BEACON ENVIRONMENTAL

GUIDING SOLUTIONS IN THE NATURAL ENVIRONMENT

# Agricultural Impact Assessment
# 12434 Dixie Road
# Town of Caledon

*Prepared For:*

**Nishan Transport Inc.**

*Prepared By:*

**Beacon Environmental Limited**

*Date:* **March 2021**

*Project:* **220196**

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# 1. Introduction

Beacon Environmental Limited (Beacon) was retained to conduct an Agricultural Impact Assessment (AIA) for lands located at 12434 Dixie Road in the Town of Caledon, Regional Municipality of Peel (hereafter referred to as the "subject property"; **Figure 1**). The AIA was requested as part of an application for a proposed temporary parking development on the subject property. The proposed development consists of parking for transport trucks/trailers, accompanied by associated landscaping treatment along the property lines. Access will be maintained at the existing location at the northeastern portion of the property. The development includes the retention of all the existing buildings and structures and will continue to function as they currently exist.

The purpose of the AIA is to assess potential impacts to agriculture and develop recommendations and measures to mitigate potential impacts to agriculture, farm operations and the surrounding area.

The subject property is an irregular shaped parcel of land encompassing an area of approximately 10.7 ha (26.4 ac) located on the west side of Dixie Road, just north of Regional Road 14 (Mayfield Road) in the Town of Caledon (the Town).

The subject property is currently developed with a residence, and associated outbuildings on the northern portion of the property. There are four (4) outbuildings that appear to have been used for industrial or commercial purposes as they all have large bay doors or loading docks for transport trailers. A number of transport trailers were parked on site at the time of the site visit, including some that looked to be abandoned at loading docks. The gravel driveway and parking areas are large to accommodate the previous transport traffic.

**Greenbelt Plan and Growth Plan deleted here and added in Sections 3.2 and 3.3 below.

The remainder of the subject property is undeveloped agricultural lands, likely historically used primarily for the production of hay. Forested lands are present adjacent (south) of the subject property. Portions of a Provincially Significant Wetland (Heart Lake Wetland Complex) are located south and west of the subject property.

The Regional Municipality of Peel Official Plan (Office Consolidation – 2018) designates the subject property as a Prime Agricultural Area (*Schedule B – Prime Agricultural Area*), and within the Rural System (*Schedule D – Regional Structure*).

The Town of Caledon Official Plan (2018) designates the subject property as a Prime Agricultural Area (*Schedule B – Mayfield West Land Use Plan*) and the adjacent property to the immediate southeast is designated as General Industrial.

The Town requires an AIA to review the potential impacts to the Prime Agricultural Lands, and to assess potential mitigation and restoration opportunities associated with the proposed development.

This AIA provides a detailed description and understanding of the agricultural capability of the subject property through the following:

- A desktop survey of the subject property to provide an interpretation of the agricultural capability of the soil for various crops, including an assessment of the present Canada Land Inventory (CLI) designations on the subject property;

- A reconnaissance level land use survey to characterize the land uses observed in and adjacent to the subject property. This includes the types of land uses, both agricultural and non-agricultural, cropping patterns and natural land cover;
- A comparison of the CLI agricultural capability of the subject property and the adjacent lands;
- An assessment of potential conflicts with surrounding agricultural operations; and
- A review of the applicable agricultural policies contained in the 2020 Provincial Policy Statement.

Within the subject property, the soil capability ratings have been confirmed, there was no indication of recent upgrades or related investment into the existing agricultural infrastructure and none of the subject property is designated by the Province as an area for specialty crops.

The Region of Peel and Town of Caledon initiated a joint Land Evaluation and Area Review (LEAR) study (July 2016) to identified and recommended Prime Agricultural Areas within the Region and more specifically with in the Town of Caledon. The analysis contained in this AIA concludes that the LEAR score for the subject property is below the threshold of 535 required to be identified as a Prime Agricultural Areas.

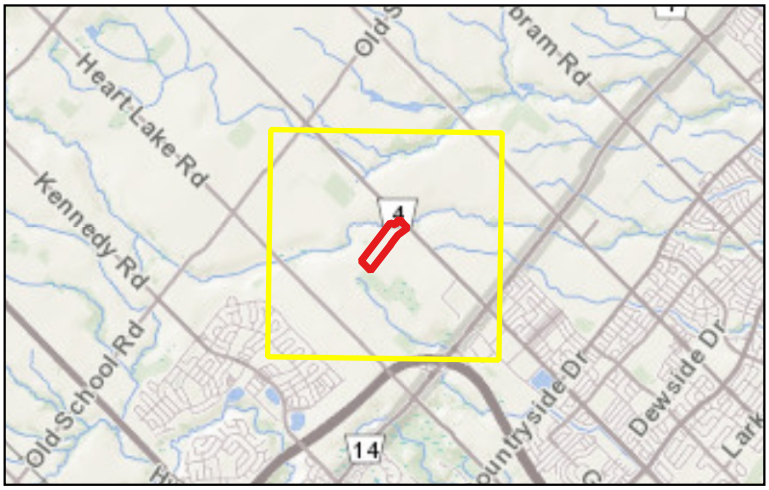
It is Beacon's opinion that the development as proposed, subject to the above recommendations, and approvals and permits as may be required as part of the development, can proceed in a manner that is consistent with agricultural policies and regulations.

# 2. Background and Study Objectives

The study commenced with a background assessment of the present agricultural characteristics of the subject property. Background information including published documents and information from provincial agencies was gathered and reviewed at the outset of the project, including the March 2018 Draft Agricultural Impact Assessment Guidance Document provided by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

The background assessment involved review of documentation for the subject property from sources that included, but was not limited to the following:

- Ontario Ministry of Natural Resources and Forestry (MNRF) Ontario Base Mapping;
- MNRF Land Information Ontario Database;
- Agriculture and Agri-Food Canada:
    - Soil Survey of Peel County (https://sis.agr.gc.ca/cansis/publications/surveys/on/on18/index.html);
    - Canada Land Inventory Mapping – Toronto (http://sis.agr.gc.ca/cansis/publications/maps/cli/250k/agr/index.html);
- Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Soil Survey Complex (https://www.ontario.ca/data/soil-survey);
- OMAFRA AgMaps Geographic Information Portal (http://www.omafra.gov.on.ca/english/landuse/gis/portal.html); and
- Colour, orthorectified, 2002, 2007, 2015, 2016, 2018 and 2019 aerial photography from First Base Solutions.


| Site Location | Figure 1 |
|---|---|
| 12434 Dixie Rd AIA | |
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The specific objectives that have been completed as part of this AIA include the following:

- Provide an evaluation of the existing agricultural capability of the subject property through background review and field investigations;
- Identify and map any key agricultural features, attributes and sensitivities; and
- Assess net impacts and provide recommendations to mitigate impacts.

# 3. Policy Context

The applicable municipal and provincial policies that are subject to review include:

- Provincial Policy Statement (2020);
- The Greenbelt Plan (2017);
- The Growth Plan for the Greater Golden Horseshoe (Office Consolidation August 2020);
- Regional Municipality of Peel Official Plan (Office Consolidation – 2018); and
- Town of Caledon Official Plan (2018).

## 3.1 Provincial Policy (2020)

The Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use planning and development including agriculture. The PPS establishes the policy framework for setting land use priorities in Ontario as well as regulating development.

The 2020 PPS modifies and updates many of the former policies from the former documents. In relation to agriculture, the 2020 PPS provides the requirement for municipalities to designate *prime agricultural areas* at the municipal level. This means that municipalities must specifically distinguish between *prime agricultural areas* and rural areas that may contain lesser quality agricultural capabilities. Upper and lower tier Official Plans must now designate *prime agricultural areas* and rural areas separately and provide distinct policy direction for land uses in each of these designations.

Section 2.3.2 of the PPS (2020) requires that:

> *Planning authorities shall designate prime agricultural areas and specialty crop areas in accordance with guidelines developed by the Province, as amended from time to time.*

The PPS (2020) defines *specialty crop areas* as provided below. There are no *specialty crop areas* in or adjacent to the subject property.

> *Specialty crop area: means areas designated using guidelines developed by the Province, as amended from time to time. In these areas, specialty crops are predominantly grown such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil, usually resulting from:*
>
> *a) Soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both;*
> *b) Farmers skilled in the production of specialty crops; and*

*c) A long-term investment of capital in areas such as crops, drainage, infrastructure and related facilities and services to produce, store, or process specialty crops.*

Policy 2.3.2 references Provincial guidelines to assist in the identification of "prime agricultural areas." The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has provided that over time technical guidance for the identification of "prime agricultural areas" has been outlined in the Foodland Guidelines (1978-1992), the Comprehensive Set of Policy Statements (1994), four Provincial Policy Statements and a draft Land Evaluation and Area Review (LEAR) Guideline. The OMAFRA online document *Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario* is the guideline available on the date of this report and was used in the analysis of the subject property. Additionally, OMAFRA has prepared further detailed written guidelines in their Publication 851 entitled Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas.

The PPS (2020) has also provided the definition of a Prime Agricultural Area as follows:

> *Prime agricultural area: means areas where prime agricultural lands predominate. This includes areas of prime agricultural lands and associated Canada Land Inventory Class 4 through 7 lands, and additional areas where there is a local concentration of farms which exhibit characteristics of ongoing agriculture. Prime agricultural areas may be identified by the Ontario Ministry of Agriculture and Food using guidelines developed by the Province as amended from time to time. A prime agricultural area may also be identified through an alternative agricultural land evaluation system approved by the Province.*

The definition of Prime Agricultural Area again references Provincial guidelines. The definition provides that Prime Agricultural Areas may also be identified using an alternate agricultural land evaluation as supported by the Province.

It is important to distinguish between a Prime Agricultural Area which is the basis of Provincial land use policy and Prime Agricultural Lands which describes the agricultural capability of the land and soils. The PPS (2020) defines Prime Agricultural Lands as follows:

> *Prime agricultural land means specialty crop areas and/or Canada Land Inventory Class 1, 2, and 3 lands, as amended from time to time, in this order of priority for protection.*

## 3.2 The Greenbelt Plan (2017)

The Greenbelt Plan is issued under the *Greenbelt Act*, 2005, SO 2005, c. 1. The Greenbelt Plan (2017) was approved by the Lieutenant Governor in Council and came into effect on July 1, 2017.

A review of Greenbelt Plan schedules has identified that the northeast portion of the subject property is located within the Greenbelt Plan Area and is designated as *Protected Countryside*. Schedule 4 (*Natural Heritage System*) shows portions of the subject property as designated *Natural Heritage System* in the same site configuration as the Greenbelt Protected Countryside designation.

## 3.3 A Place to Grow – Growth Plan for the Greater Golden Horseshoe (Office Consolidation August 2020)

The provincial growth plan is issued under the *Places to Grow Act*, 2005, SO 2005, c. 13. The 2020 provincial growth plan titled: "*A Place to Grow – Growth Plan for the Greater Golden Horseshoe*" came into effect on May 16, 2019 (the "Growth Plan").

A review of the Growth Plan schedules has identified that the subject property, in its entirety, is located within the *Greater Golden Horseshoe Growth Plan Area*. As noted above, a portion of the subject property at the north-east end, is located within the *Greenbelt Area*. No portion of the subject property is located within the defined *Natural Heritage System for the Growth Plan* outside of the Greenbelt Planning Area.

The Growth Plan and Greenbelt Plan provide the following for the definition of an AIA:

> *Means a study that evaluates the potential impacts of non-agricultural development on agricultural operations and the Agricultural System and recommends ways to avoid or, if avoidance is not possible, minimize and mitigate adverse impacts.*

## 3.4 Regional Municipality of Peel Official Plan (Office Consolidation – 2018)

The Regional Municipality of Peel Official Plan (Peel OP) provides planning strategy enabling and managing resource-based development including agriculture. Section 3.2 of the Official Plan provides principles and policies related to uses within the Region's Agricultural Areas.

The Peel OP provides Agricultural Resources policy (Section 3.2) to support the identification and protection of localized Prime Agricultural Areas. *Schedule B – Prime Agricultural Area* shows that the subject property is designated as a Prime Agricultural Area.

## 3.5 Region of Peel & Town of Caledon Land Evaluation and Area Review (2016)

The Province has developed the LEAR System for Agriculture to be used during comprehensive Official Plan Review processes. A LEAR consists of two parts. The Land Evaluation (LE) portion determines the importance of an area's soil resources in terms of their use for agriculture. The Area Review (AR) portion provides a method for identifying important contributing factors, other than soils, including fragmentation, conflict and lands in production.

In January 2013, the Region of Peel and Town of Caledon initiated a joint LEAR study to identify and recommend Prime Agricultural Areas within the Region and more specifically with in the Town of Caledon.

For the Region of Peel and Town of Caledon LEAR study (July 2016):

> *It was determined by the LEAR Review Committee that each evaluation unit would receive a total LEAR score out of 800. This was based on the LEAR Review Committee's selection of factors and weighting. The closer an evaluation unit's score is to 800, the greater the potential of being identified as Prime Agricultural land.*

The components of the Region of Peel and Town of Caledon LEAR were weighted as determined by the Review Committee with 50% for the LE component (Canada Land Inventory [CLI] Soil Capability Classification), and 50% for the AR component (fragmentation, % of land in agriculture, proximity of agriculture uses and conflicting land uses).

The Review Committee provided a recommended threshold of 535, derived from the LE/AR ratio of 50/50, as an appropriate basis for determining Prime Agricultural Area in the Town of Caledon. Any scores at or above the LEAR Threshold of 535 were recommended to be identified as Prime Agricultural Areas.

### 3.6 Town of Caledon Official Plan (2018).

The Town of Caledon Official Plan (Consolidated 2018) provides a number of land use policies related to agriculture with examples provided below.

Section 5.1.1 provides specific Prime Agricultural Area policies, and more specifically 5.1.1.2 states:

> *Wise use and protection of Ontario's farmland base over the long-term is considered a key provincial interest. The Provincial Policy Statement guides the management of agricultural resources by recognizing prime agricultural areas and limiting uses and activities, such as severances, in these areas. The intent of the Provincial Policy Statement is reflected in the Region of Peel's Official Plan. Local municipal official plan policies can be more restrictive than the Provincial Policy Statement.*
>
> *The Prime Agricultural Area generally coincides with a relatively large contiguous area of high capability agricultural lands recognized as Classes 1, 2 and 3 agricultural lands according to the Canada Land Inventory of Soil Capability for Agriculture through the Region of Peel's Official Plan. Smaller pockets of land with lower capability for agriculture have been included in the Prime Agricultural Area subject to other considerations including whether they were largely surrounded by or proximate to higher capability agricultural land, the degree of land fragmentation, lot size, and intensity, location and extent of existing and potential farming areas. These lands are designated on Schedule A - Land Use Plan, Schedule B – Mayfield West Land Use Plan, and Schedule C.*

*Schedule B – Mayfield West Land Use Plan* shows that the subject property is designated as a Prime Agricultural Area. The adjacent property to the immediate southeast is designated as General Industrial.

# 4. Methodology

### 4.1 Background Review

Background information noted in **Section 2** above, including published documents and information from provincial agencies was gathered and reviewed at the outset of the project. Other sources of information, such as topographic maps, were also consulted prior to commencing field investigations.

## 4.2 Field Investigations

Detailed soil surveys of the subject property were undertaken on October 14, 2020 to refine/confirm the existing soil information presented in the Soil Survey of Peel County (1953) and to undertake a reconnaissance survey to document land use in the general area.

# 5. Agricultural Resources

## 5.1 Bedrock and Physical Geography

The subject property lies over a complex of shale, limestone, dolostone and siltstone (Ontario Geological Survey 2003). The physiography of the area is described in Chapman and Putman (1984) as the South Slope. The South Slope physiographic region occupies approximately 2,400 $km^2$ and extends from the Niagara Escarpment in the west to the Trent River in the east (Chapman and Putnam 1984). The South Slope predominately consists of shallow shale and till plains with a generally gradual slope in a southeasterly direction towards Lake Ontario. The topography is mostly gentle and includes low drumlins and moraines.

The northern portion of the subject property consists of a modern alluvium deposit associated with the wetlands and watercourse (Ontario Geological Survey 2003). The remainder of the subject property consists of brown loam to silt loam till associated with the Halton Till deposit (**Figure 2**).

## 5.2 Topography and Drainage

The overland drainage from the subject property is impacted by a low swale running approximately northwest to southeast near the centre of the subject property, directing overland flow to the northwest and eventually to the watercourse to the north. The Ontario Base Map (OBM), supplemented with field observations, reveals that the subject property is gently sloped, with no steep slopes (i.e., all slopes <10%) within the subject property (**Photograph 1**).

Using slope class definitions found in the Field Manual for Describing Soils in Ontario ($4^{th}$ Edition, 1993), a majority of the subject property contains nearly level to moderate slopes (i.e., 0.5% - 8.5%).

**Photograph 1. View from the Subject Property in the Agricultural Field Looking Northeast. The Lighter Area Running Left to Right is the Swale Directing Overland Flow (October 14, 2020)**

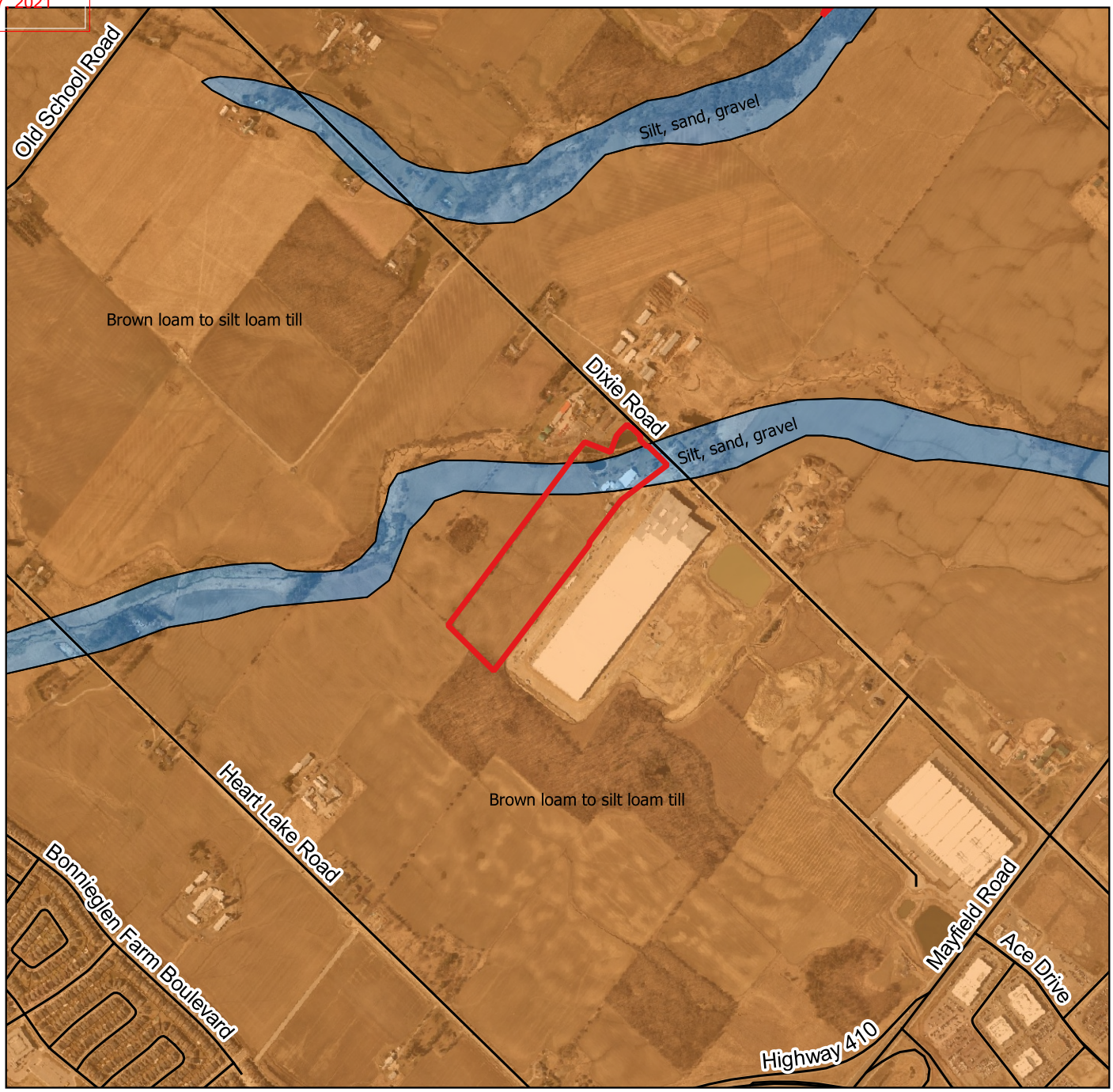
## 5.3 Climate

The analysis of climate was restricted to a review of existing published literature. Instrumentation was not employed to measure the climate of the subject property.

### *5.3.1 Crop Heat Units*

The Crop Heat Unit (CHU) measurement was originally designed for selecting corn varieties and can be used as a means of comparing the climactic conditions of different areas of the province. The CHU value of an area is based upon temperature and is detailed in a Factsheet 93-119 (Brown and Bootsma 1997) produced by OMAFRA. Specifically, crop heat units are determined using daily minimum and maximum air temperatures accumulated over the growing season. The CHU rating of an area is determined by the total accumulated crop heat units for the frost-free growing season in the various areas of the province (Brown and Bootsma 1997).

The CHU measurement system was revised in accordance with changing farming practices and crop varieties (OMAFRA 2011). Under the new CHU measurement system, the proportion of crop heat units in the subject property is found to be slightly above 3000 CHU (**Figure 3**), consistent with moderately good farming opportunity. More specific measurements are not available for this method.




## Legend

Subject Property

**Quaternary Geology**

Halton Till

Modern Alluvium

| Quaternary Geology | Figure 2 |
|---|---|
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**Figure 3. Crop Heat Units, (OMAFRA, 2011). Subject Property Indicated by Arrow**

## 5.4 Soils

OMAFRA provides guidelines for conducting detailed soil surveys in a document entitled Guidelines for Detailed Soil Surveys for Agricultural Land Use Planning (2004). The OMAFRA document was created to provide guidelines for undertaking detailed soil surveys for the assessment of agricultural crop capabilities and suitability's. The OMAFRA guidelines reference the use of The Field Manual for Describing Soils in Ontario (Denholm and Schut 1993) and indicate that the soils classified in the field should be correlated with the published soil survey map and report for that county. The soil survey for the area, as well as the most up to date Field Manual for Describing Soils in Ontario (Denholm and Schut 1993) are referenced in the work described below.

### *5.4.1 Regional Soil Types*

The Soil Survey of Peel County (Report No. 18) prepared by the Canada Department of Agriculture as well as the Ontario Agricultural College was published in 1953 and mapped the soils of the entire County. Included with that report is a printed map of the soils in the County presented at a scale of

1:63,360. The historical soil mapping of the subject property and surrounding lands is presented in **Figure 4**.

### *5.4.2 Subject Property Soil Types*

Detailed soil surveys of the subject property were undertaken on October 14, 2020 to refine/confirm the existing soil information presented in the Soil Survey of Peel County (1953). Prior to undertaking the field visits, orthorectified aerial photography was used to delineate potential soil boundaries on field maps through interpretation of slope, drainage and landform. The aerial photography was also used to create field maps for the soil surveys. The field maps were then verified during the soil surveys.

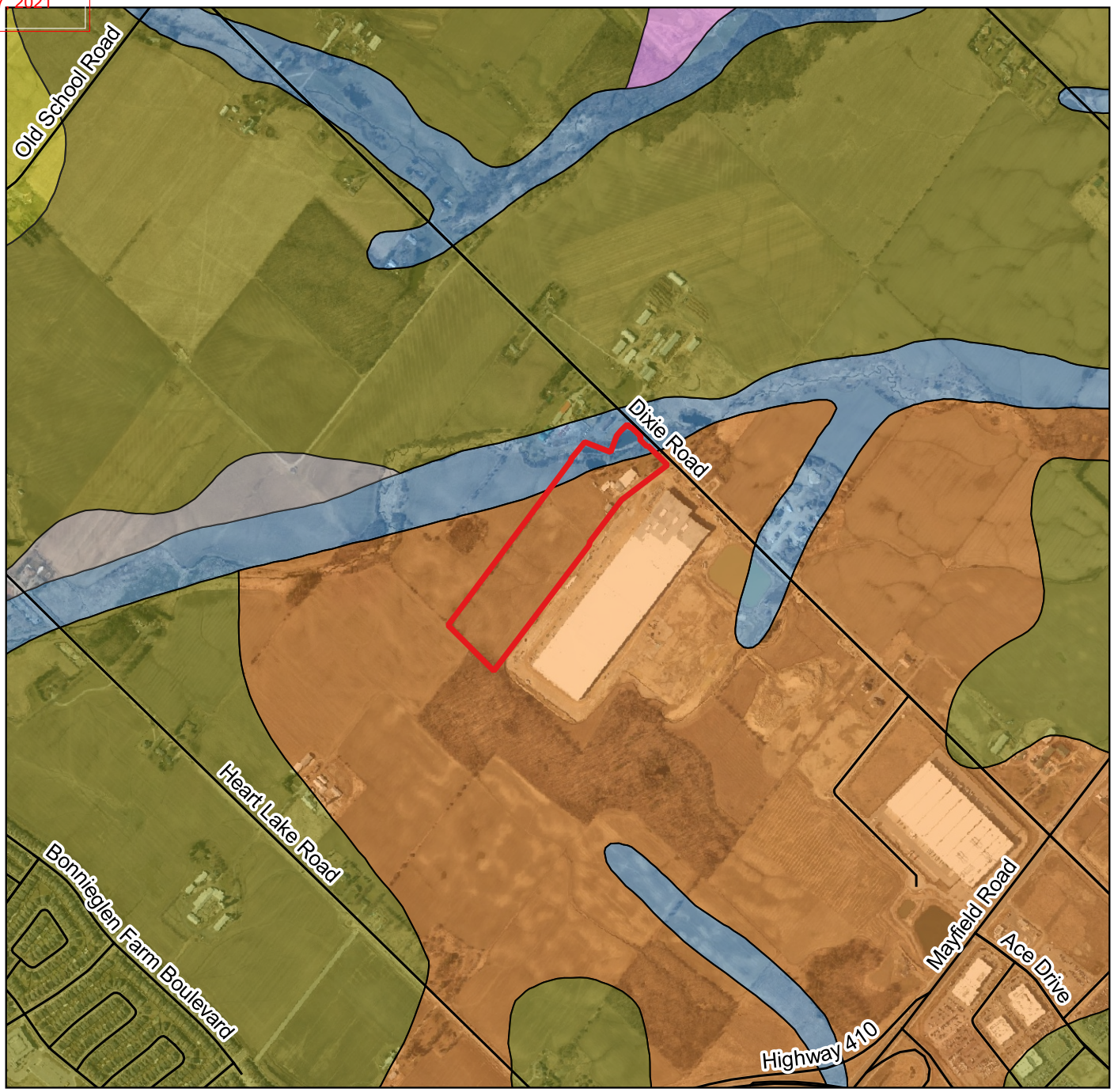
The background review identified two soil types mapped within the subject property. The primary soil series is the Oneida Clay Loam Series (**Figure 4**) which is a Gray-Brown Podzolic soil made up of soils developed on clay till. Bottom Land soils are also present in the northwest corner of the subject property associated with the watercourse in that location.

A detailed field investigation was undertaken to verify/refine the existing soils mapping through site reconnaissance, examining soil profiles using methods consistent with the Field Manual for Describing Soils in Ontario 4th ed., and the Canada Land Inventory (CLI). OMAFRA defines a "detailed" soil survey as one compiled at a working map scale of 1:10,000 or greater, and suggests that an adequate density and distribution of soil profile and landscape inspections is one inspection per two hectares at 1:10,000. The subject property is approximately 10.7 ha and it would be reasonable to anticipate four (4) or five (5) soil profiles for this entire study. That said, prior to attending the site, a review of the aerial photography indicated that up to approximately 25% of the site was developed or contained wetlands or a watercourse and as such, fewer soil profile inspections were anticipated. During the site investigation, four (4) soil profiles were undertaken on site.

A manual auger was used to excavate the 4 soil pits to refusal due to compaction in the clay loam soils. Techniques consistent with the 4$^{th}$ Edition of the Field Manual for Describing Soils in Ontario were used to describe the soil horizons. The location of each survey was documented by GPS as well as on aerial photography (**Figure 5**), and detailed properties of soil horizons in the profiles were documented on separate field sheets. Details of each soil horizon included:

- The deposition mode;
- Slope class;
- Drainage class;
- Stoniness/Rockiness;
- Consistency;
- Position;
- Type, depth, colour, texture, consistency and moisture of significant soil horizons; and
- The abundance and size of mottles if present.

The field investigation confirmed the presence of the Oneida Clay Loam series on the subject property and is briefly described below, summarizing information from the field investigation and the Soil Survey of Peel County (1953) document. The Soil Survey of Peel County (1953) evaluated each of the soils in the County for their ability to produce the crops commonly grown in the area, and presented the soil ratings for principle crops for the Oneida Clay Loam soil series in Table 13 of the Soil Report.




## Legend

Subject Property

**Soil Survey Complex Soil Series**

- BOOKTON SANDY LOAM
- BOTTOM LAND
- CHINGUACOUSY CLAY LOAM
- JEDDO CLAY LOAM
- ONEIDA CLAY LOAM
- PONTYPOOL SANDY LOAM

| Soils | Figure 4 |
|---|---|
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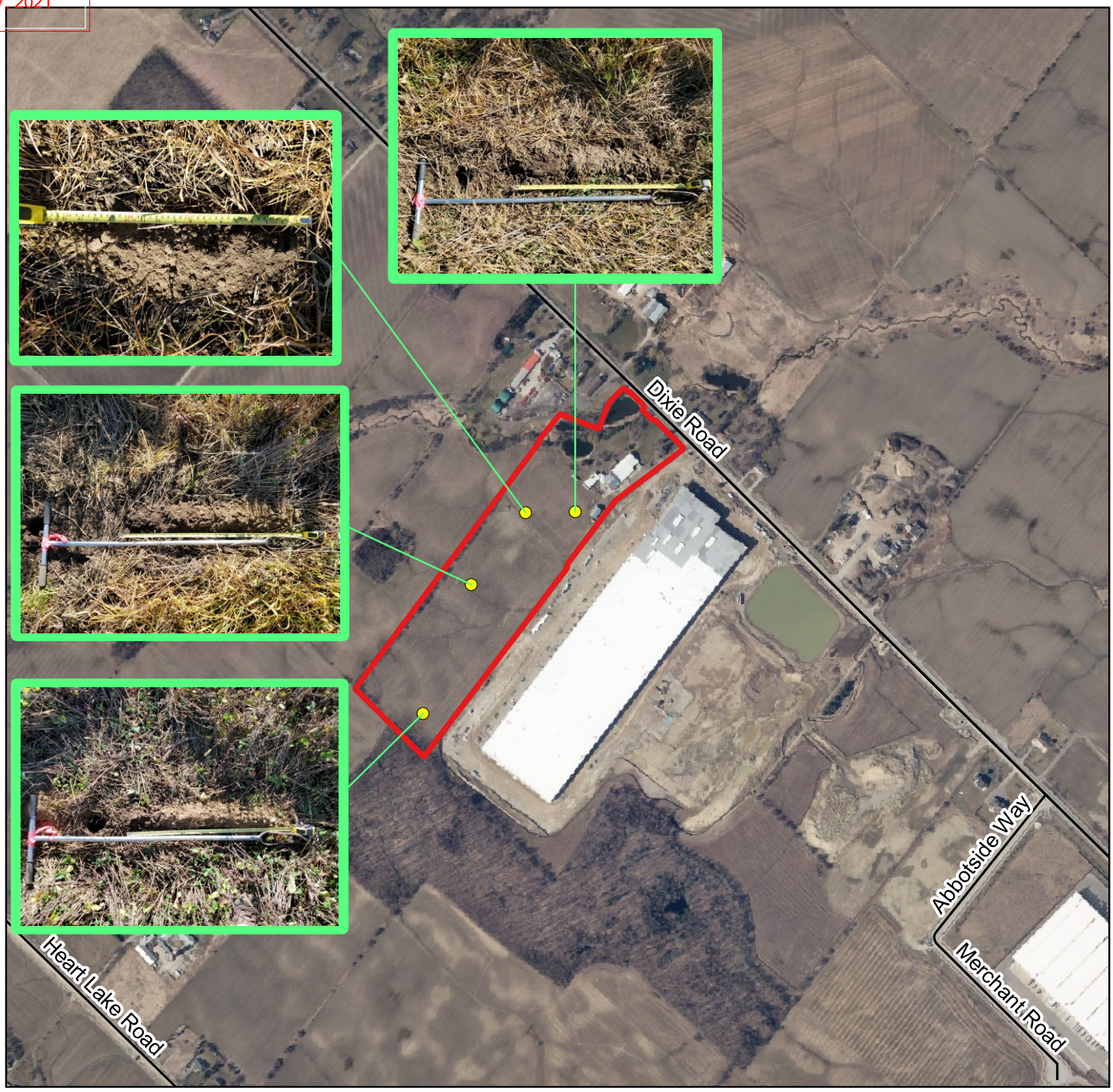


**Legend**

Subject Property

| Soil Pit Locations | Figure 5 |
|---|---|
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#### 5.4.2.1 Oneida Clay Loam Soil Series

The Soil Survey of Peel County (1953) describes the Oneida Clay Loam soil series as occurring on smooth moderately sloping topography and "is made up of soils developed on clay till derived dominantly from shale and to a lesser extent from limestone materials" (**Photograph 2**). The Soil Survey of Peel County (1953) further notes that the soil is well suited to the production of cereal grains, hay and pasture and the most common agricultural practice on this soil is dairy farming and general farming.

**Photograph 2. View of the Oneida Clay Loam Soil Profile (October 14th, 2020)**

Table 13 in the Soil Survey of Peel County (1953) shows that the Oneida Clay Loam soil series has good and good to fair adaptability for cropland and can be limited by topography.

The 4 profiles of the soils excavated on October 14th, 2020 indicated a layer of topsoil (mineral surface plough layer) consisting of sandy clay loam ranging from 15 to 17 cm in depth over clay loam to depths of 40 to 85 cm. The ability to excavate deeper soil pits was constrained by the inability to further the auger due to the compaction of the clay loam in each of the 4 profiles.

## 5.5 Canada Land Inventory

The Canada Land Inventory (CLI) is a comprehensive multi-disciplinary land inventory of rural Canada, covering over 2.5 million square kilometers of land and water. The CLI consists of a soil survey with rankings from 1 to 7, with Class 1 soil being the best agricultural land and Class 7 having no capability for agricultural activities. The CLI also provides sub-classes which specify the limitations of the soil (for example, excessive water, adverse climate, stoniness and topography).

The CLI ranking is the classification of climate and soil capability for the production of common field crops (corn, soybeans, small grains and forages). Class 1 soils have no significant limitations for agriculture, while Class 2 soils have moderate limitations that restrict the range of crops or require moderate conservation practices. Class 3 soils have moderately severe limitations that restrict the range of crops or require moderate conservation practices. Class 4 soils have severe limitations for use with crops. Class 5 soils have severe limitations that restrict capability to producing perennial forage crops, and improvement practices are feasible. The Class 5 limitations are so severe that the soils are not capable of use for sustained production of annual field crops.

The CLI Mapsheet 030M (Toronto 1968) describes the subject property as being in an area (polygon) of 100% Class 1 soils. The legend on the Mapsheet provides definitions for the subclasses (based on limitations) and describes the subject property as having no limits for agricultural use.

The subject property is described on the CLI Agricultural Capability mapping provided by OMAFRA (http://www.omafra.gov.on.ca/english/landuse/gis/portal.htm) as being in an area (polygon) of 60% Class 1 soils and the remaining 40% within an area of Class 3 soils due to topographic (T) constraint.

OMAFRA more recently, in cooperation with the MNRF, compiled a geo-spatial soils database for Southern Ontario (November 2019). The database consolidated the existing soil data mapped on a county basis. Similar to the CLI Agricultural Capability mapping noted above, the updated soil complex database contains other descriptive information including slope class, CLI ranking, stoniness, drainage class and soil texture. This updated database suggests that the subject property is primarily contained within a polygon that consists of Oneida Clay Loam, with 60% having a Class 1 CLI rating with no limitation subclass listed, and 40% having a Class 3 CLI rating with a limitation subclass listed as T. The secondary CLI within the subject property is within a polygon that consists of Bottom Land, with 100% having a Class 5 CLI rating and a limitation subclass listed I.

In Ontario, there are eleven subclasses defined as:

| Code | CLI Sub-Class Description |
|---|---|
| C | Land subject to crop heat unit regimes of < 2300 (i.e. adverse Climate) |
| D | Adverse soil structure (i.e. Depth of rooting zone is restricted) |
| E | Loss of soil profile from Erosion |
| F | Low inherent soil Fertility |
| I | Subject to occasional flooding (Inundation) from adjacent streams or water bodies |
| M | Low inherent moisture holding capacity |
| P | Presence of surface stones > 15 cm diameter |
| R | Presence of consolidated bedrock within one metre of the soil surface |
| S | Presence of a combination of the Subclasses F and M, or, the presence of a combination of the Subclasses P and R, with a third limitation (e.g. 3FMT = 3ST or 5PRE = 5SE) |
| T | Presence of adverse Topography |
| W | Subject to excessive Water saturation in the soil profile |

**Table 1** summarizes the soil capability of the subject property in the OMAFRA digital database (Soil Survey– November 2019).

**Table 1. Agricultural Capability Class in the Subject Property as Shown in the OMAFRA Digital Database (November 2019)**

| CLI Capability Rating | Agricultural Capability Class | Agricultural Capability Subclass 1 | Agricultural Capability Subclass 2 | Drainage Class | A horizon Soil Texture |
|---|---|---|---|---|---|
| Class 1 (60%) | Soils have no significant limitations in use for crops. | None | None | Well | Clay loam |
| Class 3 (40%) | Soils have moderately severe limitations in use for Crops. | Presence of adverse topography | None | Well | Clay loam |
| Class 5 | Very severe limitations preclude annual cultivation; improvements feasible. | Subject to occasional flooding (Inundation) from adjacent streams or water bodies. | None | Poorly | Variable |

Within the subject property, the soil capability ratings have been confirmed using site specific soil survey information acquired by Beacon, indicating Class 1 soils with no limitations within the subject property (**Figure 6**).

It is important to note that neither the subject property, nor the surrounding lands are identified by the Province as Specialty Crop Areas.

## 5.6 Municipal Drainage

Municipal drains have been a fixture of rural Ontario's infrastructure since the 1800s. Most municipal drains were constructed to improve the drainage of agricultural land by serving as the discharge point for private agricultural tile drainage systems. Tile drainage is both agronomically and economically beneficial for reasons including better growing conditions, improved soil structure, better trafficability, reduced energy consumption, more timely planting and harvest, and improved yields for a variety of crops. During the site inspections Beacon did not encounter any visual indication of drainage works on the subject property.

OMAFRA maintains records of artificial drainage in Ontario. The LIO online database was accessed for the most up to date records of artificial drainage within and adjacent to the subject property. There are no constructed Agricultural/Municipal drains adjacent to or located within the subject property.

Additionally, the web-based mapping service from OMAFRA (AgMaps) was consulted. Presently the subject property is shown to have random agricultural tile drainage. This drainage may be associated with the low swale running approximately northwest to southeast near the centre of the subject property.

## 5.7 Agricultural Land Use and Infrastructure

A land use reconnaissance survey was undertaken during the soil investigation on October 14, 2020.

### *5.7.1 Subject Property*

As noted previously, prior to attending the site, a review of the 2019 Peel Region aerial photography indicated that up to approximately 25% of the site was developed or contained wetlands or a watercourse. The developed portion of the subject property consists of residence, barn and associated outbuildings on the northern portion of the property.

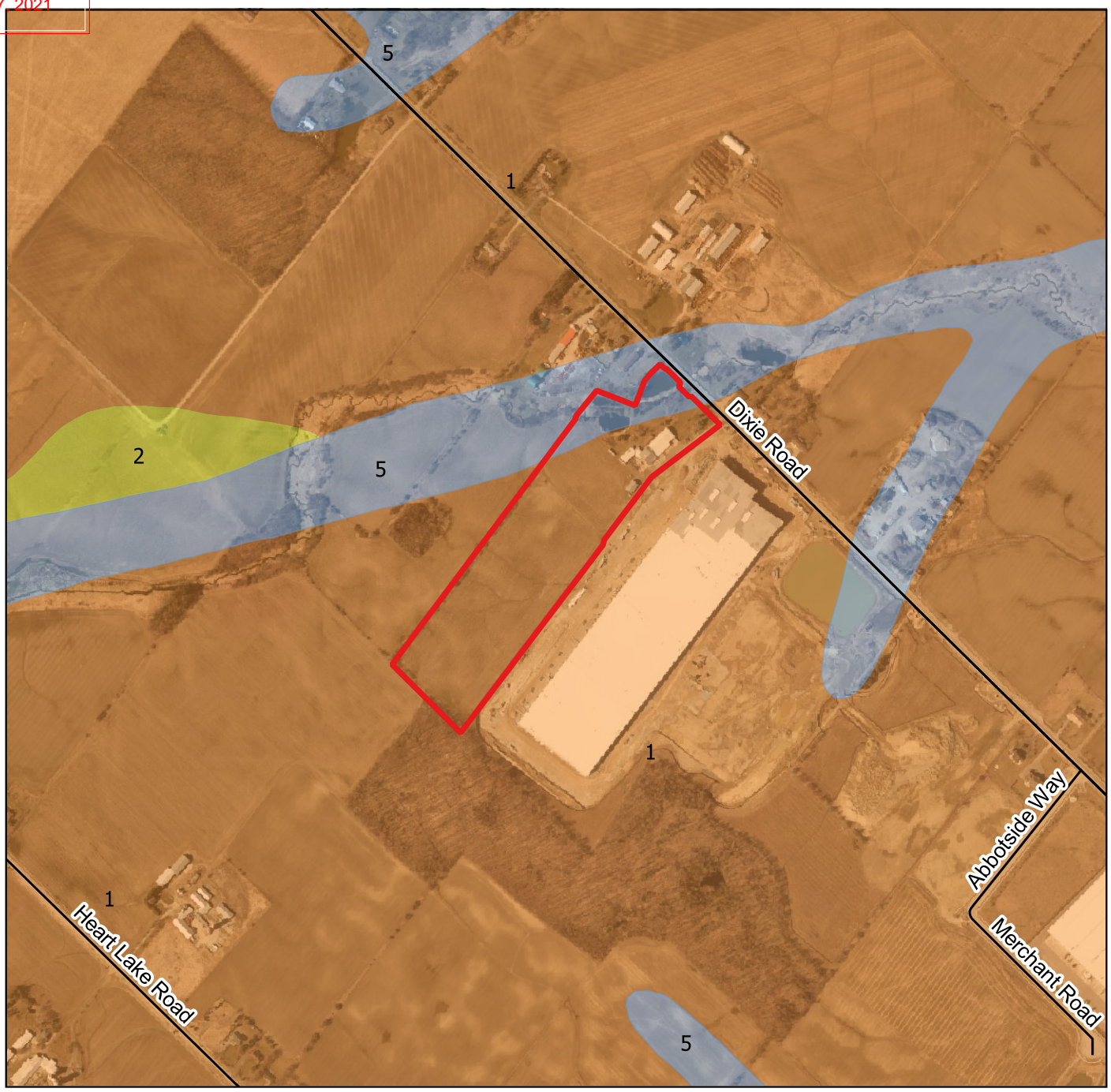
Of the 10.7 ha of the subject property, approximately 75% was under agricultural production (**Photograph 3**).

**Photograph 3. General View Looking West at the Agricultural Land (October 14th, 2020)**

There were no livestock operations within the subject property, nor was there any indication of recent upgrades or related investment into the existing agricultural infrastructure.

### *5.7.2 Surrounding Use*

There is a mix of land uses in the area surrounding the subject property, consistent with the regional land uses. The subject property lies directly adjacent to the Mayfield West Settlement boundary. Although the surrounding primary land use to the north is agricultural, uses to the south, east and west primarily include a settlement area with associated residential, industrial and commercial uses. The




## Legend

Subject Property

**CLI Soil Rating Class**

1

2

5

| CLI Soil Rating | Figure 6 |
|---|---|
| 12434 Dixie Rd AIA | |
| BEACON ENVIRONMENTAL | Project: 220196<br>Last Revised: December 2020 |
| Client: Nishan Transport Inc. | Prepared by: JN<br>Checked by: RW |
| N 1:10,000 | 0 100 200 m |



C:\Dropbox\Dropbox (Beacon)\All GIS Projects\2020\220196 12434 Dixie Road & 12451 & 12577 Airport Road EIS\Q Project Files\AIA\2020-12-08 12434 Dixie Road AIA 220196.qgz

area within the general location of the subject property also consists of some woodland and wetland areas.

The Agricultural Resources Inventory or ARI (OMAFRA 1983) provides an overview and reference of the location, quantity and quality of the historical use of agricultural land in Ontario. The ARI evaluated the mix of crops and classified their proportion more specifically, thereby identifying land use systems which are valid over a long period of time. The ARI shows agricultural resources within the area to consist of corn, continuous row crops, hay and grain systems, mixed systems, woodlands and built up areas. Within the subject property, the agricultural resource is listed as a hay system, and partially as an orchard system.

To update the ARI information, land uses outside of the subject property were surveyed by roadside interpretation on October 14, 2020. The land uses within 2 km north of the subject property include non-farm residences, numerous agricultural operations, hobby farms and retired farms. The surrounding lands to the east, west and south are residential, industrial and commercial uses, including the Mayfield United Church immediately north of the subject property, and a large distribution warehouse immediately southeast (**Figure 5**).

While there was an indication of ongoing farming operations for general crops, the general area contains a number of vacant facilities, indicating a general decline in agricultural investment.

# 6. Impact Assessment

Land use planning decisions attempt to balance the competing demands for land. Generally, the primary factor in the evaluation of agricultural lands is soil capability ratings (CLI mapping). Additional factors in land planning decisions include the existing investments in agricultural facilities, land and infrastructure and changes to agricultural land use patterns, the presence of rural non-farm residents and their integration, land fragmentation, intrusions of non-agriculture land uses, and non-resident ownership of lands.

Beacon understands that the subject property will be subject to a temporary rezoning for the purposes of a proposed temporary parking development. The proposed development consists of parking for transport trucks/trailers, accompanied by associated landscaping treatment along the property lines. Access will be maintained at the existing location at the northeastern portion of the property. The development includes the retention of all the existing buildings and structures and will continue to function as they currently exist. The temporary use would only be permitted on the subject property for 3 years unless Council grants an extension.

The LEAR study (July 2016) provided a total LEAR score for the subject property of 492, below the threshold of 535 required to be identified as a Prime Agricultural Areas. Further analysis with updated site-specific information is provided below.

The following analysis provides further assessment of agricultural resources, agricultural infrastructure, fragmentation, municipal drainage, and land use conflict.

## 6.1 Agricultural Resources

As noted in Section 5.5, neither the subject property, nor the surrounding lands are identified by the Province as Specialty Crop Areas; in this regard, the development of the subject property will not consume Prime Agricultural Land.

A detailed soil survey of the subject property was undertaken to refine/confirm the existing soil information provided in the Soil Survey of Peel County (1953). Two soil types were originally mapped within and surrounding the subject property. The primary soil series in the subject property is the Oneida Clay Loam Series. Bottom Land soils are also present in the northwest corner of the subject property associated with the watercourse.

A detailed review of the CLI mapping was completed for the subject property to assess the land for qualification as prime agricultural land (Class 1, 2 and 3 soils). Following the site-specific review of the native soils, the existing mapping was confirmed as appropriately describing the soils within the subject property, outside of the Class 5 lands associated with the watercourse, as prime agricultural land, according to the CLI classification rating.

As noted previously, the Region of Peel and Town of Caledon completed a LEAR study (July 2016) to determine the importance of an area's soil resources in terms of their use for agriculture, and provide a method for identifying important contributing factors, other than soils, including fragmentation, conflict and lands in production. The evaluation units were based on existing land parcels, identified by Assessment Roll Number.

The LEAR study (July 2016) provided each evaluation unit with a total score out of 800. The closer an evaluation unit's score is to 800, the greater the potential of being identified as Prime Agricultural land. The components were weighted as determined by the Review Committee with 50% (400) for the LE component (CLI Soil Capability Classification), and 50% (400) for the AR component (fragmentation, % of land in agriculture, proximity of agriculture uses and conflicting land uses).

The LE portion of the LEAR study (July 2016) assigned a value of 326 out of 400 for the subject property, based on the percentage of each CLI capability rating. Beacon reviewed the calculations and confirms the LE score. Based on the CLI rating, development will consume Prime Agricultural Land.

## 6.2 Agricultural Infrastructure

Agricultural investment is directly related to the improvement of land through tile drainage or irrigation equipment, and through the improvements to agricultural infrastructure (barns, manure storage, sheds). Agricultural fields and facilities that have increased capital investment are generally more worthy of preservation and are readily identifiable through visual inspection of the facilities.

Generally speaking, livestock rearing requires an investment in agricultural facilities, dairy operations require a relatively large investment in maintaining facilities for the production of milk, and poultry and hog operations require specific production facilities that involve capital investment. Conversely, beef production, hobby horse and sheep operations generally require less infrastructure, and therefore, less investment. A large investment in infrastructure can occur for certain cash crops as well, as some facilities include large storage and drying equipment.

Within the subject property there was no indication of recent upgrades or related investment into the existing agricultural infrastructure.

## 6.3 Fragmentation

The conversion of agricultural lands to residential, recreational or commercial land can have a variety of effects, including fragmentation of the landscape. It is proposed that development of the subject property will remove farmland for three years unless Council grants an extension.

Fragmentation of farmlands generally reduces the economic viability of the lands by reducing the efficiency of which lands can be farmed and increasing the operating costs for other farms, particularly if the fragmentation results in several small and separated parcels.

The LEAR study (July 2016) provided each evaluation unit with a total score out of 100 for fragmentation, based on the number of lots within 300 m of each evaluation unit. The presence of 10 or fewer lots represented a score of 100 (least amount of fragmentation), while more abutting lots (>10) within 300 m decreased the score. The LEAR study (July 2016) assigned a value of 30 out of 100 for the subject property, based on 23 lots within 300 m. This value reflects the low agricultural viability caused by a large number of land use conflicts surrounding the subject property, including the adjacent Settlement Area.

The surrounding lands to the east, west and south are residential, industrial and commercial uses, including the Mayfield United Church immediately north of the subject property, and a large distribution warehouse immediately southeast. The proposed development will not reduce the efficiencies of farmed lands in the area.

Finally, the proposed development will not sever the subject property; it will continue to be one contiguous parcel.

## 6.4 Percentage of Agricultural Lands in Production

The subject property is currently developed with a residence, barn and associated outbuildings on the northern portion of the property. The remainder of the subject property is undeveloped agricultural lands, likely historically used for the production of hay.

The LEAR study (July 2016) assessed each evaluation unit based on the percentage of land within that evaluation unit that was being used for agriculture. The subject property scored 26.54, therefore having 26.54% in agricultural production.

Beacon reviewed numerous information sources in a Geographic Information System (GIS) environment that facilitates an assessment natural heritage features and functions present in an area of interest. All relevant layers can then be overlaid on the most recent high resolution orthoimagery. The process helps identify areas that can then be targeted during field assessments to maximize the efficiency and effectiveness of on-site investigations, as well as to provide accurate interpretation of the size of particular features.

Beacon has assessed the subject property and concludes that during the time of the October 14, 2020 site visit, approximately 72% consisted of agricultural land in production. The LEAR score for unit agricultural use is therefore 72.

Additionally, the LEAR study (July 2016) assessed each evaluation unit based on the percentage of land in agricultural production within 1.0 km of that evaluation unit. The score for the subject property was 76.05. Since that time, a large distribution warehouse was built immediately southeast of the subject property, and the property to the southeast of that is also under development. According to Beacon's calculations using the most up to date aerial photography (https://maps.caledon.ca) an additional 39.7 ha of land was removed from agricultural production since the original LEAR (2016) assessment. This would drop the agricultural area use LEAR score from 76.05 in 2016 to 69.00 now.

## 6.5 Land Use Conflict

The level of compatibility between differing land uses obviously varies. As a general rule, uses that have few 'people' interfacing with agriculture enhance compatibility. Land use conflict can be described on a micro (neighbour to neighbour) level and a macro (urban form) level. Micro conflicts can include dust, odours, noise, chemicals, etc., while macro conflict can include pollutants in water sources, flooding and livestock noise. Where there is little potential for conflict, mitigative measures such as buffering (berms) should be assessed and implemented.

The LEAR study (July 2016) identified the following potential conflicting land uses and weighted them each at 33.3 % of the possible 100 points for land use conflict in the final LEAR score:

- *Sensitive land uses such as schools, places of worship and other institutional and park uses;*
- *Urban areas; and*
- *Major traffic arteries.*

The LEAR study (July 2016) considered conflicting land use within 300 m of an evaluation unit to include such uses as cemeteries, airports, commercial uses, industrial uses and schools. As noted previously, the Mayfield United Church is immediately north of the subject property and was present at the time of the LEAR study. Since that time, a large distribution warehouse was built immediately southeast of the subject property. This would drop the LEAR score from 33.33 in 2016 (2 land uses within 300 m) to 25 now (3 land uses within 300 m).

The development of the subject property as a temporary parking development does not pose an increased potential conflict for land use compatibility.

### *6.5.1 Right to Farm*

Agricultural practices may result in discomfort or inconveniences in areas adjacent to farming operations. The *Farming and Food Production Protection Act* (2002) protects farms from nuisance complaints made by neighbours, provided they are following normal farm practices. As defined in the *Act*, a normal farm practice is one that:

- Is conducted in a manner consistent with proper and acceptable customs and standards as established and followed by similar agricultural operations under similar circumstances; or

- Makes use of innovative technology in a manner consistent with proper advanced farm management practices.

The bulk of farm nuisance complaints are about odours emanating from manure handling and storage. However, examples of other nuisance complaints might include light from greenhouses at night, vibration from trucks, fans, or boilers, smoke from burning tree prunings, or other organic wastes, flies from manure, spilled feed, noise from crop drying fans, irrigation pumps, dust from field tillage equipment, or truck traffic.

Due to the location and intensity of the existing farm operations, disruption to farm practices surrounding the subject lands is unlikely.

To summarize, the updated LEAR score for the subject property is 522, up from 492 in the original LEAR (2016). This revised score relates to a decrease as a result from the new large distribution warehouse built immediately southeast of the subject property, and an increase in the unit agricultural use. The new calculations still identify the subject property as below the threshold of 535 required to be identified as a Prime Agricultural Area.

# 7. Policy Conformity

The following commentary describes how the proposed land use changes will be in conformance with the relevant federal, provincial, and municipal environmental legislation and policies, provided that development proceeds as indicated, and recommendations are followed.

## 7.1 Provincial Policy Statement (2020)

'Prime Agricultural Areas' are included in Provincial land use policy and 'Prime Agricultural Lands' describe the agricultural capability of the land and soils. Prime Agricultural Areas exist where Prime Agricultural Lands predominate and may be identified by OMAFRA using guidelines developed by the Province as amended from time to time. The PPS notes that a Prime Agricultural Area may also be identified through an alternative agricultural land evaluation system approved by the Province.

The LEAR study (July 2016) provided a total LEAR score for the subject property of 492, below the threshold of 535 required to be identified as a Prime Agricultural Areas. An updated LEAR score for the subject property is 522, up from 492 in the original LEAR (2016). This revised score relates to a decrease as a result from the new large distribution warehouse built immediately southeast of the subject property, and an increase in the unit agricultural use. The new calculations still identify the subject property as below the threshold of 535 required to be identified as a Prime Agricultural Area.

## 7.2 Regional Municipality of Peel Official Plan (Office Consolidation – 2018)

The Regional Municipality of Peel Official Plan (Peel OP) provides planning strategy enabling and managing resource-based development including agriculture. Although the Peel OP *Schedule B – Prime Agricultural Area* shows that the subject property is designated as a Prime Agricultural Area, the

LEAR study (July 2016), and updated site specific information gathered by Beacon indicate that the subject property should not be classified as a Prime Agricultural Area.

### 7.3 Town of Caledon Official Plan (2018).

The Town of Caledon Official Plan (Consolidated 2018) provides a number of land use policies related to agriculture. Although the Caledon OP *Schedule B – Mayfield West Land Use Plan* shows that the subject property is designated as a Prime Agricultural Area, the LEAR study (July 2016), and updated site specific information gathered by Beacon indicate that the subject property should not be classified as a Prime Agricultural Area.

## 8. Conclusions and Recommendations

Beacon was retained to provide an AIA to document the existing agricultural capability of the subject property and to provide an opinion of the agricultural capability.

Within the subject property there was no indication of recent upgrades or related investment into the existing agricultural infrastructure. No recent or significant agricultural investments or infrastructure would be impacted by development of the subject property.

None of the subject property is designated by the Province as an area for specialty crops; the requirement for both prime agricultural soils and climate do not exist within or adjacent to the subject property.

Within the subject property, the soil capability ratings have been confirmed using site specific soil survey information acquired by Beacon, indicating Class 1 soils with no limitations.

OMAFRA uses a number of priorities when considering more than one location with similar soil capabilities and include current land use (which includes retired farm operations), investment in infrastructure, cultivated land percentage, fragmentation and proximity to local settlement areas. The subject property can be considered a lower priority agricultural area based on:

- The current land use;
- A portion of the subject property is not in cultivation; and
- The minimal amount of capital investments in agricultural infrastructure in comparison to other lands in the surrounding area.

Additionally, the LEAR study (July 2016) identified and recommended Prime Agricultural Areas within the Region and more specifically with in the Town of Caledon. The Review Committee provided a recommended threshold of 535, derived from the LE/AR ratio of 50/50, as an appropriate basis for determining Prime Agricultural Area in the Town of Caledon. Any scores at or above the LEAR Threshold of 535 were recommended to be identified as Prime Agricultural Areas.

The LEAR study (July 2016) provided a total LEAR score for the subject property of 492, below the threshold of 535 required to be identified as a Prime Agricultural Areas. An updated LEAR score (522)

still identifies the subject property as below the threshold of 535 required to be identified as a Prime Agricultural Area.

The existing soil on site is the Oneida Clay Loam soil series. The 4 profiles of the excavated soils indicated a layer of topsoil (mineral surface plough layer) consisting of sandy clay loam ranging from 15 to 17 cm in depth over clay loam. In order to accommodate the proposed temporary parking development, Beacon recommends the following:

- A soil handling and stripping protocol should be established;
- Depending on the status of the crop at the time of topsoil removal, the land may need to be mowed and the vegetation removed prior to stripping and incorporating the top organic layer in with the topsoil;
- The depth of soil being removed should be monitored at the time of stripping to ensure that the mixing of layers is avoided; and
- The topsoil (approximately the top 15 cm) should be removed and stockpiled for replacement once the proposed Temporary Zoning By-law lapses.

As noted previously, the subject property is to revert back to its original agricultural designation once the proposed Temporary Zoning By-law lapses. In order to revert back, aggregates used for the base of a parking area must be removed, decompaction of the soils undertaken, topsoil replaced and amended if required. Beacon recommends the following:

- An agricultural rehabilitation plan be created and approved prior to the end of the third year of temporary use of the subject property;
- The intent of the agricultural rehabilitation plan should be to restore the present agricultural field to a similar crop presently farmed;
- Any aggregate imported for use as surfacing for the temporary parking development should be removed from the site;
- The site should then be scarified to a depth of 20 cm, loosening up and incorporating granular material (if required) to allow for drainage and root growth (scarify perpendicular to sheet drainage);
- Replace topsoil and improve soils with either agricultural manure or bio solids;
- Either plant an appropriate crop or seed with a seed mix immediately after replacing the topsoil;
- Following establishment of vegetation, soil fertility sampling should be completed, consistent with OMAFRA's soil fertility sampling guidelines;
- A grass/legume crop is recommended initially and should be maintained for 3 years to promote organic matter increase. The crop should be monitored twice per year for 3 years for success and for weed control. The crop should be plowed under each year to further promote the incorporation of organic matter; and
- Annual reporting should document the above recommendations and yearly conditions.

It is Beacon's opinion that the development as proposed, subject to the above recommendations, and approvals and permits as may be required as part of the development, can proceed in a manner that is consistent with policies and regulations of the 2020 PPS, the Regional Municipality of Peel Official Plan (Office Consolidation – 2018), and the Town of Caledon Official Plan (2018).

Prepared by:
**Beacon Environmental**

Jamie Nairn, M.Sc., P.Ag.
Senior Ecologist, Northern Lead

Reviewed by:
**Beacon Environmental**

Rob Willson, B.Sc., M.Sc.
Senior Ecologist, GIS Specialist

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