PROFESSIONAL AGROLOGIST REPORT

AGRICULTURAL IMPACT STUDY

LAND REZONING REQUEST OF PID# 45120375

for

David Maddeaux

October 2025

Thyagrissen Consulting Limited

Managing Today for Tomorrow

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1.0 Introduction

This is a Professional Agrologist report studying the impact of rezoning agricultural reserve (AR) land to residential to allow for the construction of a single dwelling unit. The study format is as outlined in Appendix A of the 2023 Municipal Planning Strategy, East Hants Official Community Plan By-Law P-400 document.

Land Owner: David Maddeaux

PID#: 45120375

Civic Address: 47 MacIntosh Road, Upper Nine Mile River, Municipality of East Hants, Nova Scotia

Zoning: Agricultural Reserve (AR)

Property Size: Approximately 13 acres (5.2 hectares)

Site visit: September 29, 2025

Mr. Maddeaux purchased the property from Catherine E. Baker and Everett G. Baker in December 2020. The Bakers had previously purchased the property intending to construct a personal residence and had a site plan prepared accordingly in 2011 (see Appendix A). They provided the site plan to Mr. Maddeaux following the sale. A travel trailer and small shed were also on the property at the time of purchase and included in the transaction. Mr. Maddeaux currently resides in the trailer.

The land parcel is irregular in configuration but generally L-shaped, with approximately 200 meters of frontage along MacIntosh Road extending south about 230 meters. The back property boundary extending from southwest to southeast towards Highway #14 is approximately 272 meters in length. The lower portion of the 'L' measures roughly 77 meters parallel to Highway #14, extending 79 meters east to west inward, and continues 151 meters north towards MacIntosh Road.

There are no notable waterways on the property. However, roughly two-thirds of the site slopes gently from southwest to southeast and northeast to southeast, draining towards Highway #14. This section of the property is typically wet due to surface water accumulation from adjacent properties. Nova Scotia experienced extreme drought conditions in 2025 – the most severe in over a century – and as a result there was no visible standing water in the area during the site visit. Vegetation observed over more than two-thirds of the property included alders, cattails, small trees and weedy species, typical of wet conditions and lower quality soils. Mr. Maddeaux also reported that in previous years he has observed surface water pooling in lower section to the extent that the neighbouring outbuilding flooded and he got his tractor stuck. Site photos taken on the day of the site visit are also included in Appendix A, and depict some of the property features.

Table 1 provides information on properties abutting the Mr. Maddeaux's property. Ownership information was provided by Mr. Maddeaux and property specifics were verified where possible through Viewpoint.

Table 1: Abutting Property Specifics

PID#	Civic Address	Approx. size (acres)	Owner
45120284	59 MacIntosh Rd	5	Norm Fraser
45120383*	No. 14 Hwy	15.2	Unknown
45237906	5874 Hwy 14	5	Chris Telder
45120276	44 MacIntosh Road	2.2	Erica Brown
45375698	18 MacIntosh Road	4.3	James William
45120367	5842 Hwy 14	3	Cate Gnowen

*This PID is located directly behind Mr. Maddeaux's land according to Viewpoint. The 2011 site plan (Appendix A) indicates PID# 45247038 is a 2-acre parcel directly behind Mr. Maddeaux's land.

Properties to the north of MacIntosh Road are primarily small acreage parcels with residential use. No active agricultural production was observed on any adjacent lots. The nearest active farm is located approximately 1 kilometer away, at the end of MacIntosh Road.

Since Mr. Maddeaux purchased the property, he has undertaken site preparation including cleaning up and mowing the front section of the property, and within the last two years digging a well, constructing a septic system and creating a gravel pad for placement of the future manufactured home. There is no agricultural activity on the property, and to our knowledge, had not been with the previous owners.

Mr. Maddeaux is seeking to rezone the property from Agricultural Reserve (AR) to Residential to permit the placement of a manufactured single dwelling unit for his personal residence. Mr. Maddeaux was informed of the need to have the property rezoned and to have a Professional Agrologist undertake an Agricultural Impact Study when he requested an inspection of the septic system.

2.0 CLI Soil Rating

The Canada Land Inventory (CLI) is a comprehensive multi-disciplinary land inventory of rural Canada covering two million square kilometers of land and water. Land capability for agriculture was mapped in the 1960s, 1970s, and 1980s. Map sheets were created at the 1:250,000 scale and remain available electronically through the National Soil Database (NSDB). The capability for agriculture classification system shows the varying potential of a specific area of land for agricultural production. It indicates the classes and subclasses according to the Soil Capability Classification of Agriculture, which is based on characteristics of the soil as determined by soil

surveys. The Government of Canada website (https://sis.agr.gc.ca/cansis/nsdb/cli/index.html) states that these agricultural capability maps can be used at the regional level for making decisions on land improvements and farm consolidation, for developing land-use plans and for preparing equitable land assessments. The classes indicate the degree of limitation imposed by the soil in its use for mechanized agriculture. The subclasses indicate the kinds of limitations that individually or in combination with others, are affecting agricultural land use. Although the information is old, and in some areas of the province, better information is available as part of more recent soil surveys, the interpretations are still largely valid and many jurisdictions still use them for land use planning purposes.

Soil capability for agriculture of this land parcel was determined using the Soil Map of Hants County, NS (Report #5, NS Soil Survey) sourced from Government of Canada website, Agriculture & Agri-Food Canada, Canada Land Inventory (CLI) soil surveys. Soil surveys have been published for most of the agricultural areas, and many surrounding areas across Canada. Data from these surveys contain the most detailed soil inventory information in the National Soil Database (NSDB).

The land parcel - PID# 45120375 - was located using commercially available mapping programs such as Viewpoint and Google Maps, and transposing the location to the detailed soil survey map using topographic features and boundaries to best estimate the location (refer to slides in Appendix B). The site is identified as having Class 3D/P soils. Soils in this class have moderately severe limitations that restrict the range of crops or require special conservation practices. with moderately severe limitations that restrict the range of crops or require special conservation practices. The Class descriptors D and P indicate undesirable soil structure or low permeability and a degree of stoniness to hinder tillage. The soil type in this land parcel is identified as He-P/1.B2. The CLI describes this soil type as follows:

- The soil characteristics are consistent with those represented by the 'Hebert' soil type. The surface and subsoil are described as light brown sandy brown over brown sandy loam with gravel throughout the profile. The parent material is described as dark greyish brown to brown loamy sand to gravelly sandy loam; water deposited material; outwash plains, kames and eskers.
- Topography and drainage of Hebert soils are level to knob and kettle with good to excessive drainage. The topography was confirmed during the site visit in September, with gentle slopes reported to the north and moderate slopes on the south section. As a result of the exceptionally dry summer experienced in the province in 2025, the north section of the property was very dry with limited grass/weed growth. The southern half of the property was also dry, allowing one to walk along the property boundary without tracking through mud or water. However, as indicated by Mr. Maddeaux and as confirmed by the apparent vegetation, standing water and wet soils are normally found in this area. The variability in vegetation questions whether there is a different soil type

on the back part of the property as excessive drainage would not be a feature if it had flooded in past years and tractors have gotten stuck.

- Transcribing the CLI labeling 'P' indicates soil which is well drained; 1 refers to slightly stony soil but no hindrance to cultivation; B2 reflects the topography which is complex slopes, irregular or rough surface, very gently sloping which was noted during the site visit.
- The present land use is a combination of mowed field/lawn to the north with swampy area to the south and east of the property. Mr. Maddeaux mowed a trail along the boundary of the swampy area which was easy to walk during the site visit due to the drought conditions. The cleared areas have been maintained by mowing, keeping the grass short, allowing for easy access by foot.
- Land use capability of Hebert soil is 'fair to poor crop land'.

Major site features or characteristics which influence or determine soil capability include the stoniness, drainage and the sloping topography particularly in the south and eastern sections of the property. Gravel throughout the soil leads to excessive drainage on the north section, making it challenging for cropping especially in dry years which seem to be more prevalent in recent years due to climate change. The south and eastern part of the property is basically swamp due to the cumulation of water from neighboring properties due to the slope of the land, and possibly the limited drainage of the soil. This section of the property would require drainage to direct the water away from the property but certainly as is, would not be considered suitable land for crop production.

3.0 Impact Description

To our knowledge, this property has not been in agricultural production for many years; for certain not since 2011 when the Baker's owned it. Rezoning the property from Agricultural Reserve (AR) to residential will therefore not decrease the agricultural activity/production. At best, only the front few acres would be considered of 'good to poor agricultural capability', however the small parcel size then becomes questionable in terms of viability for farming.

The south and eastern part of the property is not good for agriculture production without investing significant funds to redirect water flowing from neighboring properties. It is also questionable as to whether the soil type differs in this area from that at the front of the property as the soils typically remain saturated in a 'normal' year. The viability of investing in drainage for such a small piece of property for marginal crop land is certainly questionable.

There are no notable active farms within 300 meters of the Maddeaux property. There is one farm located about one kilometer away, at the end of MacIntosh Road. The farm is owned by Chris Nelson. He grows forage crops and raises beef cattle. Mr. Nelson was contacted by the consultant to inquire about the impact on his farming activities if this land parcel was to be

rezoned out of agriculture to residential. He confirmed there was absolutely no impact on him, as it was mostly swamp.

4.0 Conclusion

The proposed land parcel contains Class 3 soils, however the quality of the Hebert soil apparent in the land is poor to fair for crop production. The drainage on most of the property is very poor as water run off from adjoining properties pools creating a wet swampy area to the south and eastern part of the property. The vegetation on the back part of the property is representative of poorly drained soils. The conclusion from this study is that PID# 45120375 is not suitable for agricultural production, and rezoning it from agricultural reserve (AR) to residential to support a single unit dwelling will not negatively impact other agricultural production in the area.

5.0 Declaration

A site visit was conducted on September 29, 2025, and the report was compiled within 30-days of the visit. Mr. Maddeaux provided relevant documents and accompanied the Professional Agrologist during the site visit.

The study was undertaken by Yvonne Thyssen-Post of Thyagrissen Consulting Limited. She is a Professional Agrologist with over 40 years experience in the field. She is a registered full-member of the Nova Scotia Institute of Agrologists (NSIA), member ID #19311 (current membership certificate, Appendix C). Her education includes a Bachelor of Science (Agriculture) from McGill University as well as a Masters of Adult Education from St. Francis Xavier University. Her experience includes 14 years as an agricultural extension worker with the province of Nova Scotia, followed by 29 years plus as a private consultant. She established her own company in 1998 - Thyagrissen Consulting Limited – to provide various professional business planning and consulting services, primarily to the agricultural industry of Atlantic Canada.

We, the undersign, declare that the information provided in this report is accurate to the best of our knowledge and abilities.

David Maddeaux, Property owner

(902) 883-1729

10/28/2025

Date:

Yvonne Thyssen-Post

October 20, 2025

Yvonne Thyssen-Post, P.Ag.

Professional Agrologist, NS

Tel: (902) 895-1414

Cell: (902) 899-5929

Date:

References

Canada Land Inventory (CLI) 1:1,000,000. (1954). Atlantic Provinces Soil Capability for Agriculture Map. Retrieved from https://sis.agr.gc.ca/cansis/publications/maps/cli/1m/agr/index.html

Cann, D.B., Hilchey, J.D., & Smith, G.R. (1954). Soil Survey of Hants County Nova Scotia. Report No. 5 Nova Scotia Soil Survey. Agriculture Canada.

Devanney, M. (June 2010). Profile of Agricultural Land Resources in Nova Scotia. NS Department of Agriculture.

Google Maps (https://www.google.com/maps)

Municipal Planning Strategy, East Hants Official Community Plan, By-Law P-400 (Approved July 27, 2023).

Overview of Classification Methodology for Determining Land Capability for Agriculture. Canada Land Inventory (CLI), Agriculture & Agri-Food Canada. (2022) Retrieved from https://sis.agr.gc.ca/cansis/nsdb/cli/index.html

Viewpoint (https://www.viewpoint.ca/)

APPENDIX A

Site Plan of PID# 45120375 (2011)

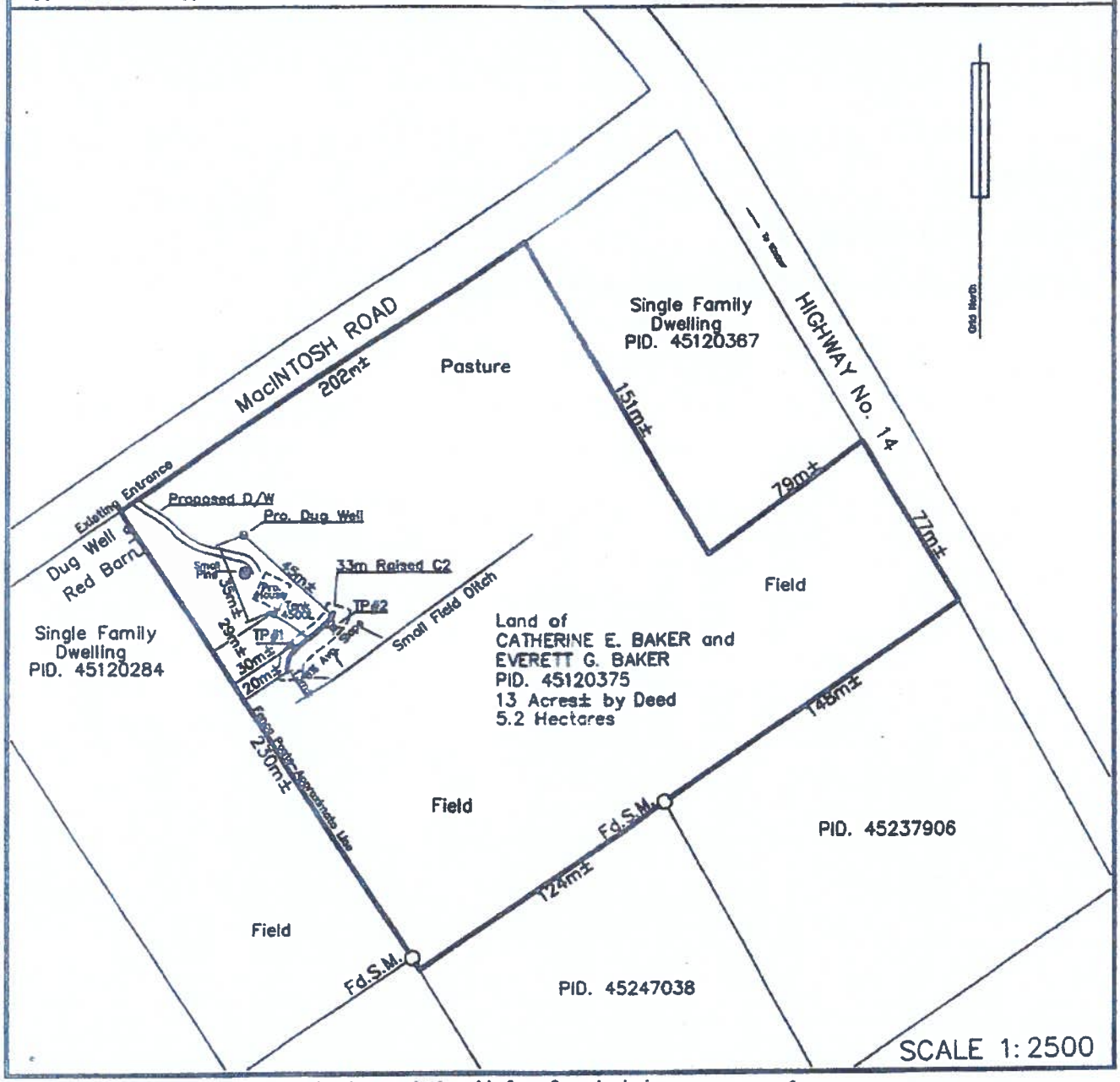
Site Photos (on September 29, 2025, Y. Thyssen-Post, P.Ag.)

SUBMISSION STANDARD

All applications must comply with the Act, Regulations, Guidelines and any policies within the Department. A completed copy of this form must accompany each application. (A separate sketch or drawing may be utilized provided it includes the requested information).

SITE EVALUATION OF LOT/ PROPOSED SYSTEM

Sketch of lot, showing location of soil evaluation test pits, direction of slope, watercourse and other features that may influence the selection or design of the system on the lot or within 60 meters of any part of the proposed system including a sketch of proposed On-site Sewage Disposal System Selection/Design*. The test pit and proposed system location is shown in reference to two fixed points on the property and is within 6 meters plus or minus of the system location. The placement of the system must at all times meet the minimum clearance distances in the regulations unless a variance is specified in the terms and conditions of the Approval. If this application is for the replacement of a malfunctioning system; show the location of the existing system.



* Cross sectional diagrams of proposal to be attached to this form for submission.

DATE: Sept 27, 2011

QUALIFIED PERSON: Wayne H. Stillman (SIGNATURE)

CERTIFICATE OF QUALIFICATION/APENS #: 213

WAYNE H. STILLMAN (PRINT NAME)

Driveway entrance to 47 MacIntosh Rd

Gravel pad location with current location of travel trailer.

Road front views from MacIntosh road looking towards Hwy 14; depicts slope of land

Slope and swamp vegetation at back of property where water pools

Field area behind trailer; wooded/swampy area at back of property

APPENDIX B

PID Identification; Agricultural Capability Determination Information

Thyagrissen Consulting Limited
Managing Today for Tomorrow

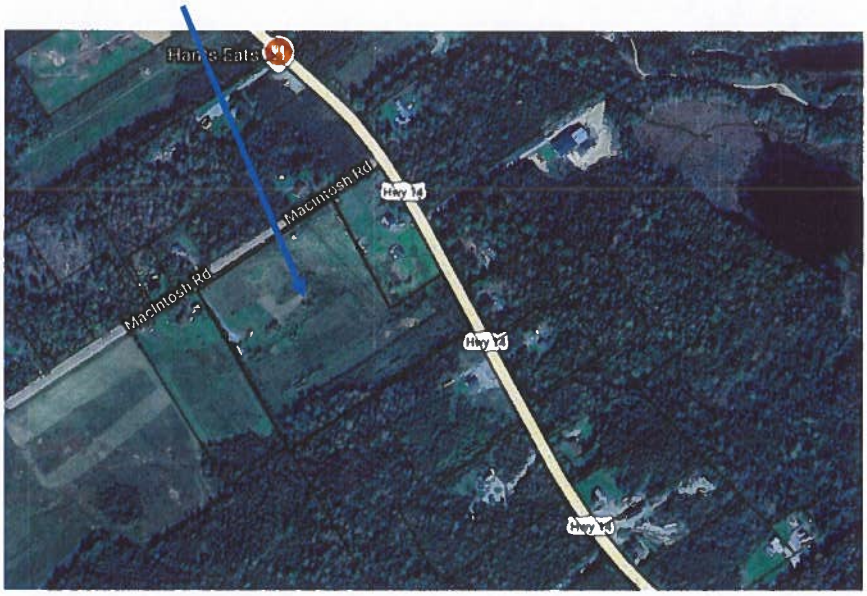
Soil Classification

Maddeaux

PID 45120375, 47 MacIntosh Road, Upper Nine Mile River

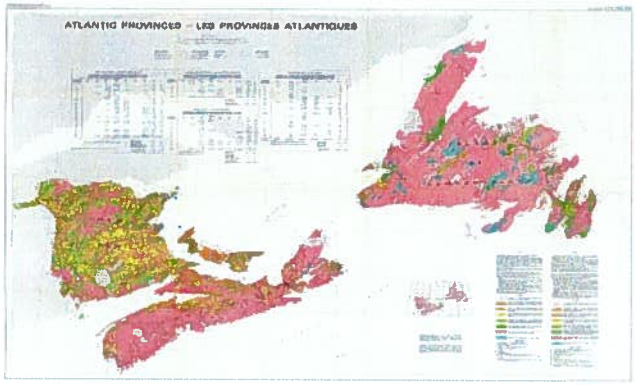
Yvonne Thyssen-Post, P.Ag.
Thyagrissen Consulting Limited

PID 45120375, 47 MacIntosh Road,
Upper Nine Mile River



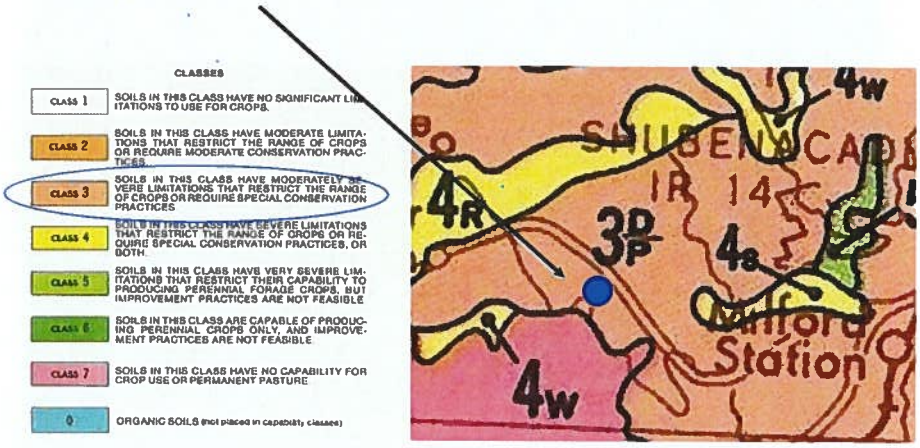
Canada Land Inventory Soil Class

Scale 1:1,000,000



Source: Government of Canada -Canada Land Inventory – cli-1m_agr_Atlantic
https://sis.agr.gc.ca/cansis/publications/maps/cli/1m/agr/cli_1m_agr_atlantic.jpg

PID 45120375, 47 MacIntosh Road,
Upper Nine Mile River

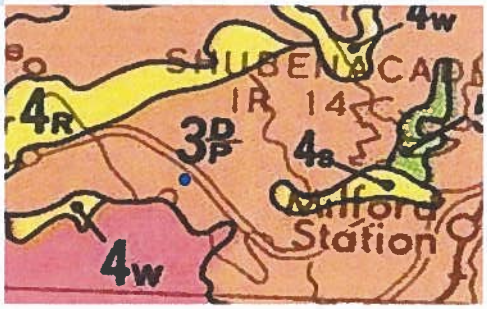


PID 45120375, 47 MacIntosh Road,
Upper Nine Mile River

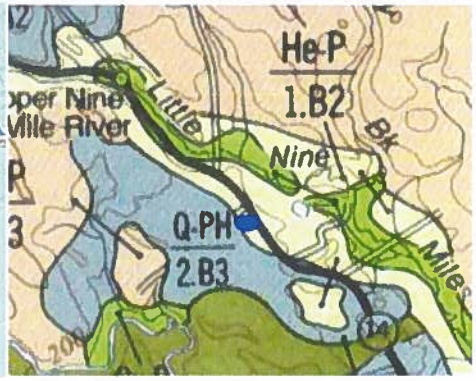
SUBCLASSES

A – droughtiness or aridity as a result of climate
D – undesirable soil structure and or low permeability
E – past damage from erosion
F – low natural fertility
H – adverse climate as a result of cold temperatures
I – periodic inundation by streams and lakes
M – deficient soil moisture
N – salinity
P – stoniness
R – shallowness to bedrock
S – a combination of two or more of the subclasses D, F, M and N
T – adverse relief because of steepness or pattern of slopes
V – a pattern of wet (W) and moisture deficient (M) soils very intimately associated
W – excessive soil moisture
X – an accumulation of two or more adverse characteristics that individually would not affect the class rating

Class 3 D/P
Undesirable soil structure or low permeability
Stoniness

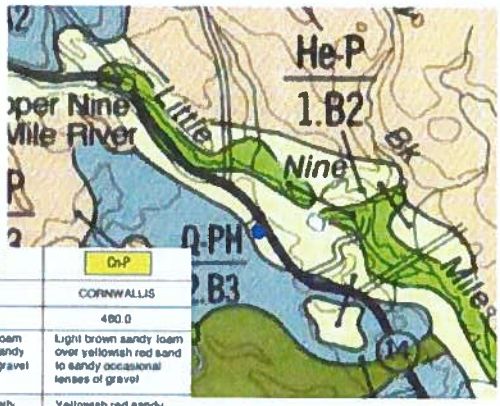


PID 45120375, 47 MacIntosh Road,
Upper Nine Mile River



Source: Soil Survey of Hants County - Area Soils map-ns5b
https://sis.agr.gc.ca/cansis/publications/surveys/ns/index.html

PID 45120375, 47 MacIntosh Road, Upper Nine Mile River



SYMBOL	He-P	TbP	CnP
SOIL CATENA	HEBERT	TORBROOK	CORNWALLIS
ACREAGE	8640.0	2969.6	460.0
DESCRIPTION OF SURFACE AND SUBSOIL	Light brown sandy loam over brown sandy loam gravel throughout the profile	Light brown sandy loam over strong brown sandy loam; some coarse gravel	Light brown sandy loam over yellowish red sand to sandy occasional lenses of gravel
PARENT MATERIAL	Dark greyish brown to brown loamy sand to gravelly sandy loam, water deposited material, outwash plains, kames and eskers Hebert soils are derived from igneous material and Torbrook soils from sedimentary rocks.		Yellowish red sandy loam, water deposited.
TOPOGRAPHY AND DRAINAGE	Level to knob and kettle, good to excessive drainage		
PRESENT LAND USE	Only very small areas are used for agriculture. Cornwallis soils are used for truck and orchard crops. Excessive drainage is a limiting factor in land use.		
LAND USE CAPABILITY	FAIR TO POOR CROP LAND		

* Applies to soils bearing these symbols. Q, Ha, El, Se, Cu, Hx, R, A, Hd.

Source: Soil Survey of Hants County - Area Soils map-ns5b
https://sis.agr.gc.ca/cansis/publications/surveys/ns/index.html

PID 45120375, 47 MacIntosh Road, Upper Nine Mile River

STONINESS

0. Stone free
1. Slightly stony; no hindrance to cultivation
2. Moderately stony; enough stone to interfere with cultivation unless removed.
3. Very stony; sufficient stone to be a serious handicap to cultivation.
4. Excessively stony; non-arable, too stony for cultivation

TOPOGRAPHY

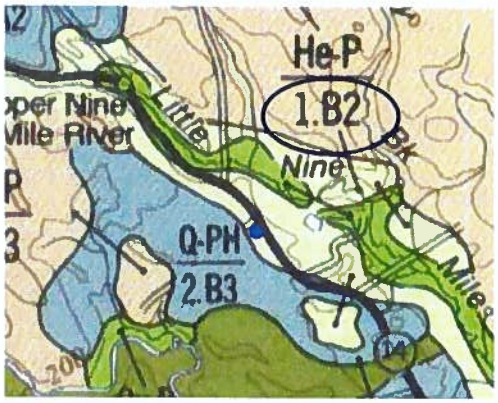
A Single slopes; smooth or regular surface.
B Complex slopes; irregular or rough surface.

Depressional to Level

A0 Smooth undrained basin
A1 Smooth level
B0 Irregular hummocky basin
B1 Irregular level

Sloping

2	Very gently sloping	.5-1.5%
3	Gently sloping	2-5%
4	Moderately sloping	6-9%
5	Steeply sloping	10-15%
6	Very steeply sloping	16-30%
7	Hilly	over 30%



Source: Soil Survey of Hants County - Area Soils map-ns5b
https://sis.agr.gc.ca/cansis/publications/surveys/ns/index.html

APPENDIX C

Professional Agrologist membership

Receipt Number: 2000 **2025**

Nova Scotia Institute of Agrologists
7 Atlantic Central Dr
East Mountain, NS B6L 2Z2

Yvonne Thyssen-Post
35 Talon Court
Bible Hill, NS B2N 7B4

Member ID: 19311

This is your receipt for income tax purposes.

NSIA Membership Fee for 2025 (HST Included at 15%)	$178.25
Status: Professional Agrologist	

******THIS IS YOUR OFFICIAL RECEIPT — DO NOT PAY******

BN 888 257 599 RT0001

Nova Scotia Institute of Agrologists
7 Atlantic Central Dr.,
East Mountain, NS B6L 2Z2
902-893-7455
Web: http://www.nsagrologists.ca

This is to certify that Yvonne Thyssen-Post is a Professional Agrologist

Membership valid from Jan. 1 to Dec. 31, 2025

Member Signature