AGRICULTURAL IMPACT ASSESSMENT
FOR
ELFRIDA COMMUNITY AREA

PREPARED FOR:

ELFRIDA COMMUNITY BUILDERS GROUP INC.

200-7501 KEELE STREET
VAUGHAN, ONTARIO L4K 1Y2

PREPARED BY:

COLVILLE CONSULTING INC.

432 NIAGARA STREET, UNIT 2
ST. CATHARINES, ONTARIO L2M 4W3

C23089
NOVEMBER 2024

COLVILLE CONSULTING INC.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1. INTRODUCTION

1.1 Background

The Elfrida Community Builders Group is submitting an application for an Official Plan Amendment (OPA) to the Rural Hamilton Official Plan and the Urban Hamilton Official Plan for urban boundary expansion of the Elfrida lands, herein referred to as the Subject Lands. The Subject Lands are generally located south of Mud Street East, north of Golf Club Road, east of Trinity Church Road, and west of 2nd Road East.

1.1.1 Description of the Subject Lands

The Subject Lands are comprised of several irregularly shaped parcels, totalling approximately 1,209 ha (2,987 acres) of land. The Elfrida Community Builders Group controls the majority of lands within the Subject Lands. The Subject Lands are primarily designated Agriculture in the Rural Hamilton Official Plan, with smaller portions designated Rural and Open Space. The Subject Lands also form part of the Agricultural Land Base and are provincially recognized as being part of a *prime agricultural area*.

1.1.2 Planning Landscape

The City of Hamilton Council approved a Municipal Comprehensive Review (MCR) (OPA 167) for the municipality, alongside an updated long term growth strategy in June 2022. OPA 167 implemented a growth strategy in the City's Official Plan with no expansions to the City's existing urban boundary. This decision was forwarded to the Province for approval.

In November 2022, the Province issued a decision on OPA 167, which made multiple changes to the City's Official Plan. Modifications included changes to the City's urban boundary, which expanded the Urban Boundary to include additional lands, which were identified by the Province as "Urban Expansion Areas." Six areas of land totaling approximately 2,200 hectares were added to the City of Hamilton's urban area through the Provincial decision, which included the Subject Lands.

On December 6, 2023, Bill 150 received royal assent, which, reversed Provincial modifications made to Official Plans and Official Plan Amendments that were approved by various municipalities between 2022 and 2023. This includes the Provincial changes made to the Urban Hamilton Official Plan Amendment 167 and Rural Hamilton Official Plan Amendment 34, which aimed, among other things, to expand Hamilton's urban boundary.

This resulted in all but three provincial modifications made to the City of Hamilton's Official Plan Amendments to be considered to have never occurred. This action effectively restored the 'no urban expansion' strategy approved by the City Council in June 2022.

In 2022, the Province initiated a review on approaches for leveraging the housing supportive policies of the *Provincial Policy Statement* and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan), removing barriers and continuing to protect the environment through a streamlined province-wide land use planning policy framework. The feedback from this review contributed to the development of the *Provincial Planning Statement.* The *Provincial Planning Statement (PPS 2024)* was issued under Section 3 of

the Planning Act and came into effect on October 20, 2024. The *PPS 2024* replaces the policies of the *Provincial Policy Statement* and the Growth Plan.

Among other changes, the *PPS 2024* modified the *settlement area* boundary expansion (SABE) policies of the *Provincial Policy Statement* and the Growth Plan by permitting SABE outside of a municipal comprehensive review (MCR). Through this new planning framework, the Elfrida Community Builders Group are pursing a SABE application for the Subject Lands.

1.2 Description of Proposed Development

The Subject Lands are currently primarily in agricultural production of common field crops and contain a variety of *agricultural* and *non-agricultural land uses*. The Subject Lands immediately abut the existing *settlement area* boundary of the City of Hamilton, which has impacted the rural character of the lands through the increased presence of *non-agricultural land uses*.

The Elfrida Community Builders Group is seeking to have the Subject Lands included within the urban boundary of the City of Hamilton through SABE. A Concept Plan has been developed, which indicates the development of the Subject Lands for residential uses, the planned Elfrida Gateway Station, and a series of roads. More detailed land uses will be developed during the Secondary Plan process.

1.3 Retainer & Professional Qualifications

Colville Consulting Inc. was established in 2003 and provides agricultural and environmental consulting services to both private and public sector clients throughout Ontario. Colville Consulting Inc. has extensive experience preparing Agricultural Impact Assessments for proposed *developments* related to *settlement area* boundary expansion applications in the City of Hamilton and across the province of Ontario.

The Elfrida Community Builders Group originally retained Colville Consulting Inc. to complete an Agricultural Impact Assessment (AIA) on October 16, 2023. The study was paused following royal assent of Bill 150, which removed the provincial modifications that included the Subject Lands within the Urban Area of the City of Hamilton. Colville Consulting Inc. was retained again by the Elfrida Community Builders Group in April 2024, to complete an AIA for the proposed OPA.

This study was led by Sean Colville, who has over 30 years of experience preparing Agricultural Impact Assessments in Ontario and assisted with the preparation of the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) draft Agricultural Impact Assessment Guidance Document (2018). John Liotta was the Project Manager responsible for completing the field investigations and preparation of the AIA. John has over 5 years of formal education in Environmental and Agricultural Planning and has assisted in preparing a number of AIAs with Colville Consulting Inc. The CVs of Sean Colville and John Liotta can be found in Appendix A.

1.4 Purpose of Study

As stated above, the Subject Lands are located within a *prime agricultural area*. The *PPS 2024* only permits the removal of lands from a *prime agricultural area* for expansion of or identification of *settlement areas* in accordance with policy 2.3.2. Policy 2.3.2 requires the evaluation of potential impacts on the *Agricultural System* associated with SABE through the completion of an agricultural impact assessment.

This AIA has been prepared in accordance with OMAFRA's Draft Agricultural Impact Assessment (AIA) Guidance Document (2018). The AIA assesses and evaluates the potential impacts of SABE on agricultural operations, the farming community, and the broader *Agricultural System*. In cases where impacts cannot be avoided, the AIA recommends ways to minimize and mitigate adverse impacts. The AIA will also assess whether the proposed SABE complies with provincial and municipal agricultural policies.

1.5 Study Area

To be consistent with the draft Agricultural Impact Assessment Guidance Document (2018), the AIA must identify a P*rimary Study Area* and a S*econdary Study Area*. For this AIA, the *Primary Study Area (PSA)* includes the Subject Lands, while all lands within 1.5 km (1,500 m) of the *PSA* boundaries comprise the *Secondary Study Area (SSA)*. Figure 1 shows the *Study Area*, which includes the Primary and Secondary *Study Areas*.

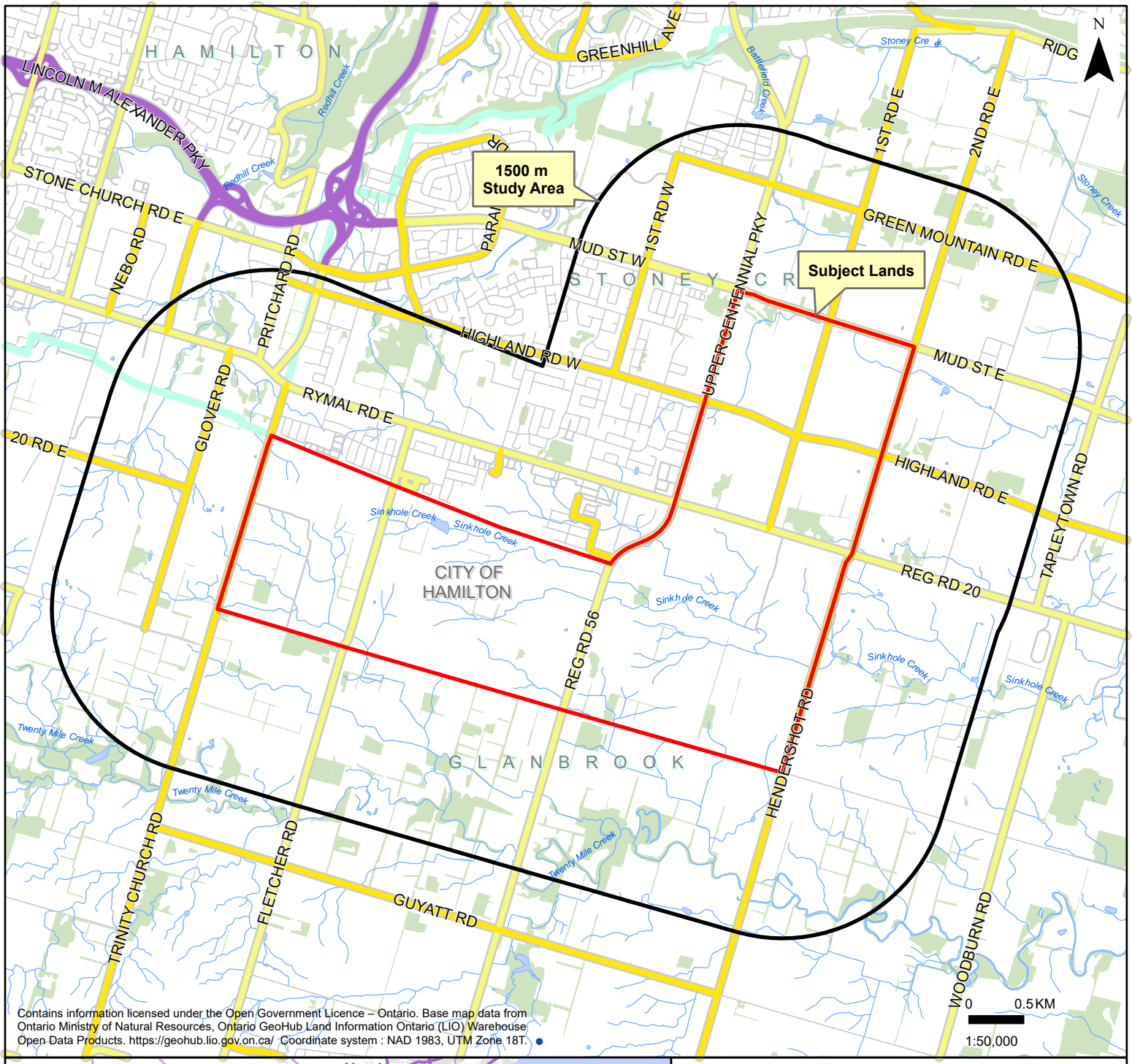
1.5.1 Primary Study Area

The PSA (i.e., Subject Lands) is generally located south of Mud Street East, north of Golf Club Road, east of Trinity Church Road, and west of 2nd Road East.in the City of Hamilton. The *PSA* is made up of multiple irregularly shaped parcels and, combined, are approximately 1,209 ha (2,987 acres) in size. The *PSA* is primarily in agricultural production and contains a variety of *agricultural* and *non-agricultural land uses*.

1.5.2 Secondary Study Area

The *Secondary Study Area*, herein referred to as the *Study Area*, includes all lands within 1.5 km (1,500 m) of the *PSA* boundaries. The *Study Area* is generally bounded to the east by Tapleytown Road, to the south by Guyatt Road, to the west by Nebo Road, and to the north by Green Mountain Road. The *Study Area*, excluding lands within the City of Hamilton *settlement area*, are primarily in agricultural production and contain large natural heritage areas.

The *Study Area* is primarily designated Agriculture in the Rural Hamilton Official Plan, with smaller portions designated Rural, Open Space, Specialty Crop, and Rural Settlement Area (Tapleytown). The northern portion of the *Study Area* is located within the Greenbelt Plan Area and is designated Protected Countryside. The provincial Agricultural Land Base mapping identifies the Greenbelt Plan area of the *Study Area* as *specialty crop area*, while the remaining lands are part of a *prime agricultural area*.



Contains information licensed under the Open Government Licence – Ontario. Base map data from Ontario Ministry of Natural Resources, Ontario GeoHub Land Information Ontario (LIO) Warehouse Open Data Products. https://geohub.lio.gov.on.ca/ Coordinate system : NAD 1983, UTM Zone 18T.

Figure 1
Location of Subject Lands

Agricultural Impact Assessment
Elfrida Lands, City of Hamilton

Prepared for: Elfrida Community Builders

Prepared by: COLVILLE CONSULTING INC.

DATE: Nov 2024

FILE: C23089

2. SCOPE OF STUDY

The scope of the AIA will follow the methodology recommended in the Draft Agricultural Impact Assessment Guidance Document (2018). It includes:

- a review of applicable agricultural policies, land use information, and other background information for lands within the surrounding area (e.g., aerial photography);
- a review of data sources such as AgMaps, the Agricultural Systems Portal, and OMAFRA's digital soil resource database (for soil and CLI information, parcel fabric and land fragmentation, artificial drainage, agri-food components, etc.);
- a land use survey of all lands within one and a half kilometres (1.5 km) of the Subject Lands and a characterization of the area;
- an assessment of the *Minimum Distance Separation (MDS)* requirements for SABE using the 2017 *MDS I formula*;
- an assessment of the level of fragmentation of agricultural lands in the *Study Area*;
- an assessment of alternative locations for SABE;
- an assessment of the potential impacts of SABE on the *Agricultural System*, agricultural resources, farm operations, and the broader *agri-food network*;
- the identification of net impacts, mitigation measures and recommendations that can be implemented to avoid or minimize potential impacts;
- an assessment of the proposed SABE's consistency with agricultural policies in the *Provincial Planning Statement* and the Rural Hamilton Official Plan; and
- the preparation of a report summarizing our findings.

3. METHODOLOGY

The study methodology for the AIA was prepared in accordance with the OMAFRA draft Agricultural Impact Assessment Guidance Document (2018). It includes a review of relevant provincial and municipal agricultural policies, other agricultural-related sources of information, and the completion of field inventories. Upon compilation and assessment of the data, the potential impacts of SABE will be considered and recommendations to avoid and/or minimize potential impacts will be made. The AIA also assesses the proposed SABE's consistency with provincial and municipal agricultural policies.

3.1 Background Data Collection

Information sources reviewed for this study included:

- *Provincial Planning Statement* (2024);
- Rural Hamilton Official Plan and Land Use Schedules (2021);
- Soils of Wentworth County – Report No. 32 of the Ontario Soil Survey (1962);
- British Columbia Ministry of Agriculture's Guide to Edge Planning: Promoting Compatibility Along Agricultural-Urban Edges (2015);
- MHBC's Edge Planning Report – The Region of Peel & The Town of Caledon LEAR Study and MDS Review (2015);
- OMAFRA's digital Soil Resource Database to obtain soil series and CLI agricultural capability mapping and data;
- OMAFRA's The Minimum Distance Separation (MDS) Document: Formulae and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks. Publication 853 (2016);
- OMAFRA's Artificial Drainage Systems mapping;
- OMAFRA's AgriSuite, AgMaps and Agri-Systems databases;
- OMAFRA's Draft Agricultural Impact Assessment (AIA) Guidance Document (2018); and
- Ortho-rectified, digital aerial photography viewed using Google Earth™.

Aerial photography covering the *Study Area* and the parcel fabric were examined to assess the presence of *non-agricultural land uses*, *agricultural uses*, *agriculture-related uses*, *on-farm diversified uses*, and the level of fragmentation based on the lot fabric. This review will provide a general impression of the agricultural activity and level of agricultural investments in the area surrounding the Subject Lands.

3.2 Field Inventories

Field inventories were completed on December 14, 2023. Field inventories included a reconnaissance level land use survey of the surrounding area to identify agricultural operations, relative level of investment in agriculture, the cropping pattern observed, and the mix of land uses within the Subject Lands and *Study Area*. Information required to calculate the *MDS I* setback requirements was also collected during the land use survey.

3.2.1 Land Use Survey

The land use survey identified the number and type of agricultural operations (both active and *retired*), *agriculture-related uses*, *on-farm diversified uses*, and the extent and type of *non-agricultural land uses* in the area. Field crops observed were identified and mapped. Visual evidence of agricultural land improvements was recorded where identified.

3.2.2 MDS Calculations

The *MDS* is a land use planning tool developed by OMAFRA to minimize land use conflicts and nuisance complaints arising from odours generated by *livestock operations*. The *MDS* calculates a recommended separation distance between a *livestock* or *manure storage* and other land use(s). The most recent version of the MDS Guidelines, *The Minimum Distance Separation (MDS) Document, Publication 853* (2016), came into effect on March 1st, 2017. The *MDS formulae* only apply to lands designated *prime agricultural area* or rural. The *MDS* does not apply to lands in *non-agricultural land use* designations.

The *MDS* uses two separate formulae depending on the type of land use proposed: *MDS I* and *MDS II*. The *MDS I formula* is used when a new *non-agricultural development* is proposed in proximity to *livestock facilities*. The *MDS II formula* is used when a new, enlarged, or remodeled *livestock facility* or *manure storage* system is proposed in proximity to existing or approved *development*.

The *MDS I formula* is required for SABE. The information required to complete an *MDS I* calculation was obtained through a combination of sources. As per the MDS Guidelines, we attempted to gather information directly from the landowner/tenant. Where landowners could not be contacted or were not available, self-addressed envelopes were left in mailboxes of potential *livestock operations*.

To calculate the *MDS* setback requirements, we used OMAFRA's Agricultural Planning Tools Suite (AgriSuite). It provides the most up to date software developed by OMAFRA to calculate the *MDS I* requirements for active *livestock facilities* and *empty livestock facilities* that are structurally sound and capable of housing *livestock*. To determine the *MDS I* setback requirements, specific information regarding each *livestock facility* is required. This includes:

- the type of *livestock* housed in the facility;
- the maximum capacity of the barn housing *livestock*;
- the type of *manure storage* system; and
- the size of the property upon which the *livestock facility* is located.

This information was collected for all *livestock facilities* (active and *retired*). In cases where we were not able to collect information directly from the landowner, we used visual observations of the *livestock facility* and determined the most likely type of *livestock* housed and the type of *manure storage* system used. These observations were supplemented with aerial photography and web mapping tools such as AgMaps and Google Earth™. Barn capacity and lot size were determined using these online mapping tools.

3.3 Evaluation of the Agricultural System

An *Agricultural System* includes a continuous and productive land base comprised of *prime agricultural areas*, including *specialty crop areas*, and *rural lands*, as well as a complementary *agri-food network* that together enable the agri-food sector to thrive. An evaluation of the *Agricultural System* and associated features within

the *Study Area* was completed through a reconnaissance level land use survey on December 14, 2023, and online review to assist in identifying agricultural related features.

Potential features identified include regional infrastructure and transportation networks, on-farm buildings and infrastructure, agricultural services, as well as small towns and hamlets that are supportive of agriculture and are important to the viability of the agri-food sector. The evaluation of the *Agricultural System* within the *Study Area* is used to identify the features and provide insight into the significance of those features on the overall *Agricultural System* within the area.

3.4 Evaluation of Alternative Locations

The *PPS 2024* direct *settlement area* boundary expansion to avoid *prime agricultural areas*, where possible. Where *prime agricultural areas* cannot be avoided, policy directs *development* to lower priority agricultural lands. The AIA must demonstrate that there are no reasonable alternative locations which avoid *prime agricultural areas* and there are no reasonable alternative locations in *prime agricultural areas* with lower priority agricultural lands. Therefore, an assessment of alternative locations has been completed as part of this AIA.

3.5 Evaluation of Agricultural Priority

The *PPS 2024* directs SABE to "lower priority agricultural lands" when *prime agricultural areas* cannot be avoided. Although, the *PPS 2024* and other provincial planning documents do not specifically define "lower priority agricultural lands", there are a number of considerations used by OMAFRA to determine the 'agricultural priority' of an area. These considerations include criteria such as the current land use, amount of capital investment in agricultural infrastructure, amount of land under active cultivation, existing degree of lot fragmentation to the surrounding agricultural land base, and proximity to incompatible (e.g., urban) land uses. The AIA considers these criteria to assess the agricultural priority of the Subject Lands.

3.6 Identification of Potential Impacts and Mitigation Measures

Potential impacts of SABE were identified following an assessment of the agricultural resources on and adjacent to the Subject Lands. Direct impacts evaluated include an assessment of elements such as the loss of *prime agricultural land*, agricultural infrastructure, land improvements, and cropland. Indirect impacts that may result from SABE were also evaluated and included an assessment of elements such as the impacts related to surficial drainage, disruption to farm operations, non-farm traffic, *MDS* conflicts, hydrogeological features, trespass, and vandalism. Mitigation measures that avoid or minimize potential impacts on the *Agricultural System* are then developed.

3.7 Assessment of Consistency with Agricultural Policies

All planning decisions must be consistent with the *PPS 2024* and comply with applicable provincial land use plans. Municipalities also have their own agricultural policies that SABE must adhere to. A background review of all applicable provincial and municipal agricultural policies was undertaken. Policies applicable to SABE were identified and assessed for consistency as part of this AIA.

4. AGRICULTURAL POLICIES

4.1 Provincial Planning Statement

In 2022, the Province initiated a review on approaches for leveraging the housing supportive policies of the *Provincial Policy Statement* and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan), removing barriers and continuing to protect the environment through a streamlined province-wide land use planning policy framework. The feedback from this review contributed to the development of the *Provincial Planning Statement.* The *Provincial Planning Statement (PPS 2024)* was issued under Section 3 of the Planning Act and came into effect on October 20, 2024. The *PPS 2024* replaces the policies of the *Provincial Policy Statement* and the Growth Plan.

4.1.1 Prime Agricultural Areas

Section 4.3 of the *PPS 2024* specifically deals with agricultural policy. Section 4.3.1.2 states that "As part of the agricultural land base, prime agricultural areas, including specialty crop areas, shall be designated and protected for long-term use for agriculture". The *PPS 2024* defines *prime agricultural areas* as areas where *prime agricultural lands* predominate. *Prime agricultural lands* include *specialty crop areas* and Canada Land Inventory (CLI) Classes 1, 2 and 3 soils, in this order of priority for protection. Section 4.3.2.3 states that "New land uses in prime agricultural areas, including the creation of lots and new or expanding livestock facilities, shall comply with the minimum distance separation formulae."

4.1.2 Policies for Removal of Land from Prime Agricultural Areas

Policy 4.3.4.1 of the *PPS 2024* states that "Planning authorities may only exclude land from prime agricultural areas for expansion of or identification of settlement areas in accordance with policy 2.3.2."

Policy 2.3.2.1 states that "In identifying a new settlement area or allowing a settlement area boundary expansion, planning authorities shall consider the following:

a) the need to designate and plan for additional land to accommodate an appropriate range and mix of land uses;

b) if there is sufficient capacity in existing or planned infrastructure and public service facilities;

c) whether the applicable lands comprise specialty crop areas;

d) the evaluation of alternative locations which avoid prime agricultural areas and, where avoidance is not possible, consider reasonable alternatives on lower priority agricultural lands in prime agricultural areas;

e) whether the new or expanded settlement area complies with the minimum distance separation formulae;

f) whether impacts on the agricultural system are avoided, or where avoidance is not possible, minimized and mitigated to the extent feasible as determined through an agricultural impact assessment or equivalent analysis, based on provincial guidance; and

g) the new or expanded settlement area provides for the phased progression of urban development."

This AIA will assess the proposed SABE's consistency with the above-mentioned *PPS 2024* policies.

4.2 Rural Hamilton Official Plan

Schedule D of the Rural Hamilton Official Plan shows that the Subject Lands are primarily designated Agriculture, with smaller portions designated Rural and Open Space. As per Sections D.2.2.1 and D.4.2.1, lands designated Agriculture and Rual, respectively, shall not be redesignated for non-*agricultural uses.*

4.2.1 Agriculture

The Agriculture designation represents the City of Hamilton's *prime agricultural areas*. Section D.2.1 of the RHOP outlines the permitted uses in lands designated Agriculture which includes "agricultural uses, agricultural-related commercial and agricultural-related industrial uses and on-farm secondary uses". A wide array of uses are permitted and as outlined in Sections D.2.1 – D.3.3. These uses are consistent with the RHOP's intent of maintaining the rural character of area and ensuring the long-term viability of agricultural operations.

4.2.2 Rural

Portions of the Subject Lands are designated Rural in the Rural Hamilton Official Plan. Lands in this designation typically consist of predominantly lower capability agricultural lands, which may include small areas of *prime agricultural lands*. The uses permitted within the Rural land use designation are outlined in section D.4.1 and include uses permitted in the Agriculture designation of the RHOP, as well as other resource-based rural uses and institutional uses serving the rural community.

4.2.3 Open Space

A small portion of land in the northwestern portion of the Subject Lands is designated Open Space. Section C.3.3.1 states "Lands designated as Open Space on Schedule D – Rural Land Use Designations are public or private areas where the predominant use of or function of the land is for recreational activities, conservation management and other open space uses". During the preparation of Secondary Plans and Rural Settlement Area Plans, Open Space designations are further refined as per Section C.3.3.2.

This AIA will assess the proposed SABE for consistency with the applicable Agriculture, Rural, and Open Space policies of the Rural Hamilton Official Plan.

5. STUDY FINDINGS

5.1 Physiography

The Subject Lands are located in the northwestern portion of the Haldimand Clay Plain physiographic region (Chapman and Putnam, 1984). This physiographic region lies between the Niagara Escarpment and Lake Erie, and extends from Fort Erie to the east, to Hamilton, Brant and Port Dover to the west. It occupies an area of approximately 3,495 square kilometers. During the last glacial retreat, 12,000 years ago, a pro-glacial lake, Lake Warren, further modified the area's physiography. This once persistent lake deposited layers of silt and clay to form a glaciolacustrine plain. The underlying rocks consist of a succession of Paleozoic beds dipping slightly southward under Lake Erie.

The vertical cliffs along the brow of the Niagara Escarpment are formed of dolostone of the Lockport Formation. Overlying these hard dolostones to the southwest is a series of softer bedrock, which includes shale members. Small areas of bare rock appear along the crest of the Niagara Escarpment; otherwise, the change in bedrock makes little difference in the clay plain.

The northern portion of the Haldimand Clay Plain has greater relief than the nearly level lake plains in the south. Closer to the Subject Lands, drainage is controlled by the ridges, draining eastward in several parallel streams. The soils of the Haldimand Clay Plain are typically heavy textured and have poor drainage. With drainage improvements these soils are generally more productive.

5.2 Climate

Climate data is available through Environment Canada's National Climate Data and Information Archive's online database. Climate Normals and Extremes for the Hamilton A Station (1981-2010) were obtained from the online database (Appendix B).

Environment Canada's Hamilton A Station is located approximately 13.4 km from the Subject Lands. Records show that this area receives an average of 929.8 mm of precipitation annually; 791.7 mm of rainfall and 156.5 cm of snowfall. The daily average temperature in this area ranges from a high of 20.9°C to a low of -5.5°C.

The Ministry of Agriculture and Food Factsheets provide data on crop production and growing seasons across Ontario. The rate of development of crops from planting to maturity is mainly dependent upon temperature. The Hamilton area begins to experience average temperatures greater than 10°C starting April 29th before reaching temperatures greater than 12.8°C for 3 consecutive days around May 15th. During this time and up until the season's average ending date, October 8th, the area accumulates an average of 3210 crop heat units (CHU).

On average, the last spring frost in the Hamilton area occurs on April 29th, with the first fall frost expected on October 14th. This provides the surrounding area with a growing period of approximately 167 days. The climate in the Hamilton area provides a good overall growing period that can support a wide range of crops.

5.3 Agricultural Crop Statistics

Agricultural crop statistics are available from OMAFRA and Statistics Canada's Agriculture and Food Statistics Census of Agriculture. The Subject Lands are located within the Census South Ontario Region, Hamilton Division. Agricultural crop statistics were obtained from the online database and are included in Appendix C. This data provides a general overview of agriculture and agri-food operations in the area but is unlikely to be inclusive of all operations present at the time of this report.

The Agricultural Profile for Hamilton includes data from 2011, 2016, and 2021 census periods. The total number of farms in the City of Hamilton decreased from 810 in 2016 to 679 in 2021. Total cropland also decreased from 104,136 acres in 2016 to 100,089 acres in 2021.

Field crops grown in the City of Hamilton include winter wheat, oats for grain, barley for grain, mixed grains, corn for grain and silage, hay, soybeans, and potatoes. Field crop production between 2016-2021 increased for barley for grain, whereas winter wheat, oats for grain, mixed grains, corn for grain and silage, soybeans, hay, and potatoes production all decreased.

Fruit crops grown in Hamilton include apples, sour cherries, peaches, grapes, strawberries, and raspberries. Fruit crop acreage for 2016 was not provided in the census data, but total fruit major fruit crop production in 2021 was 609 acres. Vegetable crops grown in Hamilton include sweet corn, tomatoes, green peas, and green or wax beans. Vegetable crop acreage for 2016 was not provided in the census data, but total fruit major fruit crop production in 2021 was 2,229 acres. The census identified a general overall decline in the total acreage of fruit and vegetable production in the City of Hamilton between 2016 and 2021.

5.4 Specialty Crop Areas

The *PPS 2024* defines a *specialty crop area* as: "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."

There are two *specialty crop areas* recognized by the Province through the Greenbelt Plan: the Niagara Peninsula Tender Fruit and Grape Area and the Holland Marsh. The Subject Land are not located within either of these *specialty crop areas*, and no specialty crops were observed to have been grown within the Subject Lands. However, the northern portion of the *Study Area* is located within the Niagara Peninsula Tender Fruit and Grape Area, but only small areas of specialty crops were observed within the *Study Area* during the land use survey.

5.5 Regional Soils

5.5.1 Soil Series

The *Soils of Wentworth County – Report No. 32 of the Ontario Soil Survey* (Presant, E.W., Wicklund, R.E., and Matthews, B.C., 1965) includes a soil map that shows the distribution of the various soil series in the Wentworth County (now part of the Regional Municipality of Hamilton). The digital Provincial Soil Resource database is compiled and administered by OMAFRA and includes most of the soil surveys completed in Ontario. Much of this information is accessible from the Province's Agricultural Information Atlas. The database was accessed in May 2024.

The *Soils of Wentworth County* mapping shows that the soils within the Subject Lands are comprised primarily of Beverly Silt Loam soils (36.86%), Binbrook Silt Loam soils (22.00%), and Smithville Silt Loam soils (19.63%), with small portions mapped as Haldimand Silty Clay Loam soils (7.48%), Lincoln Silty Clay Loam soils (6.68%), Alberton Silty Clay Loam soils (4.47%), Toledo Silty Clay Loam soils (2.22%), and Urban lands (0.66%). Regional scale soil mapping is shown in Figure 2.

Beverly Series

Beverly soils are the imperfectly drained member of the Brantford series. These soils have developed on level to very gently sloping areas of lacustrine silty clay loam and silty clay. Mottling is found in Beverly soils, which is due to the presence of a slight hardpan that frequently occurs between the A and B horizons.

Beverly soils are good agricultural soils which support the cultivation of a wide range of crops. The main limitation to crop production in these soils is the presence of excess soil moisture, which can be mitigated through the installation of artificial drainage.

Toledo Series

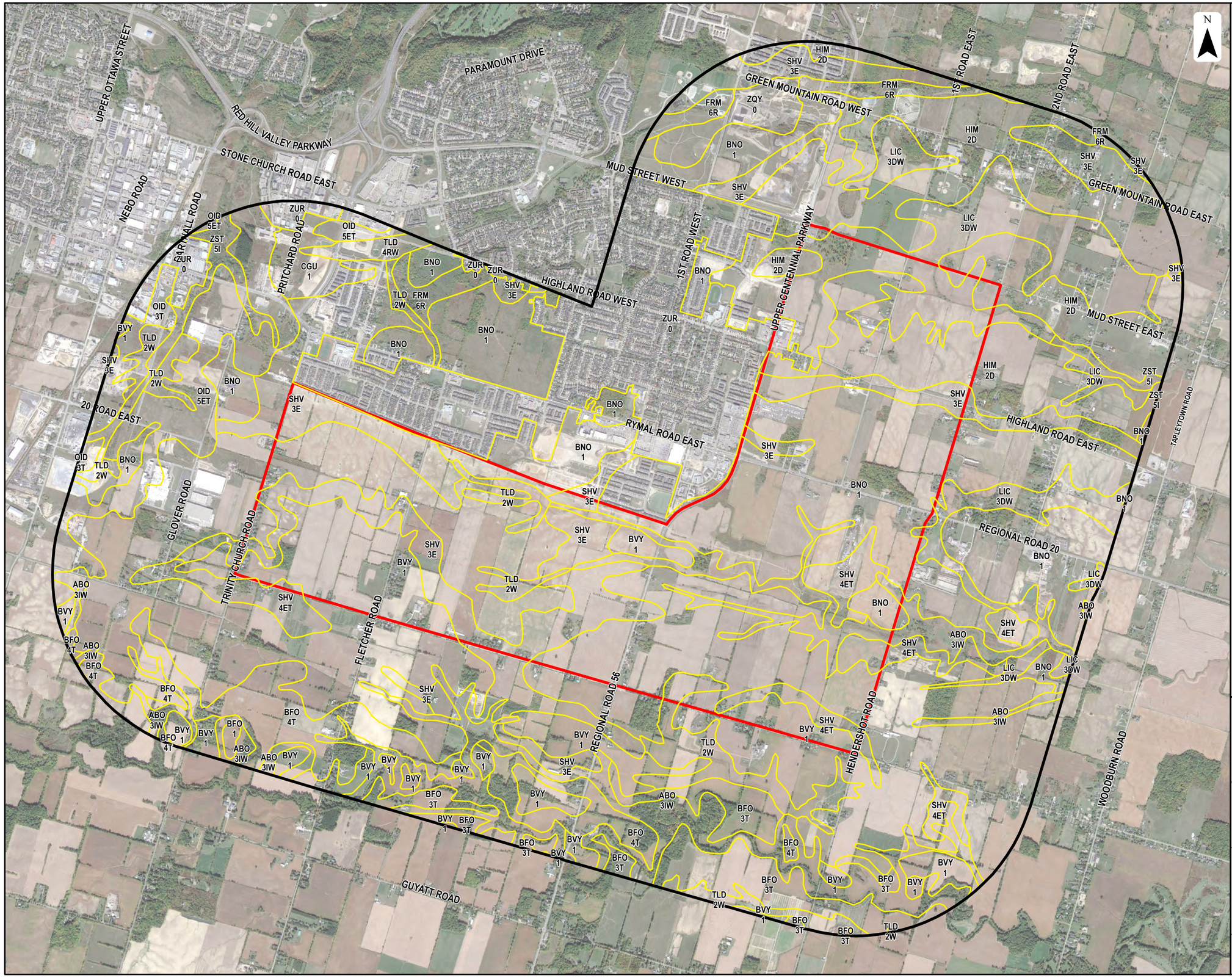
Toledo soils are poorly drained soils which occur in low or level areas in association with the better-drained Beverly and Brantford series. Toledo soils typically have a think Ah horizon that is rich in organic matter.

Toledo soils are best suited for *pasture* and the production of hay. Due to the poor drainage of these soils, artificial drainage is required to produce a wider range of crops. Without artificial drainage in place, crops may be damaged by the presence of excess soil moisture, decreasing crop yields.

Haldimand Series

The Haldimand series includes the imperfectly drained soils which are found in the southeastern part of the County. These soils typically occur on flat to very gently sloping topography and consist of clay parent material which is relatively impermeable to water.

Haldimand soils are best suited for *pasture* and the production of hay and spring grains. The main limitation to crop production on these soils is the presence of excess water. The installation of artificial drainage can improve crop yields and allow for the cultivation of a wider range of crops.



LEGEND

- Subject Lands
- Study Area
- Soil

Soil Series Name → **BRR**

CLI Class → **3T** ← CLI Subclass

SOIL SERIES

- **ABO** - Alberton Silty Clay Loam
- **BFO** - Brantford Silt Loam
- **BNO** - Binbrook Silt Loam
- **BVY** - Beverly Silt Loam
- **CGU** - Chinguacousy Silt Loam
- **FRM** - Farmington Loam
- **HIM** - Haldimand Silty Clay Loam
- **LIC** - Lincoln Silty Clay Loam
- **OID** - Oneida Silt Loam
- **SHV** - Smithville Silt Loam
- **TLD** - Toledo Silty Clay Loam
- **ZQY** - Quarry
- **ZST** - Stream Course
- **ZUR** - Urban

CLI AGRICULTURAL CAPABILITY CLASSES

Class 1 - No significant limitations in use for crops.

Class 2 - Moderate limitations that restrict the choice of crops, or require moderate conservation practices.

Class 3 - Moderately severe limitations that restrict the choice of crops, or require special conservation practices.

Class 4 - Severe limitations that restrict the choice of crops, or require special conservation practices.

Class 5 - Very severe limitations that restrict their capability in producing perennial forage crops, and improvement practices are feasible.

Class 6 - Very severe limitations that restrict soil to only producing perennial forage crops, and improvement practices are not feasible.

Class 0 - Not placed in a capability class.

CLI AGRICULTURAL CAPABILITY SUBCLASSES

D	Undesirable Soil Structure/Permeability	–	limitations due to difficulty to till or slow absorption/relsease of water
E	Erosion	–	subclass where erosion is a limitation
I	Inundation	–	periodic flooding by streams or lakes
R	Shallowness to Bedrock	–	consolidated bedrock occurs within 100 cm of the surface
T	Topography	–	subclass where topography is a limitation
W	Excess Water	–	limited by excess soil moisture, other than brought about by inundation

Figure 2
Soils and CLI

Agricultural Impact Assessment
Elfrida Lands, City of Hamilton

Prepared for: Elfrida Community Builders

Prepared by: COLVILLE CONSULTING INC.

0 0.5 KM
1:30,000

DATE: Nov 2024

FILE: C23089

Lincoln Series

The Lincoln series includes the poorly drained soils found on level and depressional areas of the Haldimand Plain and frequently occur in association with Haldimand soils. The parent materials of Lincoln soils are similar to those of the Haldimand series, however, they have a deeper Ap horizon.

Lincoln soils are poor agricultural soils and are best suited for *pasture* or the production of hay. Where crops such as spring grains or grapes are grown, artificial drainage is required to facilitate the removal of water from these clay soils.

Smithville Series

Smithville soils are moderately well-drained soils which occupy the majority of the well-drained areas within the Haldimand Clay Plain. These soils are grayish clay till soils which are overlain by approximately 30-50 cm of lacustrine silt loam.

Smithville soils are well suited for the production of a wide range of crops. These soils are typically found in gently sloping topography. The topography and silt loam surface textures allow excess water to drain from the soils effectively. On level topography, these soils may experience impediments to drainage, resulting in damage to certain crops.

Binbrook Series

Binbrook soils are imperfectly drained grayish clay till soils overlain by silt loam. These soils are often found associated with Smithville soils, and typically occur on level to very gently sloping topography. The *soil profile* of Binbrook soils is similar to that of Smithville soils, with the main difference being that Binbrook soils have mottling present in the A and B horizons. Mottling occurs when excess water is present within the soil, which is typically cause by the occurrence of a slight hardpan of clay between the A and B horizons in Binbrook soils.

With artificial drainage in place, Binbrook soils are suitable for the production of a wide range of crops. Without artificial drainage, *forage* crops and spring grains are well suited for these soils, but other crops may be damaged by the presence of excess soil moisture.

Alberton Series

Alberton soils are alluvial silt loam and silty clay loam sediments of variable drainage, which have been deposited in most stream valleys in the area. These soils are poorly developed, recently deposited soils, occur on level valley flats and often overly finer sediments. These soils are most commonly imperfectly drained, but drainage varies due to the variation in thickness of alluvium and the underlying soil textures.

Most valleys in which Alberton soils occur are subject to periodic flooding, which limits their suitability for crop production. However, these soils are fertile and often used in the production of corn in areas that are not subject to yearly flooding. In areas where flooding occurs annually, these soils are best left for permanent *pasture* to reduce the level of soil erosion.

5.5.2 CLI Agricultural Land Classification

The Canada Land Inventory (CLI) is an interpretative system for assessing the effects of climate and soil characteristics on the limitations of land for growing common field crops. The CLI system has seven soil classes that descend in quality from Class 1, which have no significant limitations, to Class 7 soils which have no

agricultural capability for common field crops. Class 2 through 7 soils have one or more significant limitations, and each of these are denoted by a capability subclass. There are thirteen subclasses described in CLI Report No. 2 (1971). Eleven of these subclasses have been adapted to Ontario soils. More information regarding the CLI Classification system is provided in Appendix D.

According to the provincial database, the majority of the Subject Lands are mapped as CLI Class 1 lands (58.86%), with smaller areas mapped as CLI Class 2 lands (9.70%), CLI Class 3 lands (26.92%), CLI Class 4 lands (3.85%), and CLI Class 0 lands (0.66%), as shown in Figure 2. CLI Class 1 soils have no or very minor limitations for common field crop production. CLI Class 2W and 2D soils have moderate limitations for common field crop production due to excess soil moisture and undesirable soil structure/permeability, respectively. CLI Class 3D, 3W, 3I, and 3E soils have moderately severe limitations for common field crop production due to undesirable soil structure/permeability, excess soil moisture, flooding by rivers/streams, and erosion, respectively. CLI Class 4E and 4T soils have severe limitations for common field crop production due to erosion and adverse topography, respectively. CLI Class 0 soils are associated with the soils mapped as Urban and are not placed in CLI capability classes. The composition of soils mapped within the Subject Lands and their associated CLI Class are summarized in Table 1 below.

Table 1. Regional Soil Series for PSA

Soil Series	CLI Class	Area (Ha)	% of PSA
Beverly Silt Loam	1	445.63	36.86%
Toledo Silty Clay Loam	2W	26.90	2.22%
Haldimand Silty Clay Loam	2D	90.40	7.48%
Lincoln Silty Clay Loam	3DW	80.77	6.68%
Smithville Silt Loam	3E	190.74	15.78%
	4ET	46.54	3.85%
Binbrook Silt Loam	1	266.00	22.00%
Alberton Silty Clay Loam	3IW	54.00	4.47%
Urban	0	8.02	0.66%
Totals		**1209.00**	**100.00%**

5.6 Land Use

A reconnaissance-level land use survey was completed on December 14, 2023. The land use survey identified the number and type of agricultural operations (both active and inactive), *agriculture-related uses*, *on-farm diversified uses*, and the extent and type of *non-agricultural land uses* within the *Study Area*. Inactive *livestock operations* were evaluated to determine whether they should be considered an *empty livestock facility* or if they would be more appropriately considered as a *remnant* farm. *Remnant* farms have no infrastructure that is suitable for housing *livestock*, whereas the infrastructure for an *empty livestock facility* is still in a condition that could permit the keeping of *livestock* with minimal investment. The crop types observed within the *Study Area* were recorded and mapped.

The purpose of the land use survey is to document the mix of agricultural and *non-agricultural uses* within the Subject Lands and *Study Area*; identify agricultural operations that may be sensitive to the introduction

of new land uses; and identify *livestock facilities* to calculate the *MDS I* setback requirements. Figure 3 shows the land uses and crop types observed. Photographs from the land use survey can be found in Appendix E. All observed land uses are numbered, and short descriptions of these operations are included in the land use survey notes in Appendix F.

Forty-one *agricultural uses* were identified during the land use survey. The *agricultural uses* include seven *hobby farms*, three equestrian operations, one mushroom farm, one beef operation, one poultry operation, six *cash crop* operations, seven *empty livestock facilities*, and fifteen *remnant* farms.

Eight *agriculture-related use* were identified during the land use survey. The *agriculture-related uses* include two greenhouses, one garden centre, two cheese shops, one cidery, one animal feed store, and one farm market. No *on-farm diversified uses* were observed during the land use survey and desktop review.

In addition to the approximately 556 *non-farm residences* observed (excluding residences within City of Hamilton *settlement area*), twenty-nine *non-agricultural uses* were identified during the land use survey. These uses include sixteen commercial uses, two institutional uses, one industrial use, and one municipal yard works use. Commercial, four recreational uses, five industrial uses, three institutional uses, and one utility use. Land uses within the City of Hamilton *settlement area* were not assigned land use numbers, nor included within the land use notes. A large number of commercial, industrial, and residential uses were observed within the *settlement area*.

5.6.1 Agricultural Uses

The *PPS 2024* definition of *agricultural uses*: "means the growing of crops, including nursery, biomass and horticultural crops; raising of livestock; raising of other animals for food, fur or fibre, including poultry and fish; aquaculture; apiaries; agro-forestry; maple syrup production; and associated on-farm buildings and structures, including, but not limited to livestock facilities, manure storages, value-retaining facilities and accommodation for full-time farm labour when the size and nature of the operation requires additional employment."

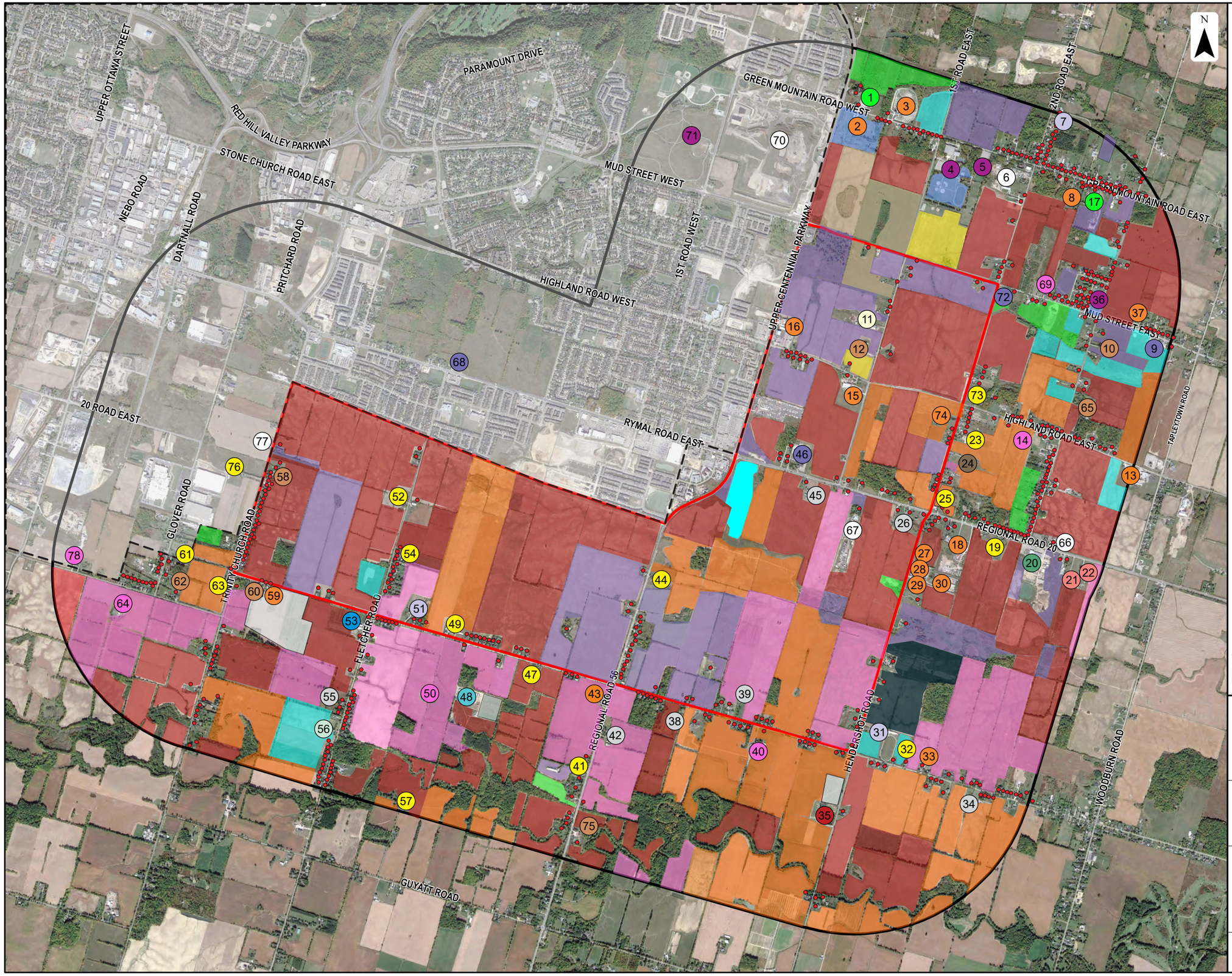
Farm types were noted and identified as either active or inactive *livestock operations* (e.g., *empty livestock facilities*), *cash crop* operations, or *hobby farms*.

Subject Lands

Eleven *agricultural uses* were identified within the Subject Lands during the land use survey and desktop review. These uses include one mushroom farm (#11), two *hobby farms* (#12 and #58), one equestrian operation (#51), three *empty livestock facilities* (#26, #39, and #45), and four *remnant* farms (#44, #49, #52, and #54).

Study Area

Within the *Study Area*, thirty *agricultural uses* were identified. These include five *hobby farms* (#11, #60, #62, #65, and #75), two equestrian operations (#7 and #31), one beef operation (#56), one poultry operation (#24), six *cash crop* operations (#14, #40, #50, #64, #69, and #78), four *empty livestock facilities* (#34, #38, #42, and #55), and eleven *remnant* farms (#19, #23, #25, #32, #41, #47, #54, #57, #61, #63, #73, and #76).



LEGEND

- Subject Lands
- Study Area
- Urban Area

Agricultural Uses

- Cash Crop Operation
- Beef Operation
- Equestrian Operation
- Remnant Farm
- Hobby Farm
- Mushroom Farm
- Poultry Operation
- Empty Livestock Facility

Agriculture-Related Uses

- Greenhouse
- Garden Centre
- Cheese Shop
- Cidery
- Farm Market
- Animal Feed Store

Non-Agricultural Uses

- Commercial
- Recreational
- Industrial
- Institutional
- Non-Farm Residence

Cropping Pattern

- Soybeans
- Winter Wheat
- Corn
- Scrub
- Cultivated
- Pasture/Forage
- Idle
- Orchard
- Sod

Figure 3
Land Use

Agricultural Impact Assessment
Elfrida Lands, City of Hamilton

Prepared for: Elfrida Community Builders

Prepared by: Colville Consulting Inc.

0 0.5 KM
1:30,000

DATE: Nov 2024

FILE: C23089

5.6.2 Agriculture-Related Uses

Agriculture-related uses are farm-related commercial and industrial uses. As defined in the *PPS 2024*, these are uses "that are directly related to farm operations in the area, support agriculture, benefit from being in close proximity to farm operations, and provide direct products and/or services to farm operations as a primary activity". These uses may include uses such as:

- retailing of agriculture-related products (e.g., farm supply co-ops, farmers' markets, and retailers of value-added products like wine or cider made from produce grown in the area);
- *livestock* assembly yards;
- farm equipment repair shops;
- industrial operations that process farm commodities from the area such as abattoirs, feed mills, grain dryers, cold/dry storage facilities and fertilizer storage facilities, which service agricultural area;
- distribution facilities;
- food and beverage processors (e.g., wineries and cheese factories); and
- agricultural biomass pelletizers.

Eight *agriculture-related land use* was identified within the Subject Lands and *Study Area*. These uses include two greenhouses (#1 and #17), one garden centre (#20), two cheese shops (#21 and #22), one cidery (#35), one animal feed store (#48), and one farm market (#53).

5.6.3 On-Farm Diversified Uses

The *PPS 2024* defines *on-farm diversified uses* as "uses that are secondary to the principal *agricultural use* of the property and are limited in area. On-farm diversified uses include, but are not limited to, home occupations, home industries, Agri-tourism uses, and uses that produce value-added agricultural products".

No *on-farm diversified uses* were identified within the Subject Lands, nor *Study Area*.

5.6.4 Non-Agricultural Uses

Non-agricultural land uses include *non-farm residences*, residential clusters, hamlets and *settlement areas*, municipal utilities, commercial and industrial operations, recreational uses, and institutional uses. Excluding those within the *settlement area* of the City of Hamilton, approximately 556 *non-farm residences* were observed, with 142 of these located within the Subject Lands and 414 located within the *Study Area*.

Excluding the *non-farm residences*, twenty-nine *non-agricultural uses* were identified, with five located within the Subject Lands and twenty-four located within the *Study Area*. The *non-agricultural land uses* within the Subject Lands include three commercial uses, one industrial use, and one institutional use. The *non-agricultural uses* within the *Study Area* include thirteen commercial uses, four recreational uses, four industrial uses, two institutional uses, and one utility use.

5.6.5 Land Use Summary

Table 2 below summarizes the types of land uses observed within the Subject Lands and *Study Area*. The lands uses observed do not reflect a thriving *Agricultural System*.

Table 2. Summary of Observed Land Uses			
	Total Number	**Active**	**Empty or Remnant**
Agricultural	41	7 – Hobby Farm 3 – Equestrian Operation 1 – Mushroom Farm 1 – Beef Operation 1 – Poultry Operation 6 – Cash Crop Operation	15 – Remnant Farm 7 – Empty Livestock Facility
Agriculture-Related	8	2 – Greenhouse 1 – Garden Centre 2 – Cheese Shop 1 – Cidery 1 – Animal Feed Store 1 – Farm Market	0
On-farm Diversified	0	0	0
	Total Number	**Type**	
Non-Agricultural	585	16 – Commercial 4 – Recreational 5 – Industrial 1 – Utility 3 – Institutional 556 – Non-Farm Residential	

5.6.6 Cropping Pattern

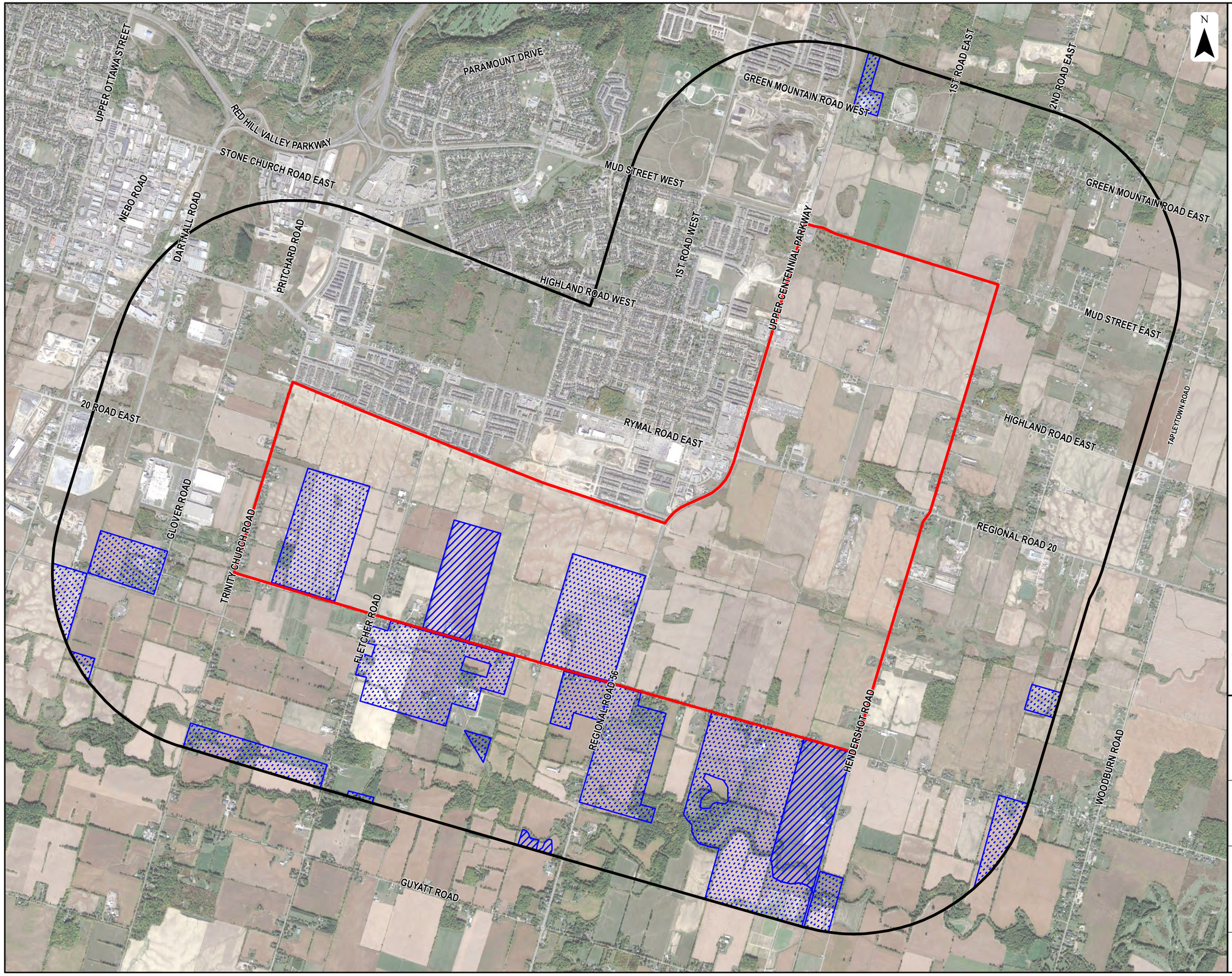
The land use survey completed on December 14, 2023, identified crops based on observations of crop stubble and other identifying features. As shown in Figure 3, the crops grown within the Subject Lands and *Study Area* are predominantly a mix of corn, winter wheat, soybeans, sod, a small area of orchards, and *cultivated* lands where land is being used for agricultural crops, but specific crops being grown were not readily apparent. There are also areas of *pasture*, idle lands, scrublands, forested areas, and disturbed lands.

5.7 Land Improvements

OMAFRA's Agricultural Information Atlas (AgMaps) provides artificial drainage mapping for the province. This online tool was accessed to obtain drainage mapping for the Subject Lands and *Study Area*. Figure 4 below shows the drainage improvements within the Subject Lands and *Study Area*.

5.7.1 Drainage Improvements in Subject Lands

According to OMAFRA's online mapping tool, AgMaps, the Subject Lands contain small amounts of both random tile drainage and systematic tile drainage. Both the random and systematic tile drainage installations are located in the southern portion of the Subject Lands, immediately north of Gold Club Road. There are approximately 110.66 ha (273.45 acres) of random tile drainage, and 36.89 ha of systematic tile drainage within the Subject Lands.



LEGEND

- Study Area
- Subject Lands
- Tile Drainage - Random
- Tile Drainage - Systematic

Figure 4
Land Improvements

Agricultural Impact Assessment
Elfrida Lands, City of Hamilton

Prepared for: Elfrida Community Builders

Prepared by: COLVILLE CONSULTING INC.

0 0.5 KM
1:30,000

DATE: Nov 2024

FILE: C23089

According to AgMaps, there are no constructed drains located within the Subject Lands. The installation dates of the random and systematic tile drainage in the *Study Area* were not available through AgMaps.

5.7.2 Drainage Improvements in Study Area

Random tile drainage and a smaller area of systematic tile drainage are located within the *Study Area*. The systematic tile drainage and most of the random tile drainage are located in the southern portion of the *Study Area,* with a small area of random tile drainage located in the northern portion of the *Study Area*. There is approximately 49.53 ha (122.39 acres) of systematic tile drainage and 344.97 ha (852.44 acres) of random tile drainage within the *Study Area*.

According to OMAFRA's online mapping tool, AgMaps, no portion of the *Study Area* contain constructed drains. The installation dates of the random and systematic tile drainage in the *Study Area* were not available through AgMaps.

5.7.3 Other Land Improvements

No other investments in land improvements within the Subject Lands nor *Study Area* were identified using the AgMaps Portal or during the land use survey.

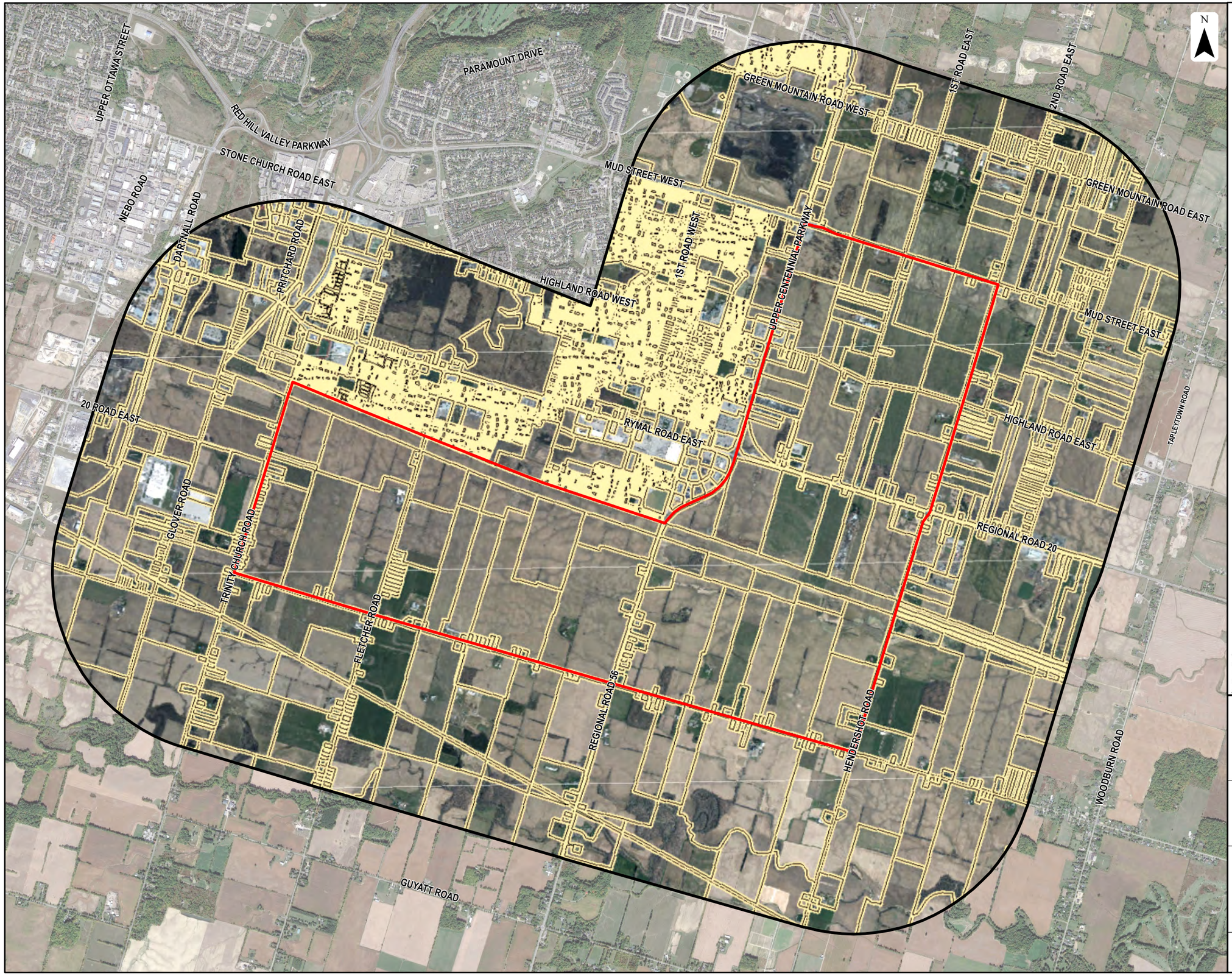
5.8 Fragmentation of Agricultural Lands

Fragmentation of agricultural lands can have a negative impact on the viability of agricultural lands and its long-term preservation for agricultural purposes. Fragmentation of farmlands can diminish the economic viability of the agricultural area by reducing farming efficiency and increasing operating costs for farmers who must manage multiple small, separated parcels. Larger farm parcels can accommodate a wider range of agricultural activities and ensure long term viability of the property. In contrast, smaller farm parcels cannot offer the same flexibility and may not be viable as standalone parcels. Generally, smaller farm parcels cannot sustain a family farm without a secondary source of income (off farm) to maintain the agricultural operation.

Additionally, agricultural areas which have been fragmented often have a higher occurrence *of non-agricultural land uses*, which in turn can result in more frequent occurrences of conflict arising between agricultural and *non-agricultural land uses*. Agricultural areas with lower levels of fragmentation are considered to be more viable economically for *agricultural uses* and generally have fewer sources of *non-agricultural land use* conflicts. In most cases, these areas have a higher priority for protection. High levels of fragmentation in an agricultural area lower the areas agricultural priority.

The *PPS 2024* planning policies recognize the impact of fragmentation on agricultural lands and try to minimize the fragmentation of agricultural lands for *non-agricultural uses*. For example, the *PPS 2024* policies do not permit lot creation in *prime agricultural areas* for residential purposes. New permitted *development* in *prime agricultural areas* should avoid further fragmentation of the agricultural land base whenever possible.

Based on our review of the lot fabric in the *Study Area* using AgMaps and direct observation of residential lots, there is a mix of parcel sizes ranging from single residential (< 1 ha) to large agricultural parcels (>60 ha). A number of the parcels within the agricultural land base are not suitably sized for a variety of *agricultural uses*. The lot fabric in the *Study Area* is shown in Figure 5 below.



LEGEND

- Study Area
- Subject Lands
- Fragmentation

Figure 5
Fragmentation

Agricultural Impact Assessment
Elfrida Lands, City of Hamilton

Prepared for: Elfrida Community Builders

Prepared by: COLVILLE CONSULTING INC.

0 0.5 KM
1:30,000

DATE: Nov 2024

FILE: C23089

The Subject Lands are immediately adjacent to the current City of Hamilton *settlement area*, which has been developed for a number of *non-agricultural uses*. The lands within the *Study Area* have a relatively high level of fragmentation and have a high occurrence of *non-agricultural uses*.

5.9 Minimum Distance Separation

5.9.1 Requirement for MDS and Settlement Area Boundary Expansion

The *Minimum Distance Separation* is a tool used to minimize potential impacts and conflicts between *non-agricultural* and *agricultural land uses*. In areas outside of approved *settlement areas*, new *non-agricultural land uses* are required to meet the *Minimum Distance Separation I formula* as contained in OMAFRA's The Minimum Distance Separation Implementation Document: Formulae and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks, Publication 853 (2016) document. It is applied to all farm operations that have infrastructure in a condition that is capable of housing *livestock* and/or have an anaerobic digester on-site.

The *MDS I formula* provides the *minimum distance separation* between existing *livestock facilities* (including *empty livestock facilities*) and new *non-agricultural land uses* proposed in a rural or agricultural land use designation. It deals specifically with odour and does not account for noise, dust or other farm-generated products.

An *empty livestock facility* is one that may be *retired* or no longer used to house *livestock*; however, it appears to be capable of housing *livestock*. The *MDS* is not applied to *remnant* farms with barns that are in poor condition and not suitable for housing *livestock*.

Section 2.3.2.1 of the *PPS 2024* outlines the requirements for the application of *MDS* for *settlement area* boundary expansion and states in part that "In identifying a new settlement area or allowing a settlement area boundary expansion, planning authorities shall consider the following:

e) whether the new or expanded settlement area complies with the minimum distance separation formulae."

5.9.2 MDS Guidelines

OMAFRA's The Minimum Distance Separation Implementation Document: Formulae and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks, Publication 853 (2016) document contains a set of guidelines which outline how the *MDS I formula* is to be applied. The following are the relevant *MDS* guidelines for *settlement area* boundary expansion.

#1. Referencing MDS in Municipal Planning Documents
In accordance with the Provincial Policy Statement, 2014, this MDS Document shall apply in prime agricultural areas and on rural lands. Consequently, the appropriate parts of this MDS Document shall be referenced in municipal official plans, and detailed provisions included in municipal comprehensive zoning by-laws such that, at the very least, MDS setbacks are required in all designations and zones where livestock facilities and anaerobic digesters are permitted.

The City of Hamilton recognizes the majority of the Subject Lands as being part of a *prime agricultural area* or *rural lands*. As such, the *MDS formulae* must be applied for the proposed City of Hamilton *settlement area* boundary expansion. Section 1.16.2 of the Rural Hamilton Official Plan states that "Minimum Distance Separation (MDS) distances shall be calculated in accordance with all provincial Minimum Distance Separation guidelines and regulations as amended from time to time."

#2. For What, and When is an MDS Setback Required?
The MDS I setback distances shall be met prior to the approval of: proposed lot creation in accordance with Implementation Guidelines #8 and #9; rezonings or re-designations in accordance with Implementation Guideline #10; building permits on a lot which exists prior to March 1, 2017 in accordance with Implementation Guideline #7; and as directed by municipalities for local approvals for agriculture-related uses or on-farm diversified uses in accordance with Implementation Guideline #35. The information used to carry out an MDS I calculation must reflect the circumstances at the time that the municipality deems the planning or building permit application to be complete.

SABE will require the Subject Lands to be redesignated for *non-agricultural land uses*. Therefore, the calculation of *MDS I* setback distances is required for SABE.

#6. Required Investigation Distances for MDS
A separate MDS I setback shall be required to be measured from all existing livestock facilities and anaerobic digesters on lots in the surrounding area that are reasonably expected by an approval authority to be impacted by the proposed application. As part of municipal consideration of planning or building permit applications, all existing livestock facilities or anaerobic digesters within a 750 m distance of a proposed Type A land use and within a 1,500 m distance of a proposed Type B land use shall be investigated and MDS I setback calculations undertaken where warranted. In circumstances where large livestock facilities (e.g., >1,200 Nutrient Units) exist beyond the 750 m or 1,500 m study area, MDS I setbacks from these facilities should also be calculated.

As discussed further below, SABE is considered to be a Type B land use. Therefore, all existing *livestock facilities* or anaerobic digesters with 1,500 m of the Subject Lands shall be investigated and *MDS I* setback calculations completed, where warranted.

#10. MDS I Setbacks for Zoning By-Law Amendments and Official Plan Amendments

An MDS I setback is required for all proposed amendments to rezone or redesignate land to permit development in prime agricultural areas and rural lands presently zoned or designated for agricultural use. This shall include amendments to allow site-specific exceptions which add non-agricultural uses or residential uses to the list of agricultural uses already permitted on a lot, but shall exclude applications to rezone a lot for a residence surplus to a farming operation (e.g., to a rural residential zone) in accordance with Implementation Guideline #9 above.

Amendments to rezone or redesignate land already zoned or designated for a non-agricultural use, shall only need to meet the MDS I setbacks if the amendment(s) will permit a more sensitive land use than existed before. In other words, if the proposal is to change an existing Type A land use (e.g., industrial use outside of a settlement area) to a Type B land use (e.g., commercial) in accordance with Implementation Guidelines #33 and #34, then an MDS I setback shall be required.

The Subject Lands must be redesignated in the Rural Hamilton and Urban Hamilton Official Plans to permit the proposed SABE. Guideline #10 requires the application of the *MDS formulae* to redesignate land in a *prime agricultural area* or *rural lands* for *development*.

#12. Existing Uses that Do Not Conform to MDS

An MDS I setback is required for proposed development or dwellings, even though there may be existing or approved development or dwellings nearby that do not conform to MDS I requirements.

However, a reduced MDS I setback may be permitted provided there are four, or more, nonagricultural uses, residential uses and/or dwellings closer to the subject livestock facility than the proposed development or dwellings and those four or more non-agricultural uses, residential uses and/or dwellings are:

- located within the intervening area (120° field of view shown in Figure 4 in Section 7 of this MDS Document) between the closest part of the proposed development or dwelling and the nearest livestock facility or anaerobic digester;
- located on separate lots; and
- of the same or greater sensitivity (i.e., Type A or Type B in accordance with Implementation Guidelines #33 and #34) as the proposed development or dwelling.

If ALL of the above conditions are met, the MDS I setback for the proposed development or dwelling may be reduced such that it is located no closer to the livestock facility or anaerobic digester than the furthest of the four non-agricultural uses, residential uses and/or dwellings as shown in Figure 4 (See MDS Document).

Guideline #12 can be used to reduce the calculated *MDS* setbacks for Operations #24 and #42. These operations have at least four *non-agricultural uses* or *dwellings* within a 120° field of view between the closest part of the Subject Lands or *dwelling* and the nearest *livestock facility* and/or *manure storage* system associated with the operation.

#19. Cumulative Design Capacity of Livestock Facilities on a Lot

MDS calculations shall be based on the combined design capacity for all livestock barns on a lot, even if they are unoccupied livestock barns or separated by a substantial distance on the lot.

Where there are no livestock barns on a lot, MDS calculations shall be based on the combined design capacity for all manure storages on a lot, even if they are unused manure storages or separated by a substantial distance on the lot.

Within the *Study Area,* there are multiple farm operations with more than one barn located on the same property. Therefore, *MDS I* setback calculations must be based on the combined design capacity of all *livestock* barns on a lot, and applied to the *livestock facility* nearest to the Subject Lands.

#34. Type B Land Uses (More Sensitive)

For the purposes of MDS I, proposed Type B land uses are characterized by a higher density of human occupancy, habitation or activity including, but not limited to:

- new or expanded settlement area boundaries;
- an official plan amendment to permit development, excluding industrial uses, on land outside a settlement area;
- a zoning by-law amendment to permit development, excluding industrial uses or dwellings, on land outside a settlement area; and
- the creation of one or more lots for development on land outside a settlement area, that results in four or more lots for development, which are in immediate proximity to one another (e.g., sharing a common contiguous boundary, across the road from one another, etc.), regardless of whether any of the lots are vacant.

Because of the increased sensitivity of these uses, a new or expanding Type B land use will generate an MDS I setback that is twice the distance as the MDS I setback for a Type A land use. This is reflected in the value of Factor E which is 2.2 for Type B versus 1.1 for Type A.

The proposed *settlement area* boundary expansion is considered to be a Type B land use. Therefore, *MDS I* setbacks have been calculated for a Type B land use, which generates an *MDS I* setback that is twice that of a Type A land use.

#36. Non-Application of MDS Within Settlement Areas

MDS I setbacks are NOT required for proposed land use changes (e.g., consents, rezonings, redesignations, etc.) within approved settlement areas, as it is generally understood that the long-term use of the land is intended to be for non-agricultural purposes.

If SABE is approved, the Subject Lands will be within an approved *settlement area* boundary and *MDS* setbacks will no longer apply. *MDS I* setbacks will be calculated for all *manure storages* and *livestock facilities* capable of housing *livestock* given that the Subject Lands' current land use designation. However, *MDS I* setbacks will not be mapped, as they will not apply following approval of the proposal.

#40. Measurement of MDS Setbacks for Development and Dwellings

For proposed development, MDS I setbacks are measured as the shortest distance between the area proposed to be rezoned or redesignated to permit development and either: the surrounding livestock occupied portions of livestock barns, manure storages or anaerobic digesters. Refer to Figure 7 in Section 7 of this MDS Document. This shall include areas proposed to be rezoned or redesignated with site-specific exceptions that add non-agricultural uses or residential uses to the list of agricultural uses already permitted on a lot.

For building permit applications for proposed dwellings, where required in accordance with Implementation Guideline #7, MDS I setbacks are measured as the shortest distance between the proposed dwelling and either the surrounding manure storages, anaerobic digesters or the livestock occupied portions of the livestock barns.

As discussed above, *MDS I* setback distances shall be applied to the shortest distance between the Subject Lands and the *manure storages* or *livestock* occupied portions of the *livestock facility*.

5.9.3 MDS Results

The *MDS I formula* was applied to all *livestock facilities* capable of housing *livestock* observed within 1,500 m of the Subject Lands. The factors used to determine the *MDS I* setback requirements for these facilities include: the type of *livestock*; the maximum capacity of the barn for *livestock*; the type of *manure storage*

system; and the type of land use (Type A and Type B). SABE is considered to be a Type B (more sensitive) land use.

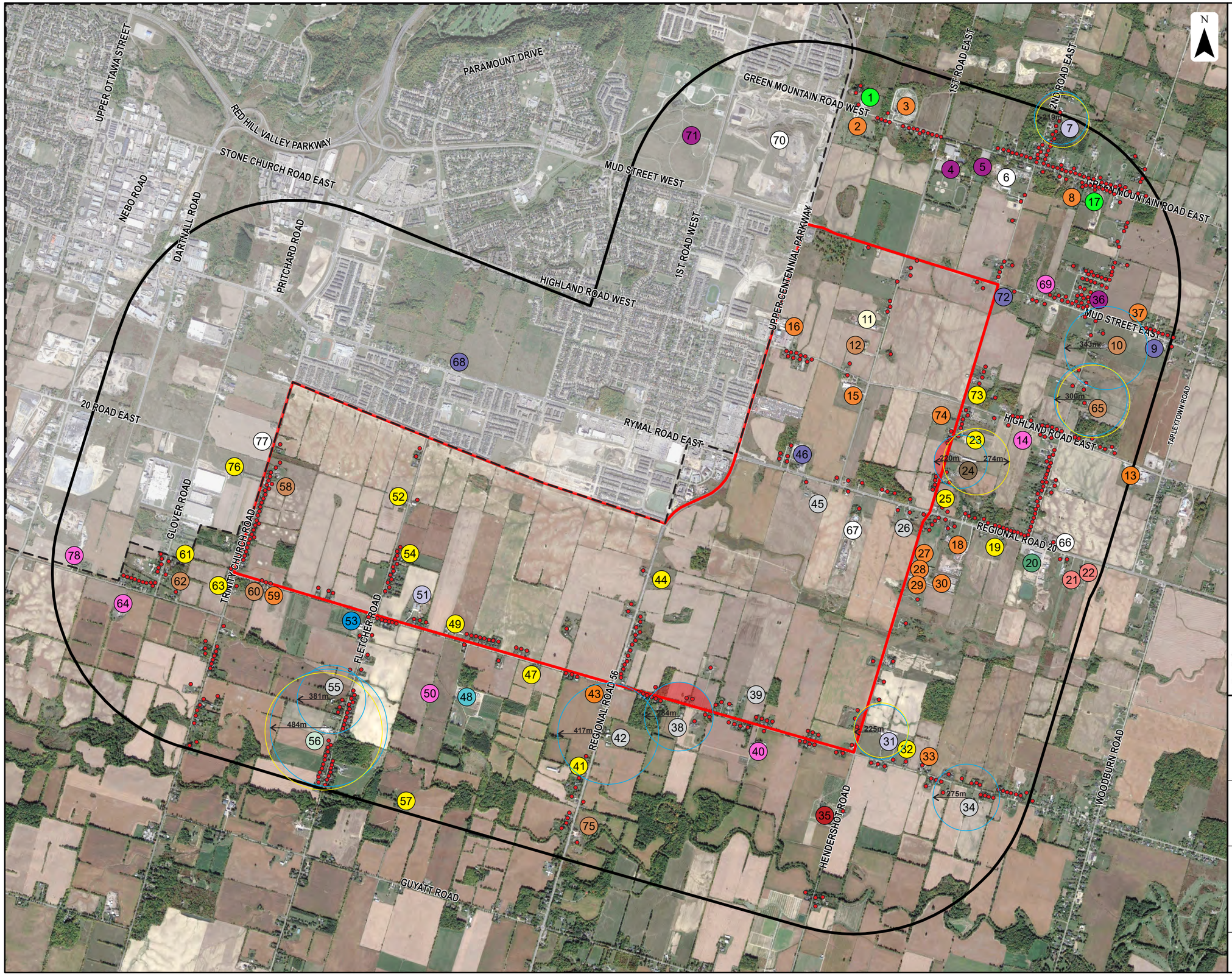
The remaining factors required to calculate the *MDS* setbacks were determined through field observations recorded during the land use survey, aerial photographic interpretation, and site-specific information provided by landowners, where possible. When a landowner could not be contacted, self-addressed envelopes and forms were left at *livestock operations* requesting information which would enable the calculation of *MDS* setback requirements that had the potential to create *MDS* constraints for the Subject Lands.

The lot sizes were determined using the AgMaps measuring tool. In some cases, the building capacity was estimated based on the building dimensions, as measured using either the AgMaps measuring tool or the Google Earth® measuring tool.

The *MDS I formula* was applied to sixteen *livestock facilities,* which are capable of housing *livestock,* within 1,500 m of the Subject Lands. Figure 6 shows the *MDS I* setback requirements for the identified *livestock operations*. Figure 6 shows that four of the *MDS* setback requirements for the *livestock operations* identified in the *Study Area* extend into the Subject Lands. The four *MDS I* setback requirements that extend into the Subject Lands are located along the southern boundary (Operations #38 and #42) and along the eastern boundary (Operations #24 and #31) of the Subject Lands. In total, approximately 10.35 ha of the Subject Lands are within the calculated *MDS I* setbacks.

Though discouraged in the MDS Guidance Document, the City of Hamilton may choose to reduce the *MDS I* setbacks which encroach into the Subject Lands through the use of a minor variance to the zoning by-law provisions or through a site specific policy area. These encroachment areas provide opportunities for the *development* of infrastructure, open space uses, or other land use types which the *MDS I* formula does not apply. The proposed SABE will comply with *MDS I* setback requirements for all other *livestock facilities* and *manure storage* systems.

The *MDS I formula* was not applied to farm operations with barns that did not appear to be structurally sound and capable housing *livestock*. Fifteen farm operations with structures which are in poor condition or now absent of structures previously used to house *livestock* were identified. Appendix G contains the *MDS I* Reports generated by the MDS AgriSuite software. Table 3 shows the results of the calculations.



LEGEND

- Subject Lands
- Study Area
- Urban Area

Agricultural Uses

- Cash Crop Operation
- Beef Operation
- Equestrian Operation
- Remnant Farm
- Hobby Farm
- Mushroom Farm
- Poultry Operation
- Empty Livestock Facility

Agriculture-Related Uses

- Greenhouse
- Garden Centre
- Cheese Shop
- Cidery
- Farm Market
- Animal Feed Store

Non-Agricultural Uses

- Commercial
- Recreational
- Industrial
- Institutional
- Non-Farm Residence

MDS I

- Livestock Facility Setback
- Manure Storage Setback
- Area of Encroachment

Figure 6
Minimum Distance Separation

Agricultural Impact Assessment
Elfrida Lands, City of Hamilton

Prepared for: Elfrida Community Builders

Prepared by: COLVILLE CONSULTING INC.

0 0.5 KM
1:30,000

DATE: Nov 2024

FILE: C23089

Table 3. MDS Setback Requirements for SABE				
Site Number	MDS I Setback Requirement – Livestock Facility	MDS I Setback Requirement – Manure Storage	Nearest Distance to Subject Lands	Complies with MDS I Setback?
7	219 m	219 m	1,454 m	Yes
10	343 m	N/A	1,010 m	Yes
12	270 m	N/A	Within Subject Lands	Yes
24	220 m*	274 m*	133 m	No
26	253 m	N/A	Within Subject Lands	Yes
31	225 m	225 m	162 m	No
34	275 m	N/A	1,006 m	Yes
38	284 m	N/A	118 m	No
39	262 m	N/A	Within Subject Lands	Yes
42	417 m*	N/A	410 m	No
45	363 m	N/A	Within Subject Lands	Yes
51	233 m	233 m	Within Subject Lands	Yes
55	283 m	N/A	765 m	Yes
56	484 m	484 m	996 m	Yes
58	232 m	N/A	Within Subject Lands	Yes
65	300 m	300 m	1,115 m	Yes

** MDS I setback distance reduced through application of Guideline #12*

5.10 Economic and Community Benefits of Agriculture

Identifying the economic and community benefits associated with agriculture in the *Study Area* is an important consideration and informs the impacts associated with the proposed SABE. The agricultural and agri-food sector is one of the largest primary goods producing sectors and plays a key role in the City's economy. According to Census of Agriculture data, the total number of farms in the Hamilton Division decreased from 885 in 2011, to 810 in 2016, to 679 farms in 2021. These farms employ residents throughout the Hamilton area, contributing economically to the area and supporting the *agri-food network*.

In 2021, agriculture, forestry, fishing, and hunting industry employed approximately 2600 individuals within the Hamilton Division, which is a slight increase from the 2,445 individuals employed in 2016. There were approximately 2,937 agri-food businesses in 2021 within the Hamilton Division, which is also a slight increase from the 2,800 agri-food businesses in 2016.

As of 2021, of the 679 total farms within the Hamilton Division, 19 farms were valued under $200,000, 27 farms were valued between $200,000 and $499,999, 97 farms were valued between $500,000 and $999,999, and 536 farms were valued $1,000,000 and over. Over the past three census periods, the number of farms valued at $1,000,000 and over has increased substantially, with the number of farms valued under $1,000,000 decreasing each year.

There are a significant number of *non-agricultural land uses* located within the Subject Lands and the surrounding area. Within the Subject Lands, eleven *agricultural uses* were identified. Of these eleven *agricultural uses*, seven were identified to be inactive agricultural operations (i.e., *empty livestock facilities* or *remnant* farms). This is indicative of the waning influence the agricultural sector has in the area.

With the implementation of mitigation measures to minimize indirect impacts on surrounding farm operations, it is expected that impacts from the proposed SABE will have a negligible impact on the *agri-food network* in the area.

6. ASSESSMENT OF AGRICULTURAL PRIORITY

The *PPS 2024* requires that SABE avoid lands within a *prime agricultural area* whenever possible. Where this is not possible or practical, the *PPS 2024* directs *development* to "lower priority agricultural lands". Although, neither the *PPS 2024* nor OMAFRA specifically defines in policy "lower priority agricultural lands", there are a number of considerations used by OMAFRA to determine the 'agricultural priority' of an area. These considerations include the ability of the site to comply with the requirements of *MDS I*, current land use, amount of capital investment in agricultural infrastructure, amount of land under active cultivation, existing degree of lot fragmentation to the surrounding agricultural land base, and proximity to incompatible land uses such as urban and rural *settlement areas*.

The Subject Lands are located within the City of Hamilton's *prime agricultural area*. Therefore, an assessment of the agricultural priority of the Subject Lands is required to be consistent with OMAFRA's draft Agricultural Impact Assessment Guidance Document. This analysis involves an assessment of whether the lands are considered to be part of a *specialty crop area*, the soil capability relative to other lands within the *Study Area*, the level of investment in agricultural infrastructure and land improvements, the parcel size, presence of existing *non-agricultural land uses*, ability to minimize potential conflict (e.g., meeting the *MDS I* setback requirements), and the zoning of the parcels.

We have concluded that the Subject Lands are lower priority agricultural lands for the following reasons:

1. The Subject Lands are not located within a *specialty crop area* and no significant areas of specialty crops are grown in the vicinity;
2. There is not a significant amount of investment in agricultural infrastructure and land improvements;
3. They are located in a highly fragmented agricultural area in which there is a mix of agricultural and *non-agricultural land uses*. The presence and prevalence of the *non-agricultural land uses* increases the potential for conflict arising between agricultural and *non-agricultural land uses*, which in turn reduces the agricultural priority of the area;
4. The Subject Lands are located immediately adjacent to the City of Hamilton *settlement area* boundary, with approximately 2.92 km of the Subject Lands immediately abutting the existing *settlement area*. The close proximity and high concentration of *non-agricultural land uses* within the urban area significantly increases the potential for conflicts with agriculture and make these lands less desirable to farm than other lands further removed from these *non-agricultural* influences;
5. High traffic volumes along Regional Road 20, Upper Centennial Parkway, and Regional Road 56 make moving farm machinery difficult and dangerous at times. Traffic volumes are expected to increase as *development* within the *Study Area* continues;
6. *MDS I* setbacks can be met for the proposed *development* on the Subject Lands; however, new and expanding *livestock operations* may be constrained by the presence of existing *non-agricultural land uses*; and

7. The close proximity of the City of Hamilton *settlement area* boundary and *non-agricultural land uses* creates potential *MDS II* setback constraints that would limit the opportunity for new or expanding *livestock operations* within the Subject Lands.

7. ASSESSMENT OF ALTERNATIVE LOCATIONS

The evaluation of alternative locations as part of an AIA needs to demonstrate that higher quality agricultural land was avoided by selecting lower priority lands when *prime agricultural areas* cannot be avoided.

7.1 Provincial Policy

Section 2.3.2 of the *PPS 2024* states in part that "In identifying a new settlement area or allowing a settlement area boundary expansion, planning authorities shall consider the following:

d) the evaluation of alternative locations which avoid prime agricultural areas and, where avoidance is not possible, consider reasonable alternatives on lower priority agricultural lands in prime agricultural areas."

The Subject Lands are part of a *prime agricultural area.* Therefore, an assessment of alternative locations for *settlement area* boundary expansion is required.

7.2 Evaluation of Alternative Locations

7.2.1 Avoidance of Prime Agricultural Areas

The City of Hamilton completed a Land Needs Assessment in 2020, prepared by Lorius & Associates, which examined the capacity of the City's urban area to accommodate projected population and employment growth to the year 2051. At the March 29, 2021 General Issues Committee meeting, City staff recommended that the 'Ambitious Density' scenario of the Land Needs Assessment be adopted. The 'Ambitious Scenario' identified a requirement of 1,340 ha for urban boundary expansion to accommodate the projected population growth.

Subsequent to the Lorius & Associates Land Needs Assessment, Parcel Economics prepared a Community Area Land Needs Assessment for the City of Hamilton. Using the Ontario Ministry of Finance population projections and applying the intensification rates of the 'Ambitious Density' scenario from the Land Needs Assessment, Parcel Economics concluded that *settlement area* boundary expansion to accommodate 1,720 gross hectares of Community Area lands is required for the City of Hamilton's 2051 growth projections.

The Agricultural Systems Portal shows that all lands surrounding the City of Hamilton *settlement area* are located within the Greater Golden Horseshoe's Prime Agricultural Area or Candidate Area. The Rural Hamilton Official Plan also shows that the majority of lands surrounding the existing *settlement area* boundary are designated Agriculture or Specialty Crop. The majority of Rural designated lands within the Rural Hamilton Official Plan are part of the Greenbelt Plan area. These lands are designated Protected Countryside and Niagara Escarpment Plan, and *settlement area* boundary expansion is restricted through the policies of the Greenbelt Plan.

A portion of lands south of the existing City of Hamilton *settlement area* boundary, within the areas referred to as the Twenty Road East and the Twenty Road West lands, are designated Rural in the Rural Hamilton Official Plan and are outside of the Greenbelt Plan area. These lands are approximately 510 gross ha in size. If these lands are brought into the urban area, there will still be a deficiency in the amount of land required

for the projected population growth. Therefore, *prime agricultural areas* cannot be avoided for the City of Hamilton's projected population growth.

7.2.2 Low Priority Alternative Areas

Where it is not possible or practical to avoid lands within a *prime agricultural area*, the *PPS 2024* directs SABE to locate on lands with lower agricultural priority. As discussed in Section 6 of this AIA, the Subject Lands are lower priority agricultural lands for a variety of reasons. Lands to the north of the Subject Lands are within a *specialty crop area* and SABE is restricted through the policies of the Greenbelt Plan. Lands to the west of the City of Hamilton are designated Protected Countryside and Niagara Escarpment Plan within the Greenbelt Plan. SABE of these lands is also restricted by the policies of the Greenbelt Plan and the Niagara Escarpment Plan.

The lands surrounding the existing City of Hamilton *settlement area* boundary have similar CLI capabilities to the Subject Lands, as the majority of lands are considered *prime agricultural lands*. Given the policy limitations of where SABE may occur, the similar CLI capabilities of lands surrounding the City of Hamilton, and the reasons discussed in Section 6 of this report, there are no reasonable alternative locations for SABE on lower priority agricultural lands. Inclusion of these lands in the *settlement area* of Hamilton will be consistent with Section 2.3.2.1.d) of the *PPS 2024*.

7.3 Summary of Assessment of Alternative Locations

The removal of these lands from the City's *prime agricultural area* for urban uses are consistent with *PPS 2024*. The Subject Lands are a reasonable choice of location as *prime agricultural areas* cannot be avoided, they are lower priority agricultural lands, and there are very minor *development* constraints related to *MDS I* setback requirements.

8. ASSESSMENT OF IMPACTS TO AGRICULTURE

Farm operations can be adversely impacted by new *non-agricultural development* on adjacent lands. *Non-agricultural development* adjacent to agricultural lands can cause disruptions to existing farm practices as a result of construction activity, an increase in non-farm traffic, incidence of trespass and vandalism, and increased levels of noise, dust, and lighting. Farmers may also experience an increase in nuisance complaints from residents and/or patrons of *non-agricultural* facilities. These complaints are often related to issues such as odour, light, dust, and noise generated through *normal farm practices*.

The proposed SABE will have both direct and indirect impacts. It is unlikely that the proposed SABE will have significant, long-term negative effects on the surrounding agricultural lands and community.

8.1 Direct Impacts

8.1.1 Prime Agricultural Lands

The Subject Lands are approximately 1,209 ha (2,987 acres) in size, of which approximately 1,154 ha are *prime agricultural lands*. *Development* of the Subject Lands will lead to the loss of approximately 1,154 ha of *prime agricultural lands*. To mitigate this loss in the short-term, the lands should be kept in agricultural production until the land is to be developed.

8.1.2 Agricultural Infrastructure

There are eleven agricultural operations within the Subject Land which have agricultural infrastructure associated with the operations. Four of these operations have agricultural infrastructure that is fully or partially collapsed, and an additional three are inactive operations. The *development* of the Subject Lands will result in the loss of the agricultural infrastructure associated with the eleven agricultural operations located within the Subject Lands.

8.1.3 Agricultural Land Improvements

There are approximately 110.66 ha (273.45 acres) of random tile drainage, and 36.89 ha of systematic tile drainage installed within the Subject Lands. There are no constructed drains located within the Subject Lands. *Development* of the Subject Lands will result in the loss of these agricultural land improvements. The impact of this loss is anticipated to be negligible, as the lands will no longer being in agricultural production following the development of the Subject Lands.

8.1.4 Loss of Crop Land

The Subject Lands are primarily *cultivated* for the production of common field crops, but also contain small portions of forested area, idle lands, and scrubland. Of the Subject Lands' 1,209 ha, approximately 928 ha of land are *cultivated*. The inclusion of the Subject Lands into the *settlement area* boundary will result in the eventual loss of these cultivatable lands. To mitigate this loss in the short-term, the lands should be kept in agricultural production until the land is to be developed.

8.2 Indirect Impacts

Potential impacts to adjacent farm operations and farm practices are considered to be indirect impacts. These would include changes to the surface drainage that could impact adjacent lands, disruption to farm traffic and access to adjacent agricultural fields, instances of trespass and vandalism, and conflicts arising

from farm odour and other nuisance complaints often received by farmers in close proximity to *non-agricultural uses*.

8.2.1 Disruption to Surficial Drainage

The *development* of the Subject Lands has the potential to cause changes in surface runoff, which can have a potential negative impact on adjacent agricultural lands. It is recommended that a Grading Plan and Stormwater Management Plan be developed as part of the Secondary Plan process. Implementation of the recommendations provided in these studies will minimize or eliminate the potential impacts, which are expected to be negligible.

8.2.2 Disruption to Farm Operations

Most active agricultural operations in the *Study Area* are well removed from the Subject Lands. These farms are unlikely to experience any form of disruption to their operations. *Development* of the Subject Lands and subsequent removal of farmland may have an impact on the flexibility on some of the surrounding farm operations if they relied on the Subject Lands as an additional source of farmland to supplement their home operation. However, the adjacent lands will not be directly affected, and current farm operations will still be able to cultivate common field crops and other agricultural products without limitation.

New *non-agricultural development* may have an impact on the existing farm wells, irrigation ponds, and ponds or other waterbodies used to provide *livestock* with sources of water in the surrounding area. It is recommended that a Hydrogeological Study be prepared as part of the Secondary Plan process. It is anticipated that the Hydrogeological Study will provide recommendations to mitigate impacts if impacts to these water sources are anticipated.

Noise, dust, and light can have a negative impact on some farm operations. Construction may temporarily generate greater levels of noise, dust, and lighting. No sensitive farm operations were identified that would be impacted by noise, dust, and lighting. However, it is recommended that these elements be controlled and in compliance with Ministry of Environment, Conservation and Parks (MECP) guidelines. No negative indirect impacts are anticipated from construction activity.

8.2.3 Trespass and Vandalism

Some farm operations within the *Study Area* may already have to deal with the potential for trespass and vandalism due to the close proximity of the City of Hamilton *settlement area* and the abundance of *non-agricultural uses* in the surrounding area. People walking their pets in farmer's fields, crossing and damaging fences, and rutting fields with dirt bikes and all-terrain vehicles are all examples of trespass and vandalism that may occur. As a result of the potential increase in urban population and construction activities, there is also a chance that debris (litter) can end up in farmers' fields. Establishing temporary buffers, fencing, and other short-term edge planning techniques should be considered to minimize impacts.

The proposed *development* should consider the use of permanent edge-planning techniques along the new agricultural-urban interface. Edge planning techniques are discussed in further detail in Section 8.3 of this report.

8.2.4 Minimum Distance Separation

The *MDS I* setback requirements have been calculated for all *livestock facilities* capable of housing *livestock* in the *Study Area*. There are four operations which create *MDS I* constraints to the proposed *development* within the Subject Lands. These operations (#24, #31, #38, and #42) create *MDS I* setback arcs which encroach 10.35 ha into the Subject Lands. It is recommended that these areas of encroachment be developed for infrastructure uses, open space uses, or other land use types which the *MDS I formula* does not apply to. The proposed *settlement area* boundary expansion will comply with the *MDS formulae*.

8.2.5 Transportation Impacts

There is a substantial amount of traffic along Regional Road 20, Upper Centennial Parkway, and Regional Road 56, and it is likely that the *development* of the Subject Lands will introduce more traffic to these roads over time. Given the close proximity of the City of Hamilton *settlement area* and the existing *non-agricultural uses* within the *Study Area*, it is likely that the agricultural operations in the *Study Area* have already become accustomed to non-farm traffic and modified their practices accordingly. It is unlikely that increased traffic levels from the proposed SABE will significantly impact farm operations. Increased traffic levels will have no long-term impact on these farm operations.

It is understood that a Traffic Impact Study has been prepared as part of the Secondary Plan process. To ensure transportation impacts are minimized, recommendations outlined in a Traffic Impact Study should be adhered to.

8.2.6 Economic and Community Impacts

Local and regional economies and agricultural communities can be adversely impacted by the introduction of new *development* on agricultural lands as a result of the loss of farmland, fragmentation, removal of agricultural investments, commodities, services, and impacts to other farming operations.

While agriculture in the City of Hamilton provides economic and community benefits, the influence of agriculture is waning in the *Study Area*. There are limited operations within the Subject Lands which exhibit signs of recent investment in agricultural infrastructure or land improvements.

The proposed SABE is anticipated to be beneficial to the local and regional economies through the increase in population and job creation. The loss of input to the agricultural economy is likely to be offset by the additional inputs to the economies associated with the proposed SABE. With the anticipated increase in population, it is likely that demand for local agricultural products will also increase. Farm operations in the City of Hamilton will need to adjust or expand their operations to take advantage of the population increase.

8.3 Implementation of Edge Planning Techniques

The agricultural-urban interface (AUI) is typically the area where farm operations are negatively impacted the most. When *settlement area* boundary expansion is being proposed, some consideration should be given to minimizing the length of the AUI. The proposed SABE will create a new agricultural-urban interface that should be given special consideration during the Secondary Plan process.

The *Guide to Edge Planning: Promoting Compatibility Along Agriculture-Urban Edges* (2015) developed by the British Columbia Ministry of Agriculture and Lands provides a basis for achieving compatibility where

agricultural and urban uses interface. *Edge Planning: Strategies for Rural and Urban Interface* (2015) developed by MHBC for the Peel Agricultural Advisory Working Group provides a review of case study examples and provides methods and recommendation for addressing the mitigation of conflict where *settlement areas* and *prime agricultural areas* interface. These guides recognize and address the potential negative impacts that agricultural and *non-agricultural uses* can have on one another and presents options to prevent such impacts. Edge planning techniques to reduce potential impacts on farmers and non-farmers are discussed below.

8.3.1 Subdivision design: density, road, and lot patterns

The proposed *development* layout should be designed to maximize, to the extent possible, a setback distance from the *non-agricultural uses* and farm operations. Creating a vegetated buffer between farming operations and the *non-agricultural uses* will further enhance the effectiveness of the setback. In addition to this, the consideration of lot dimensions and density, along with road and service design can help reduce impacts to adjacent farming activities and help to reduce impacts to urban land uses. Overall, the design of the proposed *development* should be directing vehicular and pedestrian traffic away from the AUI as much as possible.

8.3.2 Building design and layout

Building setbacks from the AUI can help create separation between agricultural and urban land uses. The urban-side of the AUI should consider a setback distance, rear-yard for housing, and green spaces to provide physical separation from the farmlands. Setbacks could include space for a wide, vegetated buffer. There is a range of recommended building setback distances from the AUI depending on the type of land use. The recommended setback distance from the AUI is 15 metres for commercial or industrial land uses, 30 metres for residential land uses, and 90 metres for institutional land uses.

8.3.3 Open space and landscape design

Any open space and landscape design should retain existing tree cover (where possible) in natural state in designated buffer areas. When selecting plant species for open space areas and landscape design, species which will not negatively affect adjacent farmland and provide greater benefit to residents should be given priority (i.e., use native, non-invasive species, low maintenance/drought tolerant plants, tree/shrub species that will filter dust and spray drift from agricultural area (e.g., conifers), tree/shrub species that will not carry insects/disease, etc.).

8.3.4 Urban-side buffer design

As part of the building setback, the urban-side buffer design should include a continuous vegetative buffer within the building setback. Buffers can provide a visual screen of farmlands and activities, provide a deterrent to trespass onto farms, as well as capture dust, spray drift, and litter. A buffer design with a minimum separation distance of 30 metres (including vegetative buffer) between housing and the AUI is recommended and found to be effective in reducing nuisance complaints.

The *Guide to Edge Planning: Promoting Compatibility Along Agriculture-Urban Edges* recommends a minimum vegetative buffer width of 15 metres for residential or institutional land uses, and 8 metres for commercial or industrial land uses. Crown density of the buffer should be 50-75% to provide optimal screening and air circulation. Furthermore, the vegetative buffer should include both deciduous and coniferous plantings to

ensure four-season screening is provided. If there is excess soil generated as a result of *development*, the construction of topsoil berms can also be considered to provide some visual screening and potentially increase the height of the vegetative screen.

The height of the vegetative buffer should exceed 6 metres at plant maturity to create an effective vegetative screen and capture more dust and spray drift between agricultural and urban land uses. A good vegetative buffer will also reduce the intensity of winds, which will minimize the extent of obnoxious odours originating from *livestock operations*. It can also minimize sound and lighting generated by farm operations.

8.3.5 Trail System

The creation of a trail system through the Subject Lands may provide opportunities to improve vegetated buffers, separating agricultural areas from urban land uses. The trail system should be situated along the urban edge of the vegetative buffer and must not reduce the effectiveness of the vegetative buffer. Where possible, the trail width should be limited to a maximum of one-third of the total landscape buffer width. Special attention should be given to trail areas to prevent trespass onto agricultural lands (e.g., fencing).

8.4 Summary of Impacts

The potential direct and indirect impacts identified are summarized in Table 4 along with the potential degree of impact, mitigation measures to avoid or minimize the potential impact, and the resulting anticipated impact.

Table 4. Summary of Impacts

Potential Impact	Potential Degree of Impact	Mitigation Measure	Anticipated Net Impact
Direct Impacts			
Loss of prime agricultural land	High	• Maintain the use of the lands for cultivation until needed for *development*	Eventual loss of approximately 1,154 ha of prime agricultural lands
Loss of agricultural infrastructure	Low	• None required	Eventual loss of agricultural infrastructure from 11 agricultural operations
Loss of agricultural land improvements	Low	• None required	Eventual loss of approximately 147.55 ha of tile drainage
Loss of cropland	High	• Continue farming lands until needed for *development*	Eventual loss of approximately 927.91 ha of cultivatable land
Indirect Impacts			
Surficial Drainage	Low	• Prepare a Grading Plan and Stormwater Management Plan • Implement recommendations of Grading Plan and Stormwater Management Plan if impact identified.	No impact anticipated
Disruption to Farm Operations	Low	• Ensure that access to farm operations and farm fields is maintained at all times throughout construction.	No impact anticipated
Non-farm traffic	Low	• Implement recommendations of Traffic Impact Study	No significant impact anticipated
Trespass, Vandalism, and Stray Pets	Low	• Consider the use of edge planning techniques along the agricultural-urban interface	No significant impact anticipated
Noise, Dust & Light	Low	• Adhere to Ministry of the Environment, Conservation and Parks (MECP) guidelines	No Impact

Table 4. Summary of Impacts

Potential Impact	Potential Degree of Impact	Mitigation Measure	Anticipated Net Impact
Conflict with MDS formula	Low	• Use areas of encroachment for land use types which the MDS I formula does not apply to (e.g., infrastructure) • Implement edge planning techniques (e.g., vegetative buffer) along agricultural-urban interface	No significant impact anticipated
Economic	Low	• The City of Hamilton and land developers should promote local farm *livestock* and produce	No significant negative impact
Wells, Irrigation, water bodies	Low	• Prepare a Hydrogeological Study for the Subject Lands • Implement recommendations of Hydrogeological Study if impact identified	No impact anticipated

9. CONSISTENCY WITH AGRICULTURAL POLICIES

9.1 Provincial Planning Statement

Section 2.3.2.1 of the *PPS 2024* states that "In identifying a new settlement area or allowing a settlement area boundary expansion, planning authorities shall consider the following:

a) the need to designate and plan for additional land to accommodate an appropriate range and mix of land uses;
b) if there is sufficient capacity in existing or planned infrastructure and public service facilities;
c) whether the applicable lands comprise specialty crop areas;
d) the evaluation of alternative locations which avoid prime agricultural areas and, where avoidance is not possible, consider reasonable alternatives on lower priority agricultural lands in prime agricultural areas;
e) whether the new or expanded settlement area complies with the minimum distance separation formulae;
f) whether impacts on the agricultural system are avoided, or where avoidance is not possible, minimized and mitigated to the extent feasible as determined through an agricultural impact assessment or equivalent analysis, based on provincial guidance; and
g) the new or expanded settlement area provides for the phased progression of urban development."

The need for SABE has been identified in both Lorius & Associates' Land Needs Assessment and Parcel Economics' Community Area Land Needs Assessment for the City of Hamilton. It is expected that the sufficient capacity of existing or planned infrastructure and public service facilities will be identified within the submission documents for the application.

The Subject Lands are part of a *prime agricultural area* but are not part of a *specialty crop area*. Alternative locations have been evaluated and *prime agricultural areas* cannot be avoided due to the amount of land required to accommodate the projected growth of the City of Hamilton. The Subject Lands are considered lower priority agricultural lands and represent a reasonable location for SABE.

MDS I setback requirements have been calculated and the majority of agricultural operations have *MDS I* setbacks that do not encroach into the Subject Lands. Four agricultural operations have *MDS I* setbacks that encroach into the Subject Lands, which have a total encroachment area of 10.35 ha. The City of Hamilton may choose to reduce the *MDS I* setback for these operations through a minor variance to the zoning by-law provisions or through a site-specific policy area. If the *MDS I* setbacks are reduced, or land uses which do not require the application of the MDS I formula (e.g., infrastructure) are located within the encroachment areas, SABE will comply with the *minimum distance separation formulae*. Once brought into the *settlement area*, the MDS formulae will no longer apply.

The AIA assessed the potential impacts on the *Agricultural System* associated with the proposed SABE and provided mitigation measures to avoid or minimize potential impacts, to the extent feasible. Therefore, the proposed SABE will be consistent with the agricultural policies of the *PPS 2024*.

9.2 City of Hamilton Policy

The Rural Hamilton Official Plan designates the majority of the Subject Lands as Agriculture, with smaller portions designated Rural and Open Space. The Agriculture land use designation represents the City of Hamilton's *prime agricultural area*. Section F.1.1.3 of the Rural Hamilton Official Plan states that an official plan amendment shall be required "to create, modify or expand land use designations and policies which do not conform with the intent of this plan."

Sections D.2.2.1 and D.4.2.1 of the Rural Hamilton Official Plan states that lands designated Agriculture and Rual, respectively, "shall not be redesignated for non-agricultural uses." The proposed SABE will require an official plan amendment to conform to the agricultural policies of the Rural Hamilton Official Plan.

Section B.2.2 of the Urban Hamilton Official Plan outlines policies for Urban Boundary Expansions. Section B.2.2.1 states that "The City's urban boundary is firm and expansion to accommodate growth to the year 2051 is not required. All planned growth to 2051 shall be accommodated through development of the City's existing designated greenfield area, and intensification throughout the Urban Area, and a limited amount of infill development within Rural Hamilton."

Section B.2.2.2 of the Urban Hamilton Official Plan states that "Notwithstanding Policy B.2.2.1, adjustments to the urban boundary may be permitted through a municipal comprehensive review provided:

a) there is no net increase in land within the urban area;
b) the adjustment would support the City's ability to meet intensification and redevelopment targets provided in Section A.2.3 – Growth Management Provincial;
c) prime agricultural areas are avoided where possible. Alternative locations will be evaluated, prioritized and determined based on avoiding, minimizing and mitigating impacts on the Agriculture System;
d) the lands are not located within the Greenbelt Area;
e) for lands within the Niagara Escarpment Plan area, the lands are designated Urban Area in the Niagara Escarpment Plan; and,
f) there is sufficient reserve infrastructure capacity to service the lands."

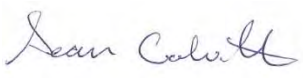
This AIA has demonstrated that *prime agricultural areas* cannot be avoided to accommodate the identified land needs for the City's projected population growth. The Subject Lands are lower priority agricultural lands within a *prime agricultural area* and represent a reasonable location for SABE. Potential impacts on the *Agricultural System* have been identified and recommendations have been made to avoid or minimize impacts, to the extent feasible. The proposed SABE will require an amendment to the Urban Hamilton Official Plan. The proposed SABE will comply with the agricultural policies of the Rural Hamilton Official Plan at such time.

10. CONCLUSION

This AIA has identified and described the agricultural resources and farm operations within the Subject Lands and *Study Area*. The potential impacts associated with the proposed SABE have been assessed and we have determined the following:

1. The Subject Lands are part of a *prime agricultural area* but are not part of a *specialty crop area*;
2. Potential impacts associated with the proposed SABE are primarily limited to the loss of *prime agricultural land*, cultivatable land, agricultural infrastructure, and agricultural land improvements. Recommendations have been provided that will ensure potential impacts will be avoided or mitigated to the extent possible. The net indirect impacts will be negligible with the implementation of the recommended mitigation measures;
3. The proposed *development* can comply with the *MDS I* setback requirements. Four agricultural operations create *MDS I* setbacks that encroach 10.35 ha into the Subject Lands. These *MDS I* setbacks may be reduced by the City of Hamilton, excluded from SABE, or used for infrastructure or open space land uses;
4. The majority of lands outside of the City of Hamilton *settlement area* boundary are considered to be part of a *prime agricultural area*. *Prime agricultural areas* cannot be avoided to accommodate the calculated land needs for the City's projected growth. The Subject Lands are lower priority lands and are a reasonable location for *settlement area* expansion compared to other lands within the City's *prime agricultural area*; and
5. The proposed SABE will comply with all relevant agricultural policies of the *PPS 2024*, and will require an Official Plan Amendment to the Rual Hamilton Official Plan and Urban Hamilton Official Plan. If the Subject Lands are brought into the City of Hamilton's *settlement area*, the proposed *development* will comply with the local agricultural policies at such time.

Respectfully submitted by:



Sean Colville, B.Sc., P.Ag.
Colville Consulting Inc.

John Liotta, B.Sc.Env, A. Ag.(P)
Colville Consulting Inc.

11. GLOSSARY OF TERMS

Agricultural uses:* - means the growing of crops, including nursery and horticultural crops; raising of *livestock* and other animals for food, or fur, including poultry and fish; aquaculture; agro-forestry; maple syrup production; and associated on-farm buildings and structures.

Agriculture-related uses:* - farm-related commercial and farm-related industrial uses that are small scale and directly related to the farm operation and are required in close proximity to the farm operation.

Agricultural System: - An agricultural system is comprised of two components:

- An agricultural land base consisting of prime agricultural areas, including specialty crop areas, and rural lands that together create a continuous productive land base for agriculture.
- An agri-food network that includes infrastructure, services, and assets, important to the viability of the agri-food sector.

Agri-food network:* - includes the infrastructure, services and other agri-food assets needed to sustain and enhance the prosperity of the agri-food sector.

Agri-tourism uses:* - means those farm-related tourism uses, including limited accommodation such as a bed and breakfast, that promote the enjoyment, education or activities related to the farm operation.

Cash crop: - means a crop being produced for income purposes and not to supplement a livestock operation by contributing to feed requirements.

Cultivated: - means lands that have recently been under active agricultural production, however, depending on the season or growth stage of the crop during the land use survey or through aerial photographic interpretation the crop type could not be determined.

Development: - means the creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act; but does not include activities that create or maintain infrastructure authorized under an environmental assessment process; or works subject to the Drainage Act.

Dwelling:* - Any permanent building that is used, or intended to be used, continuously or seasonally, as a domicile by one or more persons and usually containing cooking, eating, living, sleeping, and sanitary facilities.

Empty livestock facility/operation: - A livestock barn that does not currently house any livestock, but that housed livestock in the past and continues to be structurally sound and reasonably capable of housing livestock.

Forage/Pasture: - means a crop that consists of either pastureland, including rough grazing, or hay crops including silage and haylage.

Hobby farm: - A residential dwelling, with or without accessory buildings, which may include some crop production for personal consumption or limited sale; and/or small numbers of livestock raised for personal consumption, pleasure, or limited sale. A hobby farm normally will generate little or no income and as such may not have a Farm Business Registration Number.

Livestock:* - includes dairy, beef, swine, poultry, horses, goats, sheep, ratites, fur-bearing animals, deer & elk, game animals, birds, and other animals.

Livestock facility:* - means one or more barns or permanent structures with livestock-occupied portions, intended for keeping or housing livestock. A livestock facility also includes all manure or material storages and anaerobic digesters.

Livestock Operation: - an agricultural operation dedicated to the raising breeding, and/or managing of livestock for the purpose of producing food, fibre, or other animal-derived products.

Manure Storage: - A permanent storage which is structurally sound and reasonably capable of storing manure and which typically contains liquid manure (<18% dry matter) or solid manure (≥18% dry matter), and may exist in a variety of:

- locations (under, within, nearby, or remote from barn);
- materials (concrete, earthen, steel, wood);
- coverings (open top, roof, tarp, or other materials);
- configurations (rectangle, circular); and
- elevations (above, below or partially above-grade).

Minimum Distance Separation (MDS) formulae: - formulae and guidelines developed by the province, as amended rom time to time, to separate uses so as to reduce incompatibility concerns about odour from livestock facilities.

Minimum Distance Separation (MDS) I formulae: - used to determine the minimum distance separation for new development from any existing and some former livestock facilities.

Minimum Distance Separation (MDS) II formulae: - used to determine the minimum distance separation for new or expanding livestock facilities from existing non-farm land uses.

Non-agricultural uses:* - Buildings designed or intended for a purpose other than an *agricultural use*; as well as land, vacant or otherwise not yet fully developed, which is zoned or designated such that the principal or long-term use is not intended to be an *agricultural use*, including, but not limited to: commercial, future urban development, industrial, institutional, *open space uses*, *recreational uses*, *settlement area*, *urban reserve*, etc.

Non-farm residential (NFR): - means residential buildings and lots not associated with a farm operation such as farm retirement lots/severances and/or other residences in the Agricultural and Rural Area. Second farm residences for farm help would be considered a farm residence if it is on an existing farm operation.

Normal farm practices:* - means a practice, as defined in the *Farming and Food Production Protection Act*, *1998*, 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. *Normal farm practices* shall be consistent with the *Nutrient Management Act*, *2002* and regulations made under that Act.

On-farm Diversified Use: - means uses that are secondary to the principal agricultural use of the property, and are limited in area. On-farm diversified uses include, but are not limited to, home occupations, home industries, agritourism uses, and uses that produce value-added agricultural products. Ground-mounted solar facilities are permitted in prime agricultural areas, including specialty crop areas, only as on-farm diversified uses.

Prime agricultural area:* - means an area where *prime agricultural land* predominates. Prime agricultural areas may also be identified through an alternative agricultural land evaluation system approved by the Province.

Prime agricultural land:* - means land that includes *specialty crop lands* and/or Canada Land Inventory Class 1, 2 and 3 soils, in this order of priority for protection.

Provincial Planning Statement (*PPS 20204*): - The Provincial Planning Statement will be replacing the Provincial Policy Statement and the A Place to Grow: Growth Plan for the Greater Golden Horseshoe. It is expected that the *PPS 20204* will be the primary provincial land use planning document across Ontario, following its implementation.

Provincial Policy Statement: - the Provincial Policy Statement was issued under Section 3 of the Planning Act and came into effect in May of 1996 and subsequently updated in 1997, 2005, 2016 and again in 2020. The Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development. It is expected that the *Provincial Policy Statement* will be approved by the provincial government and will replace the *Provincial Planning Statement*.

Remnant: - means a location where one or more farm buildings once stood. All or some of the buildings have fallen, are severely structurally unsound and/or been removed. No MDS would be applied to a remnant farm operation.

Retired livestock/farm operation: - means a former farm operation whose buildings or farm related structures remain; however, it has either been converted to a non-agricultural use; would require significant upgrades and investment to modernize; or it is in poor condition and not suitable for agricultural uses. The MDS may still apply if it is a former livestock facility.

Rural lands:* - means lands which are located outside *settlement areas* and which are outside *prime agricultural areas*.

Settlement areas:* - As defined in the Provincial Policy Statement, 2005, this means urban areas and rural settlement areas within municipalities (such as cities, towns, villages, and hamlets) that are:

a. built up areas where development is concentrated and which have a mix of land uses, and

b. lands which have been designated in an official plan for development over the long-term.

Soil profile: - a vertical section of the soil through all its horizons and extending into the soil parent material.

Specialty crop area:* - means areas within the agricultural land base designated based on provincial guidance. 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.

Study Areas: - a term used to identify the Primary Study Area and Secondary Study Area. The Primary Study Area includes the Subject Lands (e.g., the lands where development is taking place). The Secondary Study Area includes lands that will be potentially impacted by the development. The Secondary Study Area may vary in its extent, but should include, at a minimum, the lands adjacent to the Primary Study Area.

Tender fruit: - a term applied to tree fruits such as peaches, apricots, and nectarines which are particularly sensitive to low winter and/or spring temperatures.

** Indicates that the definition is essentially derived from OMAFRA publications.*

12. REFERENCES

British Columbia Ministry of Agriculture. Guide to Edge Planning – Promoting Compatibility Along Agricultural-Urban Edges, 2015. Retrieved from: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/strengthening-farming/planning-for-agriculture/823100-3_edge_guide_2015.pdf

Chapman, L.J. and D.F. Putnam, 1994. The Physiography of Southern Ontario, Third Edition. Government of Ontario. Ontario, Canada.

E.W. Presant, R.E. Wicklund, & B.C. Matthews. The Soils of Wentworth County – Report No. 32 of the Ontario Soil Survey. 1965. Soil Research Institute and The Ontario Agricultural College. Guelph, Ontario.

Environment Canada's National Climate Data and Information Archive's online database. https://climate.weather.gc.ca/climate_normals/results_1981_2010_e.html?searchType=stnName&txtStationName=Hamilton+A&searchMethod=contains&txtCentralLatMin=0&txtCentralLatSec=0&txtCentralLongMin=0&txtCentralLongSec=0&stnID=4932&dispBack=1

MHBC, 2015. Edge Planning Report – The Region of Peel & Town of Caledon LEAR Study and MDS Review: A Review of Implemented Practices to Address Planning on the Rural-Urban Fringe. Retrieved from: https://www.peelregion.ca/planning/paawg/pdf/Edge_Planning_Report.pdf

OMAFRA. Agriculture Information Atlas. Available Online: http://www.gisapplication.lrc.gov.on.ca/AIA/Index.html?viewer=AIA.AIA&locale=en-US

OMAFRA. Agricultural System Portal. Available Online: https://www.arcgis.com/aPPS/mapviewer/index.html?webmap=09ff270acab24673858afe480a8fac4c

OMAFRA. Minimum Distance Separation Document & AgriSuite Software (OMAFRA, 2017)

Ontario Ministry of Agriculture, Food and Rural Affairs website, December 2022. Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs 1997. Crop Heat Units for Corn and Other Warm Season Crops in Ontario. OMAFRA Factsheet 93-119., Queen's Printer for Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs, 2016. Guidelines of Permitted uses in Ontario's Prime Agricultural Areas Publication 851, Queen's Printer for Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs, 2020. Implementation Procedures for the Agricultural System in Ontario's Greater Golden Horseshoe *Supplementary Direction to a Place to Grow: A Growth Plan for the Greater Golden Horseshoe* Publication 856, Queen's Printer for Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs and Ministry of Environment. 2017. Minimum Distance Separation (MDS) Document *Formulae and Guidelines for Livestock and Anaerobic Digestor Odor Setbacks.* Publication 853, Queen's Printer for Ontario.

Ontario Ministry of Agriculture, Food and Rural Affairs. Digital Soil Resource information provided by Guelph Geomatics Services. 2010.

Ontario Ministry of Municipal Affairs. Provincial Planning Statement. 2024, King's Printer for Ontario.

Ontario Ministry of Municipal Affairs. Provincial Policy Statement. 2020, Queen's Printer for Ontario.

Ontario Ministry of Municipal Affairs. Places to Grow, Growth Plan for the Greater Golden Horseshoe. 2020, Queen's Printer for Ontario.

Rural Hamilton Official Plan, February 2021. https://www.hamilton.ca/build-invest-grow/planning-development/official-plan/rural-hamilton-official-plan

Urban Hamilton Official Plan, November 2022. https://www.hamilton.ca/build-invest-grow/planning-development/official-plan/urban-hamilton-official-plan

APPENDIX A

Curriculum Vitae

SEAN M. COLVILLE, B.Sc., P.Ag.

432 Niagara St., Unit 2, St. Catharines, ON L2M 4W3
Tel: (905) 935-2161 | Email: sean@colvilleconsultinginc.com

EDUCATION

B.Sc.Geology, Acadia University, 1986
Soil Science, University of Guelph, 1984

PROFESSIONAL AFFILIATIONS

Ontario Institute of Agrology
Agricultural Institute of Canada

POSITIONS HELD

2003 – Present	**President** - Colville Consulting Inc., St. Catharines, Ontario
2001 – 2003	**Senior Project Manager** - ESG International Inc., St. Catharines, Ontario
1998 – 2001	**Senior Project Manager** - ESG International Inc., Guelph, Ontario
1988 – 1998	**Project Manager** - ESG International Inc., Guelph, Ontario
1984 – 1988	**Soil Scientist –** MacLaren Plansearch Ltd., Halifax, Nova Scotia
1982 – 1983	**Assistant Soil Scientist** – Nova Scotia Department of Agriculture and Marketing

EXPERIENCE

Colville Consulting Inc. (CCI) was established in June of 2003 by Sean Colville. CCI offers agricultural and environmental consulting services to clients across Ontario, catering to both public and private sectors. Sean has over 35 years of agricultural consulting experience, which includes agricultural resource evaluation studies, soil surveys, interpretations of agricultural capability, agricultural impact assessments, alternative site assessments, and soil and microclimatic rehabilitation/restoration projects. Sean has extensive experience interpreting agricultural land use policies for a wide variety of development applications.

Sean is a Professional Agrologist (P.Ag.), and a member of both the Ontario Institute of Agrology and the Agricultural Institute of Canada. Sean has been recognized by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) as an expert in the identification of Prime Agricultural Areas and in the interpretation of the Minimum Distance Separation requirements for livestock operations.

Sean has presented expert testimony before the Ontario Land Tribunal (formerly OMB, LPAT), Consolidated Joint Board, Assessment Review Board, Ontario Superior Court, and the Normal Farm Practices Protection Board. Sean's testimonies have involved land use planning matters as they relate to agriculture, impact assessments, resource evaluations, soil science, and normal farm practices.

Agricultural Impact Assessments and Alternative Site Studies

Colville Consulting Inc. specializes in agricultural impact assessment and alternative site studies for development applications in Prime Agricultural Areas. Sean has prepared over 200 agricultural impact assessments for a wide variety of development projects, including settlement area boundary expansions, linear facilities (Class EAs), new and expanding aggregate operations, and residential, commercial, recreational, industrial, and institutional developments. The majority of these projects required the interpretation of agricultural land use policies, an inventory and assessment of the agricultural resources,

land use, land tenure, an assessment of conflict potential including determination of minimum distance separation requirements, interpretation of the agricultural priority, and development of mitigation measures to avoid or minimize potential impacts. Justification of the location for development proposals in agricultural areas is required by the Provincial Policy Statement and can often be addressed by an alternative site study.

Recent examples of Sean Colville's agricultural work include:

- Agricultural Impact Assessment for Stubbes New Durham Precast Plant (2021)
- Agricultural Impact Assessment for New Tecumseth Community Builders Inc., County of Simcoe (2021)
- Agricultural Impact Assessment for Caledon Costco (2021)
- Agricultural Impact Assessment for Walker Industries' Redford Pit Expansion, West Grey (2022)
- Agricultural Impact Assessment for Milton Business Park (2022)
- Minimum Distance Separation for Mono Hills Corporation (2022)
- Land Evaluation and Area Review for Norfolk County (2022)

Publications

Rees, H.W.; Duff, J.P.; Colville, S.; Soley, T and Chow T.L. 1995. Soils of selected agricultural areas of Moncton Parish, Westmoreland County, New Brunswick. New Brunswick. Soil Survey Report No. 15. CLBRR Contribution No. 95-13, Research Branch, Agriculture AND Agri-Food Canada, Ottawa, Ontario

Rees, H.W.; Duff, J.P.; Colville, S.; Soley, T and Chow T.L. 1996. Soils of selected agricultural areas of Shediac and Botsford Parishes, Westmoreland County, New Brunswick. New Brunswick. Soil Survey Report No. 16. CLBRR Contribution No. 95-13, Research Branch, Agriculture and Agri-Food Canada, Ottawa, Ontario. 127 pp. with maps.

JOHN LIOTTA, B.Sc. (Env.), EMA, A.Ag.(P)

432 Niagara St., Unit 2, St. Catharines, ON L2M 4W3
Tel: (905) 935-2161 | Email: john@colvilleconsultinginc.ca

EDUCATION

Bachelor of Science in Environmental Sciences, University of Guelph, 2018
Environmental Management and Assessment Graduate Certificate, Niagara College, 2022

PROFESSIONAL AFFILIATIONS

Eco Canada – Environmental Professional in Training
Ontario Institute of Agrologists – Articling Agrologist

POSITIONS HELD

2022 – Present – Colville Consulting Inc., St. Catharines, Agrologist/Ecologist

EXPERIENCE

John Liotta, Agrologist and Ecologist at Colville Consulting Inc., has over 5 years of formal educational training and experience in Environmental and Agricultural Planning. John has completed Agricultural Impact Assessments, Minimum Distance Separation (MDS) Requirements, and Agricultural Characterization Reports in his role as at Colville Consulting Inc.

Through his education at the University of Guelph and Niagara College, John has gained a broad base knowledge of Environmental and Agricultural Planning and Management, which he has applied in his current role at Colville Consulting Inc. His work at Colville Consulting Inc. includes the interpretation of provincial, regional, and local land use policies, creation and interpretation of land use maps, regional soils mapping, and agricultural protection policies. He has participated in the completion of Agricultural Impact Assessments, Minimum Distance Separation Assessments, and Agricultural Characterization Reports. His field work activities include land use surveys and post-construction avian and bat mortality monitoring for wind turbines in the County of Haldimand, Ontario.

A selection of projects John has been involved with at Colville Consulting Inc. include:

- Post-Construction Avian and Bat Mortality Monitoring for Pattern Energy, Korea Electric Power Corporation, and Samsung Renewable Energy Inc., Grand Renewable Energy Park, County of Haldimand, Ontario
- Agricultural Impact Assessment for landowner group, City of Pickering
- Agricultural Impact Assessment for landowner, Township of North Dumfries, Ontario
- Agricultural Characterization Report for landowner, Township of Beckwith, Ontario
- Agricultural Characterization Report for landowner, Town of Carleton Place, Ontario
- Minimum Distance Separation Report for landowner, Town of Caledon, Ontario
- Agricultural and Rural Lands Discussion Paper for municipality, Town of Blue Mountain, Ontario
- Agricultural Impact Assessment for Wildfield Village, Town of Caledon
- Agricultural Impact Assessment for Redford Pit Expansion, West Grey

ADDITIONAL TRAINING AND WORKSHOPS

Standard First Aid, CPR C, AED – St. John's Ambulance (2023)
Workplace Hazardous Materials Information System
Natural Gas Pipeline Safety Training – TC Energy (2022)
Excavation Safety Training – TC Energy (2022)
Supervisor (Level 2) Ground Disturbance Training (2022)

APPENDIX B

Climate Normals Data

Climate Normals 1981-2010 Station Data

Metadata including Station Name, Province or Territory, Latitude, Longitude, Elevation, Climate ID, WMO ID, TC ID

STATION_NAME	PROVINCE	LATITUDE	LONGITUDE	ELEVATION	CLIMATE_ID	WMO_ID	TC_ID
*HAMILTON A	ON	43°10'18.072" N	79°56'03.036" W	237.7 m	6153194	71263	YHM

* This station meets WMO standards for temperature and precipitation.

Legend

A = WMO "3 and 5 rule" (i.e. no more than 3 consecutive and no more than 5 total missing for either temperature or precipitation)
B = At least 25 years
C = At least 20 years
D = At least 15 years

1981 to 2010 Canadian Climate Normals station data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	Code
Temperature														
Daily Average (°C)	-5.5	-4.6	-0.1	6.7	12.8	18.3	20.9	20	15.8	9.3	3.7	-2.3	7.9	A
Standard Deviation	3	2.3	1.9	1.5	1.8	1.3	1.4	1.2	1.2	1.4	1.5	2.6	0.7	A
Daily Maximum (°C)	-1.7	-0.5	4.3	11.8	18.5	23.9	26.5	25.3	21.2	14.1	7.5	1.2	12.7	A
Daily Minimum (°C)	-9.3	-8.6	-4.5	1.5	7.1	12.6	15.2	14.5	10.4	4.5	-0.2	-5.8	3.1	A
Extreme Maximum (°C)	16.7	15.8	25	29.7	33.1	35	37.4	36.4	34.4	30.3	24.4	20.7		
Date (yyyy/dd)	2005/13	1997/21	1998/31	1990/25	2006/29	1988/25	Jul-88	Aug-01	Mar-73	Aug-07	Mar-61	Mar-82		
Extreme Minimum (°C)	-30	-26.7	-24.6	-12.8	-3.9	1.1	5.6	1.1	-2.2	-7.8	-19.3	-26.8		
Date (yyyy/dd)	2004/16	Oct-94	Mar-03	Jul-72	Oct-66	Jun-98	May-61	1965/30	1974/23	1965/29	2000/23	1980/25		
Precipitation														
Rainfall (mm)	29.7	28.2	42.6	71.3	78.7	84.9	100.7	79.2	81.9	76.5	74.4	43.8	791.7	A
Snowfall (cm)	40.8	35.1	26.5	8.4	0.5	0	0	0	0	0.7	11	33.5	156.5	A
Precipitation (mm)	64	57.8	68.4	79.1	79.4	84.9	100.7	79.2	81.9	77.4	84.3	73	929.8	A
Average Snow Depth (cm)	10	10	5	1	0	0	0	0	0	0	1	4	2	A
Median Snow Depth (cm)	9	9	3	0	0	0	0	0	0	0	0	3	2	A
Snow Depth at Month-end (cm)	12	8	1	0	0	0	0	0	0	0	1	5	2	A
Extreme Daily Rainfall (mm)	39.3	54.1	41	45.2	39.9	66.6	107	90.8	59.4	91	58.8	56.8		
Date (yyyy/dd)	1995/15	1990/22	2010/13	1996/13	1969/18	1984/17	1989/26	Aug-81	Jul-96	May-95	Feb-99	1990/29		
Extreme Daily Snowfall (cm)	43.2	30.4	28	29.2	11	0	0	0	0	23.6	21.5	35.6		
Date (yyyy/dd)	1966/22	2007/13	Jun-99	Sep-79	Jul-89	Jan-60	Jan-60	Jan-60	Jan-60	1962/25	1997/14	1969/23		
Extreme Daily Precipitation (mm)	44.6	54.1	42.8	45.2	39.9	66.6	107	90.8	59.4	91	58.8	56.8		
Date (yyyy/dd)	1982/31	1990/22	2010/13	1996/13	1969/18	1984/17	1989/26	Aug-81	Jul-96	May-95	Feb-99	1990/29		
Extreme Snow Depth (cm)	59	64	37	39	3	0	0	0	0	2	17	50		
Date (yyyy/dd)	May-01	Jul-78	Jun-93	Aug-03	Jul-89	Jan-70	Jan-70	Jan-70	Jan-70	1989/21	1986/21	2000/31		
Days with Maximum Temperature														
<= 0 °C	18.7	14.9	7.3	0.6	0	0	0	0	0	0	2.1	12.6	56.1	A
> 0 °C	12.3	13.4	23.7	29.4	31	30	31	31	30	31	27.9	18.4	309.1	A
> 10 °C	0.9	0.67	5.7	17.3	29.2	30	31	31	29.9	24	9.1	1.8	210.5	A
> 20 °C	0	0	0.6	3.3	11	24	30.1	29	17.9	4.1	0.13	0.03	120.2	A
> 30 °C	0	0	0	0	0.5	3	4.7	2.4	0.6	0.03	0	0	11.2	A
> 35 °C	0	0	0	0	0	0	0.13	0.03	0	0	0	0	0.16	A
Days with Minimum Temperature														
> 0 °C	2.6	2	6.4	18.8	30.1	30	31	31	29.9	26.8	14.1	4.1	226.8	A
<= 2 °C	30.2	27.7	28.6	16.7	3.3	0.07	0	0	0.8	9.5	21.3	29.5	167.7	A
<= 0 °C	28.4	26.2	24.6	11.2	0.9	0	0	0	0.13	4.2	15.9	26.9	138.4	A
< -2 °C	25.8	23.3	20	5.6	0	0	0	0	0	1.2	9.8	21.8	107.5	A
< -10 °C	13.5	11.3	5.1	0.13	0	0	0	0	0	0	0.43	7.2	37.7	A
< -20 °C	2.1	0.73	0.13	0	0	0	0	0	0	0	0	0.33	3.3	A
< - 30 °C	0	0	0	0	0	0	0	0	0	0	0	0	0	A
Days with Rainfall														
>= 0.2 mm	5.4	4.9	7.9	11.7	12.6	11.2	11.3	10.3	11	12.5	11.2	7.9	117.8	A
>= 5 mm	2.1	1.8	2.8	4.5	5.8	5.1	4.7	4.2	4.6	4.7	4.5	3	47.8	A
>= 10 mm	1	0.8	1.4	2.5	2.8	3	3.5	2.8	2.9	2.6	2.4	1.5	27.1	A
>= 25 mm	0.1	0.17	0.13	0.4	0.27	0.73	1.1	0.7	0.73	0.43	0.57	0.1	5.5	A
Days With Snowfall														
>= 0.2 cm	14.5	11.6	8.1	2.7	0.1	0	0	0	0	0.43	4.8	12	54.2	A
>= 5 cm	2.6	1.8	1.6	0.43	0.03	0	0	0	0	0.03	0.57	2.1	9.2	A
>= 10 cm	0.87	0.77	0.57	0.23	0.03	0	0	0	0	0	0.13	0.63	3.2	A
>= 25 cm	0.07	0.13	0.07	0	0	0	0	0	0	0	0	0	0.27	A
Days with Precipitation														
>= 0.2 mm	16.6	13.8	13.6	13.1	12.6	11.2	11.3	10.3	11	12.5	14.3	15.9	156.2	A
>= 5 mm	4.3	3.5	4.4	4.9	5.8	5.1	4.7	4.2	4.6	4.9	5	4.6	56	A

>= 10 mm	1.8	1.5	2.1	2.8	2.8	3	3.5	2.8	2.9	2.6	2.6	2.2	30.6	A
>= 25 mm	0.17	0.3	0.33	0.47	0.27	0.73	1.1	0.7	0.73	0.43	0.6	0.23	6.1	A
Days with Snow Depth														
>= 1 cm	23.2	22.1	13.9	1.9	0.03	0	0	0	0	0.03	3.6	16.6	81.3	A
>= 5 cm	18.1	16	9.3	0.87	0	0	0	0	0	0	1.4	8.3	54	A
>= 10 cm	10.8	10.6	5.9	0.6	0	0	0	0	0	0	0.7	3.8	32.4	A
>= 20 cm	4.8	4.7	2.3	0.3	0	0	0	0	0	0	0	1.8	13.9	A
Wind														
Speed (km/h)	19.5	18.6	18.5	18.6	15.9	14	12.6	11.8	13.1	15.6	17.4	18.7	16.2	A
Most Frequent Direction	SW	W	W	NE	NE	SW	W	SW	SW	SW	W	SW	W	A
Maximum Hourly Speed (km/h)	89	85	78	89	74	74	56	50	52	67	93	81	93	
Date (yyyy/dd)	1978/26	1997/27	1998/28	Jun-79	Nov-03	1992/17	1977/31	Nov-83	2000/21	1990/18	Nov-98	1982/28	Nov-98	
Direction of Maximum Hourly Speed	SW	SW	W	W	SW	S	SW	NE	W	SW	SW	W	SW	
Maximum Gust Speed (km/h)	133	122	126	119	105	102	106	96	93	96	115	109	133	
Date (yyyy/dd)	1978/26	1997/27	1973/15	Jun-79	1973/16	1992/17	1989/26	1990/27	2002/14	1983/13	Nov-98	1982/28	1978/26	
Direction of Maximum Gust	SW	SW	W	W	SW	NW	W	W	SW	SW	SW	W	SW	
Days with Winds >= 52 km/h	3.4	3	3.4	3.2	2	1	0.7	0.7	1	2.5	3.1	3.7	27.5	C
Days with Winds >= 63 km/h	1.4	0.8	1.1	1	0.9	0.6	0.3	0.4	0.2	1.1	1	1.1	9.9	C
Degree Days														
Above 24 °C	0	0	0	0	0.2	2.6	7.9	3.5	0.7	0	0	0	14.8	A
Above 18 °C	0	0	0	1.1	11.4	50.8	96.3	75	23.3	1.6	0	0	259.6	A
Above 15 °C	0	0	0.4	4.1	31.4	110.8	182	155.1	63	7.7	0	0.1	554.5	A
Above 10 °C	0.2	0	3.6	22.7	106.5	248.6	336.5	308.3	179.2	44.7	5.3	0.7	1256.3	A
Above 5 °C	2.7	1.2	17.7	84.1	241.9	398.3	491.5	463.3	325	142.1	37.5	6.1	2211.5	A
Above 0 °C	18	16.3	67.1	205.2	396.4	548.3	646.5	618.3	475	289.3	125.6	33.8	3439.7	A
Below 0 °C	188.4	145.3	70.9	4.6	0	0	0	0	0	0	15.1	105.6	529.9	A
Below 5 °C	328.1	271.5	176.5	33.5	0.6	0	0	0	0	7.8	77	233	1127.9	A
Below 10 °C	480.6	411.4	317.3	122.1	20.1	0.3	0	0	4.2	65.5	194.8	382.6	1998.9	A
Below 15 °C	635.4	552.6	469.2	253.5	100	12.6	0.5	1.7	38	183.5	339.5	536.9	3123.2	A
Below 18 °C	728.4	637.3	561.8	340.5	173.1	42.5	7.8	14.7	88.3	270.4	429.5	629.9	3924	A
Humidex														
Extreme Humidex	17.6	16.5	27.7	33.4	40.5	43.7	49.1	47.6	40.6	37.7	25.1	24.5		
Date (yyyy/dd)	2005/13	1997/21	1998/30	1990/25	2006/29	1981/15	1995/14	Jan-06	Feb-73	Aug-07	Jan-74	Mar-82		
Wind Chill														
Extreme Wind Chill (°C)	-43	-37	-30.7	-22.5	-8	0	0	0	-4.6	-10.9	-22.8	-33.9		
Date (yyyy/dd)	1994/19	Feb-76	Jul-89	Jul-72	Jan-78	Jan-70	Jan-70	Jan-70	1974/23	1976/27	2005/24	1980/25		
Humidity														
Average Relative Humidity - 0600LST (%)	84.3	83.6	82.9	81.3	83	85.8	88.7	92	92.4	89.9	86.9	85.8	86.4	A
Average Relative Humidity - 1500LST (%)	75.4	72.1	66	58.8	56.9	57.5	57.9	61	62.3	65.6	73.3	76.3	65.3	A

1981 to 2010 Canadian Climate Normals station data (Frost-Free)		
	Frost-Free:	Code
Average Date of Last Spring Frost	29-Apr	A
Average Date of First Fall Frost	14-Oct	A
Average Length of Frost-Free Period	167 Days	A

Probability of last temperature in spring of 0 °	10%	25%	33%	50%	66%	75%	90%
Date	13-May	07-May	05-May	28-Apr	25-Apr	24-Apr	16-Apr
Probability of first temperature in fall of 0 °C or lower on or before indicated dates	10%	25%	33%	50%	66%	75%	90%
Date	30-Sep	05-Oct	09-Oct	13-Oct	19-Oct	20-Oct	31-Oct
Probability of frost-free period equal to or less than indicated period (Days)	10%	25%	33%	50%	66%	75%	90%
Days	145	155	157	163	174	176	193

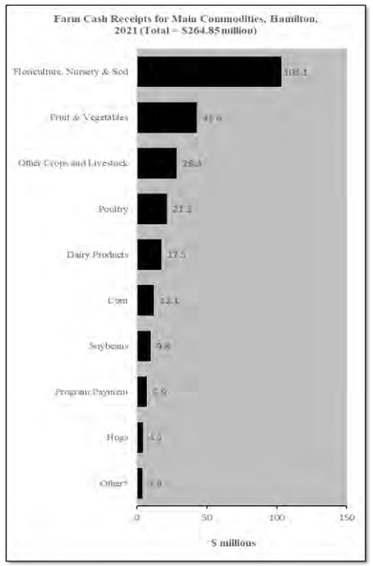
APPENDIX C

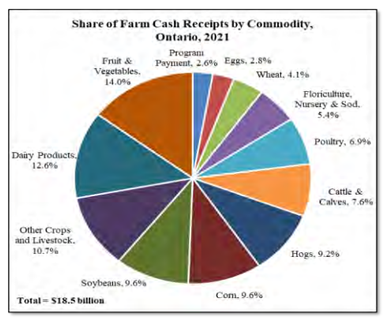
Agricultural Crop Statistics

Hamilton Division at a Glance - 2021

Item	Hamilton	Province	Percent of province	Percent from 2016
Farms, 2021 Census (number)				
Total	679	48,346	1.40%	-16.17%
Under 10 acres	92	3,217	2.86%	-22.69%
10 to 69 acres	282	12,686	2.22%	-15.57%
70 to 129 acres	138	10,924	1.26%	-6.76%
130 to 179 acres	39	4,422	0.88%	-39.06%
180 to 239 acres	34	3,981	0.85%	-8.11%
240 to 399 acres	37	5,396	0.69%	-19.57%
400 to 559 acres	13	2,865	0.45%	-23.53%
560 to 759 acres	12	1,698	0.71%	0.00%
760 to 1,119 acres	14	1,600	0.88%	7.69%
1,120 to 1,599 acres	4	720	0.56%	-50.00%
1,600 to 2,239 acres	9	451	2.00%	28.57%
2,240 to 2,879 acres	1	173	0.58%	0.00%
2,880 to 3,519 acres	1	95	1.05%	0.00%
3,520 acres and over	3	118	2.54%	0.00%
Land Use, 2021 Census (acres)				
Land in crops	100,089	9,051,011	1.11%	-3.89%
Summerfallow land	393	13,964	2.81%	-47.46%
Tame or seeded pasture	3,219	400,480	0.80%	11.62%
Natural land for pasture	2,495	626,366	0.40%	-19.23%
Christmas trees, woodland & wetland	7,200	1,269,535	0.57%	-25.16%
All other land	4,673	404,714	1.15%	-41.99%
Total area of farms	118,070	11,766,071	1.00%	-8.14%
Greenhouse Area, 2021 Census (square feet)				
Total area in use	6,393,889	201,055,888	3.18%	36.07%
Farm Capital Value, 2021 Census (farms reporting)				
Under $200,000	19	1,212	1.57%	-44.12%
$200,000 to $499,999	27	3,223	0.84%	-59.70%
$500,000 to $999,999	97	8,699	1.12%	-63.53%
$1,000,000 and over	536	35,212	1.52%	20.99%
Total Gross Farm Receipts, 2021 Census (farms reporting)				
Under $10,000	115	7,277	1.58%	-35.75%
$10,000 to $24,999	106	7,429	1.43%	-24.82%
$25,000 to $49,999	92	6,263	1.47%	-30.30%
$50,000 to $99,999	71	6,093	1.17%	-25.26%
$100,000 to $249,999	83	6,817	1.22%	-3.49%
$250,000 to $499,999	55	4,448	1.24%	-19.12%
$500,000 to $999,999	46	3,954	1.16%	6.98%
$1,000,000 to $1,999,999	42	2,452	1.71%	-2.33%
$2,000,000 and over	32	1,696	1.89%	39.13%
Farms by Industry Group, 2021 Census (number of farms)				
Beef cattle ranching and farming	47	7,986	0.59%	2.17%
Dairy cattle and milk production	18	3,188	0.56%	-21.74%
Hog and pig farming	3	1,189	0.25%	-50.00%
Poultry and egg production	35	2,061	1.70%	-14.63%
Sheep and goat farming	11	1,309	0.84%	-15.38%
Other animal production	108	4,556	2.37%	-25.00%
Oilseed and grain farming	217	18,194	1.19%	3.33%
Vegetable and melon farming	43	1,562	2.75%	-27.12%
Fruit and tree nut farming	33	1,211	2.73%	-41.07%
Greenhouse, nursery and floriculture	104	1,672	6.22%	-14.75%
Other crop farming	60	5,418	1.11%	-33.33%

Item	Hamilton	Province	Percent of province	Percent from 2016
Major Field Crops, 2021 Census (acres)				
Winter wheat	10,528	1,144,406	0.92%	-0.25%
Oats for grain	146	84,320	0.17%	-69.58%
Barley for grain	887	68,756	1.29%	134.04%
Mixed grains	200	59,961	0.33%	-60.63%
Corn for grain	23,637	2,202,465	1.07%	-6.00%
Corn for silage	1,383	289,678	0.48%	-32.99%
Hay	14,100	1,704,017	0.83%	-9.93%
Soybeans	34,420	2,806,255	1.23%	-3.70%
Potatoes	923	39,193	2.36%	-9.24%
Major Fruit Crops, 2021 Census (acres)				
Total fruit crops	609	48,661	1.25%	-
Apples	191	16,008	1.19%	-44.80%
Sour Cherries	9	1,383	0.65%	-64.00%
Peaches	96	4,608	2.08%	15.66%
Grapes	114	18,432	0.62%	-68.25%
Strawberries	60	2,633	2.28%	-42.31%
Raspberries	15	438	3.42%	-28.57%
Major Vegetable Crops, 2021 Census (acres)				
Total vegetables	2,229	127,893	1.74%	-
Sweet corn	260	20,518	1.27%	-8.13%
Tomatoes	37	14,614	0.25%	-27.45%
Green peas	47	14,044	0.33%	-16.07%
Green or wax beans	375	8,709	4.31%	-
Livestock Inventories, 2021 Census (number)				
Total cattle and calves	8,817	1,604,810	0.55%	11.07%
Steers	710	299,540	0.24%	17.16%
Beef cows	1,365	224,194	0.61%	13.09%
Dairy cows	2,280	327,272	0.70%	1.83%
Total pigs	7,421	4,071,902	0.18%	32.12%
Total sheep and lambs	1,530	322,508	0.47%	-26.83%
Poultry Inventories, 2021 Census (number)				
Total hens and chickens	699,282	53,802,772	1.30%	-3.40%
Total turkeys	964	2,453,126	0.04%	-12.68%



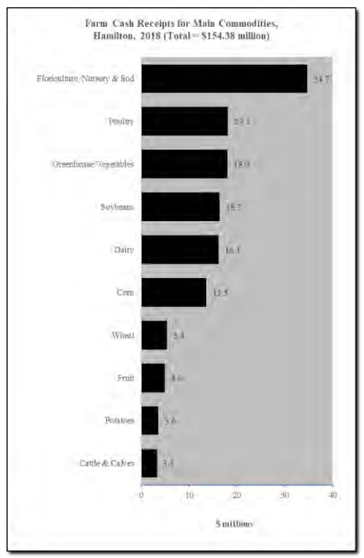


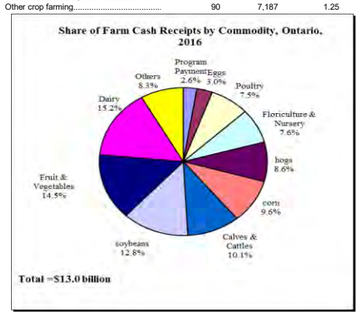
F - too unreliable to be published
Sources: 2021 & 2016 Census of Agriculture, OMAFRA
2022-06-21

Hamilton Division at a Glance - 2016

Item	Hamilton	Province	Percent of province	Percent from 2011
Farms, 2016 Census (number)				
Total	810	49,600	1.63	-8.47
Under 10 acres	119	3,051	3.90	14.42
10 to 69 acres	334	12,625	2.65	-10.93
70 to 129 acres	148	10,742	1.38	-18.68
130 to 179 acres	64	4,592	1.39	-3.03
180 to 239 acres	37	4,282	0.86	-21.28
240 to 399 acres	46	6,008	0.77	-11.54
400 to 559 acres	17	3,093	0.55	70.00
560 to 759 acres	12	1,990	0.60	-29.41
760 to 1,119 acres	13	1,593	0.82	-13.33
1,120 to 1,599 acres	8	801	1.00	166.67
1,600 to 2,239 acres	7	457	1.53	-22.22
2,240 to 2,879 acres	1	168	0.60	-50.00
2,880 to 3,519 acres	1	88	1.14	-
3,520 acres and over	3	110	2.73	0.00
Land Use, 2016 Census (acres)				
Land in crops	104,136	9,021,298	1.15	-0.46
Summerfallow land	748	15,885	4.71	-38.79
Tame or seeded pasture	2,884	514,168	0.56	-25.73
Natural land for pasture	3,089	783,566	0.39	-4.78
Christmas trees, woodland & wetland	9,620	1,542,637	0.62	-13.25
All other land	8,055	470,909	1.71	23.37
Total area of farms	128,532	12,348,463	1.04	-1.58
Greenhouse Area, 2016 Census (square feet)				
Total area in use	4,699,015	158,511,328	2.96	-1.41
Farm Capital Value, 2016 Census (farms reporting)				
Under $200,000	34	2,142	1.59	0.00
$200,000 to $499,999	67	7,433	0.90	-53.15
$500,000 to $999,999	266	12,500	2.13	-19.39
$1,000,000 and over	443	27,525	1.61	17.20
Total Gross Farm Receipts, 2016 Census (farms reporting)				
Under $10,000	179	9,536	1.88	-24.47
$10,000 to $24,999	141	8,376	1.68	2.92
$25,000 to $49,999	132	6,755	1.95	11.86
$50,000 to $99,999	95	6,263	1.52	-18.10
$100,000 to $249,999	86	7,022	1.22	-7.53
$250,000 to $499,999	68	4,707	1.44	11.48
$500,000 to $999,999	43	3,689	1.17	-34.85
$1,000,000 to $1,999,999	43	2,019	2.13	26.47
$2,000,000 and over	23	1,233	1.87	0.00
Farms by Industry Group, 2016 Census (number of farms)				
Beef cattle ranching and farming	46	6,786	0.68	-4.17
Dairy cattle and milk production	23	3,439	0.67	-17.86
Hog and pig farming	6	1,229	0.49	20.00
Poultry and egg production	41	1,816	2.26	-2.38
Sheep and goat farming	13	1,097	1.19	-40.91
Other animal production	144	5,902	2.44	-19.10
Oilseed and grain farming	210	16,876	1.24	1.94
Vegetable and melon farming	59	1,856	3.18	1.72
Fruit and tree nut farming	56	1,362	4.11	-1.75
Greenhouse, nursery and floriculture	122	2,050	5.95	-15.28
Other crop farming	90	7,187	1.25	-7.22

Item	Hamilton	Province	Percent of province	Percent from 2011
Major Field Crops, 2016 Census (acres)				
Winter wheat	10,554	1,080,378	0.98	3.88
Oats for grain	480	82,206	0.58	60.54
Barley for grain	379	103,717	0.37	-15.02
Mixed grains	508	92,837	0.55	7.17
Corn for grain	25,146	2,162,004	1.16	0.16
Corn for silage	2,064	295,660	0.70	21.20
Hay	15,654	1,721,214	0.91	-16.15
Soybeans	35,744	2,783,443	1.28	12.30
Potatoes	1,017	34,685	2.93	-20.73
Major Fruit Crops, 2016 Census (acres)				
Total fruit crops	x	51,192	-	-
Apples	346	15,893	2.18	-27.00
Sour Cherries	25	2,121	1.18	0.00
Peaches	83	5,232	1.59	-
Grapes	359	18,718	1.92	-15.13
Strawberries	104	2,915	3.57	-26.24
Raspberries	21	680	3.09	-12.50
Major Vegetable Crops, 2016 Census (acres)				
Total vegetables	x	135,420	-	-
Sweet corn	283	22,910	1.24	-20.95
Tomatoes	51	15,744	0.32	-25.00
Green peas	x	16,268	0.34	30.23
Green or wax beans	x	9,732	-	-
Livestock Inventories, 2016 Census (number)				
Total cattle and calves	7,938	1,623,710	0.49	-16.46
Steers	606	305,514	0.20	5.94
Beef cows	1,207	236,253	0.51	-28.54
Dairy cows	2,239	311,960	0.72	-8.16
Total pigs	5,617	3,534,104	0.16	-17.59
Total sheep and lambs	2,091	321,495	0.65	-66.01
Poultry Inventories, 2016 Census (number)				
Total hens and chickens	723,884	50,759,994	1.43	-28.24
Total turkeys	1,104	3,772,146	0.03	-87.43



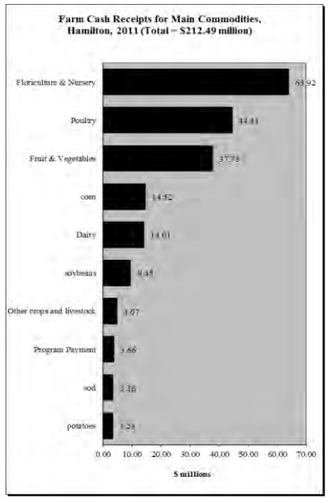


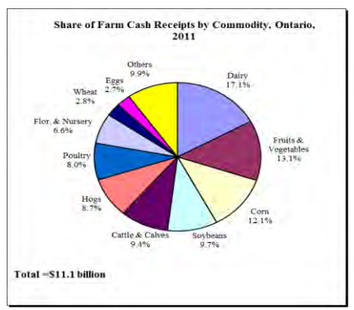
x Suppressed data
Sources: 2016 & 2011 Census of Agriculture and Strategic Policy Branch, OMAFRA
2017-06-02

Hamilton Division at a Glance - 2011

Item	Hamilton	Province	Percent of province
Farms, 2011 Census (number)			
Total	885	51,950	1.70
Under 10 acres	104	2,741	-
10 to 69 acres	375	12,681	2.96
70 to 129 acres	182	11,779	1.55
130 to 179 acres	66	4,969	1.33
180 to 239 acres	47	4,801	0.98
240 to 399 acres	52	6,460	0.80
400 to 559 acres	10	3,359	0.30
560 to 759 acres	17	2,026	0.84
760 to 1,119 acres	15	1,587	0.95
1,120 to 1,599 acres	3	788	0.38
1,600 to 2,239 acres	9	436	2.06
2,240 to 2,879 acres	2	152	1.32
2,880 to 3,519 acres	0	79	0.00
3,520 acres and over	3	92	3.26
Land Use, 2011 Census (acres)			
Land in crops	104,622	8,929,947	1.17
Summerfallow land	1,222	23,450	5.21
Tame or seeded pasture	3,883	648,758	0.60
Natural land for pasture	3,244	984,809	0.33
Christmas trees, woodland & wetland	11,089	1,612,444	0.69
All other land	6,529	468,828	1.39
Total area of farms	130,589	12,668,236	1.03
Greenhouse Area, 2011 Census (square feet)			
Total area in use	4,765,977	133,520,541	3.57
Farm Capital Value, 2011 Census (farms reporting)			
Under $200,000	34	2,562	1.33
$200,000 to $499,999	143	12,994	1.10
$500,000 to $999,999	330	15,276	2.16
$1,000,000 and over	378	21,118	1.79
Total Gross Farm Receipts, 2011 Census (farms reporting)			
Under $10,000	237	12,263	1.93
$10,000 to $24,999	137	9,098	1.51
$25,000 to $49,999	118	6,720	1.76
$50,000 to $99,999	116	6,189	1.87
$100,000 to $249,999	93	6,985	1.33
$250,000 to $499,999	61	5,086	1.20
$500,000 to $999,999	66	3,248	2.03
$1,000,000 to $1,999,999	34	1,558	2.18
$2,000,000 and over	23	803	2.86
Farms by Industry Group, 2016 Census (number of farms)			
Beef cattle ranching and farming	48	7,105	0.68
Dairy cattle and milk production	28	4,036	0.69
Hog and pig farming	5	1,235	0.40
Poultry and egg production	42	1,619	2.59
Sheep and goat farming	22	1,446	1.52
Other animal production	178	6,966	2.56
Oilseed and grain farming	206	15,818	1.30
Vegetable and melon farming	58	1,531	3.79
Fruit and tree nut farming	57	1,548	3.68
Greenhouse, nursery and floriculture	144	2,372	6.07
Other crop farming	97	8,274	1.17

Item	Hamilton	Province	Percent of province
Major Field Crops, 2011 Census (acres)			
Winter wheat	10,160	1,100,003	0.92
Oats for grain	299	71,040	0.42
Barley for grain	446	126,881	0.35
Mixed grains	474	106,162	0.45
Corn for grain	25,106	2,032,356	1.24
Corn for silage	1,703	271,701	0.63
Hay	18,668	2,077,911	0.90
Soybeans	31,828	2,464,870	1.29
Potatoes	1,283	37,384	3.43
Major Fruit Crops, 2011 Census (acres)			
Total fruit crops	1,331	52,740	2.52
Apples	474	15,830	2.99
Sour Cherries	25	2,342	1.07
Peaches	x	6,455	-
Grapes	423	18,383	2.30
Strawberries	141	3,283	4.29
Raspberries	24	902	2.66
Major Vegetable Crops, 2011 Census (acres)			
Total vegetables	3,443	129,595	2.66
Sweet corn	358	25,540	1.40
Tomatoes	68	16,558	0.41
Green peas	43	15,121	0.28
Green or wax beans	x	9,186	-
Livestock Inventories, 2011 Census (number)			
Total cattle and calves	9,502	1,741,381	0.55
Steers	572	291,263	0.20
Beef cows	1,689	282,062	0.60
Dairy cows	2,438	318,158	0.77
Total pigs	6,816	3,088,646	0.22
Total sheep and lambs	6,151	352,807	1.74
Poultry Inventories, 2011 Census (number)			
Total hens and chickens	1,008,801	46,902,316	2.15
Total turkeys	8,784	3,483,828	0.25





APPENDIX D

Canada Land Inventory Information

Canada Land Inventory Soil Capability Classification for Agriculture

The Canada Land Inventory (CLI) classification system was developed to classifying soil capability for agricultural use for use across Canada. CLI is an interpretative system which assesses the effects of climate and soil characteristics on the limitations of land for growing common field crops. It classifies soils into one of seven capability classes based on the severity of their inherent limitations to field crop production. Soils descend in quality from Class 1, which is highest, to Class 7 soils which have no agricultural capability for the common field crops. Class 1 soils have no significant limitations. Class 2 through 7 soils have one or more significant limitations, and each of these are denoted by a capability subclass.

In Ontario the document, "Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario" (OMAFRA, 2008) provides a Provincial interpretation of the CLI classification system. These guidelines are based on the "Canada Land Inventory, Soil Capability Classification for Agriculture" (ARDA Report No. 2, 1965) and have been modified for use in Ontario. In Ontario, CLI Classes 1 to 4 lands are generally considered to be arable lands and Classes 1 to 3 soils and specialty crop lands are considered to be prime agricultural lands.

The following definitions were taken from Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario (2008).

Definitions of the Capability Classes

Class 1 - Soils in this class have no significant limitations in use for crops. Soils in Class 1 are level to nearly level, deep, well to imperfectly drained and have good nutrient and water holding capacity. They can be managed and cropped without difficulty. Under good management they are moderately high to high in productivity for the full range of common field crops

Class 2 - Soils in this class have moderate limitations that reduce the choice of crops, or require moderate conservation practices. These soils are deep and may not hold moisture and nutrients as well as Class 1 soils. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately-high to high in productivity for a wide range of common field crops.

Class 3 - Soils in this class have moderately severe limitations that reduce the choice of crops or require special conservation practices. The limitations are more severe than for Class 2 soils. They affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. Under good management these soils are fair to moderately high in productivity for a wide range of common field crops.

Class 4 - Soils in this class have severe limitations that restrict the choice of crops, or require special conservation practices and very careful management, or both. The severe limitations seriously affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. These soils are low to medium in productivity for a narrow to wide range of common field crops, but may have higher productivity for a specially adapted crop.

Class 5 - Soils in this class have very severe limitations that restrict their capability to producing perennial forage crops, and improvement practices are feasible. The limitations are so severe that the soils are not capable of use for sustained production of annual field crops. The soils are capable of producing native or tame species of perennial forage plants and may be improved through the use of farm machinery. Feasible improvement practices may include clearing of bush, cultivation, seeding, fertilizing or water control.

Class 6 - Soils in this class are unsuited for cultivation, but are capable of use for unimproved permanent pasture. These soils may provide some sustained grazing for farm animals, but the limitations are so severe that improvement through the use of farm machinery is impractical. The terrain may be unsuitable for the use of farm machinery, or the soils may not respond to improvement, or the grazing season may be very short.

Class 7 - Soils in this class have no capability for arable culture or permanent pasture. This class includes marsh, rockland and soil on very steep slopes.

Definitions of the Prime and Non-prime Agricultural Lands

In Ontario, CLI Classes 1, 2 and 3 and specialty crop lands are considered prime agricultural lands. Non-prime agricultural lands are comprised of CLI Class 4-7 lands.

Organic soils (Muck) are not classified under the CLI system but are mapped and identified as O in the provincial mapping.

Definitions of the Capability Subclasses

Capability Subclasses indicate the kinds of limitations present for agricultural use. Thirteen Subclasses were described in CLI Report No. 2. Eleven of these Subclasses have been adapted to Ontario soils.

Subclass Definitions:

Subclass C - Adverse climate: This subclass denotes a significant adverse climate for crop production as compared to the "median" climate which is defined as one with sufficiently high growing-season temperatures to bring common field crops to maturity, and with sufficient precipitation to permit crops to be grown each year on the same land without a serious risk of partial or total crop failures. In Ontario this subclass is applied to land averaging less than 2300 Crop Heat Units.

Class	Crop Heat Units
1	>2300
2C	1900-2300
3C	1700-1900
4C	<1700

Subclass D - Undesirable soil structure and/or low permeability: This subclass is used for soils which are difficult to till, or which absorb or release water very slowly, or in which the depth of rooting zone is restricted by conditions other than a high water table or consolidated bedrock. In Ontario this subclass is based on the existence of critical clay contents in the upper soil profile.

Class	Soil Characteristics
2D	The top of a clayey horizon >15 cm thick occurs within 40 cm of the soil surface. Clayey materials in this case must have >35% clay content.
3D	The top of a very fine clayey (clay content >60%) horizon >15 cm thick occurs within 40 cm of the soil surface

Subclass E - Erosion: Loss of topsoil and subsoil by erosion has reduced productivity and may in some cases cause difficulties in farming the land e.g. land with gullies.

Class	Soil Characteristics
2E	Loss of the original plough layer, incorporation of original B horizon material into the present plough layer, and general organic matter losses have resulted in moderate losses to soil productivity.
3E	Loss of original solum (A and B horizons) has resulted in a plough layer consisting mostly of

	Loamy or Clayey parent material. Organic matter content of the cultivated surface is less than 2%.
4E	Loss of original solum (A and B horizons) has resulted in a cultivated layer consisting mainly of Sandy parent material with an organic matter content of less than 2%; shallow gullies and occasionally deep gullies which cannot be crossed by machinery may also be present.
5E	The original solum (A and B horizons) has been removed exposing very gravelly material and/or frequent deep gullies are present which cannot be crossed by machinery.

Subclass F - Low natural fertility*:* This subclass is made up of soils having low fertility that is either correctable with careful management in the use of fertilizers and soil amendments or is difficult to correct in a feasible way. The limitation may be due to a lack of available plant nutrients, high acidity, low exchange capacity, or presence of toxic compounds.

Class	Upper Texture Group (>40 and <100 cm from surface)	Lower Texture Group (remaining materials to 100 cm depth)	Drainage Class	Additional Soil Characteristics[1]
2F	Sandy	Sandy or very gravelly	Rapid to imperfect	Neutral or alkaline parent material with a Bt horizon within 100 cm of the surface
3F	Sandy	Sandy or very gravelly	Any drainage class	Neutral or alkaline parent material with no Bt horizon present within 100 cm of surface
3F	Sandy	Loamy or Clayey	Any drainage class	Acid parent material
3F	Loamy or clayey	Any Texture Group	Any drainage class	Acid parent material
4F	Sandy	Sandy or very gravelly	Any drainage class	Acid parent material
4F	Very gravelly	Any texture	Rapid to imperfect	Neutral to alkaline parent material
5F	Very Gravelly	Any texture	All drainage classes	Acid parent material

[1] "Acid" means pH<5.5; "Neutral" pH 5.5 to 7.4; "Alkaline" pH>7.4 as measured in 0.01 M CaCl2 (CSSC, 1998). PH 's measured in distilled water tend to be slightly higher (up to 0.5 units).

Bt horizon should be fairly continuous and average more than 10cm thickness

Subclass I - Inundation by streams or lakes: Flooding by streams and lakes causes crop damage or restricts agricultural use.

Class	Soil Characteristics
3I	Frequent inundation with some crop damage; estimated frequency of flooding is less than once every 5 years (Floodplain); includes higher floodplain-terraces on which cultivated field crops can be grown.
5I	Very frequent inundation with some crop damage; estimated frequency of flooding is at least once every 5 years (Floodplain); includes active floodplain areas on which forage crops can be grown primarily for pasture.
7I	Land is inundated for most of the growing season; often permanently flooded (Marsh)

Subclass M – Moisture deficiency: Soils in this subclass have lower moisture holding capacities and are more prone to droughtiness.

Class	Soil Texture Groups		Drainage	Additional Soil Characteristics
	Upper materials1	Lower materials2		
2M	15 to 40 cm of loamy or finer materials	Sandy to Very Gravelly	Well	
2M	40 to < 100 cm of sandy to very gravelly material.	Loamy to Very Fine Clayey	Well	
2M	Sandy		Rapid to well	Well developed Bt3 horizon occurs within 100 cm of surface
3M	Sandy material to > 100cm		Rapid	Bt horizon absent within 100 cm of surface
4M	Very Gravelly to > 100 cm		Rapid	Bt horizon present within 100 cm of surface
5M	Very gravelly to > 100cm		Very rapid	Bt horizon absent within 100cm

Subclass P - Stoniness: This subclass indicates soils sufficiently stony to hinder tillage, planting, and harvesting operations.

Class	Soil Characteristics
2P	Surface stones cause some interference with tillage, planting and harvesting; stones are 15-60 cm in diameter, and occur in a range of 1-20 m apart, and occupy <3% of the surface area. Some stone removal is required to bring the land into production.
3P	Surface stones are a serious handicap to tillage, planting, and harvesting; stones are 15-60 cm in diameter, occur 0.5-1m apart (20-75 stones/100 m^2), and occupy 3-15% of the surface area. The occasional boulder >60 cm in diameter may also occur. Considerable stone removal is required to bring the land into production. Some annual removal is also required.
4P	Surface stones and many boulders occupy 3-15% of the surface. Considerable stone and boulder removal is needed to bring the land into tillable production. Considerable annual removal is also required for tillage and planting to take place.
5P	Surface stones 15-60 cm in diameter and/or boulders >60 cm in diameter occupy 15-50% of the surface area (>75 stones and/or boulders/100 m2).
6P	Surface stones 15-60 cm in diameter and/or boulders >60 cm in diameter occupy >50% of the surface area.

Subclass R - Shallowness to Consolidated Bedrock: This subclass is applied to soils where the depth of the rooting zone is restricted by consolidated bedrock. Consolidated bedrock, if it occurs within 100 cm of the surface, reduces available water holding capacity and rooting depth. Where physical soil data were available, the water retention model of McBride and Mackintosh was used to assist in developing the subclass criteria.

Class	Soil Characteristics
3R	Consolidated bedrock occurs at a depth of 50-100 cm from the surface causing moderately severe restriction of moisture holding capacity and/or rooting depth.
4R	Consolidated bedrock occurs at a depth of 20-50 cm from the surface causing severe restriction of moisture holding capacity and/or rooting depth.
5R	Consolidated bedrock occurs at a depth of 10 to 20 cm from the surface causing very severe restrictions for tillage, rooting depth and moisture holding capacity. Improvements such as tree removal, shallow tillage, and the seeding down and fertilizing of perennial forages for hay and grazing may be feasible.

6R	Consolidated bedrock occurs at a depth of 10-20 cm from the surface but improvements as in 5R are unfeasible. Open meadows may support grazing.
7R	Consolidated bedrock occurs at < 10cm from the surface.

Subclass S - Adverse soil characteristics: This subclass denotes a combination of limitations of equal severity. In Ontario it has often been used to denote a combination of F and M when these are present with a third limitation such as T, E or P.

Subclass T - Topography

The steepness of the surface slope and the pattern or frequency of slopes in different directions are considered topographic limitations if they: 1) increase the cost of farming the land over that of level or less sloping land; 2) decrease the uniformity of growth and maturity of crops; and 3) increase the potential of water and tillage erosion.

Determination of Subclass T for Very Gravelly and Sandy Soils

Slope %	<2		2-5		5-9		9-15		15-30		30-60		>60	
Slope type	S	C	S	C	S	C	S	C	S	C	S	C	S	C
Class				2T	2T	3T	3T	4T	5T	5T	6T	6T	7T	7T

Slope %	<2		2-5		5-9		9-15		15-30		30-60		>60	
Slope type	S	C	S	C	S	C	S	C	S	C	S	C	S	C
Class				2T	3T	3T	4T	4T	5T	5T	6T	6T	7T	7T

S = Simple Slopes >50 m in length

C =Complex Slopes <50 m in length

Subclass W - Excess water:

The presence of excess soil moisture, other than that brought about by inundation, is a limitation to field crop agriculture. Excess water may result from inadequate soil drainage, a high water table, seepage or runoff from surrounding areas.

Soil Textures and Depths	**Depth to Bedrock** (cm)	**Soil Class** (Drainage in place or feasible)	**Soil Class** (Drainage not feasible)
Very gravelly, sandy, or loamy extending >40 cm from the surface, or, <40 cm of any other textures overlying very gravelly, sandy or loamy textures	>100	2W	4W, 5W
>40 cm depth of clayey or very fine clayey textures, or, <40 cm of any other texture overlying clayey or very fine clayey textures	>100	3W	5W
<40 cm of peaty material overlying any texture	>100	3W	5W
All textures	50-100	4W	5W
All textures	0-50	NA	5W

APPENDIX E

Site Photographs

Photo 1: Operation #26 – Photo showing empty livestock facility.

Photo 2: Operation #24 – Poultry operation show two two-storey chicken barns.

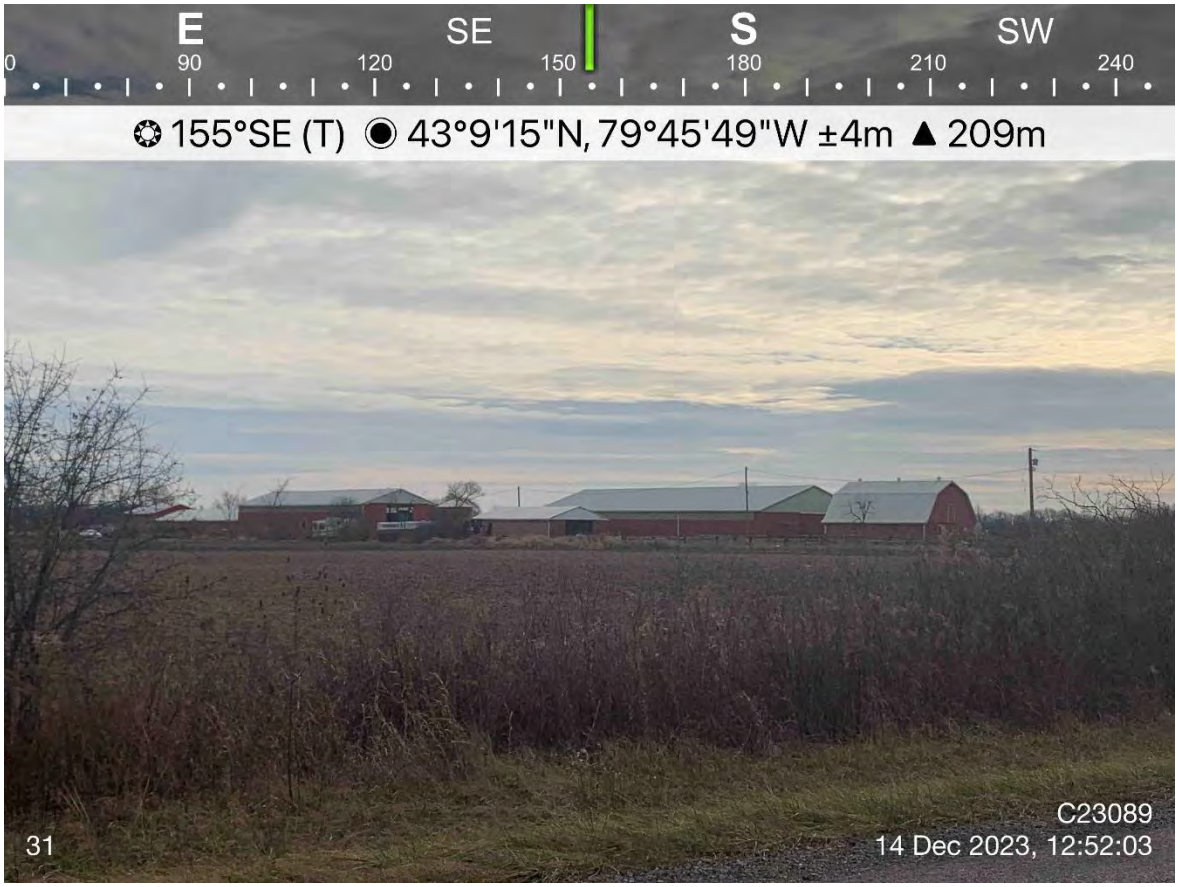


Photo 3: Operation #31 – Equestrian operation showing barns and riding area.

Photo 4: Operation #40 – Cash crop operation showing Quonset hut, grain driers, and silos.

Photo 5: Operation #49 – Remnant farm showing barn in poor condition.

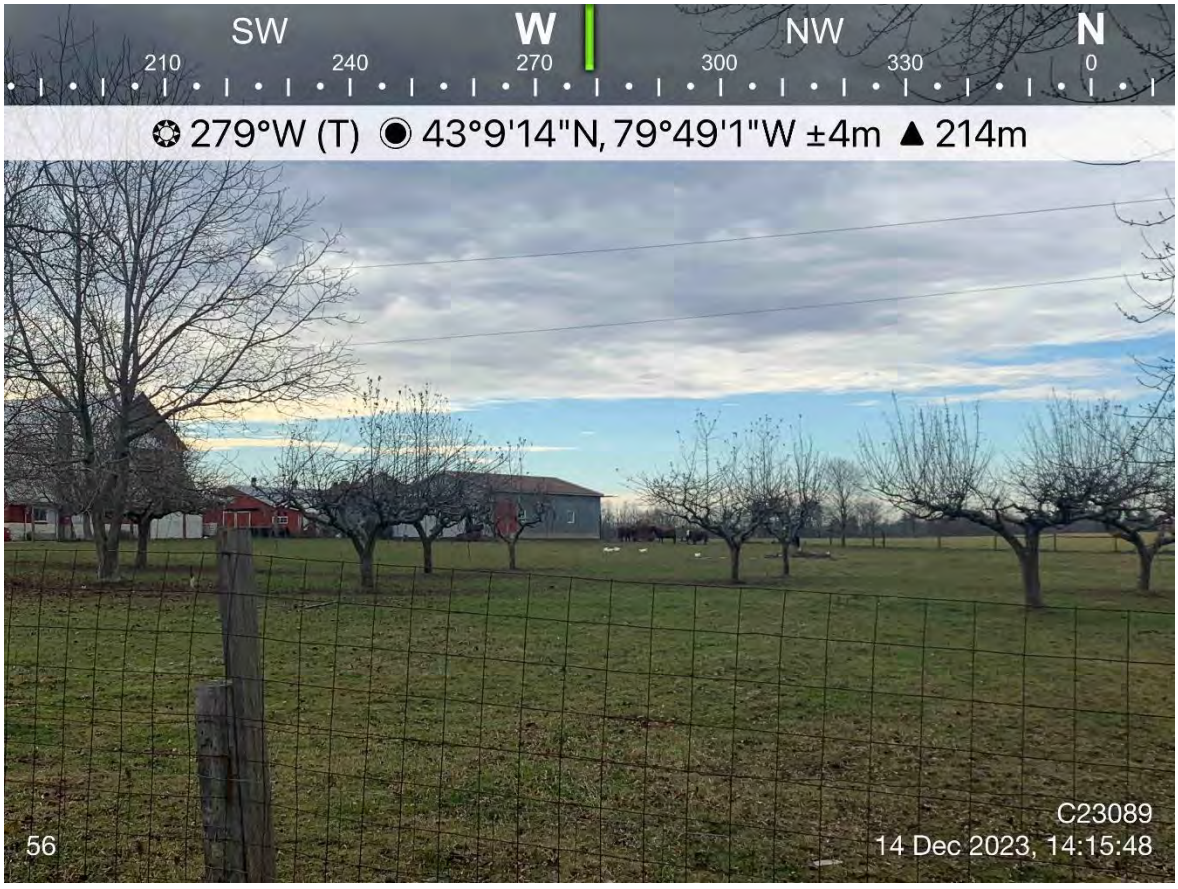


Photo 6: Operation #56 – Beef operation showing cows and barn.

Photo 7: Operation #42 – Empty Livestock Facility showing barn, uncapped silo, and grain bins.

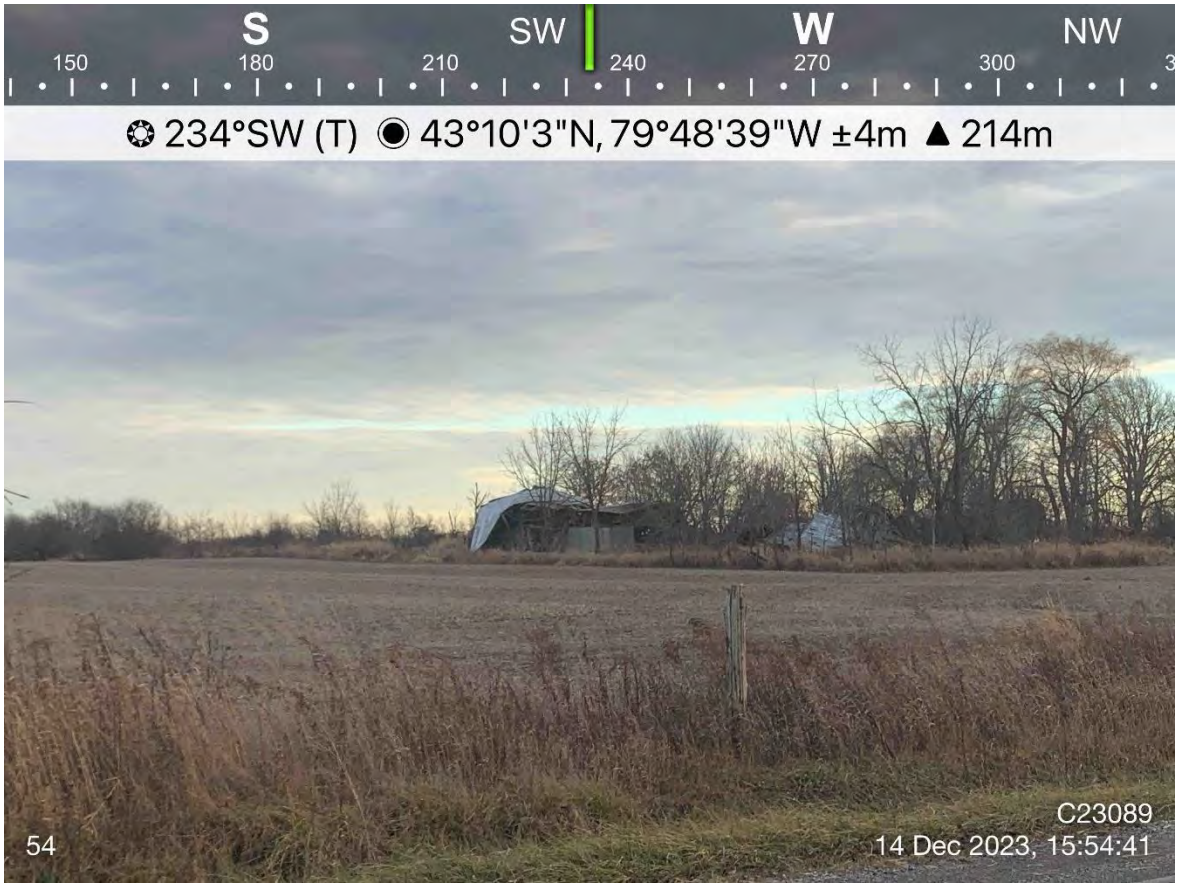


Photo 8: Operation #54 – Remnant farm showing collapsed barn.

APPENDIX F

Land Use Notes

Land Use Survey Notes – AIA for Elfrida Community Builders Group			
Weather	Partially Cloudy	**Date (s)**	December 14, 2023
Temperature	6°C	**File**	C23089

Site No.	Type of Use	Type of Operation	MDS Calculation Required?	Description of Operation
1	Agriculture-Related	Greenhouse	No	Green Mountain Gardens Greenhouse
2	Non-Agricultural	Commercial	No	Pros Golf Centre. Driving range and mini golf
3	Non-Agricultural	Commercial	No	Starlight Drive in Movie Theatre
4	Non-Agricultural	Recreational	No	Dofasco park. FH Sherman Recreation and Learning Centre
5	Non-Agricultural	Recreational	No	Croation Sports and Community Centre
6	Non-Agricultural	Industrial	No	Stoney Creek Yard Storage Parking Rental Space
7	Agricultural	Equestrian Operation	Yes	Alex Duncan Racing Stables. Large horse barn, horses observed outside. Barn is in fair condition, some recent signs of investment. Spoke with landowner who said there are 15 stalls in barn and also have 2 miniature horses, 8 horses, outdoor manure storage, and horses are used for racing.
8	Non-Agricultural	Commercial	No	Danny's Live Bait
9	Non-Agricultural	Institutional	No	Tapleytown Public School
10	Agricultural	Hobby Farm	Yes	Pelizzari Family Farm. Chicken coop with approximately 20 chickens. Good condition Large barn and implement shed on property. Spoke with landowner and confirmed barn is currently empty but did not want to answer more questions.
11	Agricultural	Mushroom Farm	No	Bills Mushroom Farm. Appears to be retired. Buildings in poor condition.

12	Agricultural	Hobby Farm	Yes	Dahliwal Farm. Barn in fair condition. Talked with landowner, have a few pigeons and a peacock. No manure storage. Owner did not know if they used to house livestock. Large barn not suitable for housing livestock.
13	Non-Agricultural	Commercial	No	Highlands Country Markets/ Highland Packers Ltd
14	Agricultural	Cash Crop Operation	No	Old implement shed, two trailers parked outside, small amount of gravel storage, does not appear to be used for farm equipment storage, no residence associated with building.
15	Non-Agricultural	Commercial	No	"Dorr Foods" Meet packing plant
16	Non-Agricultural	Commercial	No	U-Haul Moving and Storage of Stoney Creek. Storage Lockers
17	Agricultural	Greenhouse	No	OFA member, 7 greenhouses, no sign of livestock, no structures capable of housing livestock, no sign associated with greenhouse business.
18	Non-Agricultural	Commercial	No	B and G Heating, Air Conditioning and Ventilation
19	Agricultural	Remnant Farm	No	Remnant barn and small structure not suitable for housing livestock on site. Barn partially collapsed.
20	Agriculture-Related	Garden Centre	No	TERRA Hamilton Garden Centre
21	Agriculture-Related	Cheese Shop	No	Paron Cheese. Sale of cheese, no livestock on property, milk imported.
22	Agriculture-Related	Cheese Shop	No	Udderway Cheese. Two barns in poor condition at the back of the property. Talked with owner, barns are used for storage as part of the shop. Unable to house livestock in current condition. Milk imported to site.
23	Agricultural	Remnant Farm	No	Talked to landowner, used to have 22,000 chickens but have not had any for over 10 years. Barn not capable of housing livestock. Grain bin, barn has solar power roof, some outdoor storage.

24	Agricultural	Poultry Operation	Yes	Two two-storey chicken barns, SWK Farms Ltd. Spoke with tenant, only one barn currently used to house chicken, was unsure of capacity of barn.
25	Agricultural	Remnant Farm	No	Bank barn, no fencing, no sign of livestock, no trespassing sing, no structures capable of housing livestock.
26	Agricultural	Empty Livestock Facility	Yes	Old bank barn in good to fair condition, no sign of livestock, likely retired, still capable of housing livestock.
27	Non-Agricultural	Commercial	No	Platinum Roofing & Exteriors
28	Non-Agricultural	Commercial	No	Barry Metal Products
29	Non-Agricultural	Commercial	No	Maljohn Company
30	Non-Agricultural	Commercial	No	Hendershott Road Storage
31	Agricultural	Equestrian Operation	Yes	2 Large Barns in good condition. Talked with landowner. Manure stored outside on cement slab and removed a few times each year. Barn can house up to 24 horses. Capped grain silo on site, horses observed.
32	Agricultural	Remnant Farm	No	Former livestock operation, barn demolished in 2021, not capable of housing livestock.
33	Non-Agricultural	Commercial	No	Tow-truck company, possible former livestock operation but no longer capable of housing livestock in any structures.
34	Agricultural	Empty Livestock Facility	Yes	Bank barn in fair condition, no sign of livestock or recent investments to operation, still capable of housing livestock.

35	Agriculture-Related	Cidery	No	Tall Post Craft Cider. Pick your own apple operation, approximately 20 ducks, 10 chickens, 2 goats, and 3 sheep observed within metal fenced enclosure. Does not appear to have any structures capable of housing livestock
36	Non-Agricultural	Recreational	No	Tapleytown Men's Club Park
37	Non-Agricultural	Commercial	No	Light commercial operation, no sign associated with business, shop and implement shed.
38	Agricultural	Empty Livestock Facility	Yes	Two steel sided barns, no visible livestock. Both barns in fair condition, one currently being used as implement storage. Other barn could potentially be used for housing livestock. Small chicken coop attached to smaller barn, no sign of livestock
39	Agricultural	Empty Livestock Facility	Yes	Talk to landowner. Old bank barn in fair condition. No livestock, no fencing, potential to house livestock, but has not had any in the last 20 years. Currently have two donkeys as pets but are not housed in barns.
40	Agricultural	Cash Crop Operation	No	"Mount Hope Dairy Farm" Talked to landowner. Former large dairy operation, currently cash cropping. 3 large grain bins, 1 capped and 1 uncapped silo, grain dryer, Quonset hut, farm equipment outside. Used to have 100 head of dairy cows, sold all quotas. Landowner said no longer suitable for housing livestock.
41	Agricultural	Remnant Farm	No	Uncapped cement silo, barn in poor condition and missing side boards.
42	Agricultural	Empty Livestock Facility	Yes	Cement silo (uncapped). 3 metal grain bins. Implement shed in fair condition. No livestock present. Two Aluminum barns in fair condition. No livestock present, no fencing, no recent signs of investment. Capable of housing livestock.

43	Non-Agricultural	Commercial	No	Ozlos Repair Shop
44	Agricultural	Remnant Farm	No	Old barn in poor condition, no signs of recent investment, not capable of housing livestock.
45	Agricultural	Empty Livestock Facility	Yes	Wooden barn in good condition, no sign of livestock, implement shed, barn capable of housing livestock.
46	Non-Agricultural	Institutional	No	Our Lady of Assumption Elementary School
47	Agricultural	Remnant Farm	No	Barn repurposed to be used as garage and no longer capable of housing livestock, small outdoor chicken coop, no sign of livestock.
48	Agriculture-Related	Animal Feed Store	No	Paradise Fields selling feed for animals. Public notice sign at entrance indicating future development of 25 guest bed and breakfast, restaurant, and naturopathic clinic. Greenhouses on site.
49	Agricultural	Remnant Farm	No	Large cement barn, partially collapsed roof, farm equipment outside, five grain bins, no sign of livestock, not capable of housing livestock.
50	Agricultural	Cash Crop Operation	No	OFA member, capped cement silo, old bank barn and implement shed in good condition, steel Quonset hut. Spoke with previous landowner who said it is a former dairy operation but has been cash crop since 1997, barn no longer capable of housing livestock.
51	Agricultural	Equestrian Operation	Yes	"Golden Gate Equestrian". Spoke with landowner in 2017, they have capacity for 28 horses, manure is scraped and spread over surrounding fields as part of their NMP. 3 medium framed horses observed outside.

52	Agricultural	Remnant Farm	No	Former dairy operation. Property has been abandoned. Hay storage and implement shed across the street appear to be associated with the property, three implement sheds on site, 2 grain bins on site, 1 uncapped cement silo. Metal Quonset hut at back of property. No livestock or manure observed. Bank barn has been demolished, no structures capable of housing livestock.
53	Agriculture-Related	Farm Market	No	Fletchers Fruit Farms. Sells pumpkins, apples, and pears. Orchard on property. Bank barn appears to be converted for fruit prep. No trespassing sign, no sign of livestock, no structures capable of housing livestock.
54	Agricultural	Remnant Farm	No	Remnant barn on property. Two collapsed structures visible form road.
55	Agricultural	Empty Livestock Facility	Yes	Two out buildings in poor condition, 1 uncapped cement silo. 1 large barn in fair condition, no signs of livestock, appears to be used for implement storage. No trespassing sign, but barn appears capable of housing livestock.
56	Agricultural	Beef Operation	Yes	No trespassing sign across property, no one home. Large bank barn visible at the back of the property. Smell of manure on property, 5 cows observed outside, approximately 8 ducks, 2 grain bins, outdoor solid manure storage, plastic Quonset hut.
57	Agricultural	Remnant Farm	No	CFFO member, spoke with landowner who said barn is scheduled for demolision due to poor condition, 4 metal grain bins. 2 large implement sheds, uncapped cement silo. Fence in good condition. Sells maple syrup on site. Apple Creek Farms.

58	Agricultural	Hobby Farm	Yes	Old, small bank barn, spoke with landowner, has 30 chickens in barn, sells eggs, manure is spread in garden and not stored.
59	Non-Agricultural	Commercial	No	Pooch Haven Grooming and Doggies Day Care
60	Agricultural	Hobby Farm	No	Spoke with landowner in 2017 and they were boarding 2 horses at the time. Not home during 2023 visit, no structures appear large enough to house livestock.
61	Agricultural	Remnant Farm	No	Bank barn in poor condition, no trespassing sign, no sign of livestock, barn not capable of housing livestock.
62	Agricultural	Hobby Farm	No	Talked to landowner in 2017. Previously had chickens on site (50,000). Have not had that many on site since 1996. Currently have 8 chickens for eggs and 4 rabbtis. Old chicken barn on site is in poor condition and currently used for storage. Electricity to barn was shut off and is no longer capable of housing livestock
63	Agricultural	Remnant Farm	No	Property abandoned, very overgrown around structures, structures fully or partially collapsed, not capable of housing livestock.
64	Agricultural	Cash Crop Operation	No	Active cash crop operation, implement shed, no structures capable of housing livestock, no trespassing sign.
65	Agricultural	Hobby Farm	Yes	OFA member, sells farm fresh eggs, 2 grain bins, barn in fair to poor condition, steel sided implement shed, no trespassing sign.
66	Non-Agricultural	Industrial	No	Transport truck parking and outdoor storage
67	Non-Agricultural	Industrial	No	High Class Recovery. Transport truck parking and outdoor storage. Large shop
68	Non-Agricultural	Institutional	No	Rymal Road Community Church

69	Agricultural	Cash Crop Operation	No	Implement shed, no barn, no structures capable of housing livestock
70	Non-Agricultural	Industrial	No	GFL Landfill
71	Non-Agricultural	Recreational	No	Dog Park
72	Non-Agricultural	Institutional	No	Guru Nanak Darbar
73	Agricultural	Remnant Farm	No	Abandoned cash crop operation
74	Non-Agricultural	Commercial	No	Light commercial operation, new shop, transport rucks and outdoor storage, no sign associated with business.
75	Agricultural	Hobby Farm	No	Small chicken coop (<10m x10m), approximately 20 chickens, 20 ducks observed, steel Quonset hut, barn converted for commercial use, outdoor storage, sea containers, no structures capable of housing livestock.
76	Agricultural	Remnant Farm	No	Partially collapsed barn, 2 metal grain bins, uncapped cement silo, no structures capable of housing livestock.
77	Non-Agricultural	Industrial	No	Reimer Forming & Construction. Shop and outdoor storage.
78	Agricultural	Cash Crop Operation	No	No trespassing sign, 2 metal grain bins, 2 metal sided implement sheds in fair condition, no sign of livestock, no structures capable of housing livestock.

	Total Number	Active	Retired or Remnant
Agricultural	41	7 – Hobby Farm 3 – Equestrian Operation 1 – Mushroom Farm 1 – Beef Operation 1 – Poultry Operation 6 – Cash Crop Operation	15 – Remnant Farm 7 – Empty Livestock Facility
Agriculture-related	8	2 – Greenhouse 1 – Garden Centre 2 – Cheese Shop 1 – Cidery 1 – Animal Feed Store 1 – Farm Market	0
On-farm Diversified	0	0	0
	Total Number	**Type**	
Non-Agricultural	29	16 – Commercial 4 – Recreational 5 – Industrial 1 – Utility 3 – Institutional	

APPENDIX G

AgriSuite MDS Reports

Ontario

AgriSuite

Elfrida Community Builders

General information

Application date
May 27, 2024

Municipal file number

Proposed application
New or expanding settlement area boundary

Applicant contact information

ON

Location of subject lands
City of Hamilton
City of Hamilton
SALTFLEET
Concession 7 , Lot 24

Calculations

Barn #10

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
SALTFLEET
Concession 7 , Lot 18
Roll number: 2518

Total lot size
5.81 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	621 m²	31.1 NU	621 m²

Unoccupied Barn or Unused Storage (Barn #10)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage	**- Not Specified -**
Design capacity	**31.1 NU**
Potential design capacity	**31.1 NU**

Factor A (odour potential) **1**
Factor D (manure type) **0.7**
Factor B (design capacity) **222.1**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**343 m (1125 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #12

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
SALTFLEET
Concession 7 , Lot 23
Roll number: 2518

Total lot size
4.04 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	251 m²	12.6 NU	251 m²

Unoccupied Barn or Unused Storage (Barn #12)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage **- Not Specified -**

Design capacity **12.6 NU**

Potential design capacity **12.6 NU**

Factor A (odour potential) **1**
Factor B (design capacity) **175.16**
Factor D (manure type) **0.7**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**270 m (886 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #24

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
SALTFLEET
Concession 8 , Lot 20
Roll number: 2518

Total lot size
7.98 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Chickens, Broilers	1710 m²	69 NU	1710 m²
Solid	Chickens, Broilers	1710 m²	69 NU	1710 m²

Confirm Livestock/Manure Information (Barn #24)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Setback summary

Existing manure storage	**V3. Solid, outside, no cover, >= 30% DM**
Design capacity	**137.9 NU**
Potential design capacity	**137.9 NU**

Factor A (odour potential) **0.7**
Factor D (manure type) **0.7**
Factor B (design capacity) **353.34**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**381 m (1250 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**381 m (1250 ft)**
Actual distance from manure storage	**NA**

Barn #26

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 1 , Lot BLOCK 3
Roll number: 2518

Total lot size
3.82 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	182 m²	9.1 NU	182 m²

Confirm Livestock/Manure Information (Barn #26)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Unoccupied Barn or Unused Storage (Barn #26)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage	**- Not Specified -**
Design capacity	**9.1 NU**
Potential design capacity	**9.1 NU**

Factor A (odour potential) **1**
Factor D (manure type) **0.7**
Factor B (design capacity) **163.66**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**253 m (830 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #31

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 1 , Lot 5 BLOCK 2
Roll number: 2518

Total lot size
10.03 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	24	24 NU	557 m²

Setback summary

Existing manure storage	**V3. Solid, outside, no cover, >= 30% DM**
Design capacity	**24 NU**
Potential design capacity	**24 NU**

Factor A (odour potential) **0.7**
Factor D (manure type) **0.7**
Factor B (design capacity) **208**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**225 m (738 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**225 m (738 ft)**
Actual distance from manure storage	**NA**

Barn #34

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 2 , Lot BLOCK 2
Roll number: 2518

Total lot size
34.11 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	271 m²	13.6 NU	271 m²

Confirm Livestock/Manure Information (Barn #34)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Unoccupied Barn or Unused Storage (Barn #34)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage	**- Not Specified -**
Design capacity	**13.6 NU**
Potential design capacity	**13.6 NU**

Factor A (odour potential) **1**
Factor B (design capacity) **178.5**
Factor D (manure type) **0.7**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**275 m (902 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #38

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 2 , Lot BLOCK 3
Roll number: 2518

Total lot size
16.33 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	306 m²	15.3 NU	306 m²

Unoccupied Barn or Unused Storage (Barn #38)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage **- Not Specified -**

Design capacity **15.3 NU**

Potential design capacity **15.3 NU**

Factor A (odour potential) **1**
Factor B (design capacity) **184.33**
Factor D (manure type) **0.7**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**284 m (932 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #39

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 1 , Lot BLOCK 3
Roll number: 2518

Total lot size
2.08 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	219 m²	10.9 NU	219 m²

Unoccupied Barn or Unused Storage (Barn #39)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage **- Not Specified -**

Design capacity **10.9 NU**

Potential design capacity **10.9 NU**

Factor A (odour potential) **1**
Factor B (design capacity) **169.83**
Factor D (manure type) **0.7**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**262 m (860 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #42

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 2 , Lot BLOCK 3
Roll number: 2518

Total lot size
45.33 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	788 m²	39.4 NU	788 m²
Solid	Unoccupied Livestock Barn	554 m²	27.7 NU	554 m²

Confirm Livestock/Manure Information (Barn #42)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Unoccupied Barn or Unused Storage (Barn #42)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage	**- Not Specified -**
Design capacity	**67.1 NU**
Potential design capacity	**67.1 NU**

Factor A (odour potential)	**1**	Factor B (design capacity)	**286.35**
Factor D (manure type)	**0.7**	Factor E (encroaching land use)	**2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**441 m (1447 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #45

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 1 , Lot BLOCK 3
Roll number: 2518

Total lot size
28.44 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	755 m²	37.8 NU	755 m²

Confirm Livestock/Manure Information (Barn #45)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Unoccupied Barn or Unused Storage (Barn #45)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage	**- Not Specified -**
Design capacity	**37.8 NU**
Potential design capacity	**37.8 NU**

Factor A (odour potential) **1**
Factor B (design capacity) **235.5**
Factor D (manure type) **0.7**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**363 m (1191 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #51

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 1 , Lot 5 BLOCK 4
Roll number: 2518

Total lot size
14.5 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	28	28 NU	650 m²

Setback summary

Existing manure storage	**V3. Solid, outside, no cover, >= 30% DM**
Design capacity	**28 NU**
Potential design capacity	**28 NU**

Factor A (odour potential) **0.7**
Factor D (manure type) **0.7**
Factor B (design capacity) **216**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**233 m (764 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**233 m (764 ft)**
Actual distance from manure storage	**NA**

Barn #55

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 2 , Lot BLOCK 5
Roll number: 2518

Total lot size
19.29 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Unoccupied Livestock Barn	302 m²	15.1 NU	302 m²

Confirm Livestock/Manure Information (Barn #55)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Unoccupied Barn or Unused Storage (Barn #55)
The calculated setback is based on assumptions for an unoccupied barn or unused storage that may not reflect the actual design capacity.

Setback summary

Existing manure storage	**- Not Specified -**
Design capacity	**15.1 NU**
Potential design capacity	**15.1 NU**

Factor A (odour potential) **1**
Factor D (manure type) **0.7**
Factor B (design capacity) **183.66**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**283 m (928 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #56

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 2 , Lot BLOCK 5
Roll number: 2518

Total lot size
21.82 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Beef, Cows, including calves to weaning (all breeds), Yard/Barn	273	273 NU	1268 m²

Confirm Livestock/Manure Information (Barn #56)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Setback summary

Existing manure storage	**V3. Solid, outside, no cover, >= 30% DM**
Design capacity	**273 NU**
Potential design capacity	**273 NU**

Factor A (odour potential) **0.7**
Factor D (manure type) **0.7**
Factor B (design capacity) **448.74**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**484 m (1588 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**484 m (1588 ft)**
Actual distance from manure storage	**NA**

Barn #58

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
BINBROOK
Concession 1 , Lot 6 BLOCK 4
Roll number: 2518

Total lot size
0.82 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Chickens, Layer hens (for eating eggs; after transfer from pullet barn), Floor Run	30	0.2 NU	3 m²

Setback summary

Existing manure storage	**No storage required (manure is stored for less than 14 days)**
Design capacity	**0.2 NU**
Potential design capacity	**0.2 NU**

Factor A (odour potential) **1**
Factor B (design capacity) **150**
Factor D (manure type) **0.7**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**232 m (761 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**No existing manure storage**
Actual distance from manure storage	**NA**

Barn #65

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
SALTFLEET
Concession 7 , Lot 18
Roll number: 2518

Total lot size
4.19 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Chickens, Layer hens (for eating eggs; after transfer from pullet barn), Floor Run	2763	18.4 NU	257 m²

Confirm Livestock/Manure Information (Barn #65)
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Setback summary

Existing manure storage	**V3. Solid, outside, no cover, >= 30% DM**
Design capacity	**18.4 NU**
Potential design capacity	**18.4 NU**

Factor A (odour potential) **1**
Factor D (manure type) **0.7**
Factor B (design capacity) **194.73**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**300 m (984 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**300 m (984 ft)**
Actual distance from manure storage	**NA**

Barn #7

Farm contact information

ON

Location of existing livestock facility or anaerobic digestor
City of Hamilton
City of Hamilton
SALTFLEET
Concession 5 , Lot 20
Roll number: 2518

Total lot size
4.12 ha

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Horses, Large-framed, mature; > 680 kg (including unweaned offspring)	15	21.4 NU	453 m²

Setback summary

Existing manure storage	**V3. Solid, outside, no cover, >= 30% DM**
Design capacity	**21.4 NU**
Potential design capacity	**21.4 NU**

Factor A (odour potential) **0.7**
Factor D (manure type) **0.7**
Factor B (design capacity) **202.86**
Factor E (encroaching land use) **2.2**

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	**219 m (718 ft)**
Actual distance from livestock barn	**NA**
Storage base distance 'S' (minimum distance from manure storage)	**219 m (718 ft)**
Actual distance from manure storage	**NA**

Preparer signoff & disclaimer

Preparer contact information
John Liotta
Colville Consulting Inc.
432 Niagara St Unit 2
St. Catharines, ON
L2M 4W3
905-935-2161 x110
john@colvilleconsultinginc.ca

Signature of preparer

11-14-2024

John Liotta , Agrologist/Ecologist

Date (mmm-dd-yyyy)

Note to the user

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has developed this software program for distribution and use with the Minimum Distance Separation (MDS) Formulae as a public service to assist farmers, consultants, and the general public. This version of the software distributed by OMAFRA will be considered to be the official version for purposes of calculating MDS. OMAFRA is not responsible for errors due to inaccurate or incorrect data or information; mistakes in calculation; errors arising out of modification of the software, or errors arising out of incorrect inputting of data. All data and calculations should be verified before acting on them.