Proposed Paris Plains Pit

699 PARIS PLAINS CHURCH ROAD

THE MILLER GROUP

A COLAS COMPANY

May 2024

About Us… The Miller Group

- Builds and supports urban and rural infrastructure across Canada
- Is a part of Colas Canada and The Colas Group of companies – a Canadian and world leader in construction and the maintenance of transportation infrastructure
- Locally known as Tri City Materials and Tri City Ready Mix
- Recently celebrated 107 years of time-proven construction methods and innovative technology
- For over 30 years, the Miller Group has been a leading supplier of construction materials for the production of asphalt and concrete, and for use in a variety of construction and rehabilitation projects
- Over 40 pits and quarries across Ontario, Nova Scotia and New Brunswick
- Miller takes pride in being an active member of local communities across the province

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Update

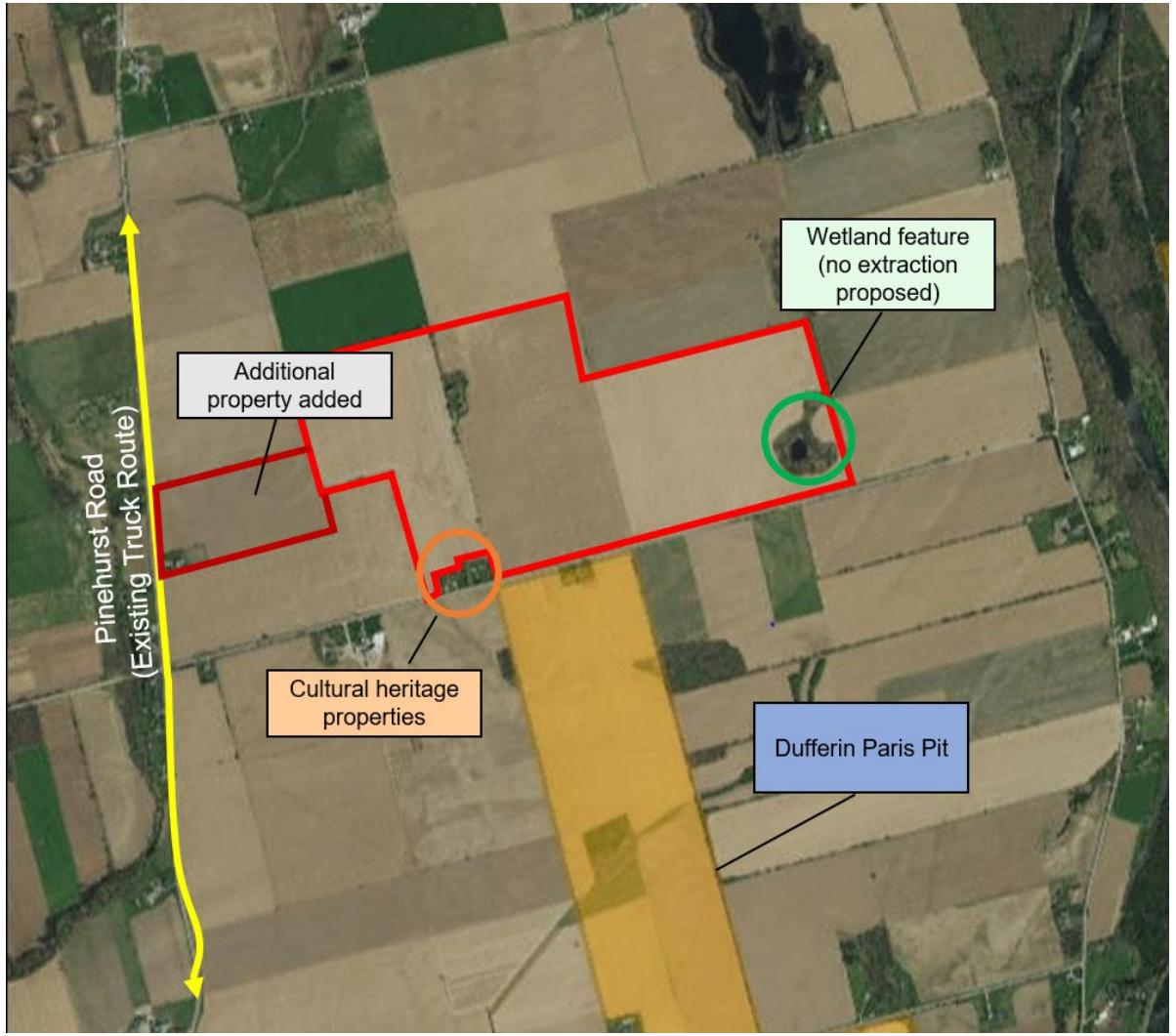
- Miller has submitted its application for a sand and gravel pit above the water table to the Province (Ministry of Natural Resources and Forestry) and the County of Brant
- The application to the Province is to operate a sand and gravel pit under the Aggregate Resources Act. The application to the County is for a Zoning By-Law Amendment to allow the land to be used for a sand and gravel pit
- The Provincial application has been deemed complete and is now undergoing the review process. We are working through comments received on the County application.
- The application process can take several years
- The application process allows for several periods of public and Indigenous consultation
- Separate notices (and public meeting) will come from the County of Brant

Proposed Paris Plains Pit

- The site is located about 1 km north of Paris
- Located in a primary aggregate deposit as mapped by the County of Brant and Province of Ontario
- Proposed sand and gravel pit with extraction above the water table only

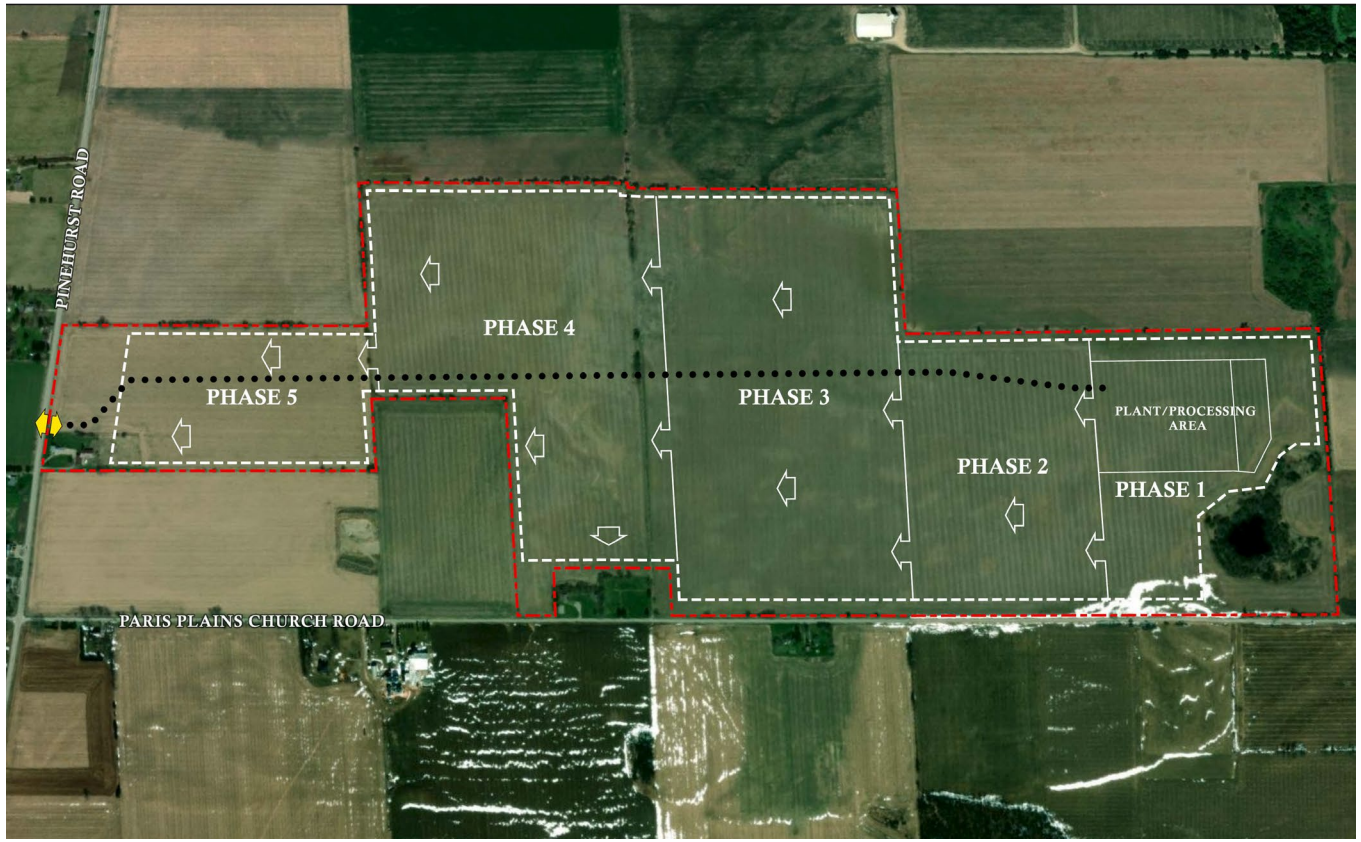
Project Context

- Property is currently used for agricultural purposes
- Licence area of approx. 125.8 ha and extraction area of approx. 105.4 ha
- Adjacent to existing and historical aggregate operations
- Will utilize existing designated haul routes via Pinehurst Road
- Small on-site wetland feature will not be extracted and will be protected
- Working with Paris Plains Cemetary Association to donate adjacent land



Proposed Operations

- Five sequential extraction phases
- Processing will occur outside of the WHPA
- Plan includes setbacks, buffers, and mitigation measures to minimize impact
- 1,000,000 annual tonnage limit
- Proposed Hours of Operation
  - Weekdays: 7:00 am to 7:00 pm
- Proposed Hours of Shipping
  - Weekdays: 6:00 am to 6:00 pm
  - Saturday: 8:00 am to 2:00 pm

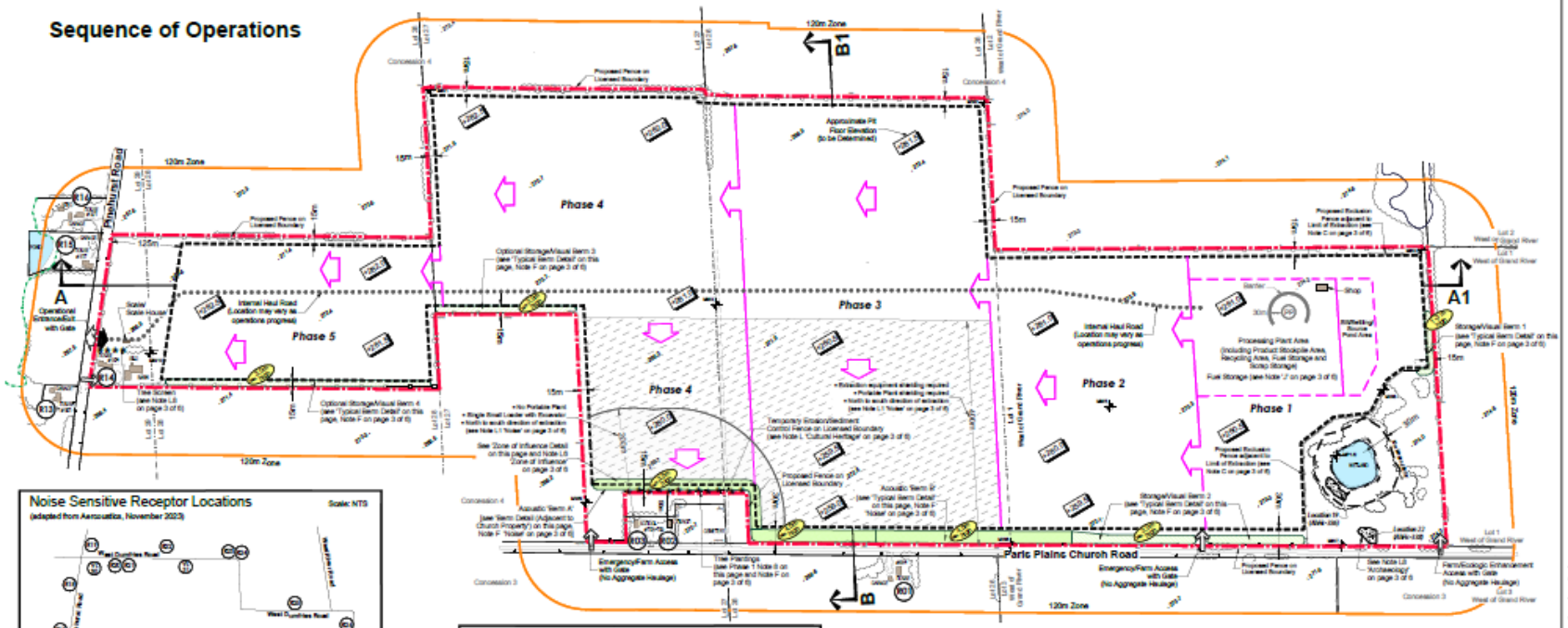


Application Studies

1. Planning Justification Report and ARA Summary Statement
2. Cultural Heritage Impact Assessment
3. Traffic Impact Study
4. Noise Impact Study
5. Vibration Study
6. Air Quality Assessment
7. Environmental Impact Study & Ecological Enhancement Plan
8. Agricultural Impact Assessment
9. Water Report (Hydrogeology Study)
10. Noise Impact Study
11. Archaeological Assessment Reports
12. ARA Site Plan (Existing Features, Operations Plan, and Rehabilitation Plan)

All reports are available at www.millergroup.ca/land-management/active-projects

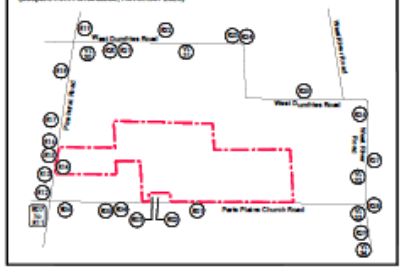
Sequence of Operations



Noise Sensitive Receptor Locations

(adapted from Aercoustics, November 2023)

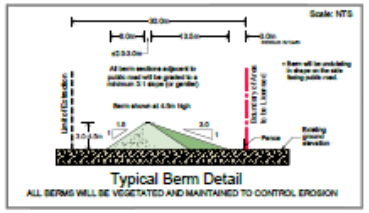
Scale: NTS

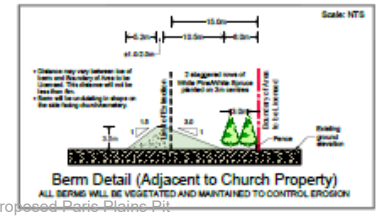


Zone of Influence (Paris Plains Church and Cemetery)

(adapted from Aercoustics, November 2023)

Scale: NTS





PROGRESSIVE REHABILITATION SEQUENCE

Scale: NTS

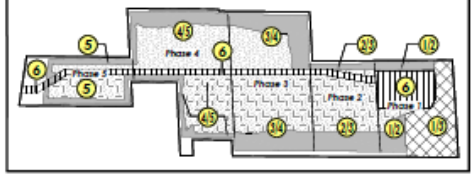
1. Sequence of Rehabilitation (also see Phase notes on this page)

Progressive Rehabilitation Side Slope Areas

Progressive Rehabilitation Pit Floor Areas

Progressive Rehabilitation Plant Area and Haul Route

Progressive Rehabilitation (see Ecological Enhancement Plan and Rehabilitation Plan on page 6 of 6)



Phase Notes:

Phase 1

1. The frontage along Paris Plains Church Road and Pinehurst Road will be fenced within 1 year of licence issuance. Licensed boundary limits adjacent to Phase 1 area will be fenced prior to commencement of operations. Fencing is to be 1.2m high post and wire fence. Fencing will be in accordance with the Aggregate Resources Act. A 1.2m gate will be installed prior to commencement of operations at the operational entrance/exit location shown (Pinehurst Road) and kept locked when the pit is not in operation (also see Sequence of Operations on this page). Two emergency/farm accesses and a farm/ecological enhancement access will be located on Paris Plains Church Road and Pinehurst Road in the locations as shown and will be gated.
2. Strip topsoil and subsoil separately and store in Storage/Visual Berm 1 and/or 2 or Acoustic Berm B.
3. Establish internal haul route for shipping of product off-site.
4. Set up scale and scale house in the approximate location shown on the Sequence of Operations.
5. Extraction will commence in the east area of the site, proceed westerly from Phase 1 and will remain 1.5m above the groundwater table as per proposed spot elevations shown on the Sequence of Operations.
6. Set up Processing Plant Area (including silt/settling/source ponds) on the pit floor.
7. Initiate rehabilitation of side slopes in Phase 1 (outside of Processing Plant Area) and begin Ecological Enhancement Plan and Rehabilitation Plan as outlined on page 6 of 6.
8. Plant coniferous trees adjacent to the church/cemetery property and on #304 Pinehurst Road as shown.
9. Prepare Phase 2 for extraction.

Phase 2

1. Fence licensed boundary limits adjacent to Phase 2 area prior to commencement of operations in this phase.
2. Strip topsoil and subsoil separately and store in Acoustic Berm and/or Storage/Visual Berm 2 and/or use in progressive rehabilitation.
3. Extraction in Phase 2 will proceed in a westerly direction and will remain 1.5m above the groundwater table as per proposed spot elevations shown on the Operations Schematic.
4. Initiate rehabilitation of side slopes in Phase 2. Continue with rehabilitation in Ecological Enhancement Plan and Rehabilitation Plan as outlined on page 6 of 6.
5. Prepare Phase 3 for extraction.
6. Complete north slope creation of Ecological Enhancement Plan Area in Phase 1 (RP-TP1 to RP-TP5).

Phase 3

1. Fence licensed boundary limits adjacent to Phase 3 area prior to commencement of operations in this phase.
2. Prior to stripping and berm construction in Phase 3, erosion and sediment control fencing shall be installed along the north property boundary of 705 and #709 Paris Plains Church Road (church property). See note L8 on page 3 of 6.
3. Strip topsoil and subsoil separately and construct Acoustic Berm A or store in Storage/Visual Berm 2 (Acoustic Berm B will only be constructed if R01 is occupied) and/or use in rehabilitation.
4. Initiate rehabilitation of pit floor in Phase 2 where operationally feasible. Complete rehabilitation of side slope areas at the north and initiate side slope rehabilitation in the south part of Phase 2.
5. Complete south slope creation of Ecological Enhancement Plan Area 1, Phase 1 (RP-TP7 to RP-TP9).
6. Complete Ecological Enhancement Plan activities as outline in Table 1 on page 6 of 6.
7. Extraction in Phase 2 will proceed in a westerly direction (north half of the Phase) and then in a southerly direction (south half of the Phase) and will remain 1.5m above the groundwater table as per proposed spot elevations shown on the Operations Schematic.
8. Initiate rehabilitation of side slopes in Phase 3.
9. Prepare Phase 4 for extraction.

Phase 4

1. Fence licensed boundary limits adjacent to Phase 4 area prior to commencement of operations in this phase.
2. Initiate rehabilitation of pit floor in Phase 3 where operationally feasible. Complete rehabilitation of Phase 3 side slopes to a minimum 3:1 slope. The 10:1 slopes may follow based on availability/timing of soil importation.
3. Strip topsoil and subsoil separately and store in Optional Storage/Visual Berm 3 and/or use in rehabilitation.
4. Extraction will commence in the north area of the site and proceed in a westerly direction from Phase 3 in the north half of the Phase. In the south half of the Phase, the direction of extraction will be southerly. Extraction will remain 1.5m above the groundwater table as per proposed spot elevations shown on the Operations Schematic.
5. Begin rehabilitation of Phase 4 side slopes.
6. Prepare Phase 5 for extraction.

Phase 5

1. Initiate rehabilitation of pit floor in Phase 4 where operationally feasible. Complete rehabilitation of the 3:1 Phase 4 side slopes.
2. Fence licensed boundary limits adjacent to Phase 5 area prior to commencement of operations in this phase.
3. Strip topsoil and subsoil separately and store in Optional Storage/Visual Berm 4 or use in rehabilitation.
4. Extraction will proceed in a westerly direction towards Pinehurst Road until the westernmost limit of extraction area is reached.
5. Initiate Phase 5 rehabilitation.

Phase 6 (Not Shown)

1. Dismantle processing plant. Rehabilitate former silt/settling/source pond areas.
2. Remove any equipment, haul roads and buildings on site.
3. Final rehabilitation to be completed (see Rehabilitation Plan on page 4 of 6).
4. Complete all 10:1 side slopes.

Legal Description

Part of Lots 26 to 29 and Part of Lot 1 West of Grand River Concession 4 (Geographic Township of Dumfries) County of Brant

Legend

- Boundary of Area to be Licensed
- Limit of Extraction (ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELLED DISTANCES)
- Existing Spot Height Elevation (METRES ABOVE SEA LEVEL)
- Operational Entrance/Exit (MAINTAINED BY A GATE WHICH WILL BE CLOSED WHEN PIT IS NOT IN OPERATION)
- Existing Fence (1.2m POST & WIRE PARK FENCE UNLESS OTHERWISE NOTED)
- Direction of Excavation
- Building/Structure (LOCATION AND USE FOR BUILDINGS ON SITE AND WITHIN 120m OF SITE)
- Proposed Spot Elevation (PIT FLOOR) (MAXIMUM DEPTH OF EXCAVATION)
- Emergency/Farm Access
- Internal Haul Road (INITIAL TYPICAL LOCATION LOCATION TO VARY AS OPERATIONS PROGRESS)
- Monitoring Well (MTE 2021)
- Acoustic Berm (MINIMUM HEIGHT OF BERM SHOWN. SEE "TYPICAL BERM DETAIL" ON THIS PAGE AND NOTES ON PAGE 3 OF 6)
- Existing Vegetation (APPROXIMATE LOCATION)
- Storage/Visual Berm (MINIMUM HEIGHT OF BERM SHOWN. SEE "TYPICAL BERM DETAIL" ON THIS PAGE AND NOTES ON PAGE 3 OF 6)
- Wetland (PSW) (GOODMAN ECOLOGICAL COUBLE THIS) (MC, 2023)
- Proposed Fence (1.2m HIGH POST & WIRE FENCE UNLESS OTHERWISE NOTED)
- GRCA Wetland (PSW) (GRCA 2023)
- Receptor Locations (WITHIN 120m OF THE SITE)
- 120m Zone
- Processing/Extraction Restrictions (SEE NOTE 5 "NOISE" ON PAGE 3 OF 6)
- Archaeological Site (SITE ASSESSMENT FOR FURTHER ARCHAEOLOGICAL FIELD WORK)
- Tree Screen/Plantings
- Cross Sections (SEE PAGE 4 OF 6 FOR EXISTING AND REHABILITATED CROSS SECTIONS)

Site Plan Amendments

No.	Date	Description	By

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

200 - 540 WINDMAN CENTRE DR. KITCHENER, ON, N2B 3X9 | P: 519.576.3650 | WWW.MHBCPLAN.COM

MNRF Approval Stamp

MHBC Stamp

Applicant

Miller Aggregates
201 Millmount Road
Suite 101
Markham, Ontario
L6C 2S3

Applicant's Signature

Nan Zimmerman
Miller Aggregates

Project

Paris Plains Pit

ARA Licence Reference No.

Pre-approval review:

For Application Submission - December 2023

Plan Scale 1:4,000 (Arch D)

SCALE 75 50 25 0 50 150 METRES

Plot Scale: 1:4 [1mm = 4 units] MODEL

Drawn By: D.G.S.

Checked By: C.P.

File No.: 21236A

File Name

OPERATIONAL PLAN

Drawing No.

2 OF 6

K:\21236A-MILLER PAVING-BUCKY LAKE\PARKWAY\PARIS PIT OPERPLAN 2DFS DECEMBER2023.DWG

A. General

1. This site plan is prepared under the Aggregate Resources Act (ARA) for a Class A licence for a pit above the ground water table and follows the Aggregate Resources of Ontario: Site Plan Standards August 2020, specifically Operations for all sites (Numbers 33-55 in the standards).
2. Area Calculations: Licence Area: 125.8 hectares (310.9 acres)
   Limit of Excavation: 105.4 hectares (260.4 acres)
3. The maximum number of tonnes of aggregate to be removed from this property is 1,000,000 tonnes in any calendar year.
4. The water table encountered on-site ranges between an elevation of approximately 261.3 and 257.3 (metres above mean sea level) mAMSL. The water table slopes from north or northwest to south or southeast. The existing water table elevations are shown on each cross section on page 5 of 5. Groundwater table elevations provided by MTE (December 6, 2023).
5. Source Water Protection: The site lies within the Grand River Source Protection Area which is part of the Lake Erie Source Protection Region (LESPR). A portion of the site exists within the Telfer Wellhead Protection Area (WHPA B, C and D). No proposed on-site activities are considered to be significant drinking water threats See 'Hydrogeology' notes on this page for mitigation measures.
6. Setbacks will be as shown and labelled on the Sequence of Operations Diagram (page 2 of 6) and on the Existing Features Plan (page 1 of 6).
7. Agricultural production may continue in areas not under extraction.

B. Hours of Operation

1. The proposed hours of extraction and processing shall be limited to the daytime hours only (07:00 to 19:00), with shipping operations limited to the hours of 06:00-19:00.
   On Saturdays, only shipping can occur and this can only take place between 08:00-14:00.

C. Site Access and Fencing

1. The emergency/farm accesses may be utilized for monitoring, setback maintenance and agricultural access. The accesses shall be gated, kept closed during hours of non-operation and shall be maintained throughout the life of the licence. Aggregate trucks shall not be permitted to access the site at these locations.
2. The site shall be accessed through the operational entrance/exit as shown and will be gated.
3. A small portion of the boundary of the site is currently fenced. In the first year after licence issuance, fencing will be installed along the Paris Plains Church Road and Pinehurst Road frontages. Fencing will then be installed by phase prior to operations commencing in each phase as operations progress. This fencing will meet ARA requirements.
4. Exclusion fencing shall be installed adjacent to the limit of extraction as shown on the Sequence of Operations between the area to be disturbed and the archeological sites and wetland/ecological enhancement area prior to commencement of work (see page 5 of 6). Installation of erosion and sediment control fencing will occur along the north property line of the church property during berm construction and will be removed once the vegetation cover/seeding has established (see Note L 'Cultural Heritage' on this page).

D. Drainage

1. During excavation surface drainage from active pit areas will be detained within the pit area. Drainage will continue to percolate naturally through the soil of unextracted areas of the pit.

E. Site Preparation

1. Prior to site preparation, a Spills Contingency Plan shall be developed to address any potential spills from equipment on-site. Fuel storage facilities are located in Phase 1. The fuel storage area will be located outside of Wellhead Protection Areas (WHPA) (mobile equipment will be refuelled by fuel trucks or at the fuel storage facilities located in Phase 1).
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 and ecological enhancements. Excess material not required for uses mentioned above will be burned (with applicable permits).
3. Topsoil and subsoil shall be stripped and stored separately in accordance with Agricultural Impact Assessment (AIA) recommendations.
4. All available soil will be used as soon as possible for rehabilitation and if excess topsoil and subsoil not required for immediate use in the construction of acoustic berms or rehabilitation, may be temporarily stockpiled inside the licensed area or in optional storage/visual berms during Phases 1 to 3. Topsoil and overburden stockpiles shall be located within the limit of excavation and remain a minimum of 30 metres from the licence boundary and 90 metres from a property with residential use (see also, Operations Schematic on page 3 of 6).
5. Temporary topsoil and subsoil stockpiles which remain for more than one year shall have their slopes vegetated to control erosion.

F. Berms and Screening

1. Berms shall be constructed as specified in the location shown on the Sequence of Operations. The height shown is the minimum required for acoustic berms.
2. Berm side slopes shall not exceed 1.5:1 on the interior (extraction) side and 2:1 on the exterior side facing Paris Plains Road. See "Typical Berm Detail" on page 2 of 6.
3. Berm side slopes shall not exceed 2:1 on the inside slope facing the church property (see "Berm Detail (Adjacent to Church Property)" on page 2 of 6).
4. Berms shall not be located within three (3.0) metres of the licence boundary.
5. The proposed berms shall be constructed and maintained in accordance with the details on page 2 of 6 and will be vegetated to control erosion throughout the operational life of the pit, using a low maintenance grass/legume seed mixture (e.g. MTO Seed Mix or equivalent), composed of Creeping Red Fescue, Perennial Ryegrass, Kentucky Bluegrass and White Clover. Temporary erosion control will be implemented as required.
6. In addition to acoustic berms, optional storage/visual berms may be constructed in the locations as shown.
7. Trees (see Note F1i) will be planted within the setback area between the berm and the licensed boundary adjacent to the church and cemetery at commencement of operations. These trees will be planted in front of the berm required for noise attenuation during operations, to provide additional screening to the site and shall be maintained throughout pit operation.
8. A row of trees (see Note F1i) will be planted between the haul road and the house at #304 Pinehurst Road at the same time the haul road is being constructed.
9. The portion of berms that are facing public roads or the church property will be constructed so that they are undulating and sculpted to appear more natural.
10. Existing vegetation within the setbacks shall be maintained except where berms are required.
11. The following list is the native trees and shrubs suitable for planting for screening purposes: Red Cedar (Juniperus virginiana), White Cedar (Thuja occidentalis), White Pine (Pinus strobus), White Spruce (Picea glauca), Eastern Cottonwood (Populus deltoides), Hackberry (Celtis occidentalis), Tulip-tree (Liriodendron tulipifera), Sassafras (Sassafras albidum), White Birch (Betula papyrifera), Gray Dogwood (Cornus racemosa), Highbush Cranberry (Viburnum trilobum), Choke cherry (Prunus virginiana), Staghorn Sumac (Rhus typhina).

G. 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. The direction of extraction will be in accordance with the Sequence of Operations diagram shown on page 2 of 6. All extraction, processing and transportation equipment operating within these Phases shall comply with the restrictions identified in Note L 'Noise' (see also Phase Notes on page 2 of 6).
2. 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 (see also Phase Notes on page 2 of 6).

H. Extraction Details

1. The maximum depth of extraction is as shown as spot elevations on the Sequence of Operations drawing (page 2 of 6) and extraction will occur in up to 2 lifts through the five phases as shown on the Sequence of Operations Diagram on page 2 of 6 and in accordance with the Ministry of Labour requirements. The proposed pit floor will be located at an elevation range of 268.0 (at MW1 and MW corner of Phase 5) to 259.0 masl or 7.5 m to 14.0 m below the existing ground surface.
2. Only above water excavation will occur across the site. For the majority of the site, the groundwater table is approximately 10m above the ground surface. Excavation will take place with a maximum height of 14.0 m (Phase 1). See Rehabilitation Plan (page 3 of 6) and Cross Sections Plan (page 5 of 6) for excavation depths and final rehabilitation contours.
3. Aggregate/product stockpiles will be located near the working pit face and in the Processing Proposed Sand and Product Stockpile Area of Phase 1 of the pit. Stockpiles will not be located within 30m of the Licensed boundary (see page 2 of 6).
4. Aggregate processing will take place in Phase 1, in the area delineated on the Sequence of Operations drawing, except for primary crusher which will move with the active pit face and Acoustic Noise recommendations in L1 on this page (also see page 2 of 6).
5. Internal haul road locations will vary as extraction progresses. The haul road will transport materials from east part of the site in a westerly direction to access the operational entrance/exit on Pinehurst Road.

I. Equipment and Processing

1. The equipment used on site for aggregate operations may include and is limited to: Processing Plant (may consist of crushing, screening and washing), 2 Shipping Loaders, Portable Plant, 2 Extraction Loaders, Excavator, Highway Trucks, and Conveyors.
2. The portable plant, including associated equipment (e.g. scales, generator, etc.) planned to be located in the Processing Plant Area in Phase 1 subject to applicable Permit to Take Water.

J. Fuel Storage

1. Fuel or associated products may be stored on site in Phase 1 outside of the Wellhead Protection Area (WHPA). See Sequence of Operations drawing on page 2 of 6. The licensee or permittee shall ensure that fuel storage tanks are installed and maintained in accordance with the *Technical Standards and Safety Act, 2000* (O.Reg.244/ 97 Section 0.12 (3) 1) (See also 'Hydrogeology' notes on this page). Mobile equipment will be refuelled by fuel trucks or at the fuel storage facilities located in Phase 1.

K. Scrap, Recycling and Accessory Aggregate Uses

1. Scrap will be stored on site within the Processing Plant Area. Scrap will only include materials derived from the operation of the pit such as scrap metal or lumber, defunct machinery and equipment. Scrap will not be located within 30m of any body of water or within 30m of the boundary of the site. All scrap will be removed on an ongoing basis. The property will be kept in an orderly condition.
2. Recycling activities:
   a. Recycling of concrete, asphalt and other aggregate products, will be permitted on site and stored in the plant area of Phase 1.
   b. Recyclable asphalt materials will not be stockpiled within:
      - 30m of any water body or man-made pond; or
      - 2 m of the surface of the established water table.
   c. Any rebar and other structural metal must be removed from the recycled material during processing and placed in a designated scrap pile on site which will be removed on an on-going basis.
   d. Removal of recycled aggregate is to be ongoing.
   e. Once the aggregate on site has been depleted there will be no further importation of recycled materials permitted.
   f. Once final rehabilitation has been completed and approved in accordance with the site plan, all recycling operations must cease.
   g. Shall not interfere with the operational phases of the site or rehabilitation of the site.
3. Aggregates from outside the site may be imported onto the site subject to the following:
   a. Imported aggregate may be crushed, processed and/or blended with on-site and/or imported material.
   b. The quantity of imported aggregate removed from the site each year shall be tracked and reported on the return made under Section 14.1 of the ARA.
   c. The quantity of imported aggregate removed from the site each year shall count toward the maximum annual tonnage limit.

L. Report Recommendations

1. Noise: "Paris Plains Pit Noise Impact Study" December 11, 2023
   (Source: Aercoustics)
   a. The proposed hours of extraction and processing shall be limited to the daytime hours only (07:00 to 19:00), with shipping operations limited to the hours of 06:00 -19:00.
   b. The extraction, processing, and shipping equipment operating in the pit is limited to:
      - Two Extraction Loaders
      - One Excavator
      - One Portable Plant
      - Conveyors
      - Two Shipping Loaders
      - 30 Highway truck tripsh/r (60 passes/hr)
   c. The aggregate pit equipment shall satisfy the noise emissions levels listed in Table A-1 of the Noise Impact Study.
   d. The sound emissions of all construction equipment involved in site preparation and rehabilitation activities shall comply with the sound level limits specified in the MECP publication NPC-115 "Construction Equipment".
   e. New equipment technology or different configurations may allow proposed changes to any portion of the extraction and processing operations including additional equipment to operate on the site, equipment to be substituted, and/or different berm heights, while still meeting the applicable sound level limits. Changes may be permitted to the site operations and noise controls provided that the changes still meet the sound level limits of the MECP as demonstrated through documentation prepared by a Professional Engineer specializing in noise control. Prior to any modification, the licensee shall confirm with MNRF whether a site plan amendment is required to permit those proposed changes.
   f. An acoustic barrier is required to be used in the pit during all or operating, and shall satisfy a minimum area density of 20 kg/m2. It could take the form of a pit face, stockpile, acoustic fence, ISO containers, a combination of these, or any construction satisfying the requirements of an acoustic barrier.
   g. Prior to processing, the Processing Plant and Wash Plant shall be located at the pit floor at an elevation of 261 MASL in the area designated on the Operational Plan. A barrier in the form of unprocessed land, earth berms, ISO containers, or a combination thereof shall be established around the Processing Plant as detailed in Table A-2 of the Noise Impact Study and as illustrated on the Operation Plan, and shall continuously block the line of sight to the receptors as indicated.
   h. Extraction shall occur in a single lift with extraction and processing equipment operating on the pit floor.

Phase 1

   i. When the Processing Plant and Portable Plant are operating simultaneously within Phase 1, an acoustic barrier shall be located between the Portable Plant and Receptor R25, with a minimum height of 8 m within 30 m of these sources.

Phase 2

   j. When the Processing Plant is operating in Phase 2, an acoustic barrier shall be located between both the Portable Plant and Receptor R25, with a minimum height of 8 m within 30 m of this source.

Phase 3

   k. Prior to extraction or processing in Phase 3, an L-shaped acoustic barrier with a minimum relative height of 3.5 m and a length of approximately 330 m shall be installed on the south boundary as shown (Berm A) on the Operational Plan. This berm shall remain in place for the remainder of extraction and processing operations within the pit.
   l. Extraction in the southern half of the Phase 3 area shall proceed from north to south.
   m. During extraction in Phase 3 within 400 m of the south property line, an acoustic barrier such as a working face shall be located between the extraction equipment and Receptors R02 and R03, with a height of 12 m within 40 m of the equipment.
   n. During extraction in Phase 3 within 400 m of the south property line, an acoustic barrier shall be located between the Portable Plant and Receptors R02 and R03 with either a minimum height of 9 m within 30 m of the plant, or a minimum height of 12 m within 60 m of the plant.

Phase 4

   o. Extraction in the southern half of the Phase 4 area shall proceed from north to south.
   p. During extraction in Phase 4 within 400 m of the south property line, an acoustic barrier such as a working face shall be located between the extraction equipment and Receptors R02 and R03, with a height of 12 m within 40 m of the equipment.
   q. During extraction in Phase 4 within 400 m of the south property line, an acoustic barrier shall be located between the Portable Plant and Receptors R02 and R03 with either a minimum height of 9 m within 30 m from the plant, or a minimum height of 12 m within 60 m of the plant.
   r. The Portable Plant shall not operate within 200 m of Receptors R02 and R03.
   s. Extraction in Phase 4 within 200 m of Receptors R02 and R03 shall be limited to a single Small Extraction Loader and one Excavator, or acoustically equivalent.

Phase 5

   t. No additional noise controls are required during the extraction of Phase 5.

L. Report Recommendations (cont'd)

1. Noise: (cont'd)

Noise Controls Specific to Receptor R01:

If R01 is occupied during extraction of the phases listed below, the following additional noise controls shall be employed:

General (R01 Occupied)

   u. During processing operations, an acoustic barrier shall be located between the Processing Plant and Wash plant and Receptor R01, with a minimum height of 12 m within 30 m of these sources.

Phase 2 (R01 Occupied)

   v. Prior to extraction or processing operations in the Phase 2 area, an acoustic barrier with a minimum height of 4.5 m and a length of approximately 330 m shall be installed as shown on the Operational Plan (Berm B) and shall remain in place for the duration of extractive and processing operations within the pit while Receptor R01 is occupied.
   w. During extraction or processing within the Phase 2 area, an acoustic barrier with a minimum height of 9 m shall be located within 30 m of the Portable Plant, between the Portable Plant and Receptor R01.

Phase 3 (R01 Occupied)

   x. Prior to extraction or processing operations in the Phase 3 area, Berm B shall be extended 260 m to the west with a minimum height of 4.5 m as shown on the Operational Plan, and shall remain in place for the duration of extractive and processing operations within the pit while Receptor R01 is occupied.
   y. During extraction or processing within the Phase 3 area, an acoustic barrier shall be located between the Portable Plant and R01 with either a minimum height of 9 m within 30 m of the plant, or a minimum height of 12 m within 60 m of the plant.
   z. While R01 is occupied, the Portable Plant shall not operate within 250 m of the south property line of the Phase 3 area.
   aa. While R01 is occupied, extraction operations in Phase 3 within 250 m of the south property line shall be limited to a single Small Extraction Loader and one Excavator, or acoustically equivalent.

Phase 4 (R01 Occupied)

   ab. During extraction or processing within the Phase 4 area, an acoustic barrier shall be located between the Portable Plant and Receptor R01 with either a minimum height of 9 m at a distance of 30 m, or a minimum height of 12 m at a distance of 60 m.
   ac. While R01 is occupied extraction operations within 300 m of the south Phase 4 property line shall be limited to a single Small Extraction Loader and one Excavator, or acoustically equivalent.

2. Hydrogeology: "Miller Aggregates Paris Plains Road Pit - Maximum Predicted Water Table Report, Proposed Class A Pit Above Water Table" December 6, 2023 (Source: MTE Consultants Inc.)

Groundwater Monitoring Program:

   a. A survey shall be conducted on water supply wells within one kilometre of the Site prior to the commencement of extraction. Completed well surveys shall be assessed to determine their suitability for long term monitoring as part of a Private Well Monitoring Program.
   b. Manual water levels shall be collected on a seasonal basis, three times per year, once in the spring, summer and fall, at the on-Site monitoring wells, mini-piezometers and participating domestic wells.
   c. An annual groundwater monitoring program shall extend throughout the life of the operation to obtain confirmatory water table elevations as the pit develops.
   d. The results of the monitoring shall be retained on-file by Miller Aggregates and be made available upon request by agencies such as the MNRF, MECP, or County of Grant.
   e. Monitoring wells that may be destroyed by extraction activities shall be decommissioned according to the Wells Regulation (O.Reg. 903) and subsequently replaced (with the exception of MW4 and MW5) at a location that will ensure the new monitoring wells will remain intact to allow groundwater monitoring to continue.
   f. MW1, MW7, MW8, and MW9 shall be sampled for water quality once per year during the operating season for the life of the proposed pit to track trends in water quality. Samples shall be analyzed for general chemistry including select metals, petroleum hydrocarbons (PHC) in the F1 through F4 fraction, and BTEX (benzene, toluene, ethylbenzene, and xylenes).

Maximum Predicted Groundwater Table and the Proposed Pit Floor:

   g. The maximum depth of extraction shall not occur within 1.5 m of the maximum predicted high water table across the Site. In an effort to maximize extractable aggregate while still meeting regulatory and grading constraints, MTE recommends the following elevations for the pit floor in each phase, according to Table 3 in the text of Section 5.5 of the Report:
      -Phase 1: 261.5 mAMSL (NW corner) to 260.5 mAMSL (SE corner);
      -Phase 2: 261.5 mAMSL (N boundary) to 260.0 mAMSL (S boundary);
      -Phase 3: 262.0 mAMSL (N boundary) to 259.0 mAMSL (S boundary);
      -Phase 4: 263.0 mAMSL (NW corner) to 260.0 (S boundary); and
      -Phase 5: 263.0 mAMSL (NW corner) to 261.5 (SE corner).
   h. Should the water table occur at higher elevations than anticipated based on the results of the groundwater monitoring program, the depth of extraction shall be adjusted to ensure a minimum of 1.5 metres is maintained above the water table.

Fuel Storage:

   i. Temporary fuel storage facilities are located in a designated area. The designated area will be located outside of Wellhead Protection Areas.
   j. All fuelling activities will be in accordance with the Liquid Fuels Handling Code, Technical Standards and Safety Act, 2000, as amended.
   k. Mobile vehicles will be fuelled in a designated area located outside Wellhead Protection Areas. Immobile equipment may be re-fuelled with a fuel delivery truck outside of Wellhead Protection Area B.
   l. Fuel delivered to the Site will be stored within a horizontal double walled steel fuel tank meeting all current regulated standards.
   m. Fuel hoses on fuel storage tanks will be locked when unattended.
   n. Secondary containment measures will be added to the fuel intakes of crushing and screening equipment to protect against accidental spills while being fuelled by a fuel truck in the active area of the pit.
   o. A record of fuel deliveries will be maintained noting the quantity and date of fuel transfer.

Well Interference Complaint Procedure:

Miller Aggregates shall adopt the following Well Interference Complaint Procedure:

   p. Owners of domestic and farm water supplies experiencing disruption or quality problems shall immediately notify Miller Aggregates.
   q. Miller Aggregates, upon receipt of any water supply disruption compliant, shall retain the services of an independent Qualified Person (QP, i.e. P.Geo. or P.Eng.) to investigate the cause of the interference complaint.
   r. If, through the investigation, it is determined that pit operations have caused an adverse effect at the well in question, Miller Aggregates shall, at their expense, either restore or replace the affected water supply.
   s. If, through the investigation, it is determined that pit operations have not caused an adverse effect to the well in question, The Miller Group shall provide a report documenting the results of the investigation to the well owner and retain a copy on-file so that it can be made available upon request by agencies such as the MNRF or MECP.

3. Archaeology: "Stage 1 and 2 Archaeological Assessment" April 6, 2023 and "Stage 3 Archaeological Assessment (Locations 1, 19 & 22)" April 6, 2023 (Source: TMHC Inc.)

In consultation with the proponent, Locations 19 and 22 will be protected within the licensed area to allow for the potential to conduct the required archeological work at a later date.

   a. The site will be protected by the erection of a post and wire fence under the supervision of a licensed archaeologists that will be erected minimally along the limit of extraction.
   b. This protected area will be clearly depicted on the site operation plans, and no machine travel or ground disturbance can occur within the protected area until further archeological work has occurred.
   c. As the site operation plan has not been finalized, the proponent has provided a letter of commitment that acknowledges:
      I. commitment to the avoidance and protection strategy provided in this report;
      II. the regulatory protective mechanisms for the sites under the Ontario Heritage Act;
      III. the need to complete the remaining archaeological assessment for the site prior to any soil impacts to the site area; and
      iv. that any future landowners will be notified of the outstanding archeological requirements if the property is sold (see Supplementary Documentation).

L. Report Recommendations (cont'd)

2. Archaeology: (cont'd)

If the Stage 4 archaeological assessment on Locations 19 and 22 is completed, the Stage 4 excavation should consist of:

   a. the hand excavation of 1 m² units around all high yielding Stage 3 test units with block excavations continuing until per unit densities yield less than 10 artifacts, and there are fewer than two tools and diagnostic artifacts per unit.
   b. Soils from each unit should be passed through 6 mm hardware cloth with the first 5 cm of subsoil screened for artifacts.
   c. If subsurface cultural features are discovered, they will be subject to the standards outlined in Sec.4.2.2.7 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011:77).

4. Natural Environment: See page 5 of 6

5. Agricultural Impact Assessment: "Agricultural Impact Assessment - Proposed Paris Plains Pit" December 2023 (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 production 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 and 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 stored across the site at approximately the same pre-extraction depths as documented in the DBH Soil Report 2023, included in the Agricultural Impact Assessment (MHBC, December 2023). For areas of the site to be returned to agricultural condition, the minimum topsoil depth to be replaced will be 20 cm and the minimum subsoil depth to be replaced will be 30 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. Once progressive rehabilitation has been completed in each Phase, random soil testing shall be completed at the beginning of each growing season by a qualified professional to analyze soil conditions, 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 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 to analyze soil fertility, structure and drainage. 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. Soil testing is no longer required for a progressively rehabilitated phase, once the pre-extraction soil capability has been restored.
   j. An Agricultural Rehabilitation Monitoring Program Report shall be submitted annually by a qualified professional once progressive agricultural rehabilitation efforts have commenced and will continue until it can be demonstrated that the agricultural area in each Phase has been restored back to the pre-extraction soil capability and the final landform is completed as shown on the Rehabilitation Plan. The report shall document the stages of the rehabilitation process and include details on matters such as the following:
      i. Evaluate the rehabilitated agricultural condition and soil capability, relative to the baseline soil conditions documented. The baseline soil conditions shall be included as an appendix in the annual monitoring report;
      ii. An overview of the status of the current extraction and progressive rehabilitation phases;
      iii. Description of annual soil removal and storage methods;
      iv. Description of any land that has been progressively rehabilitated;
      v. Documentation on the alleviation of any soil compaction, drainage provisions, erosion control, etc.;
      vi. Description of how the soil has been replaced and any amendments added (fertilizer, organic matter)
      vii. Description of any seeding or planting that has occurred;
      viii. A review of previous rehabilitation management activities and observations regarding field conditions;
      ix. Report of agricultural activity (crops grown, annual yields) and any anecdotal feedback from the farmer;
      x. Review of drainage issues and recommended mitigation measures as necessary;
      xi. Summary of soil test results (if required) and post rehabilitation soil capability;
      xii. Summary of monitoring data; and
      xiii. Make recommendations on future agricultural rehabilitation activities and any needed adjustments to best management practices.

   The report shall include observational documentation, records of activity and quantitative information on soil conditions. These reports will be appended as part of annual ARA Compliance Assessment Reports. The purpose of the annual monitoring report is to ensure the site will be rehabilitated to a condition in which substantially the same area and the same average soil capability for agriculture, relative to the baseline conditions are restored and gather data on average soil capabilities to ensure the recommended rehabilitation sequence is implemented and documented.
   k. Best management practices shall be implemented with respect to the storage and application of organic material, fertilizers and pesticides.

6. Vibration Assessment: "Zone of Influence Study & Vibration Monitoring Plan - Paris Plains Pit" November 27, 2023 (Source: Aercoustics).

   a. During berm construction within 80 m of either of the church or school buildings, as shown in Zone of Influence Detail on page 2 of 6, a vibration monitoring plan shall be developed to allow for real-time assessment - and, if warranted, abatement - of the most significant vibration-producing activities against a stringent 1 mm/s criteria.
   b. The Vibration Monitoring Plan shall include the following activities:
      i. In coordination with a designated site representative, the berm construction operations during vibration monitoring should be recorded. Vibration levels will be measured at all monitoring locations, and any exceedance of the notification limit will immediately trigger a message or e-mail to be issued to all necessary parties. The notifications will be sent immediately and will be based on real-time data.
      ii. Barring any exceedances of the notification monitoring limits, the standard information recorded will be the peak vibration velocity in 15-minute intervals. A report will be created each day summarizing the vibration levels for the day. The daily reports will be packaged and issued on a bi-weekly basis.

Legal Description

Part of Lots 26 to 29 and Part of Lot 1 West of Grand River
Concession 4
(Geographic Township of Dumfries)
County of Brant

Site Plan Amendments

No.	Date	Description	By

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

MNRF Approval Stamp

MHBC Stamp

Applicant

Miller Aggregates
281 Hillmount Road
Suite 101
Markham, Ontario
L6C 2S3

Applicant's Signature

Kan Zhang
Miller Aggregates

Project

Paris Plains Pit

ARA Licence Reference No.

Pre-approval review:

For Application Submission - December 2023

Plot Scale: 1:4 [1mm = 4 units] MODEL
Drawn By: D.G.S.
Checked By: C.P.
File No.: 21236A

File Name

OPERATIONAL NOTES PLAN

Drawing No.

3 OF 6

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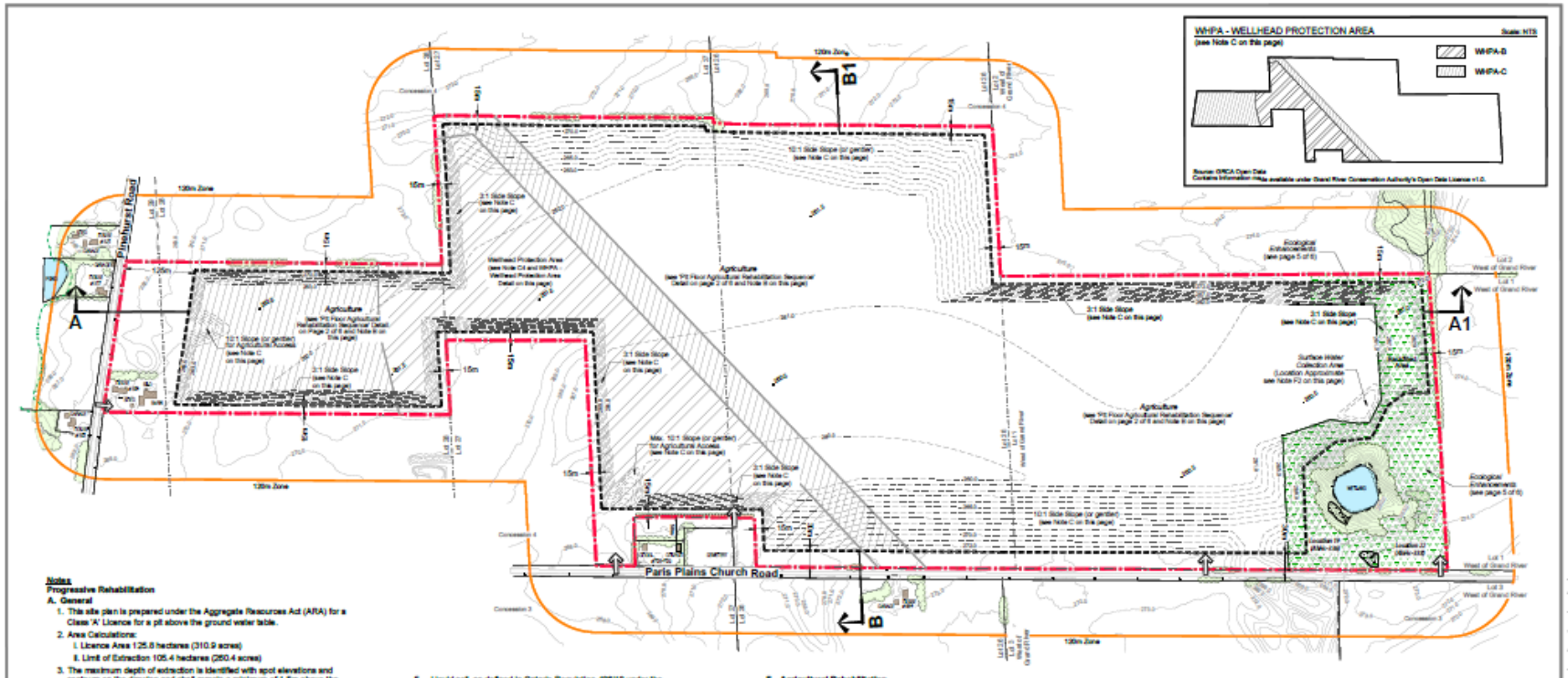


Notes

Progressive Rehabilitation

A. General

1. This site plan is prepared under the Aggregate Resources Act (ARA) for a Class 'A' Licence for a pit above the ground water table.
2. Area Calculations:
   i. Licence Area 125.8 hectares (310.9 acres)
   ii. Limit of Extraction 105.4 hectares (260.4 acres)
3. The maximum depth of extraction is identified with spot elevations and contours on the drawing and shall remain a minimum of 1.5m above the water table.

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 described in the Phase notes on page 2 of 6, as well as illustrated in the Progressive Rehabilitation Sequence schematic on page 2 of 6.
3. As outlined in the Extraction Sequence notes on page 2 of 6 and shown in the 'Progressive Rehabilitation Sequence schematic on page 2 of 6, each Phase of extraction shall initiate progressive rehabilitation, prior to proceeding to the next phase of extraction. Internal haul roads are permitted to remain in progressively rehabilitated areas, but shall be removed as part of final rehabilitation.
4. The timing of ecological enhancement activities shall be in accordance with Table 1 on page 5 of 6.
5. Progressive rehabilitation shall commence in Phase 1 and shall closely follow the westerly direction of extraction. In Phase 1, the north, south and east side slopes shall be progressively rehabilitated including the completion of ecological enhancements (see page 5 of 6). The processing area in Phase 1 shall remain until extraction in Phase 5 is complete. Progressive rehabilitation shall closely follow the westerly direction of extraction in Phase 2, Phase 3, Phase 4, and Phase 5.
6. Progressive rehabilitation activities will include grading and sloping, placement of topsoil and subsoil, agricultural rehabilitation activities, seeding of side slopes and the completion of the ecological enhancement area plantings where identified on the plan view.

C. Slopes and Grading

1. Progressive rehabilitation will utilize a variety of rehabilitation techniques including:
   i. Backfilling extraction faces; and
   ii. Backfilling the pit floor
2. Side slopes shall vary but will be a minimum of 3:1 and shall be created using on-site material, imported material, and silt from the settling pond. See Section M Variations from Control and Operational Standards on Drawing 2 of 3.
   i. The 10:1 side slopes shown on the drawing shall be created in Phase 1, Phase 2, Phase 3, and Phase 4, using on-site or imported material.
   ii. The 3:1 slopes shown in all Phases on the drawing may be gentler if sufficient on-site material is available that can be used for slope creation.
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. Excess soil, as defined in Ontario Regulation 244/97, may be imported to this site to facilitate the following rehabilitation:
   i. Establishing side slopes outside of the Well Head Protection Area-B and Well Head Protection Area C.
   ii. Top dressing to establish vegetation / agricultural crops outside of Well Head Protection Area B and Well Head Protection Area C.
5. Liquid soil, as defined in Ontario Regulation 405/19 under the Environmental Protection Act, is not authorized for importation to the site.
6. 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 the site conditions and the end use identified in the approved rehabilitation plan.
7. 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.
8. 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.
9. The cumulative total amount of excess soil that may be imported to this site for rehabilitation purposes is 1,000,000 m³.
10. The final rehabilitated landforms established using the rehabilitation techniques mentioned above will consist of side slopes, a relatively flat pit floor (that allows for surface drainage across the rehabilitated field) and ecological enhancements.

D. Topsoil and Overburden

1. All on-site topsoil and subsoil shall be used in progressive and final rehabilitation.
2. Refer to Agriculture notes under Section L5 Report Recommendations on page 2 of 6 for details regarding the handling and placement of topsoil and subsoil. Also refer to 'Pit Floor Agricultural Rehabilitation Sequence Detail', on this page.

E. Seeding

1. Any 3:1 side slopes shall be top-dressed with 10-15 centimetres of topsoil. Slopes shall be seeded with the Ministry of Transportation - Ontario (MTO) Standard Roadside Mix (OPSS.MUNI 804) or equivalent to establish vegetation quickly and reduce the potential for erosion. The MTO Standard Roadside Mix is comprised of 50% Creeping Red Fescue (Festuca rubra), 35% Perennial Ryegrass (Lolium perenne), 10% Kentucky Bluegrass (Poa pratensis) and 5% White Clover (Trifolium repens). The MTO Standard Roadside Mix shall be applied at an application rate of 130 kilograms per hectare.

F. Drainage

1. The final surface drainage will follow the rehabilitation contours as shown on the plan view and/or will be by infiltration.
2. A surface water collection area shall be located in Phase 1.

F. Agricultural Rehabilitation

1. Within the extraction area, a minimum of 92.8 hectares 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 1. The areas returned to an agricultural condition shall consist of the pit floor and maximum 10:1 side slopes (gentler if enough soil available).
2. The technical recommendations from the Agricultural Impact Assessment, included in note L5 on page 3 of 6, shall be implemented during progressive and final rehabilitation to restore 92.8 hectares of the extraction area to an agricultural condition.

G. Ecological Enhancements

1. Approximately 8.8 ha within the eastern portion of the site shall be rehabilitated as per Ecological Enhancement Plan and Rehabilitation Plan (Natural Environment) See page 5 of 6 for details.

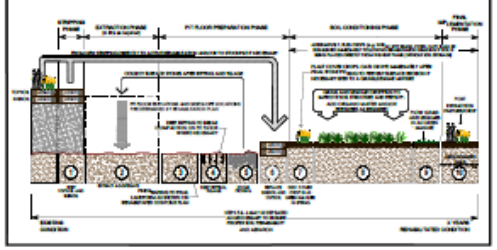
Final Rehabilitation

H. General

1. All equipment shall be removed from the site.
2. No buildings, structures or haul roads on the pit floor shall remain.
3. Access ramps shall remain to access the rehabilitated floor.
4. The water table encountered on-site ranges between an elevation of approximately 261.3 and 257.3 (metres above mean sea level) mAMSL. The maximum predicted water table is shown on each cross section Drawing 4 of 5 and Drawing 1 of 3.
5. The anticipated final end use is primarily agricultural with ecological enhancements. Also, a surface water collection area in Phase 1 will be created to assist with pit floor drainage following extraction.

PIT FLOOR AGRICULTURAL REHABILITATION SEQUENCE

Scale: NTS



Legal Description

Part of Lots 26 to 29 and Part of Lot 1 West of Grand River Concession 4
(Geographic Township of Dumfries)
County of Brant

Legend

- Boundary of Area to be Licensed
- Limit of Extraction (ALL SETBACKS ARE DRAWN TO SCALE AND SHOWN LABELLED DISTANCES)
- Contour with Elevation (METRES ABOVE MEAN SEA LEVEL)
- Proposed Contour (METRES ABOVE MEAN SEA LEVEL (m.A.S.L.))
- Public Road (Paved)
- Proposed Elevation (REHABILITATED ELEVATION)
- Private Laneway/ Driveway
- Ecological Enhancements
- Field Access
- Archaeological Site (SITE RECOMMENDED FOR FURTHER ARCHAEOLOGICAL FIELD WORK)
- Existing Fence (1.2m POST & WIRE PARK FENCE UNLESS OTHERWISE NOTED)
- Limit of Future Agricultural Use (SEE NOTE 2B ON PAGE 5 OF 6)
- Existing Vegetation (APPROXIMATE LOCATION)
- Wetland (PSW) (GOODMAN ECOLOGICAL CONSULTING INC. 2023)
- GRCA Wetland (PSW) (GRCA 2022)
- Drainage Feature (AS LABELLED)
- Cross Sections (SEE PAGE 5 OF 6 FOR EXISTING AND REHABILITATED CROSS SECTIONS)

Site Plan Amendments

No.	Date	Description	By

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

MNRF Approval Stamp

MHBC Stamp

Applicant

Miller Aggregates
201 Millmount Road
Suite 101
Markham, Ontario
L6C 2S3

Applicant's Signature

Ken Zimmerman
Miller Aggregates

Project

Paris Plains Pit

ARA Licence Reference No.

Pre-approval review:

For Application Submission - December 2023

Plan Scale 1:4,000 (Arch D)

SCALE
75 50 25 0 50 150
METRES

Plot Scale 1:4 [1mm = 4 units] MODEL

Drawn By D.G.S.

Checked By C.P.

File No. 21236A

File Name

REHABILITATION PLAN

Drawing No.

4 OF 6

K:\21236A-MILLER PAVING-SUDBURY LANDS-PARIS\PLANS\PIT REHAPLAN 4OF6 DECEMBER2023.DWG

Natural Environment Notes and Details

1. Operational Notes (see also pages 2 and 3 of 6)

A. Demarcation of Limits of Disturbance
The limit of extraction shall be clearly demarcated with monument markers (e.g., metal T-bars, cedar posts, or equivalent) spaced no more than 30 m apart and all corners shall have markers installed.

In proximity to Wetland W1 and Ecological Enhancement Plan (EEP) Units, the maximum spacing between monument markers shall be 10 m and signage stating "Ecological Area - No Disturbance" or equivalent wording shall be installed. Signage shall also state "Archaeological Area - No Disturbance", where fencing is also intended to protect Archaeological Areas. Monument markers shall be installed following the final crop harvest in a particular area, prior to site preparation for extraction.

B. Silt/Exclusion Fencing
Silt/Exclusion Fencing shall be installed per the layout shown page 2 of 6. Silt/Exclusion Fencing shall be installed following the final crop harvest in a particular area and seeding with a native seed mix, prior to commencement of site preparation for extraction in a particular area.

Silt/Exclusion Fencing shall be heavy-duty silt fencing or Animex Wildlife Fencing or equivalent. The fencing shall be installed in accordance with the direction provided in the MNRF guidance document titled "Reptile and Amphibian Exclusion Fencing" found at:
https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing

Silt/Exclusion Fencing may also be affixed to post and wire fencing intended to also protect archaeological features.

The condition of the fencing shall be monitored on a regular basis and it shall be promptly repaired as necessary.

Gaps in the fencing may be temporarily created to provide access for EEP and Rehabilitation Plan activities. Any gaps in the fencing shall be promptly closed.

Silt/Exclusion Fencing shall be removed as part of Final Rehabilitation activities.

C. Agricultural Use
The installation of Silt/Exclusion Fencing shall occur gradually as the pit develops and in coordination with farming activities, i.e., Silt/Exclusion Fencing shall be installed following the final crop harvest in a particular area, prior to site preparation for extraction. Agricultural uses shall be encouraged to continue until site preparation is required, in order to prevent future Ecological Enhancement Plan (EEP) Units from becoming infested with annual weeds over time, before they can be seeded with custom native seed mixes.

D. Timing of Tree-clearing Operations
Tree-clearing will not occur during the active period for bats and the bird breeding season, i.e., no tree-clearing between April 1 and November 30. This will avoid potential contraventions of the Migratory Bird Convention Act, Fish and Wildlife Conservation Act and the Endangered Species Act.

E. Salvage of Woody Material, Weathered Rock, etc.
Boulders, rocks and cobbles shall be salvaged from fence lines and stone piles within the extraction area. Rocky material shall also be salvaged during stripping operations. This material shall be stockpiled within the extraction area and/or yard area for use as part of the Ecological Enhancement Plan (EEP) and future pit rehabilitation.

Logs, stumps, root wads and branches shall be salvaged during clearing and grubbing operations. Tree tops may be chipped. The salvaged woody material and wood chips shall be stockpiled within the extraction area for use as part of the Ecological Enhancement Plan (EEP) and future pit rehabilitation.

2. Rehabilitation Notes (see also page 4 of 6)

A. Ecological Enhancement Plan [EEP] and Rehabilitation Plan [Natural Environment] Details
Detailed prescriptions for the Ecological Enhancement Plan (EEP) and Rehabilitation Plan (Natural Environment) Units are provided in Tables 1, 2 and 3 on this page. Further detail is provided in the Natural Environment Technical Report & Scoped EIS (Goodban Ecological Consulting Inc. [GEC] 2023).

B. Demarcation of Rehabilitation Areas [Natural Environment]
The demarcation line for the "Limit of Future Agricultural Use" is shown on the Rehabilitation Plan. The Limit of Future Agricultural Use shall be clearly demarcated with monument markers (e.g., metal T-bars, cedar posts, or equivalent) spaced no more than 10 m apart and all corners shall have markers installed. Signage stating "Ecological Area - No Disturbance" or equivalent wording shall be installed.

C. Maintenance/Tending of Plantings
Wood chip mulch and/or OCCCCISC weed control matsdisks (min. 50 cm diameter) will be installed to control herbaceous competition around planted seedlings and to improve moisture retention.

Where suitable site access is available, during the first year of establishment, plantings will be watered during dry periods, defined as when less than 25 cm of precipitation occurs within a 14-day period between late April and early October.

D. Ecological Monitoring
Following commencement of EEP activities, an annual ecological monitoring program will be undertaken in order to verify that the components of the Ecological Enhancement Plan (EEP) & Rehabilitation Plan (Natural Environment) are being successfully implemented.

A network of fixed-point photo-monitoring stations shall be established and monitoring shall occur several times each year (minimum of 2 visits per year during the growing season), following commencement of EEP activities (e.g., seeding with custom native seed mixes, tree and shrub plantings, wildflower plug plantings, etc.). Ecological monitoring shall include fixed-point photography, general reconnaissance, and assessment of survivorship of woody plantings, custom seed mixes and wildflower plugs/seeding as appropriate. Percent survivorship in the various planting areas shall be generally assessed as part of the annual ecological monitoring program. Ecological Enhancement Plan (EEP) units and Rehabilitation units that experience high mortality of plantings shall be replanted as necessary. The survivorship target for woody plantings is for 65% of plantings to achieve a "free-to-grow" condition. If certain species exhibit high mortality, they shall be substituted with species that are performing better at this site. Corrective measures will be implemented as necessary.

Ecological Enhancement Plan (EEP) Units and Rehabilitation Units will be monitored for invasive plant species and management strategies will be developed and implemented as necessary.

Ecological monitoring of Wetland W1 will occur during the initial site preparation stage through until the completion of Phase 1 extraction and this monitoring shall include:

- Fixed-point photography: Establishment of at least 2 photo-monitoring stations using permanent markers (e.g., metal T-bar or rebar). Fixed-point photographs shall be taken at least twice per year.
- General Wetland Reconnaissance: To be completed at the time of photo-monitoring events.
- Amphibian Call County Survey: One (1) Song Meter SM4 or equivalent shall be deployed from early spring until June 30.
- Ecological monitoring data and photographs from Wetland W1 shall be included in the Ecological Reporting.

E. Ecological Reporting
Upon commencement of ecological enhancement activities, an ecological monitoring report shall be completed for each 5-year period until final rehabilitation is complete. The 5-year ecological monitoring report shall be completed no later than June 30th following the end of the fifth year in each cycle. The ecological monitoring report shall be circulated to the MNRF and the County of Simcoe. The monitoring report shall document the ecological enhancement and rehabilitation activities completed during the preceding 5-year period and demonstrate that the components of the Ecological Enhancement Plan (EEP) & Rehabilitation Plan are being successfully implemented. The monitoring report shall also include any recommendations that may increase the success of enhancement and rehabilitation measures in subsequent years.

TABLE 1 : PARIS PLAINS PIT
ECOLOGICAL ENHANCEMENT PLAN (EEP) AND REHABILITATION PLAN (NATURAL ENVIRONMENT): UNIT DETAILS

Unit	Feature	Area (ha)	Timing	Main Species Selections/ Enhancement	Planting (#'s)	Habitat Features	Seed Mix	Notes
Ecological Enhancement Plan (EEP) for land that will not be extracted - Vegetation Management								
EP-VM1	MSSW3-5e	0.08	Complete by the end of Phase 3 extraction	Red Cedar White Cedar White Pine Hackberry Chokecherry Highbush Cranberry Hawthorn Kingborn Sumac Canada Plum Wild Plum Wild Oats	100 trees 100 shrubs	6 WDP 6 BP 12 PP	N/A	• Old field meadow dominated by Smooth Brome (+), with treelshrub clusters (MSSW3-5e). • Between November 1 and March 31, cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide. The woody material cut down will either be repurposed as habitat features for wildlife (e.g., log piles, brush piles) or chipped. • Install habitat features (log piles, brush piles, rock piles). • This unit will be planted with clusters of native trees and shrubs that provide cover, browse and soft mast for wildlife. • Plant 12 pollinator plots. Install during the spring planting window.
EP-VM2	MSPM1	0.25	Complete by the end of Phase 3 extraction	Red Cedar White Cedar White Pine Hackberry Chokecherry Highbush Cranberry Hawthorn Kingborn Sumac Canada Plum Wild Plum Wild Oats	50 trees 75 shrubs	3 WDP 3 BP 6 PP	N/A	• Old field meadow dominated by Smooth Brome (+), with scattered small treesand shrubs (PMPM1). Some young Bur Oak and Red Cedar are present. • Between November 1 and March 31, cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide. The woody material cut down will either be repurposed as habitat features for wildlife (e.g., log piles, brush piles) or chipped. • Install habitat features (log piles, brush piles, rock piles). • This unit will be planted with clusters of native trees and shrubs that provide cover, browse and soft mast for wildlife. • Plant 6 pollinator plots. Install during the spring planting window.
EP-VM3	FODM1	0.70	Complete by the end of Phase 3 extraction	American Hazel Pregnant Bumac Wait Jersey Tea Pennsylvania Sedge	200 shrubs 700 plugs	18 pp	N/A	• Existing Bur Oak island (FODM1). Large, open grown oak trees. Understorey is infested with Common Buckthorn (+). • Between November 1 and March 31, cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide. The woody material cut down will either be repurposed as habitat features for wildlife (e.g., log piles, brush piles) or chipped. • This unit includes Archaeology Location 10 - no digging or other soil disturbance is permitted within 10 m of Location 10. • Install 18 pollinator plots and 700 Pennsylvania Sedge plugs during spring planting windows.
EP-VM4	FODM3-1	0.66	Completely by the end of Phase 3 extraction		N/A		N/A	• Existing Trembling Aspen stand (FODM3 -1). Understorey is infested with Common Buckthorn (+). • Between November 1 and March 31, cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide. The woody material cut down will either be repurposed as habitat features for wildlife (e.g., log piles, brush piles) or chipped.
EP-VM5	THDM2-4e	0.90	Complete by the end of Phase 2 extraction	Red Cedar White Cedar White Pine Hackberry Chokecherry Highbush Cranberry Hawthorn Kingborn Sumac Canada Plum Wild Plum Wild Oats	100 trees 100 shrubs	6 WDP 6 BP 12 PP	N/A	• Existing shrub thicket dominated by Grey Dogwood, with old field patches and tree clusters (THDM2-4e). Some patches of Common Buckthorn (+), Lilac (+) and Tartarian Honeysuckle (+) are present. • Between November 1 and March 31, cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide. The woody material cut down will either be repurposed as habitat features for wildlife (e.g., log piles, brush piles) or chipped. • Install habitat features (log piles, brush piles, rock piles). • This unit will be planted with clusters of native trees and shrubs that provide cover, browse and soft mast for wildlife. • Plant 12 pollinator plots. Install during the spring planting window.
	Subtotal	3.49	Vegetation Management		250 trees 575 shrubs 1510 other	15 WDP 15 BP 48 PP		
Ecological Enhancement Plan (EEP) for land that will not be extracted: Tallgrass Prairie								
EP-TP1	15-m Property Setback - Agricultural Field	0.23	Prior to site preparation within 10m of limit of extraction in this area	Black Oak Bur Oak Hill's Oak White Oak White Pine Red Cedar American Hazel Pregnant Bumac Wait Jersey Tea Prairie Willow	30 trees 60 shrubs	10 PP	Custom Tallgrass Prairie Mix	• 15 m wide Property Setback. Includes active agricultural field and north property boundary. • Includes future east - west driving access. • Between November 1 and March 31, along favourable cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide.
EP-TP2	10 m Property Setback & Adjacent Area - Agricultural Field	0.30	Prior to site preparation within 10m of limit of extraction in this area	Note: tree and shrub species selections are the same for Units EP-TP1 through EP-TP7.	60 trees 100 shrubs	6 PP	Custom Tallgrass Prairie Mix	• Includes 10 m wide Property Setback and an adjacent area. Includes active agricultural field and counter windbreak (FOCM3e) along east property line. • Includes north-south driving access and voluntary road berm. • Select berms to be used as Tallgrass Prairie Seed Mix and planted with trees and shrubs. • Between November 1 and March 31, along favourable cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide.
EP-TP3	Agricultural Field	0.10	Prior to site preparation within 10m of limit of extraction in this area		10 trees 30 shrubs	6 PP	Custom Tallgrass Prairie Mix	• Narrow strip along Algonkia between the Limit of Extraction and EEP Units EP-VM1 and EP-VM2.
EP-TP4	Agricultural Field, including 15 m Property Setback	0.69	Commence as soon as within 1 year of establishment of at least 5 ha of useable agricultural land on pit floor.		100 trees 200 shrubs	10 WDP 20 PP	Custom Tallgrass Prairie Mix	• Active agricultural field, located between habitats around Wetland W1 and east property line. • Includes north-south driving access (wide east property line). • Between November 1 and March 31, along favourable cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide.
EP-TP5	Agricultural Field, including 15 m Property Setback	0.18	Commence as soon as within 1 year of establishment of at least 5 ha of useable agricultural land on pit floor.		20 trees 50 shrubs	4 WP 8 PP	Custom Tallgrass Prairie Mix	• Active agricultural field, located between habitats around Wetland W1 and Wild Oats and Mixed Deciduous Thicket. • Includes north-south driving access (middle east property line). • Between November 1 and March 31, along favourable cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide.
EP-TP6	Agricultural Field	0.27	Commence as soon as agricultural use of adjacent portion of extraction area ceases.		25 trees 75 shrubs	6 WP 8 PP	Custom Tallgrass Prairie Mix	• Active agricultural field, located between Limit of Extraction and Unit EP-VM3
EP-TP7	Agricultural Field, including 15 m Property Setback	1.74	Commence within 1 year of establishment of at least 5 ha of useable agricultural land on pit floor.		150 trees 300 shrubs	30 WP 30 PP	Custom Tallgrass Prairie Mix	• Active agricultural field, and south and east property boundary (TADM3). • Includes gated access from Park Plains Church Road. 20-m x 30-m staging area and driving access routes, i.e., west west & north-south driving lanes. • This unit includes Archaeology Location 23; no trees, shrubs or pollinator plots to be installed within 10 m of Location 23 (only seeding with Custom Tallgrass Prairie Mix is permitted). • Between November 1 and March 31, along favourable cut Common Buckthorn and other undesirable woody competition (identified using orange/yellow marking paint) and treat stumps with Glyphosate or Garlon 4 herbicide.
EP-TP8	30-m Road Setback with Visual Berm	0.10	Commence as soon as agricultural use of adjacent portion of extraction area ceases. Berm beside Park Plains Church Road to be seeded as soon as possible after berm installation.	N/A	N/A	N/A	Custom Tallgrass Prairie Mix	• Active agricultural field within 30 m road setback. Includes section of berming along Park Plains Church Road (TADM3). • Includes east portion of voluntary visual berm beside road.
	Subtotal	4.36	Tallgrass Prairie Creation		410 trees 860 shrubs 1436 other	40 WP 64 PP		
	Total	8.85	Ecological Enhancement Plan (EEP), Vegetation Management and Tallgrass Prairie Creation		660 trees 1445 shrubs	55 WDP 88 PP		

TABLE 1 : PARIS PLAINS PIT
ECOLOGICAL ENHANCEMENT PLAN (EEP) AND REHABILITATION PLAN (NATURAL ENVIRONMENT): UNIT DETAILS

Unit	Feature	Area (ha)	Timing	Main Species Selections/ Enhancement	Planting (#'s)	Habitat Features	Seed Mix	Notes
Rehabilitation Plan [Natural Environment] for land that will be extracted: Tallgrass Prairie & Lowland Thicket								
RP-LT1	Rehabilitation - Bur Oak Lowland Thicket	0.38	As part of final rehabilitation	Trembling Aspen Balsam Poplar Red osier Dogwood Black Willows	30 trees 100 shrubs	10 RP	Custom Native Seed Mix	• Surface Water Collection Area on pit floor. • Note: native plants species have been selected, they can tolerate periods of inundation, as well as dry periods. • Create undulating microtopography on pit floor. Plant trees and shrubs on slightly higher ground.
RP-TP1	Rehabilitation - Upper Side Slope - Tallgrass Prairie	0.29	Complete prior to commencement of site preparation for Phase 3.	Black Oak Bur Oak Hill's Oak White Oak White Pine Red Cedar	20 trees 75 shrubs	3 RP 5 PP	Custom Tallgrass Prairie Mix	• Southwest facing upper rehabilitation side slope.
RP-TP2	Rehabilitation - Upper Side Slope - Tallgrass Prairie	0.34	Complete prior to commencement of site preparation for Phase 3.	American Hazel Pregnant Bumac Wait Jersey Tea Prairie Willow Note: tree and shrub species selections are the same for Units EP-TP1 through EP-TP8.	20 trees 75 shrubs	3 RP 5 PP	Custom Tallgrass Prairie Mix	• West facing upper rehabilitation side slope.
RP-TP3	Rehabilitation - Upper Side Slope - Tallgrass Prairie	0.10	Complete prior to commencement of site preparation for Phase 3.		10 trees 40 shrubs	2 RP 3 PP	Custom Tallgrass Prairie Mix	• North and northwest facing upper rehabilitation side slope.
RP-TP4	Rehabilitation - Terrace - Tallgrass Prairie	0.82	Complete prior to commencement of site preparation for Phase 3.		80 trees 160 shrubs	8 RP 10 PP	Custom Tallgrass Prairie Mix	• Terrace between upper rehabilitation side slopes (RP-TP1, RP-TP2 & RP-TP3) and lower side slope (RP-TP6)
RP-TP5	Rehabilitation - Lower Side Slope - Tallgrass Prairie	0.33	Complete prior to commencement of site preparation for Phase 3.		30 trees 80 shrubs	3 RP 8 PP	Custom Tallgrass Prairie Mix	• West facing lower rehabilitation side slope.
RP-TP6	Rehabilitation - Side Slope - Tallgrass Prairie	0.81	Complete prior to commencement of site preparation for Phase 3.		50 trees 100 shrubs	5 RP 10 PP	Custom Tallgrass Prairie Mix	• South facing rehabilitation side slope.
RP-TP7	Rehabilitation - Side Slope - Tallgrass Prairie	0.31	Complete prior to completion of adjoining Phase 3.		30 trees 80 shrubs	3 RP 8 PP	Custom Tallgrass Prairie Mix	• North and west facing rehabilitation side slope.
RP-TP8	Rehabilitation - Side Slope - Tallgrass Prairie	0.42	Complete prior to completion of adjoining Phase 3.		40 trees 80 shrubs	4 RP 8 PP	Custom Tallgrass Prairie Mix	• Nor thwest and west facing rehabilitation side slope.
RP-TP9	Rehabilitation - Side Slope & Tableland - Tallgrass Prairie	0.40	Complete prior to completion of adjoining Phase 3.		60 trees 120 shrubs	6 RP 12 PP	Custom Tallgrass Prairie Mix	• West facing rehabilitation side slope and rehabilitation tableland.
	Subtotal	3.84	Rehabilitation Plan (Natural Environment)		400 trees 770 shrubs 1130 other	47 RP 71 PP		
	Overall Total	12.69	Ecological Enhancement Plan (EEP) & Rehabilitation Plan (Natural Environment)		1070 trees 2215 shrubs 4363 other	15 WDP 102 RP 207 PP		

Notes:
- Main Species Selections: Subject to availability, suitable native substitutions are acceptable. Species that perform better at this site may be planted in larger proportions in later Seed plantings.
- Planting #'s: Nursery stock may be 1 gallon or larger container grown stock, plugs or bare root whips. Container grown stock and plugs are preferable.
- WDP = Woody Debris Features [log piles, stumps, root wads, brush piles]. Minimum dimensions are 2.0 m x 2.0 m x 1.0 m. Where specified, at least 10 Wood Debris Features shall be installed.
- RP = Rock Piles [boulders, rocks, cobbles]. Minimum dimensions are 2.0 m x 2.0 m x 1.0 m. Where specified, at least 10 Rock Piles per hectare shall be installed.
- PP = Pollinator Plots [3.0 m x 3.0 m] 18 wildflower plugs planted on approximate 0.3 m x 0.3 m spacing. Wildflower species for pollinator plots are to be selected from the lists provided in Table 2.
- Seed Mixes include Custom Tallgrass Prairie Seed Mix, Custom Native Seed Mix and MTO Standard Roadside Mix. Seed mix details are provided in Table 3. Minor variations in seed mixes, in terms of species selections and proportions, may be necessary depending on availability. Subject to availability, suitable native substitutions are acceptable.

TABLE 2: PARIS PLAINS PIT
ECOLOGICAL ENHANCEMENT PLAN (EEP) AND REHABILITATION PLAN: WILDFLOWER SPECIES LISTS FOR POLLINATOR PLOTS

Tallgrass Prairie (EP-TP1 to EP-TP9)	Vegetation Management (EP-VM1, EP-VM2 & EP-VM3)
Species for use in Pollinator Plots within the tallgrass prairie theme shall be selected from the following species list: • Common Milkweed (Asclepias syriaca) • Butterfly weed (Asclepias tuberosa) • Pennsylvania Sedge (Carex pensylvanica) • Showy Tick-trefoil (Desmodium canadense) • Woodland Sunflower (Helianthus divaricatus) • Round-headed Bush clover (Lespedeza capitata) • Wild lupine (Lupinus perennis) • Hairy Beardtongue (Penstemon hirsutus) • Virginia Mountain-mint (Pycnanthemum virginianum) • Blackeyed Susan (Rudbeckia hirta) • Early Goldenrod (Solidago juncea) • Grey Goldenrod (Solidago nemoralis) • Tall Goldenrod (Solidago altissima) • Riddell's Goldenrod (Solidago riddellii) • Frost Aster (Symphyotrichum pilosum) • Smooth Aster (Symphyotrichum laeve) • Arrow-leaved Aster (Symphyotrichum urophyllum) • Hairy Vervain (Verbena stricta) • White Vervain (Verbena urticifolia) • Other suitable native plant species of tallgrass prairie and other open habitats Wildflowers will be established in pollinator plots by planting plugs and/or by direct seeding on bare soil. Local seed collection may also be used to augment wildflower species composition. Plugs should be planted when the risk of frost is low. Optional timing for seeding is late fall, although spring seeding is acceptable. Note: Minor variations in species selections may be necessary depending on availability. Subject to availability, suitable native substitutions are acceptable.	Species for use in Pollinator Plots within Vegetation Management Units (EP-VM1, EP-VM2 & EP-VM3) shall be selected from the following species list: • Common Milkweed (Asclepias syriaca) • Showy Tick-trefoil (Desmodium canadense) • Wild Sarsaparilla (Aralia nudicaulis) • Panicled Dogwood (Cornus racemosa) • Virginia Mountain-mint (Pycnanthemum virginianum) • Wild Lupine (Lupinus perennis) • Hairy Beardtongue (Penstemon hirsutus) • Early Goldenrod (Solidago juncea) • Tall Goldenrod (Solidago altissima) • Frost Aster (Symphyotrichum pilosum) [Aster pilosus] • Smooth Aster (Symphyotrichum laeve) [Aster laevis] • Arrow-leaved Aster (Symphyotrichum urophyllum) [Aster urophyllus] • Hairy Vervain (Verbena stricta) • White Vervain (Verbena urticifolia) • Other suitable native plant species of open habitats Wildflowers will be established in pollinator plots within Vegetation Management Units by planting plugs. Local seed collection may also be used to augment wildflower species composition. Plugs should be planted when the risk of frost is low.

TABLE 3: PARIS PLAINS PIT
ECOLOGICAL ENHANCEMENT PLAN (EEP) AND REHABILITATION PLAN: SEED MIX DETAILS

Custom Tallgrass Prairie Seed Mix	Custom Native Seed Mix
Grasses 30% Big Bluestem (Andropogon gerardii) 30% Canada Wild-rye (Elymus canadensis) 30% Indian Grass (Sorghastrum nutans) 10% Little Bluestem (Schizachyrium scoparium) Application Rate: 22.8 kg/ha The optional timing for seeding the Custom Tallgrass Prairie Seed Mix is late fall, in order to allow for cold stratification of the seeds. Spring seeding is also acceptable. Oats shall be planted in the spring period, after the risk of frost has passed. The Custom Tallgrass Prairie Seed Mix shall be used for EEP Units EP-TP1 to EP-TP9 and Rehabilitation Plan Units RP-TP1 to RP-TP9.	Grasses 50% Canada Wild-rye (Elymus canadensis) 50% Virginia Wild-rye (Elymus virginicus) Application Rate: 22.8 kg/ha The optional timing for seeding the Custom Native Seed Mix is late fall, in order to allow for cold stratification of the seeds. Spring seeding is also acceptable. Oats shall be planted in the spring period, after the risk of frost has passed. The Custom Native Seed Mix shall be used for Rehabilitation Plan Unit RP-LT1.
MTO Standard Roadside Mix (OPSS.MUNI 804)	
30% Creeping Red Fescue (Festuca rubra) 30% Perennial Ryegrass (Lolium perenne) 15% Kentucky Bluegrass (Poa pratensis) 5% White Clover (Trifolium repens) Application Rate: 100 kg/ha The rehabilitation side slopes and berms that are not part of the Natural Environment rehabilitation units and not proposed for restoration to agriculture use shall be top-dressed with at least 10 cm of topsoil if available. Hydroseeding application is necessary for establishing groundcover on newly established rehabilitation side slopes. Recommended seed mix is the MTO Standard Roadside Mix or equivalent, to reduce the potential for erosion.	
Notes: Minor variations in seed mixes, in terms of species selections and proportions, may be necessary depending on availability. Subject to availability, suitable native substitutions are acceptable.	

Site Plan Amendments

No.	Date	Description	By

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

MNRF Approval Stamp

MHBC Stamp

Applicant

Miller Aggregates
201 Millmount Road
Suite 101
Markham, Ontario
L6C 2S3

Applicant's Signature

Ken Zimmerman
Miller Aggregates

Project

Paris Plains Pit

ARA Licence Reference No.

Pre-approval review:

For Application Submission - December 2023

Plot Scale: 1:4 [1mm = 4 units] MODEL

Drawn By: D.G.S.

Checked By: C.P.

File No.: 21236A

File Name: ECOLOGICAL ENHANCEMENT PLAN AND REHABILITATION PLAN (NATURAL ENVIRONMENT)

Drawing No.: 5 OF 6

K:\21236A-MILLER PAVING-BUDAY LANDS-PARIS\MAPS\PARIS PLAINS PIT ECOLOGICAL ENHANCEMENT PLAN SEP8 DECEMBER2023.DWG

Traffic

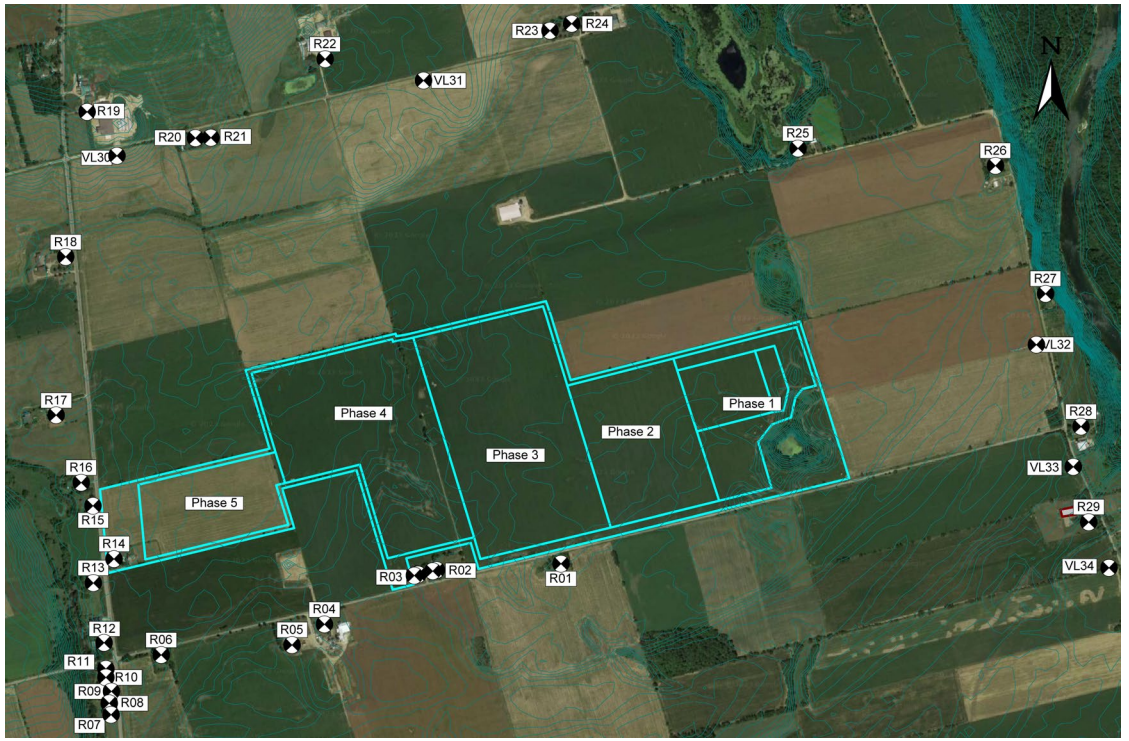
- Direct access to Pinehurst Road with improvements including southbound turning lane
- Pinehurst Road is approved truck route
- No truck traffic or need for improvements to Paris Plains Church Road
- No truck traffic in front of church or cemetery
- Predicted Traffic Flow
  - 75 % travelling northbound
  - 25 % travelling southbound
- At maximum capacity, we expect up to 30 trucks (60 two-way truck movements) an hour
- Studies based on peak volumes in a given hour
- We do not anticipate these type of volumes throughout a full day of operation or every day of the operation.

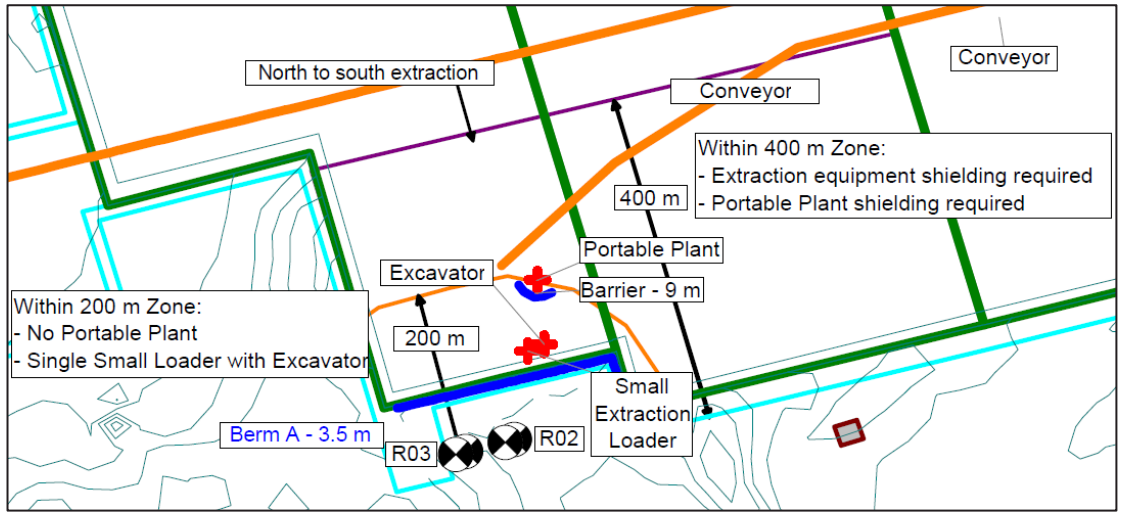
Hydrogeology and Water Quality

- Extraction will occur at least 1.5 meters above the water table
- Average 10m depth across the site
- Extracted floor will be returned to agricultural use
- 10 monitoring wells in place and have data loggers to monitor water levels. Baseline water quality measurements have also been collected
- On-site wetland/water feature will be protected and enhanced
- Mitigation measures have been developed and implemented to ensure Source Water Protection Plan
- Domestic wells are protected
- Includes baseline study of wells within 1 km of site
- Annual monitoring and report

Noise and Dust

- Miller is committed to ensuring minimal noise and dust for nearby homes and businesses
- Operations will not exceed noise thresholds outlined in provincial guidelines
- Air Quality and Noise Impact mitigations will be in place, for example:
  - Additional setbacks behind church and cemetery
  - Strategic location of processing plant
  - Noise and visual berms along Paris Plains Church Rd
  - Localized equipment restrictions in specific phases/areas within site
  - Dust management plan
  - Annual noise monitoring

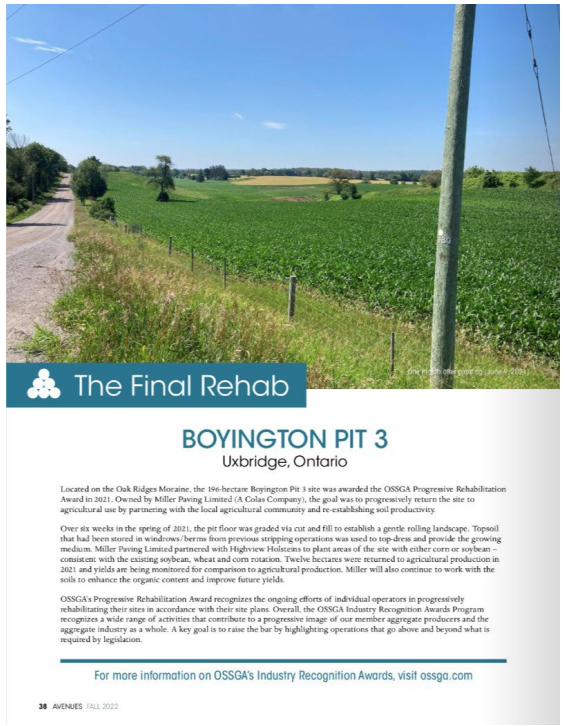




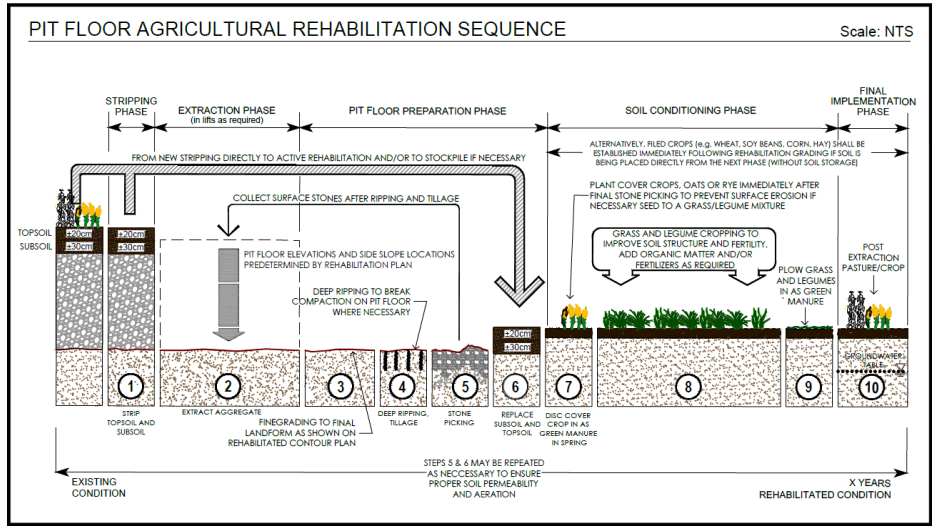
Example of Noise Mitigation Measures

Proposed Rehabilitation

- Progressive and final rehabilitation back to an agricultural condition
- Includes ecological enhancements in and adjacent to Phase 1
- Use of Agricultural Rehabilitation Best Management Practices, for example:
  - Careful soil handling and storage
  - Ripping and tilling to alleviate soil compaction
  - Grading/sloping to control drainage and air flow
  - Stone picking
  - Use of soil amendments and cover crops to improve condition and fertility of soil
  - Monitoring and reporting
  - Relationship with local farmers



Proposed Paris Plains Pit



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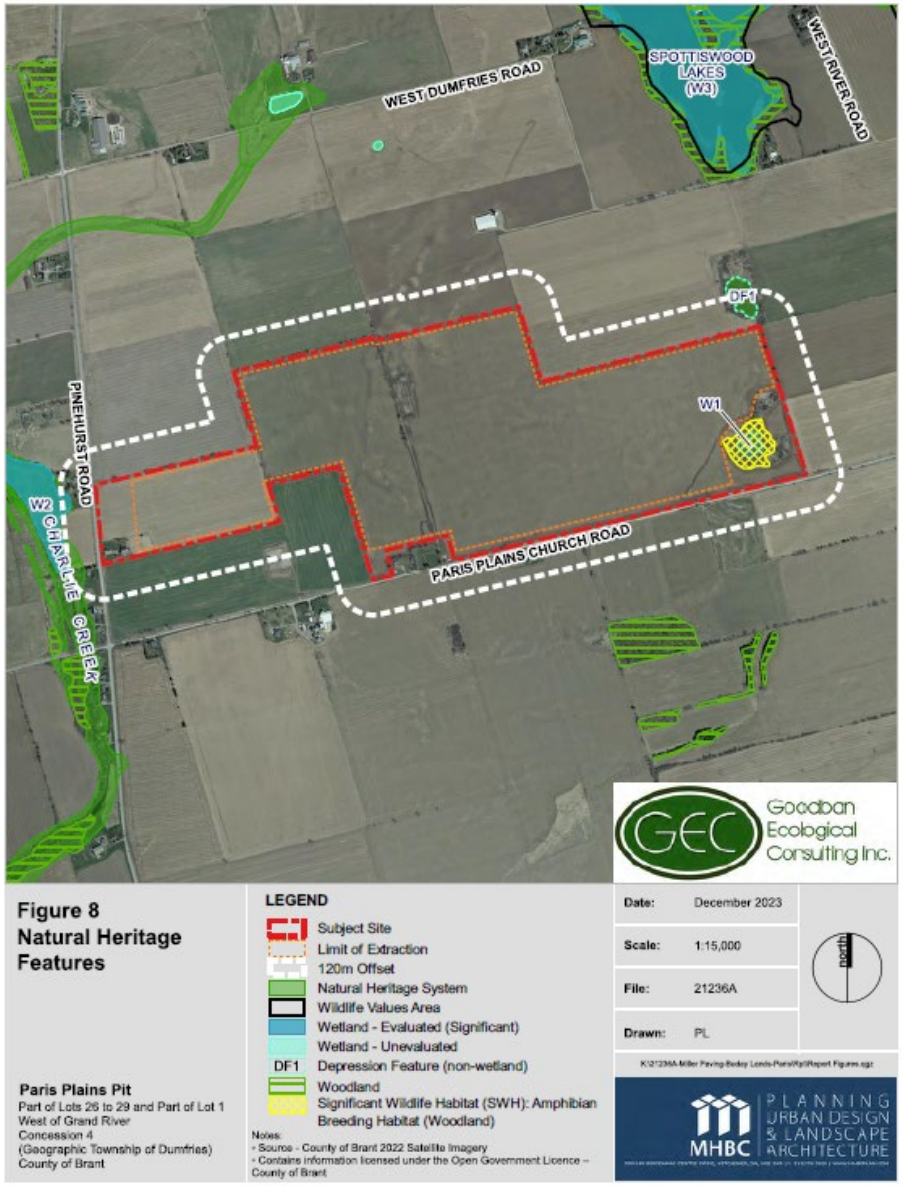
Environmental Impact Study

Based on recommendations with respect to the extraction footprint, operational plan, Ecological Enhancement Plan (EEP) and Rehabilitation Plan (Natural Environment):

- Implement as shown on the Site Plans
- No negative effects on Endangered and Threatened species, Significant Wetlands, Fish Habitat and Significant Wildlife Habitat.
- From a natural environment perspective, the Paris Plains Pit will result in a net environmental gain
- Onsite Wetland W1 will be protected with generous buffers.
- Existing vegetation features will be enhanced and new habitats created at the east end of the site.



Ecological Enhancement Plan (~ 8 ha)

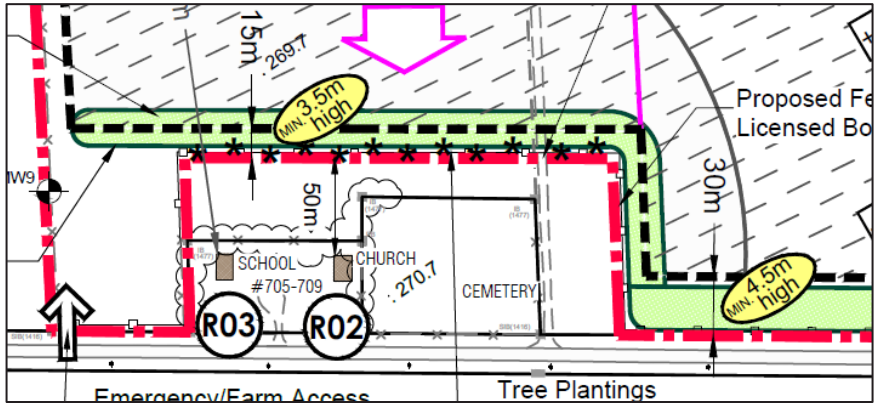
Implementation of the EEP and Rehabilitation Plan (Natural Environment) will:

- Enhance existing natural and semi-natural habitats and agricultural land
- Naturalization of new rehabilitation side slopes and terraces
- Creation of a combined 8.0 ha of ‘new habitats’
- Plant 1070 trees, 2210 shrubs, 3312 wildflower plugs and 750 sedgeplugs;
- Install 117 habitat features, including 102 rock piles and 15 woody debris features
- Create an ecological linkage between Wetland W1 and its related habitats and Depression Feature DF1 (north of the northeast corner)

Preserving Cultural Heritage

- The proposed location is adjacent to the Paris Plains Stone Church, cemetery and Maus Schoolhouse
- Active and ongoing consultation with the Cemetery preservation group
- Engineering Structural Condition Assessment of Paris Plains Church and the Maus Schoolhouse completed in October 2022
  - Vibration monitoring plan for berm construction within 60m
- Mapping of cemetery underway in consultation with Ministry of Tourism, Culture, and Sports and Bereavement Authority of Ontario (BAO)
- Miller will ensure that no adverse effects on the buildings or cemetery
- Additional lands to be donated to the Cemetery preservation group

Cemetery donation lands



Berm around schoolhouse, church and cemetery from Site Plans

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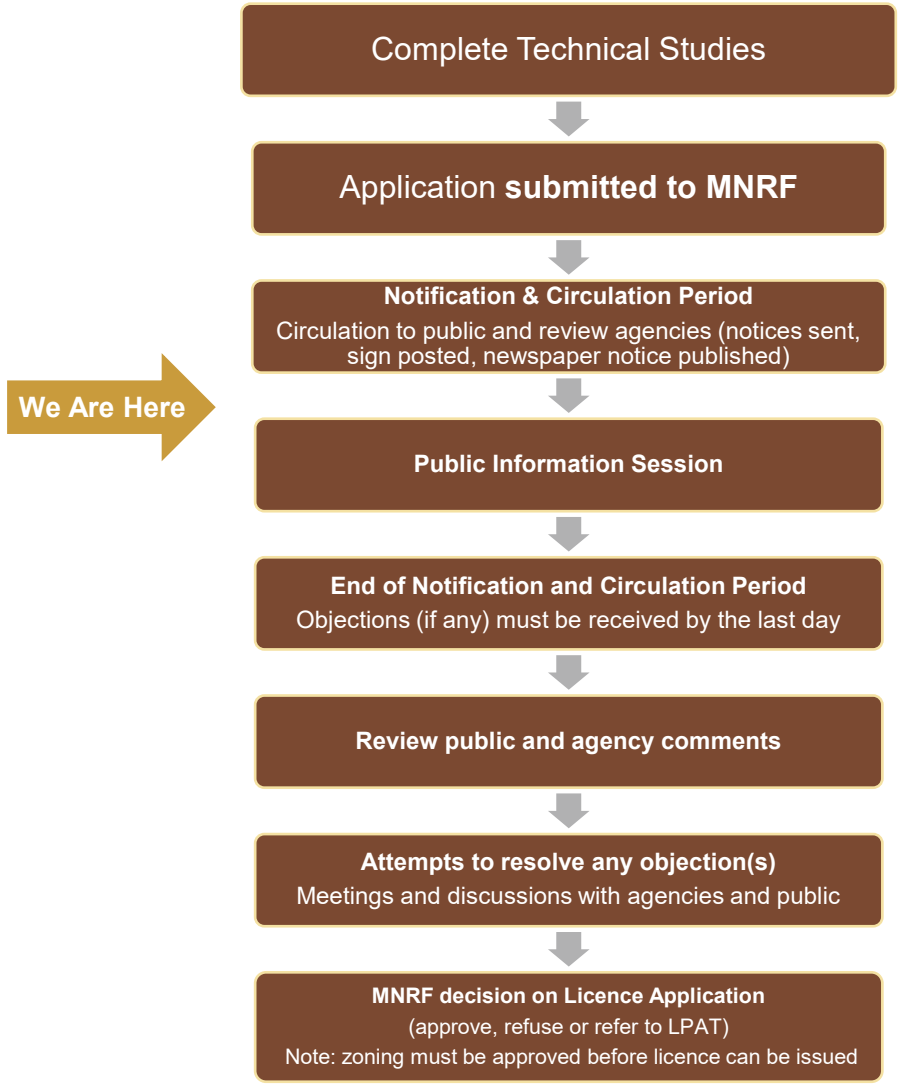
Archeology & Indigenous Consultation

- Archaeological Assessments Timeline:
  - **November/December 2021:**
    - Stage 1 & 2 Assessments of Paris Plains Property
  - **May 2022:**
    - Stage 3 Assessment of Paris Plains Property
  - **April/May 2023:**
    - Stage 1 & 2 Assessments of Pinehurst Property

- Mississaugas of the Credit First Nation, Six Nations of the Grand River Elected Council and the Haudenosaunee Confederacy Chiefs Council participated in the fieldwork and review processes
- Miller is committed to ongoing consultation with First Nations

Aggregate Resources Act Application Process



- Planning Act Application and Aggregate Resource Act Licence Application required
- Ontario's Aggregate Resources Act (ARA) is one of the most stringent aggregate application processes in the world
- The ARA sets out a comprehensive set of study requirements
- Requires detailed site plans with conditions and mitigation requirements
- Full agency review required
- Mandated public notice and consultation
- Indigenous duty to consult
- Unresolved objections (if any) decided by OLT

Public Consultation

- Committed to going above and beyond the requirements of the Planning Act for Zoning By-Law Amendment application
- ARA requires public consultation including landowner notification, notice sign, newspaper notice, Public Information Session. Applicant is required to attempt to resolve all comments received.
- One on-one-meetings with immediate neighbours ongoing to obtain feedback throughout process
- Website and handouts
- Committed to working closely with the public and all levels of government to ensure a transparent and collaborative application process

Next Steps

- Ongoing public comment period
- ARA-mandated public meeting on Thursday May 2nd from 6:00pm to 8:00pm
  - To register, email property@millergroup.ca
  - Upon registering, you will receive a confirmation email containing information about joining the webinar
- Official Public Comment Period ends **June 10th**
  - Official Comments directed to property@millergroup.ca and ARAApprovals@ontario.ca
- Review of Public and Agency comments begins
- County of Brant public meeting
- Updates will be available on our website
  - *www.millergroup.ca/land-management/active-projects*