PLANNING REPORT & AGGREGATE RESOURCES ACT SUMMARY STATEMENT

PREPARED FOR:

Aggregate Resources Act Licence Application & Zoning By-law Amendment
Bardoel Pit
J-AAR Materials Limited
583398 Hamilton Road, South-West Oxford

File no. 18218A

June 2025

Your Vision

Designed | Planned | Realized

MHBC - MacNaughton Hermsen Britton Clarkson Planning Limited
200-540 Bingemans Centre Drive Kitchener, ON N2B 3X9
T: 519 576 3650
F: 519 576 0121
www.mhbcplan.com

MHBC | PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

Executive Summary

J-AAR Materials Limited (J-AAR) is applying for a Class A Licence for a pit below the water table, under the *Aggregate Resources Act* ("ARA"), and a Township of South-West Oxford Zoning By-law Amendment under the *Planning Act* to permit the extraction, processing, and shipping of aggregate resources from the property located at 583398 Hamilton Road and legally described as Part Lots 26 and 27, Broken Foot Concession, South-West Oxford, Oxford County (i.e. "the subject lands").

The proposed "Bardoel Pit" is located about 2 kilometers southwest of the Town of Ingersoll in the County of Oxford. The surrounding land uses in the area include agriculture, agricultural business (Norterra Foods Inc.), aggregate extraction (cluster of around 18 Licenced aggregate operations to the west), and rural-residential properties. The proposed Bardoel Pit will ensure that there is a continued supply of high-quality aggregate materials to meet ongoing demand in a close-to-market location. In addition, aggregate extraction is already an established land-use within the immediate area.

The area proposed to be licensed under the ARA for the proposed Bardoel Pit is approximately 49.4 hectares (122.1 acres) with a proposed extraction area of approximately 45.3 hectares (111.9 acres). Extraction is proposed to occur to a maximum depth of 1 meter above the established water table only. Extraction activities are proposed to be phased (three phases in total) such that extraction will commence at the central western portion of the subject lands and move northward (Phase 1), then recommence at the central western portion of the lands and move south then eastward (Phase 2), and then recommence in the southeastern portion of the lands and move northward (Phase 3). Only two phases will be open at any one time; the intent of this is to maintain access to different materials available in Phase 1 and 3 versus Phase 2. Progressive rehabilitation will closely follow extraction. The Bardoel Pit will be used to supply J-AAR's local asphalt plant (at J-AAR's Whalmsley Pit), as well as other construction and infrastructure projects. The total tonnage to be from the proposed pit will be a maximum of 500,000 tonnes annually. Following extraction activities, the lands will be rehabilitated to an agricultural condition.

Per Ontario Regulation 244/97 (O. Reg. 244/97), in the case of a pit, below the water table means at or less than 1.5 meters above the maximum level of the predicted ground water table. The pit is proposed to operate at 1 meter above the maximum level of the ground water table, and as such is considered to be a below the water table pit even though below water extraction will not take place at this pit.

As required for the submission of the *Aggregate Resources Act* Licence Application and the *Planning Act* applications, seven studies as well as a Site Plan were completed to assess the potential impacts of the proposed Bardoel Pit on natural heritage features, agriculture, water resources, County roads, as well as adjacent and surrounding sensitive uses.

Aggregate extraction is an interim use and a well-established land use in the area. The proposed pit represents wise resource management, is consistent with the Provincial Policy Statement with respect to making close-to-market mineral aggregate resources available and protecting adjacent natural heritage features. The Rehabilitation Plan proposes to return 45.3 hectares (100% of the extraction area) to an agricultural condition. As demonstrated in this report, the accompanying technical reports, and the site plan, the application is consistent with the Provincial Planning Statement (2024) and conforms to the Oxford County Official Plan.

Contents

Figures

Appendices

1.0 Introduction

MacNaughton Hermsen Britton Clarkson Limited ("MHBC Planning") has been retained by J-AAR Materials Limited (part of J-AAR Limited) to provide land use planning services for the proposal of an aggregate pit on the lands municipally known as 583398 Hamilton Road, County of Oxford (the "subject lands").

1.1 Applicant

J-AAR Materials Limited is part of the J-AAR Limited. J-AAR Limited is family-run, multi-service organization providing excavating services; aggregate materials, crushing and recycling; and heavy equipment sales, services, and rentals across Southwestern Ontario. Established over 40 years ago, the company's mission is to be the superior provider of construction products and services in Ontario through an uncompromising commitment to quality, innovation, foresight, integrity, initiative and performance.

1.2 Subject Lands and Surrounding Area

Subject Lands

The subject lands are located on the south side of Hamilton Road and the north side of Thomas Road within the County of Oxford and are approximately 2 kilometers southwest of the Town of Ingersoll. The Subject Lands are legally described as Part Lots 26 and 27, Broken Foot Concession, South-West Oxford, Oxford County.

The subject lands are municipally known as 583398 Hamilton Road.

The lands are leased by J-AAR from the Bardoel family. The Bardoels own adjacent lands to the north, east, and south of the proposed licenced area.

The proposed "Bardoel Pit" is located about 2 kilometers southwest of the Town of Ingersoll in the County of Oxford (see **Figure 1**). The surrounding land uses in the area include agriculture, agricultural business (Norterra Foods Inc.), aggregate extraction (cluster of 9 Licenced aggregate operations on Hamilton Road), and rural-residential properties. A detailed review of surrounding land uses, as well as onsite natural, agricultural, and aggregate resources is included in **Section 3** of this Report.

The proposed pit area consists of primarily farmed cash crops (corn/soybean rotation). Outside of the proposed Licenced area, the Subject Lands contain a small Provincially Significant Wetland in the northwest corner of the property; this area is not proposed to be extracted or disturbed. A setback of 30-meters has been established from the edge of the wetland to the limit of extraction. A significant woodland is identified to the northeast of the proposed Licenced area. A setback of 15-meters has been established from the dripline of the significant woodland to the limit of extraction. In addition, there is a farmhouse, barn, and outbuildings located on the property adjacent to Hamilton Road. These buildings are located outside of the proposed Licenced area and limit of extraction and will remain in place

The subject lands are currently designated as *Agricultural Reserve* and mapped within a

Limestone Resource Area in the County of Oxford Official Plan and are zoned *Agricultural* (*A2*) in the Township of West-Oxford Zoning By-law No. 25-98.

Surrounding Area

As shown in **Figure 2**, the subject property is in a predominately agricultural/rural area of the County of Oxford, surrounded by primarily agricultural, agricultural business, aggregate and rural residential land uses. There are ten houses located within 120 m of the proposed Licence boundary. Generally, existing land uses within the vicinity of the subject lands include:

NORTH: Rural residential directly north of the subject lands on the north and south sides of Hamilton Road. Further north is the Thames River.

EAST: Woodland, agricultural uses (i.e. field crops and livestock operations), and a rural residence are located directly east of the subject lands.

SOUTH: Thomas Road is located immediately south of the subject lands. Beyond Thomas Road are agricultural lands, including a large dairy operation, and the Canadian Pacific Railway Line.

WEST: Immediately west of the subject lands, along Hamilton Road, there are several aggregate operations and an agricultural business (Norterra Foods Inc.). Based on a review of Provincial Pits and Quarries mapping, there are 9 separate Licenced areas on the stretch of Hamilton Road between the subject lands and Putnam.

Hamilton Road and Thomas Road border the subject lands. According to the County of Oxford Official Plan, Hamilton Road is identified as a County Road. Thomas Road, which is located south of the subject lands, is identified as a Township Road. Hamilton road (Highway 9, transitions to Highway 29 to the southwest) provides connections to London, Woodstock, and Highway 401.

In 2021, a boundary adjustment brought approximately 630 gross hectares of land from South-West Oxford into the Town of Ingersoll settlement area boundary. This includes approximately 280 hectares on the west side of Ingersoll located north of Highway 401, west of Ingersoll Street, south of the Thames River and east of the Five Points Wetland. The proposed Licence boundary is greater than 500 metres away from the settlement area boundary.

Image 1: View from north end of property looking southward (star indicates subject lands)

Image 2: View from south end of property looking northward (star indicates subject lands)

1.3 Project Description and Overview

The proposed Bardoel Pit will be primarily used to supply J-AAR's local asphalt plant (at J-AAR's Whalmsley Pit), as well as other construction and infrastructure projects. The area proposed to be licensed under the ARA for the proposed Bardoel Pit is approximately 49.4 hectares

(122.1 acres) with a proposed extraction area of approximately 45.3 hectares (111.9 acres).

Extraction activities are proposed to be phased (three phases in total) such that extraction will commence at the northwest end of the property and moving southward, eastward, and then back northward toward the northeast end of the property. Only two phases will be open at any one time; the intent of this is to maintain access to different materials available in Phase 1 and 3 vs Phase 2. The existing agricultural operations on the subject properties will continue until such time as they are required for extraction. This will allow the agricultural use of the property to be maintained as long as possible. The operational plan is shown on **Figure 3** of this report.

Per Ontario Regulation 244/97 (O. Reg. 244/97), in the case of a pit, below the water table means at or less than 1.5 meters above the maximum level of the predicted ground water table. The pit is proposed to operate at 1 meter above the maximum level of the ground water table, and as such is considered to be a below the water table pit even though below the water table extraction will not occur at this pit.

The proposed Bardoel Pit is requesting a maximum annual extraction limit of up to 500,000 tonnes per year of aggregate. The pit is proposed to operate Monday through Friday, 7 am to 7 pm, and Saturday 7 am to 1 pm with holiday closures. The pit operation will include extraction and processing operations from March to November (inclusive), with limited operations December through February, and shipping operations year-round.

A truck entrance/exit is proposed off Hamilton Road at the existing access. Acoustical berms will be installed in accordance with Site Plan Notes M4 and Figure 3 of the Acoustic Assessment.

The extraction area will be progressively rehabilitated back to an agricultural condition (see **Figure 4**). Rehabilitation phasing and requirements will closely follow the extraction phases. Details of the proposed operations and rehabilitation are outlined on the ARA Site Plans.

1.4 The Applications

To permit the proposed pit, the following applications are required:

- Class A Licence (pit below the water table) application, under the *Aggregate Resources Act* (ARA), to the Ministry of Natural Resources and Forestry; and
- A Township of South-West Oxford Zoning By-law Amendment application submitted to the County of Oxford.

A pre-consultation meeting for the Zoning By-Law Amendment was held on May 30th, 2023. Staff from the County of Oxford J-AAR Materials Limited, and MHBC Planning attended the meeting.

As confirmed through the May 2023 pre-consultation meeting with the County of Oxford, and in accordance with the Aggregate Resources of Ontario Standards (2020) the following Reports and Studies will be submitted with the Planning Act and Aggregate Resources Act to form a complete application package:

- Site Plan, prepared by MHBC, dated June 2025
- ARA Summary Statement & Planning Report, prepared by MHBC, dated 3 October 2024
- Maximum Predicted Water Table Report prepared by Novaterra, dated 20 March 2025
- Water Report, prepared by Novaterra, dated 20 March 2025
- Natural Environment Report, prepared by MTE, dated April 2025
- Archaeological Assessment, prepared by TMHC, dated 10 April 2024
- Noise Assessment Report, prepared by RWDI, October 2024

- Traffic Impact Study, prepared by SBM, dated October 2024
- Agricultural Impact Assessment, prepared by MHBC, dated June 2025

The following Planning Justification Report and Aggregate Resources Act (ARA) Summary Statement has been prepared as part of the application package, to demonstrate consistency, conformity, and regard for specific matters in the Provincial Planning Statement (PPS), the County of Oxford Official Plan, the Township of South-West Oxford Zoning By-law, and the Aggregate Resources Act.

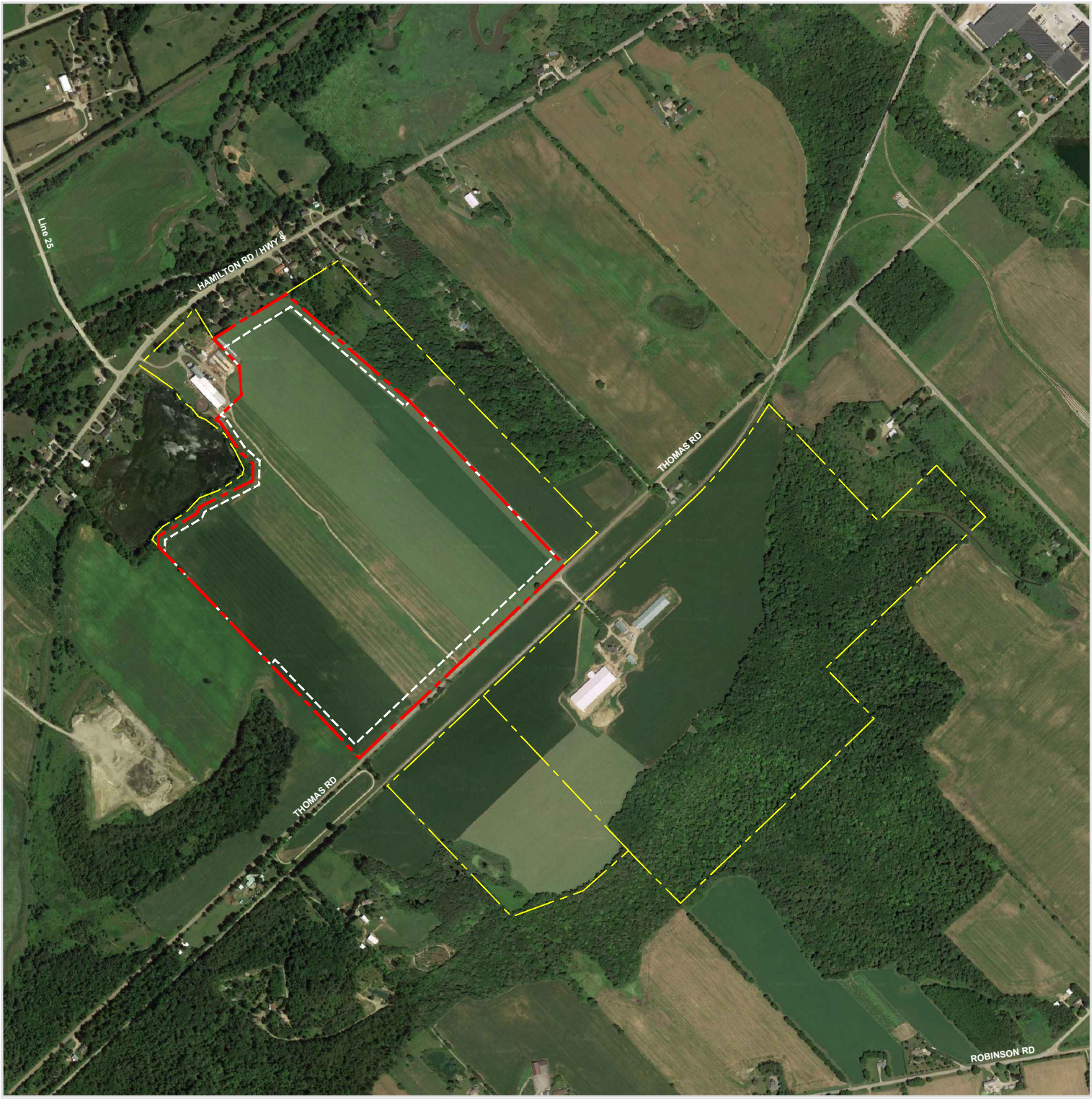


Figure 1
Location Plan

LEGEND

- Proposed Licensed Boundary
- Proposed Limit of Extraction
- Additional Lands Owned by Property Owner

DATE:	May 2024
SCALE:	1: 12,500
FILE:	18218A
DRN:	GC/CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\AIR PHOTO_MAY2024.DWG

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

Source: Google Satellite Imagery

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

Figure 4
Surrouding Land Use Context

LEGEND

- Proposed Licensed Boundary
- Proposed Limit of Extraction
- Existing Aggregate Sites

DATE:	May 2024
SCALE:	1:20,000
FILE:	18218A
DRN:	CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\SURROUNDINGCONTEXT.DWG

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

Source:
Google Satellite Imagery

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

A. General

1. This site plan is prepared under the Aggregate Resources Act (ARA) for a Class 'A' Licence for a pit below the ground water table (to 1m of the water table) and follows the Aggregate Resource of Ontario: Site Plan Standards August 2020, specifically Operations for all sites (Number 33-56 in the standards).
2. Area calculations
   i. Licence Boundary 49.4 ha (122.1 acres)
   ii. Limit of Extraction 45.3 ha (111.9 acres)
3. The maximum number of tonnes of aggregate to be removed from this property is 500,000 tonnes in any calendar year.
4. No buildings or structures (including a scale and scale house) are proposed.
5. The maximum predicted water table within the limit of extraction varies between 268.35 masl in the northern portion of the site and 285.56 masl in the eastern portion of the site (Source: Novaterra Environmental, June 14, 2024). The maximum predicted water table is shown in each cross section on drawing 4 of 4.
6. The site lies within the Thames-Sydenham and Region Source Protection Area. Part of the subject site occupies an area designated as WHPA (Well Head Protection Area) associated with Ingersoll Municipal Well 3. No hydraulic relationship between Ingersoll Municipal Well 3 and the water table aquifer at the site was found (Source: Novaterra Environmental - March 20, 2025). See 'Hydrogeology' notes under Section M on this page for mitigation measures.
7. Agricultural production will continue in areas not under extraction.
8. Setbacks will be as shown and labelled on the Sequence of Operations Diagram and on the Existing Features Plan (page 1 of 4).
9. See this page for site plan overrides.

B. Hours of Operation

1. Hours of operation shall be Monday to Friday between 7:00 am and 7:00 pm and on Saturdays between 7:00 am to 1:00 pm. No operations are permitted on Sunday or statutory holidays.

C. Site Access and Fencing

1. The existing farm/field access on Thomas Road will remain for monitoring, maintenance and agricultural purposes. This access shall be gated, kept closed during hours of non-operation and maintained throughout the life of the licence. Aggregate trucks shall not be permitted to access the site in this location.
2. An operational entrance/exit is proposed at the existing access on Hamilton Road (as shown on the plan view). This access shall be gated, kept closed during hours of non-operation and maintained throughout the life of the licence. A potential operational entrance/exit is identified in the eastern corner of the site at Thomas Road. This access point requires Township approval prior to being used by aggregate trucks.
3. Portions of the licence boundary that are not currently fenced shall be fenced with post and wire fencing at least 1.2 metres in height and maintained for the life of the licence.
4. Fencing shall not be required where the licence abuts existing licence #16190 and in these locations, the boundary will be demarcated by 1.2m high marker posts that are visible from one to the other. If conditions in or around the licensed property change or if either licensed site is surrendered or sold, a 1.2m high fence will be installed. All fencing shall be maintained for the life of the extraction. Fencing shall also not be required next to the Five Points Woods Wetlands as an existing fence exists offset the licence boundary. Fencing will not be required next to the Bardoel residence and agricultural structures as there is existing fencing along the property boundaries at Hamilton Road, next to adjacent houses and the Five Points Woods Wetland (see Section N Variations from Control and Operation Standards). In all other locations along the boundary of the site, a fence of at least 1.2 m in height shall be erected and maintained.
5. A sign of at least 0.5 metres by 0.5 metres in size shall be erected and maintained at the main entrance that says in legible words "This site is licensed under the Aggregate Resources Act Licence # _____".

D. Drainage

1. During excavation surface drainage from active pit areas will be contained within the pit area. Drainage of undisturbed areas will continue and be in the directions shown on the Existing Features drawing on page 1 of 5.

E. Site Preparation

1. Prior to site preparation, a Spills Contingency Plan shall be developed to address any potential spills from equipment on-site.
2. Timber resources (if any) will be salvaged for use as saw logs, fence posts and fuel wood where appropriate. Non-merchantable timber, stumps and brush may be used or mulched for use in progressive rehabilitation. Excess material not required for uses mentioned above will be burned (with applicable permits).
3. During construction and earth-moving operations, sediment control measures will be put in place to prevent runoff of suspended solids from leaving the site (see Section M Technical Recommendations 1. Natural Environment).
4. Substantial storage of topsoil and minimize the storage of subsoil shall be minimized. Stripped soils, not required for berm construction, shall be moved directly to depleted areas where they will be immediately used for agricultural rehabilitation. Stripping areas shall be limited to what is required for the season of operation.
5. Topsoil/overburden stockpiles will be graded smooth and seeded to prevent erosion (if they are to remain for more than one year). Seeding shall not be required if these stockpiles have vegetated naturally in the first year.

F. Berms and Screening

1. Berms shall be constructed as specified in the locations shown on the Sequence of Operations and in accordance with the Technical Recommendations (4. Acoustic Assessment). Locations and heights for all berms are provided on the Sequence of Operations diagram, this page. The heights/elevations shown are the minimum required. Overburden may be stored in separate berms throughout the extraction area.
2. Berms shall not be located within three metres of the licence boundary, except for where provided in Section N. variations from Control and Operation Standards.
3. All proposed berms will be constructed in accordance with the "Typical Berm Detail" on this page and will be vegetated and maintained to control erosion using a low maintenance grass/legume seed mixture (e.g. MTO Seed Mix) composed of Creeping red Fescue, Perennial Ryegrass, Kentucky Bluegrass and White Clover. Temporary erosion control will be implemented as required.
4. Existing vegetation within the setbacks shall be maintained except where berms are required. There are no proposed tree screens at this site.

G. Site Drainage

1. No existing or proposed surface water diversions or discharge has and/or will occur on the proposed extraction area. There will be no dewatering or pumping of water in the extraction area.

H. Extraction Sequence

1. The operational plan depicts a schematic operations sequence for this property. Phases do not represent any specific or equal time period and blending requirements may require material from adjacent phases. Extraction shall be permitted in two phases simultaneously to facilitate the availability of different aggregate materials located within the Phases and to allow transition between phases.
2. The direction of extraction will be in accordance with the Sequence of Operations diagram shown on this page.
3. Progressive and final rehabilitation will be completed in direct correlation to the development of the pit as the extraction limits in each Phase are reached and enough area is available to ensure that rehabilitation activities will not interfere with the production and stockpiling of aggregate materials.

I. Extraction Details

1. The maximum depth of extraction is as shown as spot elevations on the Sequence of Operations drawing (this page). Extraction will occur in a maximum of 1 lift through the three phases as shown on the Sequence of Operations Diagram on this page and in accordance with the Ministry of Labour requirements. The maximum lift height will be 10 m.
2. Extraction will occur to within 1m of the maximum predicted water table. The pit floor will be located at an elevation of 271 to 287 masl. See Rehabilitation Plan (page 3) and Cross Sections (page 4) for excavation depths and final rehabilitation contours.
3. Aggregate stockpiles will be located on the pit floor and will follow the working pit face throughout the life of the operations of the pit. Stockpiles will not be located within 30m of the Licensed boundary, except for the western boundary as per agreement with adjacent operator (see Variations from Control and Operational Standards table on this page).
4. Internal haul road locations will vary as extraction progresses and will transport materials to the northern operational entrance/exit. Dust will be mitigated on site. Water or another provincially approved dust suppressant will be applied to internal haul roads as often as required to mitigate dust.

J. Equipment and Processing

1. Equipment used on-site may include portable crushers, a portable screening plant, loaders, stacker and trucks.
2. No permanent processing areas are proposed on site. Portable processing equipment (crusher and screener) may be used on site and will be restricted to the 'Processing Plant Region'. The portable equipment shall be located below grade on the pit floor in close proximity to the extraction face in order to maximize acoustical shielding and within the 'Processing Plant Region'. See Note M 'Noise' and Sequence of Operations diagram for location of 'Processing Plant Region'.
3. Within the 'Processing Plant Region', the processing equipment shall remain a minimum of 30 metres from the licence boundary (except where the licence boundary abuts existing licence #16190 - see Section N Variations from Control and Operation Standards) and 90 metres from a property with a residential use. All processing equipment is subject to noise controls and applicable permitting under MECP Environmental Compliance Approvals.
4. Dust will be mitigated on site. Water or another provincially approved dust suppressant will be applied to processing areas as often as necessary to mitigate dust. Processing equipment will be equipped with dust suppression or collection devices where the equipment creates dust and is being operated within 300 metres of a sensitive receptor.

K. Fuel Storage

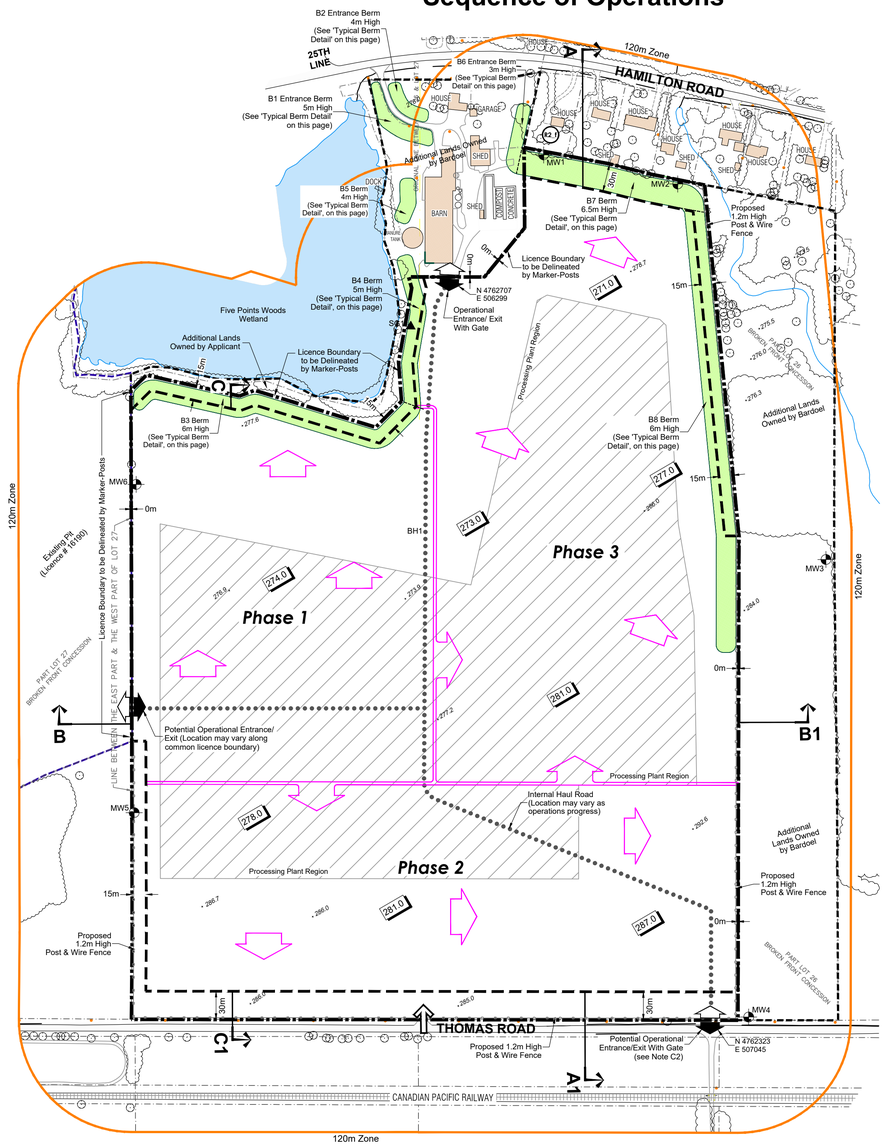
1. No fuel or associated products will be stored on site. Mobile fuelling will occur in accordance with the Gasoline Handling Act, as amended, the Gasoline Handling Code and regulations, as amended, and Liquid Fuels Handling Code.
2. Mobile fuelling shall not occur within 30 m of any waterbody.
3. A Spills Contingency Plan shall be prepared and implemented prior to site preparation. The Spills Contingency Plan shall be available on-site and all employees and contractors shall be informed and required to comply with this plan.

L. Scrap and Recycling

1. No recycling is proposed.
2. Scrap may be stored on-site within the 'Processing Plant Region' and shall be removed on an on-going basis.
3. Scrap shall only include material generated directly as a result of the aggregate operation such as refuse, debris, scrap metal, lumber, discarded machinery and equipment.
4. Scrap shall not be stored within 30 metres of any body of water, or the licence boundary.
5. The site shall be kept in an orderly condition.

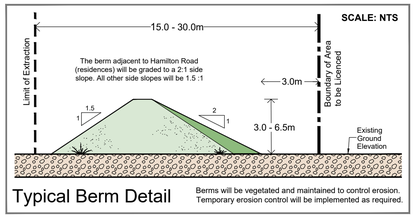
M. Technical Recommendations (Page 3 of 4)

Sequence of Operations



N. Variations from Control and Operation Standards

No.	O.Reg 244/97 Section 0.13	Variation	Rationale
1.	(1)1	A gate will not be required along the potential entrance adjacent to Licence #16190.	Gate not required next to existing pit licence (0 m setback).
2.	(1)10.i	Setback reduced to 0m from 15m along portions of the western, northern and eastern limits of site.	Per executed common boundary agreement, material can be extracted along the common boundary with Licence #16190. The northern and eastern limits of the site are adjacent to the additional lands owned by the Bardoel's (lessor).
3.	(1)13.i	Stockpiling/processing may take place within 30m along the boundary of Licence #16190.	Per executed common boundary agreement, material can be processed/stockpiled along the common boundary with Licence #16190.
4.	(1)16	Berms may be located within 3m boundary of the site where indicated on the Sequence of Operations.	Berms may be located within this area and on the lands owned by the Bardoel's (lessor).
5.	(3)(a)	Fencing shall not be required where the licence abuts existing Licence #16190. Fencing shall not be required next to the Five Points Woods Wetlands. Fencing shall not be required next to the Bardoel residence and agricultural structures for the lands owned by the Bardoel's (lessor).	Fencing not required along existing licensed pit and per executed common boundary agreement. Fencing exists along the property boundaries at Hamilton Road, next to adjacent houses and the Five Points Woods Wetland.



Legend

- Boundary of Area to be Licensed
- Additional Lands Owned by Bardoel (Lessor)
- Existing Licensed Boundary — LICENCE #16190
- Existing Fence — 1.2m POST & WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Existing Vegetation
- Public Road
- Building/Structure — LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m ARE SHOWN ON THIS PAGE.
- Farm/Field Access
- MW6 / SG1 Monitoring Well/ Staff Gauge — NOVATERRA ENVIRONMENTAL (2017)
- Existing Spot Height Elevation — METRES ABOVE SEA LEVEL
- A1 Cross Sections — SEE PAGE 4 OF 4 FOR EXISTING AND REHABILITATED CROSS SECTIONS
- Limit of Extraction — ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELLED DISTANCES
- Operational Entrance
- Proposed Haul Route
- Direction of Excavation — REFER TO NOTES (THIS PAGE) FOR ADDITIONAL DETAILS
- Processing Plant Region — (NO CRUSHING/SCREENING OUTSIDE THIS REGION)
- Proposed Fence — 1.2m POST & WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Acoustic Berm — SEE "TYPICAL BERM DETAIL" AND NOTES ON PAGE 2 OF 4
- Optional Storage Berm — SEE "TYPICAL BERM DETAIL" AND NOTES ON PAGE 2 OF 4
- 272.0 Proposed Spot Elevation — MAXIMUM DEPTH OF BELOW WATER EXTRACTION
- #2.1 Receptor Locations — WITHIN 120m OF THE SITE

Legal Description

Pt Lt 26-27 Con Broken Front West Oxford,
Township of Southwest Oxford
Oxford County

Site Plan Amendments

No.	Date	Description	By

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON. N2B 3X9 | P: 519.576.3650 | WWW.MHBCPLAN.COM

MNR Approval Stamp

Stamp

north

J-AAR Materials Limited
3003 Page Street
London, Ontario
N5V 4J1
Tel: (519) 652-2104

Applicant's Signature

Kevin Aarts
J-AAR Materials Limited

Project

Bardoel Pit

ARA Licence Reference No.

Pre-approval review:

For Submittal to MNR - June 2025

Plan Scale **1:3,000 (Arch D)**

SCALE
50 0 50 100
METRES

Plot Scale 1:3 [1mm = 3 units] MODEL

Drawn By G.C./DGS

Checked By N.D.

File No. **18218A**

File Name

OPERATIONAL PLAN

Drawing No.

2 OF 4

K:\18218A- AAROC Bardoel Pit\A\Bardoel Pit Operplan2of4 June2025.dwg

Notes:

A. General

1. This site plan is prepared under the Aggregate Resources Act (ARA) for a Class 'A' Licence for a pit below the ground water table (to 1m of the water table) and follows the Aggregate Resource of Ontario: Site Plan Standards August 2020 (Notes 60-68).
2. Area calculations:
   i. Licence Boundary: 49.4 ha (122.1 acres)
   ii. Limit of Extraction: 45.3 ha (111.9 acres)
3. The rehabilitated landform for this site will be agriculture.

B. Phasing

1. As excavation reaches the limit of extraction and/or maximum depth in each phase, progressive rehabilitation shall commence.
2. Progressive rehabilitation will follow the direction and sequence of extraction identified on the plan view and described in the notes on page 2 of 4.
3. Each Phase of extraction shall undergo progressive rehabilitation in direct correlation to the development of the pit as the extraction limits in each Phase are reached and enough area is available to ensure that rehabilitation activities will not interfere with the production and stockpiling of aggregate materials. Internal haul roads are permitted to remain in progressively rehabilitated areas, where necessary, but shall be removed as part of final rehabilitation.
4. Progressive rehabilitation shall commence in Phase 1. Progressive rehabilitation shall closely follow the northerly direction of extraction in Phase 1 and Phase 3 and the southward and easterly direction of extraction in Phase 2.
5. Progressive rehabilitation activities will include grading and sloping, placement of overburden and topsoil, agricultural rehabilitation activities, and seeding of side slopes.

C. Slopes and Grading

1. Progressive rehabilitation will utilize a variety of rehabilitation techniques including:
   a. Backfilling extraction faces;
   b. Backfilling the pit floor
2. Side slopes shall vary but will be a maximum of 10:1 and shall be created using on-site material and imported materials.
   a. The 10:1 slopes shown on the drawing shall be created in phase 2 and 3 using on-site or imported material.
3. Access ramps shall be incorporated into the side slopes in the locations shown on the plan view. Ramps shall not exceed a 10:1 (horizontal to vertical) slope.
4. Importation of Excess soil:
   a. Excess soil as defined in Ontario Regulation 244/97, may be imported to this site to facilitate the establishment of the following rehabilitation:
      i. side slopes and access ramps
      ii. top dressing to establish vegetation/agricultural crops.
   b. Liquid soil, as defined in Ontario Regulation 406/19 under the Environmental Protection Act, is not authorized for importation to the site.
   c. The quality of excess soil imported to the site for final placement must be equivalent to or more stringent than the applicable excess soil quality standards as determined in accordance with Ontario Regulation 244/97 as amended from time to time and must be consistent with site conditions and the end use identified in approved rehabilitation plan.
   d. Where a qualified person is retained or required to be retained in accordance with Ontario Regulation 244/97, the quality, storage, and final placement of excess soils shall be done according to the advice of the qualified person.
   e. Excess soil imported to facilitate rehabilitation as described on this site plan shall be undertaken in accordance with Ontario Regulation 244/97 under the Aggregate Resources Act, as amended from time to time.
   f. The cumulative total amount of excess soil that may be imported to this site for rehabilitation purposes is 350,000 m³.
10. The final rehabilitated landforms established using the rehabilitation techniques mentioned above will consist of side slopes and a relatively flat floor (that allows for surface drainage across the rehabilitated field).

M. Technical Recommendations (from page 2 of 4)

1. **Natural Environment: "Bardoel Pit Natural Environment Report (NER)" March 31, 2025 (Source: MTE Consultants Inc.)**
   a. As per the Novaterra Environmental Ltd. Hydrogeological Level 1 and Level 2 Assessment Report (2024), develop and implement a groundwater monitoring and contingency plan as required.
   b. No extraction shall occur between the License Boundary and the Extraction Limit. Buffers (including berms) shall be seeded.
   c. No extraction shall occur within 15m of the significant woodland to protect the candidate bat maternity trees. Buffers (including berms) shall be seeded.
   d. Maintain a 15 m buffer from the woodland to protect the candidate bat maternity trees.
   e. If minor vegetation clearing or pruning is required, avoid the work during migratory bird breeding season (April 1 to August 31) to ensure that no active nests are removed or disturbed, in accordance with the MBCA. If works are proposed during the breeding season, the area should be checked for nesting birds by a qualified professional prior to any vegetation removal or ground disturbance. If nesting birds are present, works in the area shall not proceed until after August 31 or until the nest has been confirmed inactive (e.g., young have fledged).
   f. Major site grading activities during construction phases shall be timed to avoid breeding, nesting and migration periods of amphibians and turtles (i.e., generally April 1 to September 31). Site personnel should be advised to take particular care when working in this active period for wildlife and instructed how to respond appropriately to wildlife encounters.
   g. Advise workers of potential incidental encounters with wildlife and the necessary protections. If an animal enters the work site, work at that location will stop and the animal should be permitted to leave without being harassed. If there are repeat observations of wildlife in the work area, barrier fencing may be used to direct wildlife away from active construction and toward natural areas.
   h. Temporary berm slopes adjacent to the PSW and significant woodland shall be graded at 2:1 and vegetated immediately to prevent erosion and sedimentation into the features.
   i. Prior to construction phases, robust sediment and erosion control fencing shall be installed along outer berm toe-of-slope adjacent to the PSW and the significant woodland. Erosion and sediment control fencing will act as a barrier to spills and disturbance that may impact the adjacent wetlands and woodlands, as well as aid in keeping existing vegetation intact. Sediment and erosion control fencing will be installed according to the Erosion and Sediment Control Guide for Urban Construction (TRCA, 2019).
   j. Soil stockpiles shall be established in locations where natural drainage is directed away from the adjacent wetlands and woodlands. No soil should be stockpiled in close proximity to wetlands or the adjacent woodland feature to the east. If this is not possible and there is a possibility of any stockpile slumping and moving toward the edge of these features, the stockpiles should be protected with alternative sediment and erosion control measures. Access to the stockpile should be confined to the up-gradient side.
   k. Sediment and erosion control fencing shall be inspected prior to construction and extraction operations to ensure it was installed correctly and during construction/extraction to ensure that the fencing is being maintained and functioning properly. Any issues that are identified are to be resolved in the same day.
   l. Sediment and erosion control fencing shall not be removed until adequate re-vegetation and site stabilization has occurred. Additional re-vegetation plantings and/or more time for vegetation to establish may be required; however, two growing seasons are typically sufficient to stabilize most sites.
   m. No heavy equipment, vehicles or other equipment is to enter adjacent natural areas. Limits of construction shall be delineated with Erosion and Sediment Control fencing prior to construction phases.
   n. Implement Best Management Practices (BMPs) for all refueling, fuel, and lubricant storage and equipment maintenance activities.
   o. Prohibit refueling and maintenance activities within 30 m of any waterbody.
   p. Implement a spill contingency plan during construction.
   q. Creation of suitable Bank Swallow habitat (e.g., soil stockpiles) during extraction should be avoided. Best management practices for deterring nesting during extraction activities shall be implemented (MNR, 2017). These measures shall include but are not limited to grading stockpiles, eliminating near vertical extraction faces, reducing slopes to 70 degrees or less beginning at the start of April until at least July 20 of any year.
   r. All necessary lighting for operations shall be directed downward and directed away from the adjacent PSW and significant woodland features.
   s. Boundaries of the extraction limits and license boundaries adjacent to the natural heritage features are clearly staked prior to construction phases. Monitoring shall occur during all construction phases to ensure boundaries are respected and the adjacent natural features remain unaffected.
   t. Ongoing weekly ESC monitoring shall occur for the duration of construction phases (e.g., berm construction and deconstruction) to ensure ESC measures are installed and maintained in good condition, including the establishment of seeding on the outer berms.

2. **Hydrogeology: "Hydrogeological Level 1 and Level 2 Assessment Proposed Bardoel Pit" March 20, 2025 and "Maximum Predicted Water Table Report" March 2025 (Source: Novaterra Environmental Limited)**
   a. Fuel storage onsite shall be in compliance with the Technical Standards and Safety Act 2000 and the Liquid Fuels Handling Code 2001, as may be amended.
   b. Maintenance and refueling of mobile excavation equipment and other vehicles shall take place in the fuel storage area. Crushers, stackers, and screening plants shall be refueled and maintained on the pit floor during daylight hours. Any minor drips or spills shall be immediately cleaned up and properly disposed of.
   c. The Licensee shall ensure that a spill contingency plan is developed prior to any operation of the pit and followed during the operations.
   d. The monitoring program shall consist of twice-annual (Spring and Fall) water level measurements at six monitoring wells (MW1, MW2, MW3, MW4, MW5 and MW6) and one staff gauge (SG1). Monitoring wells shall be maintained until the operation is completed and the site is rehabilitated.
   e. After issuance of the pit license, an initial report summarizing baseline conditions at the site shall be prepared and shall include all monitoring data up to the end of the calendar year in which the license was issued, and shall be submitted to the MNR. Subsequent monitoring data collected at the site shall be regularly reviewed to assess changes to hydrogeological conditions and shall be reported to the MNR only if major changes are observed; otherwise, the data will be made available to the MNR upon request.
   f. If complaints regarding groundwater interferences are received, the "Water Supply Interference Complaint Response Procedures" shall be followed and the licensee shall take appropriate measures as deemed necessary by the MECP and/or MNR to rectify the problem(s).

3. **Archaeology: "Stage 1-2 Archaeological Assessment Proposed Aggregate Pit Bardoel Farm" April 10, 2024 (Source: TMHC)**
   a. The Stage 2 assessment resulted in the identification of archaeological material in four locations, none of which qualify for Stage 3 assessment based on provincial criteria. As such, the subject property is considered free of archaeological concern and no further archaeological assessment is recommended. Should the licensing area change to encompass new lands that have not been subject to survey in this study, further archaeological assessment will be required prior to licensing approval.

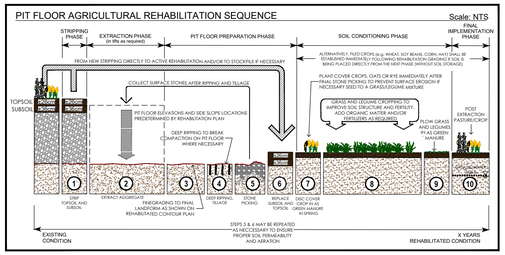
4. **Acoustic Assessment: "J-AAR Bardoel Farm Pit Acoustic Assessment" March 28, 2025 (Source: RWDI)**
   a. In summary, the following berms shall be required:

Berm	Minimum Height	Timing
B1	5m	Prior to Phase 1
B2	4m	Prior to Phase 2
B3	6m	Prior to Phase 1
B4	5m	Prior to Phase 1
B5	4m	Prior to Phase 1
B6	3m	Prior to Phase 2
B7	6.5m	Prior to Phase 3
B8	6m	Prior to Phase 3

   b. Berms constructed in previous extraction phases will remain for the subsequent phases.
   c. Crushing and screening activities are required to operate within the Processing Plant Region shown on the Sequence of Operations. Berms are required around the processing plant to further reduce sound levels at the receptors. These berms are required to be 8 m high. The berms must at least break line-of-sight and surround the plant on all sides except for an open section to allow for incoming and outgoing haul trucks. An example of the shape of the processing plant berm is shown in Figure 3 for scenario N1 in the Acoustic Assessment. Examples for the other scenarios are presented in Figure D1 of Appendix D.
   d. A berm is required to be solid, with no gaps or opening, and shall satisfy a minimum face density of 20kg/m². It could take the form of an earthen berm, acoustic barrier, stockpiles, working face, or a combination satisfying the requirement of a berm. Berms shall at least break the line-of-sight to the receptors.

5. **Agricultural Impact Assessment: "Agricultural Impact Assessment - Proposed Bardoel Pit" June 2025 (Source: MHBC)**
   The following recommendations are made to reduce the impacts of the proposed pit on the surrounding agricultural uses in the Primary and Secondary Study Area. Recommendations are also made for final and progressive rehabilitation to ensure the pit is returned to the same average soil capabilities and agricultural condition as pre-extraction:
   a. Extraction will occur in phases to minimize the amount of disturbed area. Later phases of the operation that are not currently in extraction should remain in agricultural production for as long as realistically possible.
   b. Agricultural rehabilitation shall be in accordance with the agricultural rehabilitation sequence schematic on the Rehabilitation Plan to ensure best practices are followed throughout the progressive rehabilitation of the pit.
   c. Prior to the commencement of stripping, agricultural baseline conditions shall be established by a qualified professional for the entire extraction area, using an accredited lab for any analytical testing. Soil inspections shall be conducted at a density to allow for sufficient coverage of the area. The parameters for the baseline conditions soil testing shall be determined by the qualified professional and shall include items such as soil macro and micronutrients, soil chemistry (e.g., pH, etc.), organic matter, soil texture and structure and bulk density.
   d. Progressive rehabilitation procedures that avoid substantial storage of topsoil and minimize the storage of subsoil shall be implemented. Stripped soils, not required for berm construction, shall be moved directly to depleted areas where they will be immediately used for agricultural rehabilitation. Stripping areas shall be limited to what is required for the season of operation.
   e. During pit operations, access to the agricultural rehabilitation areas and undisturbed areas used for agricultural purposes will be maintained.
   f. Topsoil and subsoil shall be replaced across the site at approximately the same pre-extraction depths as documented in the DBH Soil Report, 2024. For areas of the site to be returned to an agricultural condition, the minimum topsoil depth to be replaced will be 26 cm and the minimum subsoil depth to be replaced will be 36 cm.
   g. Soil will be handled under suitable conditions. Travel over soils and rehabilitated areas shall be minimized to reduce compaction. Ripping / tilling the soil will occur, where necessary, to alleviate soil compaction and shall avoid the mixing of soil materials / layers during the process.
   h. Once grading is completed, a vegetation cover (such as perennial crops) shall be immediately established within the agricultural rehabilitation area in order to reduce erosion, add organic matter to the soil and improve soil structure. A grass-legume cover crop shall be established throughout rehabilitation and maintained for up to five years and ploughed under annually in order to promote and increase organic matter. Alternatively, field crops (e.g. wheat, soy, corn, hay) shall be established immediately following rehabilitation grading.
   i. After final rehabilitation, soil testing shall be completed by a qualified professional to analyze soil conditions to demonstrate that pre-extraction soil capability (CLI Class 2 soil capability) has been restored. Adjustments to cropping practices and/or soil amendments may be required based on the results of the soil testing and shall be undertaken in consultation with the property owner. A report shall be submitted by a qualified professional following final rehabilitation and provided to MNR prior to Licence surrender to demonstrate that the agricultural area has been rehabilitated back to the pre-extraction soil capability (CLI Class 2 soil capability).
   j. Best management practices shall be implemented with respect to the storage and application of organic material, fertilizers, and pesticides.

6. **Traffic: "Traffic Impact Study - 583398 Hamilton Road" October 2024 (Source: Strik Baldinelli Moniz Ltd.)**
   a. The site access location meets minimum sight distance requirements, however, it is recommended that the small trees and brush in the Hamilton Road right of way within 10 m of the south edge of pavement along the frontage of the site be removed in order to ensure their foliage does not obstruct the sightline to the east of the site access.
   b. No road improvements are required to accommodate the proposed gravel pit.



D. Topsoil and Overburden

1. All on-site topsoil and overburden shall be used in progressive and final rehabilitation.
2. Refer to Agriculture notes (see note M. 'Technical Recommendations' on this page for details regarding the handling and placement of topsoil and overburden.

E. Drainage

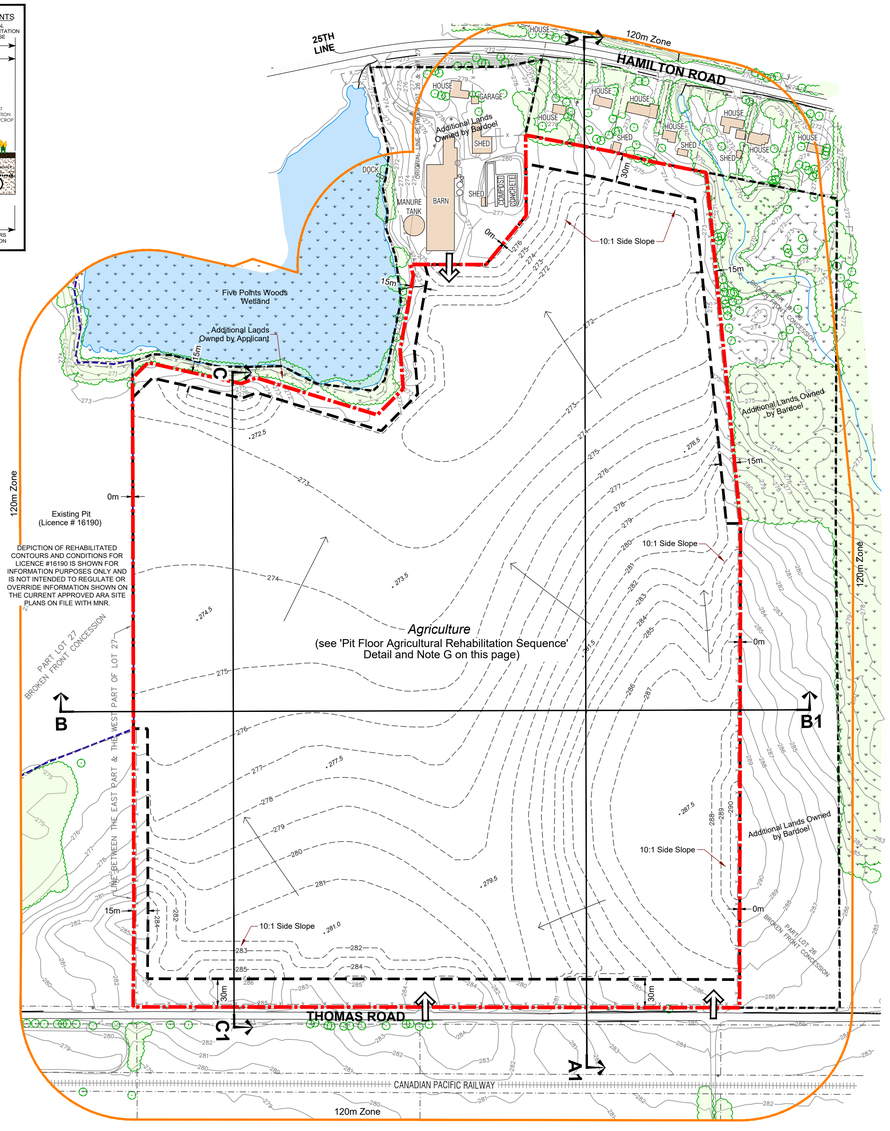
1. The final surface drainage will follow the rehabilitation contours and directional arrows shown on the plan view.
2. A surface water collection area shall be located in Phase 3.

F. Agricultural Rehabilitation

1. Within the extraction area, 45.3 ha shall be returned to an agricultural condition (in accordance with the "Pit Floor Agricultural Rehabilitation Sequence" detail on this drawing) with an average soil capability classification of CLI Class 2. The areas returned to an agricultural condition shall consist of the pit floor and maximum 10:1 slopes.
2. The technical recommendations from the Agricultural Impact Assessment, included in note N.1, shall be implemented during progressive and final rehabilitation to restore 45.3 ha of the extraction area to an agricultural condition.

G. General

1. All equipment shall be removed from the site.
2. No buildings, structures or haul roads will remain on site.
3. Access ramps shall remain to access the rehabilitated floor.
4. The final maximum predicted water table varies between 268.35 masl in the northern portion of the site and 285.56 masl in the eastern portion of the site. The maximum predicted water table is shown in each cross section on drawing 4 of 4.
5. The final end use is agricultural.



Legend

- Boundary of Area to be Licensed
- Additional Lands Owned by Bardoel (Lessor)
- Existing Licensed Boundary — LICENCE #16190
- Contour with Elevation — METRES ABOVE SEA LEVEL
- Existing Fence — 1.2m POST & WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Existing Vegetation
- Public Road
- Building/Structure — LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m ARE SHOWN ON THIS PAGE
- Farm/Field Access
- Cross Sections — SEE PAGE 4 OF 4 FOR EXISTING AND REHABILITATED CROSS SECTIONS
- Limit of Extraction — ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELED DISTANCES
- Proposed Contour and Elevation — METRES ABOVE SEA LEVEL (MASL)
- Proposed Elevation — RAHABILITATED ELEVATION (MASL)
- Direction of Surface Drainage
- Candidate Significant Wildlife Area

Legal Description

Pt Lt 26-27 Con Broken Front West Oxford,
Township of Southwest Oxford
Oxford County

Site Plan Amendments

No.	Date	Description	By

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR, KITCHENER, ON, N2B 3X9 | P: 519.576.3650 | WWW.MHBCPLAN.COM

MNR Approval Stamp

Stamp

J-AAR Materials Limited
3003 Page Street
London, Ontario
N5V 4J1
Tel: (519) 652-2104

Applicant's Signature

Kevin Aarts
J-AAR Materials Limited

Project

Bardoel Pit

ARA Licence Reference No.

Pre-approval review:

For Submittal to MNR - June 2025

Plan Scale **1:3,000 (Arch D)**

SCALE
50 0 50 100
METRES

Plot Scale 1:3 [1mm = 3 units] MODEL

Drawn By G.C./DGS

Checked By N.D.

File No.

File Name

REHABILITATION PLAN

Drawing No.

3 OF 4

K:\18218A- AAROC Bardoel Pit\A\Bardoel Pit Rehaplan3of4 June2025.dwg

2.0 Background Information, Pit Design, & Summary of Technical Assessments

2.1 Overview of Proposed Pit Design and Operation

The Licence boundary for the proposed Bardoel Pit will have an area of 49.4 hectares (122.1 acres), with a limit of extraction of 45.3 hectares (111.9 acres). Extraction is proposed to occur a minimum of 1.0 metres above the established maximum predicted water table.

The proposed Class A Licence will have 500,000 maximum annual tonnage limit and will be operated in three phases. The Operations Plan can be found in **Figure 3.** Extraction activities are proposed to be phased (three phases in total) such that extraction will commence at the central western portion of the property and move northward (Phase 1), then recommence at the central western portion of the property and move south then eastward (Phase 2), and then recommence in the southeastern portion of the property and move northward (Phase 3). Only two phases will be open at any one time; the intent of this is to maintain access to different materials available in Phase 1 and 3 vs Phase 2. Progressive rehabilitation will closely follow extraction.

The pit is proposed to operate Monday through Friday, 7 am to 7 pm, and Saturday 7 am to 1 pm with holiday closures. The pit operation will include extraction and processing operations from March to November (inclusive), with limited operations December through February, and shipping operations year-round.

Pit operations will include site preparation and stripping activities, extraction and loading, processing and stockpiling, shipping, and progressive and final rehabilitation activities. Stripping and site preparation includes: the removal of the soil and overburden on-site, construction of internal roads, installation of acoustical berms, and the completion of any required pre-extraction monitoring and mitigation activities as outlined on the Site Plan.

Extraction activities include: the removal of aggregate materials up to 1.0 meters from the water table from the working face using extraction loaders, crushing and screening within the 'Processing Plant Region' as identified on the Operations Plan, and the transportation of aggregate material off site for any further processing. Extraction will occur in a single lift and in three phases to minimize the area disturbed.

Processing, stockpiling, and shipping activities are proposed as part of the aggregate operations. No permanent processing areas are proposed on site. Portable processing equipment (crusher and screener) will be used and will follow the working face within the 'Processing Plant Region' only as identified on the Operations Plan. Materials from the site will be transported to the nearby Walmsley Pit for processing to asphalt or shipped to market via highway trucks that access the entrance/exit on Hamilton Road via an internal haul route.

Rehabilitation activities include the establishment of side-slopes using on-site and imported material and grading of the pit floor. The Rehabilitation Plan can be found in **Figure 4.** The pit side-slopes are graded and then immediately seeded with a grass mixture to prevent erosion. Areas of the pit that are suitable to be returned to an agricultural land-use (100% of the area of extraction) will be ripped to alleviate compaction and then the on-site topsoil and subsoil will be replaced. The recommendations from the Agricultural Impact Assessment (MHBC, April 2025) for the agricultural rehabilitation of the pit floor and side-slopes are included on the site plan. The rehabilitation plan for the proposed Bardoel Pit has been designed to re-establish the pre-extraction agricultural uses and to restore the site to an agricultural condition.

2.2 Mineral Aggregate Resources

The Aggregate Resources Inventory Paper (ARIP) 159 for the County of Oxford and the County of Brant identifies the majority of the subject lands as sand and gravel deposits of primary and tertiary significance (See **Figure 5)**. This deposit is part of *Selected Sand and Gravel Resource Area 7* and is comprised of a glaciofluvial outwash plain-outwash terrace deposit. Testing of this aggregate deposit has indicated the suitability of the material for a variety of granular products and potentially concrete and asphalt aggregate products[1].

Appendix S-1 of the County of Oxford Official Plan identifies the subject lands within a Sand and Gravel Resource Area (**Figure 6**). Sand and Gravel Resource areas have been identified by the County as those lands where high-quality sand and gravel deposits exist.

In addition to the Provincial and local mapping, site-specific resource investigations were also undertaken on the subject site. A total of 9 sample boreholes were advanced to assess resource depth and quality. The results of the on-site resource investigations confirm the presence of high-quality aggregate resources. The proposed extraction area contains approximately 1,800,000 to 1,900,000 tonnes of high-quality aggregate resources.

There are 9 separate Licenced areas on the stretch of Hamilton Road between the subject lands and Putnam, confirming the presence of viable aggregate resources in the immediate area.

2.3 Agricultural Resources & Soils

The subject property is currently in an active agricultural condition and produces cash crops in a corn/soybean rotation. Based on the Canada Land Inventory Soils Map produced by the province, the subject lands are mapped as containing predominantly Class 2 soils (i.e. CLI Class 2), as shown in **Figure 7**. Class 2 soils have moderate limitations that restrict the range

[1] Ontario Geological Survey Aggregate Resources Inventory Paper 159 (2014). Page 24.

of crops or requires moderation conservation practices[2]. The PPS considers Class 2 (as well as CLI 1 and 3) soils to be Prime Agricultural Land.

Detailed soil investigations were completed on the subject lands on May 16th, 2024, by DBH Soil Services Inc. The on-site soil testing undertaken by DBH Soil services Inc. (2024) confirmed that the soils on the property are primarily CLI Class 2.

This Agricultural Impact Assessment (AIA) was prepared by MHBC Planning (April 2025), to evaluate the potential agricultural impacts from the proposed aggregate extraction operation and identify mitigation measures to abate any impacts to the extent feasible.

The objective for the final rehabilitation plan for the Bardoel Pit is to return as much land as possible back to an agricultural condition. Further details regarding the Rehabilitation Plan are included in Section 4.0 of this Report.

2.4 Natural Heritage Features

J-AAR Materials Ltd. retained MTE Consultants Inc. to prepare a Natural Environment Report (NER) to support the application for licence under the ARA and associated land use planning approvals. The purpose of the NER is to describe the existing natural environmental conditions on and within 120 metres of the subject lands (i.e. Licence Boundary) and to determine whether there are any significant natural heritage features present. The NER also discusses the potential for negative impacts on any identified significant natural heritage features and provides appropriate recommendations for preventative, mitigative, and remedial measures. This section summarizes the findings and conclusions of the NER.

The Five Points Woods Pond, a classified Provincially Significant Wetland (PSW) is located northwest of the proposed Bardoel Pit. Based on the topography of the surrounding area, all surface water is expected to flow in the northwesterly direction to the PSW pond. A minimum 30-metre buffer between the feature and the limit of extraction will be applied to protect the feature and its function.

A contiguous woodland feature is identified to the east of the subject lands where no removal of the feature is proposed. A candidate significant wildlife habitat is associated with the adjacent natural vegetation communities. A 15-metre buffer from the dripline will be applied to protect the ecological function of the woodland.

The report identified and accounted for potential impacts to endangered and threatened species. A 15-metre buffer will be maintained from the three (3) candidate bat maternity trees along the east side of the subject lands and the one (1) on the west side.

Appropriate setbacks have been identified and implemented in the pit design to protect the identified significant natural heritage features. No extraction will occur in these setback. Further, sediment and erosion control measures will be installed and monitored, and all stockpiled aggregates will be stored in a location that will prevent the movement of sediment laden runoff into the PSW.

The NER concluded that with the implementation of the report recommendations into the ARA Site Plans, the proposed Bardoel Pit is not anticipated to have any negative impacts on the PSW, candidate significant wildlife habitat, significant woodlands, or

[2] OMAFRA Guidelines for Application of the Canada Land Inventory in Ontario

candidate bat maternity roosts identified on lands adjacent to the Licence boundary.

2.5 Water Resources

The proposed Bardoel Pit will operate a minimum of 1 metre above the established water table. There is a surface water feature (provincially significant wetland) located in the northwestern corner of the subject lands, outside of the proposed Licenced area.

A Level 1 and 2 Hydrological Assessment was prepared to meet the requirements for a Class "A" licence for a pit which intends to extract aggregate material from within 1.5m of the established groundwater table. The scope of work included a review of published geological and water resources maps, air photographs, and water well records on file with the Ontario Ministry of the Environment Conservation and Park (MECP). Reconnaissance of the Site and the adjacent lands was carried out during the autumn of 2017 and early winter of 2018. Water level monitoring commenced in November 2017. Fourteen (14) test pits were excavated to depths ranging from 3.25 to 8.53 m using a hydraulic excavator, and 9 samples boreholes were advanced across the site.

According to the Wellhead Protection Area (WHPA) Plan (Schedule "C-5" County of Oxford County Official Plan) the 2-year travel time for Ingersoll Municipal Well 3 partially falls within the limits of the subject site. Although the establishment of aggregate extraction licenses within the WHPA is permitted, potential impacts to Well 3 was assessed by Novaterra. No hydraulic connection between the water table aquifer at Bardoel site and the limestone bedrock aquifer in Ingersoll Municipal Well 3 was found. Therefore, proposed aggregate extraction operations at the Bardoel site do not pose a threat to the Ingersoll municipal water supply.

The proposed mining of sand and gravel will not reach the water table, and therefore will not cause lowering of the water table beneath the area of aggregate removal or in the adjacent lands of the proposed operation. The thickness of the unsaturated zone would be reduced from ground surface to become close to 1 m above the maximum average yearly water table elevation. The results of these activities would cause insignificant increase in the potential evaporation.

Best management practices will be in place regarding handling of fuel and lubricants which will be located outside the WHPA. A Spills Plan is required per the Site Plans to address this potential risk.

Additionally, interference with local domestic wells and water supply wells was assessed and determined to have little to no risk. Regardless, a Water Supply Interference Complain Response Procedure was developed and shall be incorporated into the Site Plans.

An annual Groundwater Monitoring Program shall extend throughout the life of the pit to assess whether continued operations have impacted groundwater at the subject site.

Overall, recommendations from the Novaterra Hydrogeological Assessment and Maximum Predicted Water Table Report have been included on the Aggregate Resources Act Site Plan. Through the implementation of these mitigation measures, no negative impacts to water resources are anticipated because of the proposed Bardoel Pit operation.

2.6 Transportation System

A Traffic Impact Study was prepared by Strik Baldinelli Moniz (SBM, October 2024). The proposed gravel pit will occupy an approximate 45.3 hectares (111.9 acres) extraction area

with a maximum annual extraction limit of 500,000 tonnes of material. Access to the site will be accommodated through the existing driveway location on Hamilton Road. The pit is proposed to operate Monday through Friday, 7am to 7pm, and Saturday's 7am to 1pm with holiday closures. The pit operation will include extraction and processing operations from March to November (inclusive), with limited operations December through February, and shipping operations year-round.

The Traffic Impact Assessment forecasted that the proposed gravel pit could generate up to 32 trips in each of the AM and PM peak hours (16 in and 16 out). Turning movement counts were conducted in December which is not a time that generally reflects peak traffic. Turning movement volumes at all study area intersections were increased by 20% to better reflect peak-season volumes. Overall, the addition of the aggregate operation is not anticipated to have significant impact on study area intersections.

It is expected that at least 80% of the truck traffic will travel to/from the west (towards London), therefore the primary haul route will be west along Oxford Road 9 (becomes Middlesex Road 29 two kilometers west of the site), with some trucks splitting off to the north or south on Middlesex Road 30 (in Putnam), as shown by the blue lines in Figure 11 of the Traffic Impact Study. The Middlesex County roads through Putnam already accommodate truck traffic from the many existing gravel pits in the area, therefore the minor additional truck traffic generated from the proposed gravel pit should not have any noticeable impact as confirmed by the Traffic Impact Study.

Trucks heading to/from the east are primarily expected to follow Oxford Road 9 (Hamilton Road and King Street West) to Oxford Road 10 (Ingersoll Street), with the majority going to/from the south for access to Highway 401 and some local loads going north, as shown by the green lines in Figure 11 of the Traffic Impact Study. This route travels through the industrial area in the west end of Ingersoll, which already accommodates significant heavy truck traffic, therefore impact from the site generated traffic is expected to be extremely minimal.

2.7 Cultural Heritage Resources

Cultural heritage resources consist of archaeological resources, built heritage resources, and cultural heritage landscapes. Significant cultural heritage resources are identified as resources that are valued for the important contribution they make to our understanding of the history of a place, an event, or a person. Provincial, County and local policies require that significant built heritage resources and significant cultural heritage landscapes be conserved and that significant archaeological resources are conserved by removal and documentation, or by preservation onsite.

A Stage 1-2 Archaeological Report was prepared to evaluate the archaeological potential of the property and to determine whether there were archaeological resources present. The Stage 1 background study indicated that the property had potential for the recovery of archeological resources due to the proximity of features that signal archeological potential:

- Watercourses (the Thames River and two unnamed tributaries of the Thames);
- Mapped 19th century structures (sawmill and schoolhouse); and,
- Mapped 19th century transportation routes (Hamilton Road, Thomas Road, & Credit Valley Railway).

The Stage 2 assessment employed both pedestrian and test pit survey at a 5m transect interval. The Stage 2 survey resulted in the

discovery of archaeological material in four locations:

- Location 1 – an isolated Indigenous biface with a possible Late Archaic period association. This findspot was not found to have Cultural Heritage Value or Interest (CHVI) under the current standards and does not meet criteria for Stage 3 assessment; no further work is required.
- Location 2 – an isolated Indigenous chert flake for which a more specific cultural or temporal affiliation cannot be assigned. This findspot was not found to have CHVI under the current standards and does not meet criteria for Stage 3 assessment; no further work is required.
- Location 3 – an isolated Indigenous projectile point with a possible Late Archaic period association. This findspot was not found to have CHVI under the current standards and does not meet criteria for Stage 3 assessment; no further work is required.
- Location 4 – an isolated Indigenous projectile point with a possible Woodland period association. This findspot was not found to have CHVI under the current standards and does not meet criteria for Stage 3 assessment; no further work is required.

Overall, no significant archaeological resources or heritage resources are on the lands. Clearance was received from the Ministry of Tourism, Culture and Sport.

2.8 Noise Impact

J-AAR Materials Ltd. retained RWDI to complete an acoustic assessment in support of the Bardoel Pit licence and planning applications. The purpose of the study was to establish the sound level limits on nearby noise sensitive receptors based on the noise guidelines of the MECP, assess sound levels from the proposed pit on the identified sensitive receptors, and, where the predicted sound levels were found in exceedance of the applicable MECP sound level limits, recommend noise control measures to achieve compliance.

Twenty-two representative receptors, R01 through R22, were chosen around the Pit. Receptors R1 to R6 represent locations that are predicted with the highest Pit sound level. Additional receptors R7-R22 have been included for completeness. Noise-sensitive land uses along Hamilton Road (R1 and R2) are in a Class 2 acoustical environment, described as an acoustical environment dominated by the road traffic during the daytime which was observed during a visit to the site. Noise-sensitive land uses farther from Hamilton Road (R3) and along Thomas Road farther south (R4 through R6) are in a Class 3 acoustical environment, which is typical of a rural area mostly influenced by the sounds of nature.

An existing house located within the project boundary is owned by the Bardoel family which leased the land to JAAR for extraction. Based on discussions with J-AAR, the Bardoel family wishes to remain in the home which may occur before and after commencing of pit extraction. However, an agreement between the Bardoel family and JAAR have been arranged such that they can continue to live on-site without additional noise mitigation measures. If the Bardoel sell, such agreement must be signed by the new owner and J-AAR (see Appendix B of Acoustic Assessment). The Bardoel residence was subsequently excluded as a receptor.

Additionally, an agreement between Soniusfield Holsteins Ltd (the Bardoels), the landowner of two vacant lots immediately south of the southern property line, was arranged such that no additional noise mitigation measures are required because of these vacant lots. This agreement would also have to be signed by J-

AAR and any new owner. These lots were also excluded as receptors.

The assessment considered the worst-case Pit sound levels which generally occurs at locations near to the receptors (i.e., near the extraction limit) during a given worst-case hour occurring in the daytime period (0700 –1900h) only, as the Pit does not operate outside of this period. This represents a design case where the pit is running at full capacity with all the equipment operating simultaneously and at locations where the noise impact is highest for each receptor.

The Noise Report concluded that the proposed pit will comply with MECP noise guidelines subject to the implementation of the required noise mitigation measures. Recommendations of the Noise Report have been implemented on the Site Plan.

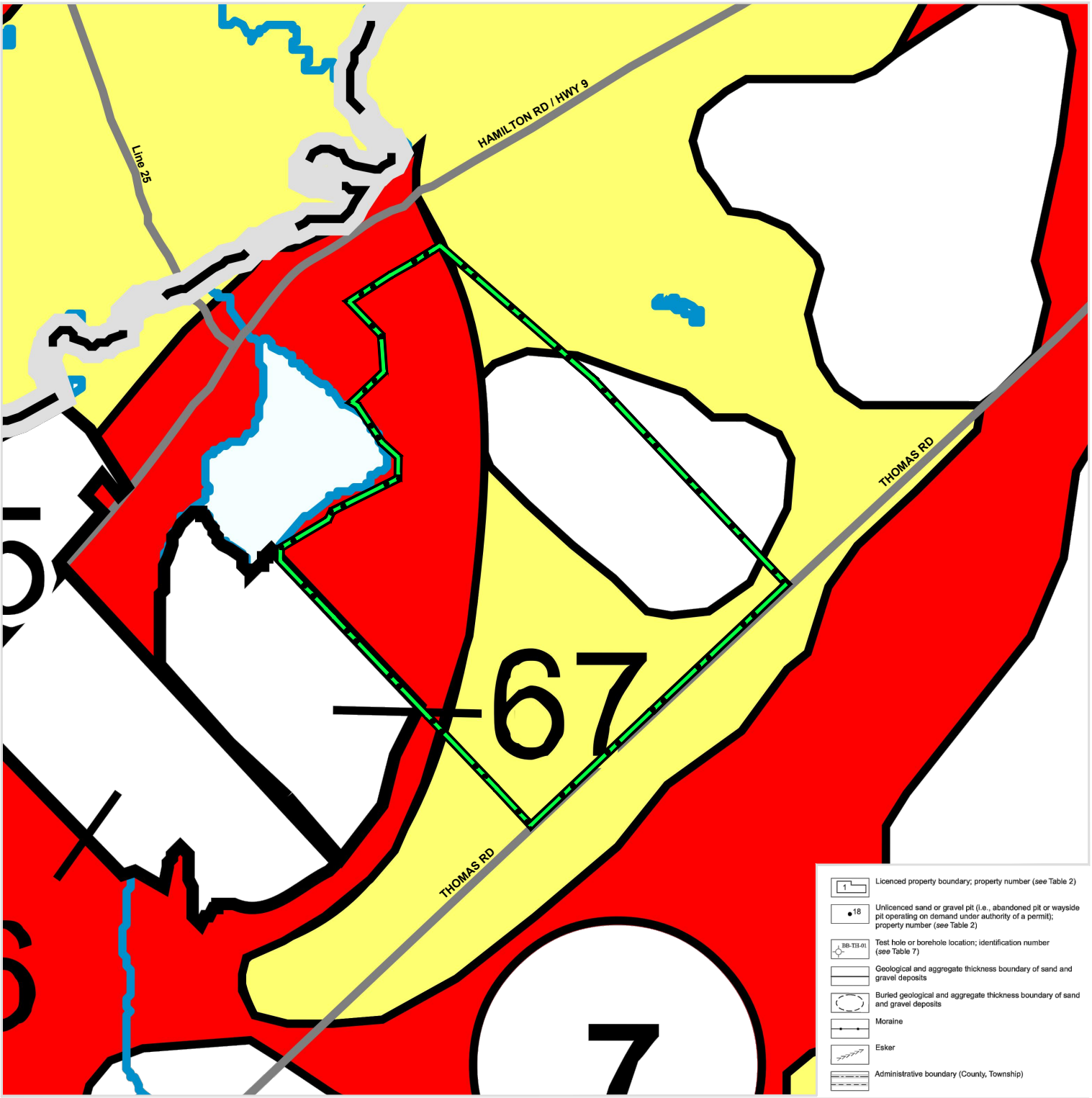


Figure 5
ARIP 159 Mapping - Sand and Gravel Resources (Map 1)

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

LEGEND

Proposed Licensed Boundary (49.4 ha)

- Selected Sand and Gravel Resource Area, primary significance; deposit number (*see* Table 3)
- Sand and gravel deposits that have been substantially extracted in the past, but where limited resources may still be available
- Selected sand and gravel resource area, secondary significance
- Sand and gravel deposit, tertiary significance
- Other surficial deposits or exposed bedrock

Source:
Ontario Geological Survey, MNDM, Queen's Printer (2014)

DATE:	May 2024
SCALE:	1:10,000
FILE:	18218A
DRN:	CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\ARIP159.DWG

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

Figure 7
County of Oxford Official Plan Schedule "S-1": Township of South-West Oxford Land Use Plan

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

LEGEND

- License Boundary
- Agricultural Reserve
- Open Space
- Environmental Protection
- Limestone Resource Area
- Rural Cluster
- Floodline

Source:
County of Oxford (Sept. 28, 2022)

DATE:	May 2024
SCALE:	NTS
FILE:	18218A
DRN:	CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\OXFORD OP SCHED1 LAND USE_MAY2024.DWG

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

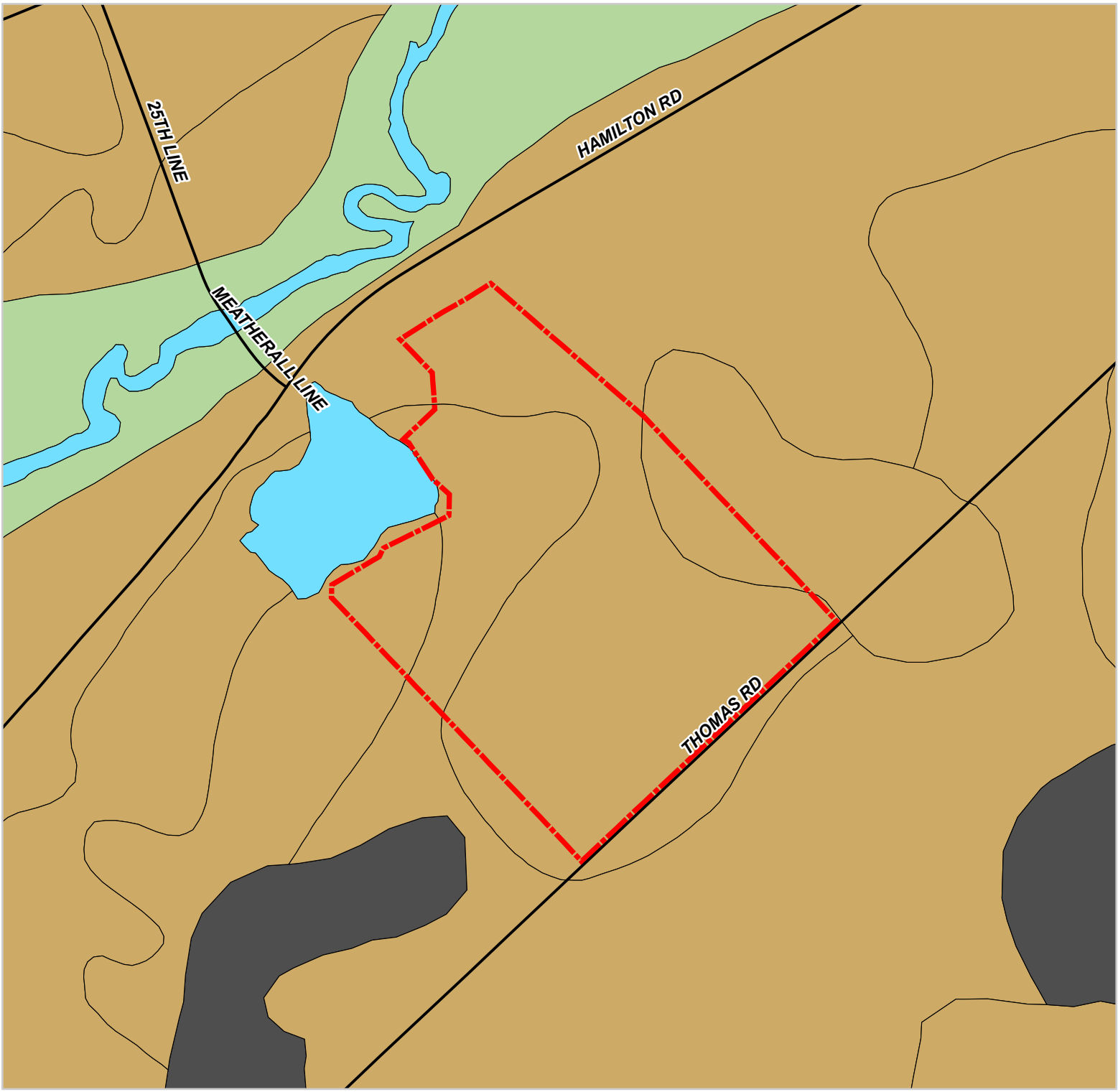


Figure 6
CLI Soil Mapping

PART OF LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

Legend

License Boundary

Soil Class

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5
- Class 6
- Class 7
- Organic
- Water
- Other

Source: Land Information Ontario (LIO) Open data

Date: May 2024

Scale: 1:10,000

File: 18218A

Drawn: CAC

N

K:\18218A- AAROC Bardoel Pit\RPT\Soils.mxd

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

3.0 Policy Analysis

Relevant policies are analyzed below to provide confirmation as to how the proposed applications for the Bardoel Pit meet the requirements of the following documents:

- Provincial Planning Statement (2024);
- County of Oxford Official Plan (2023 Consolidation);
- Township of West-Oxford Zoning By-law No. 25-98; and,
- Aggregate Resources Act Provincial Standards.

What follows immediately is a synopsis, while specific policies and responses are included in **Appendices B and C.**

3.1 Provincial Planning Statement, 2024

The final version of the Provincial Planning Statement, 2024 (PPS 2024) took effect on October 20th, 2024. The PPS, 2024 integrates the PPS and Growth Plan into a single planning document that will apply province wide.

The PPS is a policy-led planning approach that recognizes the complex inter-relationship among environmental, economic and social factors in land use planning. The PPS supports a comprehensive, integrated and long-term approach to planning and recognizes linkages among policy areas.

The PPS recognizes that the Province's natural heritage resources, water, agricultural lands, mineral aggregate resources, cultural heritage and archaeological resources provide important environmental, economic and social benefits. The wise use and management of these resources over the long term is a key provincial interest. The province must ensure that its resources are managed in a sustainable way to protect essential ecological processes and public health and safety, minimize environmental and social impacts, and meet its long-term economic needs.

The policies within Section 2.5 guide the development of Rural Areas which are a system of lands that may include rural settlement areas, rural lands, prime agricultural areas, natural heritage features and areas, and other resource areas. This section provides direction towards development of healthy, integrated and viable rural areas, including the diversification of the economic base and employment opportunities and sustainable management or use of resources.

The policies of Section 3.5 of the PPS ensure that major facilities and sensitive land uses are planned and developed to avoid or minimize and mitigate any potential adverse effects from contaminants. These policies also ensure the long-term operation and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.

Section 3.2 of the PPS contains policies that encourage the efficient use of existing and planned infrastructure.

Section 4.1 of the PPS contains policies that ensure that natural features and areas are protected for the long term. These policies direct development and site alteration away from Provincially Significant Wetlands (PSWs), significant woodlands, and significant wildlife habitat and their adjacent lands to ensure that no impacts to the natural features or their ecological functions occurs.

Section 4.2 contains policies that protect, improve or restore the quality and quantity of water. This includes the protection of sensitive surface and/or ground water features.

The policies of Section 4.3 of the PPS protect prime agricultural areas for long-term use for agriculture. Only limited non-agricultural uses are permitted in prime agricultural areas, including extraction of mineral aggregate resources. Impacts from non-agricultural uses on surrounding agricultural operations and lands are to be mitigated to the extent feasible.

Section 4.5 of the PPS contains policies for the protection of mineral aggregate resources for long-term use. This section provides that as much of the mineral aggregate resources as is realistically possible shall be made available as close to market as possible. These policies also promote mineral aggregate resource conservation and ensure the protection of mineral aggregate operations and resources from incompatible development. Additionally, the policies of this section require that extraction be undertaken in a manner which minimizes social, economic, and environmental impacts.

Section 4.5 of the PPS also contains policies that ensure that progressive and final rehabilitation of mineral aggregate operations considers surrounding land uses and promotes land use compatibility. As well, this section encourages comprehensive rehabilitation in areas where there is a concentration of mineral aggregate operations.

Section 4.5 of the PPS identifies mineral aggregate extraction as an interim use in prime agricultural areas and required rehabilitation of the site back to an agricultural condition.

Section 2.6 of the PPS involves the conservation of significant built heritage resources and significant cultural heritage landscapes.

A full analysis of the relevant PPS policies in relation to the Proposal is included in **Appendix B.** In summary:

1. The proposed pit represents the wise management of a non-renewable resource that is near major markets and will support long-term economic prosperity and diversity of the rural economy by optimizing the use of land and resources.

2. The proposed pit has been designed in a manner that mitigates potential adverse effects on nearby sensitive uses, through setbacks, vegetated berms, operational controls, and mitigation measures.

3. The risk to public health and safety are minimized through the implementation of the recommendations of the technical reports and studies and by the monitoring and mitigation of potential effects as required by the ARA Site Plans.

4. Through the implementation of the recommended mitigation measures presented in the Water Report and Maximum Predicted Water Table Report, the quality and quantity of water will be protected.

5. The proposed pit represents an efficient use of existing infrastructure by utilizing an existing and established haul route that makes use of County Roads and Provincial highways.

6. The proposed pit optimizes the long-term availability of mineral aggregate resources on a site identified for aggregate resource protection. Once the pit has been fully extracted, it will be rehabilitated to an agricultural condition.

7. Appropriate setbacks have been identified and implemented in the pit design to protect the identified significant natural heritage features (PSW, significant woodland, candidate significant wildlife habitat). No extraction or any disturbance related to the

pit will occur in these setback areas and the setbacks will remain undisturbed as self-sustaining vegetation. Further, sediment and erosion control measures will be installed and monitored, and all stockpiled aggregates will be stored in a location that will prevent the movement of sediment laden runoff into the PSW.

8. No significant archaeological or heritage resources were identified on the subject lands.

Based on the above, it is our opinion that the proposed Zoning By-law Amendment is consistent with the policies of the PPS.

3.2 County of Oxford Official Plan

The County of Oxford Official Plan (the "Official Plan") was adopted by the County of Oxford on December 13th, 1995, and approved by the Ministry of Municipal Affairs and Housing on March 31, 1997. The proposed Bardoel Pit is required to conform to the County of Oxford Official Plan policies.

The County of Oxford Official Plan recognizes the significant reserves of mineral aggregate resources and presence of high-quality aggregate deposits as an important component of the rural economy. Further, the Official Plan also notes the important role the County plays in Ontario's mineral aggregate resource, specifically within the Windsor-Woodstock corridor.

The subject lands are designated 'Agricultural Reserve' and mapped within a Limestone Resource Area on Schedule S-1 of the Official Plan (**Figure 6**). Appendix 2-1 of the Official Plan maps the lands within a Sand and Gravel Resource Area, with the southeastern portion within a Limestone Resource Area (**Figure 8**).

Section 3.4 of the Official Plan recognizes the importance of mineral aggregate resources as essential non-renewable natural resources and ensures the wise use and management of this resource. Appendices 2-1 and 2-2 map where there is high potential for extraction and afford these areas protections from incompatible development. Extraction of sand and gravel and all accessory uses, buildings and structures essential to this use are permitted within all land use designations outside of settlements, subject to a municipal Zoning By-law amendment.

Section 3.4 also contains policies the assessment and mitigation of impacts regarding the following:

- the municipal transportation system;
- the natural heritage features and areas and on the broader natural heritage system;
- the quantity and quality of surface water and groundwater and on domestic and municipal water supplies;
- agricultural resources and operations;
- potentially affected residents and the community regarding noise, dust, particulate matter, air quality, traffic and other potential social and economic impacts; and
- cultural heritage resources.

This section also ensures that mineral aggregate extraction is an interim use by requiring progressive and final rehabilitation of pits. Rehabilitation of mineral aggregate operation on prime agricultural lands to an agricultural condition is a priority as well as the restoration or improvement of the natural heritage system.

The settlement boundary for the Town of Ingersoll is located approximately 550 metres to the east of the proposed Licenced boundary.

The policies of Section 3.4.1.4 of the Official Plan ensures that mineral aggregate extraction is generally compatible with adjacent planned development and with existing development. Arrangements for mutually satisfactory

measures between extraction and development proponents is encourage where new extraction is proposed in proximity to an existing settlement area.

A Provincially Significant Wetland is in the northwest portion of the subject lands (**Figure 9**). Much of the lands are also mapped within a Wellhead Protection Area (WHPA) Significant Threat Screening Area (Schedule C-5 of the Official Plan as shown in **Figure 10**).

Section 3.2 of the Official Plan outlines policies to achieve environmental resource goals such as maintaining water quality, resource and energy conservation, natural area preservation, and creating high quality living environments. The policies of this section direct development and site alteration away from Provincially Significant Wetlands (PSWs), significant woodlands, and significant wildlife habitat and their adjacent lands to ensure that no impacts to the natural features or their ecological functions occurs.

A full analysis of the relevant Official Plan policies can be found in **Appendix C**. In summary:

1. The proposed mineral aggregate operation will provide for the orderly extraction and optimum utilization of aggregate resources within sand and gravel deposits of primary and secondary significance.

2. Sand and gravel operations and ancillary uses are permitted as interim uses within the Agricultural Reserve designation.

3. Seven technical reports have been completed to assess the impacts and potential adverse effects of the proposed pit operation on traffic, natural heritage features, surface water and groundwater, agricultural operations, sensitive receptors, and cultural heritage resources. Specific mitigation measures, including setbacks, berms, and operational controls, have been identified and incorporated into the pit design and operational plans to minimize social, economic and environmental impacts.

4. The proposed Licence boundary is located approximately 550 metres from the settlement area boundary which is planned for future development. Given that through the implementation of the recommendations of technical reports impacts have been mitigated at nearby sensitive receptors, this logic should extend to sensitive receptors located further away (such as future residential development within the settlement area boundary).

5. The rehabilitation of the site back to an agricultural condition aligns with the after-use priorities and agricultural policies of the Official Plan and will occur in phases to reduce the amount of area disturbed and ensure that rehabilitation occurs progressively

6. Aggregate extraction is not identified as a WHPA drinking water threat within the Official Plan, consistent with the Thames-Sydenham and Region Source water Protection Plan. Appropriate best management practices will be implemented.

7. The Stage 1-2 Archaeological Assessment confirmed that the site is free of archaeological resources.

8. The proposed Zoning By-law amendment is required to permit the proposed Bardoel Pit.

In our opinion, the proposed Zoning By-law Amendments conform to the policies of the County of Oxford Official Plan.

3.3 Township of South-West Oxford Zoning By-law 25-98

The proposed Bardoel Pit is subject to the Township of South-West Oxford Zoning By-law No. 25-98 (the "Zoning By-law"). The subject lands are currently zoned *General Agricultural* (A2) and mapped within the *Limestone Resource Overlay* (Figure 11). The northwestern portion of the subject lands, including the *Provincially Significant Wetland*, is mapped within the *Environmental Protection 1 Overlay* (EP1).

Per Section 8.1 of the Zoning By-law, aggregate operations are not a permitted use within the A2 zone. In addition, no development or site alteration is permitted within an EP1 overlay.

A Zoning By-law Amendment is required to re-zone the lands to *Aggregate Industrial* (ME) to permit a mineral aggregate operation. The following uses are permitted within the ME zone:

- A building, structure or use accessory to a permitted use;
- A concrete or asphalt recycling plan;
- A conservation project;
- A farm;
- A flood control structure;
- An oil or gas well;
- A public use;
- A retail outlet;
- A sand or gravel pit and accessory processing activities including crushing, screening, washing, stockpiling and storage of aggregate products;
- A temporary or portable asphalt or concrete batching or recycling plant in a licensed sand or gravel pit;
- A topsoil or peat extraction operation; and,
- A wayside sand or gravel pit or stone quarry.

The requested Zoning By-law Amendment, to rezone the subject lands from the existing *General Agricultural* (A2) zone to the *Aggregate Industrial* (ME) zone. The Zoning By-law amendment ensures that the proposed Bardoel Pit is permitted in a manner that meets the provisions and general intent of the Township of South-West Oxford Zoning By-law. The proposed Draft Township of South-West Oxford Zoning By-law Amendment text and schedules is included in Appendix A. It should be noted that the small area of the property currently mapped as *Environmental Protection 1 Overlay* is not proposed to be re-zoned.

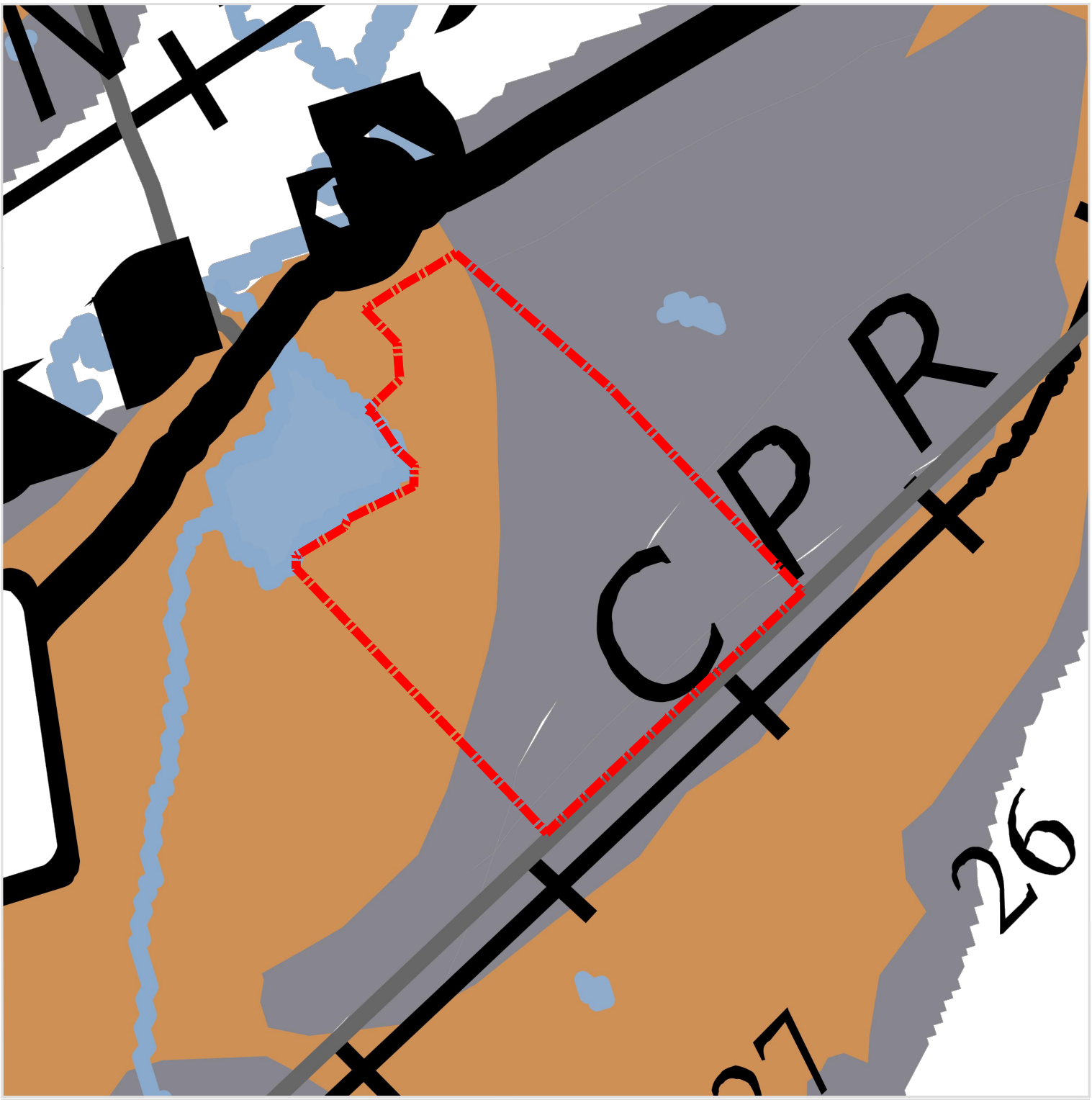


Figure 8
County of Oxford Official Plan Appendix 2-1 Mineral and Petroleum Resources

LEGEND

- License Boundary
- Sand and Gravel Resource Area
- Limestone Resource Area
- Municipal Limits
- Railroads

DATE:	May 2024
SCALE:	1:10,000
FILE:	18218A
DRN:	CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\OXFORD_OP_APPENDIX2-1.DWG

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

Source:
County of Oxford (Jan. 11, 2017)

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

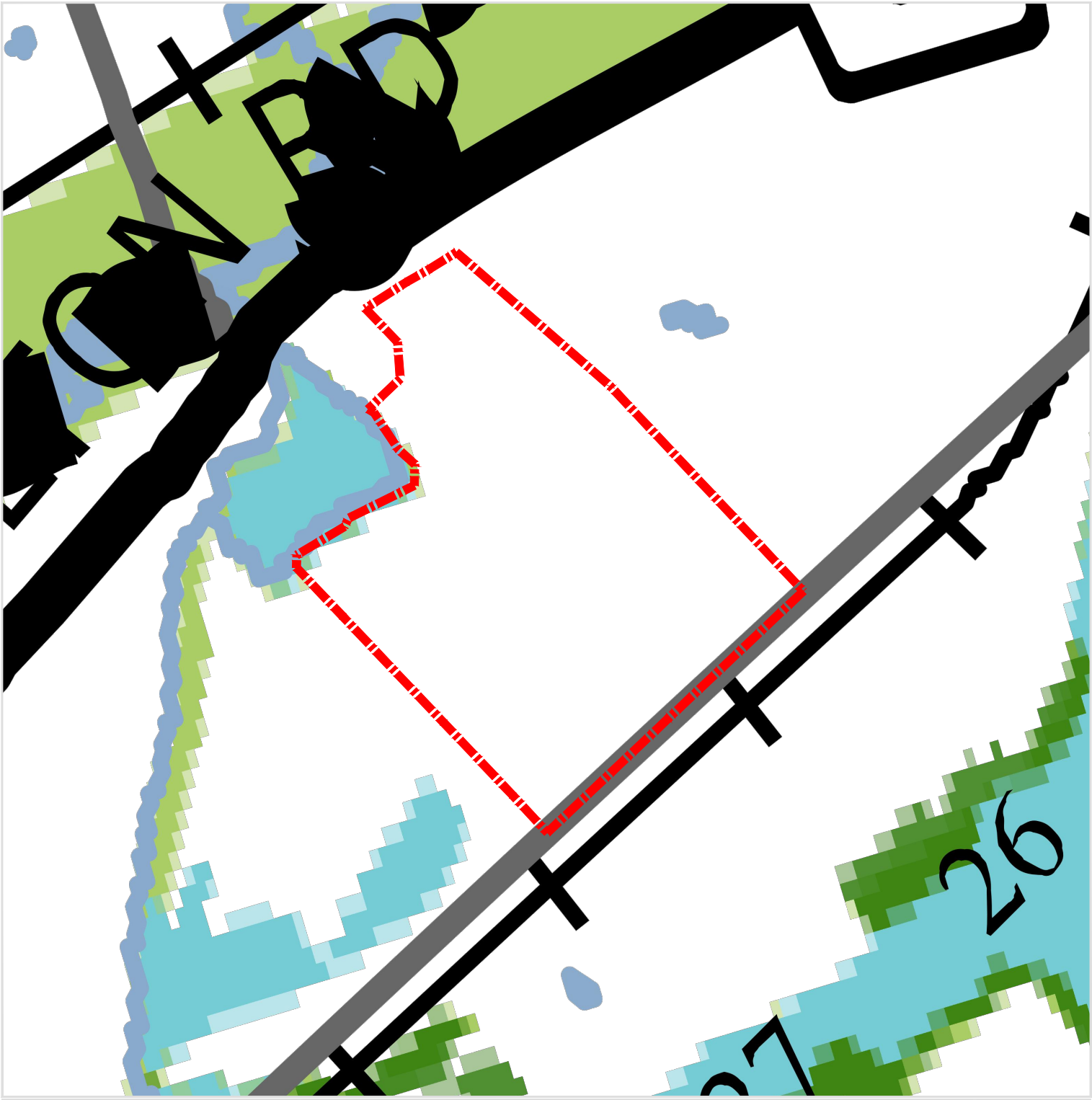


Figure 9
County of Oxford Official Plan Schedule C-1 Environmental Features Plan

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

LEGEND

- License Boundary
- Locally Significant Natural Heritage Features
- Provincially Significant Wetlands
- Significant Valleylands
- Municipal Limits
- Major Roads
- Other Roads
- Railroads

Source:
County of Oxford (Mar. 11, 2015)

DATE:	May 2024
SCALE:	1:10,000
FILE:	18218A
DRN:	CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\OXFORD_OP_SCHEDULEC-1.DWG

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

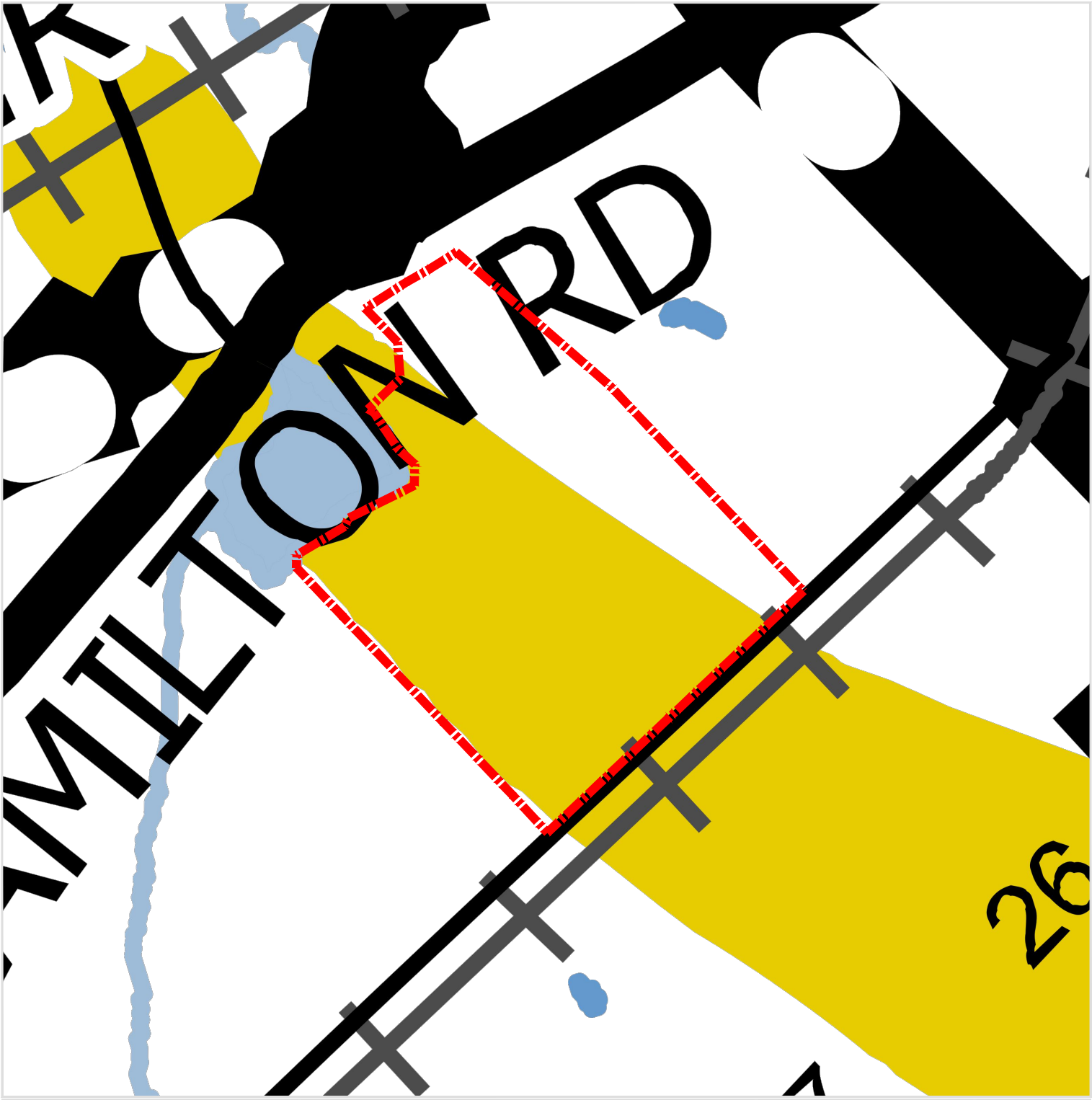


Figure 10
County of Oxford Official Plan Schedule C-5 Source Protection Screening

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

LEGEND

- License Boundary
- Source Protection Area
- WHPA/ICA Significant Threat Screening Area
- Municipal Boundary
- Major Roads
- Other Roads
- Railway

Source:
County of Oxford (Sept. 14, 2022)

DATE:	May 2024
SCALE:	1:10,000
FILE:	18218A
DRN:	CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\OXFORD_OP_SCHEDULEC-5.DWG

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

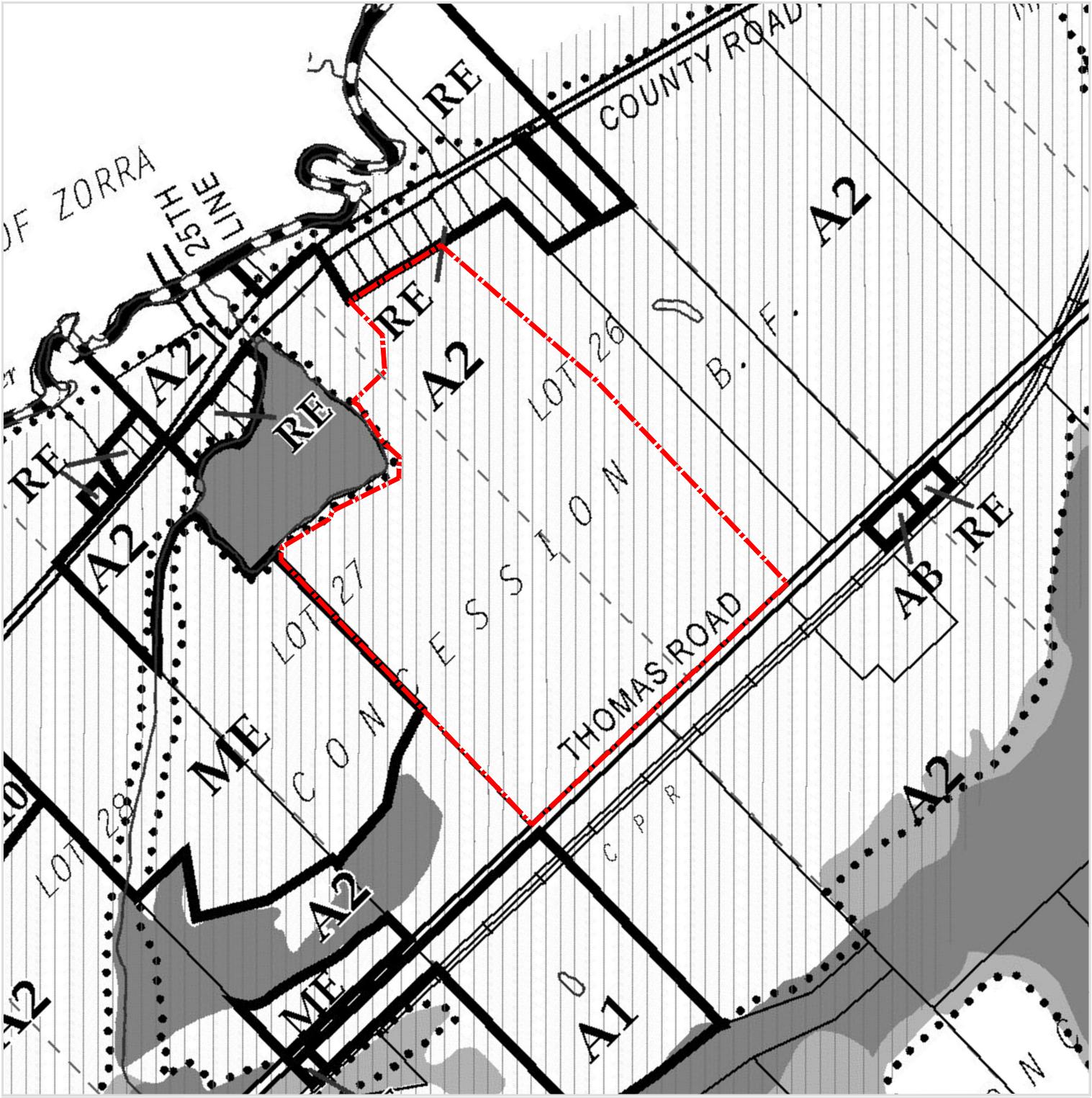


Figure 11
Existing Zoning By-law

LEGEND

License Boundary

A1- Limited Agrigultural Zone
A2- General Agricultural Zone
RE- Residential Existing Lot Zone
AB- Agri-Business Zone
ME- Aggregate Industrial Zone

DATE:	May 2024
SCALE:	NTS
FILE:	18218A
DRN:	GC/CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\SW OXFD ZONING MAP30_MAY2024.DWG

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

Source:
South-West Oxford Zoning By-Law 25-98 Schedule "A" Key Map 30 (Oct. 23, 2019)

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

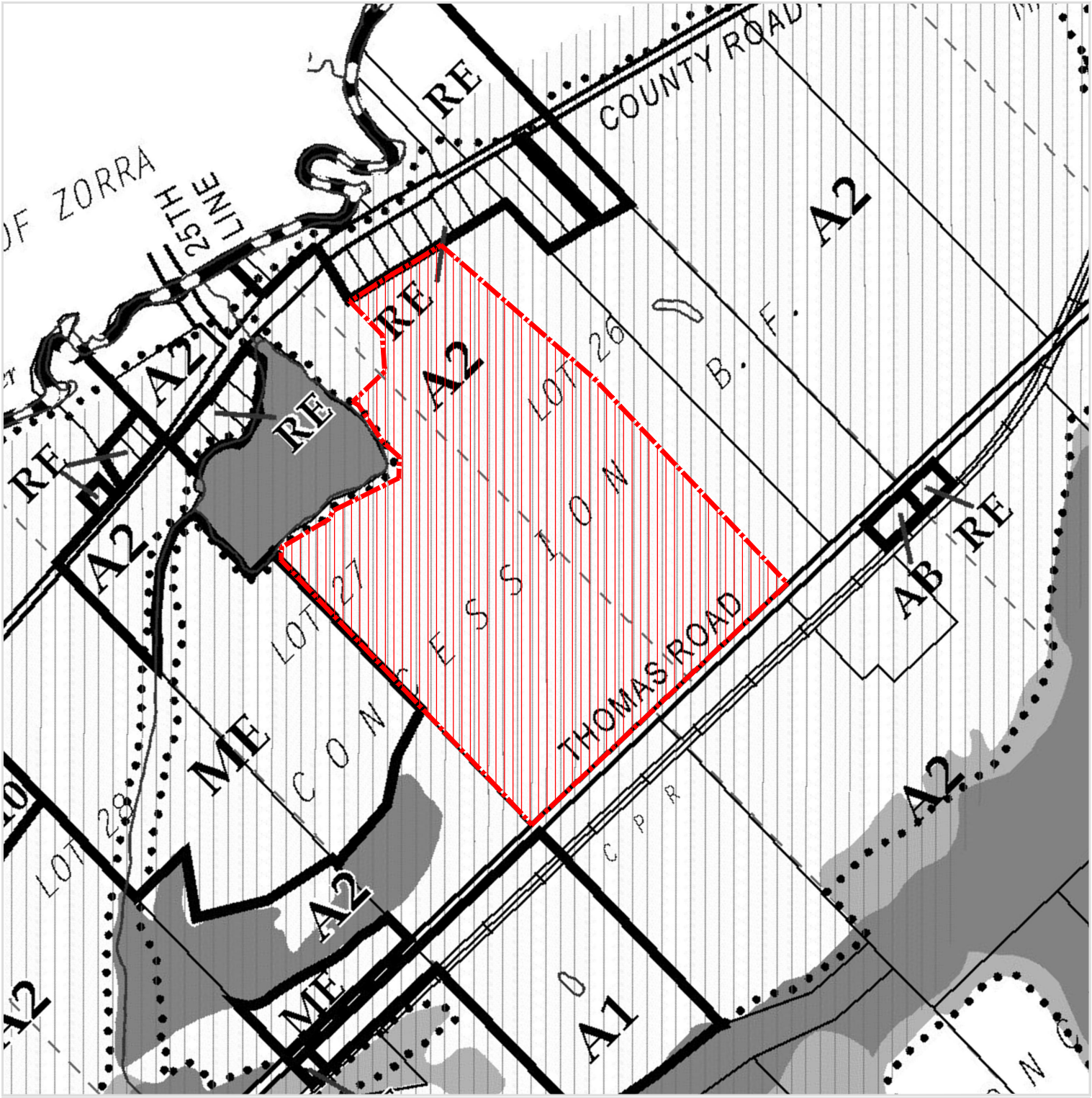


Figure 12
Proposed Zoning By-law

LEGEND

Licensed Boundary

Lands within License Boundary to be rezoned Aggregate Industrial (ME)

A1- Limited Agrigultural Zone
A2- General Agricultural Zone
RE- Residential Existing Lot Zone
AB- Agri-Business Zone
ME- Aggregate Industrial Zone

DATE:	May 2024
SCALE:	NTS
FILE:	18218A
DRN:	GC/CAC

north

K:\18218A- AAROC BARDOEL PIT\RPT\PROPOSEDZONING_MAY2024.DWG

PART LOTS 26 & 27,
BROKEN FRONT CONCESSION
Township of South-West Oxford
County of Oxford

Source:
South-West Oxford Zoning By-Law 25-98 Schedule "A" Key Map 30 (Oct. 23, 2019)

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
200-540 BINGEMANS CENTRE DR. KITCHENER, ON, N2B 3X9
P: 519.576.3650 F: 519.576.0121 | WWW.MHBCPLAN.COM

4.0 Aggregate Resources Act Summary Statement

This Section is completed in accordance with the Aggregate Resources of Ontario: Technical Reports and Information Standards, August 2020. This Section of the Report fulfills "Part 1.0: Summary Statement" requirement of the Class A Licence Application.

J-AAR Materials Limited (J-AAR) is applying for a Class A Licence for a pit below the water table, under the *Aggregate Resources Act* ("ARA") for the property located at 583398 Hamilton Road and legally described as Part Lots 26 and 27, Broken Foot Concession, South-West Oxford, Oxford County. The aggregate material extracted from the proposed pit will be used to supply J-AAR's local asphalt plant (at J-AAR's Whalmsley Pit), as well as other construction and infrastructure projects.

The area proposed to be licensed under the ARA for the proposed Bardoel Pit is approximately 49.4 hectares (122.1 acres) with a proposed extraction area of approximately 45.3 hectares (111.9 acres). Extraction is proposed to occur to a maximum depth of 1-meter above the established water table only. Extraction activities are proposed to be phased (three phases in total) such that extraction will commence at the central western portion of the subject lands and move northward (Phase 1), then recommence at the central western portion of the lands and move south then eastward (Phase 2), and then recommence in the southeastern portion of the lands and move northward (Phase 3) – see Site Plan page 2 of 5. Only two phases will be open at any one time; the intent of this is to maintain access to different materials available in Phase 1 and 3 versus Phase 2. Progressive rehabilitation will closely follow extraction. The total tonnage to be from the proposed pit will be a maximum of 500,000 tonnes annually. Following extraction activities, the lands will be progressively rehabilitated back to an agricultural condition.

The Site Plans are included in the application package and are comprised of 5 pages that provide details and drawings on:

Page 1: Existing Features Plan
Page 2: Operational Plan
Page 3: Notes Page
Page 4: Rehabilitation Plan
Page 5: Cross-Sections

The Site Plans have been completed in accordance with Aggregate Resources of Ontario Site Plan Standards (August 2020).

The following Technical Report are included with the Application and have been completed in accordance with the Technical Reports and Information Standards (August 2020):

2.1 Water Report and Maximum Predicted Water Table Report, prepared by (Novaterra, March 2025)
2.2 Natural Environment Report (MTE, April 2025)
2.3 Stage 1-2 Archaeological Assessment (TMHC, April 2024)
2.4 Acoustic Assessment Report (RWDI, September 2024)
2.5 Traffic Impact Study (SBM, September 2024)

2.6 Agricultural Impact Assessment (MHBC, April 2025)

The following Sections are structured to provide information required under the Provincial Standards for Class A Licence for below the water table pit (though below water table extraction will not occur).

4.1 Agricultural Classification & Rehabilitation Technique

The area proposed to be extracted is currently in an active agricultural condition and produces cash crops in a corn/soybean rotation. Based on the Canada Land Inventory Soils Map produced by the Province and confirmed by the soil survey prepared by DBH, the subject lands are mapped as containing predominantly Class 2 soils (i.e. CLI Class 2), as shown in Figure 6. As required by the Aggregate Resources Act Application Standards, an Agricultural Impact Assessment (MHBC, September 2024) has been completed as part of the Licence Application.

Extraction is proposed to occur a minimum of 1.0 metres above the maximum predicted water table. The Bardoel Pit will be rehabilitated back to an agricultural condition. 10:1 side slopes will be implemented during rehabilitation to maximize the area returned to an agricultural condition, and to ensure connectivity of the agricultural system is maintained and fragmentation avoided.

The total area of the extraction area that will be returned to an agricultural condition[3] will be 45.3 hectares (100% of current agricultural land within proposed extraction area). The pit will be progressively rehabilitated in three phases; rehabilitation phasing and requirements will closely follow the extraction phases. The recommendations from the Agricultural Impact Assessment are included on the Site Plan and implemented in the rehabilitation plan.

Please refer to Section 4.6 for additional detail on the rehabilitation techniques.

4.2 Planning and Land Use Considerations

The subject lands are in a predominately rural and agricultural area of the County of Oxford. There are no natural heritage features located within the proposed Licence boundary. There is a Provincially Significant Wetland (PSW) located northwest of the Licence boundary, and significant woodlands and candidate significant wildlife habitat to the east of the Licence boundary. A 30-metre setback has been established between the PSW and the limit of extraction; a 15-metre setback between the significant woodland and the limit of extraction. With the implementation of the recommendations provided in the Natural Environment Report (NER), no impacts to natural heritage features or their ecological functions are anticipated.

The subject lands are not located in an area subject to any Provincial Plans. The subject lands are designated '*Agricultural Reserve*' and mapped within a Sand and Gravel Resource Area and Limestone Resource Area in the County of Oxford Official Plan (**Figure 6 and Figure 8**). Much of the lands are also mapped within a Wellhead Protection Area (WHPA) Significant Threat Screening Area (Schedule C-5 of the Official Plan as shown in **Figure 10**). Mineral

[3] The PPS 2024 defines *Agricultural Condition* as a condition in which substantially the same areas and same average soil capability for agriculture are restored.

aggregate extraction is permitted within the Agricultural Reserve designation and within the WHPA. The final rehabilitation of the pit will be to an agricultural condition, which is compatible with surrounding land uses and conforms to the land use designations in the County of Oxford Official Plans. No Official Plan amendment is required.

Under the Township of South-West Oxford Zoning By-law No. 25-98, the subject lands are currently zoned *General Agricultural* (A2) and mapped within the Limestone Resource Overlay (**Figure 11**). The northwestern portion of the subject lands, including the Provincially Significant Wetland, is mapped within the *Environmental Protection 1 Overlay* (EP1). Aggregate operations are not a permitted use within the A2 zone; development or site alteration are not proposed within the EP1 zone.

The proposed Zoning By-law amendment ensures that the proposed Bardoel Pit is permitted in a manner that meets the provisions and general intent of the County of Oxford Zoning By-law. The proposed Draft County of Oxford Zoning By-law Amendment text and schedules is included in Appendix A. The small area of the property currently mapped as *Environmental Protection 1 Overlay* is not proposed to be re-zoned.

It is anticipated that the required Planning Act Applications will be submitted concurrently with the ARA Licence Application.

As demonstrated in Section 3.0 of this Report, the proposed Pit extension represents good planning for the County of Oxford. The proposal is consistent with the Provincial Planning Statement (PPS 2024), conforms to County of Oxford Official Plan and the proposed Zoning By-law amendment will meet the provisions of the Township of South-West Oxford Zoning By-Law. See Sections 2.0 and 3.0 of this Report for additional information regarding Planning and Land Use Considerations.

4.3 Source Water Protection

The site lies within the Thames-Sydenham and Region Source Protection Area. Part of the subject site occupies an area designated as WHPA (Well Head Protection Area) associated with Ingersol Municipal Well 3. Aggregate extraction is not identified as a drinking water threat in the Thames-Sydenham and Region Source Protection Plan. Regardless, the Water Report (Novaterra, June 2024) determined that there is no hydraulic relationship between Ingersol Municipal Well 3 and the water table aquifer at the site. Therefore, the Water Report confirmed that the proposed aggregate extraction operations at the Bardoel site do not pose a threat to the Ingersoll municipal water supply.

The proposed mining of sand and gravel will not reach the water table, and therefore will not cause lowering of the water table beneath the area of aggregate removal or in the adjacent lands of the proposed operation. Per the Water Report, the results of these activities would cause insignificant increase in the potential evaporation.

Best management practices will be in place regarding handling of fuel and lubricants which will be located outside the WHPA. A Spills Plan is required per the Site Plan to address this potential risk.

An annual Groundwater Monitoring Program shall extend throughout the life of the pit to assess whether continued operations have impacted groundwater at the subject site, as directed in the Water Report.

4.4 Quality and Quantity of Aggregate on-site

The proposed Bardoel Pit is identified in Provincial Mapping [Aggregate Resources Inventory Paper (ARIP) 159] as a sand and gravel deposits of primary and tertiary significance (see **Figure 5**). This deposit is part of Selected Sand and Gravel Resource Area 7 and is comprised of a glaciofluvial outwash plain-outwash terrace deposit. Testing of this aggregate deposit has indicated the suitability of the material for a variety of granular products and potentially concrete and asphalt aggregate products[4].

In addition, site-specific resource investigations were also undertaken on the subject site. A total of 9 sample boreholes were advanced to assess resource depth and quality. The results of the on-site resource investigations confirm the presence of high-quality aggregate resources. The proposed extraction area contains approximately 1,800,000 to 1,900,000 tonnes of high-quality aggregate resources.

The aggregate resources extracted from the property will be used to supply the J-AAR's nearby asphalt plant (at Whalmsley Pit) and will also supply granular products for use in construction and infrastructure. No more than 500,000 tonnes will be shipped from the proposed pit each year.

4.5 Haul Routes, Truck Traffic, and Entrance Permits

It is expected that at least 80% of the truck traffic will travel to/from the west (towards London), therefore the primary haul route will be west along Oxford Road 9 (becomes Middlesex Road 29 two kilometers west of the site), with some trucks splitting off to the north or south on Middlesex Road 30 (in Putnam). Trucks heading to/from the east are primarily expected to follow Oxford Road 9 (Hamilton Road and King Street West) to Oxford Road 10 (Ingersoll Street), with the majority going to/from the south for access to Highway 401 and some local loads going north.

The site will be accessed from the existing entrance off Hamilton Road. Both Oxford Road 9 (Hamilton Road) and Oxford Road 10 are County Roads which are permitted for use by heavy trucks.

It is estimated that the proposed gravel pit could generate up to 32 trips in each of the AM and PM peak hours (16 inbound and 16 outbound) during the busiest peak hours. The completed Traffic Impact Assessment (SBM, September 2024) confirmed that no improvements to the transportation network are required to accommodate this anticipated truck traffic.

4.6 Progressive and Final Rehabilitation

The following provides a detailed overview of the Rehabilitation Plan for the proposed Bardoel Pit. The Rehabilitation Plan proposes to return 45.3 hectares (100% of the extraction area) to an agricultural condition.

The pit floor and side slopes will be rehabilitated to an agricultural condition. Side slopes returned to an agricultural condition will be graded to a slope of 10:1. A total of 45.3 hectares (100% of extraction area) will be returned to an agricultural condition with Class 2 soils. The

[4] Ontario Geological Survey Aggregate Resources Inventory Paper 159 (2014). Page 24.

Agricultural Impact Assessment (MHBC, September 2024) includes the following recommendations that have been implemented on the ARA Site Plan page 3 of 4:

1. Extraction will occur in phases to minimize the amount of disturbed area. Later phases of the operation that are not currently in extraction shall remain in agricultural production for as long as realistically possible.
2. Agricultural rehabilitation shall be in accordance with the agricultural rehabilitation sequence schematic on the Rehabilitation Plan to ensure best practices are followed throughout the progressive rehabilitation of the pit.
3. Prior to the commencement of stripping, agricultural baseline conditions shall be established by a qualified professional for the entire extraction area, using an accredited lab for any analytical testing. Soil inspections shall be conducted at a density to allow for sufficient coverage of the area. The parameters for the baseline conditions soil testing shall be determined by the qualified professional and shall include items such as soil macro and micronutrients, soil chemistry (e.g., pH, etc.), organic matter, soil texture and structure and bulk density.
4. Progressive rehabilitation procedures that avoid substantial storage of topsoil and minimize the storage of subsoil shall be implemented. Stripped soils, not required for berm construction, shall be moved directly to depleted areas where they will be immediately used for agricultural rehabilitation. Stripping areas shall be limited to what is required for the season of operation.
5. During pit operations, access to the agricultural rehabilitation areas and undisturbed areas used for agricultural purposes will be maintained.
6. Topsoil and subsoil shall be replaced across the site at the same pre-extraction depths, as documented in the DBH Soil Report, 2024, which is approximately 26 centimeters for topsoil and 36 centimeters for subsoil, in accordance with the agricultural schematic on the plan.
7. Soil will be handled under suitable conditions. Travel over soils and rehabilitated areas shall be minimized to reduce compaction. Ripping / tilling the soil will occur, where necessary, to alleviate soil compaction and shall avoid the mixing of soil materials / layers during the process.
8. Once grading is completed, a vegetation cover (such as perennial crops) shall be immediately established within the agricultural rehabilitation area to reduce erosion, add organic matter to the soil and improve soil structure. A grass-legume cover crop shall be established throughout rehabilitation and maintained for up to five years and ploughed under annually to promote and increase organic matter. Alternatively, field crops (e.g. wheat, soy, corn, hay) shall be established immediately following rehabilitation grading.
9. After final rehabilitation, soil testing shall be completed by a qualified professional to analyze soil conditions to demonstrate that pre-extraction soil capability has been restored. Adjustments to cropping practices and/or soil amendments may be required based on the results of the soil testing and shall be undertaken in consultation with the property owner. A report shall be submitted by a qualified

professional following final rehabilitation and provided to MNR prior to Licence surrender to demonstrate that the agricultural area has been rehabilitated back to the pre-extraction soil capability (CLI Class 2 soil capability).

10. Best management practices shall be implemented with respect to the storage and application of organic material, fertilizers, and pesticides.

5.0 Summary & Conclusions

MHBC has prepared this Planning Report and Aggregate Resources Act Summary Statement in support of the Aggregate Resources Act Licence and Planning Act Zoning By-law Amendment applications. The Applications will permit the development of the proposed Bardoel Pit.

The proposed Bardoel Pit will secure high quality aggregate resources close to market. Aggregate materials will be used to supply J-AAR's existing asphalt plant and granular materials will be used in local and regional construction and infrastructure projects.

The Bardoel Pit has been designed to minimize impacts on adjacent sensitive receptors and to ensure that there will be no negative impacts to surface and groundwater resources as well as natural heritage features.

The site will be rehabilitated to an agricultural condition. 10:1 slopes have been incorporated into the rehabilitation plan so that 100% of the extraction area can be returned to an agricultural condition.

As demonstrated in this Report, the Bardoel Pit

- Is consistent with the Provincial Planning Statement 2024;
- Conforms with the County of Oxford Official Plan; and,
- Includes all the information required by the Aggregate Resources Act Provincial Standards (2020).

It is concluded that the proposed development is desirable, appropriate, and represents good planning.

Respectfully submitted,

MHBC

Neal DeRuyter, BES, MCIP RPP
Partner

Chelsea Brooks, MA, MSc, RPP, MCIP
Planner

A

Appendix A: Draft Township of South-West Oxford Zoning By-law

THE CORPORATION OF THE

TOWNSHIP OF SOUTH-WEST OXFORD

BY-LAW NUMBER ##-2024

A By-Law to amend Zoning By-Law Number 25-98, as amended.

WHEREAS the Municipal Council of the Corporation of the Township of South-West Oxford deems it advisable to amend By-Law Number 25-98, as amended.

THEREFORE, the Municipal Council of the Corporation of the Township of South-West Oxford, enacts as follows:

1. That Schedule "A" to By-Law Number 25-98, as amended, is hereby further amended by changing to "ME" the zone symbol of the lands so designated "A2" on Schedule "A" attached hereto.

2. This By-Law comes into force in accordance with Sections 34(21) and (30) of the Planning Act, R.S.O. 1990, as amended.

READ a first and second time this x day of xx, 2024

READ a third time and finally passed this xnd day of xx, 2024

_____

David Mayberry - Mayor

_____

Julie Middleton – Clerk

B

Appendix B: Detailed Policy Review of the Provincial Planning Statement 2024

Provincial Planning Statement (2024) Policies	Proposed Application
2.5.1 Rural Areas in Municipalities Healthy, integrated and viable rural areas should be supported by: *e) promoting diversification of the economic base and employment opportunities through goods and services, including value-added products and the sustainable management or use of resources; (2.5.1e)*	The Subject Lands are located within a rural area of the County of Oxford, outside of any Settlement Area or Urban boundary. The management or use of mineral aggregate resources is a permitted use in the rural area. The proposed pit represents the wise management of a non-renewable resource that is near major markets and will support long-term economic prosperity and diversity of the rural economy by optimizing the use of land and resources. Once fully extracted, the Bardoel Pit will be returned to a predominately agricultural use.
3.5.1 Land Use Compatibility *Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures. (3.5.1)*	The proposed pit has been designed in a manner that mitigates potential adverse effects on nearby sensitive uses, through setbacks, vegetated berms, operational controls, and mitigation measures. The risk to public health and safety are minimized through the implementation of the recommendations of the technical reports and studies and by the monitoring and mitigation of potential effects as required by the ARA Site Plans.
3.2 Transportation Systems *"Transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, are appropriate to address projected needs, and support the use of zero- and low- emission vehicles."* (3.2.1) *"Efficient use shall be made of existing and planned infrastructure…" (3.2.2)*	The proposed pit represents an efficient use of existing infrastructure by utilizing an existing and established haul route that makes use of County Roads and Provincial highways.
4.1 Natural Heritage *"Natural features and areas shall be protected for the long term."* (4.1.1)	The area proposed to be Licensed is in an agricultural condition. On the subject lands but outside of the proposed Licenced area,

"The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features."(4.1.2) *"Development and site alteration shall not be permitted in significant wetlands and significant woodlands" (4.1.4 and 4.1.5)* *"Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements."(4.1.6)* *"Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements."(4.1.7)* *"Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 4.1.4, 4.1.5 and 4.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions." (4.1.8)*	there is a small PSW (to the northwest), a significant woodland (to the east), and three candidate bat maternity trees along the eastern boundary of the site. No development or site alteration is proposed in these features. The limit of extraction is setback 30-metres from the PSW, 15-metres from the dripline of the significant woodland, and 15-metres from the candidate bat maternity trees. Overall, appropriate setbacks have been identified and implemented in the pit design to protect the identified significant natural heritage features. No extraction or any disturbance related to the pit will occur in these setback areas and the setbacks will remain undisturbed as self-sustaining vegetation. Further, sediment and erosion control measures will be installed and monitored, and all stockpiled aggregates will be stored in a location that will prevent the movement of sediment laden runoff into the PSW.
4.2 Water *"Planning authorities shall protect, improve or restore the quality and quantity of water by…"(4.2.1)* *"Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored, which may require mitigative measures and/or alternative development approaches." (4.2.2)*	The Water Report and Maximum Predicted Water Table Report identified and characterized on-site and nearby water resource systems. The technical analysis completed in this Report assessed the potential impacts to water resource system from the proposed pit operation including potential watershed impacts, the protection of municipal drinking water supplies and maintain water resource functions and features. Through the implementation of the recommended mitigation measures the quality and quantity of water will be protected.

	Only extraction 1.0 m above the water table is proposed. The potential impacts of the pit operation relative to the quality and quantity of groundwater and surface water were assessed in the Water Report and Maximum Predicted Water Table Report. The results of the Report conclude that there will be no adverse hydrogeological impacts to water resources. A monitoring and mitigation program will be implemented to ensure that the quality and quantity of both local groundwater and surface water will be maintained.
4.3.5 Non-Agricultural Uses in Prime Agricultural Areas *Planning authorities may only permit non-agricultural uses in prime agricultural areas for:* *a)* extraction of *minerals*, *petroleum resources* and *mineral aggregate resources (4.3.5.1)* "*Impacts from any new or expanding non-agricultural uses on the agricultural system are to be avoided, or where avoidance is not possible, minimized and mitigated as determined through an agricultural impact assessment or equivalent analysis, based on provincial guidance." (4.3.5.2)*	The subject lands are located within a prime agricultural area and contain prime agricultural lands that, on average, are comprised of Class 2 soils. The lands are not within a specialty crop area. As demonstrated in the Agricultural Impact Assessment (MHBC, 2024) there will be no negative impact to agricultural resources in the surrounding area. As provided in the supporting Agricultural Impact Assessment, the proposed pit with be extracted and rehabilitated sequentially to reduce disturbance and all potential impacts (e.g. dust and noise) will be mitigated. The proposed rehabilitation plan will return 45.3 hectares (100%) of land to an agricultural condition.
4.5 Mineral Aggregate Resources *"Mineral aggregate resources shall be protected for long-term use and, where provincial information is available, deposits of mineral aggregate resources shall be identified." (4.5.1)* *"As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible." (4.5.2.1)*	The subject lands contain mineral aggregate resources consisting of high-quality sand and gravel resources that are identified in local and provincial mapping. The proposal makes available high-quality mineral aggregate resource that are located close to market, including the London, Ingersoll and Woodstock market areas along the 401.

"Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts." (4.5.2.2) *"Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, wherever feasible." (4.5.2.3)* "*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.*" (4.5.3.1) *"Comprehensive rehabilitation planning is encouraged where there is a concentration of mineral aggregate operations" (4.5.3.2)* *"In prime agricultural areas, on prime agricultural land, extraction of mineral aggregate resources is permitted as an interim use provided that:* *a) impacts to the prime agricultural areas are addressed, in accordance with policy 4.3.5.2; and,* *b) the site will be rehabilitated back to an agricultural condition." (4.5.4.1)*	A total of 7 technical reports were completed to assess the potential impacts of the proposed pit operation. Based on the completed impact assessment, specific mitigation measures have been identified to minimize impacts and have been incorporated into the pit design and operational plans. Therefore, the operation has been designed in a manner which minimizes social, economic and environmental impacts. Based on proximity of the proposed pit to existing J-AAR aggregate operations that include recycling activities, aggregate recycling activities are not proposed on the site. Extraction and rehabilitation of the pit will occur in phases to reduce the amount of area disturbed and ensure that rehabilitation occurs progressively. The final rehabilitation of the pit will be to an agricultural condition. This proposed final land use is compatible with surrounding land uses and conforms to the land use designations in the County of Oxford Official Plans. The proposed Bardoel Pit will be rehabilitated to an agricultural use. The proposed Pit is in a prime agricultural area, on prime agricultural land. Much of the area that will be extracted will be returned to an agricultural condition through rehabilitation (a total of 45.3 ha or about 100% of the extraction area).
4.6 Cultural Heritage and Archaeology *"Planning authorities shall not permit development and site alteration on lands containing archaeological resources or areas of archaeological potential unless the significant archaeological resources have been conserved."(4.6.2)*	Based on the Archaeological Assessment (TMHC, 2024), the proposed pit will have no negative impacts archaeological resources on the subject lands. No cultural heritage resources are present on the lands.

C

Appendix C: Detailed Policy Review of the County of Oxford Official Plan

County of Oxford Official Plan Policies	Proposed Application
3.1 Agricultural Land Resources Policies It is a strategic aim of the County to: "*Preserve and protect lands designated as Agricultural Reserve on all Land Use Schedules for agricultural and resource extraction uses, and particularly, farming uses*" (3.1.2). "*Sand and gravel, oil, gas and gypsum extraction and ancillary uses are also permitted as interim uses in accordance with the policies in Section 3.4, Resource Extraction Policies*" (3.1.4.1)	Mineral aggregate extraction is permitted in the Agricultural Reserve designation as an interim use. The pit will be rehabilitated back to an agricultural condition.
3.4.1 Mineral Aggregate Resource Policies The Official Plan provides several objectives with respect to resource development in the County, including: • Recognizing the importance of mineral aggregate resources as essential non-renewable natural resources; • Ensuring the wise use and management of aggregate resources; • Ensuring the orderly extraction and optimum utilization of aggregate resources; • Identifying and protecting existing approved aggregate operations and mineral aggregate resource deposits from incompatible uses; and, • Minimizing potential negative impacts to water resources, the natural heritage system, agricultural operations, and local communities.	In line with these objectives, the proposed agricultural after-use is in conformity with the After-Use Priorities and Rehabilitation Policies of Section 3.4.1.3.4 and is compatible with existing and proposed land uses in the surrounding area. Additionally, the proposed rehabilitation plan will provide net environmental gain in accordance with the policies of Section 3.4.1.3.6. As well, the proposed rehabilitation plan is technically feasible, environmentally sound and would be in compliance with the permitted uses and policies of the underlying land use designation or applicable overlay.
Policy 3.4.1.3.2 requires that a Zoning By-law amendment to permit a new mineral aggregate operation demonstrate the following: • that the proposal is consistent with the principles, strategic initiatives, objectives and policies of this Plan; • Impacts, and cumulative impacts, as applicable, have been assessed and found to be acceptable relative to the potential adverse effects on: ○ the municipal transportation system;	The proposed mineral aggregate operation will provide for the orderly extraction and optimum utilization of aggregate resources within sand and gravel deposits of primary and secondary significance. Several cooperative efforts between nearby aggregate operations are proposed/contemplated. In conformity with Section 3.4.1.3.3 of the Official Plan, the proposed operation intends to utilize existing processing facilities at the nearby J-AAR operated Whalmsley Pit. As well, per Policy

○ the natural heritage features and areas and on the broader natural heritage system; ○ the quantity and quality of surface water and groundwater and on domestic and municipal water supplies; ○ agricultural resources and operations; ○ potentially affected residents and the community regarding noise, dust, particulate matter, air quality, traffic and other potential social and economic impacts; and ○ cultural heritage resources.	3.4.1.3.6, the setback between the shared boundary of the subject lands and the Wilford Pit (Licence No. 16190) is proposed to be extracted to allow for the integrated rehabilitation of the sites in order to optimize the amount of land rehabilitated back to an agricultural condition. As outlined in subsections 2.4-2.8 of this report, seven technical reports – including a Maximum Predicted Water Table Report, Hydrogeological Study, Natural Environment Report, Archaeological Assessment, Acoustic Assessment, Traffic Impact Study, and Agricultural Impact Assessment – have been completed to assess the impacts and potential adverse effects of the proposed pit operation on traffic, natural heritage features, surface water and groundwater, agricultural operations, sensitive receptors, and cultural heritage resources. Specific mitigation measures, including setbacks, berms, and operational controls, have been identified and incorporated into the pit design and operational plans to minimize social, economic and environmental impacts. In terms of the proposed after-use, extraction and rehabilitation of the pit will occur in phases in order to reduce the amount of area disturbed and ensure that rehabilitation occurs progressively. In accordance with Section 3.4.1.3.5, the final rehabilitation of the pit will be to an agricultural condition, which is compatible with surrounding land uses and conforms to the land use designations in the County of Oxford Official Plans
This Plan establishes land use and natural resource priorities for the County and the Area Municipalities which balance the protection of natural resources with other public interests such as ensuring reasonable opportunities for settlement growth. It is a principle of the Plan that where aggregate resource extraction and settlement development have the potential to conflict with one another due to the proximity	A total of 7 technical reports were completed to assess the potential impacts of the proposed pit operation. Based on the completed impact assessment, specific mitigation measures have been identified to minimize impacts and have been incorporated into the pit design and

between these types of land uses, issues of land use compatibility shall be considered and adequately addressed to minimize such potential conflicts: *Where new extraction is proposed in proximity to an existing settlement or other sensitive land use, the responsibility for mitigation will be addressed by the pit proponent primarily through the licensing process of the Aggregate Resources Act. Arrangements for mutually satisfactory mitigative measures between extraction and development proponents will be encouraged* (3.4.1.5)	operational plans. Therefore, the operation has been designed in a manner which minimizes social, economic and environmental impacts. The proposed Licence boundary is located approximately 550 metres from the settlement area. The technical reports generally studied the potential for impacts at receptors much closer to the proposed pit than the settlement area boundary. For example, the acoustic assessment assessed impacts on sensitive receptors as close as directly adjacent to the proposed aggregate extraction operation. If the proposed mitigation measures were determined by the engineer to be sufficient to ensure that the operation operated at acceptable noise levels at these nearby sensitive receptors, then by extrapolation noise levels would be acceptable at sensitive receptors located further away. As well, the haul route does not pass through areas within the settlement area proposed for residential development, but rather through the existing industrial area and out to Highway 401.
3.2 Environmental Resource Policies Section 3.2 of the Official Plan outlines policies to achieve environmental resource goals such as maintaining water quality, resource and energy conservation, natural area preservation, and creating high quality living environments. The following policies are relevant to this proposal: "*All development or site alteration occurring within the County of Oxford within or adjacent to the features forming the Natural Heritage System shall minimize and, where possible, prevent negative effects associated with development by incorporating best management practices for stormwater management, erosion and sedimentation controls, tree-saving plans and other such site design and servicing measures." (3.2.3.3)*	The proposed pit will implement best management practices to prevent negative impacts on the natural heritage features identified and recommended by the Natural Heritage Report.

"Subject to the policies of Section 3.2.4.2, development or site alteration on lands adjacent to Environmental Protection Areas shall be consistent with the permitted uses of the underlying land use designation." (3.2.4.1.1).	Sand and gravel operations and ancillary uses are permitted as interim uses in the subject land's Agricultural Reserve designation in the Official Plan.
"*Where development may be permitted within or adjacent to an Environmental Protection Area and an Environmental Impact Study is required, such development shall be subject to a site-specific zoning by-law amendment, in addition to any other appropriate development applications that may be required.*" (3.2.4.2)	As sand and gravel operations and ancillary uses are permitted as interim uses within the Agricultural Reserve designation of the subject lands, the proposed application includes a site-specific Zoning By-Law amendment to permit aggregate extraction.
"*Development or site alteration may be permitted on lands adjacent to significant wetlands provided an Environmental Impact Study is prepared in accordance with Section 3.2.6 and the policies of this Section.* *In addition to the requirements of Section 3.2.6, the Environmental Impact Study for lands adjacent to a significant wetland will examine the merits of the proposed development to ensure that such development will not result in any of the following:* • *loss of wetland functions both hydrological and ecological;* • *subsequent demand for future development which will negatively impact on existing wetland functions;* • *conflict with existing site-specific wetland management practices; and* • *loss of contiguous wetland area."* (3.2.4.2.1)	To ensure no negative impacts on the PSW adjacent to the subject lands, recommendations set out in the Natural Environment report will be implemented. These recommendations include: • a 30-metre buffer between the PSW and licence extraction boundary; • develop and implement groundwater monitoring and contingency plan; and • flag the 30-metre buffer from the established fence line prior to earth works operations. The NER confirmed that the PSW will not be impacted due to the design of the application.
"*Where other significant wildlife habitat has been identified, development and site alteration within and on lands adjacent to such areas will require the preparation of an Environmental Impact Study in accordance with Section 3.2.6 to confirm the location and geographic extent of such habitat areas and to demonstrate that the proposal will not result in negative effects on the habitat area.*" (3.2.4.2.2)	A candidate significant wildlife habitat was identified adjacent to the natural vegetation communities surrounding the subject lands. No adjacent features will be removed or directly impacted with the incorporation of a 15-metre buffer from the licence boundary, as recommended by the NER.
"*Development and site alteration within and on lands adjacent to a significant woodland will require the preparation of an Environmental Impact Study in accordance with Section 3.2.6 which demonstrates*	No removal of woodland feature is proposed, as a result no negative impacts are expected. A 15 m buffer from the woodland dripline is implemented on the Site Plan to protect the ecological functions of the woodland.

that the proposal will not result in a negative impact on the woodland." (3.2.4.2.5) "*Where an aggregate extraction operation is proposed on adjacent lands to significant wetlands… as identified by the Province and/or by the County… it must be demonstrated that there will be no negative impacts on the natural features or their ecological functions and that a net environmental gain, consistent with the policies of Section 3.4.1.3.6 will be achieved".* In addition to the above policy pertaining to aggregate extraction within, or on adjacent lands to, natural heritage features and areas, where an aggregate extraction operation is proposed within, or on adjacent lands to, the County's natural heritage system, as set out in Section 3.2 of this Plan, it must be demonstrated through the comprehensive land use study/report required in Section 3.4.1.3.2 that: • *any negative impacts on the natural heritage system and its ecological functions will be minimized;* • *the diversity and connectivity of the natural features and areas comprising the natural heritage system, and the long term ecological function and biodiversity of the natural heritage system will be maintained, restored or where possible, improved; and* • *net environmental gain, consistent with the policies of Section 3.4.1.3.6 will be achieved." (3.4.1.6)*	Overall, appropriate setbacks have been identified and implemented in the pit design to protect the identified significant natural heritage features. No extraction or any disturbance related to the pit will occur in these setback areas and the setbacks will remain undisturbed as self-sustaining vegetation. Further, sediment and erosion control measures will be installed and monitored, and all stockpiled aggregates will be stored in a location that will prevent the movement of sediment laden runoff into the PSW. Overall, the NER confirms that there will be no negative impacts on the natural heritage system or its ecological function.
3.3 Cultural Heritage Resource Policies Cultural Resource policies are outlined in section 3.3 of the Official Plan which align with the goals of facilitating safe and healthy conditions and conserve heritage resources. "*Where appropriate, applications for development, shall be circulated to the Ministry of Municipal Affairs and Housing to be assessed for the potential presence*	A Stage 1 and 2 Archaeological Assessment has been completed by TMHC. The Stage 1 assessment revealed that the property had potential for the discovery of archaeological resources and a Stage 2 survey was recommended and carried out. The Stage 2 assessment (combined pedestrian and test pit assessment at 5 m and 10 m intervals) resulted in the identification of archaeological material in four locations, none of which

of archaeological resources. Where the potential for such resources has been identified, an archaeological assessment undertaken by a qualified individual will be required to determine the following: • *assess the value of the archaeological resource; and* • *assess the impact of the proposed development and the recommended methods to be used to protect such archaeological resource or institute measures to avoid or lessen any negative impact on the resource." (3.3.2.4)*	qualify for Stage 3 assessment based on provincial criteria. As such, the subject property is considered free of archaeological concern and no further archaeological assessment is recommended. Clearance was received from the Ministry of Tourism, Culture and Sport.

D

Appendix D: CVs of Report Authors

Education

University of Waterloo
Bachelor of Environmental Studies
Honours Planning (Co-op)
2008

Professional Associations

Full Member, Canadian Institute of Planners (CIP)

Full Member, Ontario Professional Planners Institute (OPPI)

Member, Pragma Council (University of Waterloo)

Contact

200-540 Bingemans Centre Dr.
Kitchener, ON
N2B 3X9

T: 519 576 3650 x733
nderuyter@mhbcplan.com
www.mhbcplan.com

MHBC | PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

Neal DeRuyter

BES, MCIP, RPP

Neal DeRuyter, a Partner with MHBC, joined the firm in 2009 after graduating from the University of Waterloo in the Honours Planning Co-op program. Mr. DeRuyter has worked as a Planner in the private and public sectors with experience in aggregate resource, development and municipal planning.

Mr. DeRuyter has processed and managed several development applications including zoning by-law amendments, official plan amendments, and licence and site plan applications under the Aggregate Resources Act. He is certified by the Ministry of Natural Resources & Forestry to prepare site plans under the Aggregate Resources Act. He is a Registered Professional Planner and is a member of the Canadian Institute of Planners and Ontario Professional Planners Institute. He has provided expert evidence before the Ontario Municipal Board, Local Planning Appeal Tribunal and Ontario Land Tribunal.

He has participated and authored several research studies and articles related to aggregate resource management. Mr. DeRuyter has presented on several occasions for various events at the School of Planning at the University of Waterloo. Mr. DeRuyter is a member of the Pragma Council at the University of Waterloo.

Professional History

Partner, MacNaughton Hermsen Britton Clarkson Planning Limited (2017 – Present)

Associate, MacNaughton Hermsen Britton Clarkson Planning Limited (2013 – 2017)

Planner, MacNaughton Hermsen Britton Clarkson Planning Limited (2009 – 2013)

Publications

- 'Future Aggregate Availability and Alternatives Analysis, State of the Aggregate Resource in Ontario Study, 2009' (MNR)
- 'The Future of Ontario's Close to Market Aggregate Supply: The 2015 Provincial Plan Review' (OSSGA, 2015)
- Agricultural Impact Assessment and Rehabilitation Plan Guidelines for Aggregate Extraction, 2016 (OMAFRA)

Selected Project Experience

- Research, preparation and coordination of reports / applications under the Planning Act, Niagara Escarpment Planning and Development Act and Aggregate Resources Act.
- Project management services for development applications.
- Conduct notification and consultation processes under the Aggregate Resources Act. including consultations with Indigenous Communities.
- Due diligence and property overview reports for prospective aggregate sites.
- Aggregate Resources Act site plan amendments.
- Planning assessment for commercial, residential, agricultural and industrial developments.
- Planning assessment for proposed urban use requests in Niagara Escarpment Plan through 2015-2017 Review.
- Research and preparation of reports / evidence for hearings before the Ontario Municipal Board / Local Planning Appeal Tribunal/Ontario Land Tribunal.
- Planning research and assessment for expropriation matters on behalf of public and private sector clients.

Selected Project Examples

- Bell Sand Farms Grose Pit Extension, Perth County
- Blueland McCormick Pit, Town of Caledon
- Brock University, Niagara Escarpment Plan Lands, City of St. Catharines
- Cambridge Aggregates Inc. Edworthy West Pit, Township of North Dumfries
- CBM Ayr Pit, Township of North Dumfries
- CBM Brantford Pit, County of Brant
- CBM Bromberg Pit, Township of North Dumfries
- CBM Dorchester Pit, Municipality of Thames Centre
- CBM Eramosa Pit Extension, Township of Centre Wellington
- CBM Aberfoyle South Pit Expansion, Township of Puslinch
- CBM Lanci Pit Expansion, Township of Puslinch
- Caledon Sand & Gravel, Town of Caledon
- Capital Paving Shantz Station Pit, Township of Woolwich
- City of Iqaluit Pit and Quarry Operations Plans
- City of Kingston, Barriefield Affordable Housing Feasibility Study
- Erie Sand & Gravel MOS Pit, Municipality of Leamington
- Fidelity Construction Colborne Pit, Township of Cramahe
- Gallo Contracting Industrial Use, Township of Puslinch
- Halton Crushed Stone Erin Pit Extension, Town of Erin
- J-AAR Materials Ltd. Bardoel Pit, Township of Southwest Oxford
- James Dick Construction Ltd. Adjala Pit Extension, Township of Adjala-Tosorontio
- James Dick Construction Ltd. Erin Pit Extension, Town of Caledon
- James Dick Construction Ltd. Gamebridge Quarry, Township of Ramara
- James Dick Construction Ltd. Reid Road Quarry, Town of Milton
- Kaneff Properties, Royal Niagara Golf Club, City of St. Catharines
- KPM Brantford Plant Expansion, Brant County
- Lafarge Canada Inc. Brantford Pit Expansion, County of Brant
- Lafarge Canada Inc. Hagersville Quarry, County of Haldimand
- Lafarge Canada Inc. Navan Quarry Extension, City of Ottawa
- Lafarge Canada Inc. Talbot Pit, City of London
- Lafarge Canada Inc. West Paris Pit, County of Brant
- Lillycrop Highway 6 Expropriation, Township of Puslinch
- Limehouse Clay Products Ltd. Georgetown Quarry, Town of Halton Hills
- Miller Aggregates Paris Plains Pit, Brant County
- Ministry of Agriculture, Food and Rural Affairs, Agricultural Impact Assessment and Rehabilitation Plan Guidelines for Aggregate Extraction (2016)
- Ministry of Natural Resources and Forestry, State of the Aggregate Resources in Ontario Study (2009)
- Ministry of Transportation, Highway 410 Expropriation, Town of Caledon
- North York Sand & Gravel Manvers Pit, City of Kawartha Lakes

- Nunavut Association of Municipalities Aggregate Resource Management Plans
- Ontario Stone, Sand & Gravel Association, Municipal Official Plan Reviews in Ontario
- Ontario Trap Rock Quarry, Town of Bruce Mines
- Queenston Quarry Reclamation Company Redevelopment, Town of Niagara-on-the-Lake
- Ramada Beacon Hotel, Town of Lincoln
- R.W. Tomlinson Ltd. Brechin Quarry, City of Kawartha Lakes
- R.W. Tomlinson Ltd. Brickyards Quarry, City of Ottawa
- R.W. Tomlinson Ltd. East Oxford Pit, Municipality of North Grenville
- R.W. Tomlinson Ltd. Environmental Services, Joyceville Environmental Centre, City of Kingston
- R.W. Tomlinson Ltd. Kemptville Quarry, Municipality of North Grenville
- R.W. Tomlinson Ltd. Moodie Quarry Expansion, City of Ottawa
- R.W. Tomlinson Ltd. Moore Quarry, City of Ottawa
- R.W. Tomlinson Ltd. Napanee Asphalt Plant, Town of Greater Napanee
- R.W. Tomlinson Ltd. Reids Mills Pit, City of Ottawa
- R.W. Tomlinson Ltd. Stittsville Quarry, City of Ottawa
- R.W. Tomlinson Ltd. Storyland Pit, Renfrew County
- R.W. Tomlinson Ltd. Ready-Mix Site Plan Approval, City of Ottawa
- Sunrock Canada Burnt River Quarry, City of Kawartha Lakes
- Sunrock Canada Hockley Pit, Town of Uxbridge
- Tackaberry Construction, Woods Quarry Expansion, Elizabethtown-Kitley Township
- Thomas Cavanagh Construction West Carleton Quarry Extension, City of Ottawa
- Thomas Cavanagh Construction Arnott Pit, Lanark County
- Thomas Cavanagh Construction Highland Line Pit, Lanark County
- Thomas Cavanagh Construction Goulbourn Quarry, City of Ottawa
- Thomas Cavanagh Construction Pembroke Quarry, Renfrew County
- Township of Guelph-Eramosa, Review of Tri-City Spencer Pit
- Township of West Lincoln, Preliminary Bedrock Resource Assessment in Smithville
- Walker Aggregates Inc. Amherstburg Quarry and McGregor Quarry, Town of Amherstburg
- Waterford Sand & Gravel Law Quarry Extension, Township of Wainfleet
- Wm. J. Gies Construction Stockyards Lands, Township of Woolwich

Presentations

- "2024 Planning and Policies Update"- Ontario Stone Sand and Gravel Association, 2024 AGM
- "Planners Forum" - Ontario Stone Sand & Gravel Association 2023 AGM
- "Bill 23 and Provincial Planning Changes" – Ontario Stone Sand & Gravel Association 2023
- "Ontario Land Use Planning Update" – Ontario Stone Sand & Gravel Association 2022 AGM
- "Public Engagement in the Time of Covid-19" – Ontario Stone Sand & Gravel Association 2021 AGM
- "Aggregate Information Session & Tour" – OPPI Southwest District 2018
- "Coordinated Plan Review" – Ontario Stone Sand & Gravel Association 2018 AGM
- "Planning as a Profession" – Faculty of Environment Open House at the University of Waterloo, March 2013
- "Rehabilitation of Licensed Pits and Quarries" – Canadian Association of Certified Planning Technicians Professional Development Conference, October 21, 2011
- Professional Practice, Public and Private Administration (PLAN 403), University of Waterloo, January 2010

Articles

- "Planning for a sustainable community" – Avenues Magazine (Ontario Stone, Sand & Gravel Association), Volume 1, Issue 2, 2011
- "The closer the better" – Avenues Magazine (Ontario Stone, Sand & Gravel Association), Volume 2, Issue 2, 2012
- "Diminishing supply" - Avenues Magazine (Ontario Stone, Sand & Gravel Association), Volume 3, Issue 1, 2013
- "Shipping aggregate from further afield" – Avenues Magazine (Ontario Stone, Sand & Gravel Association), Volume 3, Issue 2, 2013
- "The feasibility of alternative transportation options" – Avenues Magazine (Ontario Stone, Sand & Gravel Association), Volume 4, Issue 1, 2014
- "Keeping residents safe and dry" – Avenues Magazine (Ontario Stone, Sand & Gravel Association), Volume 4, Issue 2, 2014

Education

University of Guelph
Master of Science
Rural Planning & Development
2022

University of Guelph
Master of Arts
Geography, Environment, and Geomatics
2021

University of Guelph
Bachelor of Arts, Honours
International Development
2018

Professional Associations

Registered Professional Planner (RPP)

Member, Canadian Institute of Planners (CIP)

Full Member, Ontario Professional Planners Institute (OPPI)

Contact

200-540 Bingemans Centre Drive
Kitchener, ON
N2B 3X9

T: 519-576-3650 x809
cbrooks@mhbcplan.com
www.mhbcplan.com

MHBC | PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

Chelsea Brooks

MA, MSc(Pl.), RPP, MCIP

Chelsea Brooks is an Intermediate Planner with MHBC, specializing in rural, agricultural, and aggregate planning. Chelsea joined the firm in 2022. Before joining MHBC, Chelsea gained experience as a researcher responsible for producing policy reports and social studies.

At MHBC, Chelsea works with both public and private sector clients on a variety of projects. Chelsea has experience providing land use planning advice and policy review, and preparing agricultural impact assessments, planning justification reports, urban design briefs, and Aggregate Resource Act summary statements. Additionally, Chelsea has experience facilitating development approvals for a range of development and aggregate resource projects. Her experience also includes project coordination and management, undertaking special studies and associated research, and presentations to Committees, Council and the public.

Chelsea is a full member of the Ontario Professional Planners Institute (OPPI) and Canadian Institute of Planners (CIP) and a Registered Professional Planner (RPP).

Professional History

Senior Planner, MacNaughton Hermsen Britton Clarkson Planning Limited (2025 – present)

Intermediate Planner, MacNaughton Hermsen Britton Clarkson Planning Limited (2023 – 2025)

Planner, MacNaughton Hermsen Britton Clarkson Planning Limited (2022-2023)

Research Assistant, University of Guelph (2019-2022)

Project Assistant, Ministry of the Environment, Conservation and Parks (Summer 2021)

Experience in many facets of development applications including applications for minor variance, severance, Site Plan approval, Aggregate Resource Act (ARA) licences, and Zoning By-law and Official Plan Amendments.

Agriculture / Rural

- Agricultural Impact Assessments for aggregate licence applications, settlement area boundary expansions, and non-agricultural uses in prime agricultural areas
- Minimum Distance Separation (MDS) review and analysis
- Land Evaluation and Area Review (LEAR) studies
- Research, preparation and co-ordination of reports and approvals for agricultural uses, agriculture-related uses, and On-Farm Diversified Uses (OFDUs)

- Surplus farm residence severances

Aggregate / Industrial

- Property investigations and planning assessments for due diligence reviews for mineral aggregate and concrete and asphalt plant projects
- Research, preparation and co-ordination of reports / applications under the *Planning Act* (Zoning By-law Amendment, Official Plan Amendment) and the *Aggregate Resources Act* (licence and site plan amendment applications).

Residential / Mixed-use / Retail

- Preparation of planning assessments and due diligence reviews to identify development potential of properties for a range of clients
- Research, preparation and co-ordination of reports / applications under the *Planning Act* (Zoning By-law Amendment, Official Plan Amendment)

Municipal Planning / Policy Review

- Review of Provincial Planning activities (Places to Grow, Bill 109, PPS Review), and preparation of summary information, comments to Provincial Ministries, and policy suggestions for a range of clients.
- Review and provide comments related to Official Plan Reviews and Zoning By-law Reviews for a variety of clients across Ontario).

Urban Design

- Urban Design Briefs

Project Management

- Minor Variance, Severance, Site Plan, Official Plan and Zoning By-law amendment approvals
- Coordination of technical requirements with sub-consultants

Other

- Presentation and representation at public meetings, committees and municipal Council on behalf of clients.
- Extensive research of land use policy and regulation and prepare planning justification reports in support of development applications.

Selected Project Experience

Agricultural / Rural

- Agricultural Impact Assessments
    - Miller Aggregates Paris Plains Pit, Brant County
    - Strada Pit and Quarry, Melancthon
    - 7731 Second Line, Centre Wellington

- Surplus Farm Dwelling Severances & Zoning By-law Amendments
    - 440 German School Rd., Brant County
    - 405 Third Concession Rd., Brant County
    - 5113 Wellington Rd. 87, Wellington County

- Minimum Distance Separation
    - 4201 Powell Rd., Township of Wellesley
    - 4229 Line 61, Township of Perth East

- OFDU & Agriculture-related Use Applications
    - 3982 Perth Line 26, Township of Perth South
    - 4299 Regional Rd. 20, Township of West Lincoln

- 935929 Blenheim Rd., Oxford County
- 4201 Powell Rd., Township of Wellesley

Aggregate & Aggregate-related Projects

- Aggregate Licence Applications
  - Thomas Cavanagh Construction Pembroke Quarry, Renfrew County
  - Thomas Cavanagh Construction Highland Line Pit, Lanark County

- Aggregate Site Plan Amendment Applications
  - Fidelity Construction Colborne Pit, Township of Cramahe
  - Sunrock Canada Burnt River Quarry, City of Kawartha Lakes
  - Sunrock Canada Hockley Pit, Town of Uxbridge
  - W. H. Farms Pit, County of Brant

- Aggregate-related Industrial Applications
  - Sunrock Canada Sutton Ready-Mix Concrete Plant, Town of Uxbridge
  - R.W. Tomlinson Ltd. Napanee Asphalt Plant, Town of Greater Napanee

MHBC

PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE