

Agricultural Impact Assessment

Syer Line – Proposed Land Use Change

1066 Syer Line, Cavan
Part of Lot 14, Concession 8, Geographic Township Of Cavan
Township of Cavan Monaghan

Prepared by:

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May 2021





Agricultural Impact Assessment 1066 Syer Line, Cavan

Location: Part Lot 14, Concession 8, Geographic Township of Cavan
Township of Cavan Monaghan, County of Peterborough

Assessment Roll: 1509 010 030 18700

CCS Project: No. 4766

Date: May 20, 2021

Prepared for: Township of Cavan-Monaghan

Prepared by: Clark Consulting Services



View of Subject Lands - 1066 Syer Line, Cavan



1. INTRODUCTION

Clark Consulting Services (CCS) was retained by the Township of Cavan Monaghan to complete an Agricultural Impact Assessment (AIA) for the subject lands, 1066 Syer Line, Cavan.

The site of the proposed land use change is on the south side of Highway 115, east of County Road 10, north of the Village of Millbrook and south of the Hamlet of Cavan as illustrated on *Figure 1- Location Map*.

The site is approximately 31.25 ha with approximately 490 m of frontage on Syer Line. The proposal is to change the land use designation on the property from Agricultural to Rural Employment to permit rural employment uses. An AIA is required, as the proposal converts lands currently being used for agricultural use to a non-agricultural use. These lands are in an area shown as Special Study Area No. 1 (See Section 2.6 of the Cavan-Millbrook Official Plan).

The AIA will assess the impact of this conversion on adjoining agricultural uses and suggest methods of minimizing any impacts of this change in use.

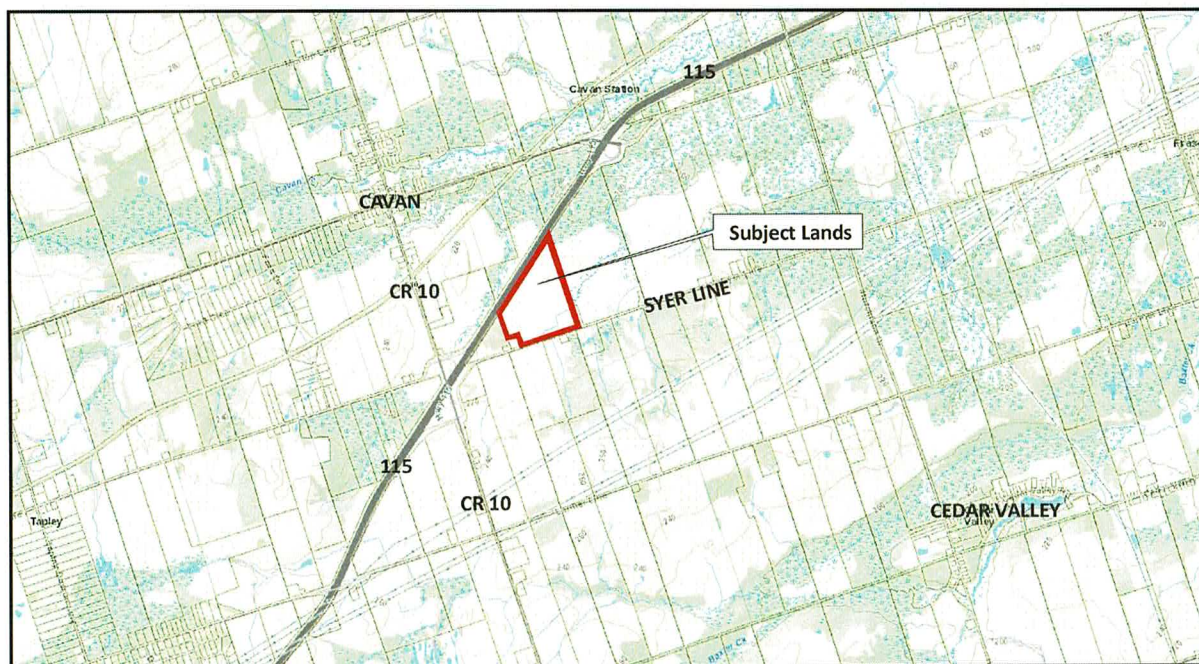


Figure 1 – Location Map

This Agricultural Impact Assessment (AIA) follows the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Draft Agricultural Impact Assessment (AIA) Guidance Document, March 2018.

In the preparation of this AIA, CCS has completed a review of the following documents:

- the OMAFRA Draft AIA Guidance Document (March 2018);
- the Provincial Policy Statement (2020)'
- the Growth Plan for the Greater Golden Horseshoe (August 28, 2020);



- the Official Plans of the County of Peterborough and the Township of Cavan Monaghan;
- the Zoning By-law of the Township of Cavan Monaghan;
- the Soils Report for the County of Peterborough 1981;
- the soils capability mapping and aerial photos from the OMAFRA Agricultural Information Atlas; and
- the Agricultural System Mapping for the Greater Golden Horseshoe.

A detailed site visit of the area, including a windshield survey of land use and existing livestock facilities within 750 m of the subject property, and a general review of lands from 750 m to 1,500 m from the subject lands, was made on May 7, 2021. Individual farm owners were not contacted personally. CCS considered Public Health guidelines during the emergency measures of Covid-19 and ensured the site visit was made without contact with other people. Where required, owners of livestock facilities were contacted by telephone.

2. PROPOSAL

The proposal seeks permission for Rural Employment, specifically Industrial Uses, on the subject lands. This would permit an expansion of the Employment Uses currently found in the area of Syer Line, County Road 10 and Highway 115. A general review of lands within 1,500 m was made for any intensive farming operations and a detailed review of lands within 750 m was made to review local livestock facilities and local land use. A review area of 750 m beyond the subject lands is based on an MDS Type A land use review requiring a search for livestock facilities within 750 m of the proposal lands. *Figure 2-Review Area-1,500 m General Review* shows the wider area review limits. This includes approximately 1,143 ha. The more detailed 750 m review area includes approximately 389 ha.

The General Land Use review over the 1,500 m review area showed that farming north of the subject lands is sparse with frequent wet and steep areas and lands being used for road and rail infrastructure, as well as residential and commercial areas within the settlement area of Cavan. Lands south of the subject lands eventually give way to more level fields in the area north of Larmer Road, the lands associated with the power lines, and these appear to be used for cash-cropping. Older barns are in this area. Some of these barns are still used for housing livestock but there were no large livestock operations.

The nature of the local land use is illustrated in *Figure 3 – Detailed Land Use Map-750 m*. This is based on our site visit and review of available aerial photos. The lands between Millbrook and Cavan are part of an active agriculture area. The area north of Syer Line is wetter and the topography can be quite steep. This is also a common for lands further east towards the Otonabee River in an area of drumlins of steep sand and gravel deposits. These steeper lands lie north and west of the subject lands. More level and larger fields are found south of the subject lands. The subject lands occupy a middle ground between the good farmland and the wet natural lands. Within this area, a substantial amount of land is taken for road and rail infrastructure as well as commercial and employment uses. The pink areas on *Figure 3* represent lands available for agricultural production. While most of these lands may be under cultivation, agricultural land to the west is steep and available for free ranging livestock while the more level fields comprising the



subject lands and some adjacent lands are used for hay, pasture and smaller cultivated areas. A constructed drain is seen in the southern part of the subject lands and drains the local lands.

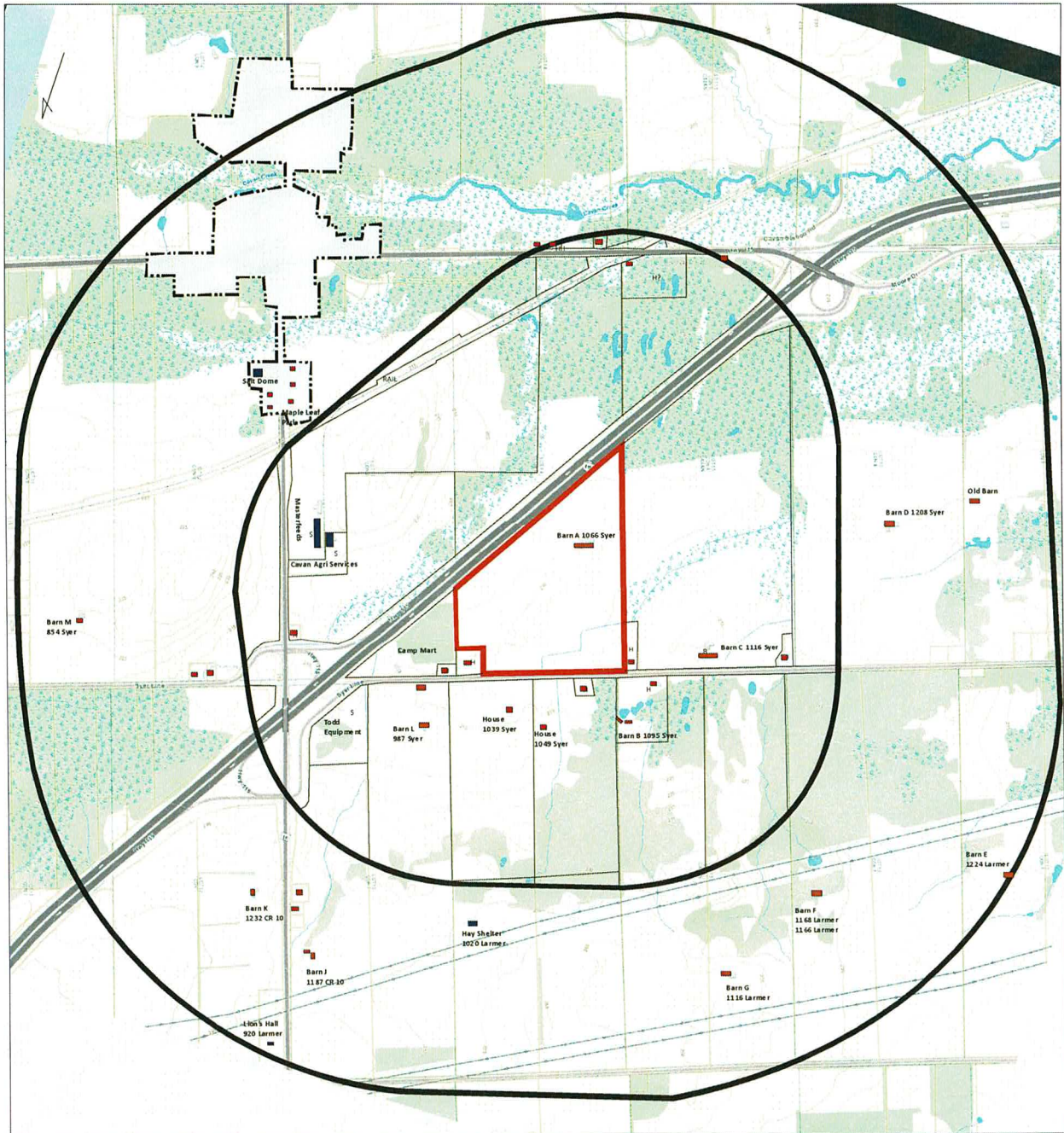


Figure 2 – Review Area-1,500 m General Review



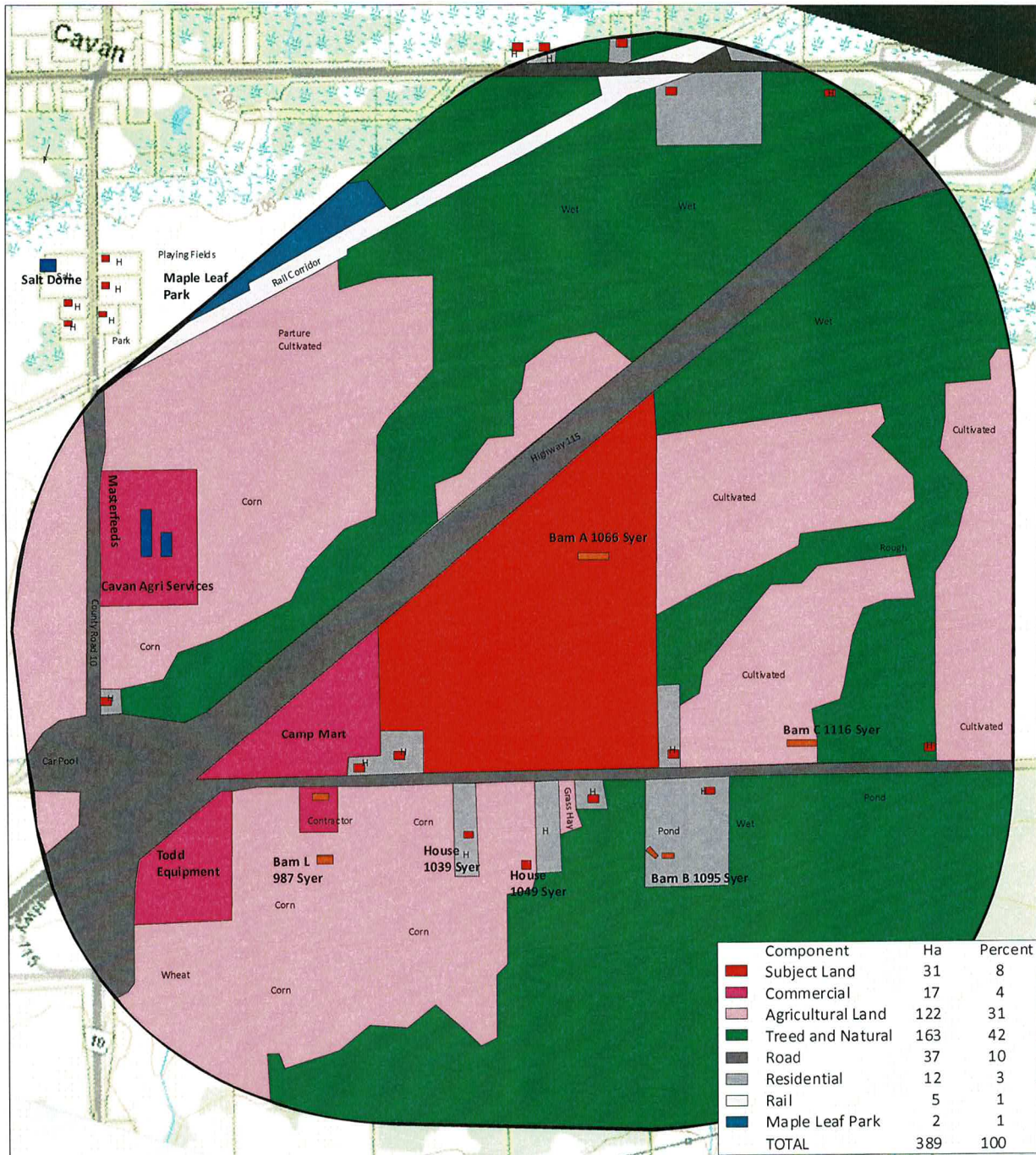


Figure 3 – Detailed Land Use Map - 750 m

3. PURPOSE OF AN AGRICULTURAL IMPACT ASSESSMENT (AIA)

An Agricultural Impact Assessment is defined in the Greenbelt and the Growth Plan as: "A study that evaluates the potential impacts of non-agricultural development on agricultural operations and the Agricultural System and recommends ways to avoid or, if avoidance is not possible, minimize and mitigate adverse impacts".



An Agricultural Impact Assessment:

- Identifies and assesses potential impacts from development on agriculture (including impacts to farmland, farm operations and the surrounding area, within the Greater Golden Horseshoe impacts on the Agricultural System).
- Recommends measures or strategies to avoid impacts (e.g., consider alternative locations where possible).
- Recommends measures to minimize or mitigate impacts (e.g., through design, use of buffers, etc.).
- Addresses site rehabilitation for agriculture, where applicable.

The Draft Agricultural Impact Assessment (AIA) Guidance Document (OMAFRA) provides valuable information in completing an AIA. Section 1.7 of the document recommends that individuals preparing AIAs confirm their qualification to complete the review and that they have no perceived or actual conflicts of interest in association with the AIA.

Attachment "A" to this report includes the CV of the reviewer, Bob Clark, his professional qualification, and a statement declaring he has no perceived or actual conflict of interest in the completion of this Agricultural Impact Assessment.

4. PLANNING POLICY

The following policy analysis reviews the requirements and provisions relating to the preparation of an Agricultural Impact Assessment, as well as the applicable planning policy which applies to the subject lands.

4.1. PROVINCIAL POLICY STATEMENT (2020) (PPS)

The Provincial Policy Statement (2020) (PPS) provides for the protection of Prime Agricultural Lands and the designation of Prime Agricultural Areas. Section 1.1.5.8 requires that new land uses shall comply with the Minimum Distance Separation Formulae.

Section 2.3.5 allows planning authorities to exclude land from Prime Agricultural Areas for expansions of Settlement Areas during a comprehensive review conducted in accordance with Section 1.1.3.8.

The County of Peterborough is currently reviewing the Prime Agricultural Areas. The subject lands will be included in this review for a change from Agricultural to Rural Employment.

4.2. GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE (2020) (GPGGH)

The entire County of Peterborough is within the GPGGH and land use within the County is subject to policies contained within this document.

Section 4.2.6 provides policies for an Agricultural System. Part 3 of this section states, *"Where agricultural uses and non-agricultural uses interface outside of settlement areas, land use*



compatibility will be achieved by avoiding or where avoidance is not possible, minimizing and mitigating adverse impacts on the Agricultural System. Where mitigation is required, measures should be incorporated as part of the non-agricultural uses, as appropriate, within the area being developed. Where appropriate, this should be based on an **agricultural impact assessment**.” This AIA will identify if mitigation of impacts is required.

It is our opinion that, based on the review outlined below, the change in land use for the subject lands complies with the GPGGH.

4.3. COUNTY OF PETERBOROUGH OFFICIAL PLAN (COP)

The County OP provides for conformity with the local municipal official plan land designations. In this case, the Township of Cavan Monaghan Official Plan is reviewed in Section 4.5 below and discusses the designations within the subject lands.

4.4. TOWNSHIP OF CAVAN MONAGHAN OFFICIAL PLAN

The Official Plan of the Township of Cavan Monaghan designates the subject lands as Agricultural and Natural Linkage. An excerpt from the Land Use Schedule is reproduced as Figure 4. The subject lands have been outlined in red. The subject lands are within the Special Study Area No. 1. This area is identified as an area where future development is anticipated to occur. The policy in Section 2.6 that addresses Special Study Area No. 1 makes an exception for small-scale Official Plan and Zoning Amendments. The proposed change in land use will require consideration of this policy.

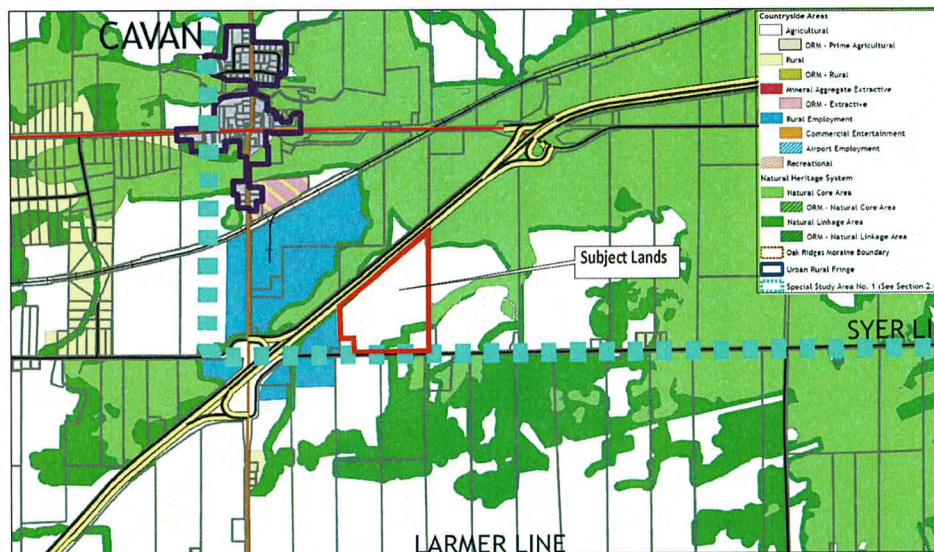


Figure 4 – Township of Cavan Monaghan Official Plan

4.5. TOWNSHIP OF CAVAN MONAGHAN ZONING BY-LAW

The Township of Cavan Monaghan Zoning By-law No 2018-58 zones the subject lands as Agricultural (A) and Natural Linkage (NL) as illustrated on Figure 5. These zones closely follow the designations on the Official Plan.



Currently the lands are lying fallow. A constructed drain maintains an outfall to take water from the subject lands.

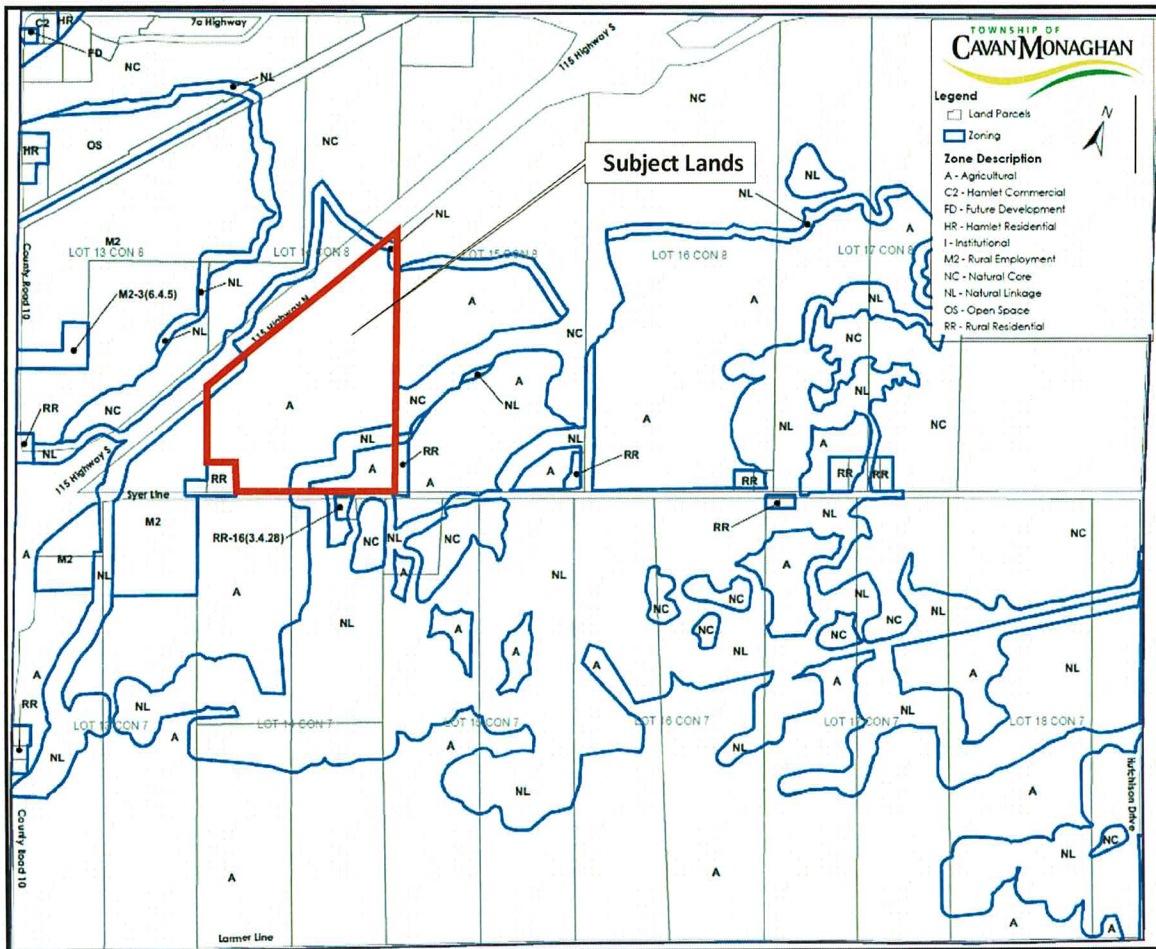


Figure 5 – Township of Cavan Monaghan Zoning By-law

5. AIA STUDY COMPONENTS

5.1. PROCESS

This study is based upon a desktop review, a site visit, the review of the land use in the area, a review of planning documents, and a consultation with Municipal Planning Staff to provide up-to-date knowledge of local matters that should be addressed in the AIA.

5.2. Study Areas

The Primary Study Area comprises the entire subject lands (i.e. the lands where the designation change is proposed).

The Secondary Study Area includes lands that could potentially be impacted by the development. An area 750 m and 1.5 km from the subject lands was identified as outlined in Figure 2 and forms



the basis for the land review for potential impacts. The rationale for the 750 m and 1.5 km as the investigation distance is tied to the size of an MDS I Type B review. Generally, MDS I setbacks deal sufficiently with odour issues and therefore can be a good basis for investigating other impacts such as noise, traffic and hydrological changes.

5.3. Land Use

Based on our site visit, a General Area Review (*Figure 2*) and a Detailed Land Use Map (*Figure 3*) have been prepared.

Subject Lands

The subject lands at 1066 Syer Line are approximately 31.25 ha. These lands include previously cultivated and drainage lands. A residence and outbuildings lie on the north-eastern portion of the property. These include an older, vacant grey wooden barn suitable for raising beef cattle. Two feed silos are located between the barn and the residence and a driveshed north of the dwelling. If the barn was suitable to house cattle, the capacity would be approximately 35 cattle.



Grouping of Buildings at Subject Lands - 1066 Syer Line

The soils on the subject lands are described as Dundonald sandy loam, a Class 2 soil, in the Soil Survey Report No. 45 for Peterborough County prepared in 1981. A detailed review of soils is provided in Section 5.4 of this report.



Greater Area Review (1,500 m)

The Greater Area Review consists of approximately 1,112 ha of lands within a 1,500 m distance of the subject lands. With the addition of the subject lands, the total Greater Area Review is approximately 1,143 ha. This review area is shown graphically in *Figure 2 – Review Areas – 1,500 m General Review*. No large-scale intensive livestock or industrial scale farm operation was identified in this review area.

The land uses in this area are categorized as Treed and Natural. These lands are wet and naturally overgrown with a mix of tree types and are located in the northern third of the review area. The settlement area of Cavan is in this northern portion. The majority of lands in the southern third are available for agricultural use with a focus on growing common field crops. The central third includes the subject lands, commercial uses and infrastructure such as Highway 115, County Road 10, Syer Line, and rail lands. This area also includes a mix of residential uses occupying small, medium and large residential lots.

Small Area Detailed Land Use Review (750 m)

Detailed Land Use Map - Figure 3 – details the current land uses within 750 m of the subject lands. This area includes approximately 389 ha of mixed land uses. The primary land use categories used for this detailed review include Commercial, Agricultural, Treed and Natural, Road, Residential, Rail, and Community Facility (Maple Leaf Park). The following table shows the area of these land uses and their percentage of the whole review area.

LAND USE	HECTARES	PERCENTAGES
Subject Lands	31	8
Commercial	17	4
Agricultural	122	31
Treed and Natural	163	42
Road	37	10
Residential	12	3
Rail	5	1
Community Facility	2	1
TOTAL	389	100

**Figures are rounded to the whole number.*

The subject lands are within a Prime Agricultural Area, however based on the review of current land use in the immediate review area, 'Agricultural' lands represent only 31% of the land uses within this Prime Agricultural Area. *Figure 6* reviews the land use designations shown on the Official Plan schedule compared with the major land uses in the review area.

Figure 6 shows an area of 65 ha as 'Employment Area'. This is approximately the same size as the land available outside the subject lands for agricultural capability. The majority of land use in the detailed review area on the Official Plan schedule is for Natural Core and Natural Linkage areas.



The light blue dashed line marking the edge of the Special Study Area No. 1 includes approximately 260 ha within this 750 m area around the subject lands.

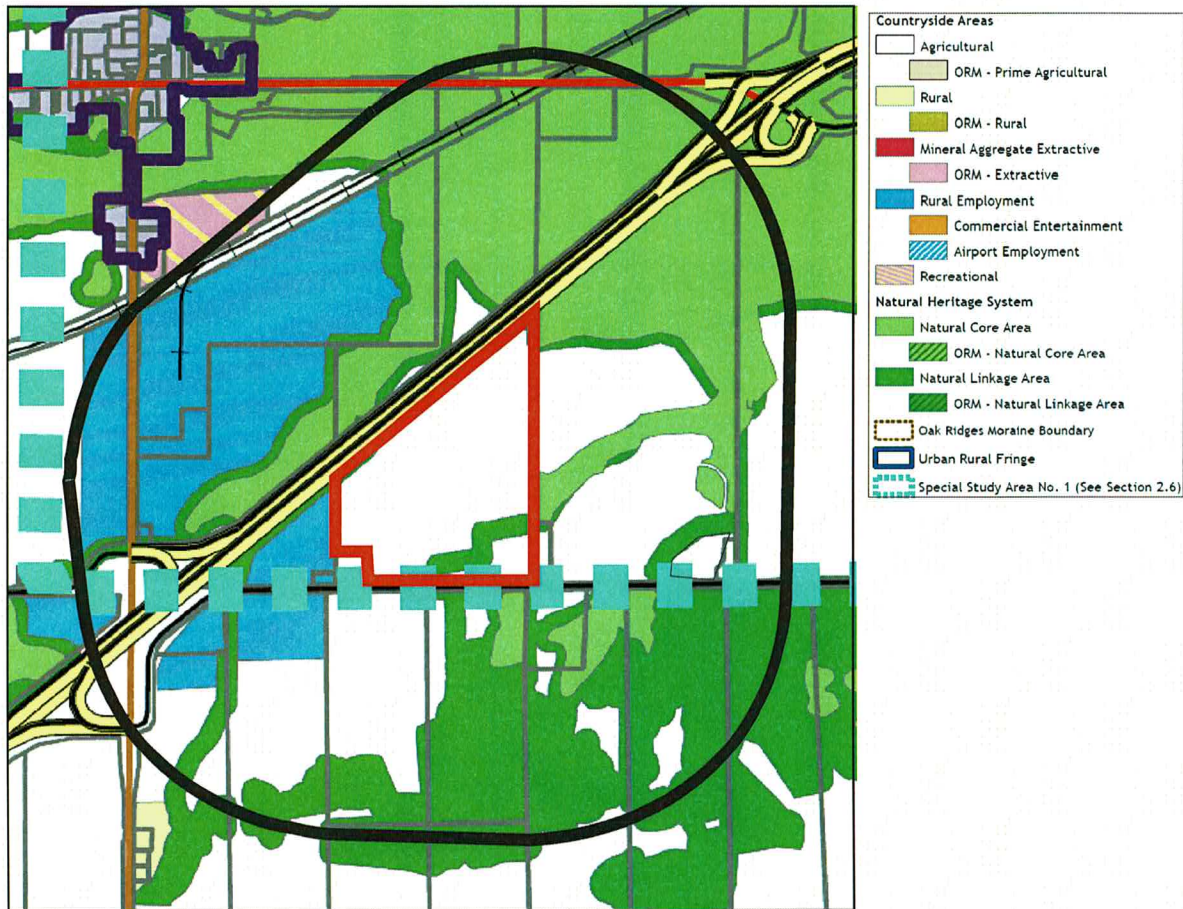


Figure 6 – Land Use Designation Review

Investment in Farming

The OMAFRA AgMaps program includes a tile drainage layer. The lands south of Larmer Road have a number of tile drainage areas. Within the detailed review area, the only tile drainage area as outlined in the AgMaps, is a 3.5 ha drainage area shown approximately 700 m east of the subject lands.

Other signs of farming investment are new barn structures. One newer barn is located approximately 1,150 m west of the subject lands.

The farming operations based on our site visit and our knowledge of the area indicates that farmlands are focused on cash cropping which does not indicate a heavy investment in farm operations. In addition, there are a number of small horse farms, often referred to as hobby farms, within the area.



5.4. Soils Review

The majority of the soils in the subject lands are described as Dundonald sandy loam, a Class 2 soil, according to the Soil Survey Report No. 45 for Peterborough County prepared in 1981.

The Canada Land Inventory classifies lands from Class 1 to Class 7, with various sub-classes, and lands outside these classes such as Muck (wet, organic lands) and Unclassified, including developed lands.

Dundonald sandy loam, Class 2

The Soils Report describes the Dundonald soils as developed on 30-100 cm of sandy alluvial material over calcareous glacial till. The topography is smooth gently sloping, and the soils are well drained.

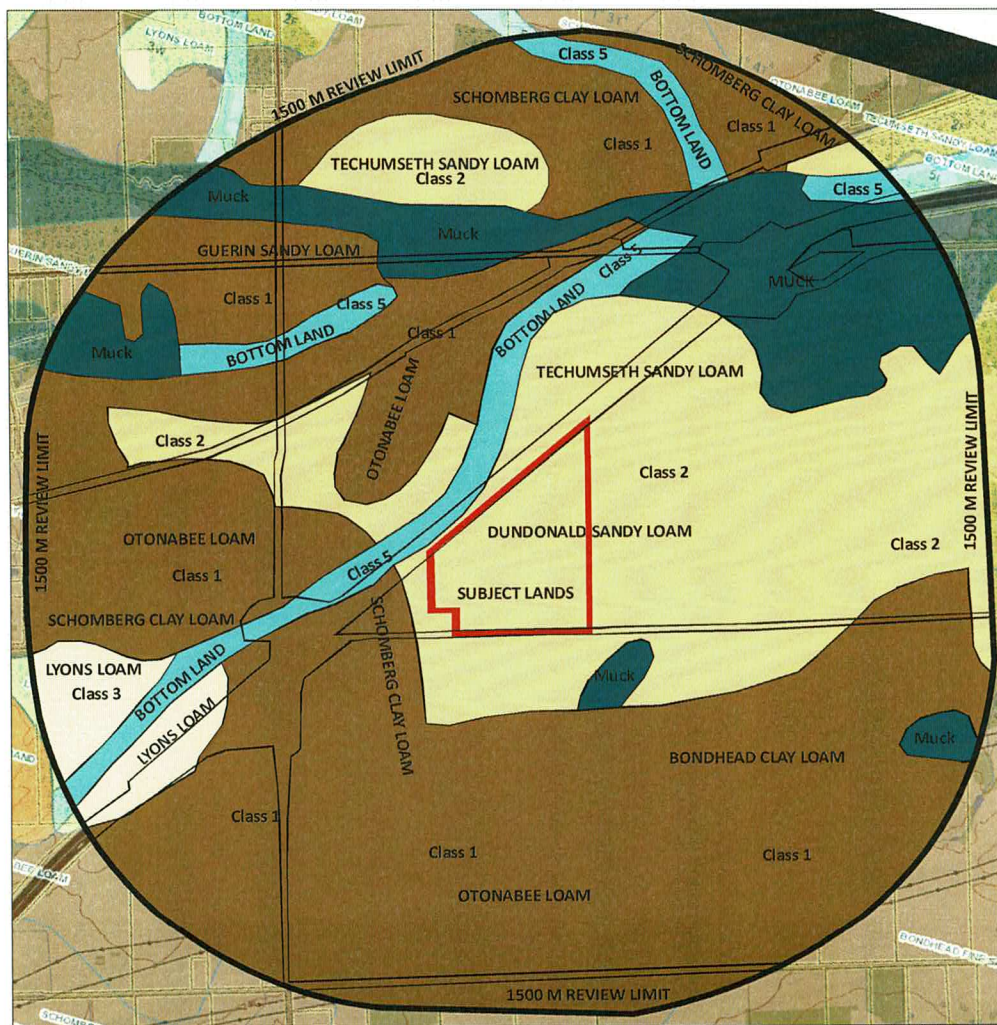


Figure 7 – Soils Mapping



The dominant profile in the map unit is Dundonald sandy loam, a Brunisolic Gray Brown Luvisol. The soil profile consists of a very dark brown sandy loam surface (Ah) horizon with granular structure and friable consistency. The surface horizon is underlain by a (Bm) eluvial horizon of strong brown colour, weak fine structure and friable consistency. This grades into the (Ae) horizon, which is about 25 cm thick, yellowish brown with single grain structure. The Bm and Ae horizons are stone free. The underlying yellowish red loamy (Bt) horizon is about 5 cm thick, subangular blocky, and friable. This horizon is at the sand-glacial till interface and contains some pebbles. The underlying calcareous till is moderately stony loam to sandy loam.

In areas of the Dundonald soils, the Otonabee series also may occur as minor inclusions where the sandy textured overburden becomes thinner or disappears, allowing the loamy glacial till to influence soil characteristics.

The Dundonald soil contains good agricultural soils capable of growing a wide range of crops. It is especially suitable for grain corn, market vegetables and small fruits. It has a low inherent fertility level and requires applications of barnyard manure and commercial fertilizers for maximum productivity.

A review of the soils map shows that the southern third of the Greater Review Area is comprised mostly of Class 1 soils, including Otonabee, Bondhead and Schomberg soils. This corresponds with the southern portion where open fields are cultivated and used for growing common crops.

The central portion of the review lands include the subject lands, commercial lands, agricultural lands, and natural lands. The majority of these land areas are shown as Dundonald soils.

6. Minimum Distance Separation

The introduction of non-farm uses into a Prime Agricultural Area requires consideration of compatibility with existing farming activities. One of the most controversial is the proximity to livestock facilities, which can cause concerns with adjacent land uses, principally due to odour. The Ministry of Agricultural Food and Rural Affairs has established a process for determining appropriate separation distances for new non-farm uses in relation to existing livestock operations. This process is referred to as an MDS I Calculation and requires the determination of the type and size of the livestock operation and the calculation generates a recommended separation distance. This process is described in the Ministry's Publication 853. The calculation can be prepared manually or with the use of the Ministry's calculator located in the AgriSuite program.

Publication 853 contains several guidelines to assist in addressing the unique situations that do not lend themselves to calculation. The following is a review of MDS Guidelines, that will assist in the application of MDS specifically for this study.

6.1 MDS Guideline Review

Guideline 2, For What, and When, Is an MDS Setback Required?



MDS I setback distances shall be met prior to the approval of rezonings or re-designations in accordance with Implementation Guideline #10. The information used to carry out an MDS I calculation must reflect the circumstances at the time the Municipality deems the planning application to be complete.

Guideline 6, Required Investigation Distances for MDS

A separate MDS I setback shall be required to be measured from all existing livestock facilities 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.

Guideline 10, MDS I Setbacks for Zoning By-Law 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 presently zoned or designated for agricultural use. This shall include amendments to allow site-specific exceptions which add non-agricultural uses to the list of agricultural uses already permitted on a lot.

Guideline 12, Existing Uses that Do Not Conform to MDS

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

- located within the intervening area (120° field of view) between the closest part of the proposed development and the nearest livestock facility;
- 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.

If the above conditions are met, the MDS I setback for the proposed development may be reduced such that it is located no closer to the livestock facility than the furthest of the four non-agricultural uses, residential uses and/or dwellings.

Guideline 20, MDS Setbacks for Unoccupied Livestock Barns

Design capacity for an MDS I Calculation shall include all unoccupied livestock barns on a lot in accordance with this Implementation Guideline.

However, an MDS I setback is not required when:

- the building has been deemed by a municipal building official, with input from a professional engineer or a consultant knowledgeable about livestock facilities where



appropriate, as no longer being structurally sound or reasonably capable of housing livestock; or

- the floor area of the unoccupied livestock barn is <100 m².

Guideline 33, Type A Land Uses (Less Sensitive)

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

- industrial uses outside a settlement area.

Guideline 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:

- 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.

Guideline 43, Reducing MDS Setbacks

If deemed appropriate by a municipality, the processes by which a reduction to MDS I may be considered could include a Minor Variance to the local zoning by-law provisions, a site specific Zoning By-law Amendment or an Official Plan Amendment introducing a site specific policy area.

6.2 The Minimum Distance Separation (MDS) Review

CCS Staff reviewed available aerial imagery of the subject lands and neighbouring properties. The preliminary review of the imagery showed that large farm operations were not apparent, however new farming operations may not be included in the imagery.

The preliminary review is to prepare CCS Staff for the site visit and to help familiarize with features of review area. A review boundary was chosen based on direction from MDS Guidelines 33 and 34. The proposal is to change the land use of the subject lands from Agricultural to Rural Employment. The Guidelines say that a proposal for an Official Plan Amendment to permit industrial uses outside a settlement area is a Type A land use, and that an Official Plan Amendment or Zoning By-law Amendment to permit development, excluding industrial uses, on land outside a settlement area, is a Type B land use. The proposal for Rural Employment is that a variety of employment uses will be permitted including Industrial. Based on the direction of Guidelines 33 and 34, the proposal is a Type A proposal and the MDS review area should be up to 750 m from the subject lands.

Guideline 6 directs that if large livestock facilities (e.g. >1,200 Nutrient Units) exist beyond the study area, the large facility should be included in the study. For these reasons, a Primary Study Area of up to 750 m beyond the subject lands was chosen for a detailed review and additional lands up to 1,500 m from the subject lands were chosen to review for large livestock facilities (>1,200 Nutrient Units).



Review of Barns, MDS I Type A

CCS completed a site visit of the review area and noted a number of occupied and vacant barns within the review area. Guideline 6 directs that MDS I setbacks are required for all existing livestock facilities that are reasonably expected to be impacted by the proposed application. Local barns that could be impacted by the application are shown as Barn A (subject lands), Barn C (1116 Syer), and Barn L (987 Syer). The following is a detailed review of each barn within 750 m of the subject lands (a Type A review as per Guideline 33).

The MDS calculation sheets for this MDS I Type A review are attached to this report as Attachment "C" and the MDS Sketch, graphically showing the location of each barn and the resulting setback arcs, is attached as Attachment "D".

Barn A

Barn A is located on the subject lands at 1066 Syer Line. This is an older grey wooden barn suitable for the housing of beef cattle. Although the footprint of the building is approximately 250 m² the capability of this older wooden beef barn would be 30 to 35 beef cattle. The barn is vacant and approval of the application would render the barn incapable of use as a livestock facility. No further review of this barn is made.

Barn B

Barn B is a grouping of two structures on a 4 ha lot at 1095 Syer Line. These are difficult to see through the trees. However, aerial imagery shows them to be approximately 25 m² each. If the structures are used to house livestock they could be used for horses and fowl such as laying hens or pigeons. Using a capacity of 2 medium horses (the MDS calculation increases this number to 5) and using 50 laying hens for the other building, the resulting MDS setback is 86 m. The actual distance from the subject property is 163 m from the closest point of the nearest building.

Barn C

Barn C is located on a 59 ha farm east of the subject lands at 1116 Syer Line. This is an actively used horse farm. A single story blue painted steel sided stable barn is located at the front of the property. An older two storey wooden barn is located north of the blue stables. Together these barns are said to have 26 stalls (*real estate information when farm was last sold*). These have been separated as 10 stalls for large horses and 16 stalls for medium horses. The resulting MDS setback is 166 m setback while the actual setback is 260 m.

Barn L

Barn L is located on a 39 ha farm lot at 987 Syer Line. This is better described as 3 barns. The farm is used by Iron Equipment.

The 3 barns can be described as:

- Barn by Roadside – this red barn is immediately adjacent to the roadside and is used as a garage for equipment. This is not to be considered a viable livestock barn. No MDS setback is calculated from this barn.



- Red barn middle distance – this is a wooden barn in poorer condition. This would have been designed as a beef barn. This appears to be in need of repairs and has not been considered as a viable livestock facility. No MDS setback has been calculated.
- Newer red barn to south – this is a newer steel sided barn which could be used for a variety of livestock types. This barn has a floor area of 370 m². A calculation has been made based on 75% of the housing capacity, since floor space is also used for equipment, feed, alleyways and storage for feeding and watering bowls. This results in a capacity of 75 beef cattle which generates a setback of 160 m. The actual setback is 255 m.

MDS II Type A, Barn Capacity Growth – Additional 25% and 50% Capacities

In preparing this MDS review, CCS has prepared an additional set of calculations to review if, following conversion of the lands to a non-agricultural use, local farms could expand their livestock operations. In order to complete this, we have prepared MDS II calculations for each of the three facilities reviewed above, using an increase of 25% and 50% barn capacities. The MDS II calculations are attached to this report as Attachment “E” and the MDS II Sketch showing the setbacks graphically are attached as Attachment “F”. The following is a review of the MDS II calculations.

Barn B

Barn B is a grouping of two structures on a 4 ha lot. If the structures are used to house livestock, they could be used for horses and fowl such as laying hens or pigeons. Using a capacity of 2 medium horses (the MDS calculation increases this number to 5) and using 50 laying hens for the other building.

We have prepared calculations based on an increased capacity for horses to 3 medium horses (an increase of 50%) and a capacity of 63 and 75 laying hens (a 25% and 50% increase). The calculated MDS II setbacks are 60 m and 63 m. The actual distance from the subject property is 163 m from the closest point of the nearest building.

Barn C

Barn C is located on a 59 ha farm east of the subject lands at 1116 Syer Line. This is an actively used horse farm. A single story blue painted steel sided stable barn is located at the front of the property. An older two storey wooden barn is located north of the blue stables. Together these barns are said to have 26 stalls (real estate information when farm was last sold). These have been separated as 10 stalls for large horses and 16 stalls for medium horses.

We have prepared calculations based on an increased capacity for horses to 13 large horses and 20 medium horses (an increase of 25% and 50%). The calculated MDS II setbacks are 78 m and 100 m. The actual distance from the subject property is 260 m from the closest point of the nearest building.

Barn L

Barn L is located on a 39 ha farm lot at 987 Syer Line. The farm is used by Iron Equipment.



The barn under review is the newer red barn to south – a newer steel sided barn which could be used for a variety of livestock types. This barn has a floor area of 370 m². A calculation has been made based on 75% of the housing capacity since floor space is also used for equipment, feed, alleyways and storage for feeding and watering bowls.

We have prepared calculations based on an increased capacity for cattle to 94 and to 113 (an increase of 25% and 50%). The calculated MDS II setbacks are 82 m and 107 m. The actual distance from the subject property is 260 m from the closest point of the nearest building.

The following table is a summary of the findings of the MDS I and MDS II calculation of setbacks as detailed above. The findings show that the application meets the requirements of MDS.

MDS SUMMARY TABLE				
BARN	ACTUAL SETBACK	MDS I	MDS II + 25%	MDS II + 50%
B	163 m	86 m	60 m	63 m
C	260 m	166 m	78 m	100 m
L	255 m	160 m	82 m	107 m

The MDS setbacks prepared for these barns are shown graphically, relative to the subject lands, on *Attachment D – MDS I Type A Sketch* and *Attachment F – MDS II Type A Sketch*. The MDS calculation sheets and sketches are attached as *Attachments “C” to “F”*. The estimates are generally high, since CCS Staff did not make visits to the farms during Covid restrictions. The resulting setbacks from the barns are within the actual distances to the subject lands, therefore the proposal meets the requirements of MDS.

6.3 Farm and Crop Type

The comparison of 2016 and 2011 Census of Agriculture for the Township of Cavan North Monaghan confirms that the trend in number of farms declined with an increase in larger size farm operations. One of the largest declines was in the number of grain farms corresponding to the increase in size of the remaining farms.

6.4 Economic and Community Benefits of Agriculture

Agriculture forms an important component of the local economy, the trends which are evident both in the municipal-wide agricultural statistics, however the lack of significant livestock facilities in the immediate area suggests that this area does not reflect the general agricultural community. The presence of non-farm agricultural uses also restricts the ability to establish or expend individual farm production. Recent trends show a modest reduction in the number of livestock operations with a focus on beef cattle production. The Provincial Policy Statement recommends the protection of Prime Agricultural Land; the subject lands have competing land uses. The development proposed is immediately adjacent to the area designated as part of the Employment Area. The area proposed for development is isolated from other active agricultural areas. The loss of productive capability will be minor when compared to the crop area in the larger Municipality.



6.5 Assessment of Impacts

In considering the potential impacts of the conversion of the subject lands to a non-farm use, the most obvious impact will be the restriction on adjacent agricultural land uses. This impact is viewed as minor. There is potential for impact to the immediately adjacent area to the east and south which will continue as cultivated cropland. Potential impacts from cropping operations such as application of fertilizer, pesticides and herbicides will need to be monitored. Tillage and harvesting activities may generate issues from noise. This is not unlike the existing situation for the existing employment uses.

The establishment of buffers in the form of fencing and vegetation are recommended to provide an obvious boundary and to mitigate the impacts outlined above.

7. Study Conclusions and Recommendations

In conclusion, the conversion of the subject lands to employment land uses will have a minimal impact due to the location of Natural Heritage Features and the current use of the abutting agricultural lands. The presence of existing non-farm uses in the immediate area of the subject lands have already initiated a transition in land use to the employment area. The conversion of the subject lands to employment uses will require an amendment to the Official Plan. This will require consideration of the Planning Justification. Based on the above review, it is our conclusion that the conversion of the subject lands to employment uses will have limited impact on the adjacent agricultural lands. These impacts include the loss of agricultural productive croplands due to the proposed conversion of the subject lands to employment uses and the impact on adjacent agricultural uses to the east. Due to the lack of intensive agricultural uses and livestock facilities on these adjacent lands, the impact will be limited and can be mitigated through the design to include buffers and orientation of the urban land uses.

Clark Consulting Services (CCS) respectfully submits this Agricultural Impact Assessment. It has been prepared in accordance with the requirements of the OMAFRA Draft AIA Guidelines and has been prepared by a 'Qualified Person', Robert K. Clark, with appropriate qualifications and experience in the Province of Ontario. Mr. Clark has no perceived or actual conflicts of interest in preparing this AIA. Mr. Clark maintains membership in good standing with the Ontario Institute of Agrologists (P.Ag.). Mr. Clark is available for further comment where appropriate.

Sincerely,



Bob Clark, P.Eng., P.Ag., MCIP, RPP, OLE
Principal Planner



Figures:

- Figure 1 - Location Map
- Figure 2 - Review Areas – 1,500 m General Review
- Figure 3 - Detailed Land Use Map, 750 m
- Figure 4 - Township of Cavan Monaghan Official Plan
- Figure 5 - Township of Cavan Monaghan Zoning By-law
- Figure 6 - Land Use Designation Review
- Figure 7 - Soils Mapping

Attachments:

- A – CV of Robert K Clark
- B – List of References
- C – MDS I Type A Calculations
- D – MDS I Type A Sketch
- E – MDS II Calculations
- F – MDS II Sketch

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ATTACHMENT A
Curriculum Vitae - Robert K. (Bob) Clark

Mr. Clark has no perceived or actual conflicts of interest in preparing this AIA.
Mr. Clark maintains membership in good standing with the Ontario Institute of Agrolgists (P.Ag.).





Education

1972
Master of Science,
Resource Development and
Resource Economics,
University of Guelph

1970
Bachelor of Science (Eng.)
Water Resources Engineering,
University of Guelph

CONTACT



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ROBERT K. CLARK

Bob's career in the field of planning spans 46 years. He approaches each project with creativity and a strong intent to meet and exceed the client's expectations. The Planning Field is changing rapidly to address the changing needs of our communities. While financial viability remains an important consideration in all projects, increasingly, sustainability, impact on the environment, the health of the community and the individual are key aspects of successful projects. Clark Consulting Services was created to give Bob the freedom to take on projects that he found interesting and challenging as well as work in an atmosphere guided by the principles of honesty and integrity.

Professional Qualifications and Associations

Canadian Institute of Planners (MCIP)
Ontario Professional Planning Institute (RPP)
Ontario Institute of Agrologists (P.Ag.)
Professional Engineers of Ontario (P.Eng.)
Association of Ontario Land Economists

Professional Background

1994-Present – Clark Consulting Services
Principal Planner, President

Expert Testimony

Qualified by the OMB to give expert testimony in the fields of:

- Land Use Planning
- Agricultural Land Evaluation
- Municipal Finance
- Land Economics
- Environmental Impact Assessment

CURRICULUM VITAE

Selected Experience

Agricultural Land Assessments/Analysis (Project Manager and Senior Professional Agrolgist/Pedologist on all projects)

- Agricultural Lands Review, United Counties of Stormont, Dundas and Glengarry
- City of Kingston - Agricultural Study
- Stormont Dundas and Glengarry: Review of Prime Agricultural Area for Official Plan Update
- Capital Region Resource Recovery Centre, Agricultural Land Assessment (as part of Environmental Assessment) Russell and Boundary Road Sites
- Vale Agricultural Land Assessment Prince Edward County
- Dafoe Agricultural Assessment, City of Quinte West
- Desjardine, Agricultural Assessment, Township of Elizabethtown Kitley
- Sills Agricultural Assessment, City of Quinte West
- Lafleche Agricultural Assessment, Stormont, Dundas and Glengarry
- McQuillan Land Assessment, Haldimand Township
- Pepper/Hamilton Township
- Espie Agricultural Assessment Beckwith Township
- White Tail Golf Course Agricultural Assessment and Professional Evidence OMB
- Wesleyville Land Assembly, Municipality of Port Hope
- Baulch Road Land Review, Municipality of Port Hope
- Midtown Corridor Hamilton Township Land Evaluation
- Cavan Millbrook North Monaghan OP Prime Agricultural Land Evaluation
- Hamilton Township OP Prime Agricultural Land Evaluation
- Frontenac Islands OP Prime Agricultural Land Evaluation
- Campbellford Seymour Agricultural Land Evaluation
- Sidney Township OP Agricultural Land Evaluation
- South Fredricksburgh OP Agricultural Land Evaluation
- Agricultural Land Use Analysis, Former Township of Hope

Agricultural Impact Assessment

- Fenelon Falls Baptist Church
- Cation Ag Impact Assessment
- Brown Planning Justification including Agricultural Impact Assessment
- May Agricultural Assessment
- Peer Review of Agricultural Viability for planning applications, City of Oshawa
- White Tail Golf Course, City of Kawartha Lakes
- Snug Harbour, City of Kawartha Lakes
- Murray Hills Subdivision former Murray Township

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CURRICULUM VITAE

Agricultural Land Assessments for Solar Installations

-Agricultural Land Capability Assessment for Potential Solar Farm Installations to meet requirements of OPA FIT Program, (over 340 projects to date)

Environmental Assessment

-Public Works Garage, Class EA, Town of Gananoque,
-Wilson Island Bridge (Socio-economic Assessment), County of Northumberland,
Environmental Impact Assessment, private owners including Michael Lash, Eithery/Buttery Lands, Vanden Hoek site; Three Strand Development Group – Communal Sewage System.

Environmental Impact Study/Statement

Based on experience and training as a water resource engineer and pedologist, Mr. Clark has prepared Environmental Impact Studies/Statements for situations in which the primary issues relate to site grading, drainage and building location. Examples include:

- Lash Cottage addition (minor variance)
- Hog Island EIS (consent application)
- Eberle Farm lot creation ORMCP

Official Plans, Official Plan Updates and Amendments

Township of Cavan-Millbrook-North Monaghan, Township of Haldimand, Township of Hamilton, Township of Smith, Township of Lochiel, Township of Charlottenburgh, Town of Brighton, Township of Burleigh and Anstruther, Township of Sidney, Township of Frontenac Islands, Township of Hope, Town of Gananoque.

Secondary Plans

Fraserville Secondary Plan - Township of Cavan- Millbrook-North Monaghan; South Sidney Secondary Plan, Township of Sidney; Alcan District Area Study - City of Kingston; Shasta Secondary Plan - Town of Westminster, Baltimore-Creighton Heights Community Plan, Township of Hamilton, Southwest Industrial Sector Plan, Township of Hamilton, Jackson Creek West Secondary Plan, City of Peterborough.

Growth Strategy Studies

Township of Hamilton, Township of Manvers, Town of Cobourg/Township of Hamilton, Village of Stirling, Village of Cochrane, Township of Smith.

Development Charges Studies

Township of Murray, Township of Hamilton, Township of Smith, Township of Manvers, Town of Brighton, Township of Alnwick, Township of Haldimand, Township of Somerville, Township of Woodville, Townships of Anson, Hindon, Minden, Village of Omemee, Township of Galway, Cavendish & Harvey, Township of Fenelon, Township of Verulam, Township of Emily, Township of Eldon, Village of Fenelon Falls, Township of Smith-Ennismore, Township of Cavan-Millbrook-North Monaghan, Village of Bobcaygeon, Township of Brighton, Township of Centre Hastings, Town of Greater Napanee, County of Victoria, Township of Cramahe, Municipality of Campbellford/Seymour, Village

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CURRICULUM VITAE

of Colborne, City of Kawartha Lakes, The Township of Frontenac Islands, The Township of Alnwick/Haldimand, Municipality of Trent Hills, Township of Rideau Lakes, Township of Asphodel Norwood, County of Peterborough, Municipality of Trent Lakes.

Municipal Financial Impact Assessments

Sandy Point Recreation Development, Harvey Township, Reference Plan Development, Cavan Township, Township of Manvers, Township of North Monaghan.

Zoning By-laws/By-law Amendments

Township of Cavan-Millbrook-North Monaghan; Township of Frontenac Islands; Township of Percy, Township of Alnwick, Town of Campbellford, Town of Brighton, Village of Madoc, Town of Picton

Aggregate Resource Planning

Review of Aggregate Potential for Official Plans and Zoning By-laws

Howe Island Gravel Pit – review of proposal; prepare report to Council with planning documents; provide professional opinion evidence at OMB Hearing; Stonescape II Quarry Appeal – review of proposed quarry, preparation of planning review, attendance at OMB Hearing; Codrington Pit Proposal – review of proposed pit, advice to adjacent land owner, monitor approvals

Official Plans, Official Plan Updates and Amendments

Township of Cavan-Millbrook-North Monaghan, Township of Haldimand, Township of Hamilton, Township of Smith, Township of Lochiel, Township of Charlottenburgh, Town of Brighton, Township of Burleigh and Anstruther, Township of Sidney, Township of Frontenac Islands, Township of Hope, Town of Gananoque.

Recent Renewable Energy Projects

Planning Approvals, Wolfe Island Wind Farm, Township of Frontenac Islands; Gas fired Peaking Plant Location study; Epcor, Skypower; Solar Farm; Algonquin Power. – Wind Farm

Watershed Plans

South Sidney Watershed, Lower Trent Region Conservation Authority; Storm Water Management Plan, Town of Delhi; Oshawa Creek Watershed Master Plan, City of Oshawa.

Waterfront Studies

Town of Deseronto, Town of Deep River, City of Kingston.

Tourism Development Studies

Ministry of Industry and Tourism, Tourism Development Strategy Trenton Cornwall and Renfrew

- Kingston Zones, County of Northumberland Tourism Planning Study.

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CURRICULUM VITAE

Socio-Economic Assessments

TransCanada Pipelines Transco Project, Brampton to Burlington Gas Pipeline, TransCanada Pipelines, Eldorado Nuclear Hexafluoride Refinery, Hope Township site, Wilson Island Bridge, County of Northumberland, Three Strand-Communal Sewage System EA.

Recreational Studies

Riverwalk-Minden, Georgian Trail, Township of Collingwood, Recreation Master Plan, Township of Cavan, Beavermead Park Redevelopment Plan, City of Peterborough,; Rail Corridor Study, County of Victoria; Pangman Conservation Area Master Plan, Lake Simcoe Region Tourism Study, ESI - Sir Sandford Fleming College, provided Social-Economic Impact Assessment for the Millennium Trail Master Plan, County of Prince Edward.

Advisory Services including Planning Appraisals

Township of Cavan-Millbrook-North Monaghan; Township of Frontenac Islands; Township of North Monaghan, Township of Smith, Township of Burleigh and Anstruther, Municipality of Sherbourne McClintock and Livingstone, Township of Stanhope, Township of Lutterworth, Township of Hope, Township of Hamilton, Township of Alnwick, Township of Percy, Township of Seymour, Town of Campbellford, Town of Gananoque, Village of Hastings, Township of Haldimand, Municipality of Trent Hills, County of Prince Edward

Industrial Development Studies

City Owned Industrial Land Study, City of Kingston; Lucas Point, Town of Cobourg, Township of Charlottenburgh, Town of Brighton, Great Lakes Deep Water Port Industrial Site Development Plan, Township of Hallowell; Draft Plan of Subdivision; Cataraqui Business Park, City of Kingston.

Economic Development Studies

Accommodation Evaluation, Township of Asphodel-Norwood; South Dundas Economic Development Study, South Dundas Economic Development Commission, Almonte Economic Development Study, Town of Almonte and Township of Ramsay; Best Use Study, Douro-Dummer Township.

Housing Policy Statements

Town of Cobourg.

Solid Waste Management Studies

County of Haliburton, Township of Hallowell, County of Northumberland, Seymour Township, National Capital Region, Lanark County, Snow Disposal Study, National Capital Region.

Private Development/Projects

Assist developers in the design and approval of both residential and industrial/commercial projects. References available upon request.

Contact



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CURRICULUM VITAE

Recent OMB Cases

OMB Case No. PL090057 Lash
OMB Case No. PL100622 – Reynolds
OMB Case No. PL101329 – White Tail
OMB Case No. PL100904 – Stonescape
OMB Case No. PL090838 - Sepa
OMB Case No. PL09841 - Bremer
OMB Case No. PL100475 - McDonald
OMB Case No. PL050584 – City of Ottawa
OMB Case No. PL031324 – City of Ottawa
OMB Case No. PL080239 – City of Ottawa
OMB Case No. PL080373 – City of Ottawa
OMB Case No. PL070728 - Carter
OMB Case No. PL090147 – Semler
OMB Case No. PL1000711 – Mound Brighton
OMB Case No. PL011198 – City of Kingston, Alfred Street
OMB Case No. PL030524 – City of Kingston
OMB Case No. PL110520 - City of Niagara Falls
OMB Case No. PL130785 – Township of McNab/Braeside
OMB Case No. PL141138 – Evans
LPAT Case No. PL 150192 – Municipality of Brighton
LPAT Case No. PL160588 – Municipality of Trent Hills
OMB Case No. PL170008 – Township of Brock
OMB Case No. PL170878 – Burl’s Creek
LPAT Case No. PL171446 & PL 180385 – Municipality of Brighton
LPAT Case No. PL170178 – Municipality of Clarington

Contact



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CURRICULUM VITAE

ATTACHMENT 'B'

List of References

- Guidelines of Permitted Uses in Ontario's Prime Agricultural Areas, 2016, Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA), Publication 851
- Minimum Distance Separation (MDS) Document Formulae and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks, 2016, OMAFRA Publication 853
- Implementation Procedures for the Agricultural System in Ontario's Greater Golden Horseshoe, February 2018, OMAFRA Publication 856
- Agricultural System Mapping Method, January 2018, OMAFRA, Technical Document
- Draft Agricultural Impact Assessment (AIA) Guidance Document, OMAFRA
- County Official Plan, County of Peterborough
- Preliminary Agricultural Impact Assessment
- Official Plan, Township of Cavan Monaghan
- Zoning By-law, Township of Cavan Monaghan



ATTACHMENT C

MDS I Type A Calculations



Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Description: Cavan Monaghan, Rural Employment

Application Date: Wednesday, May 12, 2021

Municipal File Number:
Proposed Application: New or expanding zone or designation for an industrial use outside of a settlement area
Type A Land Use

Applicant Contact Information

Township of Cavan Monaghan

Location of Subject Lands

County of Peterborough, Township of Cavan-Millbrook-North Monaghan

CAVAN, Concession: 8, Lot: 14

Roll Number: 150901003018700

Calculation Name: **Barn B**
Description: 1095 Syer

Farm Contact Information

 a a
1095 Syer Line
Cavan, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North Monaghan


CAVAN, Concession: 7, Lot: 15

Roll Number: 150901003012202

Total Lot Size: 4 ha

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	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)	2	2.0	46 m ²
Solid	Chickens, Layer hens (for eating eggs; after transfer from pullet barn), Cages	50	0.3	Unavailable

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Design Capacity (NU): 2.3

Potential Design Capacity (NU): 2.3

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance B' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.74	X	150	X	0.7	X
				1.1	=
				86 m (281 ft)	163 m (535 ft)

Storage Base Distance 'S' (minimum distance from manure storage)	(actual distance from manure storage)
86 m (281 ft)	163 m (535 ft)

Calculation Name: **Barn C**
Description: 1116 Syer

Farm Contact Information

 a a
1116 Syer Line
Cavan, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North Monaghan

CAVAN, Concession: 8, Lot: 15

Roll Number: 150901003018400

Total Lot Size: 59 ha


The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Manure Type	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)	10	14.3	302 m ²
Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	16	16.0	372 m ²

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Design Capacity (NU): 30.3

Potential Design Capacity (NU): 90.9

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance B' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.7	X	307.58	X	0.7	X
		1.1	=	166 m (544 ft)	260 m (853 ft)
Storage Base Distance 'S' (minimum distance from manure storage) (actual distance from manure storage)					
				166 m (544 ft)	287 m (942 ft)

Calculation Name: *Barn L*
Description: 987 Syer Line

Farm Contact Information


Iron Equipment
 987 Syer Line
 Cavan, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North
 Monaghan
 CAVAN, Concession: 7, Lot: 13
 Roll Number: 150901003014800
 Total Lot Size: 39 ha

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Backgrounders (7 - 12.5 months), Yard/Barn [Livestock barn is currently unoccupied]	75	25.0	279 m ²

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Design Capacity (NU): 25.0

Potential Design Capacity (NU): 50.0

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance B' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.8	X	260	X	0.7	X
		1.1	=	160 m (525 ft)	255 m (837 ft)
Storage Base Distance 'S' (minimum distance from manure storage) (actual distance from manure storage)					
				160 m (525 ft)	255 m (837 ft)



Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Preparer Information

Hugh Stewart
Planner
Clark Consulting Services
52 John Street
Port Hope, ON, Canada L1A 2Z2
Phone #1: 9058858023
Email: bob@clarkcs.com

Signature of Preparer: _____

Hugh Stewart, Planner

Date: May 12, 2021

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.

ATTACHMENT D

MDS I Type A Sketch



MDS Sketch - MDS I Type A
1066 Syer Line,
Cavan

Lot14, Concession 8
Cavan
Township of Cavan Monaghan

LEGEND

Livestock Facility



MDS Setback Arc



House

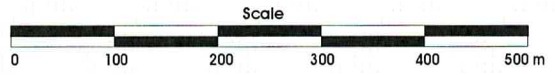


Subject Property



Clark Consulting Services

52 John Street, Port Hope
Ont, L1A 2Z2
(905) 885-8023



ATTACHMENT E
MDS II Calculations



Minimum Distance Separation II

CM 1066 Syer

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Description: CM Rural Employment

Application Date: Wednesday, May 12, 2021

Municipal File Number:

Applicant Contact Information
Cavan Monaghan

Location of Subject Livestock Facilities

County of Peterborough, Township of Cavan-Millbrook-North Monaghan

CAVAN, Concession: 8, Lot: 14

Roll Number: 150901003018700

Calculation Name: **Barn B + 25%**

Description: 1095 Syer

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Total Maximum Number	Total Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	2	2.0	3	3.0	70 m ²
Solid	Chickens, Layer hens (for eating eggs; after transfer from pullet barn), Cages	50	0.3	63	0.4	Unavailable

Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Existing design capacity (NU): 2.3

Design capacity after alteration (NU): 3.4

$$\begin{array}{ccccccc}
 \text{Factor A} & \text{Factor B} & \text{Factor C} & \text{Factor D} & & \text{Building Base Distance 'B'} & \\
 \text{(Odour Potential)} & \text{(Size)} & \text{(Orderly Expansion)} & \text{(Manure Type)} & & \text{(minimum distance from livestock barn)} & \\
 0.72 & \times & 150 & \times & 0.7887 & \times & 0.7 & = & 60 \text{ m (197 ft)}
 \end{array}$$

$$\begin{array}{l}
 \text{Storage Base Distance 'S'} \\
 \text{(minimum distance from manure storage)} \\
 60 \text{ m (197 ft)}
 \end{array}$$

MDS II Setback Distance Summary

Description	Minimum Livestock Barn Setback Distance	Actual Livestock Barn Setback Distance	Minimum Manure Storage Setback Distance	Actual Manure Storage Setback Distance
Type A Land Uses	60 m 197 ft	TBD	60 m 197 ft	TBD
Type B Land Uses	120 m 393 ft	TBD	120 m 393 ft	TBD
Nearest lot line (side or rear)	6 m 20 ft	TBD	6 m 20 ft	TBD
Nearest road allowance	12 m 39 ft	TBD	12 m 39 ft	TBD

Minimum Distance Separation II

CM 1066 Syer
Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Calculation Name: *Barn B + 50%*

Description: 1095 Syer

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Total Maximum Number	Total Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	2	2.0	3	3.0	70 m ²
Solid	Chickens, Layer hens (for eating eggs; after transfer from pullet barn), Cages	50	0.3	75	0.5	Unavailable

Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Existing design capacity (NU): 2.3

Design capacity after alteration (NU): 3.5

Factor A (Odour Potential)	Factor B (Size)	Factor C (Orderly Expansion)	Factor D (Manure Type)	Building Base Distance 'B' (minimum distance from livestock barn)
0.74	X	150	X	0.8100
		X		0.7
			=	63 m (207 ft)
				Storage Base Distance 'S' (minimum distance from manure storage)
				63 m (207 ft)

MDS II Setback Distance Summary

Description	Minimum Livestock Barn Setback Distance	Actual Livestock Barn Setback Distance	Minimum Manure Storage Setback Distance	Actual Manure Storage Setback Distance
Type A Land Uses	63 m 207 ft	TBD	63 m 207 ft	TBD
Type B Land Uses	126 m 415 ft	TBD	126 m 415 ft	TBD
Nearest lot line (side or rear)	6 m 21 ft	TBD	6 m 21 ft	TBD
Nearest road allowance	13 m 41 ft	TBD	13 m 41 ft	TBD

Calculation Name: *Barn C + 25%*

Description: 1116 Syer Line

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Minimum Distance Separation II

CM 1066 Syer

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Total Maximum Number	Total Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Horses, Large-framed, mature; > 680 kg (including unweaned offspring)	10	14.3	13	18.6	393 m ²
Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	16	16.0	20	20.0	465 m ²

Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Existing design capacity (NU): 30.3

Design capacity after alteration (NU): 38.6

$$\begin{array}{ccccccc}
 \text{Factor A} & \text{Factor B} & \text{Factor C} & \text{Factor D} & & \text{Building Base Distance 'B'} & \\
 \text{(Odour Potential)} & \text{(Size)} & \text{(Orderly Expansion)} & \text{(Manure Type)} & & \text{(minimum distance from livestock barn)} & \\
 0.7 & \times & 237.14 & \times & 0.6696 & \times & 0.7 & = & 78 \text{ m (255 ft)}
 \end{array}$$

Storage Base Distance 'S'
(minimum distance from manure storage)
78 m (255 ft)

MDS II Setback Distance Summary

Description	Minimum Livestock Barn Setback Distance	Actual Livestock Barn Setback Distance	Minimum Manure Storage Setback Distance	Actual Manure Storage Setback Distance
Type A Land Uses	78 m 255 ft	TBD	78 m 255 ft	TBD
Type B Land Uses	156 m 511 ft	TBD	156 m 511 ft	TBD
Nearest lot line (side or rear)	8 m 26 ft	TBD	8 m 26 ft	TBD
Nearest road allowance	16 m 51 ft	TBD	16 m 51 ft	TBD

Calculation Name: *Barn C + 50%*

Description: 1116 Syer Line

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Total Maximum Number	Total Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Horses, Large-framed, mature; > 680 kg (including unweaned offspring)	10	14.3	15	21.4	453 m ²

Minimum Distance Separation II

CM 1066 Syer

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	16	16.0	24	24.0	557 m ²
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Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Existing design capacity (NU): 30.3

Design capacity after alteration (NU): 45.4

$$\begin{array}{ccccccc}
 \text{Factor A} & \text{Factor B} & \text{Factor C} & \text{Factor D} & & \text{Building Base Distance 'B'} & \\
 \text{(Odour Potential)} & \text{(Size)} & \text{(Orderly Expansion)} & \text{(Manure Type)} & & \text{(minimum distance from livestock barn)} & \\
 0.7 & \times 250.86 & \times 0.8104 & \times 0.7 & = & \mathbf{100\ m\ (327\ ft)} &
 \end{array}$$

$$\begin{array}{c}
 \text{Storage Base Distance 'S'} \\
 \text{(minimum distance from manure storage)} \\
 \mathbf{100\ m\ (327\ ft)}
 \end{array}$$

MDS II Setback Distance Summary

Description	Minimum Livestock Barn Setback Distance	Actual Livestock Barn Setback Distance	Minimum Manure Storage Setback Distance	Actual Manure Storage Setback Distance
Type A Land Uses	100 m 327 ft	TBD	100 m 327 ft	TBD
Type B Land Uses	199 m 654 ft	TBD	199 m 654 ft	TBD
Nearest lot line (side or rear)	10 m 33 ft	TBD	10 m 33 ft	TBD
Nearest road allowance	20 m 65 ft	TBD	20 m 65 ft	TBD

Calculation Name: *Barn L + 25%*

Description: 987 Syer Line

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Total Maximum Number	Total Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Backgrounders (7 - 12.5 months), Yard/Barn	75	25.0	94	31.3	349 m ²

Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Existing design capacity (NU): 25.0

Design capacity after alteration (NU): 31.3

$$\begin{array}{ccccccc}
 \text{Factor A} & \text{Factor B} & \text{Factor C} & \text{Factor D} & & \text{Building Base Distance 'B'} & \\
 \text{(Odour Potential)} & \text{(Size)} & \text{(Orderly Expansion)} & \text{(Manure Type)} & & \text{(minimum distance from livestock barn)} & \\
 0.8 & \times 222.67 & \times 0.6571 & \times 0.7 & = & \mathbf{82\ m\ (269\ ft)} &
 \end{array}$$

$$\begin{array}{c}
 \text{Storage Base Distance 'S'} \\
 \text{(minimum distance from manure storage)} \\
 \mathbf{82\ m\ (269\ ft)}
 \end{array}$$

Minimum Distance Separation II

CM 1066 Syer
Prepared By: Hugh Stewart, Planner, Clark Consulting Services

MDS II Setback Distance Summary

Description	Minimum Livestock Barn Setback Distance	Actual Livestock Barn Setback Distance	Minimum Manure Storage Setback Distance	Actual Manure Storage Setback Distance
Type A Land Uses	82 m 269 ft	TBD	82 m 269 ft	TBD
Type B Land Uses	164 m 538 ft	TBD	164 m 538 ft	TBD
Nearest lot line (side or rear)	8 m 27 ft	TBD	8 m 27 ft	TBD
Nearest road allowance	16 m 54 ft	TBD	16 m 54 ft	TBD

Calculation Name: *Barn L + 50%*

Description: 987 Syer Line

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Total Maximum Number	Total Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Backgrounders (7 - 12.5 months), Yard/Barn	75	25.0	113	37.7	420 m ²

Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Existing design capacity (NU): 25.0

Design capacity after alteration (NU): 37.7

$$\begin{array}{ccccccc}
 \text{Factor A} & \text{Factor B} & \text{Factor C} & \text{Factor D} & & \text{Building Base Distance 'B'} & \\
 \text{(Odour Potential)} & \text{(Size)} & \text{(Orderly Expansion)} & \text{(Manure Type)} & & \text{(minimum distance from livestock barn)} & \\
 0.8 & \times 235.33 & \times 0.8112 & \times 0.7 & = & \mathbf{107 \text{ m (351 ft)}} & \\
 & & & & & \text{Storage Base Distance 'S'} & \\
 & & & & & \text{(minimum distance from manure storage)} & \\
 & & & & & \mathbf{107 \text{ m (351 ft)}} &
 \end{array}$$

Minimum Distance Separation II

CM 1066 Syer


Prepared By: Hugh Stewart, Planner, Clark Consulting Services

MDS II Setback Distance Summary

Description	Minimum Livestock Barn Setback Distance	Actual Livestock Barn Setback Distance	Minimum Manure Storage Setback Distance	Actual Manure Storage Setback Distance
Type A Land Uses	107 m 351 ft	TBD	107 m 351 ft	TBD
Type B Land Uses	214 m 701 ft	TBD	214 m 701 ft	TBD
Nearest lot line (side or rear)	11 m 35 ft	TBD	11 m 35 ft	TBD
Nearest road allowance	21 m 70 ft	TBD	21 m 70 ft	TBD

Preparer Information

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 Signature of Preparer: _____
 Hugh Stewart, Planner

 Date: May 12, 2021

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.

ATTACHMENT F MDS II Sketch



MDS Sketch - MDS II
Additional 25% and 50%
1066 Syer Line,
Cavan
Lot14, Concession 8
Cavan
Township of Cavan Monaghan

LEGEND

Livestock Facility



MDS Setback Arcs

MDS II +25%



House



MDS II +50%



Subject Property



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