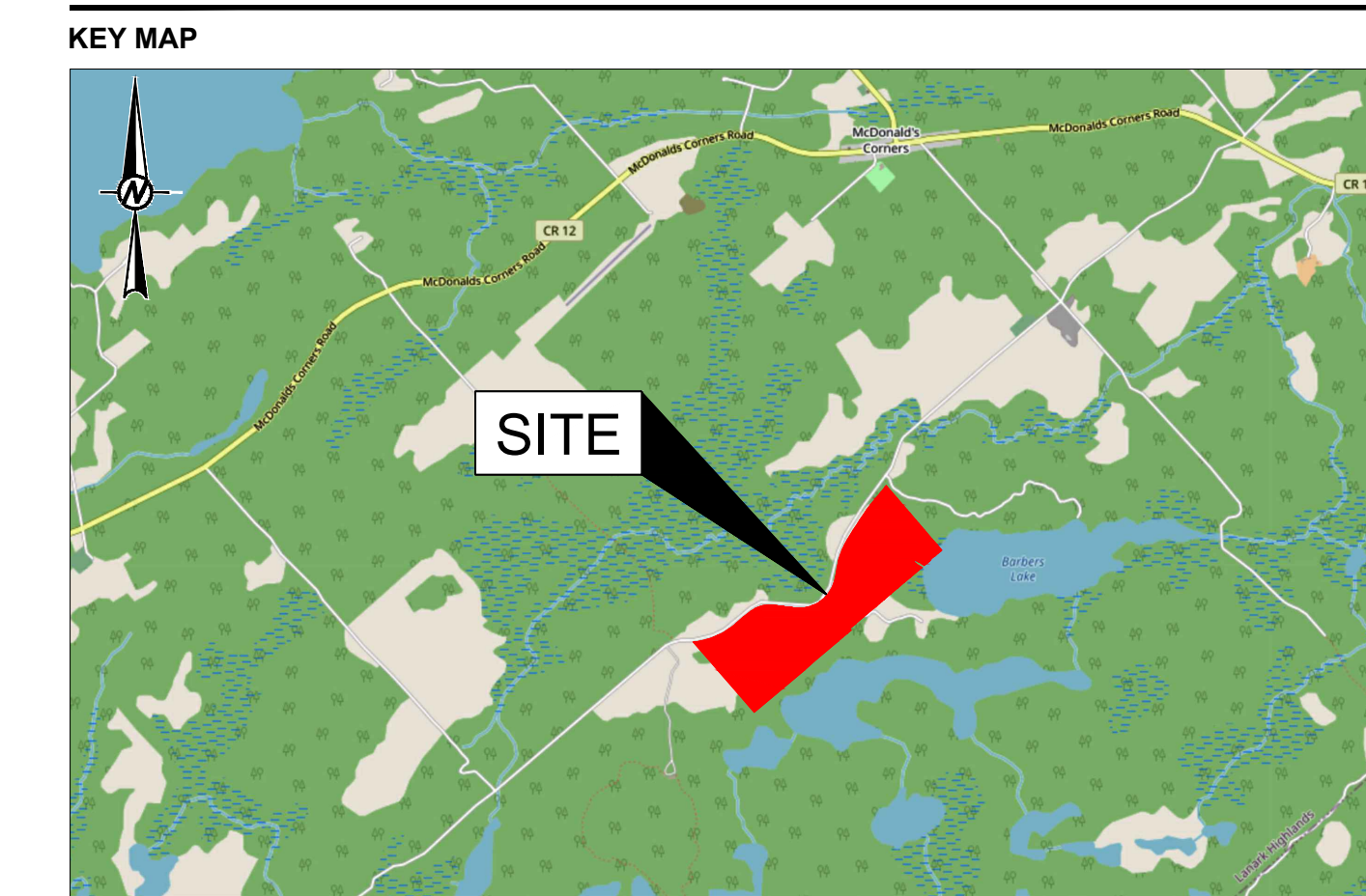
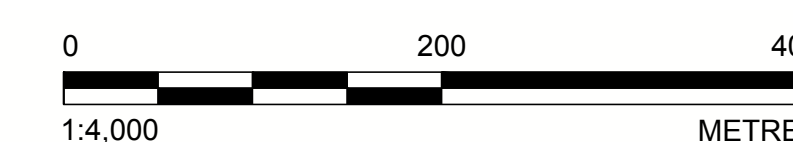


EXISTING FEATURES - GENERAL
SCALE 1:4,000 m

Brian Henderson 12-13-22
 SIGNATURE OF APPLICANT/LICENSEE DATE
 PREPARED UNDER THE DIRECTION OF: 12-13-22
 BRIAN HENDERSON DATE

THOMAS CAVANAGH CONSTRUCTION LIMITED

AMENDMENTS	DATE	APPROVAL DATE
SITE PLANS APPROVED BY THE MINISTRY OF NATURAL RESOURCES AND FORESTRY.		
SIGNATURE		DATE



HIGHLAND LINE PIT
 LOT 5, CONCESSION 10
 TOWNSHIP OF LANARK HIGHLANDS,
 LANARK COUNTY, ONTARIO

APPLICANT:
 THOMAS CAVANAGH CONSTRUCTION LIMITED
 9094 CAVANAGH ROAD
 ASHTON, ONTARIO
 KOA 1B0

PIT LICENCE NO. _____

- NOTE(S)**
- LICENCED AREA, HIGHLAND LINE PIT 50.6 HECTARES.
 - AREA OF OPERATION, HIGHLAND LINE PIT 35.1 HECTARES.
 - THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE FOR A PIT BELOW THE GROUND WATER TABLE.
 - THIS PLAN WAS PREPARED USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHS.
 - LOT, CONCESSION AND BOUNDARY LINES ON THIS PLAN ARE APPROXIMATE.
 - THIS IS NOT A LEGAL SURVEY DRAWING IN ACCORDANCE WITH THE PROVINCE OF ONTARIO SURVEYORS ACT 1987. THIS DRAWING WAS PRODUCED USING STANDARD PHOTOGRAMMETRIC PRACTICES.

- LEGEND**
- BOUNDARY OF AREA TO BE LICENCED
 - LIMIT OF EXTRACTION
 - 120-METRE SURROUND
 - BOREHOLE / MONITORING WELL
 - PRIVATE WELL (AS PER MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS WATER WELL INFORMATION SYSTEM)
 - LOTS AND CONCESSION LINES
 - LAND ZONING BY-LAW
 - ADJACENT PIT AND QUARRY BOUNDARY
 - UTILITY POLE
 - BUILDING: S-SILO, H-HOUSE, G-GARAGE, B-BARN, S-SHED, O-OFFICE, SC-SCALE HOUSE
 - ROAD: PAVED
 - ROAD: GRAVEL
 - CONTOURS/INDEX CONTOURS
 - WOODED AREA
 - WATERCOURSE
 - WETLAND
 - PAGE WIRE FENCE/GATE
 - ENTRANCE
 - EXIT

- REFERENCE(S)**
- KEY PLAN: Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.
 - LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEEN'S PRINTER 2016
 - PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18, VERTICAL DATUM: CGVD28

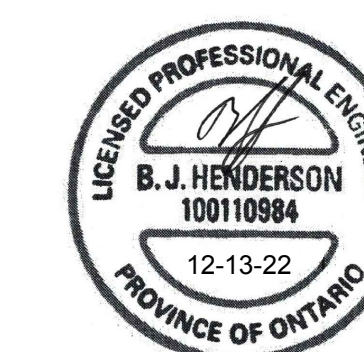
EXISTING FEATURES - GENERAL NOTES (PAGE 1 OF 5)
 NOTE: THE NUMBERS BELOW REFER TO AGGREGATE RESOURCES OF ONTARIO: SITE PLAN STANDARDS (AUGUST 2020)
 16 EXISTING ZONING
 THE EXISTING ZONING OF LAND ON AND WITHIN 120 METRES OF THE SITE IS SHOWN ON THIS PLAN (PAGE 1 OF 5).

CLIENT
 THOMAS CAVANAGH CONSTRUCTION LIMITED

PROJECT
 HIGHLAND LINE PIT

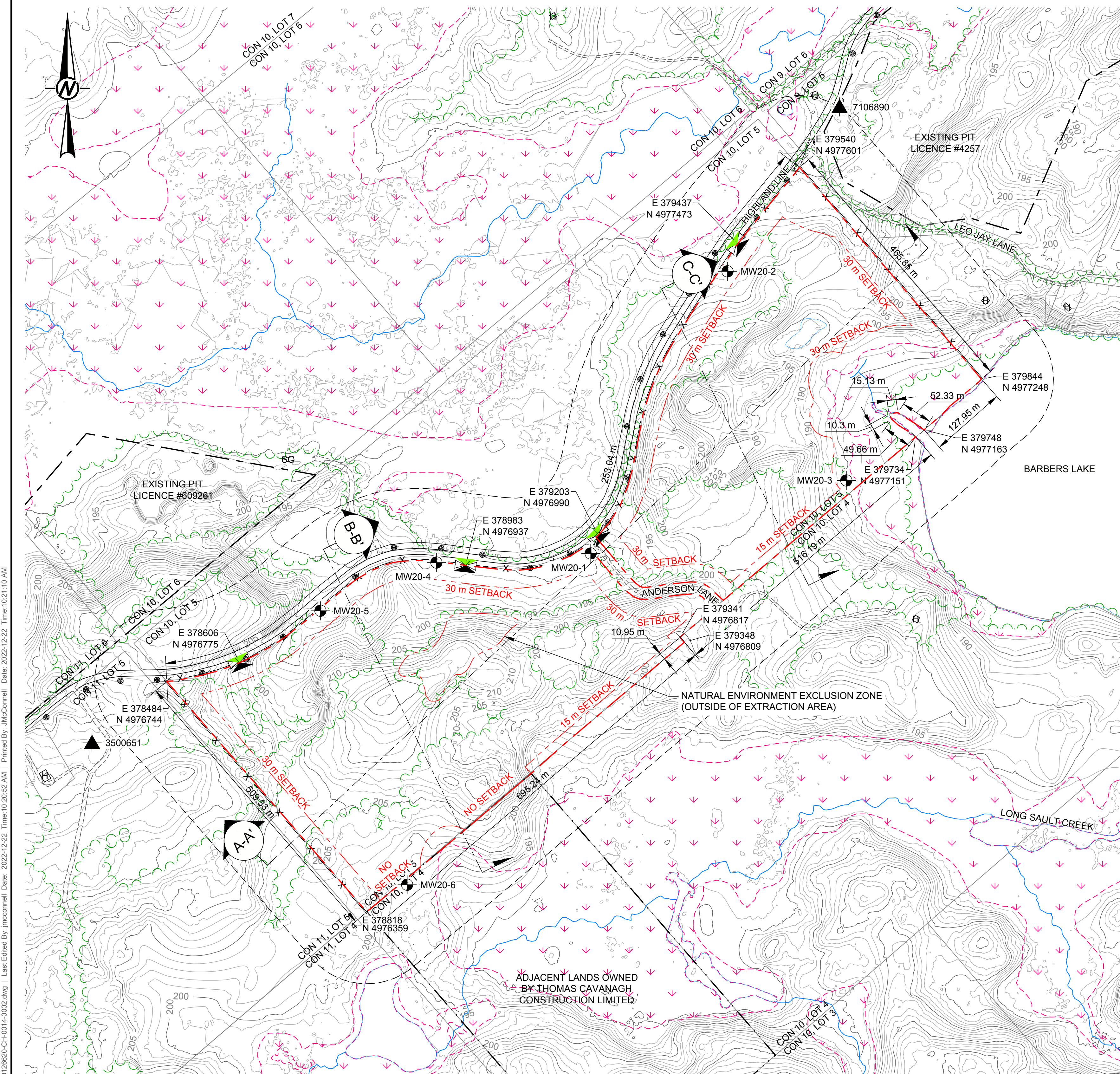
TITLE
 EXISTING FEATURES - GENERAL

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THOMAS CAVANAGH CONSTRUCTION LIMITED	DESIGNED	BH	
	PREPARED	JM	
	REVIEWED	KAM	
	APPROVED	KAM	
PROJECT NO.	CONTROL	REV.	DRAWING
19126620	0014	0	1 OF 5



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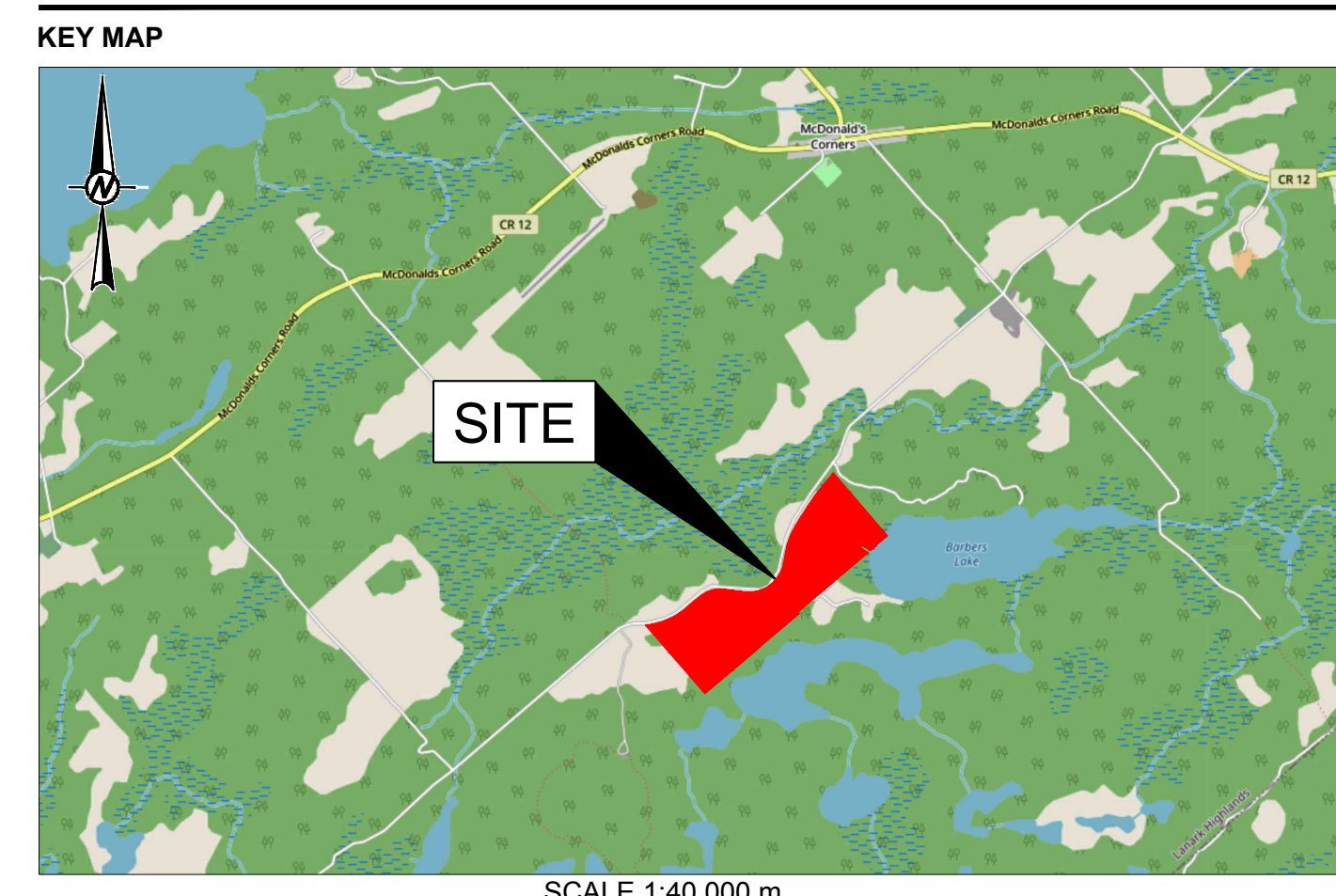
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EXISTING FEATURES - SITE
SCALE 1:4,000 m

EXISTING FEATURES - SITE NOTES (PAGE 2 OF 5):
NOTE: THE NUMBERS BELOW REFER TO *AGGREGATE RESOURCES OF ONTARIO: SITE PLAN STANDARDS (AUGUST 2020)*

- 17 EXISTING LAND USE**
LAND USES ON AND AROUND THE SITE INCLUDE EXISTING LICENCED PITS TO THE NORTHWEST AND NORTHEAST, AN EXISTING SUGARBUSH, RESTAURANT AND MUSEUM TO THE WEST, DECIDUOUS, MIXED AND CONIFEROUS FOREST AND WETLAND TO THE SOUTH, EAST AND NORTH, INTERSPERSED WITH SMALL PATCHES OF ACTIVE AGRICULTURE. THE EXISTING LAND USE ON THE SITE IS VACANT.
- 18 MAXIMUM PREDICTED WATER TABLE**
BASED ON THE AVAILABLE GROUNDWATER ELEVATION DATA, THE MAXIMUM PREDICTED WATER TABLE ON THE SITE IS 195.4 METRES ABOVE SEA LEVEL ON THE SOUTHERN CORNER (AS MEASURED AT MW20-6). BASED ON THE GROUNDWATER ELEVATION DATA MEASURED AT MW20-3 LOCATED ON THE EASTERN SIDE OF THE SITE, THE WATER TABLE SLOPES DOWN MOVING FROM SOUTHWEST TO EAST, AND THE MAXIMUM PREDICTED WATER TABLE ON THE EAST SIDE OF THE SITE IS APPROXIMATELY 182.9 METRES ABOVE SEA LEVEL (PAGE 2 OF 5).
- 19 LOCATION OF EXISTING ENTRANCES TO AND EXITS FROM THE SITE**
THERE ARE CURRENTLY FOUR ENTRANCES/EXITS FOR THE SITE AS SHOWN ON THIS PLAN (PAGE 2 OF 5).
- 20 SIGNIFICANT NATURAL FEATURES ON AND WITHIN 120 METRES OF SITE**
SIGNIFICANT NATURAL FEATURES ON THE SITE INCLUDE HABITAT FOR ENDANGERED SPECIES (BLANDING'S TURTLE, TRI-COLOURED BAT AND BLACK ASH), UNEVALUATED WETLANDS AND SIGNIFICANT WILDLIFE HABITAT (SEEPS).
- SIGNIFICANT NATURAL FEATURES OFF OF THE SITE, BUT WITHIN 120 METRES OF THE SITE INCLUDE POTENTIAL HABITAT FOR ENDANGERED AND THREATENED SPECIES, UNEVALUATED WETLANDS, FISH HABITAT AND POTENTIAL SIGNIFICANT WILDLIFE HABITAT (VARIOUS TYPES).
- 21 SIGNIFICANT HUMAN-MADE FEATURES ON AND WITHIN 120 METRES OF SITE**
THERE ARE NO SIGNIFICANT HUMAN-MADE FEATURES ON THE SITE. SIGNIFICANT HUMAN-MADE FEATURES WITHIN 120 METRES OF THE SITE INCLUDE EXISTING PITS LOCATED TO THE NORTHWEST (LICENCE NUMBER 609261) AND TO THE NORTHEAST (LICENCE NUMBER 4257), HIGHLAND LINE TO THE NORTH AND TWO PRIVATE RESIDENCES LOCATED NORTH AND EAST OF THE SITE.
- 22 THE LOCATION AND USE OF ALL BUILDINGS AND STRUCTURES EXISTING ON AND WITHIN 120 METRES OF THE SITE**
THERE ARE CURRENTLY NO EXISTING PERMANENT BUILDINGS OR STRUCTURES LOCATED ON THE SITE. WITHIN 120 METRES OF THE SITE THERE IS ONE HOUSE LOCATED ON THE EAST SIDE OF THE SITE, ACCESSED FROM LEO JAY LANE.
- 23 SITE TOPOGRAPHY**
THE EXISTING SITE TOPOGRAPHY, ILLUSTRATED BY A ONE-METRE CONTOUR INTERVAL, EXPRESSED IN METRES ABOVE SEA LEVEL IS PRESENTED ON THIS PLAN (PAGE 2 OF 5).
- 24 EXISTING SURFACE WATER AND DRAINAGE FACILITIES ON AND WITHIN 120 METRES OF THE SITE**
SURFACE WATER FEATURES ON THE SITE INCLUDE A SINGLE SMALL INTERMITTENT WATERCOURSE THAT FLOWS TO BARBERS LAKE AS WELL AS UNEVALUATED WETLANDS. THERE ARE LOW MOIST AREAS THROUGHOUT SOME OF THE FORESTS ON THE SITE, INCLUDING A SMALL POND IN THE MIXED FOREST. BARBERS LAKE (SOUTHEAST) AND UNEVALUATED WETLANDS (NORTH AND SOUTH) ARE LOCATED WITHIN 120 METRES OF THE SITE. WITHIN 120 METRES OF THE SITE, SHALLOW ROADSIDE DITCHES EXIST ALONG THE NORTH AND SOUTH SIDES OF HIGHLAND LINE.
- 25 LOCATION OF EXISTING TREE COVER**
THE EXISTING ON-SITE AND OFF-SITE TREE COVER IS SHOWN ON THIS PLAN (PAGE 2 OF 5). THE EASTERN, SOUTHWEST AND NORTHWEST PORTIONS OF THE SITE ARE TREE COVERED. THE OFF-SITE LANDS SURROUNDING THE SITE TO THE SOUTH, NORTHEAST AND SOUTHWEST ARE GENERALLY TREE COVERED.
- 26 LOCATION/TYPE OF EXISTING FENCING**
EXISTING LOCATIONS FOR FENCING AROUND THE SITE ARE SHOWN ON THIS PLAN (PAGE 2 OF 5). PAGE WIRE FENCING EXISTS ON THE NORTHERN, EASTERN AND WESTERN LICENCE BOUNDARIES. THERE IS NO FENCING PRESENT ON THE SOUTHERN BOUNDARY OF THE SITE.
- EXISTING FEATURES CROSS-SECTIONS**
69 LOCATION OF CROSS-SECTIONS
REFER TO DRAWING (PAGE 2 OF 5) FOR LOCATION OF EXISTING FEATURES CROSS-SECTIONS.
70 HORIZONTAL AND VERTICAL SCALES
APPROPRIATE HORIZONTAL AND VERTICAL SCALES ARE MARKED ON THE CROSS-SECTIONS.
71 EXISTING FEATURES CROSS-SECTIONS
THREE EXISTING FEATURES CROSS-SECTIONS ARE PROVIDED ON THE EXISTING FEATURES PLAN (PAGE 2 OF 5).
72 MAXIMUM PREDICTED WATER TABLE
THE MAXIMUM PREDICTED WATER TABLE IS IDENTIFIED ON THE EXISTING FEATURES CROSS-SECTIONS (PAGE 2 OF 5). BASED ON THE AVAILABLE GROUNDWATER ELEVATION DATA, THE MAXIMUM PREDICTED WATER TABLE ON THE SITE IS 195.4 METRES ABOVE SEA LEVEL ON THE SOUTHERN CORNER (AS MEASURED AT MW20-6). BASED ON THE GROUNDWATER ELEVATION DATA MEASURED AT MW20-3 LOCATED ON THE EASTERN SIDE OF THE SITE, THE WATER TABLE SLOPES DOWN MOVING FROM SOUTHWEST TO EAST, AND THE MAXIMUM PREDICTED WATER TABLE ON THE EAST SIDE OF THE SITE IS APPROXIMATELY 182.9 METRES ABOVE SEA LEVEL.
- 73 TYPICAL BERM DESIGN**
A CROSS-SECTION OF A TYPICAL BERM DESIGN IS SHOWN ADJACENT TO THE EXISTING FEATURE CROSS-SECTIONS (PAGE 2 OF 5).



HIGHLAND LINE PIT
LOT 5, CONCESSION 10
TOWNSHIP OF LANARK HIGHLANDS,
LANARK COUNTY, ONTARIO

APPLICANT:
THOMAS CAVANAGH CONSTRUCTION LIMITED
9094 CAVANAGH ROAD
ASHTON, ONTARIO
K0A 1B0

PIT LICENCE NO. _____

- NOTE(S)**
1. LICENCED AREA, HIGHLAND LINE PIT 50.6 HECTARES.
 2. AREA OF OPERATION, HIGHLAND LINE PIT 35.1 HECTARES.
 3. THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE FOR A PIT BELOW THE GROUND WATER TABLE.
 4. THIS PLAN WAS PREPARED USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHS.
 5. LOT, CONCESSION AND BOUNDARY LINES ON THIS PLAN ARE APPROXIMATE.
 6. THIS IS NOT A LEGAL SURVEY DRAWING IN ACCORDANCE WITH THE PROVINCE OF ONTARIO SURVEYORS ACT 1987. THIS DRAWING WAS PRODUCED USING STANDARD PHOTOGRAMMETRIC PRACTICES.

LEGEND

- BOUNDARY OF AREA TO BE LICENCED
- LIMIT OF EXTRACTION
- 120-METRE SURROUND
- BOREHOLE / MONITORING WELL
- PRIVATE WELL (AS PER MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS WATER WELL INFORMATION SYSTEM)
- CON 10, LOT 5
CON 10, LOT 4
--- LOTS AND CONCESSION LINES
- ADJACENT PIT AND QUARRY BOUNDARY
- UTILITY POLE
- BUILDING; S-SILO, H-HOUSE, G-GARAGE, B-BARN, S-SHED, O-OFFICE, SC-SCALE HOUSE
- ROAD: PAVED
- ROAD: GRAVEL
- CONTOURS/INDEX CONTOURS
- WOODED AREA
- WATERCOURSE
- WETLAND
- x --- x PAGE WIRE FENCE/GATE
- CROSS-SECTIONS
- ENTRANCE
- EXIT

- REFERENCE(S)**
1. KEY PLAN: Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.
 2. LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2016
 3. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18, VERTICAL DATUM: CGVD28

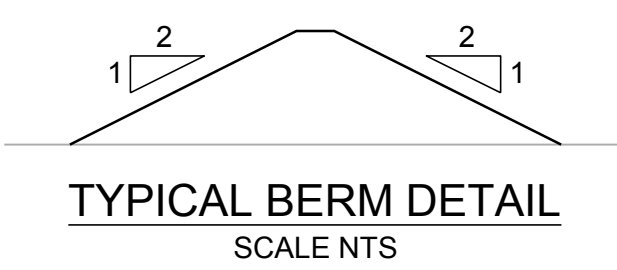
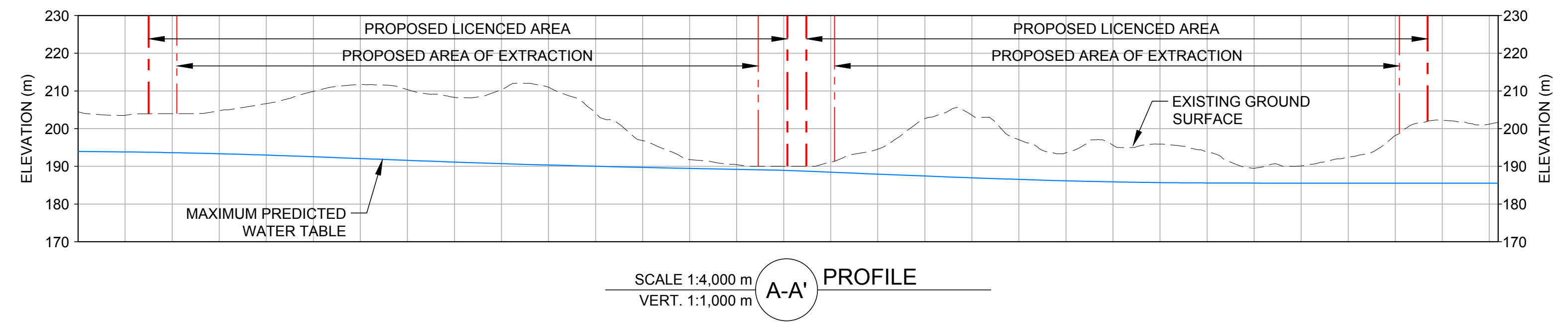
CLIENT
THOMAS CAVANAGH CONSTRUCTION LIMITED

PROJECT
HIGHLAND LINE PIT

TITLE
EXISTING FEATURES - SITE

APPLICANT	YYYY-MM-DD	2022-12-13
DESIGNED	BH	
PREPARED	JM	
REVIEWED	KAM	
APPROVED	KAM	

PROJECT NO. 19126620 CONTROL 0014 REV. 0 DRAWING 2 OF 5



[Signature] 12-13-22
SIGNATURE OF APPLICANT/LICENCEE DATE

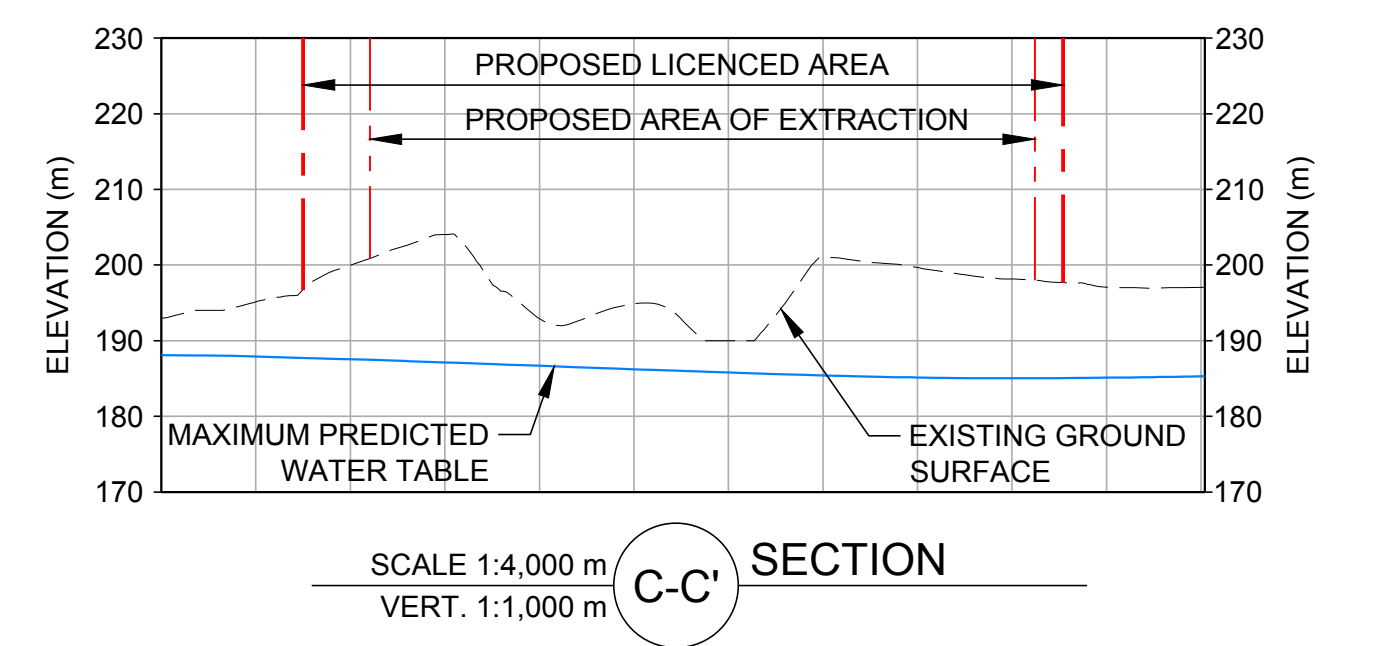
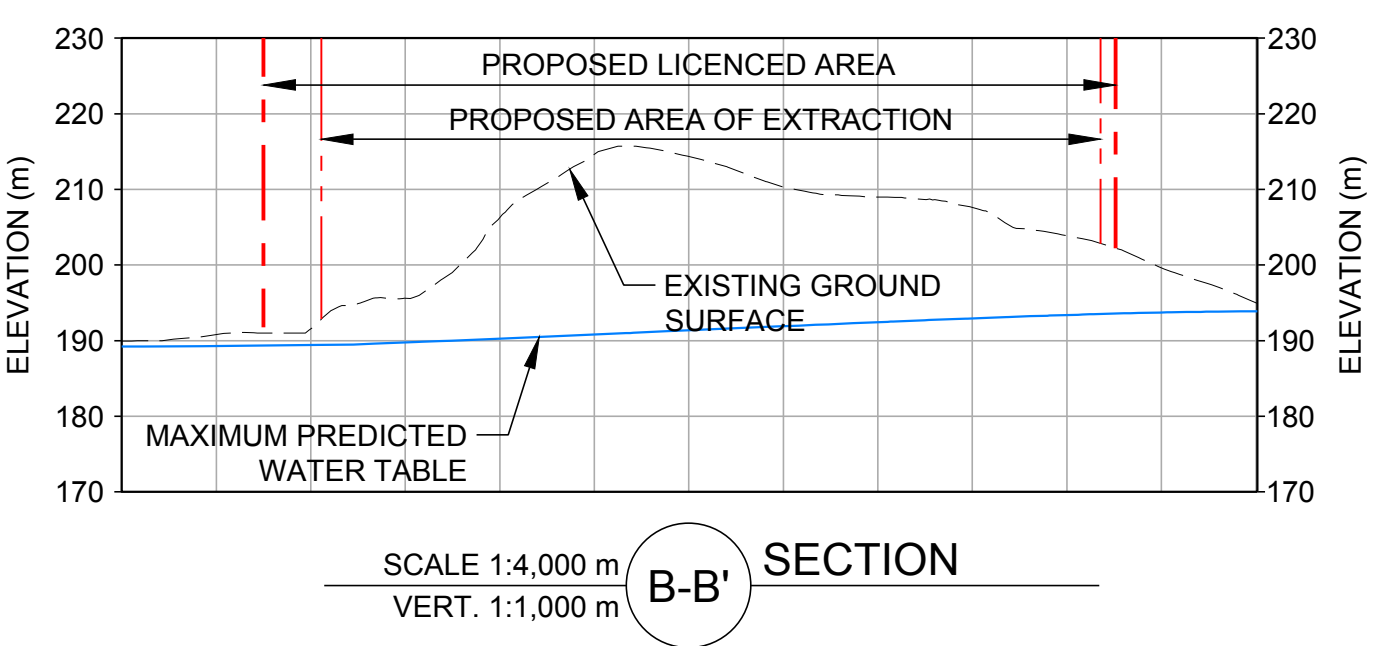
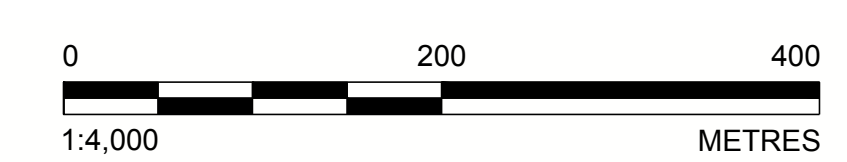
[Signature] 12-13-22
PREPARED UNDER THE DIRECTION OF: DATE
BRIAN HENDERSON

THOMAS CAVANAGH CONSTRUCTION LIMITED

AMENDMENTS	DATE	APPROVAL DATE

SITE PLANS APPROVED BY THE MINISTRY OF NATURAL RESOURCES AND FORESTRY.

SIGNATURE _____ DATE _____



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OPERATIONS PLAN NOTES (PAGE 4 OF 5):

NOTE: THE NUMBERS BELOW REFER TO AGGREGATE RESOURCES OF ONTARIO: SITE PLAN STANDARDS (AUGUST 2020)

33 PROPOSED ENTRANCE AND EXIT

ACCESS TO THE SITE FOR HAULAGE PURPOSES WILL BE FROM TO HIGHLAND LINE ROAD. THE ENTRANCE/EXIT POINTS FOR THE SITE ARE SHOWN ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5). THE WESTERNMOST ACCESS IN EXTRACTION AREA 2 CANNOT BE USED BY HEAVY EQUIPMENT DUE TO DEFICIENT SITE DISTANCE CHARACTERISTICS. ACCESS TO THE SITE WILL BE CONTROLLED BY GATES ERRECTED AND MAINTAINED AT THE ENTRANCES/EXITS OF THE PROPERTY. THESE GATES WILL BE KEPT CLOSED WHEN THE SITE IS NOT IN OPERATION.

34 AREA TO BE EXTRACTED

THE MAXIMUM AREA OF EXTRACTION IS 35.1 HECTARES. THE SITE WILL BE DIVIDED INTO TWO EXTRACTION AREAS (EXTRACTION AREA 1 AND 2) WITH THE TWO AREAS SEPARATED BY ANDERSON LANE. THE MAXIMUM AREA OF EXTRACTION FOR AREA 1 IS 14.3 HECTARES AND THE MAXIMUM AREA OF EXTRACTION FOR AREA 2 IS 20.8 HECTARES. THE BOUNDARY OF THE AREA OF EXTRACTION IS SHOWN ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5). THE EXTRACTION AREAS INCLUDE THE ARCHEOLOGICAL EXCLUSION ZONE BUT DO NOT INCLUDE THE NATURAL ENVIRONMENT EXCLUSION ZONE. NO GROUND DISTURBANCE CAN TAKE PLACE IN THE ARCHEOLOGICAL EXCLUSION ZONES UNTIL SUCH TIME AS AN AREA HAS BEEN CLEARED OF ARCHEOLOGICAL SIGNIFICANCE BY THE MINISTRY OF TOURISM, CULTURE AND SPORT.

36 PROPOSED FENCING

THE EXISTING FENCING WILL BE REPAIRED/REPLACED, AS NECESSARY, BEFORE EXTRACTION OPERATIONS BEGIN AT THE SITE. NEW FENCING IS PROPOSED FOR THE SOUTHERN BOUNDARY OF THE SITE. ALL SIDES OF THE SITE WILL BE FENCED DURING THE OPERATIONAL PERIOD INCLUDING BOTH SIDES OF ANDERSON LANE.

37 PROPOSED BUILDINGS AND STRUCTURES, SCRAP STORAGE, STOCKPILES AND INTERNAL HAUL ROAD

- A. NO BUILDINGS OR PERMANENT STRUCTURES ARE PROPOSED FOR THE SITE. A SCALE HOUSE AND SCALES WILL BE ESTABLISHED AT THE SITE HOWEVER IT WILL BE PORTABLE AND WILL MOVE WITHIN THE LICENSED AREA. THE SCALE HOUSE AND SCALES WILL INITIALLY BE ESTABLISHED NEAR THE ENTRANCE/EXIT AT THE NORTHEAST CORNER OF THE SITE.
- B. SCRAP FROM THE SITE WILL BE TEMPORARILY STORED WITHIN THE AREAS DESIGNATED ON THE OPERATIONS SITE PLAN (PAGE 3 OF 4).
- C. LOCATIONS OF THE AGGREGATE STOCKPILES WILL FOLLOW OPERATIONS AND THEREFORE VARY ON SITE. STOCKPILES WILL BE LOCATED NO CLOSER THAN 30 METRES TO THE LICENSED BOUNDARY.
EXCESS TOPSOIL WILL BE STOCKPILED IN BERMS WITHIN THE LICENSED AREA AS IT BECOMES AVAILABLE, FOR LATER USE IN REHABILITATION.
- D. INTERNAL HAUL ROADS WILL BE ESTABLISHED WITHIN THE PIT FOLLOWING THE DIRECTION OF EXCAVATION. DUST WILL BE MITIGATED ON SITE. WATER OR ANOTHER PROVINCIALLY APPROVED DUST SUPPRESSANT WILL BE APPLIED TO INTERNAL HAUL ROADS AS OFTEN AS REQUIRED TO MITIGATE DUST.

38 LOCATION OF ANY PROPOSED PERMANENT AND/OR TEMPORARY PROCESSING AREA(S) ON THE SITE

PROCESSING WILL OCCUR IN ACCORDANCE WITH THE ACOUSTIC ASSESSMENT REPORT OF THE SITE PREPARED BY FREEFIELD LTD. AND THE OTHER TECHNICAL REPORTS. PROCESSING AREAS WILL OPERATE IN THE AREAS IDENTIFIED ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5).

DUST WILL BE MITIGATED ON SITE. WATER OR ANOTHER PROVINCIALLY APPROVED DUST SUPPRESSANT WILL BE APPLIED TO PROCESSING AREAS AS OFTEN AS NECESSARY TO MITIGATE DUST. PROCESSING EQUIPMENT WILL BE EQUIPPED WITH DUST SUPPRESSION OR COLLECTION DEVICES WHERE THE EQUIPMENT CREATES DUST AND IS BEING OPERATED WITHIN 300 METRES OF A SENSITIVE RECEPTOR.

PROCESSING EQUIPMENT WILL NOT BE LOCATED WITHIN 30 METRES OF THE LICENSED BOUNDARY.

39 LOCATION OF ANY PROPOSED RECYCLABLE MATERIALS

AGGREGATE STOCKPILES MAY INCLUDE RECYCLABLE MATERIALS AND IMPORTED AGGREGATE MATERIALS REQUIRED FOR BLENDING PROCESSES. THE LOCATION OF THE RECYCLABLE MATERIAL WILL BE IN AREAS DESIGNATED ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5). A MAXIMUM OF 100,000 METRIC TONNES OF RECYCLABLE MATERIAL WOULD BE PRESENT ON SITE.

STOCKPILES WILL BE LOCATED NO CLOSER THAN 30 METRES TO THE LICENSED BOUNDARY.

RECYCLING OF CONCRETE AND ASPHALT WILL BE PERMITTED AS AN ACCESSORY ACTIVITY ON THIS SITE. ASPHALT MATERIALS WILL BE STORED AT LEAST 30 METRES HORIZONTALLY FROM ANY WATER SOURCE. ANY REBAR AND OTHER STRUCTURAL METAL REMOVED FROM THE MATERIAL DURING PROCESSING WILL BE STORED IN THE DESIGNATED SCRAP AREAS AND WILL BE REMOVED ON AN ONGOING BASIS. RECYCLING ACTIVITIES MUST NOT PRECLUDE OR HINDER THE PROGRESSIVE OR FINAL REHABILITATION REQUIREMENTS OF THIS PLAN. ONCE FINAL REHABILITATION HAS BEEN COMPLETED, ALL RECYCLING ACTIVITIES WILL CEASE AND RECYCLABLE MATERIALS WILL BE REMOVED FROM THE SITE.

40 SEQUENCE/DIRECTION OF OPERATION

THE SITE WILL BE DIVIDED INTO TWO EXTRACTION AREAS (EXTRACTION AREA 1 AND AREA 2). THE TWO EXTRACTION AREAS CAN BE OPERATED SIMULTANEOUSLY.

IN EXTRACTION AREA 1, EXTRACTION WILL COMMENCE IN THE AREA OF EACH ENTRANCE/EXIT. FROM THE NORTHERN ENTRANCE/EXIT, EXTRACTION WILL PROCEED TO THE SOUTHEAST AND THEN TO THE SOUTHWEST. FROM THE SOUTHERN ENTRANCE/EXIT, EXTRACTION WILL PROCEED TO THE SOUTHEAST AND NORTHEAST.

IN EXTRACTION AREA 2, EXTRACTION WILL COMMENCE IN THE AREA OF EACH ENTRANCE/EXIT. FROM THE NORTHERN ENTRANCE/EXIT, EXTRACTION WILL PROCEED TO THE SOUTH AND EAST. FROM THE SOUTHERN ENTRANCE/EXIT, EXTRACTION WILL PROCEED TO THE NORTHEAST AND RADIATE TO THE NORTH, EAST AND SOUTH.

41 STRIPPING AND STOCKPILING OF TOPSOIL/OVERBURDEN

TOPSOIL OR OVERBURDEN STRIPPED IN THE OPERATION OF THE SITE MAY BE STORED IN BERMS WITHIN THE SETBACK ON ALL SIDES OF THE SITE AND WILL BE USED IN THE REHABILITATION OF THE SITE.

DURING CONSTRUCTION AND EARTH-MOVING OPERATIONS, SEDIMENT CONTROL MEASURES WILL BE PUT IN PLACE TO PREVENT RUNOFF OF SUSPENDED SOLIDS FROM LEAVING THE SITE.

THE LOCATIONS OF THE BERMS ARE AS SHOWN ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5).

42 EXTRACTION LIFTS

THE EXTRACTION WILL TAKE PLACE IN A SERIES OF THREE LIFTS, WITH THE BOTTOM LIFT REACHING A FINAL ELEVATION OF 176 METRES ABOVE SEA LEVEL AS INDICATED ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5). THE MAXIMUM LIFT HEIGHT WOULD BE TEN (10) METRES. EXTRACTION LIFTS AND BENCH HEIGHTS WILL BE IN COMPLIANCE WITH MINISTRY OF LABOUR REQUIREMENTS. THE PIT MAY OPERATE MULTIPLE LIFTS AND BENCHES IN ORDER TO MEET MARKET DEMAND AND/OR CONTRACT REQUIREMENTS FOR SPECIFIC MATERIALS.

43 SURFACE WATER DIVERSION/DISCHARGE

BASED ON TOPOGRAPHY, WATER FROM THE SITE CURRENTLY FLOWS NORTH TOWARDS HIGHLAND LINE, SOUTH TOWARDS THE UNEVALUATED WETLAND ALONG LONG SAULT CREEK, AND EAST TOWARDS BARBERS LAKE. DURING OPERATIONS, THE WATER FROM THE ACTIVE SITE WILL DRAIN TO THE OPEN PIT AREAS AND REMAIN AS WATER BODY FEATURES ONCE THE EXCAVATION IS BELOW THE WATER TABLE. THE PIT LAKES WILL OUTLET INTO BARBERS LAKE ON THE EASTERN LIMIT OF EXTRACTION AREA 1.

44 SOURCE WATER PROTECTION POLICIES

THE SITE FALLS OUTSIDE OF ANY IDENTIFIED SOURCE WATER PROTECTION AREAS AND, AS SUCH, NO SOURCE WATER PROTECTION POLICIES ARE APPLICABLE TO THE SITE.

45 PROPOSED FUEL STORAGE AREAS

A FUEL STORAGE AREA WILL BE ESTABLISHED AT THE SITE NEAR THE SCALE HOUSE. FUEL AND ASSOCIATED PRODUCTS WILL BE STORED IN ABOVE GROUND TANKS OR CONTAINERS AND IN COMPLIANCE WITH THE TECHNICAL STANDARDS AND SAFETY ACT, 2000, LIQUID FUELS REGULATION O.REG.217/01 AND LIQUID FUELS HANDLING CODE, 2000. FUEL TRUCKS MAY BE USED FOR REFUELING OF ON-SITE EQUIPMENT WITHIN THE PIT IN ACCORDANCE WITH THE "PRESCRIBED CONDITIONS" THAT APPLY TO ALL CLASS A, BELOW WATER TABLE PIT LICENCES. A SPILLS CONTINGENCY PLAN WILL BE DEVELOPED PRIOR TO THE FIRST FUEL DELIVERY.

46 LOCATION OF ALL EXCAVATION SETBACKS

EXCAVATION SETBACKS INCLUDE A 30-METRE SETBACK ON THE NORTH (HIGHLAND LINE ROAD) AND WEST (ROAD ALLOWANCE BETWEEN CONCESSION 10 AND CONCESSION 11) SIDES OF THE SITE AND THROUGH THE CENTRE OF THE SITE ADJACENT TO ANDERSON LANE. A 30-METRE SETBACK ALSO EXISTS FROM WETLANDS ON OR WITHIN 120 METRES FROM THE SITE.

A 15-METRE SETBACK EXISTS ON THE NORTHEAST SIDE OF THE SITE AND ALONG THE WESTERN BOUNDARY OF THE PROPERTY. NO SETBACK IS PRESENT IN THE SOUTHEASTERN PORTION OF THE SITE AS THE ADJACENT PROPERTY IS ALSO OWNED BY THOMAS CAVANAGH CONSTRUCTION LIMITED.

ARCHEOLOGICAL EXCLUSION ZONES HAVE ALSO BEEN ESTABLISHED TO INCLUDE PORTIONS OF THE SITE THAT HAVE NOT BEEN SUBJECT TO A STAGE 2 ARCHEOLOGICAL ASSESSMENT AND AS A RESULT HAVE NOT BEEN CLEARED BY THE MINISTRY OF TOURISM, CULTURE AND SPORT. FOLLOWING FURTHER ASSESSMENT, SHOULD THESE AREAS BE CLEARED BY THE MINISTRY OF TOURISM, CULTURE AND SPORT, EXTRACTION CAN PROCEED TO THE STANDARD REGULATORY EXCAVATION SETBACK.

THE EXCAVATION SETBACKS ARE AS SHOWN ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5).

47 FINAL ELEVATION

THE FINAL FLOOR ELEVATION OF THE SITE WILL BE APPROXIMATELY 176 METRES ABOVE SEA LEVEL AS INDICATED BY THE SPOT ELEVATIONS ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5).

OPERATIONS PLAN NOTES (PAGE 4 OF 5) CONTINUED:

48 PROPOSED BERMS

STORAGE BERMS FOR TOPSOIL AND OVERBURDEN WILL BE LOCATED WITHIN THE SETBACK ON ALL SIDES OF THE SITE. THE MINIMUM HEIGHT FOR THE BERMS THAT ARE ARE REQUIRED FOR NOISE ATTENUATION WILL BE CONSTRUCTED AS PER THE RECOMMENDED NOISE BARRIERS TABLE (PAGE 3 OF 5). MATERIAL MAY BE IMPORTED TO COMPLETE THE BERMS SHOULD THERE BE INSUFFICIENT ON-SITE MATERIAL. IMPORTED MATERIAL MUST MEET THE REQUIREMENTS OF NOTE 62 (PAGE 5 OF 5).

49 BERM VEGETATION AND MAINTENANCE

BERMS WILL BE KEPT BACK AT LEAST 3 METRES FROM THE LICENSE BOUNDARY AND WILL HAVE AN APPROXIMATE SLOPE OF 2:1. THE SLOPES WILL BE SEEDED WITH NATIVE VEGETATION TO ENSURE THAT ADEQUATE VEGETATION IS ESTABLISHED AND MAINTAINED TO CONTROL EROSION.

50 METHOD OF EXTRACTION AND EQUIPMENT TO BE USED

THE AGGREGATE AT THE SITE WILL BE EXTRACTED USING EXCAVATION EQUIPMENT. THE EQUIPMENT TO BE LOCATED ON SITE WILL INCLUDE THE FOLLOWING: LOADERS, DUMP TRUCKS, WATER TRUCKS, EXCAVATORS, BULLDOZERS, HAULAGE TRUCKS, SCRAPERS, AND MOBILE CRUSHING/SCREENING AND WASHING PLANTS.

THE PLANTS WILL INCLUDE A SCREENING/WASHING OPERATION CONSISTING OF, BUT NOT LIMITED TO, A HOPPER (FEED BIN), DRY SCREEN AND WET SCREEN DECKS, A CLASSIFIER, TWO DOUBLE SCREW MATERIAL WASHERS, A DEWATERING DERRICK, DIESEL ENGINE, SPRAYBARS AND CONVEYORS AND STACKERS, AND A CRUSHING OPERATION, CONSISTING OF, BUT NOT LIMITED TO, A HOPPER (FEED BIN), PRIMARY AND SECONDARY CRUSHING UNITS, A DIESEL ENGINE, VIBRATING SCREENS, A MAGNETIC SEPARATOR AND CONVEYORS.

51 PROPOSED TREE SCREENS

NO ADDITIONAL TREE SCREENS ARE PROPOSED AT THIS TIME. NATURAL TREE SCREENS CURRENTLY EXIST ON THE NORTHEAST, SOUTHEAST AND PORTIONS OF THE SOUTHWEST SIDES OF THE SITE.

52 HOURS OF OPERATION

HOURS OF OPERATION ARE 24 HOURS SUBJECT TO THE FOLLOWING RESTRICTIONS:

DAYTIME OPERATIONS (07:00 - 19:00) - DURING THE DAYTIME PERIOD, ALL SIGNIFICANT NOISE SOURCES ARE ASSUMED TO BE IN OPERATION AND INCLUDE THE FOLLOWING:

- ONE MOBILE SCREENING PLANT
- ONE MOBILE WASH PLANT
- ONE MOBILE CRUSHING PLANT
- UP TO SIX LOADERS OR EXCAVATORS
- ON-SITE TRUCK MOVEMENTS USED TO DELIVER MATERIAL TO THE MOBILE CRUSHING PLANT AND SHIP PROCESSED PRODUCT OFF-SITE.

EVENING AND NIGHT TIME OPERATIONS (19:00 - 07:00) - DURING THE EVENING AND NIGHT TIME PERIOD THE FOLLOWING SIGNIFICANT NOISE SOURCES MAY BE IN OPERATION:

- UP TO TWO LOADERS OR EXCAVATORS
- ON-SITE TRUCK MOVEMENTS USED TO SHIP PROCESSED PRODUCT OFF-SITE.

FURTHER DETAILS ARE PROVIDED WITHIN THE RECOMMENDATIONS OF THE ACOUSTIC ASSESSMENT REPORT (REFER TO TECHNICAL REPORT RECOMMENDATIONS).

RESPONSES TO EMERGENCIES AND REQUIRED MAINTENANCE IS NOT LIMITED BY THE HOURS OF OPERATION LISTED IN THE ACOUSTIC ASSESSMENT REPORT.

53 TREES AND STUMPS

WITHIN THE AREA TO BE EXTRACTED, ALL TREES WITHIN 5 METRES OF THE EXCAVATION FACE WILL BE REMOVED. ANY TREES PRESENT WITHIN THE EXTRACTION AREA ARE TO BE HARVESTED AND UTILIZED IN THE MOST APPROPRIATE MANNER. SMALL TREES AND STUMPS REMAINING ON-SITE WILL BE GROUND UP OR BROKEN DOWN USING AN EXCAVATOR AND MIXED WITH TOPSOIL TO BE UTILIZED DURING REHABILITATION OF THE SITE. LARGE PIECES OF WOOD MATERIAL MAY BE LEFT IN THE REHABILITATED AREAS AS HABITAT STRUCTURE AND COVER FOR SMALL MAMMALS AS WELL AS BASKING AREAS FOR REPTILES AND PERCHING AREAS FOR WATERFOWL.

54 VARIATIONS FROM OPERATIONAL REQUIREMENTS

REFER TO VARIATIONS FROM OPERATIONAL REQUIREMENTS TABLE ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5).

55 MAXIMUM ANNUAL TONNAGE

THE NUMBER OF TONNES TO BE REMOVED FROM THE SITE IN A CALENDAR YEAR WILL NOT EXCEED 1,000,000.

OPERATIONS CROSS-SECTIONS

69 LOCATION OF CROSS-SECTIONS

REFER TO OPERATIONS PLAN (PAGE 3 OF 5) FOR LOCATION OF OPERATIONS CROSS-SECTIONS.

70 HORIZONTAL AND VERTICAL SCALES

APPROPRIATE HORIZONTAL AND VERTICAL SCALES ARE MARKED ON THE CROSS-SECTIONS.

71 OPERATIONS CROSS-SECTIONS

THREE OPERATIONS CROSS-SECTIONS ARE PROVIDED ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5). DURING OPERATIONS, THE WATER TABLE SURROUNDING THE PITS WILL MATCH THE WATER LEVEL IN THE PIT LAKE (186 METRES ABOVE SEA LEVEL). THE PREDICTED WATER TABLE DURING OPERATIONS IS SHOWN ON THE OPERATIONS CROSS-SECTIONS ON THIS PLAN (PAGE 3 OF 5).

73 TYPICAL BERM DESIGN

A CROSS-SECTION OF A TYPICAL BERM DESIGN IS SHOWN ADJACENT TO THE OPERATIONS CROSS-SECTIONS (PAGE 3 OF 5).

TECHNICAL REPORT RECOMMENDATIONS AND/OR MONITORING

LIST OF REFERENCES WHICH APPLY SPECIFICALLY TO THE SITE PLAN:

FREEFIELD LTD., 2022. ACOUSTIC ASSESSMENT FOR THE HIGHLAND LINE PIT, LANARK HIGHLAND TOWNSHIP, LANARK COUNTY, ONTARIO. PREPARED FOR THOMAS CAVANAGH CONSTRUCTION LIMITED, SEPTEMBER 2022.

GOLDER ASSOCIATES LTD., 2022. NATURAL ENVIRONMENT REPORT, PROPOSED HIGHLAND LINE PIT, LANARK COUNTY, ONTARIO. PREPARED FOR THOMAS CAVANAGH CONSTRUCTION LIMITED, DECEMBER 2022.

GOLDER ASSOCIATES LTD., 2022. LEVEL 1 AND LEVEL 2 WATER REPORT, PROPOSED HIGHLAND LINE PIT, TOWNSHIP OF LANARK HIGHLANDS, ONTARIO. PREPARED FOR THOMAS CAVANAGH CONSTRUCTION LIMITED, DECEMBER 2022.

GOLDER ASSOCIATES LTD., 2021. STAGE 1 ARCHEOLOGICAL ASSESSMENT, HIGHLAND LINE PIT, PART OF LOTS 4 AND 5, CONCESSION 10, DALHOUSIE TOWNSHIP, LANARK COUNTY, ONTARIO. PREPARED FOR THOMAS CAVANAGH CONSTRUCTION LIMITED, APRIL 2021.

STUDY RECOMMENDATIONS AND MONITORING REQUIREMENTS HAVE BEEN INCORPORATED INTO THE SITE PLAN NOTES, AS APPROPRIATE, AND ARE SUMMARIZED BELOW:

NATURAL ENVIRONMENT:

- NO CLEARING OF VEGETATION WILL TAKE PLACE WITHIN THE CORE BREEDING BIRD SEASON (APRIL 1 - AUGUST 31) UNLESS A NESTING SURVEY HAS BEEN COMPLETED BY A QUALIFIED BIOLOGIST WITHIN 24 HOURS OF THE CLEARING, AND NO ACTIVE NESTS WERE OBSERVED.
- FENCE AND PROTECT THE AREA IDENTIFIED AS MATERNITY ROOST HABITAT FOR TRI-COLOURED BAT TO PREVENT INTRUSION INTO THIS AREA. AVOID PLACING LIGHTING IN THE VICINITY OF THIS AREA.
- AN AWARENESS PACKAGE, SPECIES AT RISK ENCOUNTER PROTOCOL AND SPECIES AT RISK TRAINING PROGRAM IS TO BE PREPARED THAT LISTS THE SPECIES AT RISK THAT MAY BE PRESENT ON THE SITE OR IN THE LOCAL LANDSCAPE, AND IDENTIFIES WHAT TO DO IF ONE IS OBSERVED ON THE SITE. THE AWARENESS PACKAGE WILL INCLUDE:
 - INFORMATION / TRAINING ON IDENTIFYING SPECIES AT RISK;
 - WHAT TO DO IF A SPECIES AT RISK IS OBSERVED (MOVING, INJURED, DEAD OR NESTING);
 - HOW TO PROTECT A TURTLE OR BIRD NEST;
 - INFORMATION ON HOW TO REPORT A SPECIES AT RISK SIGHTING TO THE NATURAL HERITAGE INFORMATION CENTRE; AND,
 - A REQUIREMENT THAT IF A SPECIES AT RISK IS FOUND ON THE SITE, ALL WORK MUST STOP AND THE SPECIES SHALL BE PROTECTED FROM HARM. MECP SHALL BE NOTIFIED IMMEDIATELY TO SEEK GUIDANCE ON WAYS TO AVOID IMPACTS UNDER THE ENDANGERED SPECIES ACT (E.G., MITIGATION, CONDITIONAL EXEMPTION) PRIOR TO RESUMING WORK.
- STANDARD BEST MANAGEMENT PRACTICES FOR NOISE AND DUST MITIGATION AT PIT OPERATIONS WILL BE EMPLOYED TO REDUCE IMPACTS ON ADJACENT LANDS, AND THE HABITATS THEY PROVIDE.

OPERATIONS PLAN NOTES (PAGE 4 OF 5) CONTINUED:

ACOUSTIC ASSESSMENT:

• NOISE BARRIERS AND BERMS:

- NOISE BARRIERS AND BERMS ARE TO BE PROVIDED AS PER RECOMMENDED NOISE BARRIERS TABLE AND OPERATIONS SITE PLAN (PAGE 3 OF 5).
- NOISE BARRIERS AND BERMS ARE TO BE SOLID, HAVING NO GAPS, AND ARE TO HAVE A SURFACE DENSITY OF NO LESS THAN 20 KG/M². EXAMPLES OF SUITABLE BARRIERS OR BERMS INCLUDE:
 - LIFT FACE OR EXISTING TERRAIN;
 - EARTH, GRAVEL OR AGGREGATE BERMS OR STOCKPILES;
 - CONCRETE OR BRICK WALLS;
 - COMMERCIAL NOISE BARRIERS;
 - SHIPPING CONTAINERS OR BUILDINGS;
 - A PORTABLE BARRIER SUCH AS A TRUCK TRAILER EQUIPPED WITH MOVABLE FLAPS TO BLOCK THE SPACE BETWEEN THE GROUND AND THE BOTTOM OF THE TRAILER AND INCREASE HEIGHT IF REQUIRED.
- NOISE BARRIERS SHIELDING PORTABLE EQUIPMENT MAY BE PROGRESSIVELY ESTABLISHED TO PROVIDE SHIELDING FROM LOCATION OF OPERATION TO THE IDENTIFIED NOISE SENSITIVE POINT OF RECEPTION (POR).
- MOBILE SCREENING PLANT
 - THE OPERATION OF THE MOBILE SCREENING PLANT (SCREENER) MAY TAKE PLACE ONLY DURING THE DAYTIME PERIOD (07:00 TO 19:00) AND SHALL COMPLY WITH THE FOLLOWING:
 - THE SCREENER IS TO BE LOCATED ON THE PIT FLOOR AT A MAXIMUM ELEVATION OF 188 METRES ABOVE SEA LEVEL.
 - NOISE BARRIERS ARE TO BE PROVIDED AS PER RECOMMENDED NOISE BARRIERS TABLE AND OPERATIONS SITE PLAN (PAGE 3 OF 5).
- WASH PLANT
 - THE OPERATION OF THE WASH PLANT AND ASSOCIATED DIESEL GENERATOR MAY TAKE PLACE ONLY DURING THE DAYTIME PERIOD (07:00 TO 19:00) AND SHALL COMPLY WITH THE FOLLOWING:
 - THE WASH PLANT IS TO BE LOCATED ON THE PIT FLOOR AT A MAXIMUM ELEVATION OF 188 METRES ABOVE SEA LEVEL IN LOCATIONS SHOWN ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5).
 - NOISE BARRIERS ARE TO BE PROVIDED AS PER RECOMMENDED NOISE BARRIERS TABLE AND OPERATIONS SITE PLAN (PAGE 3 OF 5).
 - THE MAXIMUM OUTDOOR SOUND POWER OF THE GENERATOR, IF USED TO PROVIDE POWER TO THE WASH PLANT, MUST NOT EXCEED 109.5 DBA. TO ACHIEVE THESE RATINGS THE GENERATOR WILL LIKELY NEED TO BE HOUSED INSIDE AN ENCLOSURE AND FITTED WITH AN EXHAUST SILENCER THAT MEETS THE MINIMUM INSERTION LOSS REQUIREMENTS LISTED IN THE MINIMUM INSERTION LOSS FOR GENERATOR EXHAUST SILENCER TABLE (PAGE 4 OF 5). THE SILENCER IS TO BE LOCATED INSIDE THE ENCLOSURES OR AS CLOSE AS POSSIBLE TO THE LOCATION WHERE THE EXHAUST EXITS THE ENCLOSURES WITH THE DUCT MATERIAL BETWEEN THE SILENCER AND THE GENERATOR CONSTRUCTED OF 16-GAUGE WEATHER RESISTANT METAL. THE SILENCERS SHALL HAVE A HIGH TRANSMISSION LOSS CASING. THIS ITEM DOES NOT APPLY IF HYDRO IS USED TO PROVIDE POWER TO THE PLANT.

• MOBILE CRUSHING PLANT

- THE OPERATION OF THE MOBILE CRUSHING PLANT (CRUSHER) MAY TAKE PLACE ONLY DURING THE DAYTIME PERIOD (07:00 TO 19:00) AND SHALL COMPLY WITH THE FOLLOWING:
 - THE CRUSHER IS TO BE LOCATED ON THE PIT FLOOR AT A MAXIMUM ELEVATION OF 188 METRES ABOVE SEA LEVEL IN LOCATIONS SHOWN ON THE OPERATIONS SITE PLAN (PAGE 3 OF 5).
 - NOISE BARRIERS ARE TO BE PROVIDED AS PER RECOMMENDED NOISE BARRIERS TABLE AND OPERATIONS SITE PLAN (PAGE 3 OF 5).
- LOADERS AND EXCAVATORS
 - THE OPERATION OF THE LOADERS AND EXCAVATORS MAY TAKE PLACE DURING THE DAYTIME, EVENING AND NIGHTTIME PERIOD (24 HOURS) ANYWHERE IN THE EXTRACTION AREA.
- HIGHWAY TRUCKS
 - THE LOADING AND SHIPPING OF PRODUCT USING HIGHWAY TRUCKS MAY TAKE PLACE DURING THE DAYTIME, EVENING AND NIGHTTIME PERIOD (24 HOURS) AND SHALL COMPLY WITH THE FOLLOWING:
 - WHEN OPERATING ON-SITE, HIGHWAY TRUCKS SHALL NOT EXCEED 30 KM/H AND SHALL NOT USE COMPRESSION BRAKING (JAKE BRAKES).
- PORTABLE CONSTRUCTION EQUIPMENT
 - PORTABLE CONSTRUCTION EQUIPMENT USED FOR SITE PREPARATION (E.G. LAND CLEARING AND CONSTRUCTION OF BERMS) AND REHABILITATION SHALL COMPLY WITH MECP PUBLICATION NPC-115, CONSTRUCTION EQUIPMENT, AUGUST 1978. (THIS PUBLICATION GIVES NOISE STANDARDS TO BE MET BY CONSTRUCTION EQUIPMENT IN ONTARIO.) SITE PREPARATION AND REHABILITATION ACTIVITIES SHALL TAKE PLACE ONLY DURING DAYTIME HOURS (07:00 - 19:00).
- NEW PROCESS
 - IF A NEW PROCESS IS INTRODUCED TO THE SITE, THEN THIS PROCESS SHALL BE ASSESSED BY A QUALIFIED ACOUSTICAL CONSULTANT PRIOR TO COMMISSIONING. NOISE MITIGATION MEASURES SHALL BE REVIEWED, AND ALTERED IF NECESSARY, TO ENSURE THAT MECP SOUND LEVEL LIMITS ARE MET AT ALL POINTS OF RECEPTION.

ARCHAEOLOGY:

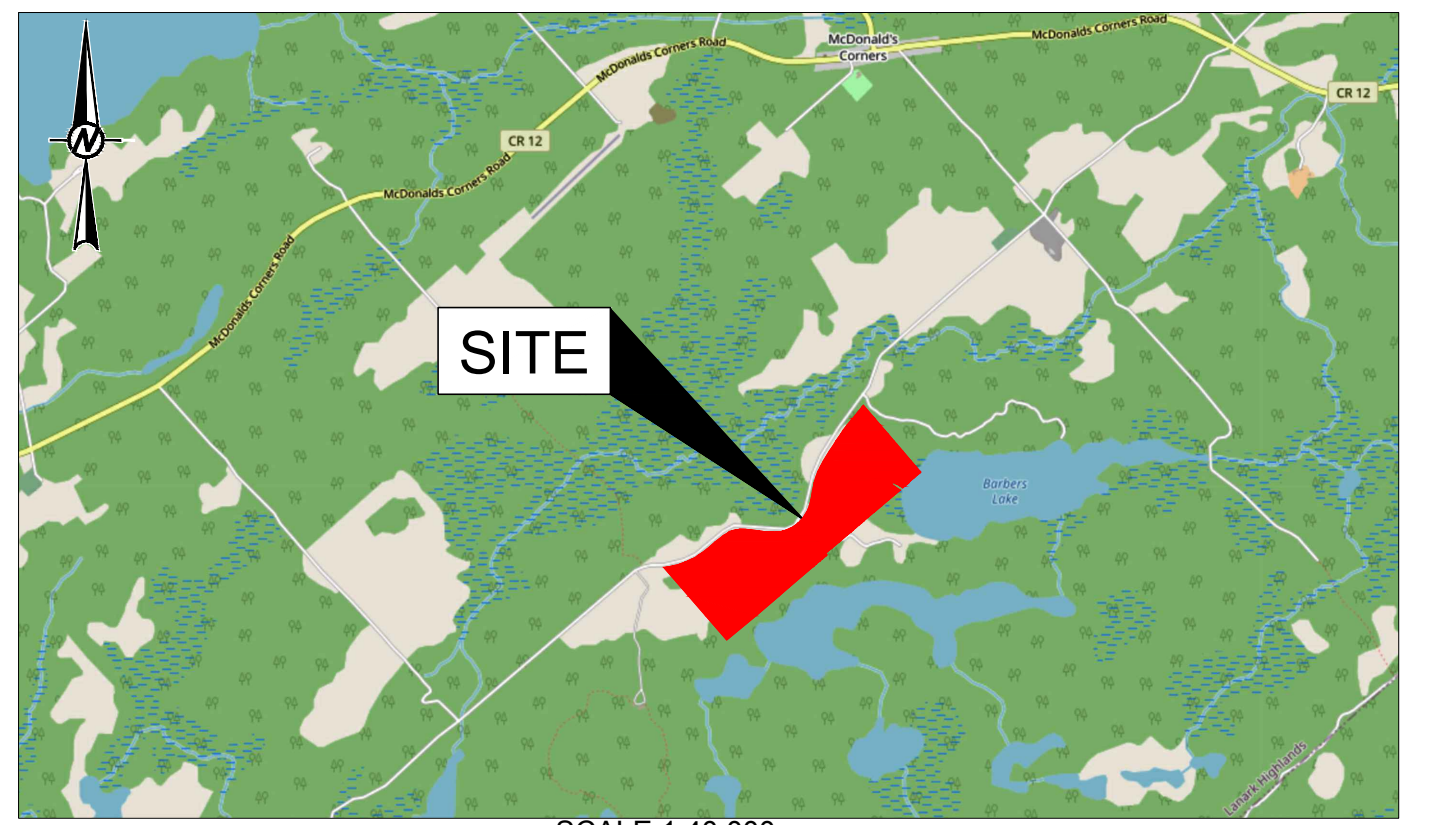
- PORTIONS OF THE STUDY AREA WITH ARCHAEOLOGICAL POTENTIAL (I.E., ARCHAEOLOGICAL EXCLUSION ZONE ON PAGE 3 OF 5) REQUIRE STAGE 2 ARCHAEOLOGICAL ASSESSMENT PRIOR TO DEVELOPMENT IMPACTS.

MINIMUM INSERTION LOSS FOR GENERATOR EXHAUST SILENCER

NAME	OCTAVE BAND CENTRE FREQUENCY, HZ MINIMUM DYNAMIC INSERTION LOSS (DB)								RW
	63	125	250	500	1000	2000	4000	8000	
SILENCER TO BE INSTALLED AT THE GENERATOR EXHAUST* (SOURCE: GENERATOR)	10	30	38	30	25	20	20	20	24

- NOTES:
1. OCTAVE BAND CENTRE FREQUENCY, HZ, WITH MINIMUM DYNAMIC INSERTION LOSS IN DB OR DBA UNITS RE 10-12 WATTS. ALTERNATIVE LEVELS AT EACH FREQUENCY BAND PERMISSIBLE PROVIDING THE OVERALL INSERTION LOSS MEETS THE OVERALL INSERTION LOSS (RW) AS NOTED ABOVE AND IS NOT TONAL IN CHARACTER.
 2. INSERTION LOSS BASED ON SILEX SILENCER MODEL JB 6.

KEY MAP



SCALE 1:40,000 m

**HIGHLAND LINE PIT
LOT 5, CONCESSION 10
TOWNSHIP OF LANARK HIGHLANDS,
LANARK COUNTY, ONTARIO**

APPLICANT:
THOMAS CAVANAGH CONSTRUCTION LIMITED
9094 CAVANAGH ROAD
ASHTON, ONTARIO
K0A 1B0

PIT LICENCE NO. _____

NOTE(S)

1. LICENCED AREA, HIGHLAND LINE PIT **50.6** HECTARES.
2. AREA OF OPERATION, HIGHLAND LINE PIT **35.1** HECTARES.
3. THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENSE FOR A PIT BELOW THE GROUND WATER TABLE.

REFERENCE(S)

1. KEY PLAN: Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.

CLIENT
THOMAS CAVANAGH CONSTRUCTION LIMITED

PROJECT
HIGHLAND LINE PIT

TITLE
OPERATIONS PLAN NOTES

APPLICANT
YYYY-MM-DD
2022-12-13

THOMAS CAVANAGH CONSTRUCTION LIMITED

DESIGNED BH
PREPARED JM
REVIEWED KAM
APPROVED KAM

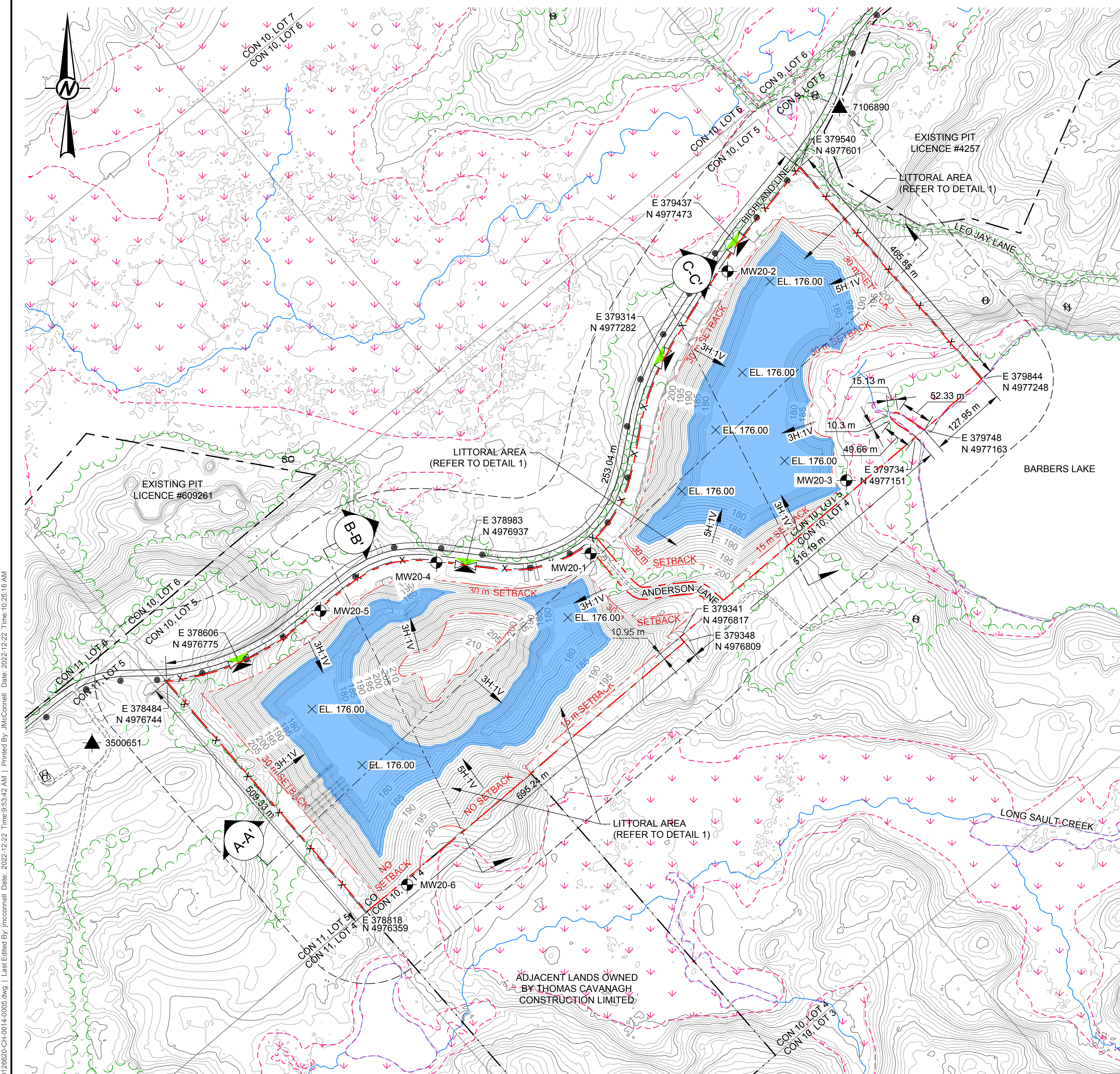
PROJECT NO. 19126620 CONTROL 0014 REV. 0 DRAWING 4 OF 5



	12-13-22
SIGNATURE OF APPLICANT/LICENSEE	DATE
	12-13-22
PREPARED UNDER THE DIRECTION OF: BRIAN HENDERSON	DATE

THOMAS CAVANAGH CONSTRUCTION LIMITED

AMENDMENTS	DATE	APPROVAL DATE
SITE PLANS APPROVED BY THE MINISTRY OF NATURAL RESOURCES AND FORESTRY.		
SIGNATURE _____		DATE _____



EXISTING FEATURES - SITE
SCALE 1:4,000 m

REHABILITATION PLAN NOTES (PAGE 5 OF 5):
NOTE: THE NUMBERS BELOW REFER TO AGGREGATE RESOURCES OF ONTARIO: SITE PLAN STANDARDS (AUGUST 2020)

59 PROPOSED FINAL REHABILITATION OF THE SITE
THE PROPOSED FINAL REHABILITATION OF THE SITE IS AS A LAKE. ALONG THE SIDES OF THE EXCAVATIONS, TYPICAL 3:1 (HORIZONTAL:VERTICAL) SLOPES WILL BE CONSTRUCTED. ALONG THE MAJORITY OF THE BOUNDARIES WITH SELECTED AREAS HAVING SHALLOWER SLOPES AT THE LAKE LEVEL (I.E., 5:1 HORIZONTAL:VERTICAL) TO CREATE SHALLOW LITTORAL ZONES FOR INCREASED HABITAT DIVERSITY.

60 SEQUENCE AND DIRECTION OF PROGRESSIVE REHABILITATION
PROGRESSIVE REHABILITATION WILL BE COMPLETED IN DIRECT CORRELATION TO THE DEVELOPMENT OF THE PIT AS THE EXTRACTION LIMITS ARE REACHED AND ENOUGH AREA IS AVAILABLE TO ENSURE THAT THE PRODUCTION, STOCKPILING AND PROCESSING OF AGGREGATE MATERIALS WILL NOT INTERFERE WITH REHABILITATION ACTIVITIES.
DURING OPERATIONS, REHABILITATED SIDE SLOPES WILL BE ESTABLISHED IN AREAS WHERE THE PIT HAS REACHED THE FINAL DEPTH AND HAS EXTENDED TO THE EXCAVATION LIMIT.

61 USE OF OVERBURDEN AND TOPSOIL IN PROGRESSIVE AND FINAL REHABILITATION
OVERBURDEN WILL BE USED IN REHABILITATION TO COVER THE BACKFILLED PORTIONS OF THE REHABILITATED PIT AND THE ABOVE WATER SLOPES APPROACHING THE PIT LAKE. ALL TOPSOIL OR OVERBURDEN STRIPPED IN THE OPERATION OF THE SITE WILL BE USED IN THE REHABILITATION OF THE SITE.

62 PROPOSED IMPORTATION OF MATERIAL TO FACILITATE REHABILITATION
ALL TOPSOIL AND OVERBURDEN STRIPPED IN THE OPERATION OF THE SITE WILL BE USED IN THE REHABILITATION OF THE SITE. AS THERE WILL BE INSUFFICIENT QUANTITIES OF NATIVE TOPSOIL AND/OR OVERBURDEN AVAILABLE FOR THE PROPOSED REHABILITATION, SOIL AND ROCK MAY BE IMPORTED FOR USE IN THE ESTABLISHMENT OF THE FINAL REHABILITATION CONTOURS OUTLINED IN THIS PLAN (PAGE 5 OF 5).
EXCESS SOIL, AS DEFINED IN ONTARIO REGULATION 244/97 MAY BE IMPORTED TO THIS SITE TO FACILITATE THE FOLLOWING REHABILITATION:
A. FOR USE IN THE CONSTRUCTION OF BERMS FOR FUTURE USE IN FINAL REHABILITATION
B. ESTABLISH FINAL GRADES AS DESCRIBED ON THE SITE PLAN
C. TOP DRESSING TO ESTABLISH VEGETATION
LIQUID SOIL, AS DEFINED IN ONTARIO REGULATION 406/19 UNDER THE ENVIRONMENTAL PROTECTION ACT, IS NOT AUTHORIZED FOR IMPORTATION TO THE SITE. 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.
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.
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.
THE CUMULATIVE TOTAL AMOUNT OF EXCESS SOIL THAT MAY BE IMPORTED TO THIS SITE FOR REHABILITATION PURPOSES IS 4,110,000 CUBIC METRES.

63 VEGETATION TO BE ESTABLISHED DURING PROGRESSIVE AND FINAL REHABILITATION
DURING PROGRESSIVE AND FINAL REHABILITATION, ABOVE WATER SLOPES WILL BE SEEDED WITH A MIX OF BUNCH AND SPREADING GRASSES AND FORBS CONSISTING OF NON-INVASIVE SPECIES TO PREVENT EROSION. EXAMPLES OF SUITABLE SPECIES OF GRASS AND FORBS INCLUDE, BUT ARE NOT LIMITED TO, WHITE CLOVER, RED CLOVER, ALFALFA, ORCHARD GRASS, PERENNIAL RYEGRASS, MEADOW BROME, KENTUCKY BLUEGRASS, CANADA BLUEGRASS, CREEPING RED FESCUE AND TALL FESCUE. ORCHARD GRASS AND PERENNIAL RYEGRASS ARE FAST-ESTABLISHING. NATIVE SPECIES WILL ALSO BE INCLUDED IN THE SEED MIX, SUCH AS BLACK-EYED SUSAN, NEW ENGLAND ASTER, CANADA WILD RYE AND LITTLE BLUESTEM (AS AVAILABLE FROM SUPPLIERS).
FINAL REHABILITATION WILL ALSO INCLUDE THE CREATION OF SHALLOW LITTORAL ZONES AT SELECT LOCATIONS TO CREATE MORE DIVERSE AQUATIC HABITAT. SHALLOW EMERGENT MARSH VEGETATION WILL BE PLANTED IN WATER +/- 0.15 METRES DEEP AND EXTEND +/-5 METRES FROM THE SHORE AND WILL BE INTERSPERSED WITH COVER STRUCTURES (E.G., BOULDERS AND ROOT WADS). IN ADDITION, BASKING LOGS, WOODY DEBRIS AND NESTING PLATFORMS WILL BE INSTALLED FOR WILDLIFE HABITAT, SUCH AS TURTLES, WATERFOWL AND FISH. A CONCEPTUALIZATION OF THE SHALLOW SHORELINE TREATMENTS IS SHOWN ON DETAIL 1 INCLUDED ON THIS PLAN.
NODAL PLANTINGS WILL ALSO BE COMPLETED WITHIN SELECTED AREAS AROUND THE LAKE AND WILL INCLUDE EDGE, SUBMERGENT AND EMERGENT SPECIES SUCH AS RED-OSIER DOGWOOD, SLENDER WILLOW AND HERBACEOUS PLANTS SUCH AS WATER PLANTAIN, LAKE SEDGE, SWAMP MILKWEED, SOFTSTEM BULRUSH AND COMMON CATTAIL.
THE FINAL DETAILS OF THE REHABILITATION PLANTING PROGRAM WILL BE ESTABLISHED IN CONSULTATION WITH MINISTRY OF NORTHERN DEVELOPMENT, NATURAL RESOURCES AND FORESTRY STAFF JUST PRIOR TO FINAL REHABILITATION TO ENSURE THAT THE PLAN IS APPROPRIATE FOR CONDITIONS AT THAT TIME.

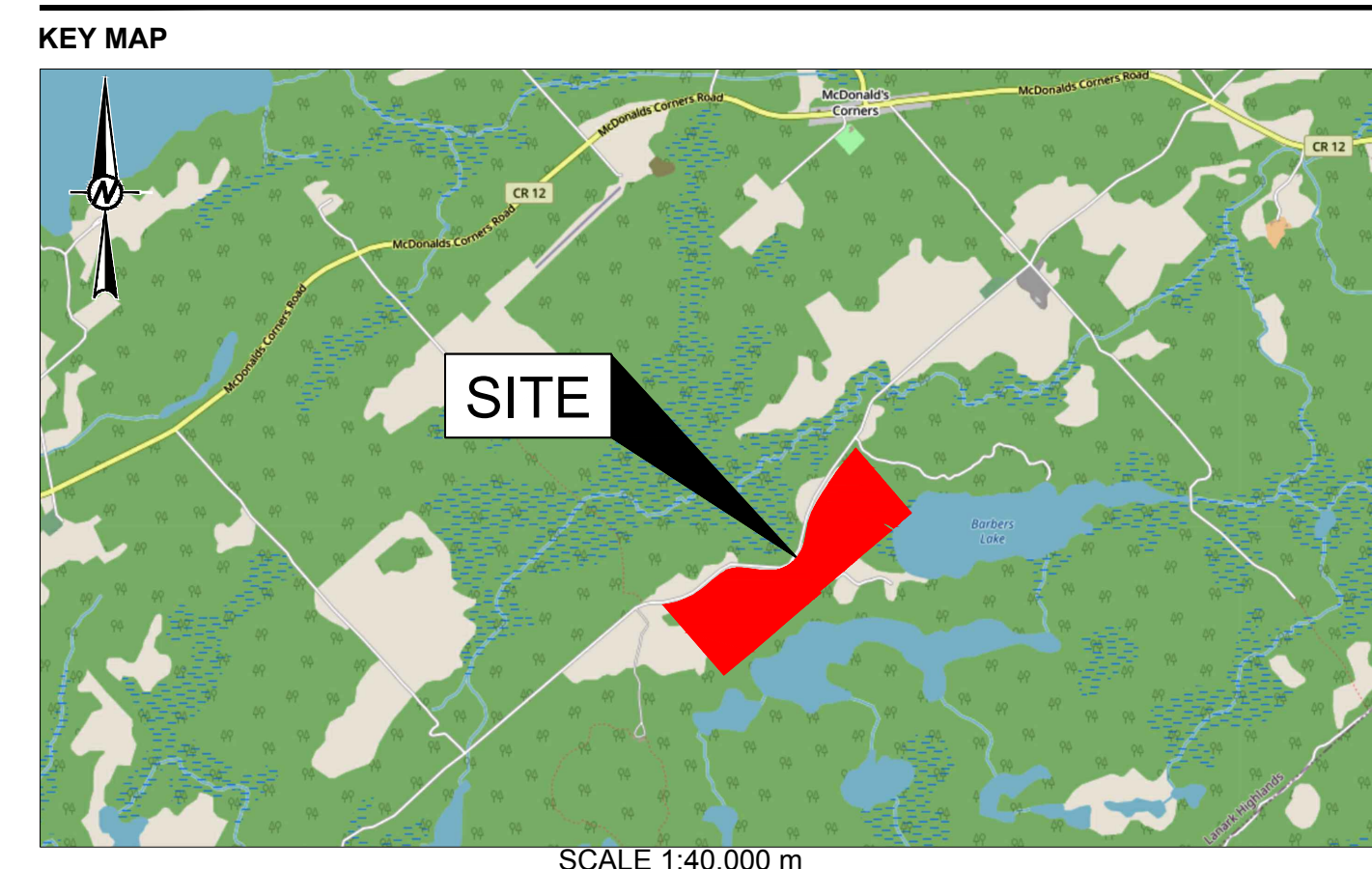
64 PIT SLOPING
IN MOST CASES, 3:1 (HORIZONTAL:VERTICAL) SLOPES WILL BE CONSTRUCTED AROUND THE SIDES OF THE PIT SO THAT IT CAN BE REHABILITATED AS A LAKE. SELECTED AREAS DESIGNATED FOR SHALLOW SHORELINE TREATMENTS (LITTORAL ZONES) AT THE LAKE LEVEL WILL BE SLOPED ACCORDINGLY (APPROXIMATELY 5:1 HORIZONTAL:VERTICAL). A CONCEPTUALIZATION OF THE SHALLOW SHORELINE TREATMENTS IS SHOWN ON DETAIL 1 INCLUDED ON THIS PLAN (PAGE 5 OF 5).

65 ANY BUILDINGS OR STRUCTURES TO REMAIN ON SITE
NO BUILDINGS OR STRUCTURES WILL REMAIN ON SITE. INTERNAL HAUL ROADS WILL BE REMOVED.

66 FINAL SURFACE WATER DRAINAGE
THE SITE WILL BE REHABILITATED AS TWO LAKES. DRAINAGE FROM EXTRACTION AREA 2 WILL FLOW TOWARDS EXTRACTION AREA 1 THROUGH THE UNEXTRACTED MATERIAL BENEATH ANDERSON LANE. DRAINAGE FROM EXTRACTION AREA 1 WILL BE TOWARDS BARBERS LAKE, DISCHARGING AT THE LOW POINT ON THE EDGE OF THE EXCAVATION AND FLOWING INTO THE LAKE.

67 FINAL ELEVATIONS OF REHABILITATED AREA
THE FINAL ELEVATIONS OF THE REHABILITATED AREAS OF THE SITE EXPRESSED AS METRES ABOVE SEA LEVEL ARE SHOWN ON THE DRAWING ON REHABILITATION PLAN (PAGE 5 OF 5).

REHABILITATION CROSS-SECTIONS
69 LOCATION OF CROSS-SECTIONS
REFER TO DRAWING (THIS PLAN) FOR LOCATION OF REHABILITATION CROSS-SECTIONS.
70 HORIZONTAL AND VERTICAL SCALES
APPROPRIATE HORIZONTAL AND VERTICAL SCALES ARE MARKED ON THE CROSS-SECTIONS.
71 REHABILITATION CROSS-SECTIONS
THREE REHABILITATION CROSS-SECTIONS ARE PROVIDED ON THE REHABILITATION PLAN (PAGE 5 OF 5). THE GROUNDWATER TABLE IN THE AREA OF THE PIT WILL REMAIN AT PRE-DEVELOPMENT CONDITIONS. CLOSER TO THE PIT THE WATER TABLE WILL SLOPE UP OR DOWN TO MEET THE ANTICIPATED PIT LAKE LEVEL (APPROXIMATELY 186 METRES ABOVE SEA LEVEL). THE PREDICTED WATER TABLE DURING REHABILITATION IS SHOWN ON THE CROSS-SECTIONS ON THIS PLAN (PAGE 5 OF 5).
73 TYPICAL BERM DESIGN
A CROSS-SECTION OF A TYPICAL BERM DESIGN IS SHOWN ADJACENT TO THE REHABILITATION CROSS-SECTIONS (PAGE 5 OF 5).



HIGHLAND LINE PIT
LOT 5, CONCESSION 10
TOWNSHIP OF LANARK HIGHLANDS,
LANARK COUNTY, ONTARIO

APPLICANT:
THOMAS CAVANAGH CONSTRUCTION LIMITED
9094 CAVANAGH ROAD
ASHTON, ONTARIO
K0A 1B0

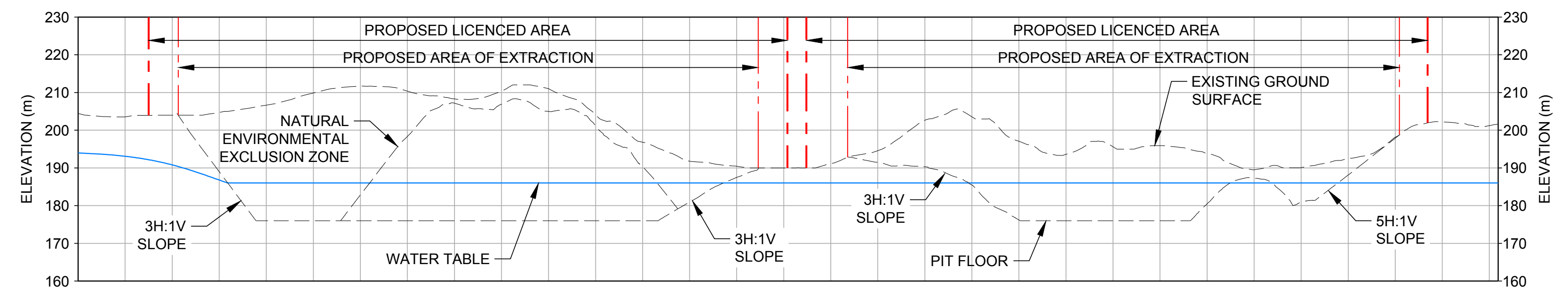
PIT LICENCE NO. _____

- NOTE(S)**
- LICENCED AREA, HIGHLAND LINE PIT 50.6 HECTARES.
 - AREA OF OPERATION, HIGHLAND LINE PIT 35.1 HECTARES.
 - THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE FOR A PIT BELOW THE GROUND WATER TABLE.
 - THIS PLAN WAS PREPARED USING PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHS.
 - LOT, CONCESSION AND BOUNDARY LINES ON THIS PLAN ARE APPROXIMATE.
 - THIS IS NOT A LEGAL SURVEY DRAWING IN ACCORDANCE WITH THE PROVINCE OF ONTARIO SURVEYORS ACT 1987. THIS DRAWING WAS PRODUCED USING STANDARD PHOTOGRAMMETRIC PRACTICES.

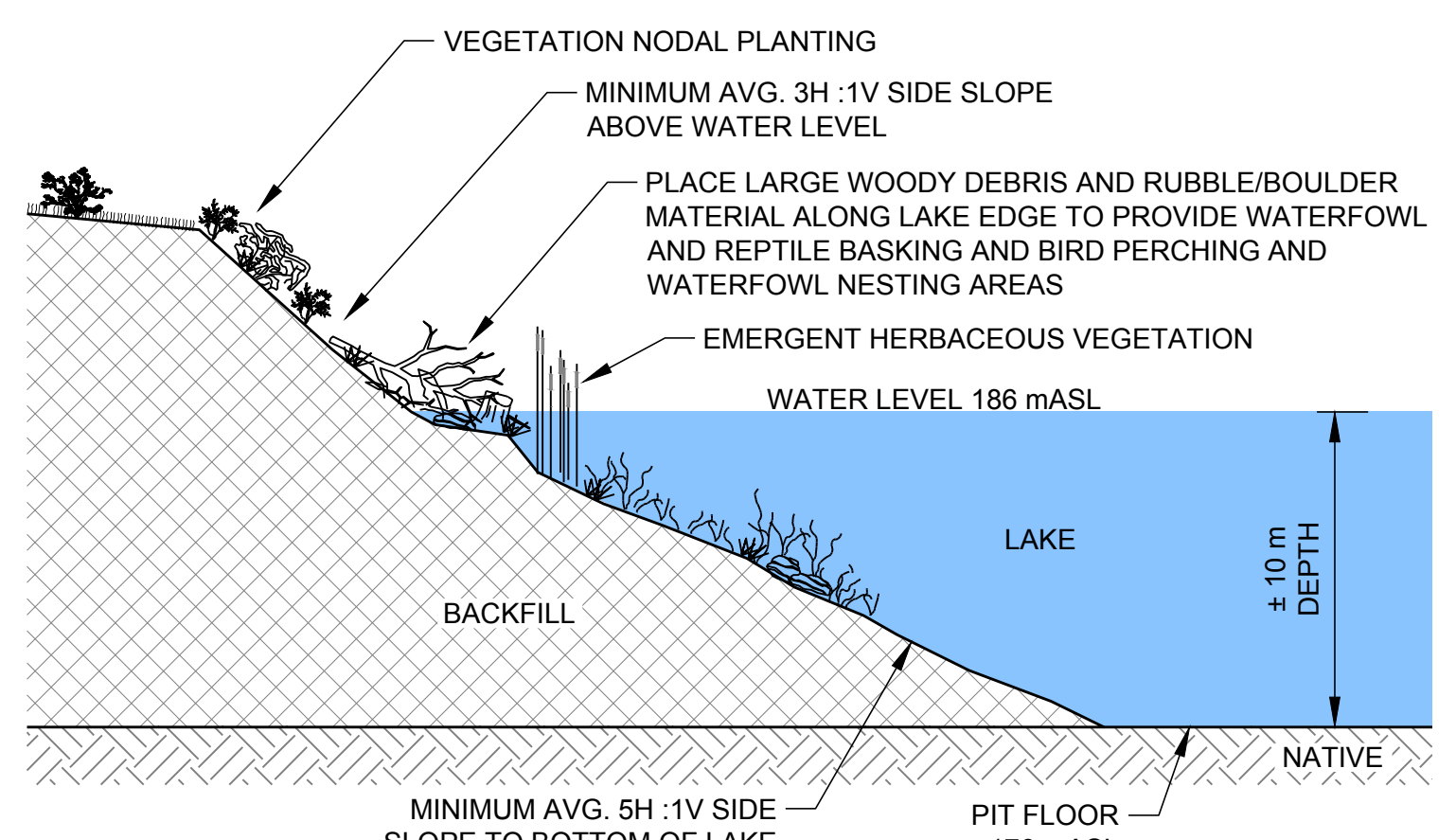
LEGEND

- BOUNDARY OF AREA TO BE LICENCED
- LIMIT OF EXTRACTION
- 120-METRE SURROUND
- BOREHOLE / MONITORING WELL
- PRIVATE WELL (AS PER MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS WATER WELL INFORMATION SYSTEM)
- CON 10, LOT 5
- CON 10, LOT 4
- LOTS AND CONCESSION LINES
- ADJACENT PIT AND QUARRY BOUNDARY
- UTILITY POLE
- BUILDING: S-SILO, H-HOUSE, G-GARAGE, B-BARN, S-SHED, O-OFFICE, SC-SCALE HOUSE
- ROAD: PAVED
- ROAD: GRAVEL
- CONTOURS/INDEX CONTOURS
- WOODED AREA
- WATERCOURSE
- WETLAND
- X PAGE WIRE FENCE/GATE
- CROSS-SECTIONS
- EL. 176.00 PROPOSED PIT FLOOR SPOT ELEVATION, mASL

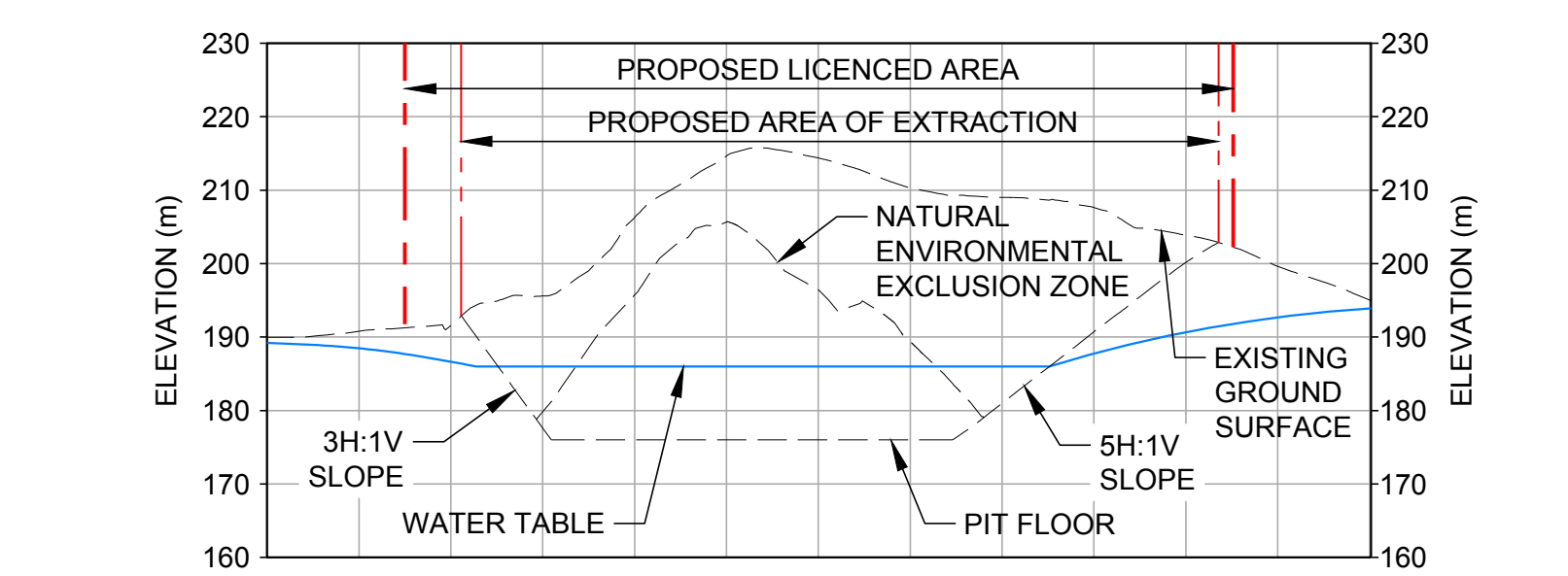
- REFERENCE(S)**
- KEY PLAN: Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.
 - LAND INFORMATION ONTARIO (LIO) DATA PRODUCED BY GOLDER ASSOCIATES LTD. UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2016
 - PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18, VERTICAL DATUM: CGVD28



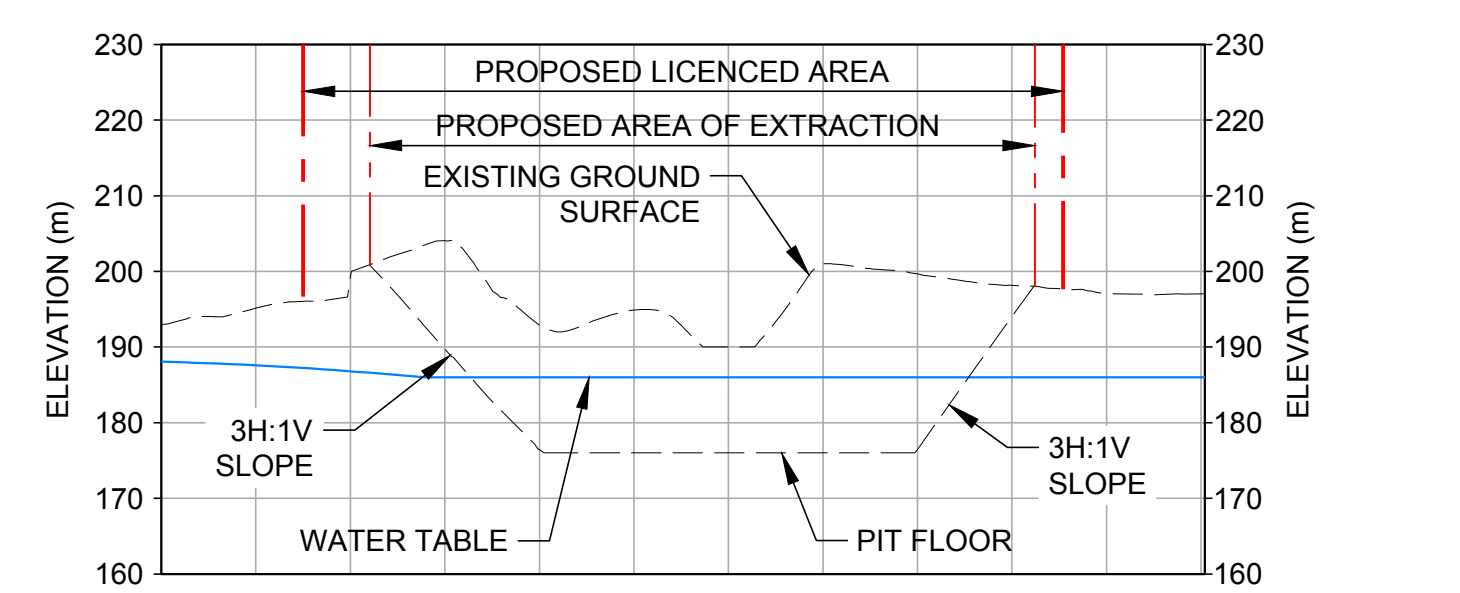
SCALE 1:4,000 m
VERT. 1:1,000 m
A-A' PROFILE



DETAIL 1
NOT TO SCALE



SCALE 1:4,000 m
VERT. 1:1,000 m
B-B' SECTION



SCALE 1:4,000 m
VERT. 1:1,000 m
C-C' SECTION



THOMAS CAVANAGH CONSTRUCTION LIMITED

SIGNATURE OF APPLICANT/LICENSEE: _____ DATE: 12-13-22

PREPARED UNDER THE DIRECTION OF: BRIAN HENDERSON DATE: 12-13-22

AMENDMENTS	DATE	APPROVAL DATE
SIGNATURE _____	DATE _____	

CLIENT
THOMAS CAVANAGH CONSTRUCTION LIMITED

PROJECT
HIGHLAND LINE PIT

TITLE
REHABILITATION PLAN

APPLICANT
THOMAS CAVANAGH CONSTRUCTION LIMITED

DESIGNED	DATE
BH	2022-12-13
PREPARED	JM
REVIEWED	KAM
APPROVED	KAM

PROJECT NO. 19126620 CONTROL 0014 REV. 0 DRAWING 5 OF 5

Path: \\golder\pds\mcm\external\offices\ontario\GIS\clients\Thomas_Cavanagh_Construction\Drawings\19126620_Cavanagh_Construction\19126620_Cavanagh_Construction\19126620_Cavanagh_Construction.dwg | File Name: 19126620_C14-0014-0005.dwg | Last Edited By: jmcconnell Date: 2022-12-22 Time: 10:25:16 AM | Printed By: jmcconnell Date: 2022-12-22 Time: 10:25:16 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3.