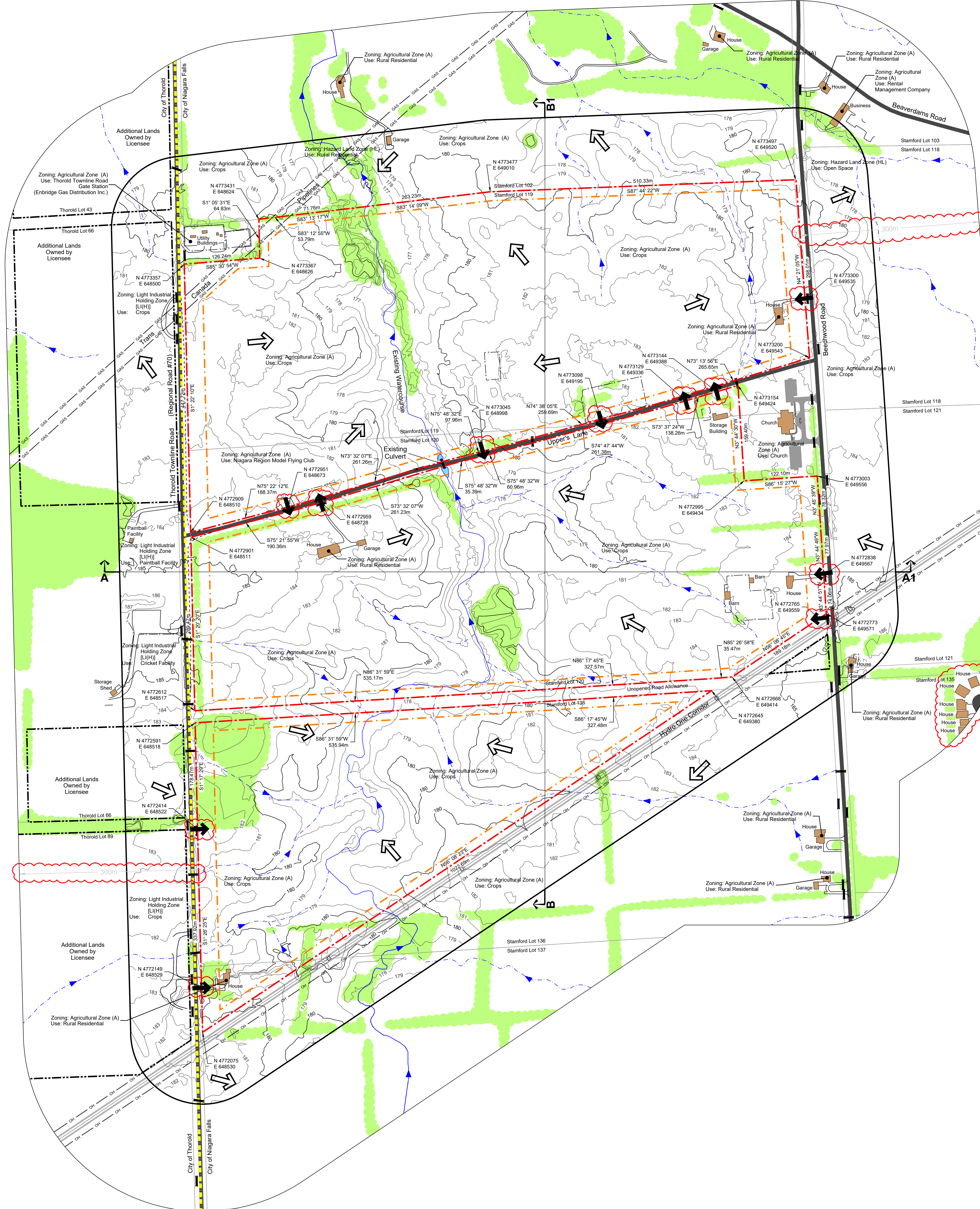
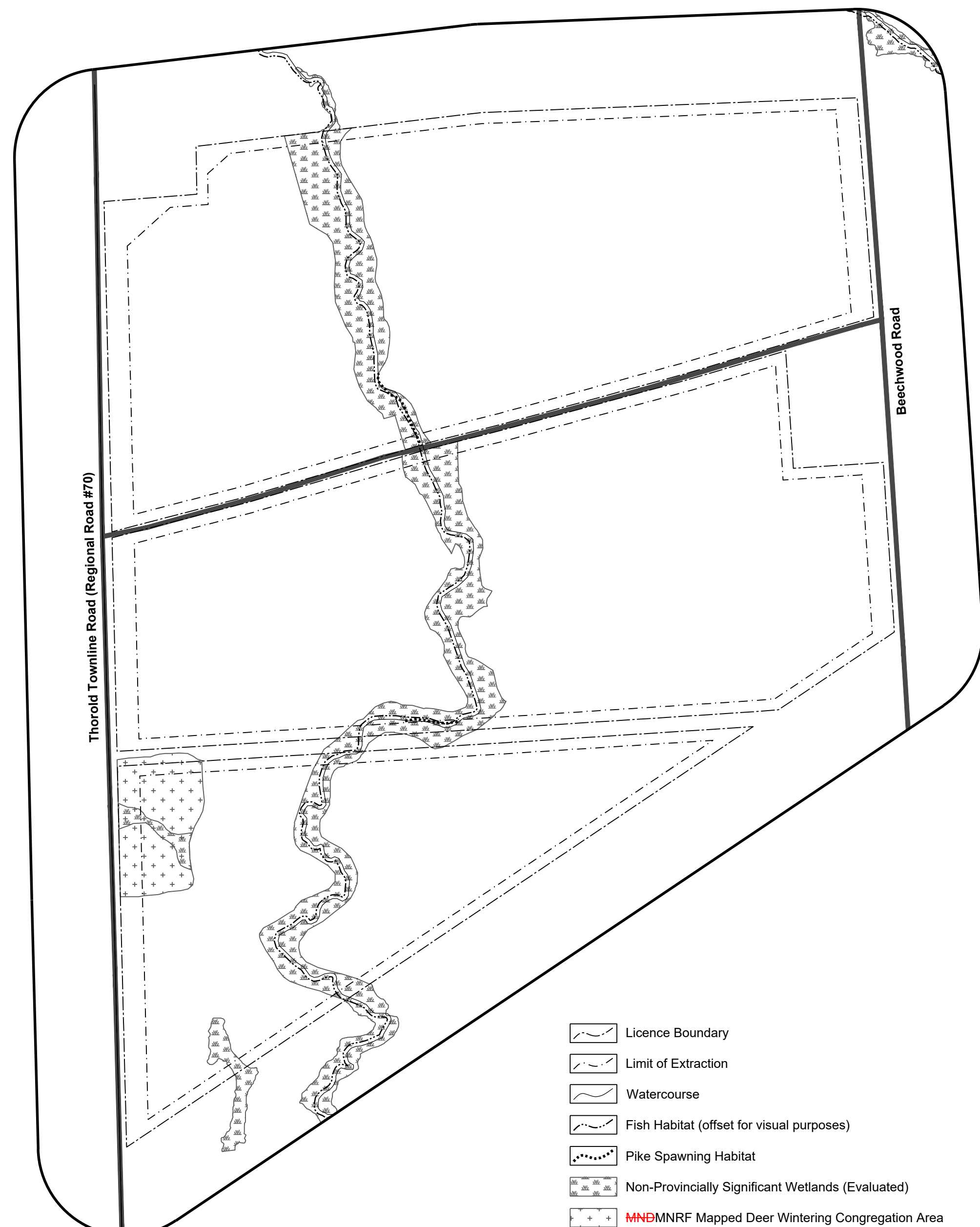
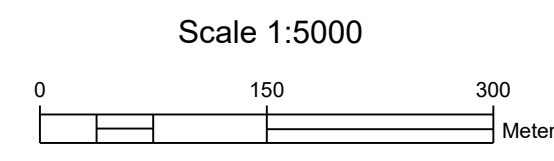


- A. General**
- This Site Plan is prepared under the Aggregate Resources Act for a Class A Licence for a quarry below the ground water table.
 - Areas to be licensed: 103.6 ha. (±256.0 ac.)
Areas to be extracted: 89.1 ha. (±220.2 ac.)
- B. References**
- Contour information was obtained from a topographic survey prepared by TEC Engineering (formerly Renshaw (Canada) Limited) using October 2016 and February 2017 aerial photography and are displayed in one metre intervals. Elevations shown are in metres above sea level (masl).
 - Topographic information was obtained from numerous sources including Ontario GeoInfo (Land Information Ontario), Google Earth Pro aerial photography captured on July 18, 2018 and field investigations for technical reports.
 - All topographic features and structures are shown to scale in Universal Transverse Mercator (UTM) with North American Datum 1983 (NAD83), Zone 17 (metre), Central Meridian 81 degrees west coordinate system.
 - Property boundaries were obtained from a Plan of Survey prepared by Matthew, Cameron, Heywood-Kerry T. Howe Surveying Ltd. dated April 5, 2012. Other property boundaries were established using Municipal Property Assessment Corporation (MPAC) parcel fabric data.
 - Zoning categories on or within 120 metres of the licence boundary are from the City of Niagara Falls Zoning By-law No. ZS-200 (Schedules A3 and A4 - Consolidation April 2015).
 - Land use information on or within 120 metres of the licence boundary has been compiled from October 2016 orthophotography, site visits and water well survey data.
- C. Groundwater**
- The maximum predicted water table is 184.9 masl and the contact aquifer potentiometric contours ranges between 176.0 and 184.9 masl (as per WSP's "Proposed Upper's Quarry - Maximum Predicted Water Table Report", dated October 2021).
- D. Drainage**
- Existing surface water drainage on and within 120 metres of the licence boundaries are by overland flow in the direction shown by arrows on the plan view.
- E. Site Access and Fencing**
- There are two (2) existing site accesses on Thorold Townline Road, six (6) existing site accesses on Upper's Lane, and three (3) existing site accesses on Beechwood Road.
 - Post and wire fencing (unless otherwise noted) exists in the locations shown on the plan view.
- F. Significant Features**
- All significant natural features on and within 120 metres of the licence boundary are shown on the Key Natural Heritage Features Schematic on this drawing.
 - All significant human-made features on and within 120 metres of the licence boundary are shown on the plan view.

- G. Aggregate Related Site Features**
- There are no existing aggregate operations or features within the licence boundaries such as stationary or portable equipment, stockpiles, recyclable materials, scrap, fuel storage, haul roads, berms or excavation faces.
- H. Technical Reports - References**
- Upper's Quarry: Acoustic Assessment Report, RWDI, October 2021 August 2, 2023.
 - Agricultural Impact Assessment for Upper's Quarry, Coville Consulting Inc., October 2021.
 - Upper's Quarry: Air Quality Assessment, RWDI Air Inc., October 2024 July 12, 2023.
 - Archaeological Assessments:
 - Stage 1 Archeological Resource Assessment of Walker Aggregates Proposed South Niagara Quarry, Part of Lots 102, 119, 120, 136 & 137, Archeological Services Inc., December 2008.
 - Stage 1-2 Archeological Assessment of Part 9764 Upper's Lane, Part of Lots 119 & 120, Archeological Assessments Ltd., November 3, 2005.
 - Stage 2-3 Archeological Assessment, Part of Lots 102, 119, 120, 136 & 137, Archeological Assessments Ltd., November 21, 2012.
 - Stage 1-2 Archeological Assessments, Upper's Quarry Additional Lands, Part of Lots 1188, 120, Archeological Research Associates Ltd., April 20, 2020.
 - Stage 3 Mitigation of Development Impacts, Final Excavation Report, Walker XI (AgGT-411), Upper's Quarry, Archeological Research Associates Ltd., May 28, 2021.
 - Stage 4 Mitigation of Development Impacts, Final Excavation Report, Walker XI (AgGT-178), Upper's Quarry, Archeological Research Associates Ltd., July 22, 2021.
 - Blast Impact Analysis, Upper's Quarry, Explotech, October 2021 August 2023.
 - Cultural Heritage Impact Assessment Report, Proposed Upper's Quarry, MHBC, October 2021.
 - Economic Benefits Analysis, Prism, October 2021 February 2023.
 - Level 2 Water Study Report and Response to JART Hydrogeological Comments, WSP, October 2021 October 3, 2022.
 - Maximum Predicted Water Table Report, WSP, October 2021.
 - Upper's Quarry, Niagara: Level 1 and Level 2 Natural Environment Technical Report and Environmental Impact Study, Stantec, October 2021 August 2023.
 - Planning Justification Report and Summary Statement, MHBC, October 2021 August 2023.
 - Traffic Impact Study and TIS Addendum, Upper's Quarry, TMIG TVL, October 2021 March 23, 2023.
 - Visual Impact Assessment, Proposed Upper's Quarry, MHBC, October 2021.

Key Natural Heritage Features Schematic



Changed line type

Added additional homes within 300 metres of the licence boundary

- Legal Description**
- Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara
- Licence Boundary
 - Limit of Extraction
 - Additional Lands Owned by Licensee
 - Municipal Boundary
 - Contours with Elevation (Metres above sea level (MASL))
 - Public Road
 - Fence (1.2m post & wire fence unless otherwise noted)
 - Watercourse (Direction of flow indicated by arrows)
 - Surface Drainage Feature (Direction of flow indicated by arrows)
 - Water Feature
 - Wooded Area
 - 120m Offset From Licence Boundary
 - Parcel Fabric
 - Trans Canada Pipeline Easement
 - Hydro One Easement
 - Existing Site Access (Update symbol to be a solid black hatch)
 - Direction of Surface Drainage
 - Existing Culvert
 - Building/Structure
 - Cross Sections

Site Plan Acronyms

- ARA - Aggregate Resources Act
- MNDMNR - Ministry of Northern Development, Mines, Natural Resources and Forestry
- MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
- MECP - Ministry of the Environment, Conservation and Parks
- MGCS - Ministry of Government and Consumer Services
- DFO - Department of Fisheries and Oceans Canada
- ECA - Environmental Compliance Approval
- BMPP - Best Management Practices Plan
- PTTW - Permit to Take Water
- MASL - Metres above sea level
- TCPL - Trans Canada Pipeline
- ROW - Right of way
- HMA - Hot mix asphalt
- PWQO - Provincial Water Quality Objectives
- MISA - Municipal Industrial Strategy for Abatement
- TSS - Total Suspended Solids

Site Plan Amendments

No.	Date	Description	By

Site Plan Revisions (Pre-Licensing)

No.	Date	Description	By
1	January 2022	Add Key Natural Heritage Features Schematic and Section F to the site plan notes	C.P.
2	August 2023	Update site plan to incorporate JART and MNR comments	C.P.

MHBC Stamp

Debra Walker
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

MHBC Stamp

Christopher Poole
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Applicant

Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8

Project

Upper's Quarry

MNDMNR Licence Reference No. _____ Applicant's Signature _____

Plan Scale: 1:3000 (Arch E) Date: October 2021

Drawn By: C.P. File No.: 9811V

Checked By: D.W.

File Name: Existing Features

Drawing No.: 1 of 6

File Path: N:\9811V - Walker Upper Quarry Drawings\Site Plan\CAD\9811V - Site Plan.dwg

A. General

- 1. Area to be licensed 103.6 ha (±256.0 ac)
Area to be extracted 89.1 ha (±220.2 ac)
2. The maximum amount of aggregate to be removed from this site in any calendar year is 1,800,000 tonnes.
3. In the event that Walker obtains permission from the City of Niagara Falls to extract the road allowance(s), the licensee may apply to the MNDMNR to amend the license and site plan to expand the license boundary to include the road allowance directly adjacent to the license boundary (i.e. Upper's Lane and/or the road allowance between Lots 120 and 136). An expansion to the license boundary for this purpose will not require a new license under Section 7 of the Aggregate Resources Act (ARA).

B. Hours of Operation

Table with 4 columns: Activity, Monday to Friday, Saturday, Sunday. Rows include Drilling/ extraction, Blasting, Aggregate processing, Asphalt plant operations, etc.

C. Proposed Entrances/Exits and Fencing

- 1. For the Mid Extraction Area:
a. All traffic for operations will enter and exit the Mid Extraction Area from Upper's Lane using a main entrance/exit in the location generally shown on the plan view.
b. If an entrance/exit off of Upper's Lane is not permitted, traffic for operations will enter and exit the Mid Extraction Area from Thorold Townline Road. If approved, the site plan will be updated to accurately depict the location of the entrance/exit off of Thorold Townline Road.

D. Drainage and Siltation Control

- 1. Silt fencing/sediment control measures will be installed within the Watercourse Realignment Transition Area prior to extraction in each extraction area and along the easterly and northerly limits of Phase 1B after the watercourse realignment is completed.

E. Site Preparation

- 1. All existing structures within the license boundary shall be demolished or removed (and any associated residential entrances closed off) prior to extraction in each extraction area. Prior to erecting or demolishing a building, all necessary Permits shall be obtained by the City in accordance with the Ontario Building Code Act, to the satisfaction of the Building Services Division and the Fire Prevention Division.
2. Timber resources (if any) will be salvaged for use as saw logs, fence posts and fuel wood where appropriate. Stumps and brush cleared will be buried (with applicable permits), used for arborvitae habitat enhancement or mulched for use in progressive rehabilitation.

F. Setbacks, Berms and Screening

- 1. Setbacks are as shown on the plan view. Extraction will occur within the extraction setback area along the west and northwest area of the licensed boundary to accommodate grading required for the realignment of the existing watercourse. Furthermore, areas within the setbacks will be accessed as necessary to perform general site servicing, maintenance (burning, fencing etc.) and progressive rehabilitation. See Section N Variations from Control and Operation Standards on drawing 2 of 6.
2. Locations and heights for all acoustic/visual berms are provided on the plan view. All proposed berms shall be constructed in accordance with the 'Typical Acoustic Berm Detail' (on this drawing), 'Typical Visual Berm Detail' (on drawing 4 of 6) and, more specifically, berms adjacent to Beechwood Road will be constructed in accordance with 'Typical Berm - Adjacent to Beechwood Road Detail' (on this drawing). Where the proposed berm transects the existing watercourse along the north perimeter, a culvert shall be installed in accordance with DFO requirements. Culverts will also be installed under berms, where necessary, to maintain existing drainage to and from off-site and to the existing watercourse. All proposed berms and will be vegetated with non-invasive plant species and maintained to control erosion. Temporary erosion control will be implemented as required.

H. Extraction Details

- 1. The extraction sequence is outlined on drawing 3 of 6.
2. The proposed maximum depth of extraction is indicated by the spot elevations shown on the plan view. Extraction shall proceed to a maximum depth of approximately 42 m below ground surface (ranging in elevation from 141 msl in the southwest to 149 msl in the northeast portions of the site), corresponding to the geologic base of the Gasport dolostone of the Lockport Group.
3. For the 'Watercourse Realignment Transition Area', the maximum depth of extraction is approximately 1 metre (down to an elevation of 174 msl) and any extraction in the 'Watercourse Realignment Transition Area' shall be completed as part of site preparation (construction of the compensatory ponds). No drilling or blasting shall be permitted in the 'Watercourse Realignment Transition Area'.
4. Internal haul road locations shall vary as extraction progresses and will be located on the quarry floor with the exception of at grade crossings.
5. Blasted aggregate will be transported back to the mobile crusher plant and processing area on the quarry floor for processing and shipping.
6. An office/scale house and weigh scale will be established on site. A maintenance shop and shed/s will be constructed on site. Portable off-storage trailers and structures associated with fuel storage may be brought onto the site for temporary periods for use associated with quarry activity. All structures shall remain 30 metres from the licence boundary / Trans Canada Pipeline easement or 90 metres from the licence boundary if the boundary abuts land that is used for residential purposes or is restricted to residential use by the Zoning By-law at the time the licence is issued.

I. Equipment and Processing

- 1. A portable processing plant (including primary, secondary and tertiary crushing and screening units) will be permitted within the North and Mid Extraction Areas inclusive.
2. Processing shall be located within the limit of extraction and remain a minimum of 30 metres from the licence boundary and 90 metres from a property with a residential use.
3. During the sinking out and early phases of operation, the primary crusher will be integrated into a single processing plant located near the working face. In later phases, the primary crusher will split from the single integrated plant and start to follow the working face. The processing plant, which contains the secondary and tertiary crushers, will remain close to the quarry entrance shall be placed in the location identified on the Extraction Sequence Schematic on drawing 3 of 6 during each stage of extraction. The processing plant will be located at varying elevations, beginning at the top of rock during the sinking out portion of operations, and moving to the first bench and then the final quarry face as space becomes available. See note A.3. on drawing 4 of 6 for additional information.

- 4. Once processing has progressed to Phase 2A, a hot mix asphalt (HMA) batch plant facility shall be established on the quarry floor (in the location shown on the plan view) in Phase 1A. The HMA batch plant shall remain in the location shown on the plan view for the life of the quarry until extraction is complete and shall be removed during progressive rehabilitation.
5. In Phase 4, the portable processing plant shall require additional shielding in accordance with note A.5 on drawing 4 of 6.
6. A wash plant and temporary wash ponds may be established and located to move together with the portable processing plant, subject to permit approval from MECP.
7. Equipment to be used onsite may include, but shall not be limited to:
a. Working Face - 1 silenced rock drill; 1 loader;
b. Processing - 1 portable processing plant including crushers, screeners, and stackers; 2 loaders (at stockpiles);
c. Asphalt - 1 asphalt plant; 2 loaders, 1 compressor vent, 1 dust controller blower (motor and stack); elevator motor, conveyor motor, oven motor, pug mill (door and motor);
d. Conveyors(s);
e. Generator(s) (diesel-fueled); and
f. Rock trucks, haul trucks, slipstream trucks and fuel trucks.

J. Frequency / Timing of Blasts

- 1. Prior to blasting being permitted within the 100 300 metre setback of the TransCanada Pipeline, identified as 'TransCanada Blasting Buffer Area' on this Plan, the licensee shall address the requirements of notes D.5 on drawing 4 of 6.
2. All blast monitoring reports shall be retained by the licensee for a period of seven years after each blast and made available upon request for audit purposes. See Section D on drawing 4 of 6 for detailed blasting requirements.

K. Fuel Storage

- 1. Fuel storage tanks will be located in close proximity to the main processing plant (or in an alternative location subject to approval by the MNDMNR). Fuel storage tanks shall be installed and maintained in accordance with Technical Standards and Safety Act, 2000, Liquid Fuels Handling Code, 2000 and Liquid Fuels Regulation Reg. 217/01.
2. All fuel tanks shall be double sided or placed in containment facilities large enough to hold the tanks maximum volume.
3. Fuel trucks shall be used to transfer fuel to on-site equipment in accordance with the Liquid Fuels Handling Code, 2000.
4. A Spills Contingency Plan shall be prepared and implemented prior to site preparation. The Spills Contingency Plan shall be available on site and all employees and contractors shall be informed and required to comply with this plan.

L. Spills Plan

- 1. In case of an accidental spill of petroleum products, the following contingency plan will be activated:
a. The Ministry of Environment, Conservation and Parks (MECP) (see address and phone number below) and surrounding landowners will be notified.
b. For a leakage or spill, immediate action will be taken to stop it. At the same, measures will be taken to prevent spreading. These measures may include building a berm or construction of a ditch, for instance.
c. The quarry operator shall commence recovery procedures by collecting the spilled substance into containers.
d. The soil in the area affected by the spill or leak shall be removed and disposed of at a location prescribed by the MECP.

M. Scrap and Recycling

- 1. Scrap may be stored on-site and shall be removed on an on-going basis.
2. Scrap shall only include material generated directly as a result of the aggregate operation such as refuse, debris, scrap metal, lumber, discarded machinery, equipment and motor vehicles.
3. All fluids shall be drained from any discarded equipment, machinery or motor vehicle prior to storage and disposed of in accordance with the Environmental Protection Act.
4. Scrap shall not be stored within 30 metres of any body of water or the licence boundary and shall be kept in close proximity to the main processing plant.
5. Recycling of asphalt, concrete, porcelain and glass shall be permitted on-site.
6. Recyclable asphalt materials shall not be stockpiled within:
6.1. 30 metres of any waterbody or man-made pond; or
6.2. 2 metres of the ground water table.

N. Variations from Control and Operation Standards

Table with 4 columns: No., Variation, Rationale, Standard (0.73). Rows describe variations for extraction setbacks, watercourse realignment, and berms.

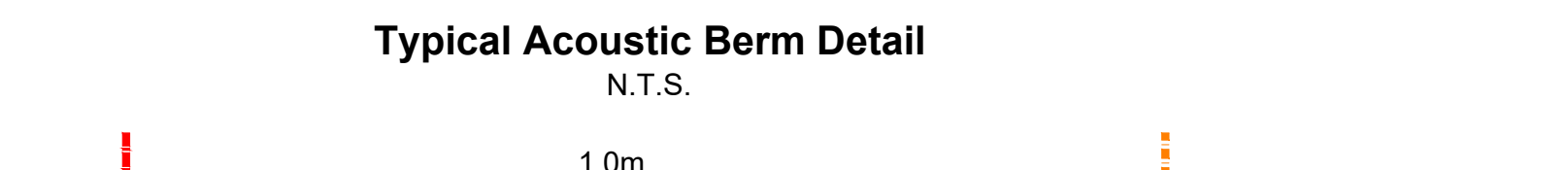
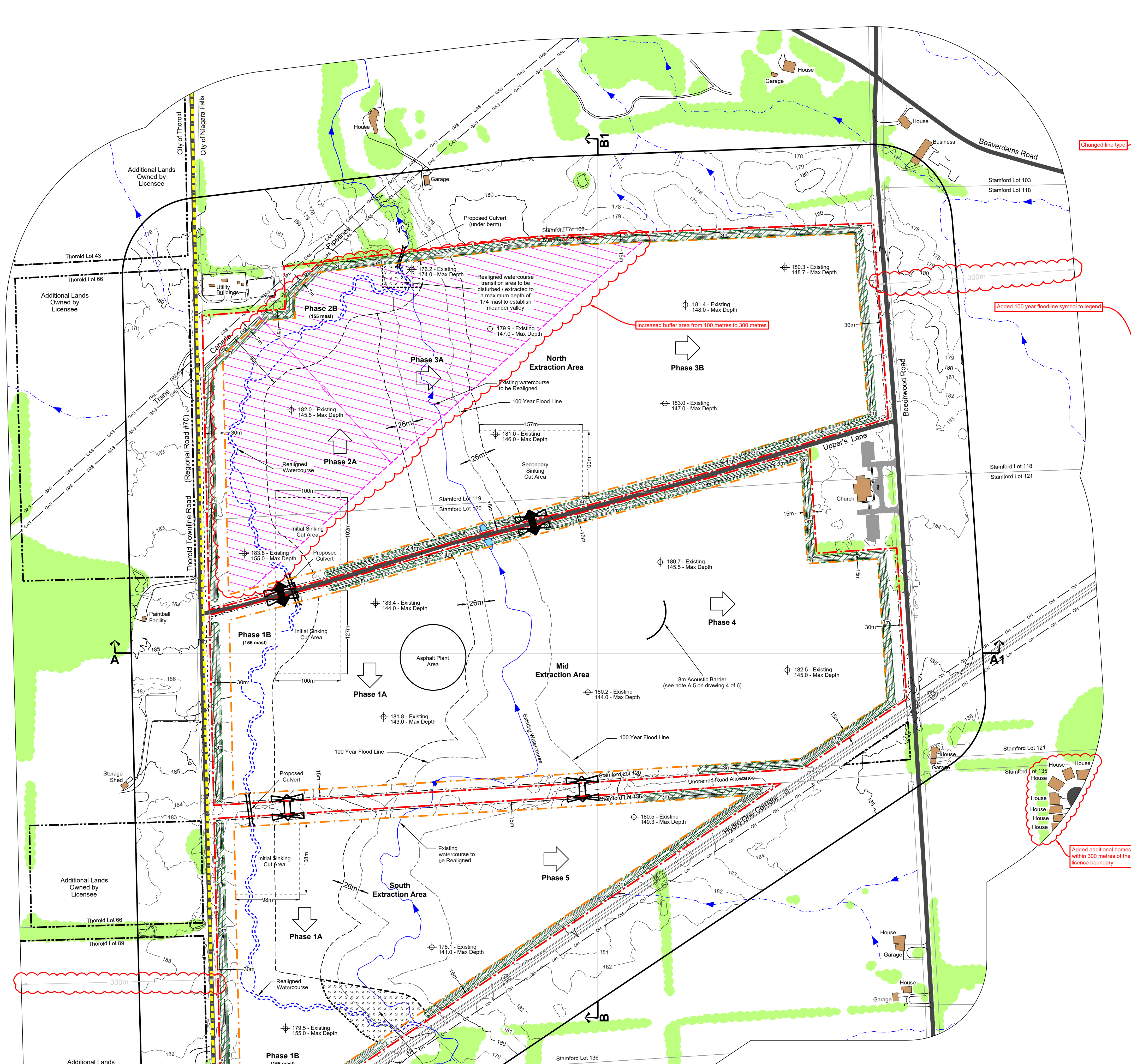


Table 1: Sensitive Receptors Within 500m of the Licence Boundary. Columns include Receptor, Address, Distance, Receptor, Address, Distance, Receptor, Address, Distance. Lists nearby residential and commercial properties.

Legend and Site Plan Acronyms. Legend includes Licence Boundary, Limit of Extraction, Additional Lands Owned by Licensee, Municipal Boundary, Contours with Elevation, Public Road, Fence, Watercourse, Surface Drainage Feature, Watercourse - Re-aligned, Water Feature, Wooded Area, Watercourse Realignment Transition Area. Site Plan Acronyms list ARA, MNDMNR, MHSTCI, MECP, MGCS, DFO, ECA, BMPP, PTTW, MASL, TCPL, ROW, PWOO, MISA, TSS.

Site Plan Acronyms list: 1. ARA - Aggregate Resources Act, 2. MNDMNR - Ministry of Northern Development, Mines, Natural Resources and Forestry, 3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries, 4. MECP - Ministry of the Environment, Conservation and Parks, 5. MGCS - Ministry of Government and Consumer Services, 6. DFO - Department of Fisheries and Oceans Canada, 7. ECA - Environmental Compliance Approval, 8. BMPP - Best Management Practices Plan, 9. PTTW - Permit to Take Water, 10. MASL - Metres above sea level, 11. TCPL - Trans Canada Pipeline, 12. ROW - Right of way, 13. HMA - Hot mix asphalt, 14. PWOO - Provincial Water Quality Objectives, 15. MISA - Municipal Industrial Strategy for Abatement, 16. TSS - Total Suspended Solids.

Site Plan Amendments table with columns: No., Date, Description, By. Includes amendments for watercourse realignment and berm details.

Site Plan Revisions (Pre-Licensing) table with columns: No., Date, Description, By. Includes revisions for road allowances and watercourse realignment.

MHBC logo and contact information: 113 COLLIER STREET, BARRE, ON, L4M 1H2 | P: 705.728.0405, F: 705.728.0100 | WWW.MHBC.NL.COM

MHBC Stamp and signatures of Debra Walker and Christopher Poole. Includes a large red 'Draft' watermark.

Walker Aggregates Inc. logo and contact information: 2800 Thorold Townline Road, P.O. Box 100, Thorold, Ontario L2V 3Y8.

Project Name: Upper's Quarry. MNDMNR Licence Reference No. and Applicant's Signature. Plan Scale: 1:3000 (Arch E). Date: October 2021. File No.: 9811V. File Name: Operational Plan. Drawing No.: 2 of 6. File Path: N:\8849811V - Walker Upper Quarry Drawings\Site Plan\CAD\8811V - Site Plan.dwg.

A. General

- This plan depicts a schematic operations sequence for the property based on the best information available at the time of preparation.
- Phases do not represent any specific or equal time period.
- The direction of extraction will generally be in accordance with the General Direction of Excavation (shown on the plan view) unless otherwise authorized by MNR. Notwithstanding the operational and rehabilitation notes, demand for certain products, blending of materials or Water Study Contingency measures may require minor deviations in the extraction and rehabilitation sequence. Any major deviations from the operations sequence shall require approval from the MNR. The maximum combined disturbed area which includes the processing plant, berms, stockpiles, silt pond, active extraction area and area being stripped for the next area of extraction within the licence boundary identified on this Drawing but excludes the area of Phase 1A needed for the continued operation of the asphalt plant for the life of the quarry. Concurrent extraction of phases is permitted for blending purposes provided the overall maximum combined disturbed area does not exceed 40 hectares to ensure progressive rehabilitation of the site is being undertaken as required by the Site Plans.

- Progressive and final rehabilitation will be completed in direct correlation to the development of the quarry as the extraction limits are reached and enough area is available to ensure that rehabilitation activities will not interfere with the production, stockpiling and processing of aggregate materials.

B. Initial Site Preparation

- Generally, site preparation in Phases 1 and 2 to include but not limited to:
 - Constructing the main entrance and cross over(s) in accordance with entrance permit approvals
 - Establishing fencing around licensed boundary (see Section N Variations from Control and Operation Standards on drawing 2 of 6)
 - Removal of trees and existing buildings (in accordance with all site plan requirements and applicable regulations)
 - Proceed with stripping of overburden/topsoil from Phase 1 and, if necessary, Phase 2
 - Construction of berms/acoustic barriers within the perimeter setback of the licence boundary (as shown on the plan view)
- Install water management and erosion and sediment control measures (silt fencing) in accordance with note D.1 on this drawing and note E.1.c on drawing 4 of 6.
- Commence portable crushing/screening plant set up. The plant shall operate in accordance with Section A on drawing 4 of 6 for all Phases.

C. Phase 1 (1A and 1B)

- Commence extraction in the 'Initial Sinking Cut Area' identified in the Mid and South Extraction Area (see plan view for location).
- Phase 1A shall be extracted in up to three (3) lifts to a depth ranging between 140 masl and 145 masl.
- Phase 1B shall be extracted in one (1) to two (2) lifts to a depth of 155 masl.
- A portable pump shall be utilized as necessary in the Mid Extraction Area and the South Extraction Area to discharge water to a man-made pond for aggregate washing or to a sediment forebay before being discharged to the existing watercourse. During heavy rainfall events (25 mm or more), the pump will be deactivated as necessary to prevent flooding along the watercourse downstream of the site. The discharge pond and forebay locations will move with the quarry face until the final quarry depth is reached. At this point, a permanent sump will be established in each extraction area.
- During Phase 1, a new watercourse channel shall be constructed along the east side of Thorold Townline Road (within Phase 1B) for the eventual realignment of the existing watercourse. As resource extraction is completed in Phase 1B, this area will be filled with clay overburden material from on-site to an elevation ranging between 173 to 178 masl. The new watercourse and riparian wetland channel shall be constructed, designed and vegetated in accordance with DFO's authorization and this Rehabilitation Plan (drawing 5 of 6).
- As extraction reaches the final quarry floor, and there is sufficient separation from the quarry floor working areas in Phase 1A, a 2:1 setback along the easterly and northerly limit of Phase 1B shall be backfilled with either: (i) overburden stockpiled on-site; (ii) overburden in Phase 2; or (iii) material imported from Licence Numbers 11175 and 4437.
- Commence site preparation of Phase 2.

D. Phase 2 (2A & 2B)

- Commence extraction in the 'Initial Sinking Cut Area' identified in the North Extraction Area (see plan view for location).
- Phase 2A shall be extracted in up to three (3) lifts to a depth ranging between 141 masl to 145 masl.
- Phase 2B shall be extracted in one (1) to two (2) lifts to a depth of 155 masl.

- A portable pump shall be utilized as necessary to discharge water to a man-made pond for aggregate washing or to a sediment forebay before being discharged to the existing watercourse. During heavy rainfall events (25 mm or more), the pump will be deactivated as necessary to prevent flooding along the watercourse downstream of the site. The discharge pond and forebay locations will move with the quarry face until the final quarry depth is reached. At this point, a permanent sump will be established.
- Similar to Phase 1, the new watercourse channel shall be constructed within Phase 2 running along the east side of Thorold Townline Road (Phase 2B) for the eventual realignment of the existing watercourse. As resource extraction is completed in Phase 2B, this area will be filled with clay overburden material from on-site to an elevation ranging between 173 to 178 masl. The new watercourse and riparian wetland channel will be constructed, designed and vegetated in accordance DFO authorization and Rehabilitation Plan (drawing 5 of 6).
- As extraction reaches the final quarry floor, and there is sufficient separation from the quarry floor working areas in Phase 2A, a 2:1 setback along the easterly and northerly limit of Phase 2B shall be backfilled with either: (i) overburden stockpiled on-site; (ii) overburden in Phase 3B; or (iii) material imported from Licence Numbers 11175 and 4437.
- Commence site preparation of Phase 3.

E. Phase 3 (3A & 3B)

- Proceed with stripping of overburden/topsoil.
- Prior to undertaking any works within Phase 3A that may result in any serious harm to fish, according to 35(1) of the Fisheries Act, the Licensee shall obtain a Fisheries Act Authorization from the Department of Fisheries and Oceans (DFO) and shall fulfill any other conditions required by the DFO as stated on its authorization. Once obtained, a copy of the Fisheries Act Authorization shall be provided to the MNR. Once the watercourse has been realigned to the satisfaction of DFO, stripping of overburden and topsoil can proceed in Phase 3A.
- In the event that watercourse relocation has not been approved or completed, extraction in Phase 3B may proceed before extraction in Phase 3A.
- In the event that Phase 3B is extracted before Phase 3A, a portable pump shall be utilized as necessary to discharge water to a man-made pond for aggregate washing or to a sediment forebay before being discharged to the existing watercourse. During heavy rainfall events (25 mm or more), the pump will be deactivated as necessary to prevent flooding along the watercourse downstream of the site. The discharge pond and forebay locations will move with the quarry face until the final quarry depth is reached. At this point, a permanent sump will be established.
- Phase 3A and 3B shall be extracted in up to three (3) lifts to a depth ranging between 145 masl to 149 masl. Extraction will proceed in an easterly direction, moving gradually from north to south.
- Once the existing watercourse has been realigned, extraction in Phase 3A may proceed.
- Continue progressive rehabilitation of the quarry perimeter where limits of extraction have been reached and there is sufficient separation from the quarry floor working areas.
- Commence site preparation of Phase 4.

F. Phase 4

- Proceed with stripping of overburden/topsoil.
- Commence Phase 4 extraction in an easterly direction, moving gradually from north to south.
- Phase 4 shall be extracted in up to three (3) lifts to a depth ranging between 142 masl in and 147 masl.
- Continue progressive rehabilitation of the quarry perimeter where limits of extraction have been reached and there is sufficient separation from the quarry floor working areas.

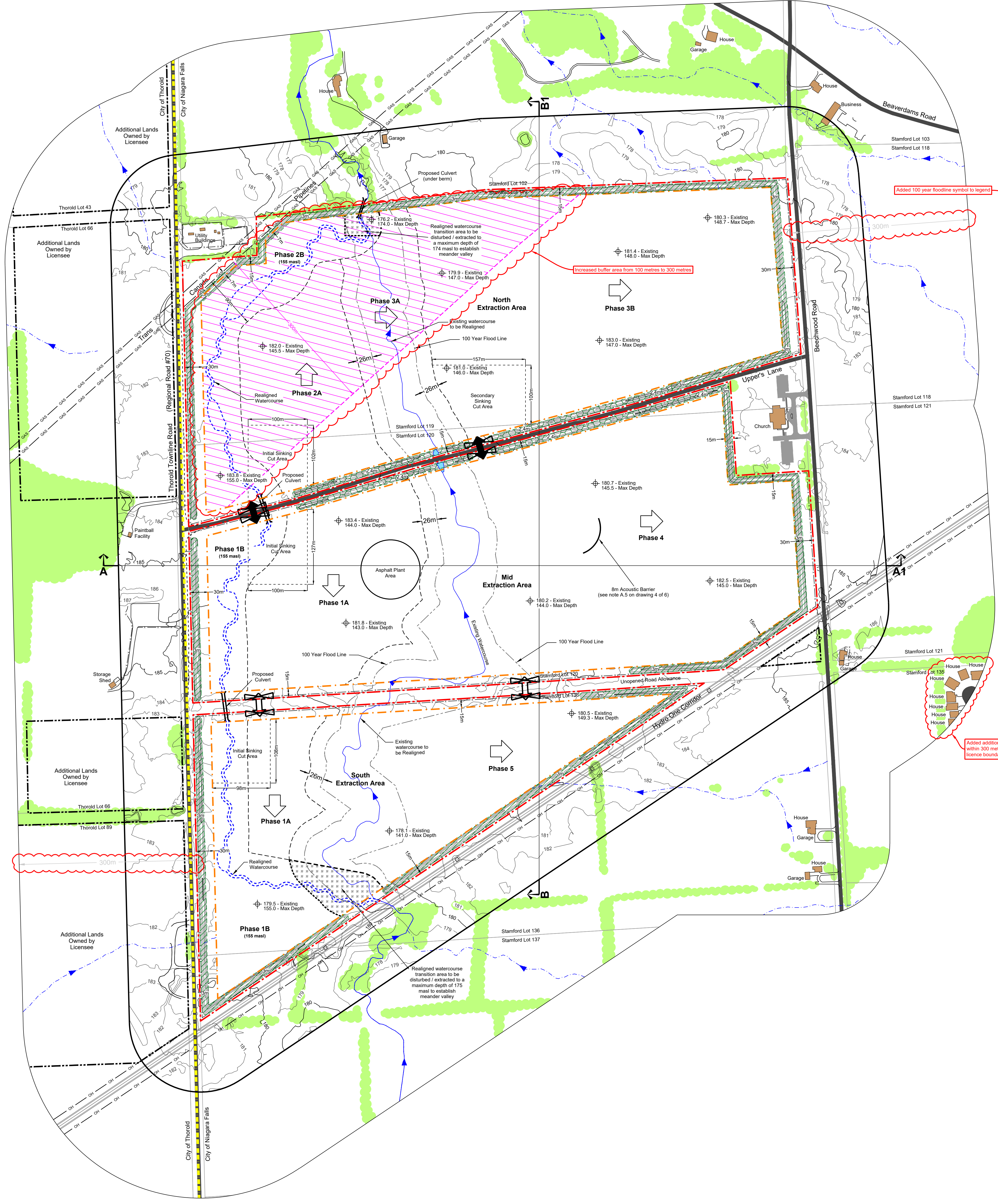
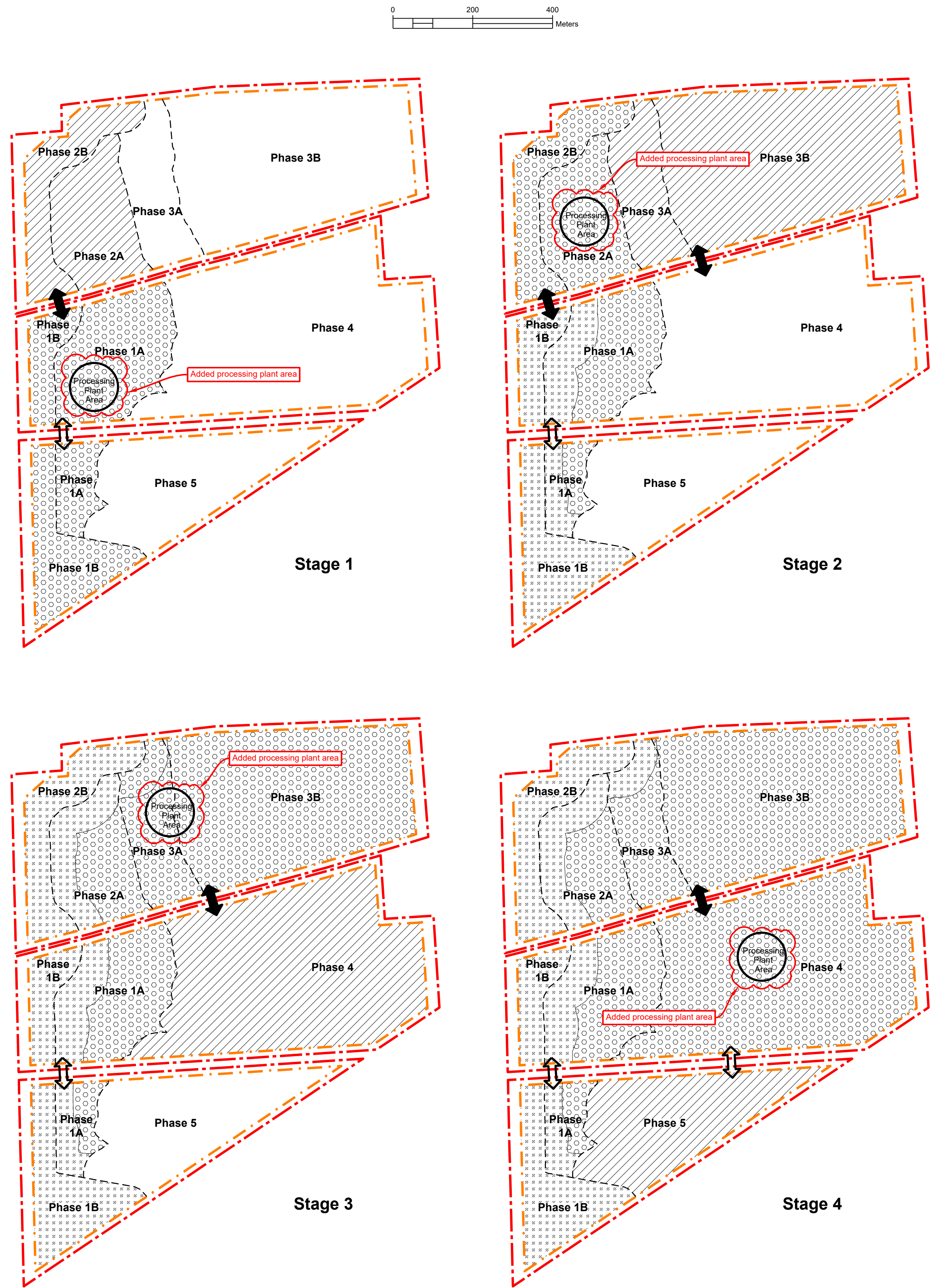
G. Phase 5

- Proceed with stripping of overburden/topsoil.
- Commence Phase 5 extraction in an easterly direction, moving gradually from north to south.
- Phase 5 shall be extracted in up to three (3) lifts to a depth ranging between 140 masl and 143 masl.
- Continue progressive rehabilitation of the quarry perimeter where limits of extraction have been reached and there is sufficient separation from the quarry floor working areas.

H. Final Phase

- Complete extraction of any remaining resource in the extraction limit near the entrance in Phase 1A and 1B (e.g. ramp).
- As part of the final operations of the site, remove office/scale house and scales, asphalt plant, recycled asphalt material and any other equipment and scrap from the site.
- Continue with final rehabilitation of the site. Complete quarry face backfilling on the remaining quarry faces as identified on drawing 5 of 6.

Extraction Sequence Schematic
Scale 1:7500



Legal Description
Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

Legend	
	Licence Boundary
	Limit of Extraction
	Additional Lands Owned by Licensee
	Municipal Boundary
	Contours with Elevation Metres above sea level (MASL)
	Public Road
	Fence 1.2m post & wire fence unless otherwise noted
	Watercourse Direction of flow indicated by arrows
	Surface Drainage Feature Direction of flow indicated by arrows
	Watercourse - Realigned (Statoc, 2020)
	100 Year Floodline
	Water Feature
	Wooded Area
	Watercourse Realignment Transition Area
	120m Offset From Licence Boundary
	Trans Canada Blasting Buffer Area (See Note D.3 on drawing 4 of 6)
	Parcel Fabric
	Trans Canada Pipeline Easement
	Hydro One Easement
	Entrance / Exit
	Limited Service Access For Phases 1A, 1B and 5 in South Extraction Area
	Gate
	Culvert
	General Direction of Excavation & Boundary
	Berm Top - Existing Bottom - Maximum Depth of Extraction
	Building/Structure
	Spot Elevation Metres above sea level (MASL) Top - Existing Bottom - Maximum Depth of Extraction
	Cross Sections A1

- Site Plan Acronyms**
- ARA - Aggregate Resources Act
 - MNDMNR - Ministry of Northern Development, Mines, Natural Resources and Forestry
 - MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
 - MECP - Ministry of the Environment, Conservation and Parks
 - MGCS - Ministry of Government and Consumer Services
 - DFO - Department of Fisheries and Oceans Canada
 - ECA - Environmental Compliance Approval
 - BMP - Best Management Practices Plan
 - PTTW - Permit to Take Water
 - MASL - Metres above sea level
 - TCPL - Trans Canada Pipeline
 - ROW - Right of way
 - HMA - Hot mix asphalt
 - PWQO - Provincial Water Quality Objectives
 - MISA - Municipal Industrial Strategy for Abatement
 - TSS - Total Suspended Solids

Site Plan Amendments

No.	Date	Description	By

Site Plan Revisions (Pre-Licensing)

No.	Date	Description	By
1	January 2022	Revised note C.1 and hatched watercourse realignment area.	C.P.
2	August 2023	Update site plan to incorporate JART and MNR comments.	C.P.

MHBC
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MHBC Stamp
Debra Walker
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 2.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

MHBC Stamp
Christopher Poole
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 2.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Applicant

Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8

Project
Upper's Quarry

MNDMNR Licence Reference No. / **Applicant's Signature**

Plan Scale: 1:3000 (Arch E) / **Date:** October 2021

Drawn By: C.P. / **File No.:** 9811V

Checked By: D.W.

File Name: Extraction Sequence

Drawing No.: 3 of 6

File Path: N:\09\9811V - Walker Upper Quarry Drawings\Site Plan\CAD\9811V - Site Plan.dwg

A. Acoustic Assessment

- 1. Minimum 3 metre tall acoustic berms shall be constructed in the locations shown on the plan view.
2. The acoustic berms shall be constructed during site preparation and prior to extraction.
3. The primary crusher shall stay within 30 metres of the working face to maximize shielding effect of the quarry terrain, except when extraction is in the South Extraction Areas as per note A.4 below.
4. Material extracted from the South Extraction Area shall be processed in the Mid Extraction Area.
5. While processing in Phase 4, the licensee shall maintain an 8 metre tall barrier at a radius of 40 metres to the southeast of the processing plant's secondary crushers (see plan view for location). The barrier can be material stockpiles, noise walls, or a combination of both. The barrier shall extend long enough to shield receptors R4 and R5 (see plan view) from the secondary crushers.
6. All construction equipment shall meet the sound emission standards defined in MECP Publication NPC-115.
7. The following best practice measures shall be undertaken to minimize the potential for construction noise impacts related to site preparation, berm creation and rehabilitation but not related to extraction and processing activities:
a. Construction will be limited to time periods allowed by the City of Niagara bylaws. If construction activities are required outside of these hours, the licensee will seek permits / exemptions directly from the City in advance.
b. All internal combustion engines will be fitted with appropriate muffler systems.
c. The licensee's operating procedures will contain a provision that any initial complaint will trigger verification that the general noise control measures agreed to on this Plan are in effect.
d. In the presence of persistent noise complaints, all construction equipment will be verified to comply with MECP's NPC-115 guidelines.
e. In the event of verified noise complaints, alternative noise control measures may be required where reasonably available. In selecting appropriate noise control and mitigation measures, consideration will be given to the technical, administrative and economic feasibility of the various alternatives.

B. Air Quality

- 1. The licensee shall apply water or another provincially approved dust suppressant to internal haul roads and processing areas, as necessary to mitigate dust.
2. Processing equipment shall be equipped with dust suppressing or collection devices, where the equipment creates dust and is operating within 300 metres of an air quality sensitive receptor (as set out in the Air Quality Impact Assessment).
3. The licensee shall obtain an environmental compliance approval under the Environmental Protection Act where required to carry out operations at the quarry.
4. The site will operate in accordance with the Best Management Practices Plan (BMP) for Fugitive Dust Emissions. The BMP may be amended from time to time, considering actual impacts and operational considerations. The recommendations in the BMP are based on the maximum daily production rates. All lower production rates, the control measures specified in the BMP can be reduced accordingly, provided dust remains mitigated on site.
5. The following mitigation measures shall be incorporated into the BMP:
a. Blasting operations occurring within 300 metres of a residential receptor shall have a smaller blast area, not exceeding 200 m² in area.
b. Aggregate extraction, processing and shipping does not exceed 9,000 tonnes per day.
c. Under dry conditions, the capacity to apply water on an hourly basis to all traveled haul routes within the licence boundaries.

C. Archaeology

- 1. Areas identified as "Archaeological Site - Protected Areas Requiring Further Archaeological Assessment" on this drawing reflect areas that require further archaeological assessment and are protected by a 20 to 30 metre protective buffer. A 50 metre monitoring buffer is also identified on this drawing.
2. No ground alterations including overburden stripping and excavation, or development of any kind shall occur within areas identified as "Archaeological Site - Protected Areas Requiring Further Archaeological Assessment" and their respective protective buffers until:
a. the required investigations are completed in accordance with the Stage 1 and 2 Archaeological Assessment prepared by Archaeological Research Associates Ltd. (April 2020),
b. any recommendations that the respective site(s) has no further cultural heritage value or interest are made as a result of completing further investigations, and,
c. the associated reports are entered into the Ontario Public Register of Archaeological Reports and copies are provided to the MNRF.
3. Until rule C.2 has been satisfied, a temporary barrier shall be established around the perimeter of each "Archaeological Site - Protected Areas Requiring Further Archaeological Assessment" identified on this drawing as part of site preparation and in advance of extraction ground alteration.
4. All soil disturbing activities within the 50 metres monitoring buffers shall be monitored by a licensed archaeologist to ensure the effectiveness of the avoidance strategy. The archaeologist shall ensure that the temporary barrier is in the appropriate location and shall be empowered to stop construction if there is a concern for impacts to an archaeological site. No go instructions shall be issued to all work crews for the protected areas, and the locations of the protected areas shall be shown on all appropriate control drawings. The protected areas shall be inspected by a licensed archaeologist once the strategy is no longer required, and the effectiveness of the strategy shall be reported to the MHSTCI.
5. Immediately upon issuance of the licence, and once the construction schedule has been finalized, a licensed archaeologist will be retained by the licensee so that monitoring can occur where required. The remaining archaeological fieldwork will be completed upon issuance of the licence by the MNRMNR.
6. Should deeply buried archaeology remains be found during the course of site preparation and/or extraction related activities, the MHSTCI shall be notified.
7. In the event that human remains are encountered during quarry or extraction activities, the licensee shall immediately contact both the MHSTCI and Registrar or Deputy Registrar of the Consumer Services Division of the Ministry of Government and Consumer Services (MGCS).

D. Blasting

- 1. An alteration study shall be undertaken by an independent blasting consultant during the first 12 months of operation in order to obtain sufficient quarry data to confirm the initial guideline parameters and assist in refining future blast designs.
2. All blasts shall be monitored for both ground vibration and overpressure at the closest privately owned sensitive receptor adjacent to the site, or closer, with a minimum of two (2) instruments - one installed in front of the blast and one installed behind the blast.
3. Blasts shall be designed to maintain vibrations below 13mm/s at the location of the closest identified active spanning beam as per DFO guidelines. When blasting during active spanning season, a minimum of one supplemental vibration monitor shall be installed on the spanning beam to monitor the vibration levels.
4. The guideline limits for vibration and overpressure shall adhere to standards as outlined in the Guidelines For the Use of Explosives in or Near Canadian Fisheries Waters (1996) or any such document, regulation or guideline which supersedes this standard.
5. All blasts shall be monitored for ground vibration at the adjacent Trans Canada Energy High Pressure Natural Gas Pipeline when blasting within 100m of the pipeline or when calculations suggest vibrations at distance of 35mm/s.
6. Blasts shall be designed to maintain vibrations at the transmission towers in the Hydro One Corridor below 50mm/s or any such document, regulation or guideline in effect at the time. When vibration calculations suggest vibrations at the towers may exceed 35mm/s, the towers shall be monitored for ground vibration.
7. Blasts shall be designed to maintain vibrations at the 4832 Thorold Townline Road utility buildings below 50mm/s. When vibration calculations suggest vibrations at the utility buildings may exceed 35mm/s, the buildings shall be monitored for ground vibration.
8. The guideline limits for ground vibration and air overpressure shall adhere to standards as outlined in the Model Municipal Noise Control By-law publication NPC 119 (1978) or any such document, regulation or guideline which supersedes this standard.
9. Orientation of the aggregate extraction operation shall be designed and maintained so that the direction of the overpressure propagation will be away from structures as much as possible.
10. Blast designs shall be continually reviewed with respect to fragmentation, ground vibration and overpressure. Blast designs shall be modified as required to maintain compliance with current applicable guidelines and regulations.
11. Detailed blast records shall be maintained in accordance with current industry best practices.

E. Natural Heritage

- 1. General
a. Existing vegetation within the setbacks shall be maintained except where berms, haul roads and conveyors are required.
b. New vegetation shall be maintained in accordance with note G.5 on this drawing.
c. Silt fencing shall be installed at the eastern limit of Phases 1A and 2A where field drainage enters the existing watercourse. Silt fencing will serve to demarcate the limit of protected area until the watercourse is diverted.
d. Stockpiling of all excavated material shall be in accordance with note H.7 on drawing 2 of 6.
e. Topsoil and overburden stockpiles shall be maintained in accordance with the Best Management Practices for the Protection, Creation and Maintenance of Bank Swales in Ontario (MNR 2017). Stripped overburden and topsoil for rehabilitation shall be utilized in accordance with notes E.4, E.5 and E.6 on drawing 2 of 6.
f. Dust control will be implemented in accordance with Section B on this drawing.
g. Fuel storage shall be in accordance with the notes under Section K on drawing 2 of 6.
2. Natural Channel Design
a. The existing watercourse will remain open (not culverted) where it enters the south limit of the South Extraction Area.
b. Where the watercourse exits the North Extraction Area, a culvert will be installed to maintain the watercourse while allowing an acoustic berm to be constructed. As part of final rehabilitation, the berm and culvert shall be removed to allow for the watercourse to be open.
c. As part of site preparation, a compensation pond will be constructed in the Watercourse Realignment Transition Area within Phase 2B, in accordance with the Natural Channel Design Report (Stantec 2021). The compensation pond will be excavated to a maximum depth of 1.4 m in this area and in accordance with DFO authorization. No drilling or blasting shall occur in this Transition Area.
d. As extraction is completed in Phases 1B and 2B, these areas will be filled with clay overburden material to an elevation ranging between 173 to 178 masl. In accordance with the Natural Channel Design Report (Stantec 2021), a new watercourse channel will be constructed, vegetated and designed in these areas and will include the following design elements:
0.1. Floodplain wetlands
0.2. Fish habitat ponds, including new pike spawning habitat as well as foraging, spawning and rearing habitat for other fish species
0.3. Creek sections
0.4. Wood debris toe protection and wood reinforced banks
0.5. Log sills
0.6. Augmented riffle.
e. Culverts will be installed under Upper's Lane and the unopened road allowance.
f. 2:1 side slopes shall be established on the east side of the new watercourse channel down to the quarry floor.
g. Once the realigned watercourse channel has been constructed in Phases 1B and 2A and adequate vegetation to mitigate potential erosion has been established (as confirmed by an ecologist), water from the existing watercourse will be excavated to a maximum depth of 1.4 m in this area and in accordance with DFO authorization. A fish rescue will be undertaken prior to dewatering and channel relocation. A Licence to Collect Fish for Scientific Purposes will be obtained for the fish rescue.
3. Woodland and Terrestrial Habitat Enhancement
a. The 2.0 ha woodland situated on the east side of Thorold Townline Road shall be removed during the advancement of operations in Phase 1A/1B. Tree clearing in the woodland shall be undertaken outside of the breeding bird period and the active bird season from March 23 and August 08.

F. Wetlands

- a. Wetlands along the existing watercourse will be maintained until the watercourse has been diverted to the watercourse realignment channel.
b. Once the watercourse has been diverted, the created wetlands in the watercourse realignment channel shall be maintained.

G. Monitoring Program

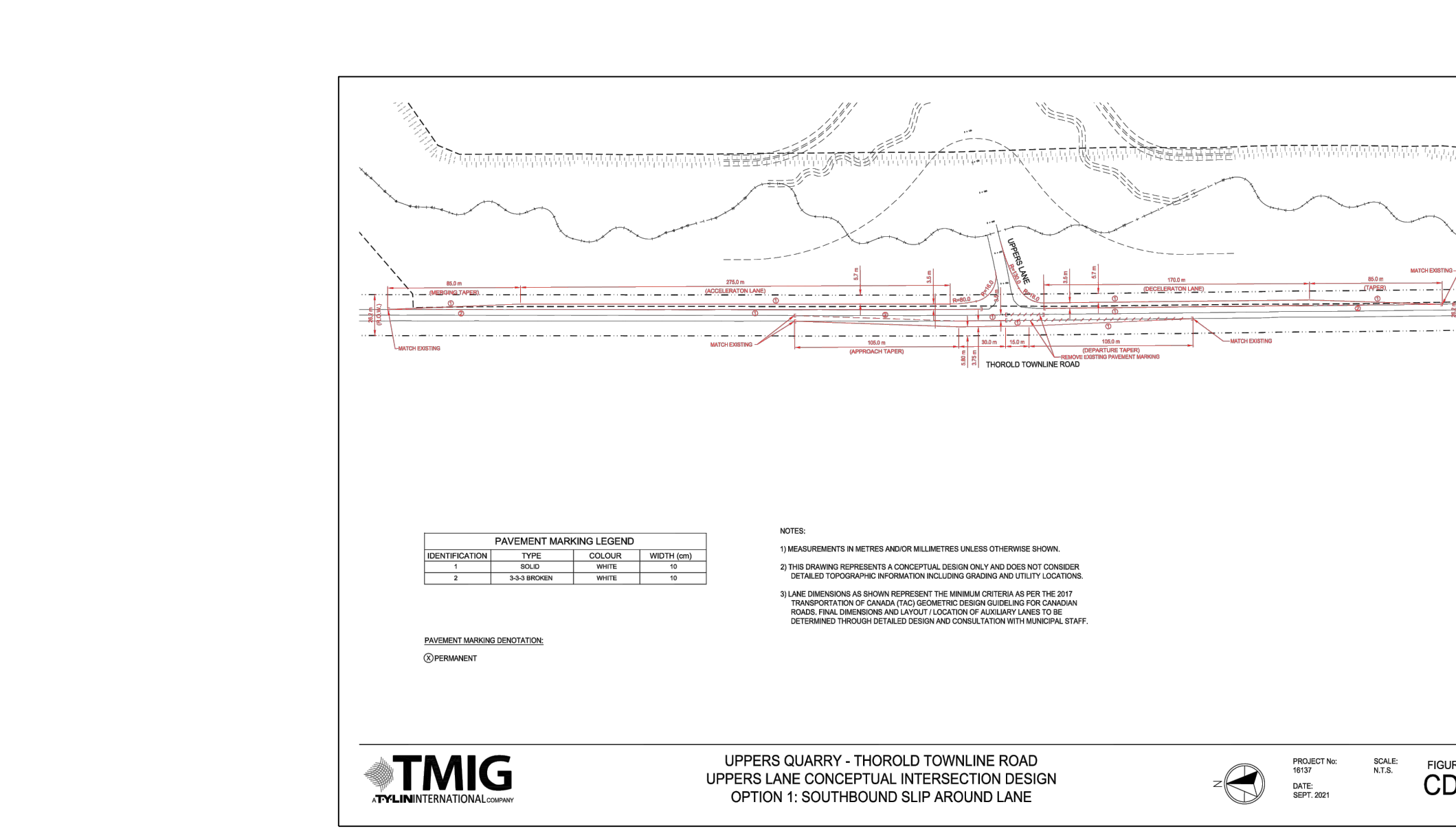
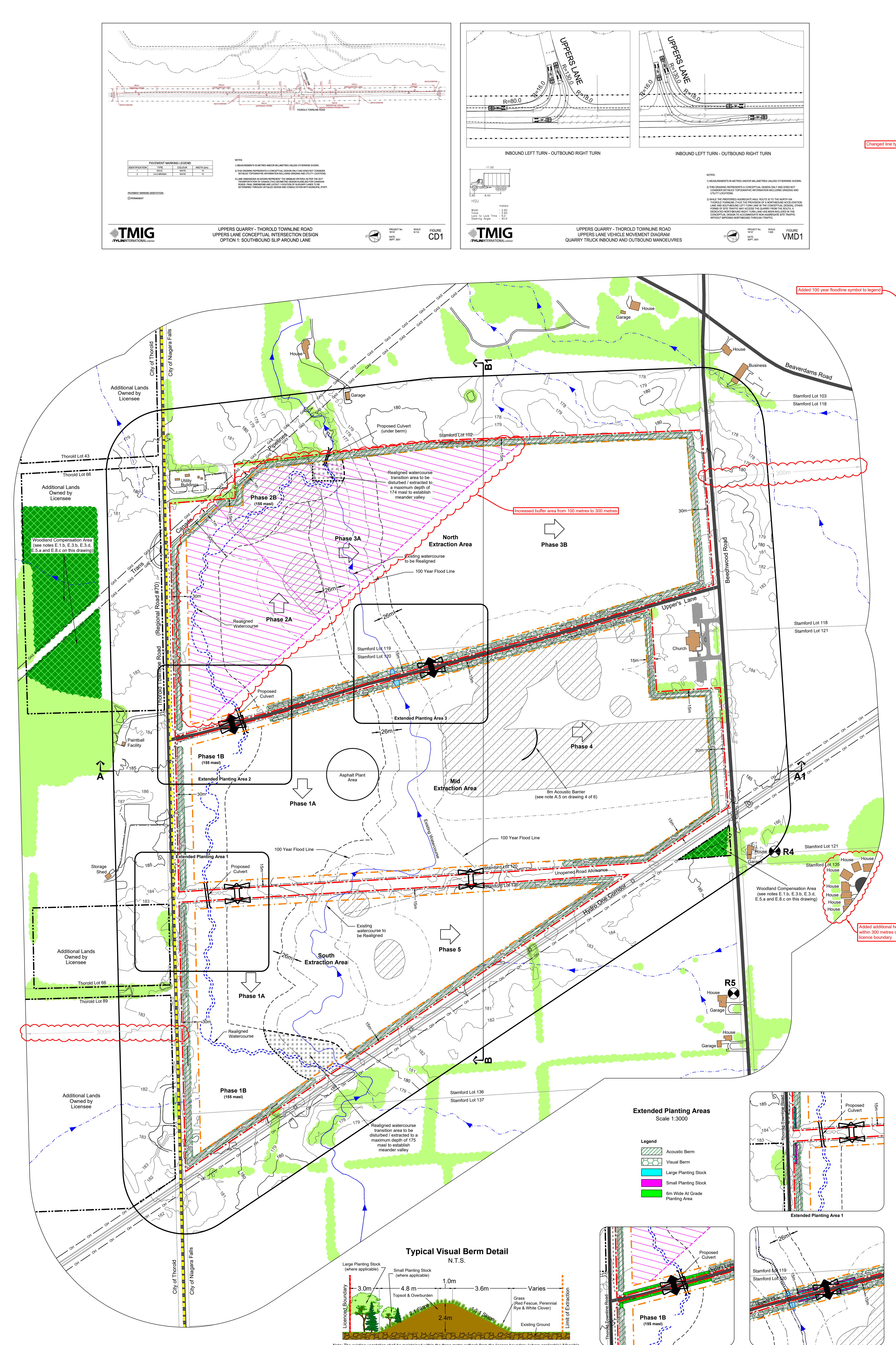
- a. A monitoring plan shall be prepared in consultation with regulatory authorities to assess the performance of the watercourse realignment channel and to confirm that impacts to off-site wetlands are not occurring as a result of dewatering.
b. A monitoring program of compensation planting shall be prepared in consultation with regulatory authorities to confirm stable conditions have been established.
c. A trigger mechanism and contingency plan, as detailed in WSP's Water Study Report, shall be implemented upon licence approval to proactively ensure natural habitat features and their functions are maintained (i.e. fish habitat, watercourse downstream and at 604 Beechwood Road, and woodlands) during operational and rehabilitation phases.

H. Water Supply

- 1. A long-term monitoring program will be implemented during the quarry operational and rehabilitation phases, until stable conditions are observed after quarry decommissioning.
2. In the event of a well interference claim is received, the licensee shall implement the following mitigation plan to protect the local groundwater users.
a. Prior to extraction, landowners shall be provided with a copy of the water well interference plan as well as the contact information for the licensee and MECP (Wells Help Desk 1-888-396-9355 or email wells@helpdesk(ontario.ca)).
b. If a water well interference claim is received by the licensee the following actions shall be taken:
b.1. The licensee shall immediately notify MNRMNR and MECP of the complaint.
b.2. The licensee shall 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.
c. The well contractor shall contact the resident with the supply issue to rectify the problem as expeditiously as possible, provided landowner authorization of the work.
d. If the issue raised by the landowner is related to loss of water supply, the licensee shall have a qualified hydrogeologist / well 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), well casing failure (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's expense). This assessment process shall be carried out at the expense of the licensee and the results provided to the homeowner.
e. If it has been determined that the quarry caused the water supply interference (i.e., lowering of the water level), the licensee shall continue to supply water at their 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:
e.1. Adjust pump pressure;
e.2. Lowering of the pump to take advantage of existing water storage within the well;
e.3. Deepening of the well to increase the available drawdown, if the well deepening changes the water quality a water treatment shall be provided;
e.4. Widening of the well to increase the available storage of water;
e.5. Relocation of the well to another area on the property; or
e.6. Drilling multiple wells.
f. If the issue raised by the landowner is related to water quality, the licensee shall have a qualified hydrogeologist / well 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 licensee shall continue to supply water at their expense until the problem is rectified. The licensee shall be responsible for restoring the water supply by reducing the well or providing a water treatment system. The licensee is responsible for the expense to restore the water quality.
3. A spill action plan shall be carried out in accordance with the notes in Section N Spills Plan on drawing 2 of 3.
4. A trigger mechanism and contingency plan as set out in WSP's Level 2 Water Study Report shall be implemented.

I. WSP's Water Study Report

WSP's Water Study Report confirms that drawdown points do not extend to areas identified in the Niagara Peninsula Source Protection Plan as Intake Protection Zones.



Legal Description: Part of Lots 119, 120, 136 & 137 City of Niagara Falls (Geographic Township of Stamford) Regional Municipality of Niagara. Legend: Licence Boundary, Limit of Extraction, Additional Lands Owned by Licensee, Municipal Boundary, Contours with Elevation, Public Road, Fence, Watercourse, Surface Drainage Feature, Watercourse - Realigned, 100 Year Floodline, Water Feature, Wooded Area, Watercourse Realignment Transition Area, Woodland Compensation Area (Off-site), Archaeological Site, Archaeological Offset. Site Plan Acronyms: 1. ARA - Aggregate Resources Act, 2. MNRMNR - Ministry of Northern Development, Mines, Natural Resources and Forestry, 3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries, 4. MECP - Ministry of the Environment, Conservation and Parks, 5. MGCS - Ministry of Government and Consumer Services, 6. DFO - Department of Fisheries and Oceans Canada, 7. ECA - Environmental Compliance Approval, 8. BMP - Best Management Practices Plan, 9. PTTV - Permit to Take Water, 10. MASL - Metres above sea level, 11. TCPL - Trans Canada Pipeline, 12. ROW - Right of Way, 13. HMA - Hot mix asphalt, 14. PWDO - Provincial Water Quality Objectives, 15. MISA - Municipal Industrial Strategy for Abatement, 16. TSS - Total Suspended Solids.

Table with 4 columns: No., Date, Description, By. Site Plan Revisions (Pre-Licensing): 1. January 2022, Add note H.5 and hatched watercourse realignment area, C.P., 2. August 2023, Update site plan to incorporate JART and MNRF comments, C.P.

Table with 4 columns: No., Date, Description, By. Site Plan Amendments: 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16.

MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE. 113 COLLEGE STREET, SUITE 200, NIAGARA FALLS, ONTARIO L2V 3Y8. Phone: (705) 728-0405. Website: www.mhbcpln.ca. MHBC Stamp: Debra Walker, Christopher Poole. Applicant: Walker Aggregates Inc., 2800 Thorold Townline Road, P.O. Box 100, Thorold, Ontario L2V 3Y8.

Project: Upper's Quarry. MNDMNR Licence Reference No. Applicant's Signature: Christopher Poole. Plan Scale: 1:3000 (Arch E). Date: October 2021. Drawn By: C.P., File No.: 9811V. Checked By: D.W. File Name: Report Recommendations. Drawing No.: 4 of 6. File Path: N:\8849\811V - Walker Upper Quarry Drawings\Site Plan\CAD\811V - Site Plan.dwg

PROGRESSIVE REHABILITATION

- A. General
1. Area calculations:
a. Licenced area 103.6 ha
b. To be extracted 89.1 ha
c. Final rehabilitation within licence (total) 103.6 ha
...
d. To be rehabilitated outside of licence: 4.7 ha

- 6. The monthly sump discharge sample results shall be compared with the background conditions in the Existing Watercourse (station SW3) and Beaverdams Creek (station SW1)
7. If weekly sampling is required for a period of more than four (4) weeks, contingency measures shall be implemented to reduce concentrations in the quarry discharge.
8. At existing pits and quarries within southern Ontario, hydrogen sulphide is typically not routinely included in the trigger mechanism...

FINAL REHABILITATION

- G. General
1. All equipment and buildings/structures shall be removed from the licenced areas.
2. A Field/property access points entrance shall remain may be established to access the site for maintenance and monitoring purposes watercourse (see re-aligned).
3. The long term average surface water and lake level elevation is estimated to be approximately 175.15 msl.

Table 1: Deciduous Woodland Planting List

Table with 3 columns: %, Botanical Name, Common Name. Lists various tree and shrub species for woodland planting.

Planting Notes:

Trees - wooded density 2,000/ha
Shrubs - 3:1 shrubs to trees - 3000/ha
Ground Cover - application rate 25g/ha

Table 2: Treed Deciduous Swamp Planting List

Table with 3 columns: %, Botanical Name, Common Name. Lists species for treed deciduous swamp planting.

Planting Notes:

Trees - Density treed deciduous swamp 1,200/ha
Shrubs - 3:1 shrubs to trees - 3000/ha
Ground Cover - application rate 25g/ha

Table 3: Swamp Thicket / Marsh Meadow Planting List

Table with 3 columns: %, Botanical Name, Common Name. Lists species for swamp thicket and marsh meadow planting.

Planting Notes:

Shrubs - Thicket Shrubs- 3000/ha
Ground Cover - application rate 25g/ha

Table 4: Shoreline Wetland

Table with 3 columns: %, Botanical Name, Common Name. Lists species for shoreline wetland planting.

Planting Notes:

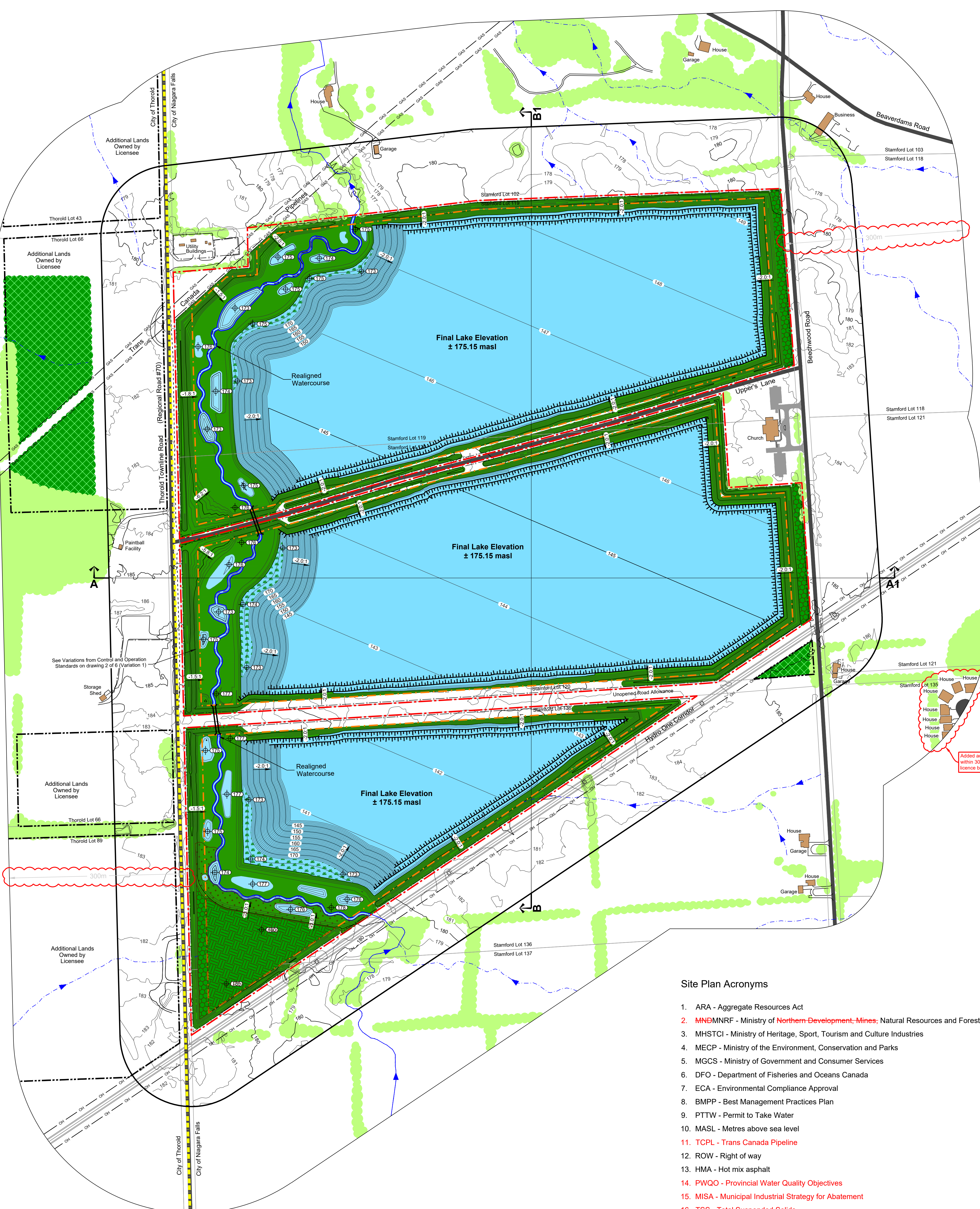
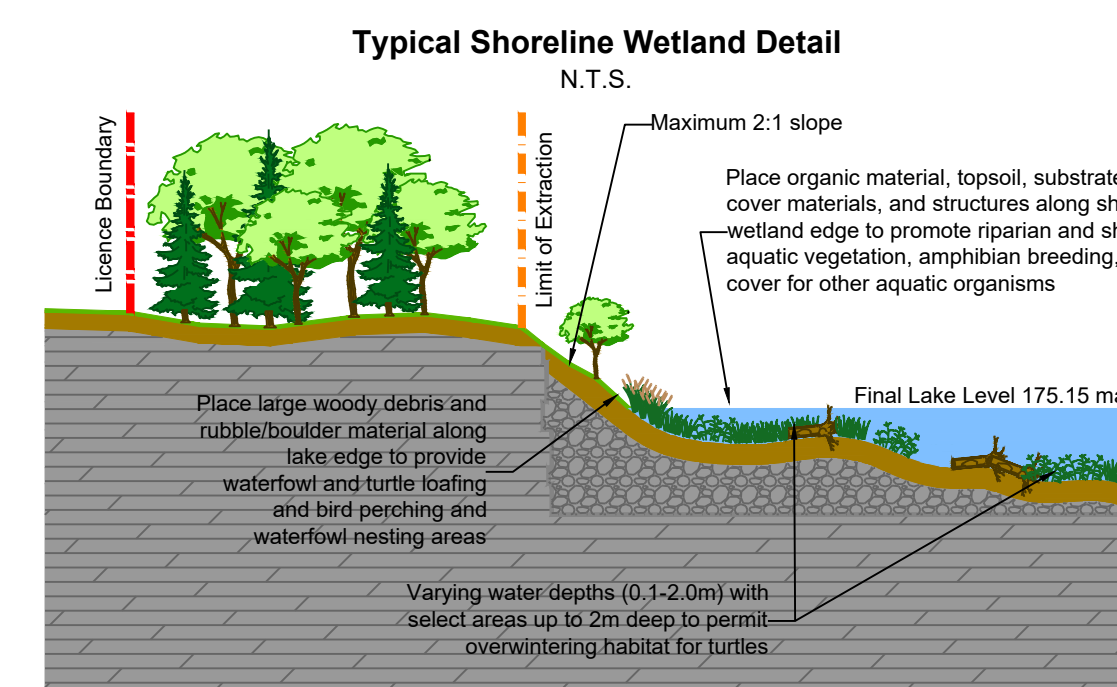
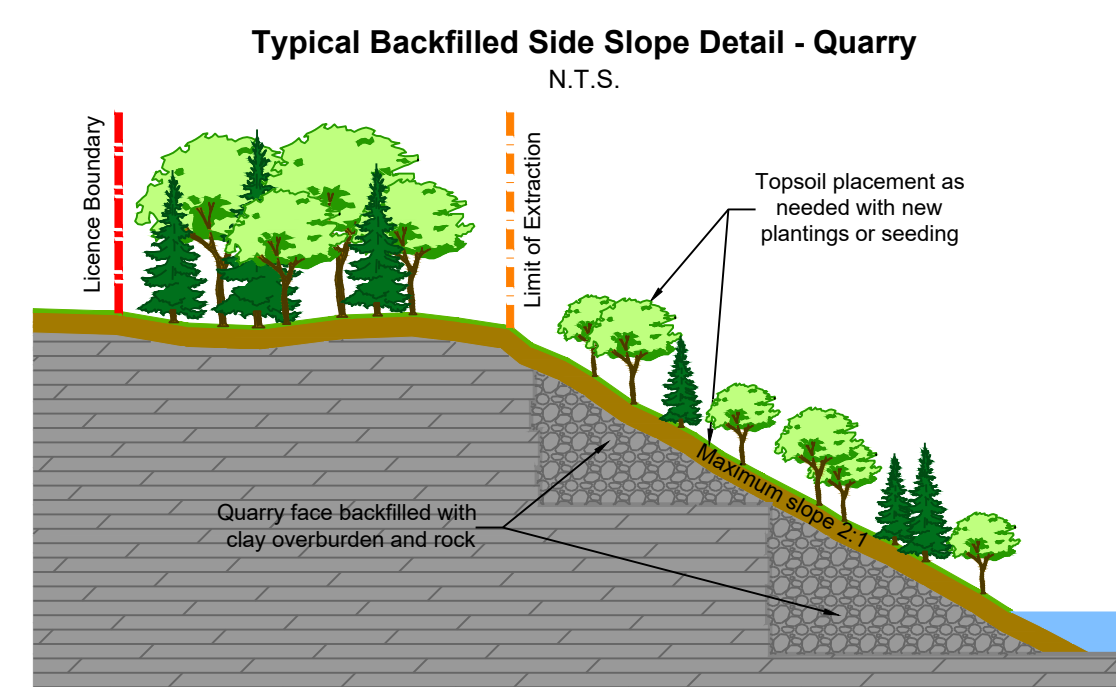
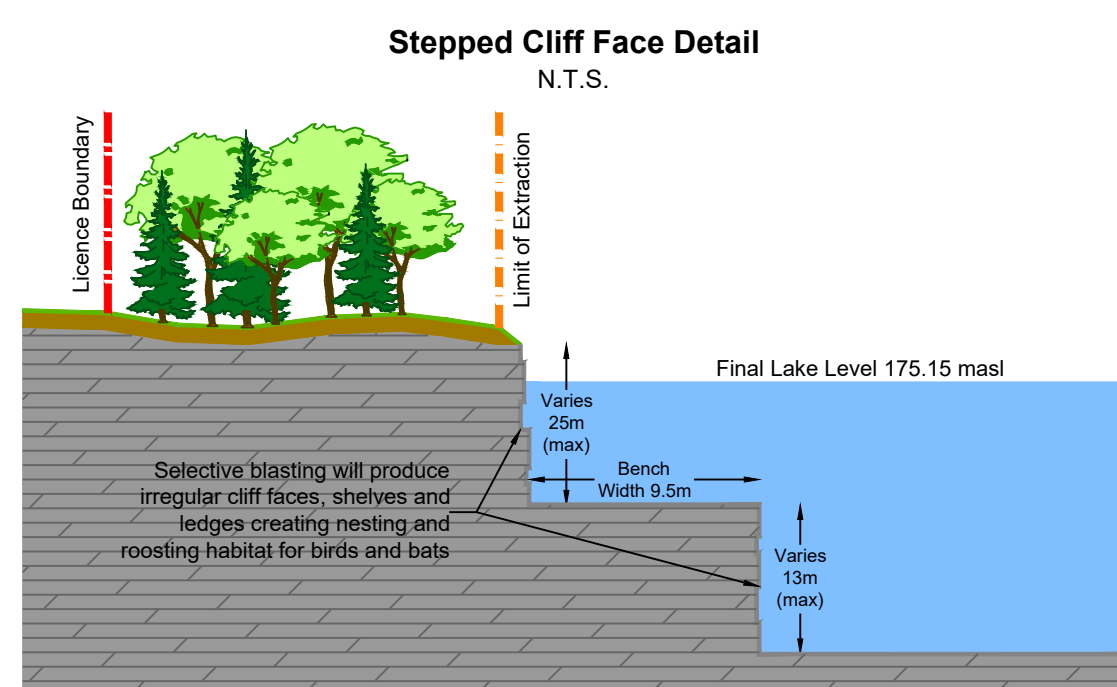
Plugs - 2 rows each with linear spacing of 30 - 50 cm, offset 1/2 the linear spacing to stagger the stakes location and extent subject to on-site conditions at the time of planting

Table 5: Riparian Planting List

Table with 3 columns: %, Common Name, Latin Name. Lists species for riparian planting.

Planting Notes:

Shrubs - Riparian Shrubs- 3000/ha
Ground Cover - application rate 25g/ha
Line Stakes - 2 rows each with linear spacing of 30 - 50 cm, offset 1/2 the linear spacing to stagger the stakes location and extent subject to on-site conditions at the time of planting



Legal Description: Part of Lots 119, 120, 136 & 137 City of Niagara Falls. Legend: Licence Boundary, Limit of Extraction, Municipal Boundary, Watercourse, Surface Drainage Feature, Watercourse - Re-aligned, Waterbody, Shoreline Wetland, Terrestrial Habitat, Deciduous Woodland, Treed Deciduous Swamp, Swamp Thicket and Marsh Meadow, Woodland Compensation Area (Off-site), Wooded Area.

Legend - Cross Sections: Licence Boundary, Limit of Extraction, Existing Grade - Undisturbed, Existing Grade - Removed / Altered, Maximum Predicted Water Table, Quarry Floor / Face, Backfilled, Lake or Pond, Hydro Corridor.

Site Plan Amendments table with columns for No., Date, Description, and By.

Site Plan Revisions (Pre-Licensing) table with columns for No., Date, Description, and By.

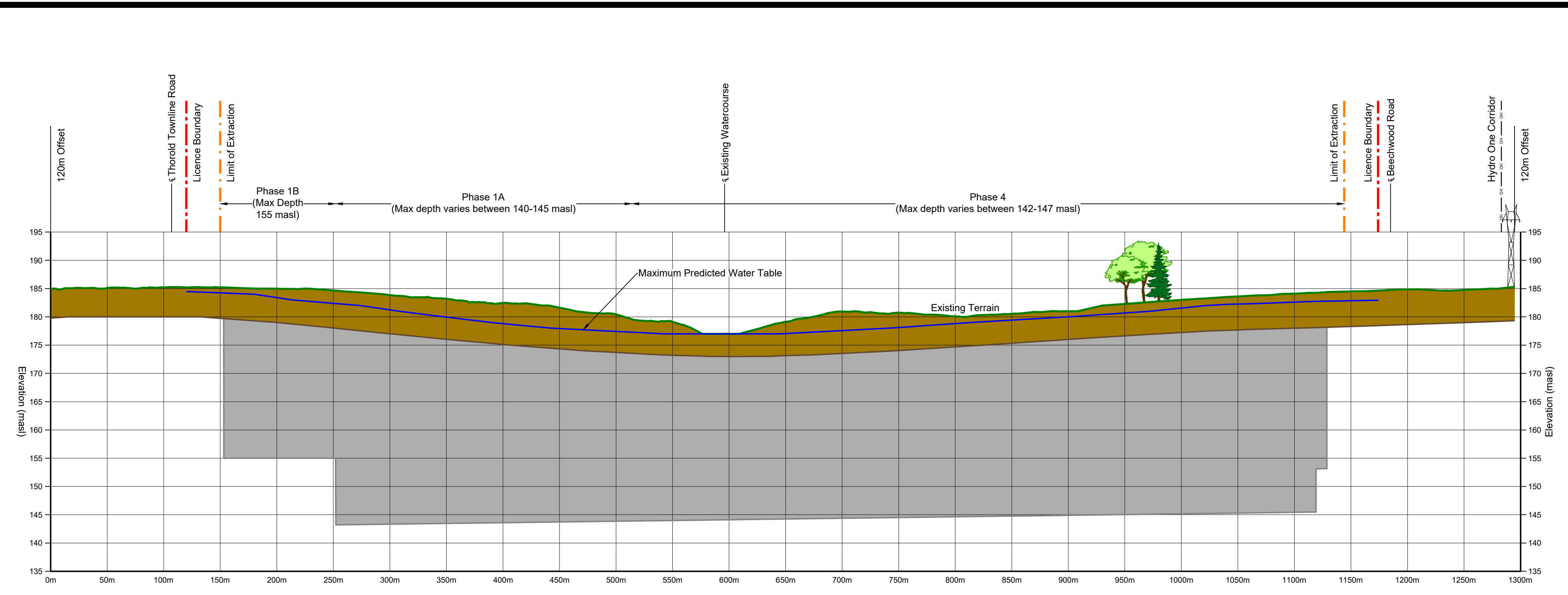
MHBC Stamp and MHBC Stamp area with logos for Debra Walker and Christopher Poole, and the MHBC logo.

Project information: Applicant (Walker Aggregates Inc.), Project Name (Upper's Quarry), MNDNR Licence Reference No., Applicant's Signature, Date (October 2021), Plan Scale (1:3000), and File Name (Rehabilitation Plan).

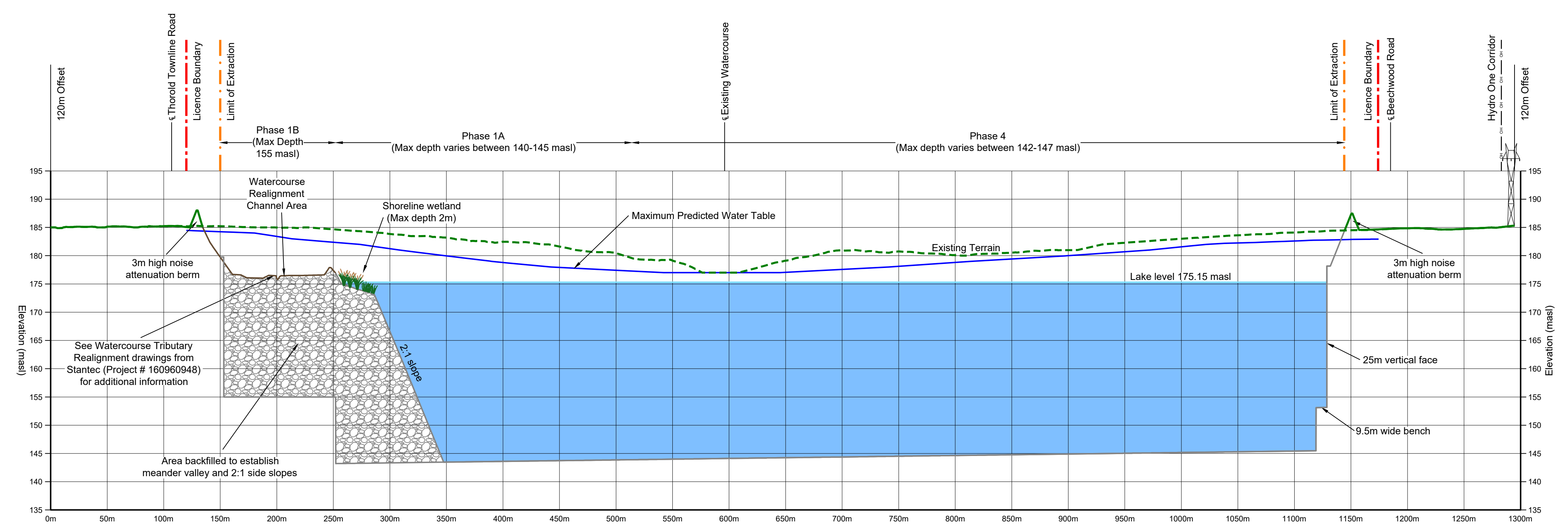
- Site Plan Acronyms:
1. ARA - Aggregate Resources Act
2. MNDNR - Ministry of Northern Development, Mines, Natural Resources and Forestry
3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
...
16. TSS - Total Suspended Solids

Table with 3 columns: Parameter, Proposed Trigger Mechanism, Applicable Standard. Lists parameters like pH, TSS, Hydrogen Sulphide, and Total Oil and Grease.

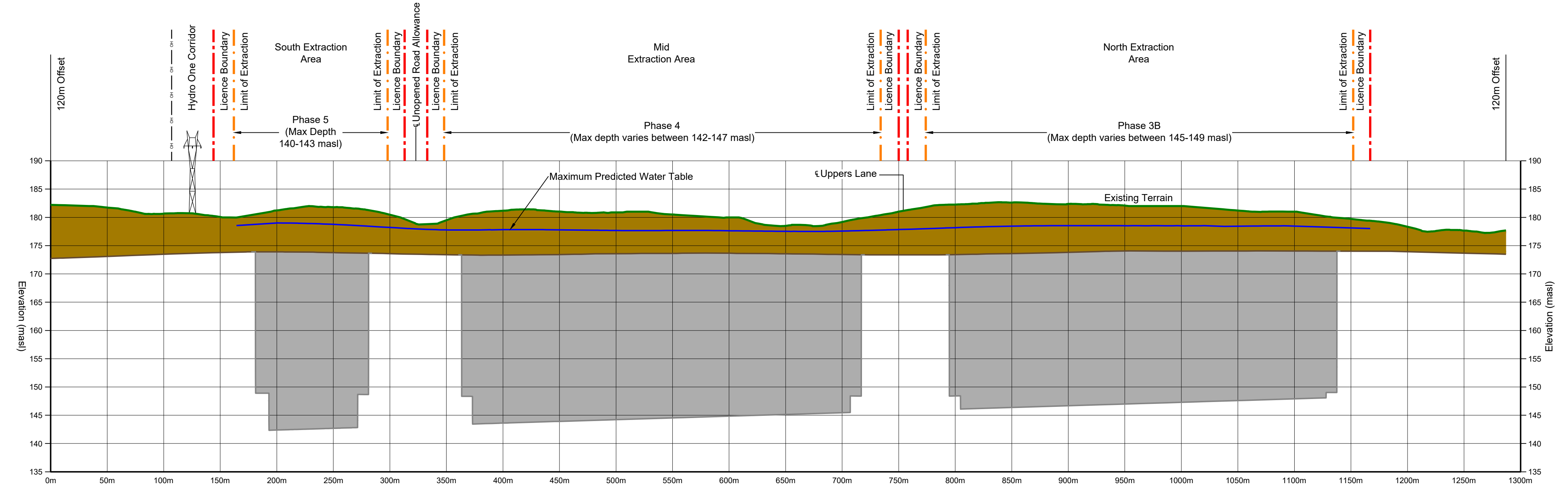
- 4. The shallow bedrock aquifer groundwater is more mineralized / harder than the surface water in the vicinity of the Site.
5. The Municipal Industrial Strategy for Abatement (MISA) was also considered, as such, pH, total suspended solids (TSS) and total oil and grease have also been included in the trigger mechanism.



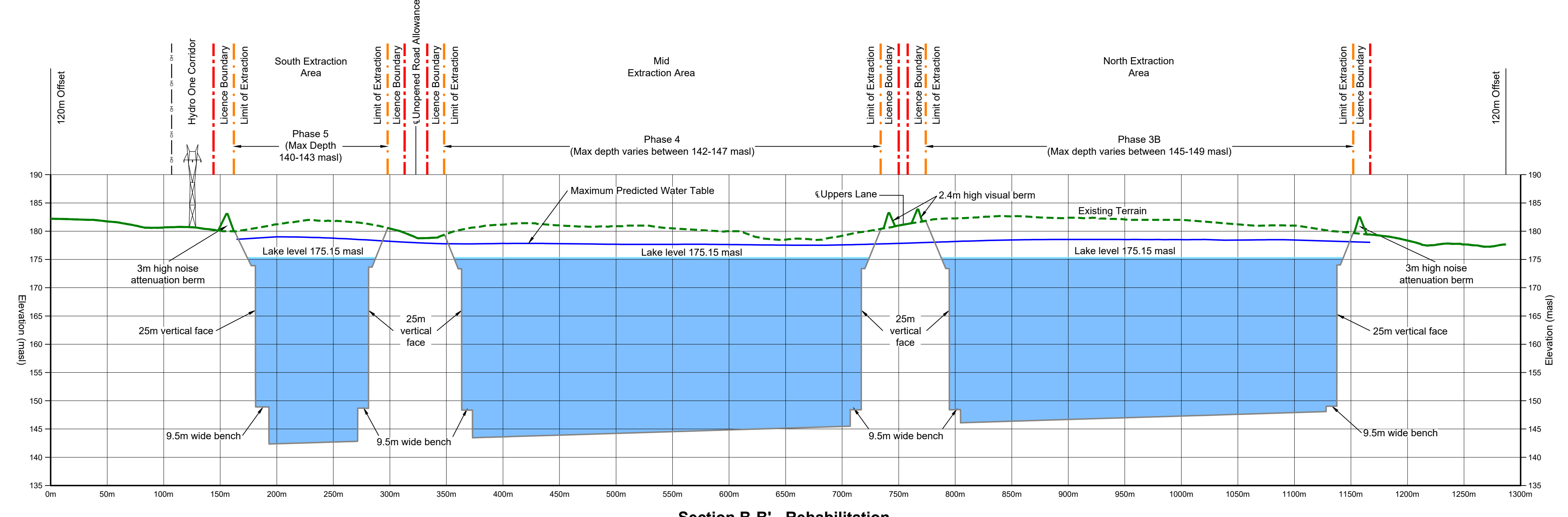
Section A-A' - Existing
Horizontal - 1:2500
Vertical - 1:500



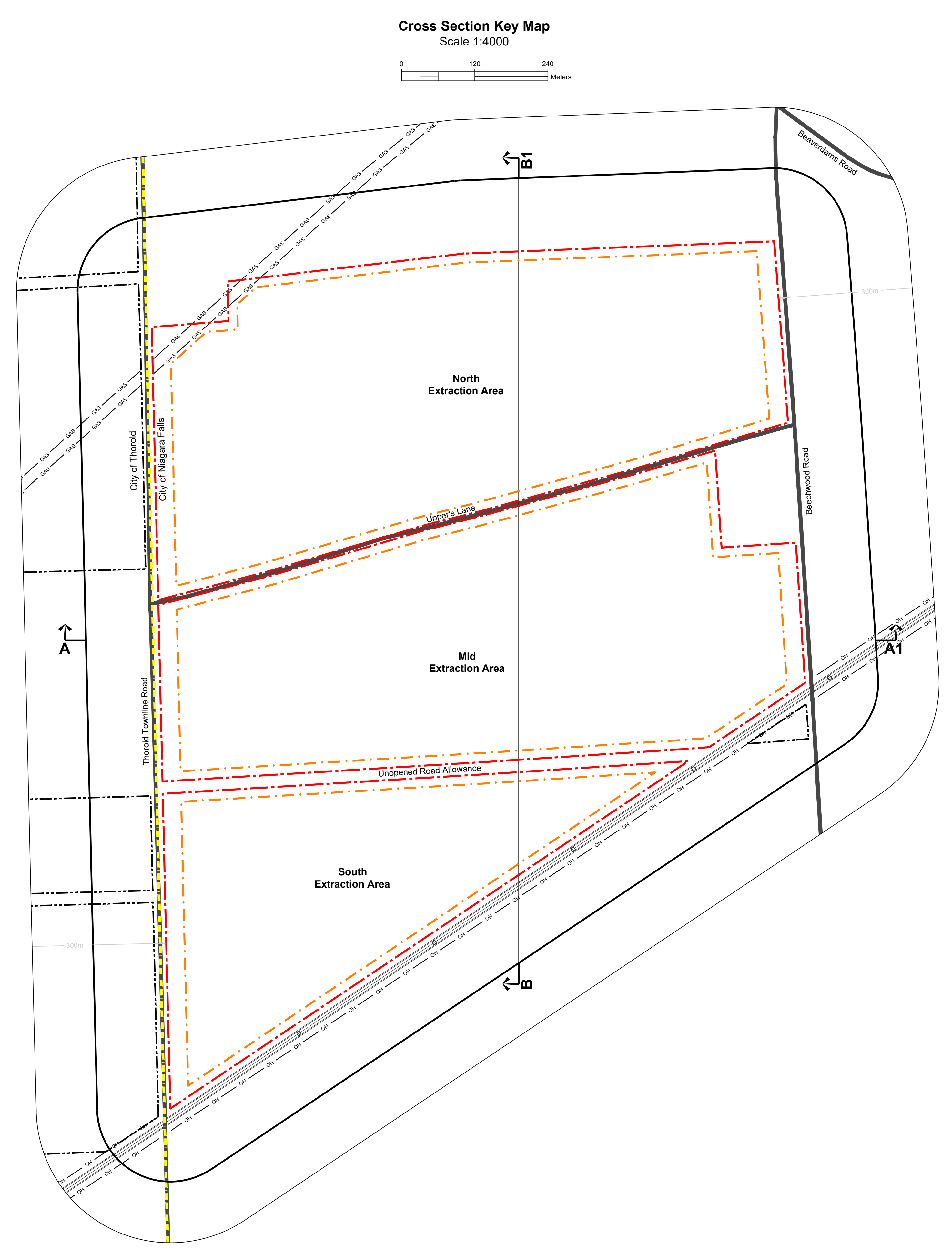
Section A-A' - Rehabilitation
Horizontal - 1:2500
Vertical - 1:500



Section B-B' - Existing
Horizontal - 1:2500
Vertical - 1:500



Section B-B' - Rehabilitation
Horizontal - 1:2500
Vertical - 1:500



Cross Section Key Map
Scale 1:4000

Legal Description
Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

- Legend**
- Licence Boundary
 - Limit of Extraction
 - Additional Lands Owned by Licensee
 - Municipal Boundary
 - 120m Offset From Licence Boundary
 - Public Road
 - Trans Canada Pipeline Easement
 - Hydro One Easement
 - Cross Sections

- Legend - Cross Sections**
- Licence Boundary
 - Limit of Extraction
 - Existing Grade - Undisturbed
 - Existing Grade - Removed / Altered
 - Berm
 - Maximum Predicted Water Table (See note A.2 on drawing 5 of 6)
 - Quarry Floor / Face
 - Topsoil and/or Overburden
 - Aggregate Available for Extraction
 - Backfilled
 - Lake or Pond
 - Hydro Corridor

Site Plan Amendments

No.	Date	Description	By

Site Plan Revisions (Pre-Licensing)

No.	Date	Description	By
1	January 2022	Updated site plan per feedback from MNDMRF and completed minor housekeeping	C.P.
2	August 2023	Update site plan to incorporate JART and MNR comments	C.P.

MHBC
PLANNING
URBAN DESIGN
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MHBC Stamp
Debra Walker
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 2.2(3)(f) of the Planning Act, R.S.O. 1990, c. P.22, to prepare and certify site plans.

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Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 2.2(3)(f) of the Planning Act, R.S.O. 1990, c. P.22, to prepare and certify site plans.

Applicant
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Thoroit, Ontario
L2V 3Y8

Project
Upper's Quarry

MNDMRF Licence Reference No.

Applicant's Signature

Plan Scale: (Arch E)
Horizontal 1:2500
Vertical 1:500

Date October 2021

Drawn By C.P. **File No.** 9811V

Checked By D.W.

File Name **Cross Sections**

Drawing No. **6 of 6**

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