



July 30, 2018

OEC 18-016

Coffin Ridge Winery
599448 2nd Concession North
Annan, ON N0G 1B0

**Re: Agricultural Assessment
599448 2nd Concession North, Municipality of Meaford**

Dear Mr. Todd:

Orion Environmental is pleased to submit our report for the Agricultural Assessment (AA) undertaken for the proposed severance for the establishment of an orchard to support the Coffin Ridge cider production. The purpose of the report is to assess the agricultural viability of the severed lands to support an orchard for the purposes of cider production, to confirm the existing vineyard will remain economically viable and that the two parcels of are sufficient size to be viable with potential changes in agriculture. The report is divided into two parts. Part 1 will confirm the existing vineyard is a viable agricultural operation to confirm if severed from the parcel it will remain economically viable. Part 2 is to confirm the severed parcel with the proposed orchard is of a size to be economically viable. The proposed severance is shown on Figure1.

COFFIN RIDGE VINEYARD AND WINERY

Existing Operations

Coffin Ridge Vineyard and Winery was established by Dr. R. Neil Lamont in 2001, which saw the first two acres planted by hand. In 2003 the next three acres were planted by hand and then in 2007 the last 15 acres (6 hectares) were machine planted. Throughout the fall and winter of 2007, the Winery Building was designed and erected with completion just as Coffin Ridge Vineyard & Winery officially opened its' doors to retail sales in June, 2008 as the first Winery & Vineyard in Grey/Bruce counties. The first season of retail sales resulted in the Winery being sold out in nine weekends. Since opening Coffin Ridge have

doubled the volume of customer traffic each year and have more than doubled production. The support for their boutique winery has been overwhelming with strong local support as well as a large tourist support. Coffin Ridge has been featured in the Toronto Star for their artisanal wines as well as the building design and their vintner's plate of local foods. The LCBO Food and Drink magazine summer 2018 also promoted the winery to their customers. Coffin Ridge Winery currently is a major tourist draw in the Medford area, attracting well over 35,000 guests annually to Grey County. The location of the winery is shown on Figure 2.

The vineyard is now producing just over 40 tonnes (30,000L) annually and Coffin Ridge are purchasing 640,000lbs of locally grown apples every year for cider production and the volume is expected to increase. Coffin Ridge are now looking to diversify their apple purchasing and grape purchasing to spread risk around to multiple sites.

Coffin Ridge currently have currently 7.3 hectares (ha) or 18 acres of productive vineyard, with a total of 10 ha (25 acres) committed to grape production. Their goal is to spread the risk to multiple sites, so planting the entire site in grapes is not in the plan. The farm is currently 40 ha (100 acres), of which 10 ha is taken up with the winery footprint.

Soils

The property is comprised of Harkaway silt loam and Vincent silty clay loam, as shown in Figure 3. Harkaway silt loam is well drained soil, moderately stoney with smooth gently sloping slopes. The soil has a moderately shallow A and B horizon of approximately 15 inches combined with the well-drained nature makes it more suitable for forage crops and small grains that limit exposed soils and assist in moisture retention. Vincent silty clay loam is well drained soil, slightly to moderately stoney with smooth gently sloping land. It has a deeper A and B horizon of approximately 24 inches which makes the soils well suited for a wide variety of common field crops.

Both grape vines and apples require well drained soils to ensure the root systems are not in saturated soils. Slopes are also beneficial in facilitating good drainage. The presence of the well-drained silt loam and silty clay loam soils with moderate stoniness and slopes provide favourable conditions for root growth and the associated uptake of nutrients. Soil nutrient deficiencies can be readily mitigated through fertilization to ensure good nutrient availability for fruit growth.

Soil testing to define any nutrient deficiencies is commonly done for all types of agricultural crops. The success of Coffin Ridge in growing grapes clearly demonstrates effective soil and crop management and the suitability of the soils for grape production which would also be true for apple tree growth. A field review of the site found wild apple trees growing and bearing fruit on the site which confirms the site soil suitability.

The Canada Land Inventory defines the farm as 50% Class 1 soils and 50% Class 4 soils with limitations due to topography and stoniness for common field crops. The Provincial Planning Policy (2014) defines Class 1, 2, 3 and associated Class 4 lands as prime agricultural lands.

Climate

The Ontario Ministry of Agriculture, Food and Rural Affairs has defined the crop heat units for the province of Ontario. The Owen Sound area has between 2700 and 2500 crop heat units which is the same as the Meaford and Collingwood areas, both well-established apple growing areas. Crop heat units in excess of 2300 are considered Class 1 soils for crop production having sufficient heat and frost-free days to permit crops to mature.

Orchards require air drainage to avoid cold pockets where cold air will sit during winter and frost pockets during bloom and harvest. Coffin Ridge is located on a slope that facilitates the drainage of heavier cold air to the west into the valley associated with Waterton Creek. Based on National Topographic mapping the orchard would be located between 260 and 270 metres above sea level (masl). Waterton Creek at the base of the valley is approximately 220 masl. Heavier cold air during would naturally flow down to the base of the valley helping to reduce potentially damaging cold air in the proposed orchard area. In addition, winds from Georgian Bay located approximately 4.5km to the north west, would bring moderating winds to assist in reducing the effects of winter cold and spring frost. The success of the vineyard demonstrates the suitability of the micro-climate within the valley for the growth of tender fruits. The beneficial effects of valley formations to apple production is also demonstrated in the Beaver Valley by the predominance of orchards.

VINEYARD VIABILITY

Coffin Ridge Vineyard and Winery has demonstrated the economic viability of the operation through its continued growth since its first year of commercial production in 2008. Statistics provided by the owner are presented below which clearly demonstrate the economic viability of the current 18-acre vineyard and the existing cider production through purchased apples.

Production History

Production Year	Volume Produced (litres)
2008	9,000 (wine)
2009	13,500 (wine)
2010	22,500 (wine)
2011	31,500 (wine)
2012	33,000 (wine)
2013	36,000 (wine)
2014	97,000 (wine/cider)
2015	175,000 (wine/cider)
2016	202,000 (wine/cider)
2017	218,000 (wine/cider)
2018	260,000 (projected wine/cider)

Key Milestones

Since the opening of Coffin Ridge in June 2008 they have worked to increase production and their prominence in the industry. Below is list of their accomplishments to date:

- April 2014 - Launches Forbidden Dry Cider in LCBO
- April 2017 – Launches Forbidden Hopped cider in LCBO
- May 2018 - Launches Forbidden Pink cider in LCBO
- May 2018 – Coffin Ridge becomes the third largest cidery in Ontario
- August 2018 – Vintages essentials listing for Back from The Dead Red

Current Facilities

Coffin Ridge facilities have grown to manage their continually growing production. Their current facilities for wine and cider production and retail sales includes the following:

- 90,000L stainless steel storage capacity
- 30,500L of oak cooperage
- Canning line for cider with a capacity of 20 cans per minute
- State-of the art Cross-Flow filtration
- Full crush pad for grape processing
- First machine harvester in the area
- 1,000 square foot warehouse to store our bottled goods
- 4,500 square foot winery building
- 1,500 square foot retail space
- seating for 150 people on three decks which overlook Georgian Bay

Coffin Ridge Leadership

A successful business requires a progressive and educated management team that is continually evaluating their operations and looking for opportunities for increase growth and profitability. The ownership and management team of Coffin Ridge have these capabilities as shown in their following profiles.

Dr. R. Neil Lamont, Owner

Neil graduated with a B.A. in English from Laurier in 1977. He then completed a degree in Bio Chemistry in 1980 from McMaster University. Neil went on to Medical School also at McMaster and graduated in 1987. In 1992 he became a General Surgeon. Neil practiced in the Arctic and Fergus before settling in Owen Sound in 1996. As with his surgical practice, Neil's goal has always been to give back to the community, which is why Coffin Ridge Winery was started. Neil is the driving force behind all that happens at Coffin Ridge and has worked tirelessly to ensure the business's success.

Gwen Lamont, Co-Owner

Gwen graduated with a B.A in Sociology and a B.A. in Social Work in 1989 and a Master's Degree in Social Work in 2001. She was the Director of Victim Services in Iqaluit for two years and worked at St. Joseph's Hospital in Hamilton as a medical social worker and was most recently in private practice as a psychotherapist. Since 2006 she has been full time at the winery/vineyard. Gwen designed the building and the marketing materials and in the early days sat on the strawberry planter planting the tiny grape plants. She has focused mainly on the agri-tourism aspect of the business.

Mike Todd, General Manager & Vineyard Manager

Mike graduated from Sheridan College with a diploma in computer programming. After graduation he was a key member & shareholder in Hamilton's first wireless internet company, Speedway Wireless. His role included network management, network planning, technology procurement and management of the technical support team. Since joining Coffin Ridge in 2006 Mike has surrounded himself with people whom, like Dr. Kevin Kerr of Kerr Crop Management Services, has mentored him to the current point where he now has extensive knowledge in growing grapes and has become the go-to person in this area.

CIDER PRODUCTION VIABILITY

The Coffin Ridge statistics provided above show cider production is already a significant component of their operation. The request to sever the lands for the orchard production is a business decision to have two separate ownerships, one for the vineyard and one for the orchard. The requirement of the County is not to assess business decisions but to ensure the severed parcel represents a viable agricultural operation. The most effective method of demonstrating viability is to look at existing orchard operations, data from existing research on cider production from the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and industry organizations.

The proposal is to establish 4 ha (10 acres) of orchard on the severed parcel using varieties specific to cider production. Orchards are utilizing higher density planting using dwarf species planted closer together and staked similar to grapes. This is being done to intensify production per acre of orchard. The OMAFRA publication Planting New Apple Orchards in Ontario provides recommendations for high density orchards that utilize smaller trees planted

closer together and staked to help support and train branches to facilitate harvesting. A picture of this type of orchard design is appended. OMAFRA recommends planting apple trees at a density of 1000 trees/acre which equates to 10 feet between the rows and 4 feet between the trees. These high-density plantings allow for better yields earlier in orchard development and improves yields on smaller acreage orchards. OMAFRA statistics on apple production indicate that of the approximate 700 apple growers in Ontario 400 have orchards of less than 10 acres and the remaining 300 have an average orchard size of 20 acres.

The Ontario Apple Growers Annual Report for 2017 provides these statistics that reinforce the apple production capabilities of Grey County and the surrounding Counties which are identified as the Northern District for apple growers.

- Northern District represents 25.3% of the orchard acreage in Ontario.
- Northern District in 2016 had the highest apple tree acreage growing 24 varieties apples.
- In 2016 Ontario's apple crops net value before grower was \$120,517,922.00 which represents an increase of approximately \$40,000,000 from 2015.

The University of Guelph research on apple cider varieties has shown there are 29 apple varieties suitable for cider production in Ontario. The study evaluated tree growth, leaf size and development, time of flowering, influence of weather, soils, juice quality and management inputs to determine suitable varieties. This research demonstrates the research efforts being undertaken to support the apple cider industry and the ability of Coffin Ridge to use this research to select varieties suited to their cider production goals and growing conditions. This diversity cider varieties will enable selection of species best suited to the growing conditions which will help ensure good cider production.

The Province is actively working to support the cider industry with financial programs and supporting the sale of cider in the LCBO. In 2017 the Provincial Government announced financial support for the Ontario Small Cidery and Small Distillery industry committing \$4.9 million over three years. In 2015-2016 LCBO sales of craft ciders grew 54% over the previous years with sales totaling \$5.1 million.

The Alcohol and Gaming Commission of Ontario's (AGCO) regulations, licenses and authorizations states that a grape or fruit winery with 5 acres (2.2ha) of grapes or planted fruit can apply for a Winery Retail Store Authorization. It states the criteria was developed in close consultation with the Ministry of Consumer Services, the LCBO, the Wine Council of Ontario, the Grape Growers of Ontario and a wide representation of established and potential grape wineries. The criteria align with Ontario's rural economic development and tourism and help to preserve agricultural land in grape and fruit growing areas. The AGCO recognizes the value of small acreages for Ontario alcohol industry and their ability to be economical viable on small acreages due to value of the product. The support of the AGCO reinforces the economic viability of hard cider production on small acreages.

The aforementioned information confirms the cider apple industry is growing in Ontario and the Province is dedicated to supporting the industry. The fact the majority of the apple producers have orchards of comparable size to that planned for the proposed severance reinforces the proven economic viability of the small acreage orchard.

Official Plan Compliance

The County of Grey Official Plan (2013) Section 2.1.3 Development Criteria Policies (1) states newly created farm lots should generally be 40 hectares (100 acres) in order to discourage the unwanted fragmentation of farmland. It is not intended to prevent creation of smaller farm parcels where they are of a size appropriate for the type of agricultural use(s) common in the area and sufficiently large to maintain flexibility for future changes in the type or size of agricultural operation.

The Municipality of Meaford Official Plan (2014) Section B2.2.4.1 The Creation of New Lots for Agricultural Purposes states the creation of new lots, for agricultural purposes only may be considered provided:

- a) the severed and remnant parcels shall each have an agriculturally productive area of not less than 10 hectares in area: and.
- b) the policies of D4.2 are addressed.

The policies of D4.2 can be met with demonstration that the severing of the farm into two lots will not affect the viability of the use of the property.

The production data provided by Coffin Ridge confirms the vineyard will remain viable of the retained lands. The statistical information on the existing orchard sizes and the growth of the industry demonstrates a proven record of economic viability for orchards of 4 ha (10 acres) is size. The Province's support of the industry by OMAFRA and the financial commitments confirms their recognition of th economic viability of the industry. In my opinion, this proves the severed parcel has the ability to be self-sustaining and able to adapt to change. In fact, the request to sever the parcel from the winery for cider apple production is a positive business decision to optimize production and support the Coffin Ridge operations.

Agricultural Permitted Use

OMAFRA prepared Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas, Publication 851. The purpose of the guideline was to provide direction for PPS Policy 2.3.3.1 on permitted uses and activities in prime agricultural areas for agricultural uses, agriculture-related uses and on-farm diversified uses. The key objectives of the guidelines were the following:

1. maintaining the land base for agriculture (PPS Policy 2.3.1).
2. supporting a thriving agricultural industry and rural economy (PPS vision and PPS Policy 1.1.4).

Section 2.5.5 Lot Creation states lots may only be created for agricultural uses provided:

- the severed and retained lots are of a size appropriate for the type of agricultural use(s) common in the area
- the lots are sufficiently large to maintain flexibility for future changes in the type and size of agricultural operations (PPS Policy 2.3.4.1 a)).

The growth Coffin Ridge has experienced over the past 10 years clearly demonstrates the viability of 18 acres of vineyard on the retained lot. The reports and publications of the Ontario Apple Growers and OMAFRA confirm that the 10ha (25 acres) in the severed parcel is sufficient to sustain an orchard based on existing orchard production experience in the province. Therefore, both the province and the apple grower's industry confirm the economic viability of the severed parcel for apple production.

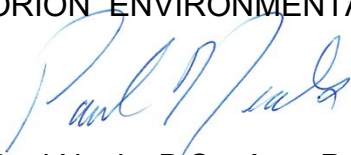
CONCLUSIONS

Review of the production quantities and the growth the winery is achieving clearly shows severing the north 10 hectares (24.7 acres) from the 40 ha (100 acre) parcel will not adversely impact the economic viability of the winery operation. The existing vineyard and associated winery will be retained on the same lot. The 10ha lot proposed for the establishment of the orchard will comply with Meaford Official Plan Section B2.2.4.1 which states the creation of new lots, for agricultural purposes requires 10ha of agriculturally productive land. Review of historic 1954 aerial photography shows almost the entire parcel was used for agricultural production as forages or grain crops (see Figure 4) and these lands could be used to potentially expand the orchard in size in the future. All the information and statistics indicate the cider industry is growing and represents a profitable, economically viable agricultural sector in Ontario.

In my opinion the success of Coffin Ridge Winery on a small acreage, the predominance of small acreage orchards in Ontario, the diversity of cider apple varieties available to match to soil and weather conditions, and the proven ability to grow tender fruits on the property confirm the potential economic viability of the proposed severance.

If you have any questions please do not hesitate to contact me.

Yours truly,
ORION ENVIRONMENTAL SOLUTIONS, INC.



Paul Neals, B.Sc. Agr., P.Ag.
Principal

PCN:

References

George Morris Centre, Economic Impact Study for the Ontario Hard Cider Industry, September 2013.

Ministry of Finance, Growing Small Cider and Spirits Producers' Business, March 2017.

Ministry of Agriculture, Food and Rural Affairs, Starting a Winery in Ontario, Publication 815, 2013.

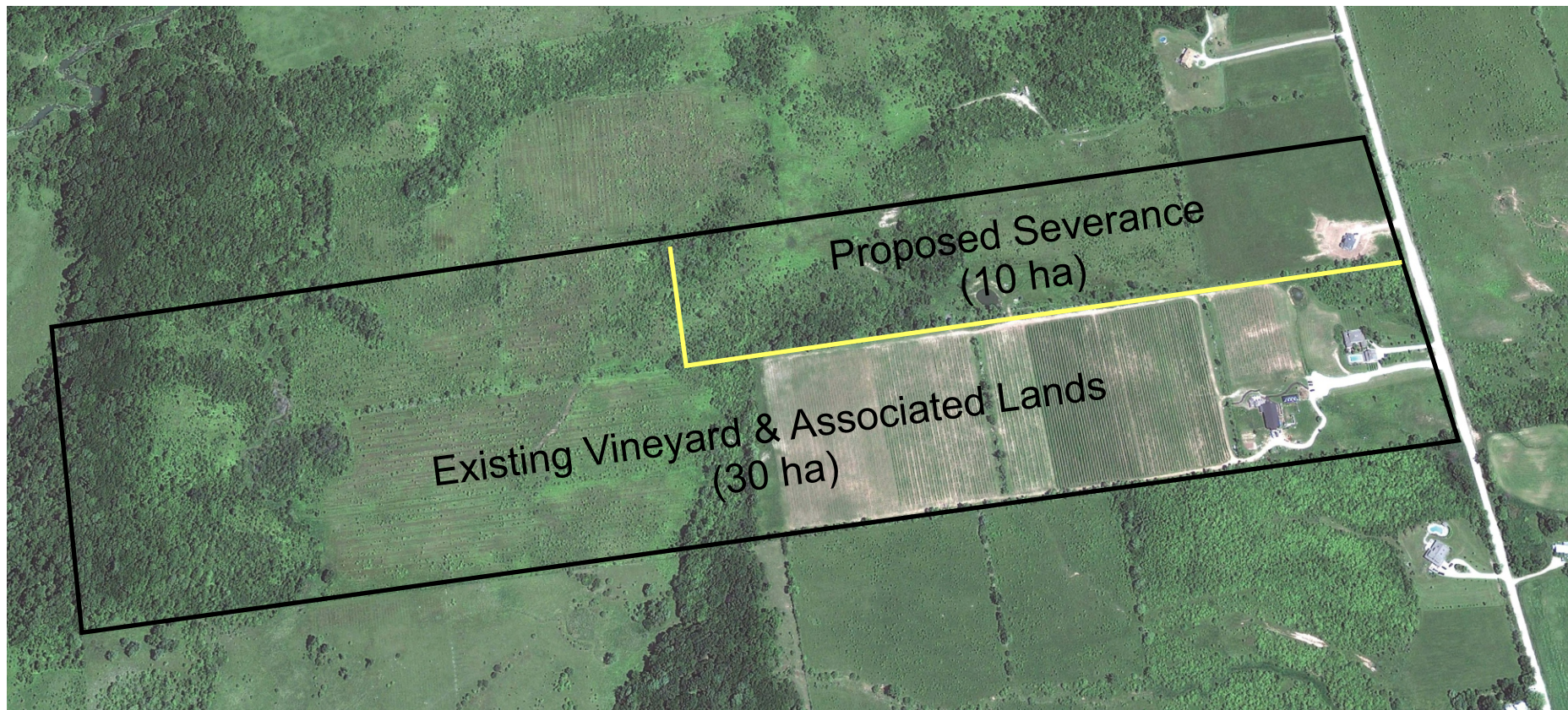
Ministry of Agriculture, Food and Rural Affairs, Planting New Apple Orchards in Ontario, 2012.

MNP, Economic Impact Analysis of the Ontario Craft Cider Industry, prepared for the Ontario Craft Cider Association, November 2016.


Ontario Apple Growers, Annual Report Year Ending October 31, 2017.

Ontario Apple Growers & Ontario Apple Growers, Cider Research and Innovation Strategy, June 2016.

University of Guelph, Horticultural and Juice Quality Attributes of European Apple Cider Cultivars, A Final Report of the Ontario Craft Cider Association, April 2018.



LEGEND

 Subject Property (Coffin Ridge Winery)

Source - Google Earth image

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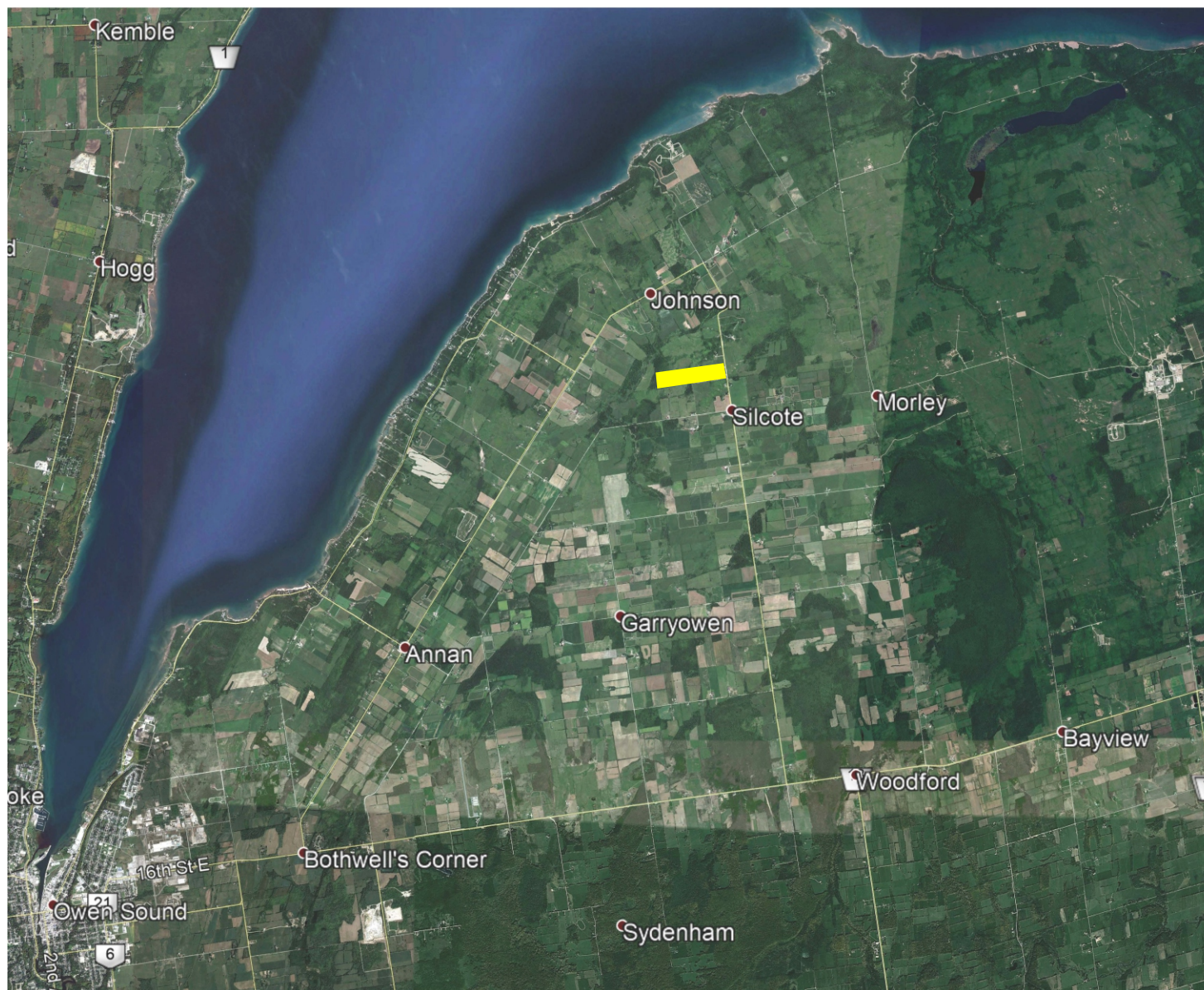
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Not To Scale

Figure 1



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Subject Property (Coffin Ridge Winery)

Source - Google Earth

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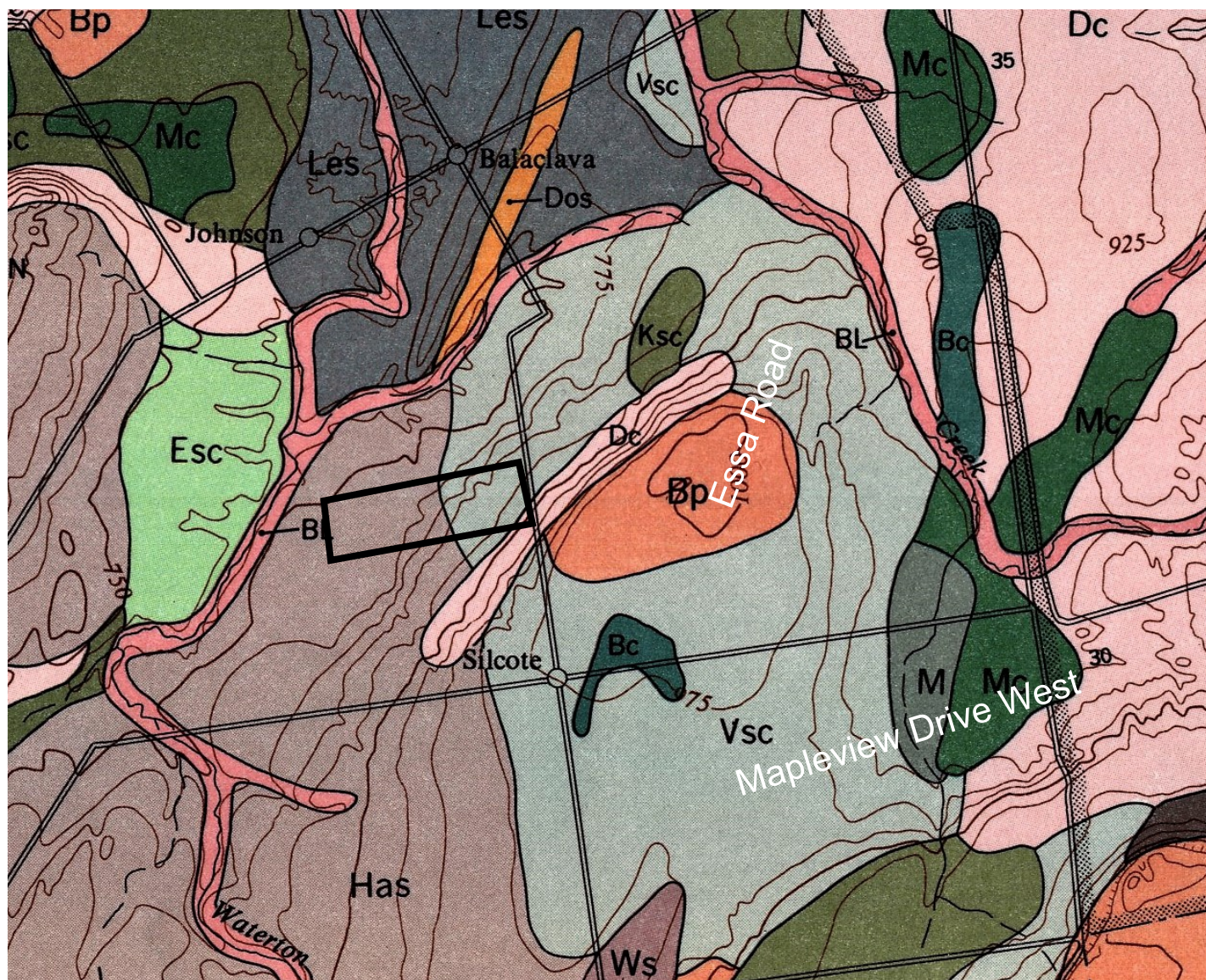
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Figure 2



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Subject Property

Has - Harkaway Silt Loam

Vsc - Vincent silty clay loam

Dc - Dunedin clay

Source - Grey County Soils, Report No.17

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Figure 3



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 Subject Property

Source - 1954 aerial photography, University of Toronto

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Figure 4



High Density Apple Tree Planting

Source: Ministry of Agriculture, Food and Rural Affairs – Planting New Apple Orchards in Ontario