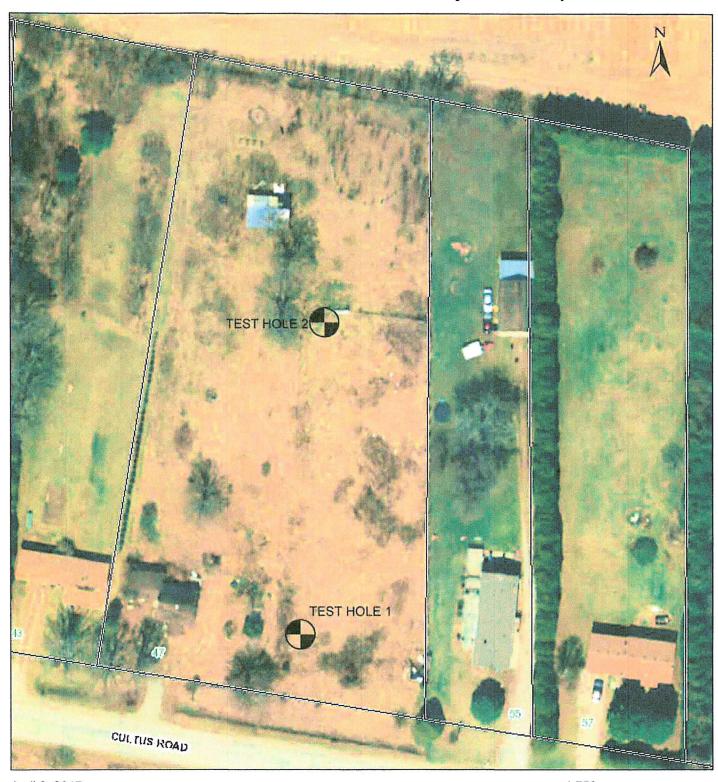
CONCLUSIONS AND RECOMMENDATIONS

- 1. The average reported well within about 500 metres of the proposed lots is of sandpoint construction, completed in the upper overburden sand aquifer to a depth of 8.4 metres and yields 50 litres of fresh-quality water per minute over an average period of 2.25 hours. This average yield exceeds the maximum water demand of a normal four bedroom home specified by the Ministry of the Environment and Climate Change (i.e. 18L/min without inline storage).
- 2. The soil profile across the entire property consists of sand, which exhibits a percolation rate in the range of 7 to 8 minutes/cm. The bases of sewage system tile trenches should be set no lower than 0.3 to 0.4m above current grade due to observed watertable conditions.
- 3. As the retained lot and proposed lot will each be approximately 3,600m² in area, sufficient area is available for a 160m² primary sewage disposal area, 160m² reserve sewage disposal area, house envelope and setbacks to any on-site and nearby sandpoint wells (30m).
- 4. Under MOECC Procedure D-5-4, the nitrate impact of the retained and proposed lot essentially meets the guideline limit of 10mg/L.
- 5. Based on the findings of the preceding analysis, development of the subject lands as two residential lots serviced by private sewage disposal systems is considered viable, subject to the conclusions, limitations and recommendations outlined in this report.

IAN D. WILSON ASSOCIATES LIMITED

Geoffrey Rether, B.Sc., P.Geo.

MAP NORFOLK - Community Web Map





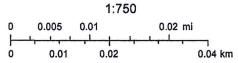
Land Parcels

--- Plan Lines

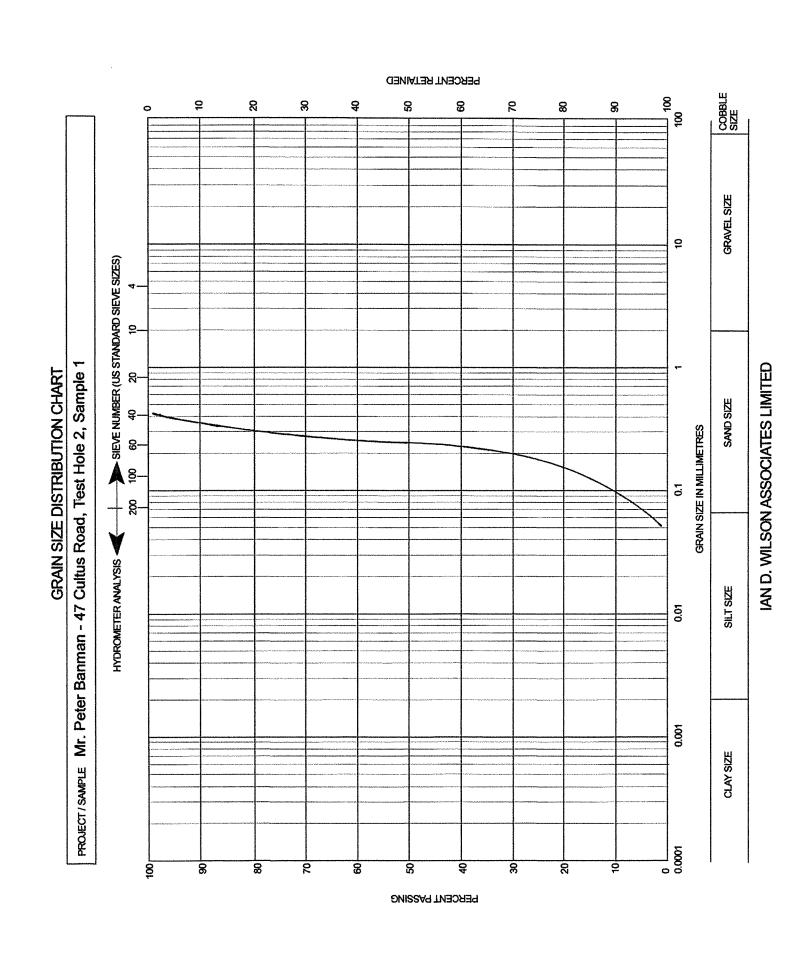
LAYOUT OF LOT AND LOCATIONS OF TEST HOLES

47 CULTUS ROAD

SCALE: as shown



Queen's Printer for Ontario Norfolk GIS





Your Project #: CULTUS Your C.O.C. #: 580130-01-01

Attention:Geoff Rether

lan D Wilson Associates Ltd PO Box 299 76722 Airport Rd Clinton, ON NOM 1L0

Report Date: 2017/03/21

Report #: R4398629

Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B754348 Received: 2017/03/17, 15:01

Sample Matrix: Water # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Reference
Nitrate (NO3) and Nitrite (NO2) in Water (1)	1	N/A	2017/03/21	CAM SOP-00440	SM 22 4500-NO3I/NO2B

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Ashton Gibson
Project Manager
21 Mar 2017 17:24:20

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Ashton Gibson, Project Manager Email: AGibson@maxxam.ca Phone# (905) 817-5700

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

> **Total Cover Pages: 1** Page 1 of 7



Ian D Wilson Associates Ltd Client Project #: CULTUS

RESULTS OF ANALYSES OF WATER

Maxxam ID		EBO302						
Sampling Date		2017/03/16 10:00						
COC Number		580130-01-01						
	UNITS	CULTUSTP2	RDL	QC Batch				
Inorganics								
51:44. /613	mg/L	1.45	0.10	4905145				
Nitrate (N)	IIIB/L	1.70	10.20					



Ian D Wilson Associates Ltd Client Project #: CULTUS

TEST SUMMARY

Maxxam ID: EBO302 Sample ID: CULTUSTP2 Matrix: Water

Collected: 2017/03/16

Shipped:

Received: 2017/03/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4905145	N/A	2017/03/21	Chandra Nandlal



Ian D Wilson Associates Ltd Client Project #: CULTUS

GENERAL COMMENTS

Results relate only to the items tested.



Ian D Wilson Associates Ltd Client Project #: CULTUS

QUALITY ASSURANCE REPORT

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	UNITS	QC Limits
4905145	C_N	Matrix Spike	Nitrate (N)	2017/03/21		111	%	80 - 120
4905145	C_N	Spiked Blank	Nitrate (N)	2017/03/21		103	%	80 - 120
4905145	C_N	Method Blank	Nitrate (N)	2017/03/21	ND,		mg/L	
					RDL=0.10		- .	
4905145	C_N	RPD	Nitrate (N)	2017/03/21	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



Ian D Wilson Associates Ltd Client Project #: CULTUS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brad Newman, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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(Signature of Licensed Drilling Contractor	7	.	11		

Well ID

Well ID Number: 4400505 Well Audit Number: Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location

Township

HOUGHTON TOWNSHIP

Lot Concession 008

Concession
County/District/Municipality

CON 06 NORFOLK

City/Town/Village

Province

ON

Postal Code n/a

NAD83 — Zone 17 Easting: 531663.80

UTM Coordinates

Easting: 531663.80 Northing: 4720142.00

Municipal Plan and Sublot Number

Other

Overburden and Bedrock Materials Interval

General Colour Most Common Material Other Materials General Description

FSNL

From To

Depth

Depth

Annular Space/Abandonment Sealing Record

Depth Depth Type of Sealant Used Volume From To (Material and Type) Placed

Method of Construction & Well Use

Method of Construction Well Use

Cable Tool

Domestic

Status of Well

Water Supply

Construction Record - Casing

Inside Diameter Open Hole or material Promuser To 2 inch STEEL Depth From 17 ft

Construction Record - Screen

Outside Material Depth Depth Diameter From To 17 ft 21 ft

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 2623

Results of Well Yield Testing

After test of well yield, water was

If pumping discontinued, give reason

Pump intake set at

Pumping Rate 2 GPM
Duration of Pumping 4 h:0 m

Final water level
If flowing give rate

Recommended pump depth

Recommended pump rate 2 GPM Well Production PUMP

Disinfected?

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL	13 ft		-
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

CLEAR

Water Details

Water Found at Depth Kind 13 ft Fresh

Hole Diameter

Depth Depth Diameter

Audit Number:

Date Well Completed: July 25, 1963

Date Well Record Received by MOE: August 12, 1963

Updated: March 20, 2017 Rate<u>Rate</u> Share<u>facebook twitter Print</u> Tags

- · Environment and energy,
- · Drinking water,

CSS.S8 mor.

JUN 24 1968 ate completed June 9 - 69

Oct. Company (day month year) res RPI Clear Crock **Pumping Test** Casing and Screen Record Inside diameter of casing. Test-pumping rate Total length of casing. Pumping level Type of screen Duration of test pumping Length of screen 4/ Water clear or cloudy at end of test clear. Depth to top of screen 20 Recommended pumping rate Diameter of finished hole /ww feet below ground surface with pump setting of. Water Record Well Log Kind of water (fresh, salty, sulphur) Depth(s) at which water(s) found From ft. Overburden and Bedrock Record Location of Well For what purpose(s) is the water to be used? . house In diagram below show distances of well from road and lot line. Indicate north by arrow. Sceeth Is well on upland, in valley, or on hillside? up le Drilling or Boring Firm Levers Hodge 4, Address..... (Signature of Licensed Drilling or Boring Contractor)

Form 7 5M 60-20912

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MINISTRY OF THE ENVIRONMENT

NATER WELL RECORD 40 I/104

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The Ontario Water Resources Act 401/104.

CSS.S8

FORM NO. 0506-4-17 FORM ?

WATER WELL RECORD FH. OOZ CON. 4404498 Ontario PRINT ONLY IN SPACES PROVIDED 2. CHECK (E) CORRECT BOX WHERE APPLICABLE Hous lon TOWNSHIP BOROWSH. CU COUNTY OR DISTRICT BATE COMPLETED 0403 reel RRICLCAR 7719040 0660 יאואי זיבה איאי CZ LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) SEPTH - FEST GENERAL DESCRIPTION MOST COMMON MATERIAL OTHER MATERIALS FROM GENERAL COLOUR 10 0 YELLOW SANd 29 WATER SAND 10 SAnd GREY 31 الناباللينيا ليلنا لتلبانيا ليلتليلنانيا لينتليا لينتالينيا 32 CASING & OPEN HOLE RECORD 02000 04 (41) WATER RECORD (51) °006 RIFAW SD ONLY WATER FOUND 10 SS 1 0 INCSH 1 D SULPHUR 00 25 Johonson O STECL do 25 ENGALVANIED 62 0 ,154 PLUGGING & SEALING RECORD TO SEER TO SOFTHING C) GPEN HOLE 1111 IA TER HTRIU MATERIAL AND STRE CEMENT GROUT I C STEFL 1 D FRESH 1 D SULPHUR TO SALVANIZED TO CONCAPLE O FRESH 1 SULPHUR
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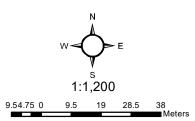
The Ontario Water Resources Act WATER WELL RECORD

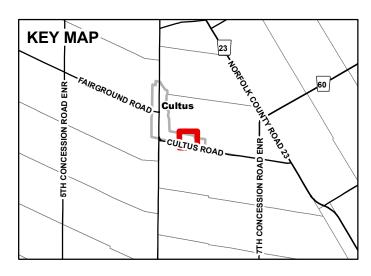
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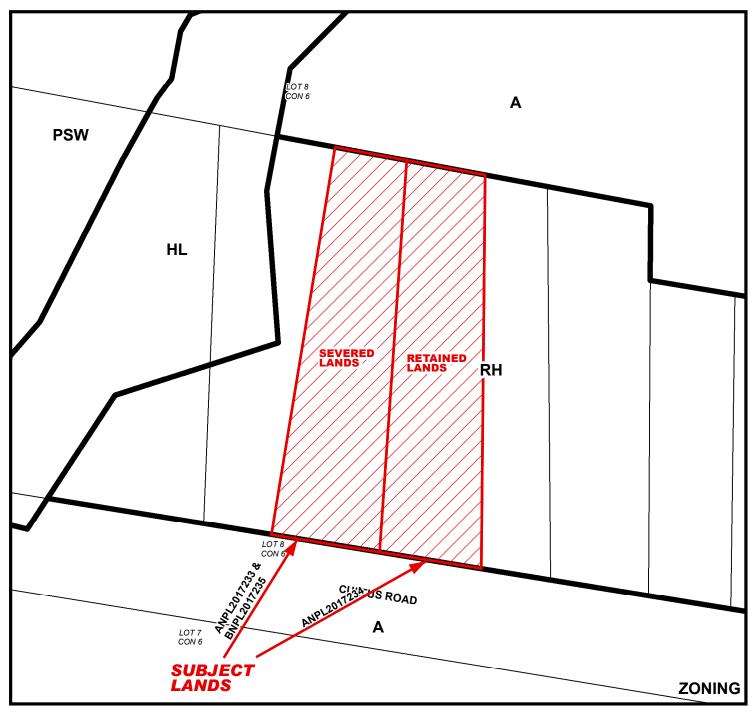
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MAP 1 File Number: ANPL2017233 BNPL2017235 & ANPL2017234

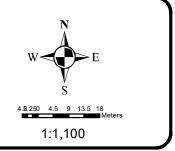
Geographic Township of **HOUGHTON**

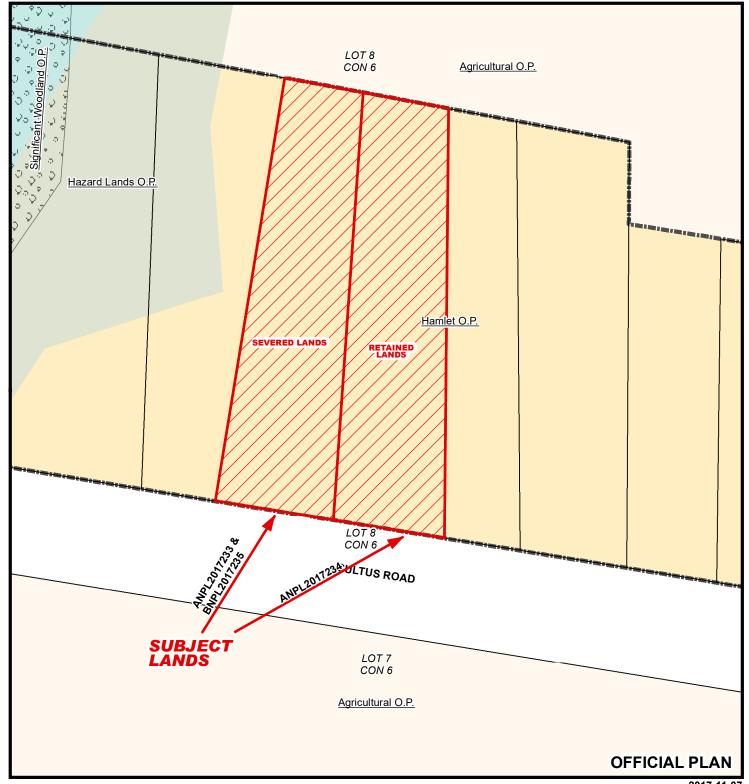




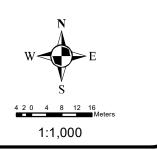


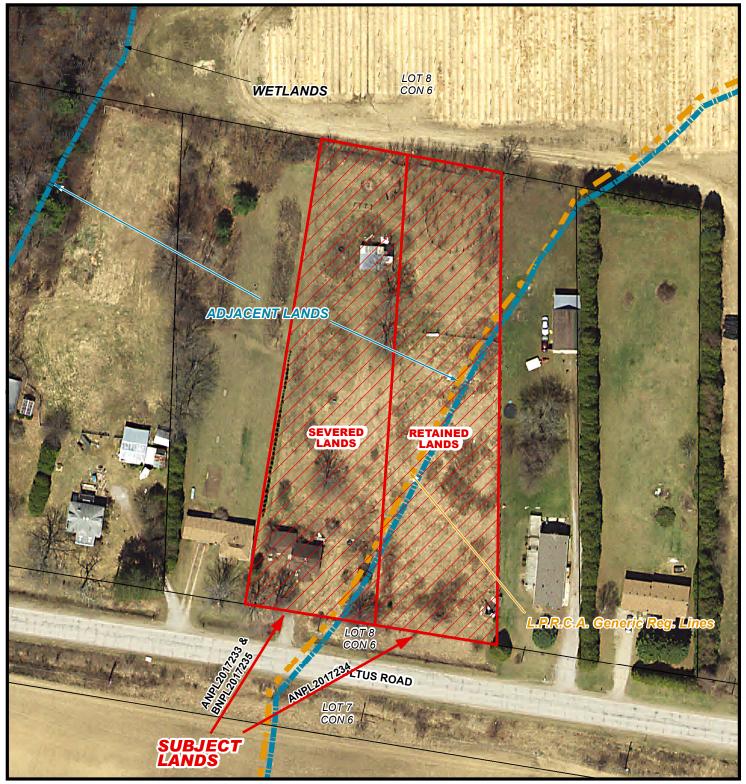
MAP 2
File Number: ANPL2017233, BNPL2017235 &
ANPL2017234
Geographic Township of HOUGHTON



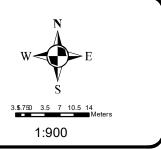


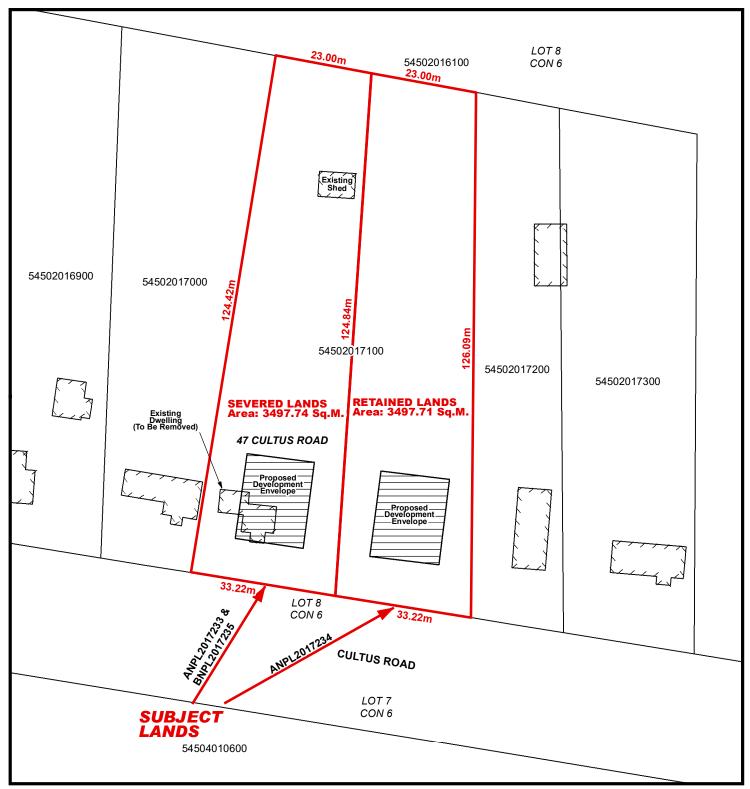
MAP 3 File Number: ANPL2017233, BNPL2017235 & ANPL2017234 Geographic Township of HOUGHTON





MAP 4
File Number: ANPL2017233, BNPL2017235 &
ANPL2017234
Geographic Township of HOUGHTON





LOCATION OF LANDS AFFECTED File Number: ANPL2017233, BNPL2017235 & ANPL2017234



