**PHASING NOTES**

**Phase 1 Notes:**

1. Prior to site preparation, required fencing will be established and installed along the property boundary, where applicable and as shown.

2. High Constraint Woodland Area to be defined and 30m. setback to be staked by Applicant and approved by the environmental consultant (Birks Natural Heritage Consultants).

3. Location of silt fence to be staked by Applicant for all phases and approved by civil engineering consultant (WMI & Associates Limited).

4. Delineate and stake "woodlands subject to removal".

5. Required silt fence to be installed by Applicant for all phases.

6. Remove woodlands area outside of prescribed setbacks (30m.), as defined by this plan and shown as "woodlands subject to removal". Removal of woodlands to be monitored by environmental consultant (Birks Natural Heritage Consultants).

7. Install marker posts (survey stakes) at the defined limits of extraction (licensed boundary), as shown. Limits of extraction are to be established for all phases.

8. Strip all phase 1 lands within the licensed boundary and utilize material for the construction of the acoustical berm (5.0m height) along the 4th/ line. Any excess soil material will be stored in a stockpile(s) within the limit of extraction.

9. Acoustical berm to be vegetated / seeded after construction is complete, in order to maintain vegetation cover and control erosion.

10. Prior to the commencement of extraction, acoustical consultant (Trinity Consultants) is to complete a noise audit to ensure the site is meeting NPC 300 Noise Guidelines at the nearest sensitive receptors.

11. Extract Phase 1 by commencing at the common boundary with existing License No. 3726 and proceeding towards Phase 2.

12. All truck traffic will enter and exit through the existing operational entrance shared within Pit License No. 3726, with access to/from the 4th/ Line.

13. Upon depletion of 80% of the current phase of operation or any specific aggregate vital for aggregate production, the pit operator shall promptly proceed to the next phase of extraction.

14. Progressively rehabilitate side slopes/pit floor to meet standards and direction provided by the Rehabilitation Plan.

**Phase 2 Notes:**

1. Confirm location of marker posts and ensure there is a clear/defined limit of extraction for Phase 2 (licensed boundary), as shown.

2. Confirm the location of silt fence and condition of fence remains in suitable condition.

3. Strip all Phase 2 lands within the licensed boundary. Material will be utilized for the acoustical berm (if needed), and excess soil material will be stored in a stockpile(s) within the limit of extraction for use or rehabilitation purposes.

4. Prior to the commencement of extraction, acoustical consultant (Trinity Consultants) is to complete a noise audit to ensure the site is meeting NPC 300 Noise Guidelines at the nearest sensitive receptors.

5. Extraction will commence at the southern limits of Phase 2 (shared boundary with Phase 1). The materials within the common boundary will be removed first.

6. Extraction will proceed in a northern direction, working towards Phase 3.

7. All truck traffic will enter and exit through the existing operational entrance shared within Pit License No. 3726, with access to/from the 4th/ Line.

8. Upon depletion of 80% of the current phase of operation or any specific aggregate vital for aggregate production, the pit operator shall promptly proceed to the next phase of extraction.

9. Progressively rehabilitate side slopes/pit floor to meet standards and direction provided by the Rehabilitation Plan.

**Phase 3 Notes:**

1. Confirm location of marker posts and ensure there is a clear/defined limit of extraction for Phase 3 (licensed boundary), as shown.

2. Construct the cut-off swale as shown. Swale to be approved by civil engineering consultant (WMI & Associates Limited).

3. Strip all Phase 3 lands within the licensed boundary. Material will be utilized for the acoustical berm (if needed), and excess soil material will be stored in a stockpile(s) within the limit of extraction for use or rehabilitation purposes.

4. Prior to the commencement of extraction, acoustical consultant (Trinity Consultants) is to complete a noise audit to ensure the site is meeting NPC 300 Noise Guidelines at the nearest sensitive receptors.

5. Extraction will commence at the southern limits of Phase 3 (shared boundary with Phase 2).

6. Complete rehabilitation of Phase 1.

7. Continue progressive rehabilitation in Phase 2.

8. Final rehabilitation of the existing operations (License No. 3726) with the exception of the processing area, scale, scale house and entrance/exit will be completed during the extraction of Phases 3.

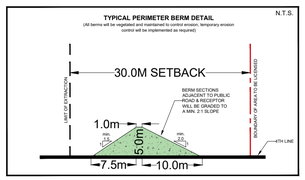
9. Once operations are complete, material from the acoustical berm can be utilized for rehabilitation purposes, across all phases.

10. Rehabilitation of the processing area, scale, scale house and entrance/exit shall commence following the completion of extraction within Phase 3.

**TYPICAL PERIMETER BERM DETAIL**

(All berms will be vegetated and maintained to control erosion, temporary erosion control will be implemented as required)

N.T.S.




The numbering sequence used for Operational Plan notes refers to the Aggregate Resource Act Provincial Standards for a Class 'A', Above Water Table.

1.2.1 Sequence and Direction:
The sequence and direction of the proposed pit expansion is comprised of four Phases of extraction. The Phase limits are shown as approximate and direction of extraction will occur as indicated on the Operational Plan (Plan 2 of 4). Extraction will generally proceed in a northerly direction through Phase 1, followed by Phase 2 through 4, from the existing pit operations (License No. 3726).

1.2.2 Topsoil and Overburden Stripping and Stockpiling:
Within the limit of extraction, the site will be stripped of topsoil in stages that align with the extraction phases. Topsoil and subsoil removed from area to be extracted will be used for rehabilitation of this site and/or adjacent to Licence No. 3726. Where there is a distinguishable layer of subsoil, topsoil will be stripped, handled and replaced as a separate layer.

1.2.3 Lifts:
Extraction and excavation will occur utilizing a single lift across the site wherever feasible. Should the depth of the deposit exceeds operational limits and/or Ministry of Labour requirements, excavation will occur in 2 lifts in close succession with the first lift having a minimum height of 7.0m. The maximum expected depth of excavation is to an elevation of between 507 and 496 m.a.s.l. Excavation will remain a minimum 1.5m above the established groundwater table.

1.2.4 Internal Haul Road:
An internal haul route will be utilized for the site. Access to the pit face and stockpiles / processing area will be accessed by the internal haul road, with access to the excavation area. The location of the internal haul road will vary based on the location of the working face.

1.2.5 Entrance / Exit:
No new operational access points are proposed onto the 4th Line. Site access is provided through an existing operational entrance/exit with the adjacent Licensed pit (License No. 3726). The field entrance will be gated and remain closed.

1.2.6 Groundwater Table:
A combined Level 1 and 2 Hydrogeological Assessment has been prepared by Azimuth Environmental Consulting Inc. to identify the elevation of the established groundwater table. The water table elevation on this property ranges from 507 m.a.s.l. and 491 m.a.s.l. as per Hydrogeologial Report.

1.2.7 Surface Water Diversion / Discharge:
No water diversions are proposed. Grading on the side slopes and pit floor will occur to create drainage across the site allowing the surface drainage to percolate through the pit floor. The surface drainage within the extraction area will remain on-site and be allowed to percolate through the pit across the site as per pre-extractive conditions.

| PROPOSED GROUNDWATER MONITORING PROGRAM | | |
|---|---|---|
| Monitor | Water Levels (Datalogger: Spring-Summer - Fall Manuals) | Water Quality (Semi-Annual) |
| MW-1 | X | X |
| MW-2s | X | |
| MW-2d | X | |
| MW-3 | X | |
| MW-4s | X | |
| MW-4d | X | X |
| MW-5 | X | X |
| Wash Pond | X (seasonal) | X |

1.2.8 Fencing:
Fencing is proposed along the Licensed boundary of the site, as shown on the Operational Plan (this page). Fencing will not be required along the common boundary of the existing licensed lands or within the Woodlands of the site. Where a fence is not required, limits of extraction and required setbacks will be delineated by marker posts to establish the limits of the license. Marker posts shall be clearly identified for visual purposes. All required fencing will be maintained.

1.2.9 Buildings / Structures:
There are no existing structures or buildings on the expansion lands. Office trailers will be utilized on site for the use of workers and operational purposes, during operational hours. The office trailers are portable structures and will be located on the pit floor as needed by site operations. The existing scale / scale house operating for the existing Licensed lands (License No. 3726) will be utilized for the expansion, as the scale / scale house is located at the operational entrance to the site.

1.2.10 Stockpiles of Topsoil and Overburden:
The temporary stockpiling of excess topsoil or overburden may occur if pit faces and/or floor areas are not immediately available for progressive rehabilitation. Topsoil or overburden may be stockpiled temporarily on the adjacent licensed lands (License No. 3726), until required for progressive rehabilitation or backfilling. If the storage of material in stockpiles exceeds one year, the licensee/operator shall ensure that adequate vegetation is established to control erosion.

1.2.11 Aggregate Stockpiles:
Aggregate stockpiles are to be located on the pit floor within the current phase. The location of the stockpiles are shown on the Operational Plan (this plan).

1.2.12 Scrap Storage & Recyclable Materials:
If scrap if generated, it will be stored within a limited area within the current phase. All scrap will be removed on a regular basis.

Recyclable materials are permitted on the site. Where proposed, the materials are to be located within the previous phase.

1.2.13 Fuel Storage:
There will be no storage of fuel materials on-site.

1.2.14 Extraction Area:
The area to be extracted is 34.5ha. (85ac.)

1.2.15 Setbacks:
Setbacks are shown and labeled on this page. Variations from Operational Standards are shown under standard 1.2.25 (this page).

1.2.16 Extraction Elevation:
The maximum depth of extraction is 1.5m above the established water table and indicated by the proposed spot elevations as shown on this page. The established water table will be confirmed as extraction proceeds through the recommended monitoring program (see Hydrogeology notes). If the water table is encountered during extraction, operations in the area shall cease temporarily, the area shall be restored with native on-site soils, and then extraction shall resume above the established ground water table.

1.2.17 Processing Areas:
Processing of on site aggregate material will occur on the pit floor using portable processing / screening plants. Processing will occur adjacent to the active pit face within the respective phase. Areas where processing of materials is permitted is shown on the Operational Plan (this page).

1.2.18 / 1.2.19 Berms:
Visual berms are proposed along the east boundary of the area to be Licensed, adjacent to the 4th Line. The berms will maintain a minimum height of 5.0 metres and will be constructed prior to extraction and/or processing on-site. Soil and overburden may be stored in storage berms. All proposed berms will be vegetated and maintained to control erosion, with temporary erosion control measures implemented as required. Refer to the 'Typical Acoustic Berm Detail', this page.

1.2.20 Equipment:
The general types of equipment on-site may include but are not limited to trucks, bulldozers, one fuel truck, excavators and scrapers for stripping and rehabilitation. One front end loader, and related trucks will be utilized for extraction. Fuel trucks and fuel tanks will not be stored on-site. A mobile wash plant may be utilized for on-site aggregate processing. The appropriate approvals under the Ontario Water Resources Act will be obtained prior to any on-site washing.

1.2.21 Tree Screens:
Existing trees and shrubs within the established setback will be maintained. There are no tree screens proposed on site, besides what exists and is maintained.

1.2.22 Hours of Operation:
**The hours of operations will occur as follows:**

- The hours of operation will be 6:00am to 7:00pm, Monday to Friday for loading and shipping.
- The hours of operation will be 7:00am to 7:00pm, Monday to Friday for crushing and processing.
- The hours of operation will be 7:00am to 7:00pm, Saturday for loading, shipping, crushing and processing.

**The following restrictions apply to the hours of operation to at site:**

- No operations on Holidays as defined in the Employment Standards Act.
- The pit will not operate Sundays except as required by a specific contract.

1.2.23 Tree and Stump Disposal:
Timber resources will be utilized for saw logs, fence posts and fuel wood where appropriate. Brush and stumps cleared during site preparation that are not suitable for use will be stockpiled and used in rehabilitation or chipped/shredded for mulch, for use in rehabilitation of the lands.

1.2.24 Cross Sections:
Location of cross sections are as shown. Cross sections are shown on page 4 of 4.

**1.2.25 Variations to Operational Standards:**

| No. | Standard | Description |
|---|---|---|
| 1 | 5.1 | No fence along a portion of the south boundary of the area to be licensed, common boundary with License No. 3726, or along Woodlands areas. All other licensed boundary will maintain a min. 1.2 metre fence or demarcated by marker posts. |
| 2 | 5.9 | Scrap may be located within 30 metres of the common boundary of the existing licensed pit (3726). |
| 3 | 5.10.1 | Setback reduced to 0.0m along the boundary of the area to be licensed, where it is adjacent to the existing Licensed lands to the south (License No. 3726). |
| 4 | 5.13.1 | Stockpiles may be located closer than 30.0m from the boundary of the area to be licensed where it is adjacent to the existing Licensed lands (License No. 3726). |
| 5 | 5.15 | Where berms are to be located adjacent to common boundaries with the existing licensed pit, the setback may be less than 3.0m. |
| 6 | 5.16 | Topsoil and overburden may be stored temporarily on the adjacent licensed lands (License No. 3726), until required for rehabilitation purposes. Topsoil located within the expansion lands may be used in the progressive and coordinated rehabilitation of the adjacent Licensed lands (License No. 3726). |
| 7 | 5.17 | Topsoil and overburden stripped in the operation of the site may be used in the progressive rehabilitation or backfilling of the adjacent Licensed lands (License No. 3726). |

**1.2.26 Annual Tonnage Limit:**
Annual production from the site will operate in conjunction with the existing Licensed DHL pit adjacent (License No. 3726) and will not exceed 500,000 tonnes.

**1.2.27 Technical Recommendations:**

**Technical Recommendation: Noise Notes (April 16, 2024)**

Barriers

Stockpiles can be implemented around the equipment in order to shield the noise received by the PORs. Based on the Phasing of Operations, it is anticipated the following stockpile dimensions would be required to meet compliance:

- Phase 1 Eastern narrow strip - 11.5m high barrier, approximately 28m long, 15m south of the operations of the crushing and screening processing plant. For Phase 1 the crushing and screening processing plant operations will require to be approximately 88m north of the property boundary between POR3 and Phase 1.
- Phase 1 north west location and Phase 2 - two 8m high barriers:
  - Barrier shielding for western sensitive receptors are approximately 20 m long barrier located 25m west of the operations of the crushing and screening processing plant; and
  - Barriers shielding to the south sensitive PORs is obtuse shaped the southern portion being approximately 10m long and the southeastern portion approximately 20m long located 20m south of the operations of the crushing and screening processing plant.
- Phase 3 - two 8m high barriers:
  - Barrier shielding for western sensitive PORs are approximately 20m long barrier located 25m west of the operations of the crushing and screening processing plant; and
  - Barrier shielding the northern sensitive PORs are approximately 20m long barrier located 25m north of the operations of the crushing and screening processing plant.

Barriers required can be considered stockpiles, earth berms, barriers or a combination of the three.

The barrier minimum required heights and location should be consistent with the information provided in the Noise Study.

The barriers are required as per NPC-300 to have a minimum surface density of 20 kg/m2 and constructed without gaps.

Final mitigation measures will be determined onsite noise audit, at the commencement of extraction, to ensure the Site is meeting the NPC-300 noise criteria.

Berms at Site Perimeters

- Berms can be implemented along the Site perimeters in order to shield the noise received by the PORs.
- It is anticipated that berms will be set up with 5-metre high berm is required along the boundary of POR3 and the northeastern side of the property boundary, as depicted on this drawing.

Equipment Sound Power Levels

Sound emissions from extraction equipment shall not exceed the sound power levels as indicated below to meet MECP exclusionary limits:

- Loader sound power levels must not exceed 108 dBA;
- Excavator sound power levels must not exceed 104 dBA;
- Bulldozer sound power level must not exceed 108 dBA;
- Crushing & Screening Plant sound power level must not exceed 124 dBA; and
- Haul Truck sound power levels must not exceed 105 dBA.

**Archaeology:** *Stage 1 and 2 Archaeological Assessment of the Melanchton Pit Expansion* - ASI (Original Report - October 2, 2018); *Stage 1 and 2 Archaeological Assessment of the Melanchton Pit Expansion* - ASI (Supplementary Documentation - October 2, 2018)

1. ASI was contracted by Duivenvoorden Haulage Ltd. to complete a Stage 1 and 2 Archaeological Assessment of the Melanchton Pit Expansion, part of the east half of Lot 13 and the east half of Lot 14, Concession 4 Old Survey (OS), Township of Melanchton, Dufferin County. All activities carried out during this assessment were completed as part of applications for an Official Plan Amendment and Zoning By-law Amendment in order to expand the existing Melanchton Pit, in accordance with the Aggregate Resources Act (ARA). All assessment activities were completed in accordance with the *Ontario Heritage Act* (Ministry of Culture [MCL] 1990) and the *Standards and Guidelines for Consultant Archaeologists* (S & G) (Ministry of Tourism, Culture [MTC] 2011; now administered by the Ministry of Tourism, Culture, and Sport [MTCS]).

2. The Stage 1 and 2 Archaeological Assessment has been registered with the Ministry of Heritage, Sport, Tourism, Culture Industries (November 7, 2019).

   a. The above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18, has been entered into the Ontario Public Register of Archaeological Reports without technical review

3. The Stage 1 assessment entailed consideration of the proximity of previously registered archaeological sites and the original environmental setting of the property, along with nineteenth and twentieth-century settlement trends. This research led to the conclusion that there is potential for the presence of pre-contact Indigenous and historical Euro-Canadian archaeological resources.

4. The Stage 2 assessment identified one historical site as archaeological potential, the James Taggert site (BaHb-19). The James Taggert site (Bahb-19) represents a nineteenth-century historical occupation where the level of CHVI will result in a recommendation to proceed to Stage 4 mitigation. Therefore, it is recommended that the site be subject to a comprehensive Stage 3 Archaeological Assessment to more fully identify the character, extent, and significance of the archaeological deposit, in accordance with the S & G:

   a. The Stage 3 assessment should commence with the creation of a recording grid on a fixed datum, the position of which has been recorded using a GPS. Then, a controlled surface collection must be conducted to precisely define the nature and extent of the site. This work will require that the site area be re-ploughed and allowed to weather for a least one substantial rainfall prior to commencing this work. The location of each artifact should be mapped with the aid of a tape measure and transit, and a surface map produced for the site;

   b. A series of one-metre by one-metre units should then be excavated across the entire site area at 10 m intervals within an established grid in order to determine the nature and extent of the cultural deposits. An additional 40% of the total number of units excavated on the grid should be strategically excavated around units of high artifact counts, or in other significant areas of the site. The test units should be excavated 5 cm into the sterile subsoil and soil fills screened through 6mm wire mesh to facilitate artifact recovery. The sterile subsoil should be troweled, and all soil profiles examined for undisturbed cultural deposits; and

   c. The results of the Stage 3 assessment will be used to evaluate the significance of the site and to develop a series of recommendations concerning any further mitigative options that may be necessary.

5. No grading or other activities that may result in the destruction or disturbance of any of the archaeological sites documented by this assessment are permitted until notice of Ministry of Tourism, Culture and Sport acceptance has been received.

6. In the event that a deeply buried archeological material is found during extraction operations shall cease immediately in the affected area and, the Ministry of Tourism, Culture and Sport shall be notified at (416) 314-7174.

7. Compliance shall be maintained with the following legislation:

   a. This report is submitted to the Minister of Tourism and Culture and Sport as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, RSO 2005, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological field work and report recommendations ensure the conservation, preservation and protection of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

   b. It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological field work on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the Ontario Heritage Act.

   c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.

   d. The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33, requires that any person discovering or having knowledge of a burial site shall immediately notify the police or coroner. It is recommended that the Registrar of Cemeteries at the Ministry of Consumer Services is also immediately notified.

   e. Archaeological sites recommended for further archaeological field work or protection remain subject to Section 48(1) of the Ontario Heritage Act and may not be altered, nor may artifacts be removed from them, except by a person holding an archaeological license.

**Hydrogeology:** *Combined Level 1 and Level 2 Hydrogeological Assessment - Azimuth Environmental Consulting Inc. (September 2020)*

1. The results of the hydrogeological assessment indicate that the proposed extraction will occur above the water table. As a result, the impacts to the groundwater regimes will be negligible. The proposed above water table extraction significantly decreases the potential for impacts to the underlying ground water table, as well as the deeper bedrock aquifer system. As a result, there will be no influence from the operations on local domestic water wells in the vicinity of the proposed operations.

2. Although there are no anticipated impacts associated with the proposed extraction of aggregate, which will occur at least 1.5 metres above the established water table, there are preventative operational practices that are recommended to further protect ground water quality:

   a. Refueling of machinery will be implemented through a fuel handling and spill management plan.

   b. Operator training should include understanding and the ability to implement the preventative measures provided above, in addition to the Spill Contingency Plan (as per prescribed conditions on Site Plans).

3. To continue the characterization of the water table aquifer within the overburden, continuous ground water elevation monitoring is recommended. It is also recommended that one upgradient and two downgradient monitoring locations be sampled for water quality on a semi-annual basis.

4. The proposed water quality package for the monitoring program consists of a wide range of metals, nutrients and inorganic parameters, including:

   a. pH, electrical conductivity, alkalinity, total phosphorus, ammonia, hardness, TDS, TOC, Colour, chloride, nitrate, nitrite, bromide, sulphate, ortho-phosphate, calcium, magnesium, sodium, potassium, aluminum, boron, copper, iron, lead, manganese, strontium, zinc, Total Petroleum Hydrocarbons (F1 - F4), BTEX and Total Oil and Grease

7. It is recommended that an annual monitoring report for the Duivenvoorden expansion site be prepared and submitted to the MNRF prior to March 31st of each year and include the monitoring data for the preceding calendar year. The report shall include the following:
   - Water quality sampling results;
   - Data tabulated in graphical and tabular formats;
   - Interpretation of all water level and water quality data;
   - Recommendations pertaining to continuation of the monitoring program, and/or changes such as monitoring type, monitoring frequency, monitoring locations, etc., and;
   - Summary and documentation of any water well complaint(s) and their resolution(s).

8. The maximum depth of extraction will not be less than 1.5 metres of the seasonal high water table.

**Natural Heritage:** Natural Environment: *Natural Environment Level 1 Technical Report* - Birks Natural Heritage Consultant (July 2019); *Natural Environment Level 2 Technical Report* - Birks Natural Heritage Consultant (February 2021).

General:

- The use of artificial lighting should be limited within the study area to the extent possible. Where necessary, artificial lighting shall be shielded or directed away from adjacent natural features.
- In advance of any vegetation clearing or earth works (i.e., clearing or grubbing) the extraction limits should be established in proximity to natural heritage features to be protected.
- An erosion and sediment control plan should be implemented to protect the retained habitats (wetland, woodland). Control measures should be maintained in place until site works have been completed and the risk of sedimentation is no longer a concern.
- Silt fencing shall be established along the limits of the woodland buffers in accordance with an Erosion Sediment Control Plan.
- Inspect all Erosion Sediment Control measures according to an Erosion Sediment Control Plan and complete repairs when required.
- A temporary fence (*i.e.*, sediment fence) should be erected along the surveyed limits to prevent inadvertent encroachment into areas intended to be protected.
- Existing vegetation should be maintained within the prescribed setbacks of the proposed pit license expansion.
- Fencing should be used appropriately as directed so that wildlife movements are only blocked when desired (*i.e.*, as exclusion fencing during construction).
- Fencing should be monitored and kept intact until site works have been completed and the risk of sedimentation or accidental encroachment during clearing or excavation is no longer a concern.
- Refueling of all equipment should occur at least 30 metres from retained natural features, including woodland and wetland habitat.
- Dust impacts should be mitigated according to standard measures.

Species at Risk:

- Updated habitat assessments for the Species at Risk including Barn Swallow, Bobolink and Eastern Meadowlark prior to site alteration. If habitat for these species is identified, activities requiring removal of this habitat must be registered with the MNRF through a Notice of Activity and Mitigation Plans must be prepared according to the Ontario Regulation 242/08.
- Onsite activities should be regularly reviewed by a qualified Ecologist to ensure compliance with the ESA.
- Extraction operations should follow Best Management Practice approved for the Protection Creation and Maintenance of Bank Swallow Habitat in Ontario (MNRF, 2017).
- Vegetation clearing activities shall occur outside of the bird nesting period April 15-August 15. Tree clearing activities shall be undertaken outside the bat active season (April 30 - September 1) or as determined by the MECP.

Rehabilitation:

- The Rehabilitation and Compensation Plan should be incorporated into the Site Plan for the proposed pit license expansion.
- Develop and implement a monitoring program, pre and during extraction operations, that includes the following components:
- Groundwater monitoring;
- Surface water level monitoring and amphibian breeding monitoring within the retained wetland;
- Inspect the woodland buffers during pit operation to ensure disturbances are not occurring; and,
- Inspect the health and survival of buffer plantings.

**Stormwater Management:** *Aggregate Pit Expansion - Stormwater Management Brief* - WMI & Associates Limited (May 24, 2024)

- Prior to any construction or pit expansion, silt fence is to be installed along the east limit of the existing wetland between the wetland and pit expansion Phases 1 & 2.
- Topsoil and overburden will be stripped and placed from Phase 1 of the pit expansion and utilized, including any portion of the Phase 2/3 topsoil/overburden if required, to construct the entire berm along the south perimeter of phase 1 and east perimeter of Phases 1, 2 & 3.
- Phase 2 of the pit expansion will be constructed similar to Phase 1 noted above. With the exception of the lowered/extraction areas, all internal and external drainage including excess runoff from the wetland, will flow into the existing low-lying region of the site within Phase 3 during the aggregate extraction of Phases 1-2 as is in the existing condition.
- Prior to construction of Phase 3 a cut-off swale along the western limits of Phase 3 and north of the existing wetland will be constructed. This cut-off swale will intercept the external drainage from west of Phase 3 and from the wetland. Similarly, another cut-off swale will be constructed along the north and east limits of Phase 3. Both cut-off swales will convey external runoff to the south and ultimately discharge into the previously extracted phase (Phase 2).
- The removal of aggregate from Phases 1-2 (from the south towards the north) will generally direct the stormwater drainage to the previous phases / existing pit where it will minimize impacts to extraction operations and be temporarily stored within the property limits prior to being infiltrated into the native soils as is in the existing condition.

**Agricultural Impact Assessment:** *Agricultural Impact Assessment for Duivenvoorden Haulage Ltd. Aggregate Pit Expansion* - Orion Environmental Solutions (January 5, 2021)

- The conditions of the lands shall be assessed near the completion of extraction, to evaluate the post extraction condition and determine rehabilitation to return the lands to an agricultural capability.

## Legend

- Boundary of Area to be Licensed
- Limit of Extraction
- Existing Licensed Boundary (LICENSE NO. 3726)
- Existing Licensed Pits
- Surface Water Drainage Direction
- Existing Building / Structure
- Scale / Scale House
- Archeological Site (Subject to Stage 3/4 Assessment)
- Proposed 5.0m Perimeter Berm
- Silt Fence
- Borehole / Monitoring Well Locations
- Existing Haul Route
- 501 Proposed Pit Floor Elevation
- Internal Haul Route
- General Direction of Excavation
- Public Road
- 505 Elevation, Contour
- Woodlands
- Wetlands
- High Constraint Woodland Area
- Existing Fence
- Operational Entrance
- Woodlands Subject to Removal
- Proposed Cut-Off Swale
- Proposed Extraction Depth
- Cross-Sections

**Site Plan Amendments:**

| No. | Date | Description | By |
|---|---|---|---|
| 1 | August 3, 2021 | First Submission; | A.S. |
| 2 | June 7, 2024 | Second Submission; | A.S. |
| 3 | Oct. 30, 2024 | Third Submission; | A.S. |
| | | | |
| | | | |
| | | | |

MNRF Approval Stamp: | Stamp: DARREN VELLA PROFESSIONAL ENGINEER | John Duivenvoorden:

Applicant:

# DUIVENVOORDEN HAULAGE LTD.

3425 9th Line,
Innisfill, Ontario
L9S 3Z6

Project:

# MELANCTHON PIT EXPANSION

Part of East half of Lots 13 and 14,
Con. 4 Twp of Melancthon on RR#2,
Shelburne, Ontario

## OPERATIONAL PLAN



MNRF License Ref. No.: | Pre-approval Review:

Scale: 1:4,000 — 0 100 200 300 400m

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