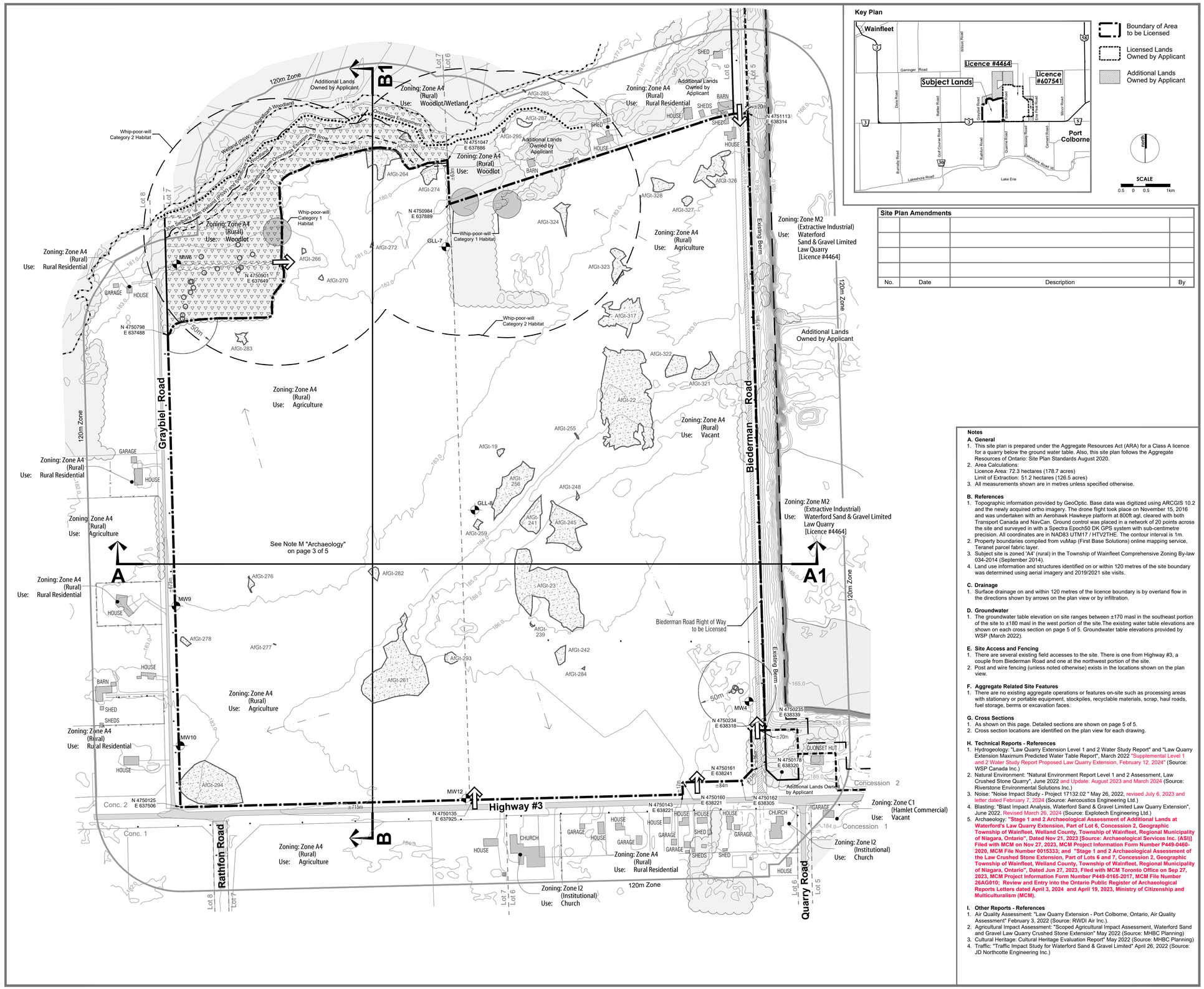

Site Plan Amendments

No.	Date	Description	By

Notes

A. General
1. This site plan is prepared under the Aggregate Resources Act (ARA) for a Class A licence for a quarry below the ground water table. Also, this site plan follows the Aggregate Resources of Ontario: Site Plan Standards August 2020.
2. Area Calculations:
   Licence Area: 72.3 hectares (178.7 acres)
   Limit of Extraction: 51.2 hectares (126.5 acres)
3. All measurements shown are in metres unless specified otherwise.

B. References
1. Topographic information provided by GeoOptic. Base data was digitized using ARCGIS 10.2 and the newly acquired ortho imagery. The drone flight took place on November 15, 2016 and was undertaken with an Aerohawk Hawkeye platform at 800ft agl, cleared with both Transport Canada and NavCan. Ground control was placed in a network of 20 points across the site and surveyed in with a Spectra Epoch50 DK GPS system with sub-centimetre precision. All coordinates are in NAD83 UTM17 / HTV2THE. The contour interval is 1m.
2. Property boundaries compiled from vuMap (First Base Solutions) online mapping service, Teranet parcel fabric layer.
3. Subject site is zoned 'A4' (rural) in the Township of Wainfleet Comprehensive Zoning By-law 034-2014 (September 2014).
4. Land use information and structures identified on or within 120 metres of the site boundary was determined using aerial imagery and 2019/2021 site visits.

C. Drainage
1. Surface drainage on and within 120 metres of the licence boundary is by overland flow in the directions shown by arrows on the plan view or by infiltration.

D. Groundwater
1. The groundwater table elevation on site ranges between ±170 masl in the southeast portion of the site to ±180 masl in the west portion of the site.The existing water table elevations are shown on each cross section on page 5 of 5. Groundwater table elevations provided by WSP (March 2022).

E. Site Access and Fencing
1. There are several existing field accesses to the site. There is one from Highway #3, a couple from Biederman Road and one at the northwest portion of the site.
2. Post and wire fencing (unless noted otherwise) exists in the locations shown on the plan view.

F. Aggregate Related Site Features
1. There are no existing aggregate operations or features on-site such as processing areas with stationary or portable equipment, stockpiles, recyclable materials, scrap, haul roads, fuel storage, berms or excavation faces.

G. Cross Sections
1. As shown on this page. Detailed sections are shown on page 5 of 5.
2. Cross section locations are identified on the plan view for each drawing.

H. Technical Reports - References
1. Hydrogeology: "Law Quarry Extension Level 1 and 2 Water Study Report" and "Law Quarry Extension Maximum Predicted Water Table Report", March 2022 "Supplemental Level 1 and 2 Water Study Report Proposed Law Quarry Extension, February 12, 2024" (Source: WSP Canada Inc.)
2. Natural Environment: "Natural Environment Report Level 1 and 2 Assessment, Law Crushed Stone Quarry", June 2022 and Update: August 2023 and March 2024 (Source: Riverstone Environmental Solutions Inc.)
3. Noise: "Noise Impact Study - Project 17132.02 " May 26, 2022, revised July 6, 2023 and letter dated February 7, 2024 (Source: Aercoustics Engineering Ltd.)
4. Blasting: "Blast Impact Analysis, Waterford Sand & Gravel Limited Law Quarry Extension", June 2022. Revised March 26, 2024 (Source: Explotech Engineering Ltd.)
5. Archaeology: **"Stage 1 and 2 Archaeological Assessment of Additional Lands at Waterford's Law Quarry Extension, Part of Lot 6, Concession 2, Geographic Township of Wainfleet, Welland County, Township of Wainfleet, Regional Municipality of Niagara, Ontario", Dated Nov 21, 2023 [Source: Archaeological Services Inc. (ASI)] Filed with MCM on Nov 27, 2023, MCM Project Information Form Number P449-0460-2020, MCM File Number 0015333; and "Stage 1 and 2 Archaeological Assessment of the Law Crushed Stone Extension, Part of Lots 6 and 7, Concession 2, Geographic Township of Wainfleet, Welland County, Township of Wainfleet, Regional Municipality of Niagara, Ontario", Dated Jun 27, 2023, Filed with MCM Toronto Office on Sep 27, 2023, MCM Project Information Form Number P449-0165-2017, MCM File Number 26AG010; Review and Entry into the Ontario Public Register of Archaeological Reports Letters dated April 3, 2024 and April 19, 2023, Ministry of Citizenship and Multiculturalism (MCM).**

I. Other Reports - References
1. Air Quality Assessment: "Law Quarry Extension - Port Colborne, Ontario, Air Quality Assessment" February 3, 2022 (Source: RWDI Air Inc.).
2. Agricultural Impact Assessment: "Scoped Agricultural Impact Assessment, Waterford Sand and Gravel Law Quarry Crushed Stone Extension" May 2022 (Source: MHBC Planning)
3. Cultural Heritage: Cultural Heritage Evaluation Report" May 2022 (Source: MHBC Planning)
4. Traffic: "Traffic Impact Study for Waterford Sand & Gravel Limited" April 26, 2022 (Source: JD Northcotte Engineering Inc.)

Legend

- Boundary of Area to be Licensed
- Existing Licensed Boundary — LAW QUARRY - LICENCE #4464
- Contour with Elevation — METRES ABOVE SEA LEVEL
- Lot and Concession
- Existing Field Access
- Monitoring Well — WSP 2021
- Existing Vegetation — APPROXIMATE LOCATION
- Wainfleet Bog Provincially Significant Wetland Complex/ Significant Woodland Boundary — RIVERSTONE 2020
- Setback from Wainfleet Bog Provincially Significant Wetland Complex/ Significant Woodland Boundary
- Onondaga Escarpment Brow — RIVERSTONE 2020
- Setback from Onondaga Escarpment Brow
- Significant Wildlife Habitat — RIVERSTONE 2020
- Identified Archaeological Sites that have further Cultural Heritage Value and Interest — (SEE NOTE M "ARCHAEOLOGY" AND SCHEMATIC B ON PAGE 3 OF 5)
- Cross Sections — SEE PAGE 5 OF 5 FOR EXISTING AND REHABILITATED CROSS SECTIONS
- Additional Lands Owned by Applicant
- Existing Limit of Extraction — LAW QUARRY - LICENCE #4464
- Private Laneway/ Roadway
- Public Road (Paved)
- Public Road (Gravel)
- Existing Fence — 1.2m POST & WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Building/Structure — LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m OF SITE
- Direction of Surface Drainage (IF ANY)
- Hydro Poles
- Spoon-leaved Moss and 50m Buffer — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)
- Whip-poor-will Category 1 Habitat — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)
- Whip-poor-will Category 2 Habitat — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)
- 120m Zone

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MNRF Approval Stamp

MHBC Stamp

CAITLIN M. PROCTOR — REGISTERED PROFESSIONAL PLANNER — R.P.P. — OF ONTARIO PROFESSIONAL PLANNERS INSTITUTE

north

Applicant

Waterford Sand & Gravel Limited
70 Ewart Avenue
Brantford, Ontario
N3T 5M1
Tel: (519) 752-1300

Applicant's Signature
Ed Lamb
VP/GM Construction Materials

Project

Law Quarry Extension

Part of Lots 6 & 7, Concession 2
Part of Road Allowance Between Lots 5 & 6, Concession 2
(Geographic Township of Wainfleet) Township of Wainfleet, Regional Municipality of Niagara

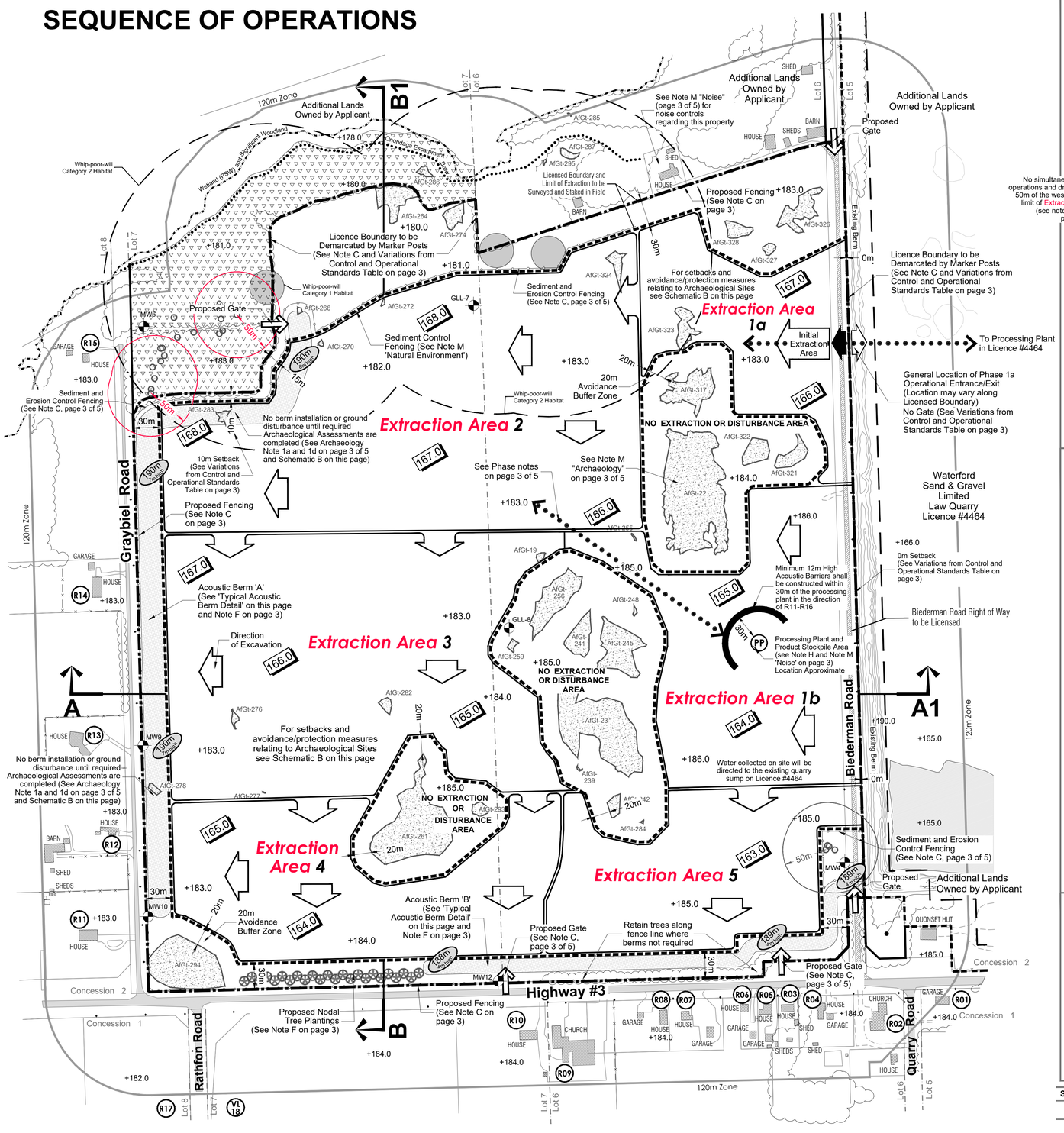
ARA Licence Reference No.	Pre-approval review:
	Revs. as per MNRF 2nd Submission comments - April 2024
	Revs. as per JART comments (from Dec. 2023) - March 2024
	Revs. as per MNRF comments - June 2023
	Revs. as per MCM comments - April 2023
	For Submission to NDMNRF - June 2022
Plan Scale **1:2,500 (Arch D)**	Plot Scale 1:2.5 [1mm = 2.5 units] MODEL
SCALE 50 0 50 100 METRES	Drawn By D.G.S. / Checked By C.P. / File No. **0956B**

File Name **EXISTING FEATURES PLAN**

Drawing No. **1 OF 5**

K:\0956C-WATERFORD SAND AND GRAVEL LIMITED-LAW QUARRY EXTENSION\#REVISIONS MNRF SECOND SUBMISSION COMMENTS APRIL2024\LAW QUARRY EXTENSION EXFEPLAN 1OF5 APRIL2024 MNRF COMMENTS.DWG

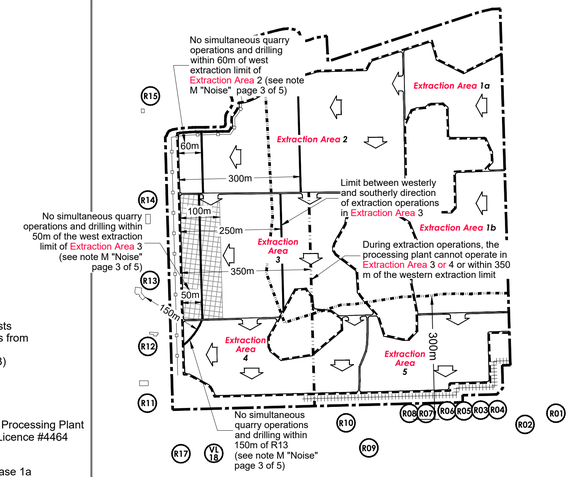
SEQUENCE OF OPERATIONS



Schematic A - Berm, Noise and Air Controls Schematic

(for information on detailed noise mitigation and requirements see Note M "Noise" on page 3 and Sequence of Operations diagram)

Scale: NTS

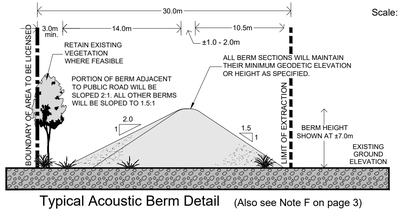


Schematic B

Identified Archaeological Sites with Cultural Heritage Value or Interest and Required 70m Buffer

(for information on detailed requirements see Note M "Archaeology" on page 3 of 5)

Scale: NTS



Typical Acoustic Berm Detail (Also see Note F on page 3)

ALL BERMS WILL BE VEGETATED AND MAINTAINED TO CONTROL EROSION. TEMPORARY EROSION CONTROL WILL IMPLEMENTED AS REQUIRED.

Site Plan Amendments

No.	Date	Description

Legend

- Boundary of Area to be Licensed
- Existing Licensed Boundary — LAW QUARRY - LICENCE #4464
- Limit of Extraction — ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELLED DISTANCES
- Additional Lands Owned by Applicant
- +180.0 — Existing Spot Elevation — METRES ABOVE SEA LEVEL (m A.S.L.)
- Existing Fence — 1.2m POST & WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Operational Entrance — MAINTAINED BY A GATE WHICH WILL BE CLOSED WHEN PIT IS NOT IN OPERATION
- General Direction of Excavation — (SEE NOTES ON PAGE 3 OF 5)
- Building/Structure — LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m OF SITE
- 150m Acoustic — Proposed Acoustic Berm — WITH TOP OF BERM ELEVATION (MASL) SHOWN. SEE "TYPICAL BERM DETAIL" (THIS PAGE)
- Existing Field Access
- Proposed Fence — 1.2m HIGH POST & WIRE FENCE UNLESS OTHERWISE NOTED
- MW10 — Monitoring Well — WSP 2021
- 167.0 — Proposed Spot Elevation — QUARRY FLOOR BOTTOM OF FALKIRK FORMATION
- Existing Vegetation — APPROXIMATE LOCATION
- R04 — Noise Receptor — (SEE NOTE M "NOISE" ON PAGE 3 OF 5)
- Wainfleet Bog Provincially Significant Wetland Complex/ Significant Woodland Boundary — RIVERSTONE 2020
- Internal Haul Road
- Onondaga Escarpment Brow — RIVERSTONE 2020
- Tree Plantings — (SEE NOTE F ON PAGE 3 OF 5)
- Significant Wildlife Habitat — RIVERSTONE 2020
- Spoon-leaved Moss and 50m Buffer — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)
- AfGt-263 — Identified Archaeological Sites that have further Cultural Heritage Value and Interest — (SEE NOTE M "ARCHAEOLOGY" AND SCHEMATIC B ON PAGE 3 OF 5)
- Whip-poor-will Category 1 Habitat — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)
- Archaeological Site Fencing — 20m AND 50M SETBACKS AS LABELLED (SEE NOTE M "ARCHAEOLOGY" PAGE 3 OF 5 AND SCHEMATIC B ON PAGE 2 OF 5)
- Whip-poor-will Category 2 Habitat — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)
- A1 — Cross Sections — SEE PAGE 5 OF 5 FOR EXISTING AND REHABILITATED CROSS SECTIONS
- Sediment and Erosion Control Fence

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MNRF Approval Stamp

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north

Applicant

Waterford Sand & Gravel Limited
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VP/GM Construction Materials

Project

Law Quarry Extension

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For Submission to NDMNRF - June 2022

Plan Scale **1:2,500 (Arch D)**

SCALE
50 0 50 100
METRES

Plot Scale 1:2.5 [1mm = 2.5 units] MODEL
Drawn By D.G.S.
Checked By C.P.
File No. **0956B**

File Name

OPERATIONAL PLAN

Drawing No.

2 OF 5

K:\0956C-WATERFORD SAND AND GRAVEL LIMITED-LAW QUARRY EXTENSION\4-REVISIONS-MNRF SECOND SUBMISSION COMMENTS APRIL2024\LAW QUARRY EXTENSION-OPERPLAN 2OF5 APRIL2024 MNRF COMMENTS.DWG

A. General

1. Area Calculations:
   Licence Area: 72.3 hectares (178.7 acres)   Limit of Extraction: 51.2 hectares (126.5 acres)
2. The maximum number of tonnes of aggregate to be removed from this site, in combination with Licence #4464 and Licence #607541 is 800,000 tonnes in any calendar year.
3. No buildings or structures (including a scale and scale house) are proposed.
4. The groundwater table elevation on site ranges between ±170 masl in the southeast portion of the site to ±180 masl in the west portion of the site.The existing water table elevations are shown on each cross section on page 5 of 5.
5. Setbacks will be as shown and labelled on the Sequence of Operations Diagram (page 2 of 5). See Section N 'Variations from Control and Operation Standards' for further details.
6. Agricultural production may continue in areas not under extraction.
7. Source Water Protection: The site is located in the Niagara Peninsula Source Protection Area. The site is not mapped as being located in a Well Head Protection Area (WHPA), but is located in a Significant Groundwater Recharge Area and a Highly Vulnerable Aquifer Area. Mitigation measures are outlined in the Hydrogeology notes under Section M Report Recommendations.
8. Location of sensitive receptors that are located within 500m of the boundary of this site are listed in Table 1 of Blasting Impact Assessment.
9. The Licensed Boundary and Limit of Extraction shall be surveyed and staked prior to any site disturbance.

B. Hours of Operation/Blasting Hours

1. Hours of Operation are as described in the notes under Section M 'Noise'.
2. There will be 2 blasts per week between the hours of 10:00 am and 4:00 pm, Monday to Friday.

C. Site Access and Fencing

1. The existing field accesses may be utilized for monitoring, setback maintenance, agricultural access and rehabilitation activities. The accesses shall be gated. Aggregate trucks shall not be permitted to access the site at these locations. The Highway #3 field accesses shall no longer be used after the Phase 4 berm is installed.
2. The site shall be accessed through the common licence boundary with existing licence #4464 and no gate shall be required (see Section N 'Variations from Control and Operation Standards'). The location shown on the plan view (page 2 of 5) is approximate only and may occur anywhere on the common licence boundary during the life of the operation.
3. Portions of the north, west and south licence boundary that are not currently fenced shall be fenced with post and wire fencing, at least 1.2 metres in height, prior to site preparation commencing.
4. Fencing shall not be required where the licence abuts existing Licence #4464 (see Section N 'Variations from Control and Operation Standards') and in these locations, the boundary will be demarcated by 1.2m high marker posts that are visible from one to the other. If conditions in or around the licensed property change or if either licensed site is surrendered or sold, a 1.2m high fence will be installed.
5. Sediment fencing shall be installed along the north portion of the limit of extraction between the area to be disturbed and the wetlands to the north, prior to operations commencing.
6. All required post and wire fencing and erosion and sediment control fencing, shall be maintained for the life of the extraction operations.

D. Drainage

1. Drainage of undisturbed areas will continue and generally in the directions shown on the Existing Features drawing on page 1 of 5.

E. Site Preparation

1. 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 will be used in for aquatic habitat enhancement or mulched for use in progressive rehabilitation in this licence or existing Licence #4464. Excess material not required for uses mentioned above will be burned (with applicable permits).
2. Topsoil and overburden shall be stripped and stored separately in accordance with the Sequence of Operations diagram.
3. Topsoil and overburden shall be placed in berms or used immediately for progressive rehabilitation in this licence or adjacent Licence #4464 (see Section N 'Variations from Control and Operation Standards').
4. Excess topsoil and overburden not required for immediate use in berms or rehabilitation may be temporarily stockpiled inside the licensed area or in Licence #4464 (see Section N 'Variations from Control and Operation Standards').
5. Adequate vegetation shall be established and maintained on all berms and stockpiles of topsoil and overburden to control erosion.

F. Berms and Screening

1. Berms shall be constructed to the elevation specified in the locations shown on the plan view prior to extraction/processing operations in each Phase. Locations and heights for all berms are provided on Sequence of Operations diagram, page 2 of 5. The heights/elevations shown are minimum required.
2. Berm side slopes shall not exceed 1.5:1 on the interior (extraction) side and 2:1 on the exterior side facing a public road. Berms that are not adjacent to a public road shall have side slopes not exceeding 1:5:1. See 'Typical Berm Detail' on page 2 of 5.
3. Berms shall not be located within three (3.0) metres of the licence boundary except where adjacent to existing Licence #4464 (see Section N).
4. All proposed berms will be constructed in accordance with the 'Typical Berm Detail' on page 2 of 5 and will be vegetated and maintained to control erosion using a low maintenance grass/legume seed mixture (e.g. MTO Seed Mix) composed of Creeping red Fescue, Perennial Ryegrass, Kentucky Bluegrass and White Clover.
5. Berms shall be maintained (vegetated to prevent erosion) throughout the operational life of the quarry.
6. Trees will be planted along the south boundary of the site (Highway #3) where berms are not required and where outside of the 20m avoidance zone of archaeological site AfGt-294 . The trees will be planted in 2 rows of ±2.0m diameter/ 2.0m high (at planting) coniferous trees (White Spruce, White Pine, Red Pine) planted 5m on centre.
7. These trees are to be established within one (1) year of licence issuance. Trees will be maintained and/or replaced if required, throughout the operation of the pit.
8. Existing vegetation within the setbacks shall be maintained except where noise attenuation berms are required.

G. Site Dewatering

1. In areas where quarrying is taking place, all of the runoff within the limit of extraction will be directed via an internal drainage network to the sump within the existing quarry footprint (Licence #4464 and #607541) where water is then discharged, via existing drainage features, into the Eagle Marsh Drain. The location of the internal drainage network to the sump will vary based on the progression of extraction activities and will be subject to MECP approvals.

H. Extraction Sequence

1. This plan depicts a schematic operations sequence for this property. Phases do not represent any specific or equal time period. The direction of extraction will be in accordance with the Sequence of Operations diagram shown on page 2 of 5. All extraction, processing and transportation equipment operating within these Phases shall comply with the restrictions identified in Section M 'Noise' Report Recommendations.
2. Extraction and Progressive Rehabilitation shall occur in five (5) Phases as shown on page 2 of 5.
3. Rehabilitation will be progressive and proceed as limits of extraction (area and depth) are reached as outlined for each of the Phases below.
4. Phase A
   a. Prior to disturbance, ensure all requirements under Note M4 'Natural Environment' and Note M5 'Archaeology' have been completed as required;
   b. Prepare Extraction Area 1a for extraction and ensure all the requirements in Sections 'C' through 'F' on this page are met for site preparation and fencing activities;
   c. Undertake the rehabilitation requirements outlined in note F3c on page 4 of 5 to establish grassland vegetation in the “quarry island” areas;
   d. Prior to extraction in Extraction Area 1a, install Berm A as outlined in Noise notes in Section M and as shown on the Sequence of Operations on page 2 of 5.
   e. Strip Extraction Area 1a and store/utilize material as outlined in Notes E and F;
   f. Extract Extraction Area 1a in an in a westerly direction and to the elevations as shown on the drawing. Extraction shall occur to a depth of 166.0 masl (south portion of Extraction Area 1a) to 167.0 masl (north portion of Extraction Area 1a).
   g. Processing for Extraction Area 1a shall occur in existing Licence #4464.
   h. Progressive rehabilitation in the northeastern portion of the above water table side slopes in Extraction Area 1a shall be initiated once the extent of extraction has occurred in this area. The side-slopes of the “no extraction/no disturbance” area shall be to a vertical face as shown in Side Slope Condition 3 on page 5 of 5.
5. Phase B
   a. Prior to disturbance, ensure all requirements under Note M4 'Natural Environment' and Note M5 'Archaeology' have been completed as required;
   b. Ensure all the requirements in Sections 'C' through 'F' of this page are met for site preparation and fencing activities;
   c. Strip Extraction Area 1b and store/utilize material as outlined in Notes E and F;
   a. Extract Extraction Area 1b in a westerly direction and to the elevations as shown on the drawing. Extraction shall occur to a depth of 164.0 masl (south portion of Extraction Area 1b) to 165.0 masl (north portion of Extraction Area 1a).
   b. Processing for Extraction Area 1b shall occur in existing Licence #4464 or when sufficient room is available in Extraction Area 1b and shall be in accordance with the Noise notes in Section M.
   c. The sideslopes of the “no extraction/no disturbance” area shall be to a vertical face as shown in Side Slope Condition 3 on page 5 of 5.
   d. Complete progressive rehabilitation of above-water-table sideslopes in Phase 1a.
6. Phase C
   a. Prior to disturbance, ensure all requirements under Note M4 'Natural Environment' and Note M5 'Archaeology' have been completed as required.
   b. Ensure all the requirements in Sections 'C' through 'F' of this drawing are met for site preparation and fencing activities.
   c. Strip Extraction Area 2 and store/utilize material as outlined in Notes E and F.
   d. Implement additional Phase 2 Noise requirements for the operation of the Quite Rock Drill as outlined in Noise notes in Section M and 'Berm and Noise Controls Schematic' on page 2 of 5.
   e. Extract Extraction Area 2 in an in a westerly and south-westerly direction and to the elevations as shown on the drawing. Extraction shall occur to a depth of 166.0 to 167 masl (south portion of Phase 2) to 168.0 masl (north portion of Extraction Area 2).
   f. Complete the progressive rehabilitation along the northern portion of the above water table side slopes and setback areas in Extraction Area 2 outside of Berm A once the extent of extraction has occurred in this area. The side-slopes of the “no extraction/no disturbance” area shall be to a vertical face as shown in Side Slope Condition 3 on page 5 of 5.
7. Phase D
   a. Prior to disturbance, ensure all requirements under Note M4 'Natural Environment' and Note M5 'Archaeology' have been completed as required;
   b. Ensure all the requirements in Sections 'C' through 'F' of this drawing are met for site preparation and fencing activities
   c. Strip Extraction Area 3 and store/utilize material as outlined in Notes E and F;
   d. Implement Noise notes as outlined in Section M and as shown on the 'Berm and Noise Controls Schematic' on page 2 of 5.
   e. Extract Extraction Area 3 in an in a south and westerly direction and to the elevations as shown on the drawing. Extraction shall occur to a depth of 165 masl (south portion of Extraction Area 3) to 167.0 masl (north portion of Phase 3).
   f. Side-slopes of the “no extraction/no disturbance” area shall be to a vertical face as shown in Side Slope Condition 3 on page 5 of 5.
8. Phase E
   a. Prior to disturbance, ensure all requirements under Note M4 'Natural Environment' and Note M5 'Archaeology' have been completed as required;
   b. Ensure all the requirements in Sections 'C' through 'F' on this page are met for site preparation and fencing activities
   c. Strip Extraction Area 4 and store/utilize material as outlined in Notes E and F;
   d. Prior to extraction in Phase 4, install acoustic barrier (Berm B) as outlined in Noise notes in Section M and shown on page 2 of 5.
   e. Implement additional Noise notes as outlined in Section M and as shown on the 'Berm and Noise Controls Schematic' on page 2 of 5.
   f. Extract Extraction Area 4 in an in a south and westerly direction and to the elevations as shown on the drawing. Extraction shall occur to a depth of 164 masl (south portion of Extraction Area 3) to 165.0 masl (north portion of Extraction Area 3).
   g. The side-slopes of the “no extraction/no disturbance” area shall be to a vertical face as shown in Side Slope Condition 3 on page 5 of 5.
9. Phase F
   a. Prior to disturbance, ensure all requirements under Note M4 'Natural Environment' and Note M5 'Archaeology' have been completed as required;
   b. Ensure all the requirements in Sections 'C' through 'F' on this drawing are met for site preparation and fencing activities.
   c. Strip Extraction Area 5 and store/utilize material as outlined in Notes E and F;
   d. Implement Noise notes as outlined in Section M and as shown on the 'Berm and Noise Controls Schematic' on page 2 of 5.
   e. Extract Extraction Area 5 in an in a southerly direction and to the elevations as shown on the drawing. Extraction shall occur to a depth of 163 masl (south portion of Extraction Area 3) to 165.0 masl (north portion of Extraction Area 3).
   f. Remove berms and complete progressive rehabilitation along the western, southern and eastern portions of the above water table side slopes in Extraction Areas 2 through 5. The side-slopes of the “no extraction/no disturbance” area shall be to a vertical face as shown in Side Slope Condition 3 on Page 5 of 5.
   g. Remove all machinery, scrap and internal haul roads.
   h. Cease dewatering activities associated with the quarry and complete final rehabilitation activities as outlined on page 4 of 5.

A. Extraction Details

a. The maximum depth of extraction is as shown as spot elevations and extraction will occur in 3 lifts (maximum) through the five phases as shown on the Sequence of Operations Diagram on page 2 of 5 and in accordance with the Ministry of Labour requirements. The proposed quarry floor will be located at an elevation of 163-168 masl or 13 m to 22 m below the existing ground surface. The proposed quarry is an extension of the existing Law Quarry to the east.
b. Extraction shall be permitted in two Phases simultaneously to allow for transition between Phases.
c. Aggregate stockpiles will be located on the quarry floor (interim and final elevations) and will move throughout the life of the operations of the quarry. Stockpiles will not be located within 30m of the Licensed boundary, except along the eastern shared licence boundary with Licence #4464, as outlined in the Variations from Control and Operation Standards table on this page.
d. Internal haul road locations will vary as extraction progresses and will be located on the quarry floor.

J. Equipment and Processing

1. The equipment used on site for aggregate operations is listed in Note M 'Noise' Report Recommendations, Table A and may include: One (1) Portable Processing Plant, One (1) Quiet Rock Drill, Two (2) Extraction Loaders, Two (2) Shipment Loaders, Highway Trucks and Conveyors.
2. All processing equipment will be portable (crusher and screener), subject to the noise controls and be located in close proximity to the extraction face and located below grade on the quarry floor in these Phases in order to maximize acoustical shielding. Within this area, the processing equipment shall remain a minimum of 30 metres from the licence boundary (except where the licence boundary abuts existing licence #4464 - see Section N Variations from Control and Operation Standards). Also see Note M 'Noise', the Sequence of Operations diagram and 'Berm and Noise Control Schematic' for location of processing plant and applicable noise restrictions.

K. Fuel Storage

1. No fuel or associated products will be stored on site. Mobile fuelling will occur in accordance with the Gasoline Handling Act, as amended, the Gasoline Handling Code and regulations, as amended, and Liquid Fuels Handling Code.

L. Scrap and Recycling

1. A scrap storage area may be located on site.
2. No aggregate recycling activities will occur.

M. Report Recommendations

1. **Blasting: "Blast Impact Analysis, Waterford Sand & Gravel Limited Law Quarry Extension", March 2023. Revised March 26, 2024 (Source: Explotech Engineering Ltd.)**
   a. All blasts shall be monitored for both ground vibration and overpressure by an independent Blast Consultant at the closest privately owned sensitive receptors adjacent the site, or closer, with a minimum of two (2) instruments – one installed in front of the blast and one installed behind the blast.
   b. The guideline limits for vibration and overpressure shall adhere to standards as outlined in the MECP Model Municipal Noise Control By-law publication NPC 119 (1978) or any such document, regulation or guideline which supersedes this standard.
   c. In the event of an exceedance of NPC 119 limits or any such document, regulation or guideline which supersedes this standard, blast designs and protocol shall be reviewed prior to any subsequent blasts and revised accordingly in order to return the operations to compliant levels.
   d. Orientation of the aggregate extraction operation will be designed and maintained so that the direction of the overpressure propagation will be away from structures as much as possible.
   e. Blast designs shall be continually reviewed with respect to fragmentation, ground vibration and overpressure. Blast designs shall be modified as required to ensure compliance with current applicable guidelines and regulations.
   f. Blasting procedures such as drilling and loading shall be reviewed on a yearly basis and modified as required to ensure compliance with industry standards.
   g. Detailed blast records shall be retained.

2. **Noise: "Law Quarry Extension Noise Impact Study" July 6, 2023, revised July 6, 2023 and letter dated February 7, 2024 (Source: Aercoustics Engineering Ltd.)**

General:

a. The proposed hours of extraction, processing, and shipping operations shall be limited to the daytime hours only (07:00 -19:00) from Monday through Sunday.

b. The extraction, processing, and shipping equipment operating in the quarry is limited to:
- One (1) Quiet Rock Drill
- Two (2) Extraction Loaders
- Two (2) Shipment Loaders
- One (1) Processing Plant
- Highway trucks
- Off-Road trucks

c. The aggregate quarry equipment shall satisfy the noise emission levels listed in Table A:

Table A: Reference Sound Pressure Levels of Aggregate Quarry Equipment Equipment

Equipment	Reference Sound Pressure Level at 30m (dBA)
Portable Processing Plant (crushing, screening & washing)	87
Quiet Rock Drill	73
Shipping Loader	67[1]
Extraction Loader	70
Highway Truck - 25 km/h	65
Off-Road Truck - 30 km/h	75

1-The shipment loaders were assumed to operate at a 50% duty cycle.

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, as confirmed through documentation prepared by a Professional Engineer specializing in noise control. Prior to any modification, the Licensee must obtain approval to amend any conflicting site plan notes.

f. The Licensee will retain ownership or control of and will vacate houses within additional lands owned or controlled by applicant for the duration of the extraction operation. If the houses are occupied or the properties sold the licensee shall notify MNRF immediately and provide mitigation necessary to ensure provincial noise, air, and ground vibration and dust limits are satisfied.

g. An acoustic barrier is required to be solid, with no gaps or openings, and shall satisfy a minimum area density of 20 kg/m2. It could take the form of a quarry face, stockpile, acoustic fence, ISO containers, a combination of these, or any construction satisfying the requirements of an acoustic barrier.

h. The operation shall proceed in three tandem lifts. The total height of the working face, across all lifts, shall be a minimum of 17 m above the quarry floor on which the processing plant is situated. The plant shall be located a maximum of 60 m from the top of rock, unless otherwise noted, and shall be located on the quarry floor as soon as practical in Extraction Area 1b. Extraction shall proceed in the directions outlined on the Operational Plan.

i. Prior to extraction in Extraction Area 1a, an acoustic barrier with a minimum top-of-barrier elevation of 190 m asl shall be installed along the west boundary of the property as shown (Berm A) on the Operation Plan. This barrier shall remain in place during quarry extraction and processing operations.

j. Prior to extraction in Extraction Area 4, an acoustic barrier with a minimum top-of-barrier height of 4 m above existing grade shall be installed along the south boundary of the property as shown (Berm B) in the Operation Plan. This barrier shall remain in place during quarry extraction and processing operations.

Extraction Area 2

k. When the Quiet Rock Drill is operating at-grade in Extraction Area 2, an acoustical barrier with a minimum height of 4 m and a minimum length of 15 m shall be erected within 10 m of the Quiet Rock Drill blocking the line of sight between the drill and Receptors R14 and R15.

l. When the Quiet Rock Drill is operating at-grade or at the first bench elevation within 60 m of west Extraction Area 2 extraction limit, the Quiet Rock Drill shall not operate simultaneously with extraction or processing operations.

Extraction Area 3

m. Extraction Operations within 250 m of the west extraction limit in Extraction Area 3 shall proceed in a westerly direction. Extraction operations greater than 250 m of the west extraction limit shall proceed in a southerly direction.

n. During extraction operations in Extraction Area 3, the Processing Plant shall be prohibited from operating in the Extraction Area 3 area and shall not operate within 350 m of the western extraction limit. The line of sight between the Processing Plant and any of Receptors R11 to R15 shall be broken by an acoustic barrier with a minimum height of 12 m within 30 m of the Processing Plant

o. Extraction Operations within 100 m of the west extraction limit of Extraction Area 3 shall be limited to one extraction loader.

p. Once the working face is within 50 m of the west extraction limit of Extraction Area 3, the Quiet Rock Drill may not be operated simultaneously with any processing or extraction activities.

q. When the Quiet Rock Drill is operating at-grade in Phase 3, an acoustical barrier with a minimum height of 4 m and a minimum length of 15 m shall be erected within 10 m of the Quiet Rock Drill blocking the line of sight between the drill and receptors R11 to R15.

Extraction Area 4

r. When the Quiet Rock Drill is operating at-grade in Extraction Area 4, an acoustical barrier with a minimum height of 4 m and a minimum length of 15 m shall be erected within 10 m of the rock drill blocking the line of sight between the drill and receptors R11 to R14.

s. During extraction operations in Extraction Area 4, the Processing Plant shall be prohibited from operating in the Phase 3 or 4 areas and shall not operate within 350 m of the western extraction limit. The line of sight between the Processing Plant and any of Receptors R11 to R15 shall be broken by an acoustic barrier with a minimum height of 12 m within 30 m of the Processing Plant.

t. During extraction operations in Extraction Area 4, the Extraction Loaders shall operate behind the working face such that line of sight from the extraction loaders to Receptors R11 to R14 is broken. If the line of sight between extraction loaders and Receptors R11 to R14 is not broken by the working face, the extraction operations shall be limited to a single Extraction Loader.

u. When the Quiet Rock Drill is operating at-grade within 150 m of R13, the Quiet Rock Drill may not be operated simultaneously with any processing or extraction activities.

Extraction Area 5

v. During extraction operations in Extraction Area 5, the Processing Plant shall be located such that the line of sight to Receptors R01 through R14 is broken by either:
   i. An acoustic barrier with a minimum height of 12 m within 30 m of the Processing Plant; or
   ii. Intervening unextracted land with a minimum height of 17 m within 60 m of the Processing Plant.

3. **Hydrogeology: "Law Quarry Extension Level 1 and 2 Water Study Report" and "Law Quarry Extension Maximum Predicted Water Table Report", March 2022 "Supplemental Level 1 and 2 Water Study Report Proposed Law Quarry Extension, Feb. 12, 2024" (Source: WSP Canada Inc.)**
   a. The proposed long-term monitoring program outlined in Table 1 (on this page) to be completed during the quarry extension operational and rehabilitation phases until stable conditions are observed after quarry decommissioning. The monitoring results will be summarized in an annual report to be submitted to MNRF and MECP.
   b. A well interference mitigation plan;
      i. If a water well interference claim is received by the licensee the following actions will be taken:
         - The licensee will immediately notify MNRF and MECP of the complaint.
         - The licensee will contact a well contractor in the event of a well malfunction and residents will be provided a temporary water supply within 24 hours, if the issue cannot be easily determined and rectified.
      ii. The well contractor will contact the resident with the supply issue to rectify the problem as expediently as possible, provided landowner authorization of the work.
      iii. If the issue raised by the landowner is related to loss of water supply, the licensee will have a consultant/ contractor determine the likely causes of the loss of water supply, which can result from a number of factors, including pump failure (owner's expense), extended overuse of the well (owner's expense), lack of well maintenance/ well cleaning (owner's expense) or lowering of the water level in the well from the quarry development (licensee expense). This assessment process would be carried out at the expense of the licensee and the results provided to the homeowner.
      iv. If it has been determined that the quarry caused the water supply interference (i.e., lowering of the water level), the quarry shall continue to supply water at the licensee's expense until the problem is rectified. The following mitigation measures shall be considered and the appropriate measure(s) implemented at the expense of the licensee:

3. Hydrogeology (cont'd)

- adjust pump pressure;
- lowering of the pump to take advantage of existing water storage within the well;
- deepening of the well to increase the available water column, if the well deepening changes the water quality a water treatment shall be provided;
- widening of the well to increase the available storage of water;
- relocation of the well to another area on the property;
- drilling multiple wells; or
- install a cistern.

v. If the issue raised by the landowner is related to water quality, the licensee will have a consultant/contractor determine the likely causes of the change in water quality, and review monitoring results at the quarry and background monitoring results from the baseline well survey to determine if there is any potential correlation with the quarry. If it has been determined that the quarry caused a water quality issue, the quarry shall continue to supply water at the licensee's expense until the problem is rectified. The licensee shall be responsible for restoring the water supply by replacing the well or providing a water treatment system. The licensee is responsible for the expense to restore the water quality.

4. **Natural Environment: "Natural Environment Report, Level 1 & 2 Assessment, Law Crushed Stone Quarry" June 2022 and Update: August 23, 2023 and March 2024 (Source: RiverStone Environmental Solutions Inc.)**

A. Provincially Significant Wetlands

i. Proposed extraction activities shall be setback a minimum of 30 m from the boundary of the PSW.

ii. Except for the berm, the northern setback area between the limit of extraction and licence boundary shall be undisturbed and progressively rehabilitated in accordance with note F2.b on page 4 of 5.

iii. Sediment and erosion control measures shall be employed along the extraction limit to prevent the erosion of unstable soils and the movement of sediment and/or other deleterious substances into the adjacent PSW. These measures shall be in place prior to the onset of site preparation.

iv. Sediment fencing must be constructed of heavy material and solid posts and be properly installed (trenched in) to maintain its integrity during inclement weather events.

v. Once installed, sediment fencing should be routinely monitored and maintained.

vi. All stockpiled aggregates should be stored in a location that will prevent the movement of sediment-laden runoff into the PSW units (and other identified wetlands) and their setbacks.

vii. A detailed groundwater monitoring program has been recommended in the Hydrogeological Assessment Report (WSP 2022), which includes continuous water level measurements using dataloggers at the site groundwater monitoring wells. The water level data will be summarized in an annual monitoring report submitted to the MNRF or MECP.

B. Habitat for Endangered and Threatened Species

i. Prior to any development or site alteration occurring within the identified Whip-poor-will Category 2 habitat and within 50m of the outer limit of the identified spoon leaved moss colonies, the Licensee shall consult with the MECP and obtain an authorization under the Endangered Species Act, if required.

ii. On an annual basis, the Licensee will review the requirements of the Endangered Species Act and associated Regulations to ensure that the operation is in compliance with all required species at risk protection requirements. This review will be documented in the Annual Compliance Assessment Report. Any applicable changes required to note B.i. or other components of the operation will be noted in the Annual Compliance Assessment Report and MNRF/MECP will be notified and consulted to confirm if any site plan amendments and/or authorizations under the Endangered Species Act are required.

iii. Sediment and erosion control fencing shall be installed along the southeastern setback area adjacent to the spoon-leaved moss colony, as shown on Page 2. These measures shall be in place prior to the onset of site preparation.The sediment and erosion control fencing shall be maintained in accordance with Note 4A iv and v.

iv. If an active SAR bird nest is identified during site operations, the MECP shall be consulted immediately to determine any requirements under the ESA, 2007.

v. An information panel shall be designed and erected at the site entrance to alert all staff entering the site to the potential presence of SAR and their habitat. The panel shall include:
- notification of worker obligations, liabilities and responsibilities under the endangered species act;
- photographs of SAR to assist in identification; and
- explanation of the appropriate procedure to follow should the species be observed or injured on the project location.

C. Significant Woodlands

i. Proposed extraction activities shall be setback a minimum of 30m from the boundary of the Significant Woodland. The 30m Significant Woodland setback is the same as the 30m PSW setback.

ii. The recommendations to protect the PSW (Notes 4A) must be implemented in full as they will also serve to protect the significant woodland.

D. Significant Wildlife Habitat

i. Proposed extraction activities shall be setback a minimum of 30m of the Onondaga Escarpment Brow Vegetation within the 30m setback is to remain as natural self-sustaining vegetation. The recommendations protecting significant woodland (Note 4C) must be implemented in full as they will also serve to protect Eastern Wood-pewee and Wood Thrush breeding and foraging habitat adjacent to the site.

ii. The recommendations offered herein to protect Migratory Birds (Note 4E) must be implemented in full as they will also serve to protect Eastern Wood-pewee and Wood Thrush.

iii. Amphibian/reptile exclusion fencing shall be installed along the northern licence boundary to exclude amphibian and reptiles from entering the active extraction area. Fencing is to be monitored for damage or gaps, and regularly maintained. Fencing is to be inspected three times each year during the turtle active season (March 31 to October 31) as follows: prior to the beginning of the turtle active season (before March 31), during the active season (early June), and late fall (mid-October). Any damage or gaps should be repaired immediately. A log of the fencing monitoring shall be kept on-site and will be made available upon request.

iv. Fencing shall be chain-link fencing with heavy-duty geotextile material. Fence shall be a minimum of 100 cm in height including a 15 cm wide lip along the top edge angled away from the extraction area by 45 degrees to prevent animals from climbing over. Geotextile fabric secured along the Bottom of the fence shall be buried 10 to 20 cm, with soil, backfilled and Compacted on both sides of the fence. Fencing is to terminate with a 90 Degree 'u' design or hook, to redirect animals back towards their habitat. Wildlife encountered on the site should remain undisturbed and be allowed to leave on their own. Photos for identification should be taken of animals observed onsite, if possible.

E. Other Natural Features and Functions

i. All necessary removal of natural vegetation (e.g., tree/shrub clearing, fallow fields, etc.) within the proposed quarry extraction area shall be completed outside of the primary breeding bird nesting window between April 1 and August 31. If limited vegetation removal must occur early during this period, between April 1-April 15, a nest survey shall be conducted by a qualified biologist within 5 days of commencement of vegetation removal activities to identify and locate active nests of bird species (where present) protected by the federal *Migratory Bird Convention Act, 1994* or provincial *Fish and Wildlife Conservation Act, 1997*. If a nest is located or evidence of breeding noted, a mitigation plan shall be developed to avoid any potential impacts on birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.

ii. An invasive species management plan shall be developed by a qualified biologist/ecologist and shall recommend best management practices to prevent, control, and remove invasive species during pit operations and rehabilitation.

5. **Archaeology: "Stage 1 and 2 Archaeological Assessment of Additional Lands at Waterford's Law Quarry Extension, Part of Lot 6, Concession 2, Geographic Township of Wainfleet, Welland County, Township of Wainfleet, Regional Municipality of Niagara, Ontario", Dated Nov 21, 2023 [Source: Archaeological Services Inc. (ASI)] Filed with MCM on Nov 27, 2023, MCM Project Information Form Number P449-0460- 2020, MCM File Number 0015333; and "Stage 1 and 2 Archaeological Assessment of the Law Crushed Stone Extension, Part of Lots 6 and 7, Concession 2, Geographic Township of Wainfleet, Welland County, Township of Wainfleet, Regional Municipality of Niagara, Ontario", Dated Jun 27, 2023, Filed with MCM Toronto Office on Sep 27, 2023, MCM Project Information Form Number P449-0165-2017, MCM File Number 26AG010; Review and Entry into the Ontario Public Register of Archaeological Reports Letters dated April 3, 2024 and April 19, 2023, Ministry of Citizenship and Multiculturalism (MCM).**

a. General Archeological Site Protection notes:

i. Indigenous sites AfGt-19, AfGt-22, AfGt-23, AfGt-239, AfGt-241, AfGt-242, AfGt-245, AfGt-248, AfGt- 255, AfGt-256, AfGt-259, AfGt-261, AfGt-266, AfGt- 270, AfGt-272, AfGt-274, AfGt-276, AfGt-277, AfGt-278, AfGt-282, AfGt-283, AfGt-284, AfGt-293, AfGt-294, AfGt-317, AfGt-321, AfGt- 322, AfGt-323, AfGt-324, AfGt-326, AfGt-327, AfGt-328 are considered to be archaeological resources of Cultural Heritage Value or Interest (CHVI) that are located within the license boundary. These sites shall be subject to a comprehensive Stage 3 Archaeological Assessment in order to more fully identify the character, extent and significance of the archaeological deposit, in accordance with the Standards and Guidelines for Consultant Archaeologists (2011). There shall be no alteration, excavation, disturbance, interference with, destruction, removal or modification of the land or the soil situated thereon and therein by any person other than by prior agreement with the Ministry of Citizenship and Multiculturalism (MCM) for the above archaeological sites, or their associated 70 m buffers, that are identified as having further Cultural Heritage Value or Interest (see Schematic B on Page 2 of 5). This restriction shall remain in place until such time that:
- The 50m monitoring portion of the 70m buffer has been cleared in accordance with requirements of the Standards and Guidelines for Consultant Archaeologists and then 20m “no-go” buffer is in place and fenced and/or,
- A licensed consultant archaeologist has recommended in a report that the archaeological sites have no further cultural heritage value or interest, and MCM has stated its satisfaction with the report and entered it into the Ontario Public Register of Archaeological Reports according to section 48(3) of the *Ontario Heritage Act*; and,
- Following review by MCM and the entry of the report into the Ontario Public Register of Archaeological Reports, written approval has first been obtained from the Ministry of Natural Resources and Forestry (MNRF) and additional further considerations and consultation considered necessary by MNRF including, but not limited to, the Crown's Duty to Consult has been completed; MNRF Approval shall consists of an approved Site Plan Amendment to remove the Archaeological Site and associated 70m buffer from the drawing and Schematic B on Page 2 of 5 of the Site Plan. No other technical reports or external agency and public consultation shall be required.

ii.Until such a time that further Archaeological Assessments are completed for the Archaeological sites identified as having further Cultural Heritage Value and Interest, a 70 m buffer will be established around these sites and no ground disturbance activities shall be permitted within this 70 m buffer area (see Schematic B on Page 2 of 5). The 70 m buffer area shall be fenced with post and wire fencing. The post and wire fencing shall be maintained and repaired or replaced as needed.

iii.During any further archaeological assessments, meaningful engagement with Indigenous communities should be conducted, as outlined in Section 35 of the Standards and Guidelines for Consultant Archaeologists and the Engaging Aboriginal Communities in Archaeology Technical Bulletin.

iv.A letter is provided by the Aggregate Resources Act licensee stating that they are aware of the presence of archaeological sites within the limits of the Aggregate Resources Act licence and that that they are aware of the restrictions on alteration of an archaeological site of further cultural heritage value or interest as per the condition on their Aggregate Resources Act licence and as per Section 48 of the Ontario Heritage Act.

v.Notwithstanding the completion of the Archaeological Assessments for the Archaeological Sites should deeply buried archaeology remains be found during the course of ground disturbance activities, the MCM shall be notified. In the event that human remains are encountered during ground disturbance or any activities associated with the quarry, the licensee shall immediately contact both the MCM and the Registrar, Burials Unit, of the Ministry of Public and Business Service Delivery Registrar.

vi.Prior to surrendering the Licence, and to the satisfaction of MCM and MNRF, the Licensee shall ensure that the appropriate protection measures are put place for any remaining Archaeological Sites that have further Cultural Heritage Value or interest (e.g. restrictive covenant, zoning, transfer of ownership to a public body etc.)

Report Recommendations (cont'd)

6. **Dust: "Law Quarry Extension, Port Colborne Ontario, Air Quality Assessment " February 3, 2022 (Source: RWDI.**
The site will operate in accordance with a Best Management Practices Plan for fugitive dust (BMPP), which may be amended from time to time, considering actual impacts and operational considerations. The recommendations in the BMPP are based on the maximum daily production rates. At lower production rates, the control measures specified in the BMPP can be reduced accordingly, provided dust remains mitigated on site.

7. **Agricultural Impact Assessment: "Scoped Agricultural Impact Assessment, Waterford Sand and Gravel Law Quarry Crushed Stone Extension" May 2022 (Source: MHBC Planning)**
   a. Extraction shall occur in phases to minimize the amount of disturbed area. To the extent feasible, later phases of the operation that are not currently in extraction should remain in agricultural production for as long as realistically possible.
   b. All of the recommended mitigation measures from the technical reports (noise, dust, blasting etc.) shall be included on the Site Plan and implemented by the quarry operator/Licensee to prevent impacts to adjacent and surrounding agricultural uses.
   c. If during extraction, the material below the water table is found to be of insufficient quality or quantity to warrant extraction, then the operator shall consider revising the rehabilitation plan to implement agricultural rehabilitation of the property, where feasible.

Table 1 - Proposed Monitoring Program (see note M3a)

Activity	Location and Geologic Unit	Frequency	Analysis / Measurement
Groundwater Monitoring			
Groundwater Level Monitoring	**Shallow Bedrock Aquifer (7):** GLL-1, GLL-3, GLL-4, GLL-7, GLL-9, GLL-10, GLL-11-II **Falkirk Member (9):** MW1-III, MW4-III, GLL-5, GLL-6, GLL-8, MW9-III, MW10-III, GLL-11-I, MW12-III **Oatka / Salina Contact (8):** MW1-II, MW4-II, MW5-II, MW6-II, MW9-II, MW10-II, MW11-I, MW12-II **Deep Salina (3):** MW1-I, MW5-I, MW10-I **Quarry Sump (1):** Sump **Residential Wells (2):** 20246 Youngs Road, 722 Highway 3	Semi-Annually	Water level measurement and logger download. Check logger condition.
Well Inspection	**All Monitoring Wells (27)**	Semi-Annually	Visual inspection for well integrity.

Surface Water Monitoring			
Surface Water Sampling	**Quarry Sump Discharge (1):** SW2 **Eagle Marsh Drain (2):** SW1, SW3	Quarterly	**Surface Water List** **Field measurements:** pH, conductivity, temperature, dissolved oxygen **General Parameters:** TSS, turbidity, sulphide un-dissociated hydrogen sulphide (calculated) **Major Ions:** alkalinity, chloride, sulphate, calcium, magnesium, sodium, potassium **Nutrients/Organic Indicators:** nitrate, nitrite, TKN, ammonia, un-ionized ammonia (calculated), TOC, total phosphorus **Total Metals:** aluminum, arsenic, barium, boron, total chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, strontium, uranium, vanadium, zinc **Organics:** Total Oil & Grease

N. Variations from Control and Operation Standards

No.	O.Reg 244/97 Section 0.13	Variation	Rationale
1	(1)10.i	0m excavation setback along common boundary with existing quarry (Licence #4464).	Material can be extracted along the common boundary and for rehabilitation to transition between licences.
2	(1)10.i	10m excavation setback along a portion of northern licensed boundary.	Adjacent lands are owned by Waterford.
3	(1)13.i	Overburden materials may be stored within 3m of licence boundary (next to adjacent Licence #4464). Stockpiling of aggregate, topsoil, and operation of screening plant may occur within 30m of common boundary with existing Licence #4464.	Adjacent property to the east is a licensed quarry owned by Waterford.
4	(1)16	Berms may be located within 3m of the boundary of adjacent Licence #4464.	Adjacent property to the east is a licensed quarry owned by Waterford.
5	(1)17	Topsoil and/or overburden materials may be temporarily stored in adjacent Licence #4464.	During initial phases of quarry operation, stockpiling in adjacent property to the east may occur (licensed quarry owned by Waterford).
6	(1)19.i	Below water side slopes may vary from a slope that is at least two horizontal metres for every vertical metre (2:1). These will slope at minimum to the natural angle of repose.	Slopes will be no steeper than a 2:1 slope below water.
7	(3)(a)	Fencing is not required along a portion of the northern boundary that runs through significant wildlife habitat/woodlot. Fencing along the east boundary adjacent to Licence #4464 is not required.	A portion of the north licensed boundary will be demarcated by 1.2m high marker posts that are visible from one to the other. Adjacent property to the east is a licensed quarry owned by Waterford. If conditions in or around the licensed property change or if either licensed site is surrendered or sold a 1.2m high fence will be installed.

Site Plan Amendments

No.	Date	Description	By

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

MNRF Approval Stamp

MHBC Stamp

CAITLIN M. PORT
REGISTERED PROFESSIONAL PLANNER
R.P.P.
Caitlin Port

Applicant

Waterford

Waterford Sand & Gravel Limited
70 Ewart Avenue
Brantford, Ontario
N3T 5M1
Tel: (519) 752-1300

Applicant's Signature
Ed Lamb
VP/GM Construction Materials

Project

Law Quarry Extension

Part of Lots 6 & 7, Concession 2
Part of Road Allowance Between Lots 5 & 6, Concession 2
(Geographic Township of Wainfleet) Township of Wainfleet, Regional Municipality of Niagara

ARA Licence Reference No.

Pre-approval review:
Revs. as per MNRF 2nd Submission comments - April 2024
Revs. as per JART comments (from Dec. 2023) - March 2024
Revs. as per MNRF comments - June 2023
Revs. as per MCM comments - April 2023
For Submission to NDMNRF - June 2022

Plan Scale: **NTS (Arch D)**

Plot Scale 1:2.5 [1mm = 2.5 units] MODEL

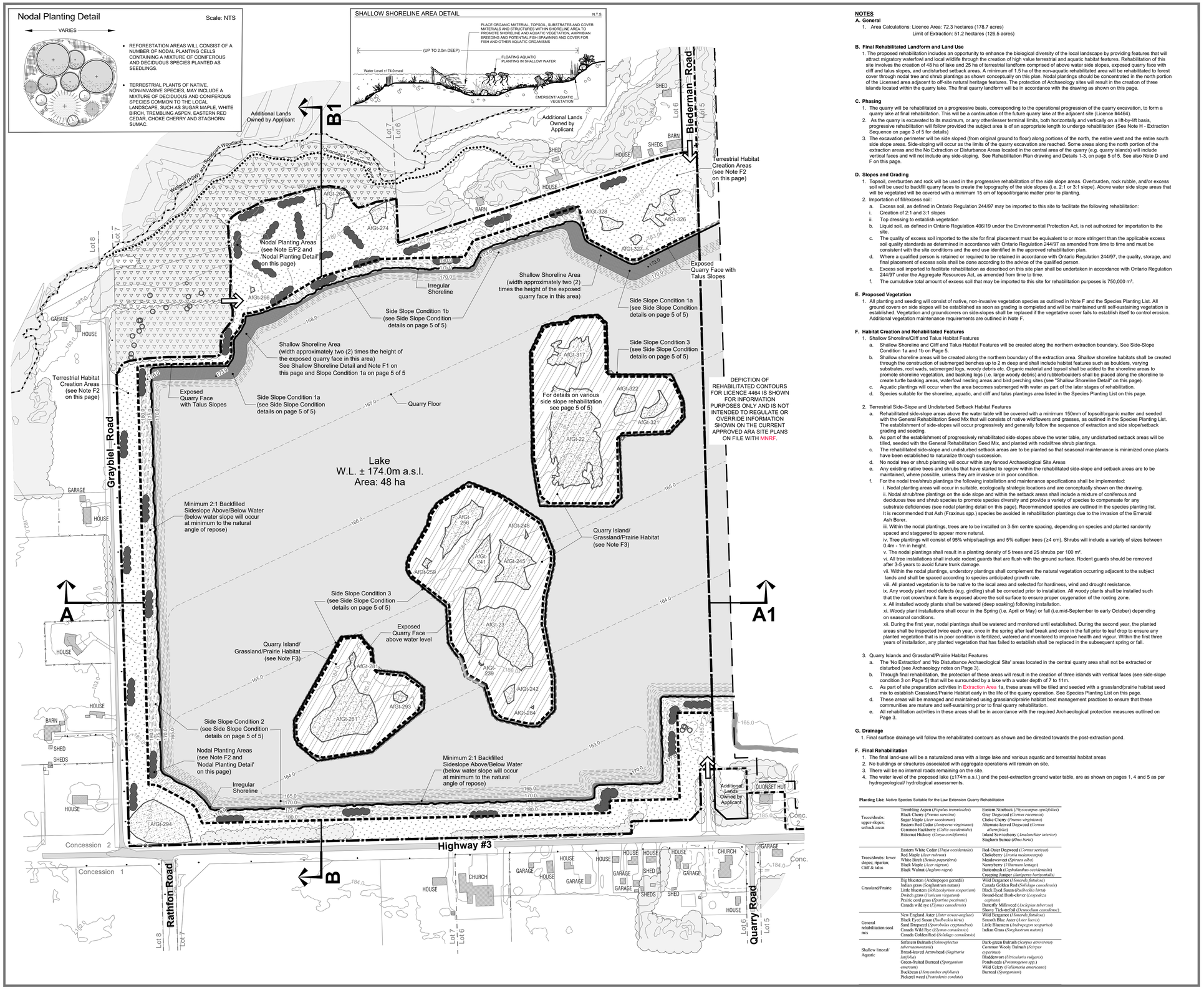
Drawn By D.G.S.
Checked By C.P.
File No. **0956B**

File Name

OPERATIONAL NOTES PLAN

Drawing No. **3 OF 5**

K:\0956C-WATERFORD SAND AND GRAVEL LIMITED-LAW QUARRY EXTENSION\A\REVISIONS MNRF SECOND SUBMISSION COMMENTS APRIL2024\LAW QUARRY EXTENSION NOTESPLAN 3OF5 APRIL2024 MNRF COMMENTS.DWG



NOTES

A. General

1. Area Calculations: Licence Area: 72.3 hectares (178.7 acres)
   Limit of Extraction: 51.2 hectares (126.5 acres)

B. Final Rehabilitated Landform and Land Use

1. The proposed rehabilitation includes an opportunity to enhance the biological diversity of the local landscape by providing features that will attract migratory waterfowl and local wildlife through the creation of high value terrestrial and aquatic habitat features. Rehabilitation of this site involves the creation of 48 ha of lake and 25 ha of terrestrial landform comprised of above water side slopes, exposed quarry face with cliff and talus slopes, and undisturbed setback areas. A minimum of 1.5 ha of the non-aquatic rehabilitated area will be rehabilitated to forest cover through nodal tree and shrub plantings as shown conceptually on this plan. Nodal plantings should be concentrated in the north portion of the Licensed area adjacent to off-site natural heritage features. The protection of Archaeology sites will result in the creation of three islands located within the quarry lake. The final quarry landform will be in accordance with the drawing as shown on this page.

C. Phasing

1. The quarry will be rehabilitated on a progressive basis, corresponding to the operational progression of the quarry excavation, to form a quarry lake at final rehabilitation. This will be a continuation of the future quarry lake at the adjacent site (Licence #4464).
2. As the quarry is excavated to its maximum, or any other/lesser terminal limits, both horizontally and vertically on a lift-by-lift basis, progressive rehabilitation will follow provided the subject area is of an appropriate length to undergo rehabilitation (See Note H - Extraction Sequence on page 3 of 5 for details)
3. The excavation perimeter will be side sloped (from original ground to floor) along portions of the north, the entire west and the entire south side slope areas. Side-sloping will occur as the limits of the quarry excavation are reached. Some areas along the north portion of the extraction areas and the No Extraction or Disturbance Areas located in the central area of the quarry (e.g. quarry islands) will include vertical faces and will not include any side-sloping. See Rehabilitation Plan drawing and Details 1-3, on page 5 of 5. See also Note D and F on this page.

D. Slopes and Grading

1. Topsoil, overburden and rock will be used in the progressive rehabilitation of the side slope areas. Overburden, rock rubble, and/or excess soil will be used to backfill quarry faces to create the topography of the side slopes (i.e. 2:1 or 3:1 slope). Above water side slope areas that will be vegetated will be covered with a minimum 15 cm of topsoil/organic matter prior to planting.
2. Importation of fill/excess soil:
   a. Excess soil, as defined in Ontario Regulation 244/97 may be imported to this site to facilitate the following rehabilitation:
      i. Creation of 2:1 and 3:1 slopes
      ii. Top dressing to establish vegetation
   b. Liquid soil, as defined in Ontario Regulation 406/19 under the Environmental Protection Act, is not authorized for importation to the site.
   c. The quality of excess soil imported to the site for final placement must be equivalent to or more stringent than the applicable excess soil quality standards as determined in accordance with Ontario Regulation 244/97 as amended from time to time and must be consistent with the site conditions and the end use identified in the approved rehabilitation plan.
   d. Where a qualified person is retained or required to be retained in accordance with Ontario Regulation 244/97, the quality, storage, and final placement of excess soils shall be done according to the advice of the qualified person.
   e. Excess soil imported to facilitate rehabilitation as described on this site plan shall be undertaken in accordance with Ontario Regulation 244/97 under the Aggregate Resources Act, as amended from time to time.
   f. The cumulative total amount of excess soil that may be imported to this site for rehabilitation purposes is 750,000 m^3.

E. Proposed Vegetation

1. All planting and seeding will consist of native, non-invasive vegetation species as outlined in Note F and the Species Planting List. All ground covers on side slopes will be established as soon as grading is completed and will be maintained until self-sustaining vegetation is established. Vegetation and groundcovers on side-slopes shall be replaced if the vegetative cover fails to establish itself to control erosion. Additional vegetation maintenance requirements are outlined in Note F.

F. Habitat Creation and Rehabilitated Features

1. Shallow Shoreline/Cliff and Talus Habitat Features
   a. Shallow Shoreline and Cliff and Talus Habitat Features will be created along the northern extraction boundary. See Side-Slope Condition 1a and 1b on Page 5.
   b. Shallow shoreline areas will be created along the northern boundary of the extraction area. Shallow shoreline habitats shall be created through the construction of submerged benches up to 2 m deep and shall include habitat features such as boulders, varying substrates, root wads, submerged logs, woody debris etc. Organic material and topsoil shall be added to the shoreline areas to promote shoreline vegetation, and basking logs (i.e. large woody debris) and rubble/boulders shall be placed along the shoreline to create turtle basking areas, waterfowl nesting areas and bird perching sites (see "Shallow Shoreline Detail" on this page).
   c. Aquatic plantings will occur when the area becomes submerged with water as part of the later stages of rehabilitation.
   d. Species suitable for the shoreline, aquatic, and cliff and talus plantings area listed in the Species Planting List on this page.

2. Terrestrial Side-Slope and Undisturbed Setback Habitat Features
   a. Rehabilitated side-slope areas above the water table will be covered with a minimum 150mm of topsoil/organic matter and seeded with the General Rehabilitation Seed Mix that will consists of native wildflowers and grasses, as outlined in the Species Planting List. The establishment of side-slopes will occur progressively and generally follow the sequence of extraction and side slope/setback grading and seeding.
   b. As part of the establishment of progressively rehabilitated side-slopes above the water table, any undisturbed setback areas will be tilled, seeded with the General Rehabilitation Seed Mix, and planted with nodal/tree shrub plantings.
   c. The rehabilitated side-slope and undisturbed setback areas are to be planted so that seasonal maintenance is minimized once plants have been established to naturalize through succession.
   d. No nodal tree or shrub planting will occur within any fenced Archaeological Site Areas
   e. Any existing native trees and shrubs that have started to regrow within the rehabilitated side-slope and setback areas are to be maintained, where possible, unless they are invasive or in poor condition.
   f. For the nodal tree/shrub plantings the following installation and maintenance specifications shall be implemented:
      i. Nodal planting areas will occur in suitable, ecologically strategic locations and are conceptually shown on the drawing.
      ii. Nodal shrub/tree plantings on the side slope and within the setback areas shall include a mixture of coniferous and deciduous tree and shrub species to promote species diversity and provide a variety of species to compensate for any substrate deficiencies (see nodal planting detail on this page). Recommended species are outlined in the species planting list. It is recommended that Ash (Fraxinus spp.) species be avoided in rehabilitation plantings due to the invasion of the Emerald Ash Borer.
      iii. Within the nodal plantings, trees are to be installed on 3-5m centre spacing, depending on species and planted randomly spaced and staggered to appear more natural.
      iv. Tree plantings will consist of 95% whips/saplings and 5% calliper trees (≥4 cm). Shrubs will include a variety of sizes between 0.4m - 1m in height.
      v. The nodal plantings shall result in a planting density of 5 trees and 25 shrubs per 100 m^2.
      vi. All tree installations shall include rodent guards that are flush with the ground surface. Rodent guards should be removed after 3-5 years to avoid future trunk damage.
      vii. Within the nodal plantings, understory plantings shall complement the natural vegetation occurring adjacent to the subject lands and shall be spaced according to species anticipated growth rate.
      viii. All planted vegetation is to be native to the local area and selected for hardiness, wind and drought resistance.
      ix. Any woody plant rood defects (e.g. girdling) shall be corrected prior to installation. All woody plants shall be installed such that the root crown/trunk flare is exposed above the soil surface to ensure proper oxygenation of the rooting zone.
      x. All installed woody plants shall be watered (deep soaking) following installation.
      xi. Woody plant installations shall occur in the Spring (i.e. April or May) or fall (i.e.mid-September to early October) depending on seasonal conditions.
      xii. During the first year, nodal plantings shall be watered and monitored until established. During the second year, the planted areas shall be inspected twice each year, once in the spring after leaf break and once in the fall prior to leaf drop to ensure any planted vegetation that is in poor condition is fertilized, watered and monitored to improve health and vigour. Within the first three years of installation, any planted vegetation that has failed to establish shall be replaced in the subsequent spring or fall.

3. Quarry Islands and Grassland/Prairie Habitat Features
   a. The 'No Extraction' and 'No Disturbance Archaeological Site' areas located in the central quarry area shall not be extracted or disturbed (see Archaeology notes on Page 3).
   b. Through final rehabilitation, the protection of these areas will result in the creation of three islands with vertical faces (see side-slope condition 3 on Page 5) that will be surrounded by a lake with a water depth of 7 to 11m.
   c. As part of site preparation activities in Extraction Area 1a, these areas will be tilled and seeded with a grassland/prairie habitat seed mix to establish Grassland/Prairie Habitat early in the life of the quarry operation. See Species Planting List on this page.
   d. These areas will be managed and maintained using grassland/prairie habitat best management practices to ensure that these communities are mature and self-sustaining prior to final quarry rehabilitation.
   e. All rehabilitation activities in these areas shall be in accordance with the required Archaeological protection measures outlined on Page 3.

G. Drainage

1. Final surface drainage will follow the rehabilitated contours as shown and be directed towards the post-extraction pond.

F. Final Rehabilitation

1. The final land-use will be a naturalized area with a large lake and various aquatic and terrestrial habitat areas
2. No buildings or structures associated with aggregate operations will remain on site.
3. There will be no internal roads remaining on the site.
4. The water level of the proposed lake (±174m a.s.l.) and the post-extraction ground water table, are as shown on pages 1, 4 and 5 as per hydrogeological/ hydrological assessments.

Planting List: Native Species Suitable for the Law Extension Quarry Rehabilitation

Trees/shrubs: upper-slopes; setback areas	Trembling Aspen (*Populus tremuloides*) Black Cherry (*Prunus serotina*) Sugar Maple (*Acer saccharum*) Eastern Red Cedar (*Juniperus virginiana*) Common Hackberry (*Celtis occidentalis*) Bitternut Hickory (*Carya cordiformis*)	Eastern Ninebark (*Physocarpus opulifolius*) Gray Dogwood (*Cornus racemosa*) Choke Cherry (*Prunus virginiana*) Alternate-leaved Dogwood (*Cornus alternifolia*) Inland Serviceberry (*Amelanchier interior*) Staghorn Sumac (*Rhus hirta*)
Trees/shrubs: lower slopes; riparian; Cliff & talus	Eastern White Cedar (*Thuja occidentalis*) Red Maple (*Acer rubrum*) White Birch (*Betula papyrifera*) Black Maple (*Acer nigrum*) Black Walnut (*Juglans nigra*)	Red-Osier Dogwood (*Cornus sericea*) Chokeberry (*Aronia melanocarpa*) Meadowsweet (*Spiraea alba*) Nannyberry (*Viburnum lentago*) Buttonbush (*Cephalanthus occidentalis*) Creeping Juniper (*Juniperus horizontalis*)
Grassland/Prairie	Big bluestem (Andropogon gerardii) Indian grass (Sorghastrum nutans) Little bluestem (*Schizachyrium scoparium*) Switch grass (*Panicum virgatum*) Prairie cord grass (*Spartina pectinata*) Canada wild rye (*Elymus canadensis*)	Wild Bergamot (*Monarda fistulosa*) Canada Golden Rod (*Solidago canadensis*) Black Eyed Susan (*Rudbeckia hirta*) Round-head Bush-clover (*Lespedeza capitata*) Butterfly Milkweed (*Asclepias tuberosa*) Showy Tick-trefoil (*Desmodium canadense*)
General rehabilitation seed mix	New England Aster (*Aster novae-angliae*) Black Eyed Susan (*Rudbeckia hirta*) Sand Dropseed (*Sporobolus cryptandrus*) Canada Wild Rye (*Elymus canadensis*) Canada Golden Rod (*Solidago canadensis*)	Wild Bergamot (*Monarda fistulosa*) Smooth Blue Aster (*Aster laevis*) Little Bluestem (*Andropogon scoparius*) Indian Grass (*Sorghastrum nutans*)
Shallow littoral/ Aquatic	Softstem Bulrush (*Schoenoplectus tabernaemontani*) Broad-leaved Arrowhead (*Sagittaria latifolia*) Green-fruited Burreed (*Sparganium emersum*) Buckbean (*Menyanthes trifoliate*) Pickerel weed (*Pontederia cordata*)	Dark-green Bulrush (*Scirpus atrovirens*) Common Wooly Bulrush (*Scirpus cyperinus*) Bladderwort (*Utricularia vulgaris*) Pondweeds (*Potamogeton spp.*) Wild Celery (*Vallisneria americana*) Burreed (*Sparganium*)

Legend

- Boundary of Area to be Licensed
- Existing Licensed Boundary — LAW QUARRY - LICENCE #4464
- Contour with Elevation — METRES ABOVE SEA LEVEL
- Existing Fence — 1.2m POST & WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Building/Structure — LOCATION AND USE FOR BUILDINGS ON-SITE AND WITHIN 120m OF SITE
- Field Access
- Existing Vegetation — APPROXIMATE LOCATION
- Wainfleet Bog Provincially Significant Wetland Complex/ Significant Woodland Boundary — RIVERSTONE 2020
- Onondaga Escarpment Brow
- Significant Wildlife Habitat — RIVERSTONE 2020
- Identified Archaeological Sites that have further Cultural Heritage Value and Interest — (SEE NOTE M "ARCHAEOLOGY" AND SCHEMATIC B ON PAGE 3 OF 5)
- Cross Sections — SEE PAGE 5 OF 5 FOR EXISTING AND REHABILITATED CROSS SECTIONS
- Limit of Extraction — ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELED DISTANCES
- Additional Lands Owned by Applicant
- Proposed Contour — METRES ABOVE SEA LEVEL (m A.S.L.)
- Proposed Elevation — REHABILITATED ELEVATION
- Nodal Planting Areas — LOCATION APPROXIMATE
- Post Extraction Lake
- Shallow Shoreline Area — (SEE DETAIL ON THIS PAGE)
- Terrestrial Habitat Creation Areas — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)
- Grassland/ Prairie Habitat/ Quarry Islands — (SEE NOTE M "NATURAL ENVIRONMENT" ON PAGE 3 OF 5)

Site Plan Amendments

No.	Date	Description	By

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

MNRF Approval Stamp

MHBC Stamp

CAITLIN M. POTT — REGISTERED PROFESSIONAL PLANNER — R.P.P. — MCIP RPP — ONTARIO PROFESSIONAL PLANNERS INSTITUTE

north

Applicant

Waterford Sand & Gravel Limited
70 Ewart Avenue
Brantford, Ontario
N3T 5M1
Tel: (519) 752-1300

Applicant's Signature
Ed Lamb
VP/GM Construction Materials

Project

Law Quarry Extension

Part of Lots 6 & 7, Concession 2
Part of Road Allowance Between Lots 5 & 6, Concession 2
(Geographic Township of Wainfleet) Township of Wainfleet, Regional Municipality of Niagara

ARA Licence Reference No.

Pre-approval review:
Revs. as per MNRF 2nd Submission comments - April 2024
Revs. as per JART comments (from Dec. 2023) - March 2024
Revs. as per MNRF comments - June 2023
Revs. as per MCM comments - April 2023
For Submission to NDMNRF - June 2022

Plan Scale **1:2,500 (Arch D)**
SCALE 50 0 50 100 METRES

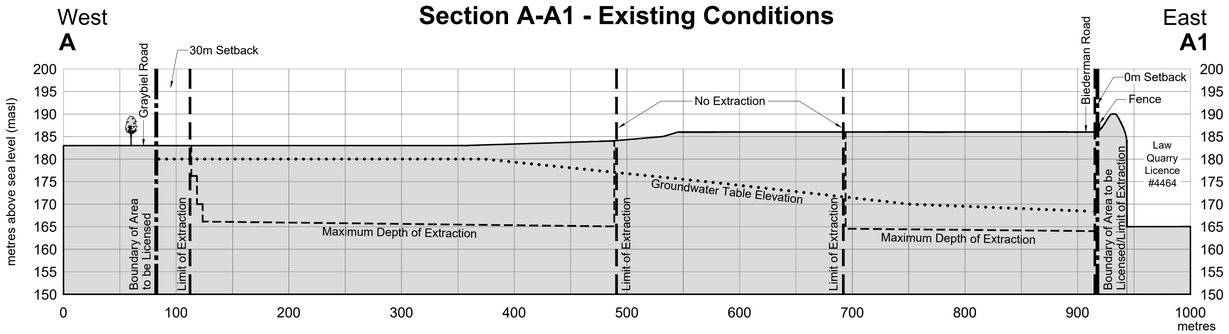
Plot Scale 1:2.5 [1mm = 2.5 units] MODEL
Drawn By D.G.S.
Checked By C.P.
File No. **0956B**

File Name
REHABILITATION PLAN

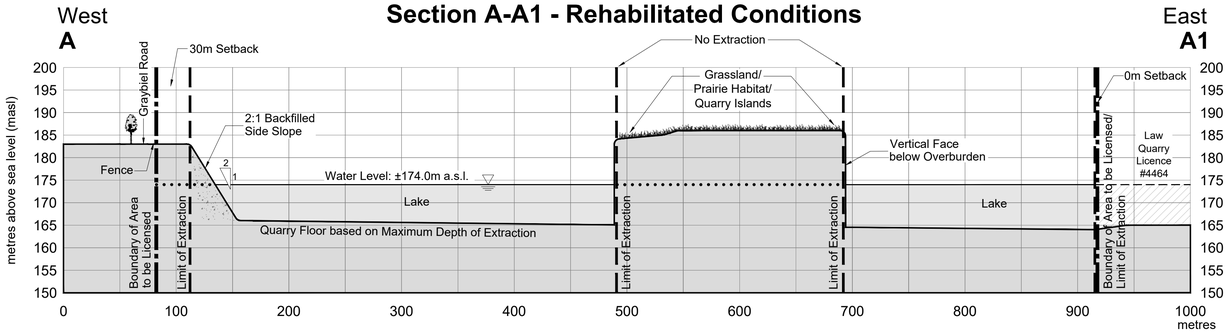
Drawing No.
4 OF 5

K:\0956C-WATERFORD SAND AND GRAVEL LIMITED-LAW QUARRY EXTENSION\4-REVISIONS MNRF SECOND SUBMISSION COMMENTS APRIL2024\LAW QUARRY EXTENSION REHAPLAN 4OF5 APRIL2024 MNRF COMMENTS.DWG

Section A-A1 - Existing Conditions

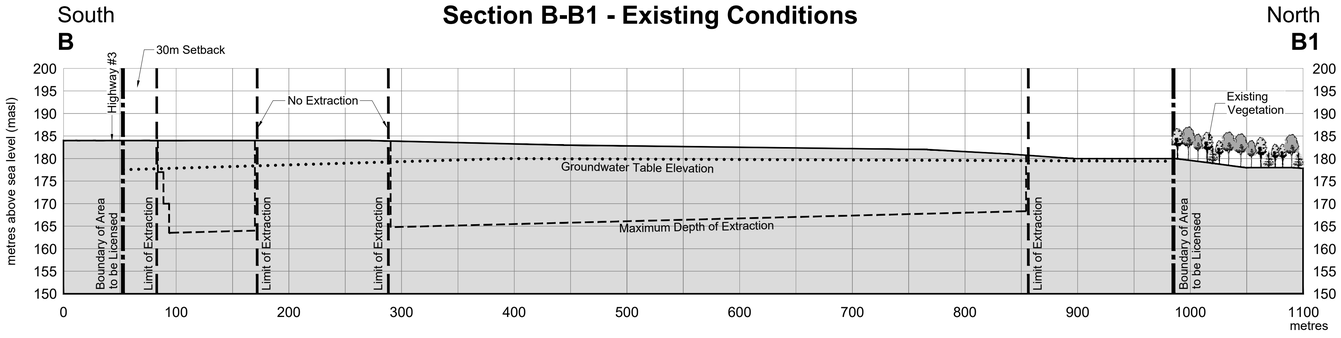


Section A-A1 - Rehabilitated Conditions

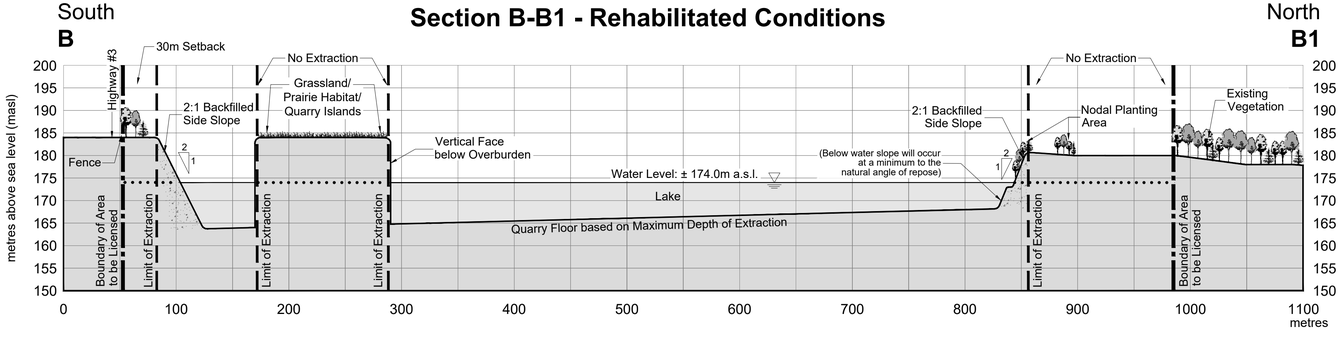


Depiction of rehabilitation for Licence #4464 is shown for information purposes only and is not intended to regulate or override information shown on the current approved ara site plans on file with MNRF.

Section B-B1 - Existing Conditions



Section B-B1 - Rehabilitated Conditions



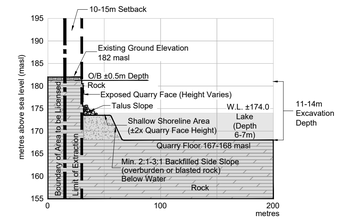
Rehabilitation Options

(see Rehabilitation Plan page 4 of 5)

Side Slope Condition 1a

Exposed Quarry Face with Talus Slope and Shallow Shoreline Area

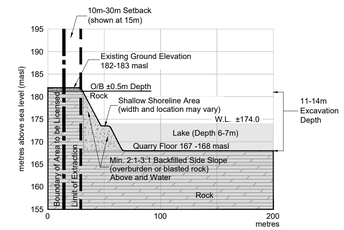
North Area of Site



Side Slope Condition 1b

2:1 Backfilled Area Above and Below Water

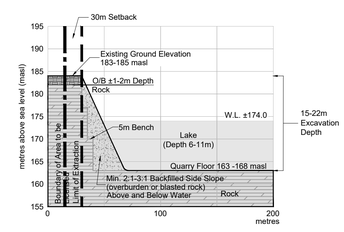
North Area of Site



Side Slope Condition 2

Backfilled Area Above and Below Water with Shallow Shoreline Area

South and West Area of Site

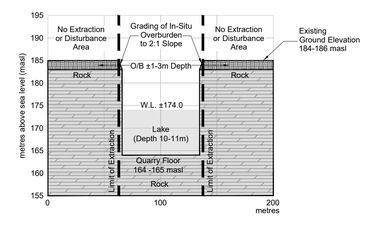


Side Slope Condition 3

2:1 Sloped Overburden to Top of Rock and Vertical Face

Unextracted Area of Site

(Archaeological Avoidance Areas)

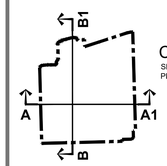


Legal Description

Part of Lots 6 & 7, Concession 2 and
Part of Road Allowance Between Lots 5 & 6, Concession 2
(geographic Township of Wainfleet)
Township of Wainfleet
Region of Niagara

Legend

- Boundary of Area to be Licensed
- Maximum Depth of Extraction
- Limit of Extraction (ALL SETBACKS ARE DRAWN TO SCALE AND SHOW LABELED DISTANCES)
- Existing Vegetation/Trees
- Groundwater Table (SEE NOTE 2, THIS PAGE)



Cross Sections

SEE PAGES 1,2 & 4 OF 5 FOR PLAN VIEW LOCATION OF CROSS SECTIONS

General Notes

1. THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT (ARA) FOR A CLASS A LICENCE FOR A QUARRY BELOW THE GROUND WATER TABLE. ALSO, THIS SITE PLAN FOLLOWS THE AGGREGATE RESOURCES OF ONTARIO: SITE PLAN STANDARDS AUGUST 2020. THE POST-EXTRACTION GROUNDWATER TABLE ELEVATION IS EXPECTED TO BE ±174 MASL.
2. THE ELEVATION OF THE EXISTING GROUNDWATER TABLE VARIES FROM ±170 MASL IN THE SOUTHEAST PORTION OF THE SITE TO ±180 MASL IN THE WEST PORTION OF THE SITE. GROUNDWATER ELEVATIONS PROVIDED BY WSP (MARCH 2022).
3. AREA TO BE LICENSED 72.3 HA (178.7 AC)
   AREA TO BE EXTRACTED 51.2 HA (126.5 AC)
4. ALL MEASUREMENTS SHOWN ON THIS PLAN ARE IN METRES.

Site Plan Amendments

No.	Date	Description	By

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

MNRF Approval Stamp

MHBC Stamp

Applicant

Waterford

Waterford Sand & Gravel Limited
70 Ewart Avenue
Brantford, Ontario
N3T 5M1
Tel: (519) 752-1300

Applicant's Signature

Ed Lamb
VP/GM Construction Materials

Project

Law Quarry Extension

Part of Lots 6 & 7, Concession 2
Part of Road Allowance Between Lots 5 & 6, Concession 2
(Geographic Township of Wainfleet) Township of Wainfleet, Regional Municipality of Niagara

ARA Licence Reference No.

Pre-approval review:
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Revs. as per MNRF comments - June 2023
For Submission to NDMNRF - June 2022

Plan Scale **1:2,500 (Horizontal)**
4x Exaggeration (Vertical)
50 0 METRES 50 100

Plot Scale 1:2.5 [1mm = 2.5 units] MODEL
Drawn By D.G.S.
Checked By C.P.
File No. **0956B**

File Name **CROSS SECTION PLAN**

Drawing No. **5 OF 5**

K:\0956C-WATERFORD SAND AND GRAVEL LIMITED-LAW QUARRY EXTENSION\REVISIONS MNRF SECOND SUBMISSION COMMENTS APRIL2024\LAW QUARRY EXTENSION XSECPLAN SOFS APRIL2024 MNRF COMMENTS.DWG