

Final

Planning Summary Report Proposed Hallman Pit 1894 Witmer Road, Wilmot Twp.



Prepared for Jackson Harvest Farms Ltd.
by IBI Group
October 11, 2019

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Appendix E	i) Ministry of Tourism, Culture and Sport - Review and Entry into the Ontario Public Register of Archaeological Reports, Dated February 26, 2019 (for Stage 1 and 2 Assessments) ii) Archaeological Assessment Stage 1 and 2, prepared by Archaeological Research Associates Ltd., dated November 16, 2018 iii) Archaeological Assessment Stage 1 and 2 - Supplementary Documentation, prepared by Archaeological Research Associates Ltd., dated November 16, 2018
Appendix F	i) Archaeological Assessment Stage 3 prepared by Timmins-Martelle Ltd., dated September 2019 (for Sites 1, 2, 3 and 4) ii) Archaeological Assessment Stage 3 – Supplementary Documentation prepared by Timmins-Martelle Ltd., dated September 13 2019 [for Sites 1, 2 and 3] iii) Archaeological Assessment Stage 4 prepared by Timmins-Martelle Ltd., dated September 2019 (for Site 1)
Appendix G	Hydrogeological Assessment Level 1 and 2, prepared by Harden Environmental Services Ltd., dated September 3, 2019.
Appendix H	Natural Environment Level 1 and 2 Report / EIS prepared by Dance Environmental Inc. dated September 2019
Appendix I	Noise (Acoustical) Impact Study prepared by HGC Engineering Ltd., dated September 10, 2019
Appendix J	Traffic Impact Study (TIS) prepared by Paradigm Transportation Solutions Ltd., dated February 2019
Appendix K	Witmer Road Geotechnical Investigation prepared by CMT Engineering Inc. dated Sept. 10, 2019

Curriculum Vitae are included within each of the individual technical reports appended hereto.

Project Summary

Applicant:	Jackson Harvest Farms Ltd.
Pit Name:	Hallman Pit
Property Location:	1894 Witmer Road, Wilmot Township
Total Property Area:	66.2 Hectares (163 acres)
Total Area to be Licensed:	57.3 Hectares (141 acres)
Total Area to be Extracted:	52.3 Hectares (129 acres)
Annual Extraction Volume:	750,000 tonnes
Estimated Tonnage Reserves:	13.8 Million Tonnes

Required Planning Approvals:

- **Township of Wilmot Zoning By-Law** – Under the Planning Act, a site specific amendment to Zoning By-Law 83-38 to:
 - o Rezone 57.3 hectares from Zone Z.1 (Agriculture) to Z.14 (Extractive Industrial),
 - o Extension of the Z.14 permitted uses to allow the importation of concrete and asphalt for recycling,
 - o Rezone 4.3 hectares from Zone Z.1 (Agriculture) to Zone Z.11 (Open Space) with the permitted uses limited to:
 - Arboretum
 - Wildlife Sanctuary
 - Uses accessory to the foregoing permitted uses.
- **Ministry of Natural Resources and Forestry** – Under the Aggregate Resources Act;
 - *Class A Licence:* (Annual Extraction >20,000 tonnes per year)
 - *Category 3:* (Pit above water)

Contact Information

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1 Introduction

The following Planning Summary Report has been prepared as background information for the rezoning and licensing of a parcel of land owned by Jackson Harvest Farms Ltd. In order for extraction to occur on the subject lands, the following approvals are required:

- Zoning By-Law Amendment to the Township of Wilmot Zoning By-Law 83-83, under the Planning Act, to;
 - i. Rezone 57.3 hectares of the lands from Zone Z.1 (Agriculture) to Zone Z.14 (Extractive Industrial).
 - ii. Extension of the Z.14 permitted uses for the importation of concrete and asphalt for recycling.
 - iii. Rezone 4.3 hectares of the lands from Zone Z.1 (Agriculture) to Zone Z.11 (Open Space).
- Class A (Category 3) Licence Application to the Ministry of Natural Resources and Forestry, under the Aggregate Resources Act (ARA) for an above water pit.

The subject lands are located in the southeastern portion of the Township of Wilmot immediately south of the Shingletown Rural Settlement Area. The lands have frontage onto the north side of Witmer Road as well as a farm-lane frontage (+/-8.5 metres) onto Bleams Road.

The legal description of the property is Part Lot 10, Concession South of Bleams Road, Township of Wilmot, Region of Waterloo (refer to Figure 1 – Location Map).

1.1 Areas

Total lands: The total area of the lands is +/-66.2 hectares (163 acres).

Area to be Licensed: Portions of the overall lands will be excluded from being licensed (and therefore not extracted) and these include:

- The +/-8.5 metre wide farm-lane access lane to Bleams Road;
- The Schindelsteddle Wetland Complex and the pine plantation which surrounds it; and
- The Sugar Maple hardwood forest fronting onto Witmer Road.

The balance of the site to be licensed totals +/-57.3 hectares (141 acres).

Area to be Extracted: Within the area to be licensed, setbacks from the property limits have been incorporated and the resulting area of extraction is +/-52.3 hectares (129 acres) (refer to Figure 2 – Existing Conditions Plan). The setbacks used were a combination of, and the larger of; i) prescribed setbacks established by the ARA and ii) recommendations from each of the site specific technical studies (appended hereto).

1.2 Planning Approvals

1.2.1 Planning Act

Regional Official Plan: The lands are currently designated 'Prime Agricultural Area' and 'Protected Countryside Area' by the Regional Official Plan 2031 (ROP) as illustrated on ROP Map 7, Countryside. Under Regional Policy 6.A.7, the extraction of mineral aggregates is permitted in the Protected Countryside. In addition ROP Map 8 designates the lands as being within a Mineral Aggregate Resources Area. Based on the above, a Regional Official Plan amendment is not required.





Wilmot Official Plan: The lands are designated 'Prime Agricultural' within the Township of Wilmot Official Plan and Policy 3.2.7 states that aggregate extraction may be permitted in this designation. Based on this, a Township Official Plan amendment is not required.

Wilmot Zoning By-Law: The lands are currently zoned Z.1 (Agricultural) within the Township of Wilmot Zoning By-Law (By-Law 83-38) and in order to permit the licensing of the lands, they must be first re-zoned to Zone Z.14 (Extractive Industrial). As well, an extension to Z.14 permitted uses is required to allow for the importation of concrete and asphalt for recycling.

The Grand River Conservation Authority (GRCA) requested additional ecological protection of the Schindelstедdle South Wetland Complex so through this application, those lands will be requested to be rezoned from Z.1 (Agriculture) to Zone Z.11 (Open Space).

SUMMARY OF PLANNING APPROVALS	
Region of Waterloo Official Plan	No Amendment Required
Township of Wilmot Official Plan	No Amendment Required
Township of Wilmot Zoning By-Law 83-38	• Rezoning to Zone Z.14 (Extractive Industrial) • Site specific permission for the importation and processing of recyclable asphalt and concrete • Rezoning to Zone Z.11 (Open Space)

1.2.2 Aggregate Resources Act

Through the Ministry of Natural Resources and Forestry and under the Aggregate Resources Act (ARA), a licence is required to extract and remove aggregate from a site located within lands designated under the ARA, and specifically:

- Class A Licence, which is defined as any licence having an annual extraction limit > 20,000 tonnes. The subject application is for 750,000 tonnes.
- Category 3, which is the licence category defined as a pit above water requiring a minimum buffer of 1.5 metres between the final pit floor elevation and the water table.

1.3 Purpose of Planning Report

The purpose of this report is to provide the Ministry of Natural Resources and Forestry (MNRF), the Regional Municipality of Waterloo, the Grand River Conservation Authority (GRCA), the Township of Wilmot, and other government review agencies with the necessary information to evaluate and approve the appended rezoning and Aggregate Resources Act (ARA) Licence applications. The report is also intended to provide a summarization of the overall application to assist the public during the public notification portion of the planning processes. This report has summarized the key supporting documents, all which were undertaken collaboratively to ensure all recommendations and conclusions of all reports have taken into consideration the other disciplines.

The annual production volume being requested is 750,000 tonnes and therefore the threshold of all studies undertaken have utilized this production volume as both the minimum and maximum where applicable.

1.4 Pre-Submission Consultation

As required by the Township of Wilmot Official Plan under Policy 7.2.4.2, a Pre-Submission Consultation Meeting was held on November 29, 2018 which included staff from the following agencies; Region of Waterloo, GRCA, Wilmot Township, the applicant and applicable consultants retained by the applicant. Meeting Minutes are attached hereto as Appendix A. The

purpose of the meeting was to identify specific policy requirements of each of the agencies and ensure there is no overlap in the undertaking of the studies. At the meeting, it was determined that the following background studies would be required:

- Agricultural Impact Assessment
- Archaeological Assessment (for submission to the Ministry of Tourism, Culture and Sport (MTCS))
- Hydrogeological Assessment
- Environmental Impact Statement / Natural Environment Report
- Noise Impact Assessment
- Traffic Impact Assessment (Witmer Road)
- Geotechnical Assessment of the Haul Route (Witmer Road).

The application was also required to be processed through the Region's Ecological and Environmental Advisory Committee (EEAC). To that extent, a site visit with a Sub-Committee of EEAC was held on January, 11, 2019. Subsequent to the Sub-committee preparing Terms of Reference for the scoped Environmental Impact Statement (EIS), they were approved by EEAC at their April 29, 2019 Committee Meeting, which is appended to the Natural Environment Level 1 and 2 Report as Appendix I.

2 Site Features

The subject lands consist primarily of active farmland (annual row crops) and currently are planted in corn and wheat. However, 30 plus years ago, the lands were the focus of an intensive beef raising operation referred to as the Cattleland Farms. Since November 2017 when Jackson Harvest Farms Ltd. purchased the lands, they have been proactive to remove the derelict barns, silos, outbuildings and other related infrastructure located mostly in the south central portion of the site. Because the site clean-up also included the removal of two fuel tanks, waste oil drums, a waste oil stained concrete pad, and hydrocarbon impacted soils, Jackson Harvest Farms Ltd. retained Chung & Vander Doelen Engineering Ltd. (CVD) who undertook Phase I and Phase II Environmental Site Assessments (refer to Appendix B for the Environmental Assessments). These documents are provided solely as background information and CVD was not part of the rezoning/licensing Project Team. As of the application submission date, still remaining on-site are the reinforced concrete walls of the feed and manure bunkers that were constructed below grade, and their removal and subsequent on-site crushing of that material will continue.

Additional site features include hedgerows and fencerows which are located primarily along the east and north property boundary as well as partially separating what is being referred to as the 'northern tab' of land that juts northward near the Shingletown Settlement Area.

Although not part of the licence application, two significant features make up part of the overall property and include:

- a) The Schindelsteddle South Wetland Complex which is located centrally on the east property limit with less than 1/3 of the water body situated on the subject lands with the balance located on the adjacent property to the east. This feature is a permanent open water area, with no inflow or outflow and is approximately 2.2 hectare in size. Immediately surrounding it is a Reed Canary Meadow Marsh (MAMN1-3) which itself is surrounded by a white pine plantation (Dry-Fresh White Pine Naturalized Conifer Plantation FOCM6-1).

All three of these site features (wetland, meadow and plantation) are situated in what could be referred to as a topographic bowl [and will be the subject of rezoning from Z.1 (Agriculture) to Z.11 (Open Space)].

- b) A small isolated woodland exists in the southeast corner of the site with frontage onto Witmer Road. The woodlot has no Regional significance and has been identified as a Dry-Fresh Sugar Hardwood Deciduous Forest [FODM5-9 (A)].

3 Surrounding Uses

The immediate surrounding land uses include the following:

North: To the north is Shingletown Rural Settlement Area which consists of numerous residential homes along Bleams Road, both within and beyond the limits of the Settlement Area, (as defined by the Township OP). Some of the residential lots that abut the subject lands have deep properties (+300 metres) and some are used for agriculture/row crops. Most of the above noted properties have vegetation (trees/shrubs) growing along their rear property boundary, including a sizable pine plantation (TAGM1).

East: To the east is predominantly existing farmland (annual row crops) but along the Witmer Road frontage there is one non-farm residence.

South: Immediately south of Witmer Road is a cluster of licensed pits which include:

- Lafarge – Cattleland - ARA Licence # 10600
- Lafarge – Barnes Pit – ARA Licence # 5725
- Lafarge – ARA Licence # 5553
- Spring Valley Trout Farm Ltd. (Witmer Pit) – ARA Licence # 608502 (Operated by Steed and Evans)
- Township of Wilmot – ARA Licence # 5557
- Dino Trucking – ARA Licence # 5728.

Notwithstanding these licensed operations, with the exception of the active Steed and Evans operation, very little extraction has occurred in the balance of the pits over the past numerous years.

To the southwest is additional agricultural lands which include a poultry operation.

West: To the west is additional farmland which extends to Sandhills Road. There is a woodlot designated as a Significant Woodland (Dry-Fresh Sugar Hardwood Deciduous Forest), and there are two homes located within the southern edge of the woodland. Further west of the woodlot is a home which operates a kennel.

4 Aggregate Quality and Quantity

The site is located within the Waterloo Hills physiographic region and is underlain by the Upper Silurian aged Salina Formation. The main surficial geological unit beneath this site is Kame sand. Elevations at the site range from 375 masl to 355 masl, sloping downward from the north and west portions of the site to the eastern site boundary.

The Ontario Geological Survey of the Ministry of Northern Development and Mines published the Aggregate Resources Inventory Paper (ARIP) No. 161 for Waterloo Region, dated 1998. It concluded that the subject lands are located within Selected Sand and Gravel Resources Area 23 with the majority of the lands being of primary significance. The deposit is characterized as S1-K with "S" referring to it as having less than 35% gravel, "K" referring to it as being a Kame geological feature and a thickness class of 1 meaning the deposit is >6 metres in

depth/thickness. The ARIP also makes note of an on-site Ministry of Environment, Conservation and Parks (MECP) Well Record highlighting the underlying deposit is sand and gravel with an estimated depth of 27 metres.

Previous testing of the deposit by the Ministry of Transportation indicated it was suitable to meet gradation specifications for “*Granular A, B and M, HL4 and HL8 coarse and fine aggregates. Sand control and selection may be required for hot-laid and asphalt use.*”

In order to confirm the ARIP aggregate deposit assumptions, in the spring of 2017, Jackson Harvest Farms Ltd. undertook to drill 11 boreholes for geological testing and an additional 4 wells drilled to be used for groundwater monitoring. The 11 boreholes were strategically located to maximize areal coverage of the site.

Standard log results obtained from the boreholes identified and characterized the deposit as both gravelled sand (>35% stone) and sand. More specifically, the west-central portion of the site is underlain by gravelled sand, while the balance is predominantly sand with gravel seams. Based on where extraction is proposed and based on the highest groundwater elevations measured (July 2019) and in order to provide a minimum 1.5 metre buffer to the groundwater (355.7 masl at the northern portion of the site and 352.9 masl in the southern portion), the aggregate reserves are as follows;

RESOURCE	AREA (HA)	AVERAGE DEPTH	VOLUME BY AREA (CU. M)	CONVERSION FACTOR * (TONNES/CU.M)	VOLUME BY WEIGHT (TONNES)
Sand	24.8	17.2	4,265,000	1.600 *	6,824,000
	16.2	14.0	2,270,000	1.600 *	3,630,000
Gravelled Sand	9.0	19.5	1,755,000	1.919 *	3,370,000
Total					13,824,000

* Note:

1. It is standard aggregate industry practice to measure the resource in metric tonnes. To convert the 'volume by area' (cu.m.) to a 'volume by weight' (Tonnes) a conversion factor is used. The [Materials Reference Guide](#) (2006) published by the Ontario Stone, Sand & Gravel Association, provides the conversion for the following: i) Sand (Dry, loose) = 1600 kg/m³ and ii) Gravel Pitrun (Sand & Gravel) = 1919 kg/m³. 1,000 kg = 1 Tonne

Based on the above, the estimated aggregate reserves available within the proposed licensed property have been calculated to be +/-13.8 million tonnes and based on a maximum annual extraction limit of 750,000 tonnes, the Hallman Pit will have a minimum life span of 19 years.

5 Soil Classifications and Topography

The Aggregate Resources Act (Report Standards for Category 3 Applications – 2.2) requires “*the agricultural classification of the proposed site, using the Canada Land Inventory classes*”.

A site specific on-site soil survey was conducted by DBH Soil Services Inc. and their findings and analysis are presented in their report entitled [Agricultural Impact Assessment](#) (AIA) which is attached herein as Appendix (C). The soil survey identified four soil series, the characteristics of which are as follows:

SOIL SYMBOL	SOIL CLASSIFICATION	TOPOGRAPHY SLOPING	AGRICULTURAL CAPABILITY RATING
Bg	Burford gravelly Loam	c/C – undulating d – rolling to hilly e – very hilly	2 3 4
Fo	Fox sandy Loam	b/B – nearly level to gently undulating c – undulating d – rolling to hilly e – very hilly	2 2 3 4
By	Brady sandy Loam	b/B – nearly level to gently undulating c – undulating e – very hilly	2 2 5
Li	Lisbon sandy Loam	C – undulating e – very hilly	3 4

Based on the above, DBH Soils deemed that the overall Soil Productivity for the subject lands was rated at 0.604 which is a Canada Land Inventory (CLI) Class 3 equivalent.

6 Planning and Land Use Considerations

In order for aggregate extraction to proceed on the subject lands, the use must conform to:

- Provincial Policy Statement 2014
- Growth Plan for the Greater Golden Horseshoe 2017
- The Regional Municipality of Waterloo Official Plan 2032 (ROP)
- The Township of Wilmot Official Plan
- The Township of Wilmot Zoning By-Law No 83.38

The following section highlights how the application conforms to these planning documents.

6.1 Provincial Policy Statement (PPS) 2014

The applicable policies within the Provincial Policy Statement ((PPS) are as follows:

2.3 Agriculture

2.3.6.1: Planning authorities may only permit non-agricultural uses in prime agricultural areas for:

- a) extraction of minerals, petroleum resources and mineral aggregate resources, in accordance with policies 2.4 and 2.5;*

It is acknowledged that the Region of Waterloo Official Plan (ROP Map 7 – The Countryside) and the Township of Wilmot Official Plan (Map 10 – The Countryside) have designated the subject lands as being within a 'prime agricultural area'. PPS Policy 2.3.6.1 explicitly permits *mineral aggregate resource* extraction within this designation subject to meeting the policies of 2.4 (Mineral and petroleum resources) and 2.5 (Mineral Aggregate Resources), of which the applicable policies are noted below.

2.4 Mineral and Petroleum Resources

2.4.2.1 Mineral mining operations and petroleum resource operations shall be identified and protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact.

2.4.2.2 *Known mineral deposits, known petroleum resources and significant areas of mineral potential shall be identified and development and activities in these resources or on adjacent lands which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:*

- a) resource use would not be feasible; or
- b) the proposed land use or development serves a greater long-term public interest; and
- c) issues of public health, public safety and environmental impact are addressed.

It is acknowledged that the Region of Waterloo Official Plan (ROP Map 8 – Mineral Aggregate Resource Areas) and the Township of Wilmot Official Plan (Map 9 – Mineral Aggregate Resource Areas) have designated the subject lands as being within a Mineral Aggregate Resource Area. PPS Policy 2.4.2.2 identifies specific activities where extraction could be precluded. For the subject site, a) resource extraction is feasible, b) no other proposed land use is being proposed, and c) matters of public health, public safety and environmental impact have been addressed through the technical studies (and subject to their recommendations) appended hereto.

2.4.3.1: *Rehabilitation to accommodate subsequent land uses shall be required after extraction and other related activities have ceased. Progressive rehabilitation should be undertaken wherever feasible.*

2.4.4.1 *Extraction of minerals and petroleum resources is permitted in prime agricultural areas provided that the site will be rehabilitated.*

The Site Plans provide for the progressive rehabilitation of the site and for the final rehabilitation to a final agricultural land use. Furthermore, and as noted above, the subject lands are within a prime agricultural area and they will be rehabilitated to an agricultural use.

2.5 Mineral Aggregate Resource

2.5.2.1 *As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible.*

Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere.

Extraction of the site will make this local resource available to the local markets within the Township, the Region and possibly beyond the Region.

2.5.2.2 *Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts.*

As a result of the recommendations within this report and the technical studies appended hereto, matters of social impact, economic impact and environmental impacts have been addressed.

2.5.2.3 *Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, wherever feasible.*

The Site Plans include the opportunity for importation of concrete and asphalt for the purpose of recycling with the product either; i) blended with on-site virgin aggregate or ii) retailed as a stand-alone product. Since recycling is not a permitted uses under the Z.14 zoning, the applicant has requested an extension to the permitted use to include same. The Township Official Plan also encourages resource conservation through Policy 7.6.1 which states:

7.6.1 The Township will ensure that mineral aggregate resource conservation will be undertaken, including through the use of aggregate recycling facilities within operations, wherever feasible.

Therefore, the inclusion of recycling provides for both wise stewardship and is supported by the PPS and municipal Official Plan Policy.

2.5.3.1 Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.

2.5.4.1 In prime agricultural areas, on prime agricultural land, extraction of mineral aggregate resources is permitted as an interim use provided that the site will be rehabilitated back to an agricultural condition.

The progressive and final rehabilitation of the lands will return the lands to agriculture including specific restrictions within the north portion of the site as outlined in the Risk Management Plan on file with the Region of Waterloo.

Based on the above, it is our opinion that the application **conforms with and is not in conflict with the Provincial Policy Statement.**

6.2 Growth Plan for the Greater Golden Horseshoe 2017

The subject lands are within the Rural Area of the Growth Plan for the Greater Golden Horseshoe (GPGGH) 2017. Applicable policies include Policy 2.2.9 and Policy 4.2.8. Of significance is

Policy 2.2.9.3:

Subject to the policies in Section 4, development outside of settlement areas may be permitted on rural lands for:

- a. the management or use of resources;*
- b. resource-based recreational uses; and*
- c. other rural land uses that are not appropriate in settlement areas provided they:

 - i. are compatible with the rural landscape and surrounding local land uses;*
 - ii. will be sustained by rural service levels; and*
 - iii. will not adversely affect the protection of agricultural uses and other resource-based uses such as mineral aggregate operations.**

As permitted by GPGGH Policy 2.2.9.3 a), the application constitutes a resource based use which is a 'permitted development' on rural lands.

The extraction of the subject lands:

- i) Will be compatible with the rural landscape and surrounding areas subject to the ARA Site Plans including all the recommendations documented in each of the site specific technical studies.
- ii) Sustained by rural service levels (subject to those upgrades as documented in the site specific technical studies).
- iii) Will not adversely affect the protection of agricultural uses as highlighted primarily in the Agricultural Impact Assessment and its recommendations, as well as through the interim nature of the proposed extraction and given the progressive and final rehabilitation of the lands back to agriculture.

GPGGH Policy 4.2.8 provides additional language on the management of aggregate extraction activities including mitigation impacts and protection of natural heritage. To that extent, extraction is not permitted in key natural heritage features and hydrologically sensitive areas. In addition policy 4.2.8.5 requires that a minimum of 35% of the disturbed area that is within a Natural Heritage System be rehabilitated to forest cover. MNR mapping confirms that the subject lands are not within the Natural Heritage System overlay and therefore, **the application**

and specifically the proposed rehabilitation (to agriculture) of the Hallman Pit is in conformity with the requirements of the Growth Plan, 2017.

6.3 Regional Official Plan 2031 (Regional Municipality of Waterloo)

The Regional Official Plan (2031) Policies that are applicable to the subject application are as follows:

- Policy 6.A.7: Countryside.
- Policy 8.A.10: Source Water Protection.
- Policy 9.A.1: Resource Protection.
- Policy 9.C: New Mineral Aggregate Operations.
- Policy 9.F.1: Rehabilitation of Aggregate Operations.

6.3.1 Policy 6.A.7 - Countryside

The subject lands are within the Protected Countryside and are designated *prime agricultural lands* as shown on Regional Official Plan 2031, ROP Map 7 – The Countryside. Refer to Figure 3: entitled Regional Official Plan Map 7.

Policy 6.A.7 applies to this land designation and states:

Mineral aggregate operations may be permitted as an interim use in the Prime Agricultural Area and Rural Areas designations in accordance with policies in Chapter 9.

As noted previously, subject to confirming conformation of the Chapter 9 ROP policies (see Section 6.3.4 of this Report below), the application conforms to ROP Policy 6.A.7.

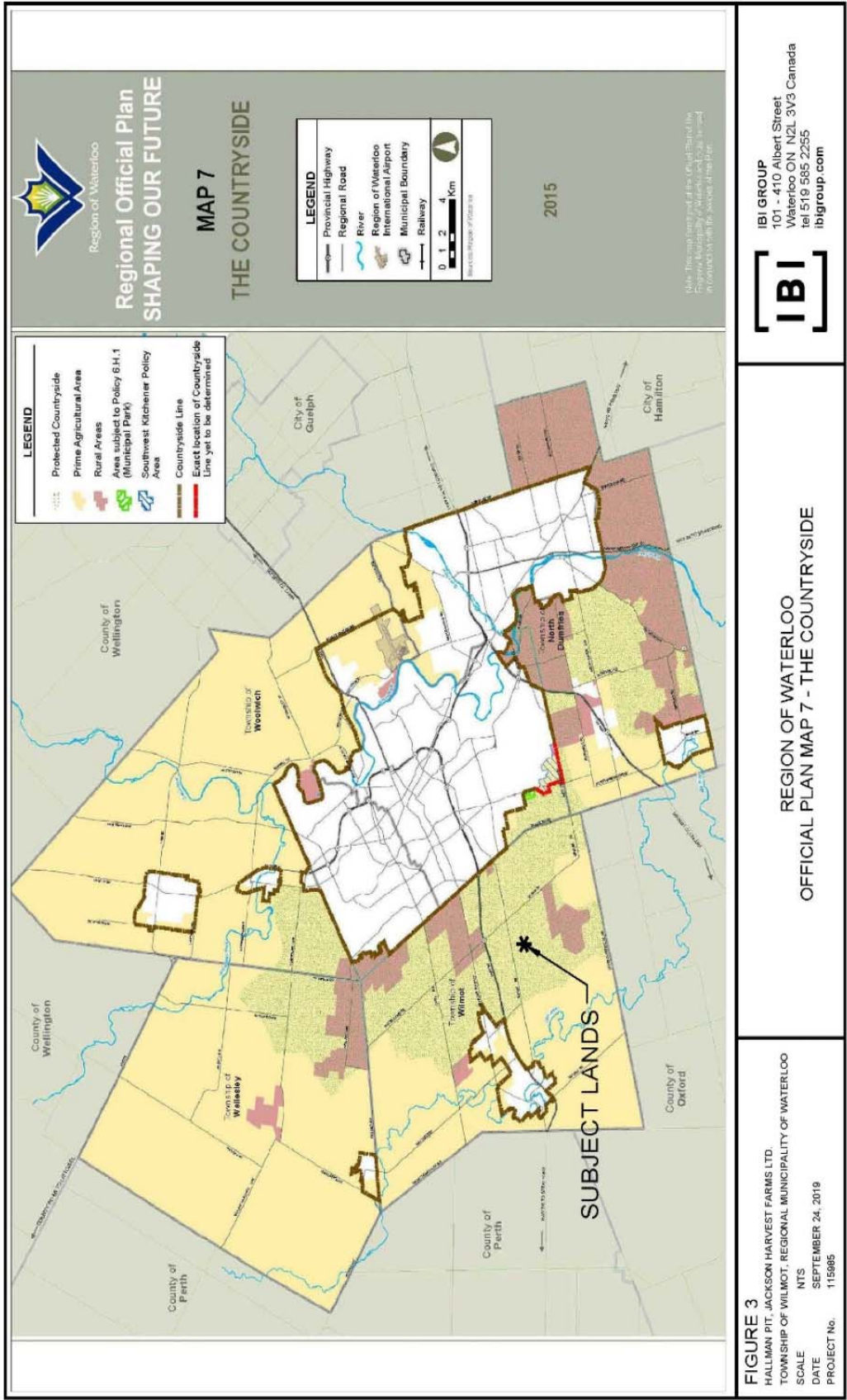
6.3.2 Policy 8.A.10 – Source Water Protection

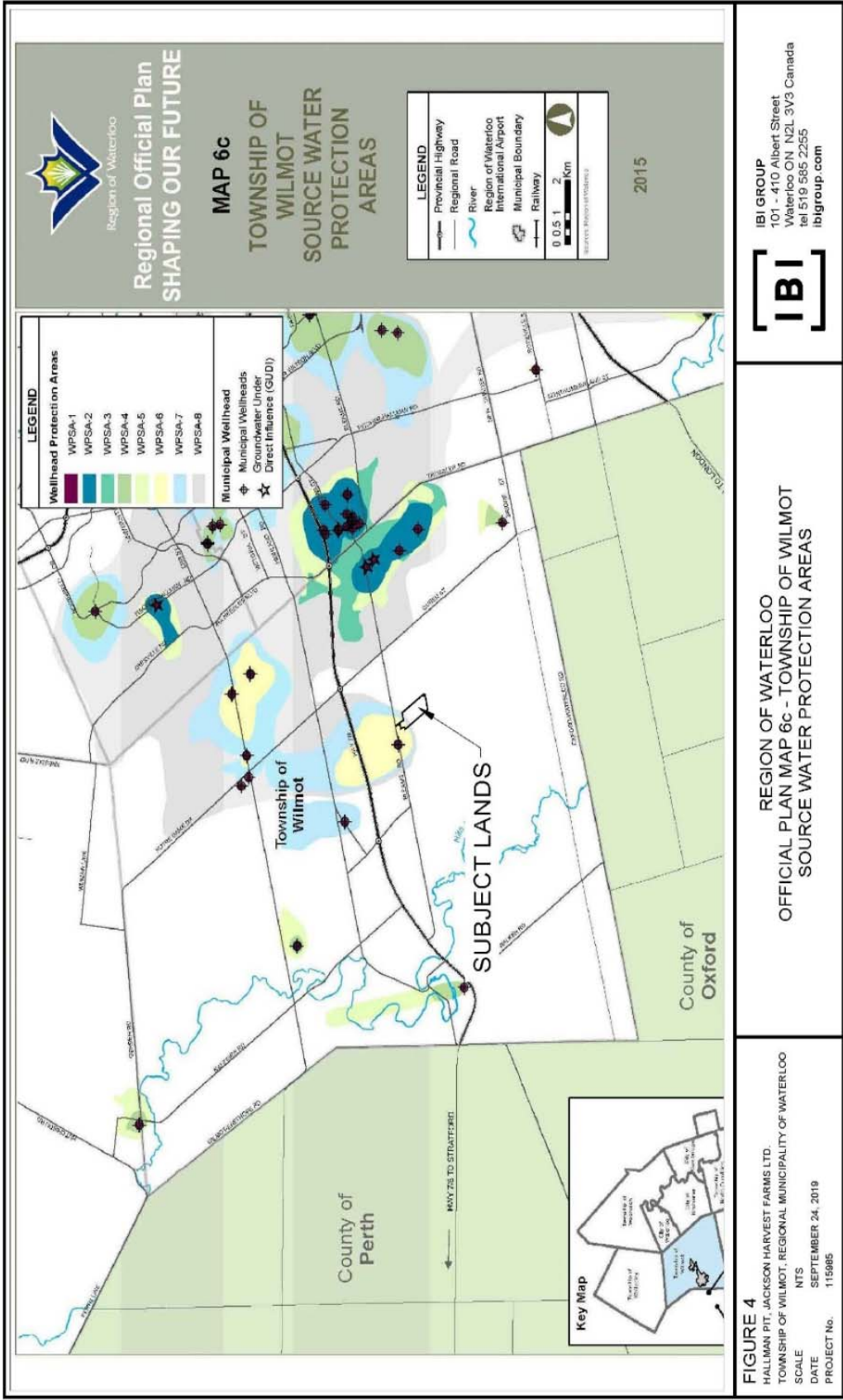
The northern portion of the subject lands are within the Wellhead Protection Area as shown on Regional Official Plan 2031, ROP Map 6c – Township of Wilmot Source Water Protection Areas, and specifically within WPSA – 6, WPSA – 7 and WPSA -8. Refer to Figure 4 entitled: Regional Official Plan Map 6c - Township of Wilmot Source Water Protection Areas

The applicable Policies for each of these 'Wellhead Protection Source Areas' are noted as follows;

- WPSA – 6: Policy 8.A.16
- WPSA – 7: Policy 8.A.17
- WPSA – 8: Policy 8.A.18

Each of the Policies for all three of the Wellhead Protection Source Areas (6, 7 and 8) permits mineral aggregate operations as a permitted use. Notwithstanding the above, and in support of the application, attached hereto as Appendix G is the Level 1 and Level 2 Hydrogeological





Evaluation for Above Water Table Aggregate Extraction: Hallman Pit prepared by Harden Environmental Services Limited.

6.3.3 Policy 9.A.1 – Resource Protection

The subject lands are within the designated 'Mineral Aggregate Resource Area' on ROP Map 8–Mineral Aggregate Resource Areas and Aggregate Bedrock Deposits. Policy 9.A.1 of the ROP states:

9.A.1 Mineral Aggregate Resource Areas are designated as shown on Map 8. These areas have been identified by the Province as having a high potential to contain mineral aggregate resources.

Since the subject lands are within the 'Mineral Aggregate Resource Area' and the presence of aggregate resources has been confirmed by the on-site testing, the application is in conformity with ROP Policy 9.A.1. Refer to Figure 5 entitled Regional Official Plan Map 8 – Mineral Aggregate Resources Areas and Aggregate Bedrock Deposits.

6.3.4 Policy 9.C – New Mineral Aggregate Operations

As noted above, the subject lands are designated in the ROP as 'Mineral Aggregate Resource Area'. Policy 9.C identifies the necessary requirements that must be fulfilled for approval of a new aggregate operation. As such, this application conforms to Policy 9.C in the following manner:

TABLE 1 – REGIONAL OFFICIAL PLAN 2031 POLICY FULFILLMENT	
POLICY 9.C MINERAL AGGREGATE OPERATIONS	
Policy 9.C.3	Policy Fulfillment
Development applications to permit a new mineral aggregate operation, expand an existing operation, will only be permitted where the following studies have been submitted to the satisfaction of the Region or agency with jurisdiction over the issue addressed by the study: i. Noise, dust and vibration studies demonstrating that the proposed operation is appropriately designed, buffered and/or separated from any surrounding sensitive land uses to prevent adverse effects;	Noise – A Noise Study has been completed by HGC Engineering Inc. to demonstrate compliance with applicable MECP Guidelines and to ensure there are no adverse effects to surrounding sensitive uses. The Study is attached hereto as Appendix I and a summary of the results is discussed in Section 8.6 herein. All recommendations of the Noise Study have been incorporated into the ARA Site Plans. Dust – Prescribed Condition 3.1 of the ARA <u>requires</u> all Category 3 Licensees must ensure “Dust will be mitigated on-site”. As such, Jackson Harvest Farms Ltd. is mandated to ensure no visible fugitive dust occurs and this shall be accomplished through the use of the application of water and/or an approved dust suppressant as required and as necessary. In addition to the above, an Best Management Practices (BMP) assessment has been completed by HGD Engineering. The assessment is attached hereto as Appendix D and a summary of the results is discussed in Section 8.2 herein. All of the Dust

TABLE 1 – REGIONAL OFFICIAL PLAN 2031 POLICY FULFILLMENT POLICY 9.C MINERAL AGGREGATE OPERATIONS	
	BMP's have been incorporated into the ARA Site Plans. Vibration – The local deposit is characterized as unconsolidated sand and gravel and therefore extraction will be undertaken by the use of front-end loaders, meaning that no blasting is necessary nor will occur. Blasting is a practice that occurs in a quarry containing consolidated rock. The Pre-submission Consultation concluded that a vibration study was not required.
ii. A hydrogeological study in accordance with the provisions of the Regional Implementation Guideline for Source Water Protection Studies, demonstrating that the proposed operation will have no negative impacts on the quality and quantity of any surface water or groundwater resources;	A Hydrogeological Study (Level 1 and 2) has been completed by Harden Environmental and is attached as Appendix G and a summary of the results is discussed in Section 8.4 herein. The report concludes that there are no anticipated adverse impacts to the quantity and quality of surface water, the abutting wetland or groundwater resources, nor any cumulative impacts to the Nith River watershed. The study also undertook a water balance which concluded that recharge rates to the on-site wetland will be maintained. All recommendations of the Hydrogeology Study have been incorporated into the ARA Site Plans.
iii. A <i>Transportation Impact Study</i> in accordance with Policy 5.A.25 indicating how the proposed operation will address any potential impacts on Regional roads;	The haul route will exit the subject lands and onto Witmer Road (a Township Road) and proceed eastward to Queen Street, (Regional Road 6). The Transportation Impact Statement (TIS) undertaken by Paradigm Transportation Solutions Inc. is attached hereto as Appendix J and a summary is discussed in Section 8.7 herein. It assessed the potential impacts of the traffic on both Witmer Road and Queen St. and possible impacts within New Dundee. It should be highlighted that notwithstanding the license being based on an annual volume of 750,000 tonnes, this limit would only be achieved during a highly exceptional economic construction boom. Typically, extraction rates are anticipated to be in the order of < 500,000 tonnes/year.
iv. An <i>Environmental Impact Statement</i> in accordance with the policies in Section 7.G, where the proposed <i>mineral aggregate operation</i> is <i>contiguous</i> to a Core Environmental Feature, or within or contiguous to a Supporting Environmental Feature;	A scoped Environmental Impact Statement has been completed by Dance Environmental Inc. as per the Terms of Reference outlined by the Region's EEAC Committee and is attached as Appendix H and a summary is discussed in Section 8.5 herein. (For purposes of the ARA, the report is entitled Natural Environment Level 1 and 2 Report). All of the site specific mitigation recommendations of the NEL 1 and 2 / EIS to address potential impacts on the natural features on the site and within 120 m of the site have been incorporated into the ARA Site Plans.
v. An <i>Archaeological Assessment</i> and/or <i>Cultural Heritage Impact Assessment</i> in accordance with the policies in Section 3.G;	A Stage 1 and 2 Archaeological Assessment was completed by Archaeological Resource Research Associates Ltd. which identified four find-spots of cultural heritage significance and

TABLE 1 – REGIONAL OFFICIAL PLAN 2031 POLICY FULFILLMENT POLICY 9.C MINERAL AGGREGATE OPERATIONS	
	recommended a Stage 3 assessment of Sites 1, 2 and 3. See Appendix E ii and E iii. • A Stage 3 Archaeological Assessment was completed by Timmins-Martelle Heritage Consultants Inc. which recommended that i) Sites 2, 3 no longer had CHVI and ii) a Stage 4 assessment of Site 1. See Appendix F i. • A stage 4 Archaeological Assessment was completed by Timmins-Martelle Consultants Inc. which determined that Site 4 no longer had CVHI. See Appendix F ii.
vi. Information on the estimated lifespan of the <i>mineral aggregate operation</i> and demonstration that the final rehabilitation plan is consistent with the policies in this plan and the Area Municipal official plan; and	• The ultimate life span of any pit operation is dependent on market conditions for the specific aggregate products being produced. Notwithstanding the above, given the estimated volume of aggregate reserves (+/- 13.8 MT) and the known annual tonnage limit (0.75 MT), the minimum life span of the Hallman Pit is 18.5 years • The progressive and final rehabilitation of the lands will be returned to an agricultural use which is consistent with the applicable Regional policies. Furthermore, future agricultural practices will be limited as specified in the Risk Management Plan filed with the Region of Waterloo.
vii. Any other studies identified by the Area Municipality to meet requirements of a complete application under the provisions of the Planning Act .	No other studies were requested.

Based on the fulfilment of the above noted policies, the application is in conformity with Policy 9.C of the Regional Official Plan 2031 and thus **no Regional Official Plan amendment is required.**

6.4 Township of Wilmot Official Plan (Consolidated April 2019)

The Township of Wilmot Official Plan (2031) policies that are applicable to the subject application are as follows:

- Chapter 3 Countryside
- Chapter 7 Mineral Aggregate Extraction Areas
- Chapter 8.6 Source Water Protection

6.4.1 Chapter 3: Countryside

Map 10 of the Wilmot Official Plan (OP) is entitled [The Countryside](#) and designates the majority of the eastern portion of the Township as being Protected Countryside and almost all of the Township as Prime Agricultural, and both these designations apply to the subject lands.



Based on the above, the Policies of Chapter 3 of the Township OP apply to the subject lands. Specifically, Policy 3.2.7 states;

3.2.7 Mineral aggregate operations may be permitted as an interim use in the Prime Agricultural Area and Rural Areas designations in accordance with the Policies of Chapter 7.

Therefore, notwithstanding that the lands are designated Protected Countryside and Prime Agricultural, aggregate extraction is a permitted use, subject to fulfilling the Policies of Chapter 7 of the Official Plan.

6.4.2 Chapter 7: Mineral Aggregate Extraction Areas

The applicable portion of Chapter 7 that address new pits is within Policy 7.2 entitled New Mineral Aggregate Applications. The following table highlights how each of the technical requirements (Policy 7.2.4) and Review Criteria (Policy 7.52.5) are fulfilled.

TABLE 2 – WILMOT OFFICIAL PLAN POLICY FULFILLMENT	
7.2.4 Required Technical Information	
Policy 7.2.4.1	Policy Fulfillment
i. noise, dust and vibration studies demonstrating that the proposed operation is appropriately designed, buffered and/or separated from any surrounding <i>sensitive land uses</i> to prevent any <i>adverse effects</i>;	• Noise – A Noise Study has been completed by HGC Engineering Inc. to demonstrate compliance with applicable MECP Guidelines and to ensure there are no adverse effects to surrounding sensitive uses. The Study is attached hereto as Appendix I and a summary discussion found in Section 8.6 herein. All recommendations of the Noise Study have been incorporated into the ARA Site Plans. • Dust – Prescribed Condition 3.1 of the ARA requires all Category 3 Licensee must ensure “<i>Dust will be mitigated on-site</i>”. As such, Jackson Harvest Farms Ltd. is mandated to ensure no visible fugitive dust occurs and this shall be accomplished through the use of the application of water and/or an approved dust suppressant as required and as necessary. Notwithstanding the above, a Best Management Practices (BMP) assessment has been completed by GHD Engineering and is attached hereto as Appendix D and a summary of the results is discussed in Section 8.2 herein. All recommendations of the BMP’s have been incorporated into the ARA Site Plans. • Vibration – The local deposit is characterized as unconsolidated sand and gravel and therefore extraction will be undertaken by the use of front- end loaders, meaning that no blasting is necessary nor will occur. Blasting is a practice that occurs in a quarry containing consolidated rock. The Pre-submission Consultation determined that a vibration study was not required.
ii. a hydrogeological study in accordance with the provisions of the Regional Implementation Guideline for Source	A Hydrogeological Study (Level 1 and 2) has been undertaken by Harden Environmental and is attached as Appendix G and a summary discussion

	Water Protection Studies, demonstrating, to the satisfaction of the Region, that the proposed operation will have no negative impacts on the <i>quality and quantity of water</i> ;	is found in Section 8.4 herein. The report concludes that there are no anticipated adverse impacts to the quantity and quality of surface water, the abutting wetland or groundwater resources, nor any cumulative impacts to the Nith River watershed. The study also undertook a water balance which concluded that recharge rates to the on-site wetland will be maintained.
iii.	a Transportation Impact Study in accordance with the policies of this Plan, indicating how the proposed operation will address any potential impacts on Township roads, Regional roads and Provincial Highways;	The haul route will exit the subject lands and onto Witmer Road (a Township Road) and proceed eastward to Queen Street, (Regional Road 6). - The Transportation Impact Statement (TIS) undertaken by Paradigm Transportation Solutions Inc. is attached hereto as Appendix J and a summary is discussed in Section 8.7 herein. - The Witmer Road Geotechnical undertaken by CMT Engineering is attached hereto as Appendix K and also summarized in Section 8.7 and provides technical recommendations to improve Witmer Road so no seasonal (spring) ½ load restrictions are present within the limits of the Haul Road.
iv.	an <i>Environmental Impact Statement</i> prepared in accordance with the policies of this Plan, where the proposed <i>mineral aggregate operation is contiguous to a Core Environmental Feature, or within or contiguous to a Supporting Environmental Feature</i> ;	A scoped Environmental Impact Statement has been completed by Dance Environmental Inc. as per the Terms of Reference outlined by the Region's EEAC Committee and is attached as Appendix H, and a summary is discussed in Section 8.5 herein. Subject to the incorporation of specific mitigation recommendations, potential impacts on the natural features on the site and within 120 m of the site have been mitigated.
v.	an <i>archaeological assessment and/or Cultural Heritage Impact Assessment</i> in accordance with the policies of this Plan;	- A Stage 1 and 2 Archaeological Assessment was completed by Archaeological Resource Research Associates Ltd. which identified four find-spots of cultural heritage significance and recommended a Stage 3 assessment of Sites 1, 2 and 3. See Appendix E ii and E iii. - A Stage 3 Archaeological Assessment was completed by Timmins-Martelle Heritage Consultants Inc. which recommended that i) Sites 2, 3 no longer had CHVI and ii) a Stage 4 assessment of Site 1. See Appendix F i) - A stage 4 Archaeological Assessment was completed by Timmins-Martelle Consultants Inc. which determined that Site 4 no longer had CVHI. See Appendix F ii).
vi.	information on the estimated lifespan of the <i>mineral aggregate operation</i> and demonstration that the final rehabilitation plan is consistent with the policies in this Plan and the Regional Official Plan; and	Notwithstanding the above, given the estimated volume of aggregate reserves (13.8 MT) and the known annual tonnage limit (0.75 MT), the minimum life span of the Hallman Pit will be 19. The progressive and final rehabilitation of the lands will be to an agricultural use which is consistent with the applicable Regional policies.
vii.	any other studies identified by the Township to meet requirements of a	As part of the Pre-submission Consultation, a geotechnical evaluation of the entire haul road

complete application under the provisions of the Planning Act.	applicable to Township's roads (Witmer Road) was requested.
Policy 7.2.4.2	
The Township will require the applicant to participate in a <i>pre-submission consultation meeting</i> with each of these agencies prior to the submission of any supporting studies.	The Pre-submission Consultation occurred on November 29, 2018 at the Township of Wilmot Administrative Offices.
Policy 7.2.4.3	
The studies identified in Section 7.2.4.1 will be required to take into account the potential <i>cumulative impacts</i> that may result from a proposed new <i>mineral aggregate operation</i> when added to other past, present and proposed future <i>mineral aggregate operations</i> in the vicinity of the proposed new operation	The applicable studies where cumulative impacts should be considered, did include background information from the neighbouring licensed pits including: • Traffic Impact Study • Haul Road Evaluation Report • Hydrogeological Report • Agricultural Impact Assessment • Noise Study
7.2.5 Review Criteria	
Policy 7.2.5.1	
New <i>mineral aggregate operations</i> will not be permitted on lands designated as Core Environmental Features, except in accordance with the following:	No portion of the site is designated as a Core Environmental Feature.
Policy 7.2.5.2	
New <i>mineral aggregate operations</i> proposed <i>contiguous</i> to Core Environmental Features as designated on Map 7 of this Plan, may be permitted, provided that there will be no <i>adverse environmental impacts</i> to their features or <i>ecological functions</i> and <i>Environmental Linkages</i> .	The proposed Hallman Pit is located contiguous to a Core Environmental Feature, being the woodlot to the west of the site. The EIS Report prepared by Dance Environmental (Appendix H) has provided recommendations to ensure impacts will be mitigated.
Policy 7.2.5.6	
Where a new mineral aggregate operation is proposed on lands designated as an Environmentally Sensitive Landscape as designated on Map 7 of this Plan, the Township will...	This Policy is not applicable as the proposed pit is not within or adjacent to an Environmentally Sensitive Landscape.
Policy 7.2.5.7	
Development applications that would establish an ancillary use to a mineral aggregate operation will only be permitted where applicable studies identified in Policy 7.2.1.2 * to demonstrate to the satisfaction of the Township and/or the Region and other affected agencies that the proposed use will mitigate any potential adverse effects. * Note: The correct Policy reference is 7.2.4.1	Jackson Harvest Farms Ltd. is requesting the inclusion of an ancillary use being the recycling of concrete and asphalt. All the applicable background studies in support of the application were prepared based on the inclusion of recycling, (i.e. traffic, noise, hydrogeology).
Policy 7.2.5.8	
Prior to the establishment of a new mineral aggregate operation, Township support for the zone change application will be subject to the following:	
a) the submission and acceptance of any required studies identified in Policies 7.2.1.2 and 7.4.1;	a) All studies as required by the Official Plan and confirmed through the Pre-Consultation meeting have been completed and submitted.

b) demonstration that the proposed rehabilitation is consistent with the policies of this Plan and the Regional Official Plan;	b) Regional Official Plan policies require that aggregate extraction in Prime Agricultural Areas be returned to an agricultural use post-extraction. The proposed application maintains this intent.
c) the submission of all reports required by the Ministry of Natural Resources (and Forestry) in accordance with the Aggregate Resources Act; and	c) All reports required by MNRF are included in the rezoning application and have been submitted.
d) the Township being satisfied that the following conditions will be dealt with through the site plan approved under the Aggregate Resources Act, or other appropriate means: i. to ensure provision of adequate buffering and/or screening along road rights-of-way, or adjacent to any existing or proposed sensitive uses, and implementation of any other necessary mitigation measures as determined through the approval of required studies to prevent where possible, or minimize any potential adverse effects on the surrounding sensitive land uses, to the satisfaction of the Township; ii. that no new excavation or processing will take place until all required buffers and/or screenings have been installed; iii. that no water or washing or screening operations will be discharged into any water course; iv. that the applicant, in co-operation with the Township and the Region, will establish all haul routes for truck traffic; v. that any required road improvements identified through the Transportation Impact Study noted in 7.2.1.2 above are in place prior to the removal of aggregates from the site; and,	i. Buffering and/or screening along road rights-of-way, or adjacent to any existing or proposed sensitive uses in prescribed the ARA with additional recommendations made through the technical reports. The proposed buffers, which have been shown on the Site Plan are as follows: • Witmer Road – 30 m plus a 2.0 m high visual berm and tree plantings. • Woodlots ➤ 10 m from the dripline edge of Dry-Fresh Sugar Hardwood Deciduous Forest [FODM5-9 (B)] ➤ 15 m from the limit of Dry-Fresh Sugar Hardwood Deciduous Forest [FODM5-9 (A)] • Residential Dwellings (Sensitive Receiver R1) – 30 m • Balance of site - 15 m from the property limit • Strategically located 4.0 to 5.0 m high noise attenuation berms. • 50.0 m from the Schindelstедdle Wetland • Strategically located vegetation plantings to provide additional ecological habitat. ii) The Site Plans contain specific notes that specify the timing and locations of buffers (noted above) which are to be in-place prior to extraction activity entering a specific phase. Refer to Sheet 4 of 7 – Operational Notes and Details of the Site Plans. iii) No off-site water discharges are proposed or will be permitted. iv) The primary haul route for truck traffic will be east on Witmer Road to Queen Street. v) 1. The TIS did not make any recommendations for road improvements. 2. The geotechnical assessment for the haul Road made technical recommendations for the upgrading of Witmer Road to eliminate season (spring) ½ load conditions.

vi. that no new excavation or processing will take place until all required fencing and/or security measures have been put in place.	vi. The majority of the site is currently fenced but the Site Plans contain specific notes that requires any additional fencing or upgrading to be completed prior to extraction activity. Refer to Note 3 on Sheet 3 of 7 – Operational Plan Notes of the Site Plans.
Policy 7.2.5.9	
The Township will encourage the construction of intra-pit road systems and new roads to support the movement of mineral aggregate resources so as to lessen the impact of truck traffic on Township roads and sensitive land uses.	The subject proposal does not provide an opportunity to establish an intra-pit road system.
Policy 7.2.5.10	
7.2.5.10 The Township will collaborate with the Region and the Province to ensure that all appropriate requirements resulting from the review of an application for a mineral aggregate operation are imposed and enforced as:	
a) conditions on the licence or notes on the site plan required under the Aggregate Resources Act, including but not limited to spill protection measures to prevent discharges to surface water and groundwater resources from on-site fuel storage, vehicle or equipment repair and equipment operation, and spills from salt storage, use and transfer, and other best management practices; and	a) A Spills Protection Plan has been prepared by Harden Environmental Ltd. and referenced in the Site Plans. Refer to Sheet 3 of 7 – Operational Plan Notes The proposed above-ground fuel tanks are to be located near the pit front entrance and will be installed as prescribed according to the Gasoline Handling Act.
b) Regulations in site-specific zoning by-laws, development agreements and conservation easements, as may be applicable.	The site specific By-Law for Z.14 will include the extension of permitted uses to include recycling of concrete and asphalt. As well, the Schindelstедdle Wetland and its contiguous Reed Canary Meadow Marsh and Dry-Fresh White Pine Naturalized Conifer Plantation will be subject to a proposed rezoning from Z.1 to Z.11 (Open Space)
Policy 7.5 Rehabilitation of Aggregate Operations	
Policy 7.5.2	
All proposals for new mineral aggregate operations, including wayside pits and quarries, will include a rehabilitation plan to the satisfaction of the Township and the Region, ensuring that:	
a) Progressive rehabilitation will be carried out whenever feasible so that depleted areas are restored while extraction continues in other areas of the site;	a) A detailed Phasing and Progressive Rehabilitation Plan has been provided as part of the Site Plans to ensure that extracted areas are rehabilitated while extraction continues in other parts of the site. As such, four phases are proposed, starting in the south central portion and moving northwards then completing the extraction at the southern limit near Witmer Road. As extraction progresses, material that is stripped from one phase will be used to initiate rehabilitation of side slopes and the pit floor in the previous extracted phases.
b) final rehabilitation will comply with the land use designations contained in this Plan or the Regional Official Plan, and be compatible with the character of surrounding land uses;	b) Regional Official Plan policies require that aggregate extraction in Prime Agricultural

	Areas be returned to an agricultural use post-extraction. The proposed application maintains this intent.
c) comprehensive rehabilitation will be carried out, to the extent possible, where a proposed new mineral aggregate operation abuts one or more existing licensed mineral aggregate operations;	c) The subject site is in proximity to both the Lafarge Cattleland pit and Spring Valley Trout Farm pit but those pits, along with the proposed Hallman Pit have Final Rehabilitation Plans that comply with land use designations contained in the Region and Township Official Plans for the lands to be returned to an agricultural use.
d) within the Prime Agricultural Area and Rural Areas designations, rehabilitation to agriculture will be the first priority, as follows: i. within the Prime Agricultural Area, substantially the same land area will be rehabilitated back to an agricultural condition to allow for the same range and productivity of crops common in the area; and ii. within Rural Areas, rehabilitation of the site will be carried out so that substantially the same land area and same average soil quality for agriculture are restored; and	i. The proposed pit will rehabilitate substantially the same amount of land (approx. 57.3 Ha) back to agriculture in accordance with this policy. The only portions of the site not returned to agriculture will be those areas vegetated to enhance ecological habitat. ii. Substantially the same land area and same average soil quality for agriculture will be restored as per the Site Plan notes.
Policy 7.6 Conservation of Mineral Aggregate Resources	
Policy 7.6.1	
The Township will ensure that mineral aggregate resource conservation will be undertaken, including through the use of aggregate recycling facilities within operations, wherever feasible.	In support of wise stewardship of the resource, Jackson Harvest Farms Ltd. is intending to include recycling of concrete and asphalt. Although these activities are not a permitted use under the Z.14 zoning, and an extension to the permitted uses is being requested. Policy support of this activity is provided through Policy 7.6.1.

6.5 Township of Wilmot Zoning By-Law (By-Law No. 83 - 38)

The lands are currently zoned Z.1 (Agricultural) within the Township of Wilmot Zoning By-Law 83-38. By-Law 83-38 does not conform to the Provincial Policy Statement, the Growth Plan for the GGH, the Regional Official Plan nor the Township Official Plan in permitting the following uses, and therefore the following amendments to the By-Law are appropriate;

- a) The area to be licensed totals 57.3 hectares which are currently zoned Z.1 (Agriculture) and are to be zoned Z.14 (Extractive Industrial) which will permit the following uses as prescribed under Section 20.1 of the By-Law:
- *Farming, but not including:*
 - a) *Sod Farming*
 - b) *Commercial Greenhouse Operation*
 - *All classes of pits and quarries as defined and licensed by the Pits and Quarries Control Act;*
 - *The processing of extracted materials from the site including crushing, screening, washing, sorting and storage of materials, but not including any temporary or permanent asphalt hot mix plant or ready mix concrete plant.*

- b) Because stewardship of the resource is critical to Jackson Harvest Farms Ltd., they intent to import concrete and asphalt for the purpose of recycling, including crushing/screening and either blended with virgin aggregates or sold as a stand-alone product. Details of handling the recycled material is discussed in Section 7.1.3 herein. The importation of concrete and asphalt for the purposes of recycling is not defined as a permitted use nor an ancillary under Section 20.1 of the By-Law, however, the principle of recycling is supported by the Wilmot Official Plan as follows:

7.6.1 "The Township will ensure that mineral aggregate resource conservation will be undertaken, including through the use of aggregate recycling facilities within operations, wherever feasible."

Therefore, an extension of the Z.14 permitted uses is required to specifically include the ability to import concrete and asphalt for the purposes of recycling which will allow the material to be blended and/or sold as a stand-alone product.

- c) Although the Schindelsteddle South Wetland Complex and its contiguous Reed Canary Meadow Marsh and Dry-Fresh White Pine Naturalized Conifer Plantation are not included within the proposed Class A Licence, (i.e., not part of the lands to be rezoned to Z.14); through the Pre-submission Consultation, the GRCA requested additional planning protection be provided for these lands as the lands are currently zoned as Z.1 (Agriculture). These lands, being +/-4.3 hectares, are requested to be rezoned to Zone Z.11 (Open Space), and in initial discussions with Township staff, considering the lands will remain in private ownership; the permitted uses should be limited to:

- Arboretum
- Wildlife Sanctuary
- Uses accessory to the foregoing permitted uses.

Refer to Figure 6, Proposed Zoning.

7 Proposed Extraction Design

In order to satisfy the requirements of:

The Provincial Policy Statement

- Policy 2.5.3.1: "Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, and to recognize the interim nature of extraction. Final rehabilitation shall take surrounding land use and approved land use designations into consideration".

Aggregate Resource Act (Report Standards for Category 1 applications)

- Policy 2.1.5: "the progressive and final rehabilitation and the sustainability of the proposed rehabilitation having regard to the adjacent lands".

Regional Official Plan 2032 (Regional Municipality of Waterloo)

- Policy 9.3: Ensure that mineral aggregate operations proceed as expeditiously as possible and in a logical sequence so that depleted areas can be restored while extraction continues in other areas of the pit.
- Policy 9.A.4 (f): Ensure that mineral aggregate operations are provided with adequate buffering, screening and other mitigation measures to prevent or minimize any potential adverse effects on surrounding sensitive land uses.



Township of Wilmot Official Plan

- Policy 7.2.2 c): (The Applicant must) demonstrate that the proposed rehabilitation is consistent with the policies of the Regional Official Plan and the Township of Wilmot Official Plan.

The following section provides confirmation of the above operational, progressive and final rehabilitation requirements.

7.1 Extraction Activities and Logistics

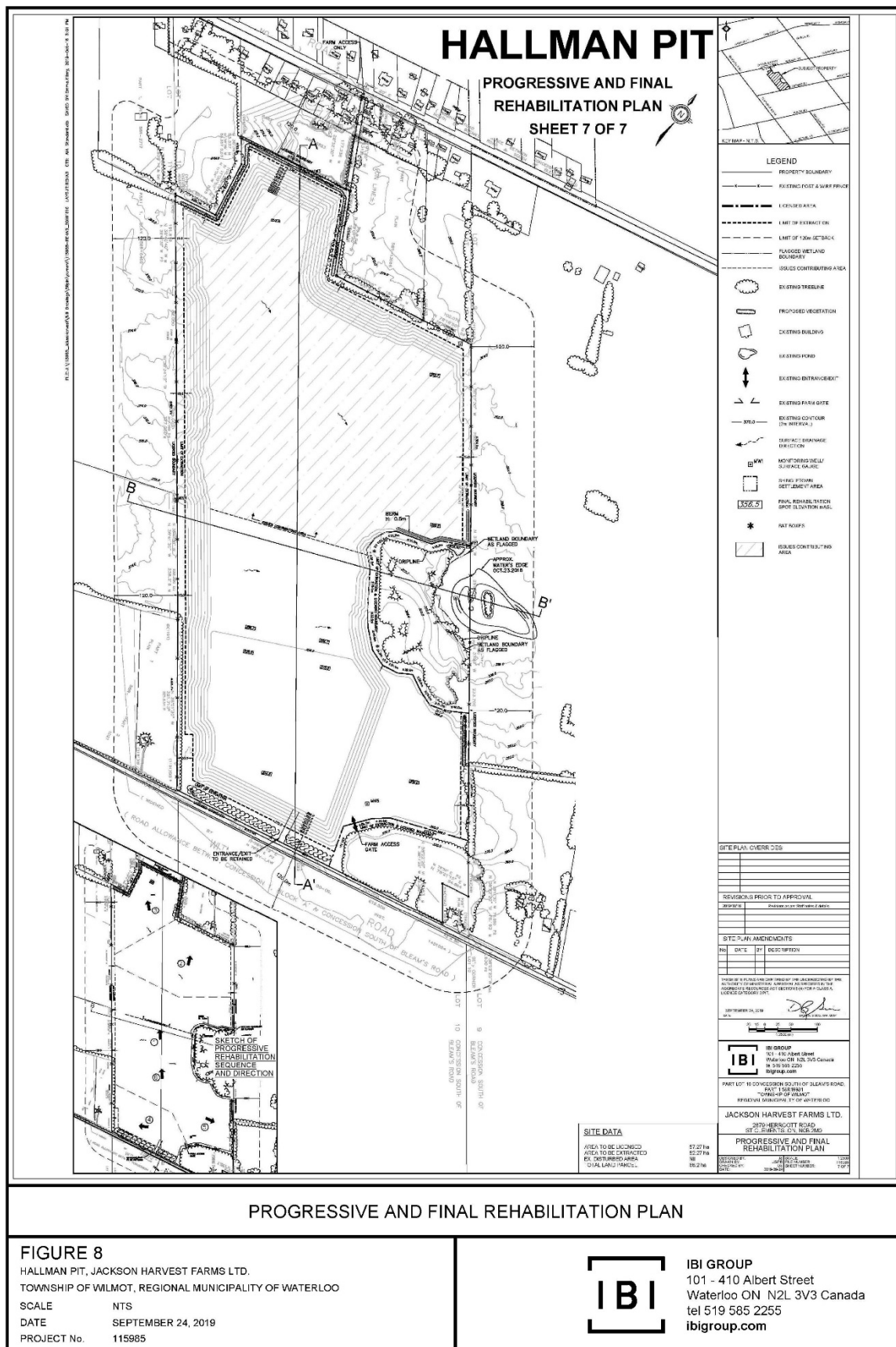
The extraction activities can be divided up into several key components: a) start-up activities, b) extraction operation, c) progressive rehabilitation, d) final rehabilitation, and e) surrendering of the Licence. Corresponding to the above are the following figures; Figure 7: Operational Plan, Figure 8: Progressive and Final Rehabilitation Plan.

7.1.1 Start Up Activities

Prior to extraction being initiated, the following activities will occur:

- a) Fencing: The majority of the site is currently fenced with 1.2 metre high post and paige wire fencing, however it will all be inspected and any portions that are in disrepair will be replaced. New fencing (1.2 metres high) will be erected along the southern limit of the proposed pit where it abuts the maple woodlot, [Dry-Fresh Sugar Hardwood Deciduous Forest [FODM5-9 (A)]].
- b) Gates:
 - i. A new industrial-type gate will be installed at the pit entrance/exit onto Witmer Road in the location noted on the Site Plans.
 - ii. A new farm-type gate will be installed to access the woodlot from the pit in proximity to the recycling area. The gate will remain locked and only used by pit staff for temporary access.
 - iii. A new farm-type gate will be installed at the southern extent of the +/-8.5 metre wide farm-lane that connects to Bleams Road and used only by pit staff and/or access for farm equipment.
- c) Demarcation Posts: Next to the conifer plantation [FOCM6-1] 1.5 metre high T-bar posts (or equivalent) will be placed every 7.5 metres to demark the extraction boundary and to restrict extraction equipment from entering the plantation.
- d) Silt Fencing: A single row of silt fence will be erected;
 - i. On the toe of the slope on the external side of all berms prior to berm construction and remain in place until the berm ground cover has established and/or there is minimal potential of soil erosion from the berm.
 - ii. For Berm 1, the silt fencing must be installed 10.0 metres from the surveyed dripline of the abutting woodlot [FODM-9 (B)] in advance of the berm construction.
 - iii. On the perimeter of the conifer plantation [FOCM6-1] on the outside of the T-bars for a minimum of one year or until there is no risk of erosion into the plantation.





- e) **Removal of Farm Infrastructure:** Most of the farm related buildings were removed during 2018 and 2019. However, reinforced concrete slabs used on-top of the numerous manure bunkers have only been partially broken up and relocated elsewhere on the site. As well, there remains the side-walls of manure and feed bunkers, also constructed of reinforced concrete and these too need to be removed with the reinforced steel mechanically removed for salvage and the concrete crushed for recycling.
- f) **Stripping:** The lands associated with Phase 1 and specifically the recycling area, wash ponds and the southern portions of Phase 1 will be stripped of both topsoil and subsoil using earth scrapers and bulldozers. The material will be used to construct perimeter berms. Once a sufficient volume of material has been stripped to construct the initial berms, future stripping will be limited to keeping approximately one (1) year ahead of the working face.
- g) **Wash pond excavation:** The general location of the wash ponds are shown on the Site Plans (just south of the Dry-Fresh White Pine Naturalized Conifer Plantation' and will include settling ponds and a supply pond. These ponds will be excavated with the displaced material (aggregate) stockpiled for future processing. Details pertaining to the construction, operation and maintenance of the closed-system wash plant and ponds will be provided through an application for a Permit To Take Water (PTTW) to the Ministry of Environment, Conservation and Parks, (MECP).
- h) **Berms:** Initial berms that will be constructed include:
 - i. The 2.0 metre high visual berm (Berm 9) on the Witmer Road frontage.
 - ii. All berms pertinent to Phase 1 extraction including Berms 1, 2, 3 and 8.
- i) **Vegetation Planting:**
 - i. Along the Witmer Road frontage and specifically in front of the 2.0 metre high visual berm, a row of coniferous trees will be planted and spaced 4.0 – 5.0 metres apart with a minimum planting height of 1.5 metres. Types of conifers to be planted will include Eastern White Cedar (35%), White Spruce (30%) and Eastern White Pine (35%).
 - ii. Along the east boundary between the fence and Berm 3, vegetation will be planted to augment habitat for birds, (Eastern Bluebird, Brown Thrasher and Vesper sparrow). This vegetation will consist of (10) Gray Dogwoods and ten (10) Ninebark shrubs planted in clumps on 3.0 metre centres and be 1.0 metre in height at time of planting.
 - iii. Between Berm 8 and the Wetland Boundary and specifically outside the Licensed Boundary, three (3) Red-osier Dogwood and five (5) Eastern White Cedars will be planted to augment as a visual barrier and be 1.0 metre in height at time of planting.
 - iv. Within all setback areas where berms are not present and not planted in annual row crops, these areas shall be allowed to passively naturalize as this will increase the area available for Common Milkweed and nectar plant growth (i.e., Monarch habitat), provide preservation of Eastern Cottonwood seedlings, provide protection of retained fencerows and hedgerows to specifically protect White Spruce around the margins of the conifer plantation, increase insect populations as a greater food sources for the three regionally rare birds, enhance conditions for grassland and shrub habitat bird species and enhance conditions for insect pollinators.

Specifically the setback between Berm 1 and the western boundary shall be allowed to naturalize to woodland herbs and shrubs.
- j) **Entrance:** The haul road will access the site just east of the mid-point of the Witmer Road frontage and generally at the height of land of the frontage. The entrance will be a minimum

8.0 metres wide and be paved from the edge of Witmer Road to the weight scale and/or a minimum of 30.0 metres into the pit, whichever is greater. In addition, the weight scale, scale house/site administration, maintenance/storage building and above-ground fuel storage tanks will be installed near the front entrance.

- k) Witmer Road Upgrades: Prior to haul trucks using Witmer Road during ½ load season and within the first year of the pit activities being initiated, all necessary upgrades to Witmer Road shall be completed to the satisfaction of the Township of Wilmot, (with recommendations specified in the Geotechnical Report attached as Appendix K).

7.1.2 Extraction Operation

The hours of operation for the pit will be as follows:

Site Preparation:	7:00 a.m. to 7:00 p.m. Monday to Friday
Extraction / Processing:	7:00 a.m. to 7:00 p.m. Monday to Friday 7:00 a.m. to 6:00 p.m. Saturdays
Shipping:	6:00 a.m. to 7:00 p.m. Monday to Friday 6:00 a.m. to 6:00 p.m. Saturdays

There shall be no extraction, processing or shipping on Sundays or any Statutory Holiday. Maintenance and repair of on-site equipment as required from time to time, may occur beyond these hours.

Occasionally, public construction project contracts require night time delivery of aggregate. Night time deliveries will require municipal notification and approval in advance of such night time work and be restricted to loading and shipping only and no other site work (i.e., crushing, screening, extraction, recycling, washing) will be permitted.

Extraction of the sand and gravel will commence in the central portion of the site just west of the pond and conifer plantation. The initial extraction stage will be to immediately extract to the final and lowest pit floor elevation of 355.0 masl being an overall depth of +/-20.0 metres and extracting an area sufficiently large to create a working space to accommodate the crushing equipment and any other associated processing equipment and/or stockpiles, as recommended by the Acoustical Report to achieve the MECP - NPC Noise Guidelines limits.

Further extraction will occur in a westward direction ensuring positive surface drainage toward the wetland feature and thereby allowing contribution to the groundwater system. The balance of the extraction will be carried out in three (3) separate lifts, each up to 8.0 metres in depth.

Extraction will then proceed northward into Phases 2 and 3 with the progressive stripping of topsoil and subsoil which will be used to construct the perimeter berms (Berms 4 – 7).

For Phase 3, and once Berm 5, 6 and 7 have been constructed and vegetated with a legume/grass groundcover, additional vegetation will be planted between the outside portion of Berms 5, 6 and 7 and the boundary fence and partially up the side slopes. Species to be planted total seventy-five (75) Gray Dogwoods and fifty-five (55) Ninebark, being a minimum 1.0 metre in height at planting and planted in clumps on 3.0 metre centers.

Once a sufficient volume of material has been stripped to construct these berms, future stripping will be limited to keep approximately one (1) year ahead of the working face.

The direction of extraction for Phase 2 will be east and west and for Phase 3, northward. Key to mitigating noise impacts from the sensitive receivers within the Shingletown Settlement Area during Phase 3 will include the following:

- The working face will be oriented away from the subject homes and extraction proceeding towards the residents, thereby the pit face will act as a barrier between the extraction activities and the sensitive receptors,

- Stockpiles of product material will be situated between the portable crushing equipment and the sensitive receivers where possible and trucks will be loaded from the side furthest from the receivers.
- Portable crushing equipment must not be located within Phase 3 limit. To accomplish this, Jackson Harvest Farms Ltd. will incorporate when feasible, the use of conveyors to convey the aggregate from the active pit face to the portable crusher.

Extraction of the final phase (Phase 4) in proximity of Witmer Road will begin in a south direction (west of the haul road) then westward directly toward abutting sensitive receiver R1 and as illustrated on the Site Plans.

The extracted material will be primarily processed on-site in a dedicated area referenced as the 'Processing Area' within Phase 1 and as shown on the Site Plans. The processing equipment may include a crusher, screener and wash plant. As noted above, when and where feasible, extracted material will be transferred from the active face to the processing area via conveyers. In addition to the above noted equipment, a portable crusher may also be utilized and follow the pit working face.

7.1.3 Recycling

The pit will also include the ability to import concrete and asphalt which will be processed, (crushed/screened) and used as a recycled product. The recycled material will be either sold as a recycled product or blended with on-site virgin aggregate at percentage volumes permitted to meet 'Ontario Provincial Standards for Roads & Public Works', (OPSS) material specifications.

Concrete and asphalt will be primarily sourced as a back-haul material from on-going road reconstruction projects primarily throughout the Region of Waterloo, and therefore would generally not generate additional truck activity. A staging and processing area for the concrete and asphalt is in the southeast corner of the site and identified as the "Recycling Area" on the Site Plans. These materials will be processed in this area using a dedicated crusher. Jackson Harvest Farms Ltd. anticipates that the majority of the imported concrete and asphalt will be processing during the winter months with minimal overlap between the processing of insitu aggregate and recyclable material.

7.1.4 Progressive Rehabilitation of Extraction Area

Once extraction has been completed in each Phase progressively, the final pit floor will be cross-ripped to improve drainage where the lands have been compacted. Overburden and topsoil previously stripped and stored into berms and/or directly stripped, will be used to backfill the side slopes and the final pit floor. The side slopes will be backfilled to create 3:1 slopes and the overall pit floor will be graded so that surface water will continue to flow towards Schindelsteddle South Wetland Complex, however, a minimum 0.5 metre high vegetated berm (Berm 8) will be retained along the south limit of the farm field to circumvent surface water from entering the wetland directly but rather forcing it to infiltrate through the berm as groundwater.

The licensee shall be permitted to import a limited volume of clean inert fill to facilitate the side slopes and final agricultural land-use, except, no infill material shall be permitted on any portion of the licensed site north of the Schindelsteddle South Wetland Complex, (corresponding with the Region of Waterloo's Issues Contributing Area as identified on the Site Plans (Sheet 7 of 7)). The Licensee must ensure that all material imported is tested at the source before it is deposited on-site to ensure it meets MECP criteria listed under Table 1 of the "Soils, Groundwater and Sediment Standards for use under Part XV.1 of the *Environmental Protection Act*." Where the imported material is not being placed within 1.5 metres of the surface, the criteria under Table 1 for Sodium Absorption Ratio and Electrical Conductivity do not have to be met, in accordance

with MNRF Policy No. A.R. 6.00.03. Sampling results must be provided to MNRF, MECP or the Region of Waterloo upon request.

Progressive rehabilitation will be undertaken using earth scrapers, bull dozers and other construction equipment as necessary.

7.1.5 Final Rehabilitation

In order to ensure the lands are returned to a viable agricultural use, once the topsoil is replaced, a crop soils specialist will assess the soils and make recommendations to augment the soil nutrient levels as necessary (i.e., planting alfalfa and that once grown, being ploughed under over a series of crop cycles to help increase the natural nutrient levels of the soil).

7.1.6 Surrendering of Licence

Upon the full rehabilitation of the entire lands as specified by the Progressive and Final Rehabilitation Plan (Sheet 7 of 7 of the Site Plans), the Licensee will request to MNRF that the Licence be surrendered.

8 Summary of Technical Studies

8.1 Agricultural Impact Assessment (AIA)

An Agricultural Impact Assessment (AIA) was undertaken by DBH Soil Services Inc. dated December 21, 2018 and attached hereto as Appendix C. The report was completed to satisfy the requirements of:

Growth Plan for the Greater Golden Horseshoe

- Section 4.2.8 states: *"In prime agricultural areas, applications for new mineral aggregate operations will be supported by an agricultural impact assessment and, where possible, will seek to maintain or improve connectivity of the Agricultural System."*

The purpose of the Agricultural Impact Assessment is to evaluate the current agricultural activities at the site and the surrounding areas and determine whether the proposed Hallman Pit will have negative impacts to the agricultural community.

Using various field survey technologies, the report provides a detailed breakdown of the land use of the subject site and the study area. Specifically, the site is determined to be 77.2% common field crop (corn and soy bean), 11.9% built-up/disturbed, 9.8% wooded and 1% ponded/scrubland.

The specific agricultural classifications using the Canada Land Inventory classes found on the site include the following;

SOIL TYPE	SYMBOL	AGRICULTURAL CAPABILITY
Burford gravelly Loam	Bgc – C complex and simple slopes and Bgd-e complex slopes	2-4 with limitations related to Low Natural Fertility, Moisture Deficiently and Topography
Brady Sandy Loam	Byb - B complex and simple slopes and Byc complex slopes	2 with limitations related to Topography.
Fox Sandy Loam	FoB simple slopes FoC, simple slopes, Fod-D complex to simple slopes, Foe complex slopes	2-4 with limitations related to Low Natural Fertility, Moisture Deficiently and Topography

SOIL TYPE	SYMBOL	AGRICULTURAL CAPABILITY
Lisbon Sandy Loam	LiC simple slopes and Lie complex slopes	3-4 with limitations related to Adverse Soil Characteristics and Topography

In terms of the larger character of the community, the report finds an overall decline in livestock based agriculture which is a key indicator of agricultural potential.

In terms of land tenure and land fragmentation, the report concludes that the study area is typical of areas under pressure from non-local ownership and a high percentage of tenant farming (53.9%). As well, the study area is typical of areas under pressure due to numerous severed parcels and built-up areas. Together, these factors significantly hinder agricultural potential on the subject lands.

Based on their assessment, DBH Soil Services Inc. concluded that should the subject lands be approved for aggregate extraction, the impact on, and disruption to, the surrounding agricultural operations will be minimal, as the areas surrounding the subject lands have declining agricultural potential.

Given the above conclusion, the report provides the following recommendations to mitigate against potential impacts to the surrounding agricultural community:

1. To reduce trespassing and vandalism,
 - a. The use of natural heritage features or a road to separate agriculture from non-agricultural land uses to create a defined boundary.
 - b. The creation of a berm or vegetated feature between the different types and intensities of land uses.
 - c. The use of adequate fencing.
 - d. The use of signage between the different types and intensities of land uses.
2. The use of plantings/vegetation as buffers to reduce visual impacts and sounds.
3. The use of reduced speed limits in the agricultural areas.
4. Implementation of surface and/or groundwater monitoring in areas where agricultural operations make use of surface or groundwater as part of their normal farm practices.

In addition to the above, the AIA provides the following rehabilitation recommendations:

1. Strip and store topsoil, subsoil and overburden separately, under appropriate weather conditions. Surface soils are easily damaged when wet.
2. Strip in small areas as necessary for the advancement of the extraction.
3. Apply a progressive rehabilitation to prevent degradation of the topsoil material, without intermediate stockpiling. Where stockpiling is necessary, use it as longer term berm material.
4. The pit floor should be deep chisel ploughed or ripped to release compaction from heavy equipment.
5. Re-establish the overburden, subsoil and topsoil in the appropriate sequence for a minimum of 0.5 metres to ensure 2.0 metres of soil over the water table.
6. Chisel plough each horizon of replacement soil, prior to the placement on the next horizon, to release soil compaction.
7. Use best management agricultural practices as are appropriate for the area.

Once all replacement soil material has been re-applied, the site should be seeded to a cover crop to control surface soil erosion and establish a legume/grass mixture. Grass and legume cropping should continue for 3 to 4 years to improve soil structure and add fertility. Steeper areas should be planted to a long-term perennial crop to aid in controlling erosion and slope stabilization.

Summary: Based on the analyses, the report does not anticipate any impacts to the surrounding area's agricultural resource potential.

8.2 Air Quality (Dust) Best Management Practices

Prescribed Condition 3.1 of the ARA requires all Category 3 Licensee must ensure "*Dust will be mitigated on-site*". As such, Jackson Harvest Farms Ltd. is mandated to ensure no visible fugitive dust occurs and this shall be accomplished through the use of the application of water and/or an approved dust suppressant as required and as necessary.

Supplementary to the above ARA directive and in order to refine the implementation of mitigating fugitive dust, a best management practices plan was undertaken, (BMPP's).

Specifically, the following report was completed regarding Air Quality (Dust):

- Best Management Practices Plan for the Control of Fugitive Dust Emissions dated October 2019 attached hereto as Appendix D.

This report was prepared to satisfy the requirements of:

Provincial Policy Statement

- Policy 2.5.2.2 states: "*Extraction shall be undertaken in a manner which minimizes social and environmental impacts*".

Regional Official Plan 2029 (Regional Municipality of Waterloo)

- Policy 9.C.3 states "Development applications to permit a new mineral aggregate operation, expand an existing operation, will only be permitted where the following studies have been submitted to the satisfaction of the Region or agency with jurisdiction over the issue addressed by the study:
 - i) Noise, dust and vibration studies demonstrating that the proposed operation is appropriately designed, buffered and/or separated from any surrounding sensitive land uses to prevent adverse effects;

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- Policy 7.2.4.1 i) states: "*noise, dust and vibration studies demonstrating that the proposed operation is appropriately designed, buffered and/or separated from any surrounding sensitive land uses to prevent any adverse effects*;

The Best Management Practices Report was undertaken by GHD Engineering and provides an array of operational recommendations that can be implemented as required to mitigate fugitive dust. Some of the key best management practices include: i) the use of water application in a variety of operational areas where dust is anticipated (internal haul roads, stockpiles, etc.); ii) the use of a grizzly screen grate for truck to pass over prior to crossing exiting the site; iii) sweeping of pavement at the pit entrance; iv) utilizing optimal truck routes internally; v) restrictions on the speed for internal truck traffic; vi) monitoring the height of product stockpiles; vii) use of vegetation on berms.

Summary: Based on the ARA prescribed condition that dust shall be mitigated on-site and the implementation of BMP, steps have been introduced so that fugitive dust can be mitigated on-site.

8.3 Archaeological Assessment

The following reports were completed regarding archaeology:

- Archaeological Assessment Stage 1 and 2, prepared by Archaeological Research Associates Ltd., dated November 16, 2018 (attached hereto as Appendix E i)
- Archaeological Assessment Stage 1 and 2 - Supplementary Documentation, prepared by Archaeological Research Associates Ltd., dated November 16, 2018 (attached hereto as Appendix E ii).
- Archaeological Assessment Stage 3 prepared by Timmins-Martelle Ltd., dated September 2019 (attached hereto as Appendix F i).
- Archaeological Assessment Stage 4 prepared by Timmins-Martelle Ltd., dated September 2019 (attached hereto as Appendix F ii).

These reports were prepared to satisfy the requirements of:

Provincial Policy Statement

- Section 2.6.1 states: *"Significant built heritage and significant cultural heritage landscape shall be conserved"*.

Aggregate Resources Act (Report Standards for Category 3 application)

- 2.2.3 states: *"Cultural Heritage Resource Stage 1: determine if there are any known significant archaeological resources on the subject property and the potential of the site to have heritage resources."*
- 2.2.4 states: *"Cultural Heritage Resource Stage 2: property survey by a licensed archaeologist if stage 1 identifies known resources or a medium to high potential for heritage resources on the site and mitigation, if recommended."*
- 2.2.5 states: *"Cultural Heritage Resource Stages 3 and 4: detailed site investigations by a licensed archaeologist (e.g., test pits, plowing fields, and survey) when recommended by Stage 2 and mitigation, if recommended."*

Regional Official Plan 2029 (Regional Municipality of Waterloo)

- Policy 9.C.3 (e) states *"An archaeological assessment and/or Cultural Heritage Impact Assessment in accordance with the policies in Section 3.G"*.

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- Policy 7.2.4.1 v) states: *"an archaeological assessment and/or Cultural Heritage Impact Assessment in accordance with the policies of this Plan."*

A) Stage 1: Background Study and Stage 2: Assessment

The Stage 1 and Stage 2 investigations were undertaken by Archaeological Research Associates Ltd. with field work in May 2018 and the final report submitted in July 2018. Through the Stage 2 Study, four sites of Cultural Heritage Value or Interest (**CHVI**) were identified. Three of the four sites were found to be within close proximity of each other and are located in the northern half of the property and were recommended to be subject to a Stage 3 / 4 investigation. The fourth site is somewhat removed from the other sites, located in the south-central portion of the property and found to have no further CHVI. The table below summarizes the 4 sites and provides a brief description of the artifacts discovered.

NO.	IDENTIFICATION	DESCRIPTION	FURTHER CHVI
Site 1	AiHd-171	scatter of Woodland period artifacts	Yes
Site 2	na	scatter of Indigenous artifacts	Yes
Site 3	AiHd-172	scatter of Euro-Canadian archaeological materials	Yes
Site 4	na	isolated Indigenous find spot	No

B) Stage 3: Site Specific Assessment

The Stage 3 assessment was undertaken by Timmins-Martelle with field work completed in the fall of 2018 and spring/summer of 2019 for Site 1, (AiHd-171) and Site 2 as well as a review of recommendations for Site 3, (AiHd-172). As a result of this Stage 3 Study, the following was determined:

- Site 1: A very small site, Site 1 contained both a 19th century and Indigenous component. As a result of the additional field work, 15 Indigenous artifacts were found and this 19th century component and it was deemed that a Stage 4 assessment would be required.
- Site 2: Also another small site, site investigations resulted in only two Indigenous artifacts being found and it was recommended that the Site has no further CHVI.
- Site 3: A very large Euro-Canadian scatter site, and further to its Stage 2 determination, it was redefined to be a ca. 1855 or 1862-1900 domestic site with <80% pre-dating 1870, and the site was recommended to have no further CHVI.

C) Stage 4: Mitigation of Development Impacts

The Stage 4 work by Timmins-Martelle for Site 1 (AiHd-172) was finalized in September 2019. The work entailed mechanical topsoil removal where potential features had been identified. Found was the burial of a sheep or goat and some Indigenous ceramic fragments. There are no further outstanding archaeological concerns and no further work is recommended.

Summary: Based on the undertaking of the Stage 1 and 2 Assessments, followed by a Stage 3 assessment (Sites 1, 2, and 3) and a Stage 4 assessment (Site 1), all sites have now been recommended to have no Cultural Heritage Value or Interest. Attached hereto as Appendix E i) is the Ministry of Tourism, Culture and Sport (MTCS) confirmation that the Stage 1 and 2 reports have been entered into the Ontario Public Register. As part of this planning process, the applicant anticipates the MTCS issuing a similar confirmation for the Stage 3 and 4 assessments.

8.4 Hydrogeological Level 1 and 2 Assessment

A hydrogeological assessment was undertaken by Harden Environmental Services Ltd. and is entitled *Level 1 and Level 2 Hydrogeological Evaluation for Above Water Table Aggregate Extraction – Proposed Hallman Pit* and dated September 2019 and is attached hereto as Appendix G. The purpose of the report is to:

- define the local hydrogeological setting,
- determine the local water table elevation,
- assess the extent of local groundwater / surface water interaction,

- determine the potential for adverse effects to water wells, springs, wetlands, ponds,
- evaluate any potential impact to municipal water supply, and
- recommend measures to mitigate any significant impacts identified.

The Hydrogeological Report was prepared to satisfy the requirements of:

Provincial Policy Statement

- Policy 2.1.1 states: *"Natural Features and areas shall be protected for the long term"*.
- Policy 2.5.2.2 states: *"Extraction shall be undertaken in a manner which minimizes social and environmental impacts"*.

Regional Official Plan (Regional Municipality of Waterloo)

- Policy 9.C.3 (b) states *"A Hydrogeological Study in Accordance with the provisions of the Regional Implementation Guidelines for Source Water Protection Studies, demonstrating that the proposed operation will have no negative impacts on the quality and quantity of any surface water or groundwater resources"*.

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- Policy 7.2.4.1 ii) states: *"a hydrogeological study in accordance with the provisions of the Regional Implementation Guideline for Source Water Protection Studies, demonstrating, to the satisfaction of the Region, that the proposed operation will have no negative impacts on the quality and quantity of water."*

The following is a summary of the Harden report.

A) On-Site Monitoring Program/Water Flows Quantity

Harden directed Aardvark Drilling to install 11 boreholes and 4 monitoring wells on the site in 2017. PVC piezometers were installed in all boreholes and hydraulic testing was completed. Manual water level measurements commenced in May 2017 and have continued into August 2019 with readings taken two to three times per month. Hydrographs for each monitoring well have been plotted to determine groundwater flow. On-site monitoring confirms that the regional groundwater flows are southerly to southeasterly which agrees with the findings of the Alder Creek Subwatershed Study prepared by CH2MHILL and North-South Environmental on behalf of the GRCA in 2008. Groundwater elevations were found to be their highest in August and their lowest in February.

B) Review of Stantec 2019 Operational Testing Program

North and west of the subject south, just west the Shingletown Settlement Area are located a cluster of three Regional supply wells referred to as K50, K51 and K52. The wellfield and associated Wellhead Protection Area (WHPA) of these wells partially overlays the northwest corner of the subject site. In the fall of 2018, Stantec (Engineering Services Company), on behalf of the Region of Waterloo, conducting an operational testing program at these wells.

Because of the site's proximity to these wells, Harden Environmental reviewed the draft report to obtain an enhanced understanding of the local groundwater system and to include the findings into their Hydrogeological Assessment. The Stantec Report concluded that there is a shallow and deep aquifer beneath the site which are separated by a thick silt layer which acts as an aquitard. This aquitard will greatly restrict vertical movement of water between the shallow and deep aquifers. The Stantec data further confirms that there are downward gradients in this area.

Using the findings of the Stantec Report and based on the previous on-site drilling/monitoring program, Harden concluded that the groundwater in the shallow aquifer under the subject site flows southerly, and therefore away from the municipal wellfield; conversely, the lower aquifer, being the one which supplies K50, K51 and K52.

C) Source Water Protection Analysis / Water Quality

In addition to the on-site drilling investigation, water quality testing was completed at the 5 monitoring wells.

The water quality sampling program has shown that the nitrate concentration beneath the site, ranges from 5 to 15 mg/L. This range, considered to be high, is expected to be largely a consequence of past farming practices on this and other abutting farms, resulting in portions of lands being within an 'Issue Contributing Area' as described by the Lake Erie Source Water Protection Plan.

The Grand River Source Protection Plan regulates uses on lands that are within a Wellhead Protection Area and/or Issue Contributing Area and implemented through the Region's Risk Management Office. As the subject site is partially within both these areas, the application and/or storage of manure, fertilizers and/or pesticides is factored, whereas aggregate extraction is not a prohibited activity. Based on the above, Jackson Harvest Farms Ltd. has submitted a Risk Management Plan for future farming activities.

D) Private Well Survey

As part of the hydrogeological investigations, a Private Well Survey was undertaken for all properties within 500 metres of the subject site that identified 52 private wells. 16 residences were found to rely on private wells with the remaining obtaining water from the municipal water supply system, (served by K50, 51 and 52).

E) Water Balance

Harden also undertook a review of potential impacts to surrounding natural heritage features including surface water, wetlands, springs, drainage facilities if any, and the site's overall water balance.

Once the pit is extracted and rehabilitated, the on-site catchment area for the Schindelstедdle South Wetland Complex will increase which will have a positive influence as it will prolong the period during when the wetland surface water levels remain higher than the groundwater levels.

The Harden Report concluded the following:

1. As no dewatering or extraction below the water table will occur, no impacts or interference to water quantity in nearby wells are anticipated.
2. Based on the on-site drilling and water level monitoring program, groundwater is determined to flow southerly, towards the on-site wetland and away from the Wellhead Protection Zones for Regional wells K50/K51/K52.
3. The proposed development will reduce the overall nitrate contribution from the site and any potential of nitrate loading is anticipated to not impact the wellfield due to the groundwater flows being southerly.
4. Post-extraction nitrate loading will be mitigated through the implementation of a Risk Management Plan, as provided for in applicable Source Water Protection policies and confirmed through the Region of Waterloo Risk Management Office.
5. Operation of the wash plant will not result in an overall loss of recharge to the underlying aquifer. The wash plant will be supported by a PTTW through the MECP.
6. The site water balance shows that post extraction, the on-site catchment area for the wetland will increase. This will increase infiltration into the wetland which will help to maintain recharge rates in the vicinity of the wetland.
7. There is a potential of increase in surface water runoff to the wetland, however no change in hydroperiod of the wetlands is anticipated.

Summary:

- a) It is confirmed that there is no surface water on the site but that the Schindelsteddle South Wetland Complex is situated contiguous and to the east and is outside the proposed License boundary and partially on lands also owned by Jackson Harvest Farms Ltd. Runoff from the site currently can flow into and contribute to the Schindelsteddle South Wetland Complex under frozen ground conditions. The floor of the pit will be gently sloped towards the adjacent wetland as occurs under existing conditions to maintain runoff to the wetland. Where surface water is specifically directed toward the Schindelsteddle South Wetland Complex, a proposed vegetated 0.5 m berm will intercept surface flow to remove suspended solids (under extreme conditions) and otherwise create groundwater inputs. Storage and drainage facilities will include the use of a supply pond and settling ponds as part of a closed loop system for a wash plant; subject to a MECP Permit to Take Water (PTTW).
- b) The final groundwater elevation underlying the subject site has been determined by Harden Environmental to vary between 355.7 masl in the north portion of the site and 352.9 masl in the southern portion. The proposed final pit floor elevations of 357.3 masl (north portion) and 354.5 masl (south portion) will provide for a minimum buffer to the water table of 1.5 metres.
- c) Based on the analyses and subject to the recommendations of the Harden report being incorporated into the Site Plans, any potential surface and groundwater impacts will be mitigated.

8.5 Natural Environmental Level 1 and 2 (EIS)

An Environment Impact Statement Level 1 and Level 2 (as referenced by MNRF) and Environmental Impact Statement (as referenced by Region of Waterloo – EEAC) was undertaken by Dance Environment Ltd. and dated September, 2019 and attached hereto as Appendix H. The report has been prepared to satisfy the requirements of:

Provincial Policy Statement (2014)

- Section 2.1.1 states: “*Natural features and areas shall be protected for the long term*”.

Aggregate Resources Act (Report Standards for Category 3 application)

- 2.2.1 *Natural Environment Level 1: Determine whether any of the following features exist on and within 120 metres of the site: significant wetland, significant portions of the habitat of endangered or threatened species, fish habitat, significant woodlands (south and east of the Canadian Shield), significant valley lands (south and east of the Canadian Shield), significant wildlife habitat and significant areas of natural and scientific interest*”.
- 2.2.2 *Natural Environment Level 2: impact assessment where the level 1 identified any features on and within 120 metres of the site in order to determine any negative impacts on the natural features or ecological functions for which the area is identified, and any proposed preventive, mitigation or remedial measures;*

Regional Official Plan 2031 (Regional Municipality of Waterloo) (June 18, 2015)

- Policy 9.C.3 (d) states:
An Environmental Impact Statement in accordance with the policies in Section 7.G, where the proposed mineral aggregate operation is contiguous to a Supporting Environmental Feature.
- Policy 7.G.4 states:
The following provisions will apply to *Environmental Impact Statements* required by the

Region under Policy 7.G.3 (b):

- (a) the *Environmental Impact Statement* will be prepared in accordance with the provisions of the Regional Greenlands Network Implementation Guideline;
- (b) the Region may reduce the scope and/or content of the *Environmental Impact Statement* where the impacts of the proposed *development* or *site alteration* upon an element of the Greenlands Network are expected to be limited in area and/or scope, or where other environmental studies fulfilling the requirements of an *Environmental Impact Statement* have been previously been prepared;

Furthermore, and specifically, the Scoped EIS was prepared to address recommendations as approved by EEAC on April 29, 2019 and attached to the Dance Report as Appendix I.

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- Policy 7.2.2 b) states “If required, the submission of an *Environmental Impact Statement* in accordance with Chapter 8 of the *Wilmot Official Plan*”.

The Environment Impact Statement Level 1 and Level 2 / EIS documents the presence of environmental features and ecological communities. The Level II report analyses potential impacts and provides recommendations for the mitigation of those impacts. This assessment included both the subject lands and lands within 120 metres. Through multiple field surveys conducted from 2018 to 2019, the report identifies observations and candidate-habitats of specific species that have been identified as deserving protection per the following Acts, policies and guidelines:

- Bill 184 Species At Risk Act
- Migratory birds Convention Act, 1994
- MNRF Significant Wildlife Habitat, Ecoregion 6E Criterion Schedule
- Regional Municipality of Waterloo, Greenland Network Implementation Guidelines, 2016
- Regional Municipality of Waterloo, Significant Species List, Native Vascular Plants Component and Breeding Birds Component, 1999

In terms of significant features identified on or abutting the site, they include:

Birds	Species at risk (SAR)	Bank swallow
	Species at Risk (SAR)	Barn Swallow
	Species at Risk (SAR)	Eastern Wood Pewee
	Regionally significant	Pied-billed Grebe
	Regionally significant	Eastern Bluebird
	Regionally significant	Brown Thrasher
	Regionally significant	Vesper Sparrow
Reptiles and amphibians		
		Eastern Painted Turtle
Insects		
	Species at Risk (SAR)	Monarch butterfly
Significant Wetlands		
	GRCA Regulated Area	Schindelsteddle Wetland Complex
Significant Woodlands		
	Regionally significant	Dry-Fresh Sugar Hardwood Deciduous Forest [FODM5-9 (B)]

Based on the Dance findings, the following is a summary of the recommendations to ensure that all species and habitat are protected as a result of the pit development.

General Recommendations

1. Clearing of any vegetation within the limit of extraction shall occur between September 1 and April 15 to prevent any destruction of birds, eggs or nests.
2. Effective dust control shall be maintained along the access road and in the pit so that dust does not impact adjacent vegetation and wildlife.
3. Adequate undisturbed setbacks shall be established between the limit of extraction and the Level 1 features which include: Habitat for Barn Swallow and Bank Swallow, Fish Habitat, turtle wintering area for Midland Painted Turtle, Eastern Wood-Pee-wee, Monarch and the Significant Woodland (FODM5-9 (B)).
4. Setback areas shall be allowed to naturalize to wild vegetation cover, be seeded to a grass/legume mix or planted with shrubs.
5. Progressive rehabilitation should be undertaken.
6. Equipment fueling, maintenance and fuel storage shall be located on the portion of the site recommended by the hydrogeologist, away from the wetland/pond feature.
7. Extraction shall be kept 1.5 metres above the shallow groundwater elevation so that there are no impacts on the wetland/pond feature.
8. Silt control fence should be installed to protect the wetland/pond.
9. The limits of extraction shall be fenced with post and wire fencing or other posts to prevent equipment from impacting the significant natural features.
10. If Bank Swallows begin to nest in the new pit margins, pertinent regulatory requirements shall be followed to avoid impacts on this species.

Habitat Specific Recommendations:

Monarch

1. An increase in habitat for Common Milkweed and other flowering plants within the setbacks should be a positive benefit to Monarch populations in the study area.

Significant Woodland [FODM5-9 (B)]

1. The western margin of Berm 1 shall be 10 metres or more from the dripline of the woodland.
2. Before the berm is constructed, the paige wire fence demarking the licence boundary shall be repaired and/or reconstructed.
3. Prior to Berm 1 being constructed, a silt fence shall be installed 10 metres from the dripline of the Significant Woodland and inspected at weekly intervals and be repaired as soon as practical and remain in place until the berm ground cover has established and/or there is minimal potential of soil erosion from the berm.
4. Berm 1 construction shall occur between September 1 and April 15, to accommodate grassland /shrubland birds and be vegetated with a legume/grass mix to stabilize the berm surface.
5. Extraction of Phase 1 shall not occur closer than 10.0 metres from the eastern dripline of the Significant Woodland.
6. Dust control shall occur on a regular, ongoing basis to ensure that dust does not leave the pit and accumulate in the Significant Woodland.

Meadow Marsh and Pond [MAMM1-3 and OAO]

1. The entire conifer plantation, which is located upslope of the wetland and pond, shall be

retained and extraction shall remain 15.0 metres away from the edge of the plantation.

2. T-bar fence posts (or equivalent), shall define the licence boundary and extraction limit 15.0 metres away from the conifer plantation.
3. Silt fence is to be installed along the outside of the T-Posts before any topsoil stripping occurs.
4. The silt fence is to be inspected and maintained for a minimum of one year and beyond until there is minimal potential of soil erosion toward the conifer plantation.
5. Routine dust control shall occur so that the plantation, wetland vegetation and pond are not impacted by dust.
6. Three (3) Red-Osier Dogwoods and five (5) Eastern White Cedars shall be planted to provide a visual barrier between the pit and the pond where there is currently a gap in vegetation between the pond edge and the extraction and these shrubs shall be 1.0 metre tall when planted.
7. A 0.5 metre high earthen berm is to be constructed to the north of the northwestern corner of the pond to intercept any runoff and to filter runoff before it flows toward the pond. This berm shall be seeded with a grass/legume mix.

Southeastern Woodland [FODM5-9 (A)]

1. Silt fencing shall be placed along the southern margin of the berm to prevent sediment transport from Berm 3 toward the woodland.
2. The 15.0 metre setback between the woodland and the licence boundary shall be allowed to naturalize as woodland herbs, shrubs and trees will quickly colonize this area.
3. Berm 3 shall be planted with a legume/grass mix to prevent erosion of the berm surface.
4. Routine dust control shall occur so that the woodland is not impacted by dust.
5. Vegetation in the existing hedgerow which connects this woodland to the marsh/pond to the north shall remain along the property boundary so that this corridor is maintained.

Regionally Significant Bird Breeding Habitat

Pied-billed Grebe

1. A 50.0 metre wide undisturbed wild vegetation buffer shall separate the extraction limit from the closest margin of the pond habitat.
2. Paige wire fence and/or fence posts and temporary silt control fence will be placed at the limit of extraction to prevent machinery and sedimentation damage to the conifer plantation and other buffer vegetation.
3. A 0.5 metre high earth berm will be constructed to the north of the northwestern corner of the pond to intercept runoff and to filter runoff before it flows toward the pond.
4. Dogwoods and cedars shall be planted between the margin of the conifer plantation and the eastern property boundary.
5. The conifer plantation, wetland, pond and associated buffer lands should be zoned Open Space Z.11.

Eastern Bluebird, Brown Thrasher and Vesper Sparrow

1. Construction of the noise berms located east of the wash ponds and in the northern sector of the pit shall occur between September 1 and April 15 to avoid impacts on nesting birds.

2. A silt fence shall be installed along the outer margins of the berm footprints before berm construction begins, so that adjacent natural features including the fencerow vegetation are protected from sedimentation;
3. The berms shall be seeded with a grass/legume mix to stabilize the berm surface against erosion.
4. Gray Dogwoods and Ninebark shrubs shall be planted in clumps on 3.0 metre centers along the eastern half of Berm 3. Similarly, Gray Dogwood and Ninebark shrubs shall be planted in clumps on 3.0 metre centers along the outside slopes of Berms 5, 6 and 7.

Regionally Significant Plant Species

Eastern Cottonwood, White Spruce, Black Walnut

1. Eastern Cottonwood seedlings shall be preserved within the setbacks from fencerows and berms and retained fencerows will provide habitat for Eastern Cottonwood during the life of the pit.
2. The White Spruce present shall be protected by setbacks and fencing to be placed around the margins of the conifer plantation (TAGM1).
3. Black Walnut is widespread in the Region and retained fencerows and the two upland deciduous forest will protect most specimens of Black Walnut that are present.

Possible Bat Habitat

1. Removal of any hedgerow trees and constructing of portions of Berm 4, 5, 6 and 7 adjacent to hedgerows, shall occur between September 1 and April 15.
2. During the initial start-up stage, two (2) bat boxes shall be erected on the western margins of the conifer plantation, as shown on Sheet 7 of 7.

GRCA Regulated Area (Wetland/pond feature)

The wetland/pond feature shall be protected by the following:

1. An undisturbed setback of 50.0 metres or more from the pond margin and 30.0 metres from the flagged wetland.
2. 1.5 metre high T-bar posts and temporary silt fence.
3. New shrub plantings.
4. Extraction shall not be within 1.5 metres of the water table.
5. Open Space Z.11 zoning on the buffer/wetland/pond lands.
6. Construction of a 0.5 metre high berm (Berm 8).

Summary: Based on the Level 1 site analyses and the implementation of the Level 2 recommendations being incorporated into the Site Plans, any potential natural heritage impacts will be mitigated.

8.6 Noise (Acoustical) Feasibility Study

A Noise Feasibility Study was undertaken by HGC Engineering Inc. and dated September 2019 and attached hereto as Appendix I. The report has been prepared to satisfy the requirements of:

Provincial Policy Statement (2014)

- Policy 2.5.2.2 states: “*Extraction shall be undertaken in a manner which minimizes social and environmental impacts*”.

Aggregate Resources Act (Report Standards for Category 3 application)

- 2.2.6 “If extraction and/or processing facilities are within 150 metres of a sensitive receptor, a noise assessment report is required to determine whether or not provincial guidelines can be satisfied.”

Region of Waterloo Official Plan

- Policy states 9.C.3 i) states: “Noise, dust and vibration studies demonstrating that the proposed operation is appropriately designed, buffered and/or separated from any surrounding sensitive land uses to prevent adverse effects;

Township of Wilmot Official Plan

- Policy states 7.2.4.1 a) states: “noise, dust and vibration studies demonstrating that the proposed operation is appropriately designed, buffered and/or separated from any surrounding *sensitive land uses* to prevent any *adverse effects*;

The study by HGC undertook an analysis of the potential impact of noise from the proposed Hallman Pit at neighbouring noise sensitive receptors. Potential impacts from extraction, processing and transportation sources were considered. In order to conduct their assessment, sound levels were measured of equipment that is proposed to be used in the pit.

Nine (9) residents in close proximity and surrounding the site were determined as representative sensitive points of reception and are shown on the Site Plans Sheet 1 of 7 – Existing Features. For the purposes of this study, residences along Bleams Road in the settlement of Shingletown are characterised as being within a Class 2 semi-urban acoustical environment and have a limit of 50 dBA as per MECP publication NPC-300. Residences along Witmer Road and/or outside of Shingletown Settlement Area are characterized as being within a Class 3 rural acoustical environment and have a limit of 45 dBA as per NPC-300.

Predictive modelling was used by HGC to assess potential noise impacts which included the following equipment: a screening plant with an associated loader, a permanent crushing plant for recycling with an associated loader, a permanent washing plant with an associated loaders, a portable crushing plan with an associated loader and one additional loader. Trucks and/or conveyors may also be used to transport material from the working face to the processing plants. The calculations considered the acoustical effects of the distance, foliage, topography and shielding by the excavation face where applicable.

Recommendations

Based on the predictive model, the HGC study recommends the following Noise Control Requirements to mitigate noise impacts that exceed NPC-300. These Noise Control Requirements have been provided on the Site Plans and are listed below.

Initial Start-Up Phase

1. Prior to extraction, the licensee shall construct a Designated Recycling Area, Washing Area and an Initial Portable Processing Crusher Area, in the general location as shown on Sheet 2 of 5 – Operational Plan, at the final pit floor elevation of 356.0 masl.
2. Processing and recycling equipment may be used during the initial start-up phase to construct these working areas.
3. During continued operations in this phase, processing equipment may be relocated to follow the pit working face. The recycling equipment shall remain in the Designated Recycling Area, at the final pit floor elevation.
4. Prior to extraction in Phase 1, the licensee shall construct Berms 1, 2 and 3, which shall be at a minimum height of 5.0 metres above existing grade.

Phase 1

1. During Phase 1 extraction operations, the portable processing crusher shall remain on the final pit floor, at an elevation of 356.0 masl. Screening equipment may be located anywhere on the first lift floor or lower.
2. During extraction in Phase 1, the general direction of extraction will be northwards and southeast.
3. When the portable processing crusher is operating in Areas 1A and 1B it shall be surrounded by acoustical barriers, minimum 8.0 metres high, along the south and east side of the equipment, to provide supplementary noise shielding.

Phase 2

1. Prior to the extraction of Phase 2, the licensee shall construct Berm 4, which shall be at a minimum height of 4.0 metres above existing grade.
2. During the extraction of Phase 2, the portable processing crusher must remain on the final pit floor, at an elevation of 356.0 masl. Screening equipment may be located anywhere on the first lift floor or lower.
3. During extraction in Phase 2 the general direction of extraction will be northward.
4. When the portable processing crusher is operating in Area 2A it shall be surrounded by acoustical barriers, minimum 8.0 metres high, along the south and east side of the equipment, to provide supplementary noise shielding.

Phase 3

1. Prior to the extraction of Phase 3, the licensee shall construct Berms 5, 6 and 7, which shall be at a minimum height of 4.0 metres above existing grade.
2. During the extraction of Phase 3, the portable processing crusher shall remain outside the Phase 3 boundary at the final pit floor elevation of 356.0 masl. Screening equipment may be located anywhere on the first lift floor elevation or lower.
3. When the portable processing crusher is operating within 200 metres of the Phase 3 boundary it must be surrounded by acoustical barriers minimum 8.0 metres high, along the north, west and east side of the equipment to provide supplementary noise shielding.
4. When the portable processing crusher is operating between 200 and 300 metres of the Phase 3 boundary, acoustical barriers are not required around the portable processing crusher if the screener is operating at the final pit floor elevation.
5. When the portable processing crusher is operating further than 300 metres from the Phase 3 boundary, no acoustical barriers are required.
6. During extraction in Phase 3 the general direction of extraction will be northward.

Phase 4

1. Extraction of Phase 4 shall start in the eastern portion of the Phase and proceed westward.
2. Direction of extraction in the eastern portion of the Phase will initially be in a southward direction then westward.
3. During the extraction of Phase 4, recycling equipment must not operate simultaneously with processing equipment or washing equipment.
4. Once Berm 2 is removed, the portable processing crusher must remain outside Area 4A and be surrounded by acoustical barriers minimum 10.0 metres high, located on the east and west.
5. During the extraction of Phase 4 all processing equipment must be located at the final pit floor elevation of 356.0 masl.
6. The acoustical barriers mentioned above could be comprised of an earth berm, a noise wall, aggregate stockpiles or any other construction with a minimum surface density of 20 kg/m².
7. Activities used to prepare the site for excavation, such as the stripping of topsoil and construction of berms, or activities related to the remediation of the site after the extraction is completed are considered to be construction activities. They are regulated under

municipal bylaws and NPC-115 "Sound Level Limits for Motorized Construction Equipment".

The Noise Assessment Report concludes that with the application of the above mentioned Noise Control Requirements, sound limits from the proposed pit operations under the worst-case operational scenario are expected to comply with MECP guideline limits at the neighbouring noise sensitive receptors.

8.7 Traffic Impact Study (TIS) and Witmer Road Upgrades

The following reports were undertaken regarding transportation:

- Paradigm Transportation Solutions Ltd. prepared a Transportation Impact Study (TIS) dated September 2018, attached herein as Appendix J.
- CMT Engineering Inc. prepared a Geotechnical Investigation of Wilmot Road dated September 2019 and attached hereto as Appendix K.

These reports were prepared to satisfy the requirements of:

Provincial Policy Statement (2014)

- Section 1.6.7.5 states: "*Transportation and land use considerations shall be integrated at all stages of the planning process.*"

Aggregate Resources Act (Report Standards for Category 3 application)

- 2.1. "A summary statement accompanying an application for a licence must be signed by the author and provide information on the following:
2.1.4 the main haulage routes and proposed truck traffic to and from the site, and necessary entrance permits".

Township of Wilmot Official Plan

- Policy states 7.2.4.1 c) states: "a Transportation Impact Study in accordance with the policies of this Plan, indicating how the proposed operation will address any potential impacts on Township roads, Regional roads and Provincial Highways;"
- A) The Transportation Impact Study (TIS) was prepared by Paradigm to analyse existing traffic conditions, describe the proposed development, forecast traffic to five years from the date of the TIS and examine the need for potential traffic operational improvements to accommodate future traffic conditions specifically on Witmer Road at the intersections with the proposed pit and Queen Street. Additionally, the study area was expanded to also capture any potential impacts to New Dundee. It should be noted that the report was not undertaken to satisfy any Regional Official Plan policies. The Report does not require nor does it recommend any remedial measures in the form of off-site geometric or traffic operational improvements.

Based on the analyses, the report concludes that there will be no impacts to the local and/or Regional road network.

- B) The Geotechnical Investigation of Wilmot Road prepared by CMT was undertaken to confirm the physical capability of the haul road to accommodate the anticipated haul truck traffic between Queen Street (Regional Road 6) and the proposed pit entrance/exit. The haul road was sub-divided and characterized into two portions;
- i. From Queen Street to the entrance of the Steed and Evans (Spring Valley Trout Farm Ltd.) Witmer Pit which was previously upgraded to accommodate their haul trucks to ensure there were no seasonal (spring) ½ load restrictions. This section was

evaluated to determine if additional road improvements were necessary due to the increase in truck traffic from the Hallman Pit ($\leq 750,000$ tonnes annual tonnage).

- ii. From the Steed and Evans pit entrance to the Hallman Pit entrance where seasonal (spring) $\frac{1}{2}$ load restrictions do currently apply. This section was evaluated to determine what road improvements are necessary to accommodate the proposed truck traffic from the Hallman Pit.

CMT completed a review of previous borehole testing undertaken of the first section (15 boreholes) and CMT undertook an additional 11 boreholes along the second section of road. Based on their findings, CMT has recommended specific technical road re-construction upgrades that will; i) accommodate the increase in truck traffic levels, ii) remove seasonal (spring) $\frac{1}{2}$ load restrictions and iii) meet provincial road construction specifications.

Although not included in the Geotechnical Report, Jackson Harvest Farms Ltd. Commits to undertaking the necessary Witmer Road upgrades prior to haul trucks using the haul road during $\frac{1}{2}$ load season and within the first year of the pit activities being initiated. As well, all cost associated with the specific upgrades will be borne by the applicant.

It should be highlighted that notwithstanding the Hallman Pit license being based on an annual volume of 750,000 tonnes, practically and realistically, this limit will only be achieved during a highly exceptional economic construction boom. Typically, annual extraction rates are forecasted by the applicant to be $< 500,000$ tonnes/year.

Summary: Based on both the TIS and the Geotechnical assessment, no physical geometric improvements are required to Witmer Road to accommodate the increase in truck traffic, however, the Geotechnical Report provides recommendations to eliminate seasonal (spring) $\frac{1}{2}$ load restrictions along the haul road.

9 Summary and Recommendations

As a result of the design techniques used in the Site Plans, with the inclusion of the recommendations from the following reports, it is our opinion that all potential impacts will be minimized:

- Agricultural Impact Assessment
- Air Quality (Dust) Best Management Practices
- Archaeological Assessment Stage 3 and Stage 4.
- Hydrogeological Assessment Level 1 and 2
- Natural Environment Level 1 and 2 Report / EIS
- Noise (Acoustical) Impact Study
- Traffic Impact Study (TIS)
- Witmer Road Geotechnical Investigation

10 Conclusion

In conclusion, it is our opinion that the Jackson Harvest Farms Ltd. – Hallman Pit application, and specifically in terms of the ARA Site Plans encompassing all the recommendations from the technical studies, and all which are enforceable by MNRFP, fulfills the following:

- In conformity with the Provincial Policy Statement
- In conformity with the Growth Plan for the Greater Golden Horseshoe
- In conformity with the Regional of Waterloo Official Plan
- In conformity with the Township Official Plan

Based on the above, it is further our opinion that:

- a) The following rezoning application should be supported by the Township of Wilmot:
- Zoning By-Law Amendment to the Township of Wilmot Zoning By-Law 83-83, under the Planning Act, to:
 - Rezone 57.3 hectares of the lands from Zone Z.1 (Agriculture) to Zone Z.14 (Extractive Industrial).
 - Extension of the Z.14 permitted uses for the importation of concrete and asphalt for recycling.
 - Rezone 4.3 hectares of the lands from Zone Z.1 (Agriculture) to Zone Z.11 (Open Space).

And

- b) That the Minister of Natural Resources and Forestry support a Class A (Category 3) Licence Application under the Aggregate Resources Act (ARA) for an above water pit.

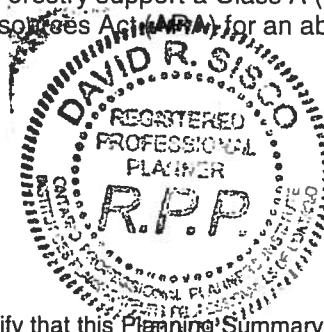
Yours truly

IBI GROUP



David R. Sisco, BA, MCIP, RPP
Associate

DRS/baw
Encl.



I hereby certify that this Planning Summary Report was prepared by a Registered Professional Planner, within the meaning of the Ontario Professional Planner's Institute Act, 1994.

Oct. 17 2019 
Date David R. Sisco, BA, MCIP, RPP

David R. Sisco BA, MCIP, RPP Associate

Mr. Sisco's expertise includes: land use planning involving large developments encompassing sites over 500 acres to single severances; development including residential, recreational, and commercial; coordination of resource management development projects for both the private sector and government bodies with specialized expertise in post-extraction rehabilitation techniques and design; management of provincial and community resource and policy based studies.

Representative Experience

Land Development

Pinebush Residential Park, Cambridge – 200-1,000 unit plan for subdivision.

Reid's Heritage Homes Ltd., Adult Style Community Plan, Township of Puslinch – 200 units.

Beechwood, Waterloo – 125 acre residential/commercial neighbourhood.

Pinebush Industrial Park, Cambridge – 200 acre industrial/business park.

Deercrest Park, Cambridge – 200 acre rural estate and 800 to 1,200 mixed residential plan including senior's complex, nursing home.

South Bend Estates, Grand Bend – 500 acre, four season recreation complex including 18 hole golf course, motel, recreational park and 586 residential lots.

Blueberry Trails Estates, Town of Wasaga Beach – 400 lot residential plan.

Hilltop Estates, Township of North Dumfries – 350 lot mixed residential plan.

Ontario Realty Corporation, City of Cambridge Official Plan – 300-acre industrial proposal.

Regina, Stayner – Regina Boulevard Severance/Subdivision Development.

Forwell, Kitchener – Centennial Street, Industrial Development.

Forestlawn, Waterloo – Residential development of 60 lots.

Simone, Riverbend Subdivision, Ayr – Residential development and coordination of Phase 1–3.

Woolner Residential, Kitchener – Coordination assistance between pending residential development and ongoing extraction.

Education

B.A. (Geography), Wilfrid Laurier University, ON, 1994

Diploma of Applied Arts (Urban Design), Fanshawe College, London, ON, 1981

Commissioner For Taking Affidavits

WSIB Certification, Parts 1 and 2

Experience

2014–Present

IBI Group, Waterloo, ON, Associate,

2007–2014

IBI Group, Kitchener, ON, Associate,

1982–2007

Planning & Engineering Initiatives Ltd., Planners, Engineers and Landscape Architects, Principal/Senior Planner

1981

Parking Authority of Toronto, Planning Technician

Memberships

Canadian Institute of Planners, Full Member

Ontario Professional Planners Institute, Registered Professional Planner

Ontario Stone, Sand & Gravel Association

- Land Use Committee

Canadian Land Reclamation Association

Greater K-W Chamber of Commerce, Environment Committee

Certified By The Ontario Ministry of Natural Resources and Forestry to Prepare Site Plans Pursuant to the Aggregate Resources Act Section 8(4)



Aggregate Resource Studies

Grand River Conservation Authority/MNR, Cambridge – Aggregate and Floodline Study.

Ontario Land Corporation, Kitchener – Esker Study, Resource Investigation and Land Use Study.

Ministry of Natural Resources, Southern Ontario, Aggregate Resources: State of the Resource Study

Ministry of Northern Development & Mines, Regional of Waterloo – Ontario Government Survey, Comprehensive Update and Consolidation of Five Township Aggregate Resource Inventory Papers (ARIPS).

Ministry of Northern Development & Mines, Wellington County – Ontario Government Survey, Comprehensive Update and Consolidation of Twelve Township Aggregate Resource Inventory Papers (ARIPS).

Grand River Conservation Authority, West Garafraxa Twp. – Guelph and Belwood Lakes – Aggregate Resource Management Strategy.

Caledon Community Resources Study, Town of Caledon – Aggregate Resource Management Study, Master Rehab. Plan, Policy Formulation.

Town of Caledon – Caledon Shale Resources Study

County of Brant – Aggregate Resources Guide

Aggregate Resource Investigations and Planning Services

Barrie Farm, North Dumfries Township – Resource Investigation, Severance.

Blue Circle, Dabrowski Pit, North Dumfries Township – Licensing, Pit Plans, and Rezoning.

Blue Circle, Cedar Street Pit, North Dumfries Township – Resource Investigations, Pit Plans, Licensing, rezoning, and OMB.

Blue Circle, David Pit, North Dumfries Township – Licensing, Pit Plans, and Rezoning.

Caledon Sand & Gravel, Caledon Pit, Caledon – Pit Plans, Rehabilitation Designs.

CBM, Brown Pit, North Dumfries Township – Licensing, Pit Plans, and Rezoning.

Cruickston Estate, University of Guelph, Cambridge – Aggregate Resource Inventory.

Dufferin, Aberfoyle Pit, Puslinch Township – Noise Investigations.

E & E Seegmiller Ltd., Cober Pit 2, Kitchener – Pit Plans, Resource Investigation, Licence Application, and Rezoning.

E & E Seegmiller Ltd., Woolner Pit, Kitchener – Pit Plans, Resource Investigation, Licence Application, and Rezoning.

E & E Seegmiller, Country Squire Pit, Woolwich Township – Pit Plans.

Fastrock, Oliver Pit, North Dumfries Township – Pit Plans, Rehabilitation, Designs, Rezoning.

Faulkner Pit, Guelph-Eramosa Township – Resource Investigation, Pit Plans, Licensing, Official Plan Amendment and OMB.

Fermar Group Inc., Greenfield Aggregates, Sherk Pit, North Dumfries Township – Pit Plans, Licence Applications, Rezoning.

Forwell Sand & Gravel, Bickle Upper Pit, Kitchener – Pit Plans, Licence Application, Resource Inventory, Industrial Subdivision and Rezoning.

Forwell Sand & Gravel, Bickle Lower Pit, Kitchener – Pit Plans, Resource Investigation, Licence Application, Floodplain Design, and Rezoning.



Forwell Sand & Gravel, Brown Pit, North Dumfries Township – Pit Plans, Licence Application, Wetland Ecology, and Rezoning.

Forwell Sand & Gravel, Blair Pit, Cambridge – Pit Plans, Resource Investigation.

Franceschini Brothers Ltd., Caledon – Pit Plans, Resource Investigation.

Gary Farms, West Garafraxa – Pit Plans, Licence Application, Rezoning.

Gingerich Pit, Wilmot Township – Pit Plans, Resource Investigation, Licence Application, and Rezoning.

Grand River Conservation Authority, Belwood Lake, West Garafraxa Township – Aggregate Resource Investigations, and Rezoning.

Grand River Conservation Authority, Guelph Lake, Guelph Township – Aggregate Resource Investigations.

Grand River Conservation Authority, Horst Pit, Waterloo – Aggregate Resource Investigation, Pit Plans.

Grand River Conservation Authority, Washington Pit, Blanford/Blenheim Township – Aggregate Resource Investigations.

Homefounders, Uxbridge – OMB Hearing.

Howe Island Resident's Association, Frontenac Island Township – Peer Review of Proposed Quarry.

Hunder Development Ltd., Hunsberger Pit, Woolwich Township – Pit Plans, Licence Application.

King & Benton Developments, Oak Park Pit, Brant County – Licence Surrender.

Kitchener, City of – Resource Inventory, Pit Plans, Licence Application, Floodplain/Recreation Plan.

Kuntz Topsoil Sand & Gravel, Bridge Street Pit, Township of Woolwich – Pit Plans, Licence Application.

Kuntz Topsoil Sand & Gravel, Jigs Hollow Pit, Township of Woolwich – Pit Plans, Licence Application, Rezoning.

Lake of Bays Township – Multiple Land Use Compatibility, Justification Reports for Severances Contiguous to Pits.

Lakeview Sand and Gravel, North Dumfries Township – Pit Plans, Licence Application and Expansion.

Maty Management, Ojibway Pit, City of Windsor – Pit Plans, Licence Application.

Milani, Rizmi Holdings, Vaughan – EIS, Pit Plan, Licence Application.

Mill-Gate Holdings, Cedar Creek Pit Expansion, North Dumfries Township – Pit Plans, Licence Application, Rezoning.

Preston Sand & Gravel Company Ltd., Croft Pit, Puslinch Township – Pit Plans, Resource Investigation, Licence Application and Agricultural Rehabilitation, Below Water Table Extraction, Rezoning, Licence Surrender.

Preston Sand & Gravel Company Ltd., MacArthur Pit, North Dumfries Township – Pit Plans, Resource Inventory, Application, Agricultural Rehabilitation and Amendments, and Rezoning.

Preston Sand & Gravel Company Ltd., Henning Pit, North Dumfries Township – Pit Plans, Licence Application, Rezoning.

Preston Sand & Gravel Company Ltd., Marshall Pit, Laurier Township – Pit Plans, Licence Application.



Preston Sand & Gravel Company Ltd., Bell Pit, Strong Township – Pit Plans, Licence Application.

Preston Sand & Gravel Company Ltd., Bala Quarry, Medora Township – Quarry Plans, Licence Application.

Preston Sand & Gravel Company Ltd., Bloomingdale Pit, Township of Woolwich – Pit Plans (Extraction in Floodplain), Rezoning.

Rapson Farms, Harvey Township – Resource Investigation, Land Use Planning.

Reid's Heritage Homes Ltd., Heritage Pit, Puslinch Township – Resource Investigation, Pit Plans, Residential/Environmental Rehabilitation Plans, Rezoning, and Official Plan Amendment.

Ross Roth, Roth Pit Expansion, Wilmot Township – Pit Plans, Licence Application, Rezoning and Amendments.

Tri-City Materials Ltd., Germet Pit Extension – Licence Coordination and Rezoning.

Tridon Construction Ltd., Heritage Pit, Municipality of Thames Centre – Licence Coordination and OMB Hearing.

Tridon Construction Ltd., Lakeside Pit, Municipality of Thames Centre – Licence Coordination and OMB Hearing.

Tullis Estates, Butler Pit Extension, North Dumfries Township – Pit Plans, Licence Application, Rezoning.

University of Guelph, Puslinch Pit, Township of Puslinch – Pit Plans, Licence Application, Official Plan Amendment and Rezoning.

Upper Grand District School Board – Aggregate Assessment for a school site expropriation process.

Warren Bitulithic, McMillan Pit, Puslinch Township – Pit Plans, Resource Investigation, Licence Application, Groundwater Monitoring.

Warren Bitulithic, Cattleland Pit, Wilmot Township – Pit Plans, Resource Investigation, Licence Application and Sustainable Wetlands, and Rezoning.

Warren Bitulithic, Brown/Cambridge Pit, North Dumfries Township – Pit Plans, Residential Investigation, Licence Application, and Rezoning.

Waterford Sand & Gravel Limited – Vinemount Quarry Expansion – City of Hamilton – Expansion of a below water quarry.

Wayne Monk, Bentinck Pit – Resolution of Land Use Compatibility Issues With Pit Operator.

William Seip Management Inc., Top of the Hill Pit, Wilmot Township – Pit Expansion, Rezoning and Lowering of Pit Floor.

Wilmot Township, Pit No. 1, Wilmot Township – Expansion for Below Water Table Extraction.

Guest Lecturer

University of Guelph, LARC 4740 Case Study

University of Waterloo, Planning 403, Professional Practice and Administration

University of Waterloo, Planning 474, Aggregate Resource Planning, Development and Management



APPENDIX A

MINUTES OF PRE-SUBMISSION MEETING OF NOVEMBER 29, 2018

APPENDIX B

ENVIRONMENTAL SITE ASSESSMENT

- i) **Phase I Environmental Site Assessment, Chung & Vander Doelen Engineering Ltd., dated May 23, 2017;**
- ii) **Phase II Environmental Site Assessment, Chung & Vander Doelen Engineering Ltd., dated July 20, 2017**

APPENDIX C

**AGRICULTURAL IMPACT ASSESSMENT (AIA), DBH SOIL SERVICES LTD.,
DATED DECEMBER 21, 2018**

APPENDIX D

AIR QUALITY (DUST) BEST MANAGEMENT PRACTICES, GHD ENGINEERING, DATED OCTOBER, 2019

APPENDIX E

ARCHAEOLOGICAL ASSESSMENT

- i) Ministry of Tourism, Culture and Sport - Review and Entry into the Ontario Public Register of Archaeological Reports, Dated February 26, 2019 (for Stage 1 and 2 Assessments)
- ii) Archaeological Assessment Stage 1 and 2, prepared by Archaeological Research Associates Ltd., dated November 16, 2018
- iii) Archaeological Assessment Stage 1 and 2 - Supplementary Documentation, prepared by Archaeological Research Associates Ltd., dated November 16, 2018

APPENDIX F

ARCHAEOLOGICAL ASSESSMENT

- i) Archaeological Assessment Stage 3 prepared by Timmins-Martelle Ltd., dated September 2019 (for Sites 1, 2, 3 and 4)
- ii) Archaeological Assessment Stage 3 – Supplementary Documentation prepared by Timmins-Martelle Ltd., dated September 13 2019 [for Sites 1, 2 and 3]
- iii) Archaeological Assessment Stage 4 prepared by Timmins-Martelle Ltd., dated September 2019 (for Site 1)

APPENDIX G

HYDROGEOLOGICAL ASSESSMENT LEVEL 1 AND 2, HARDEN ENVIRONMENTAL SERVICES LTD., DATED SEPTEMBER 3, 2019

APPENDIX H

NATURAL ENVIRONMENT LEVEL 1 AND 2 REPORT/EIS, DANCE ENVIRONMENTAL INC., DATED SEPTEMBER, 2019

APPENDIX I

NOISE (ACOUSTICAL) IMPACT STUDY, HGC ENGINEERING LTD., DATED SEPTEMBER 10, 2019

APPENDIX J

TRAFFIC IMPACT STUDY (TIS), PARADIGM TRANSPORTATION SOLUTIONS LTD., DATED FEBRUARY, 2019

APPENDIX K

**GEOTECHNICAL INVESTIGATION, CMT ENGINEERING INC., DATED
SEPTEMBER 10, 2019**

