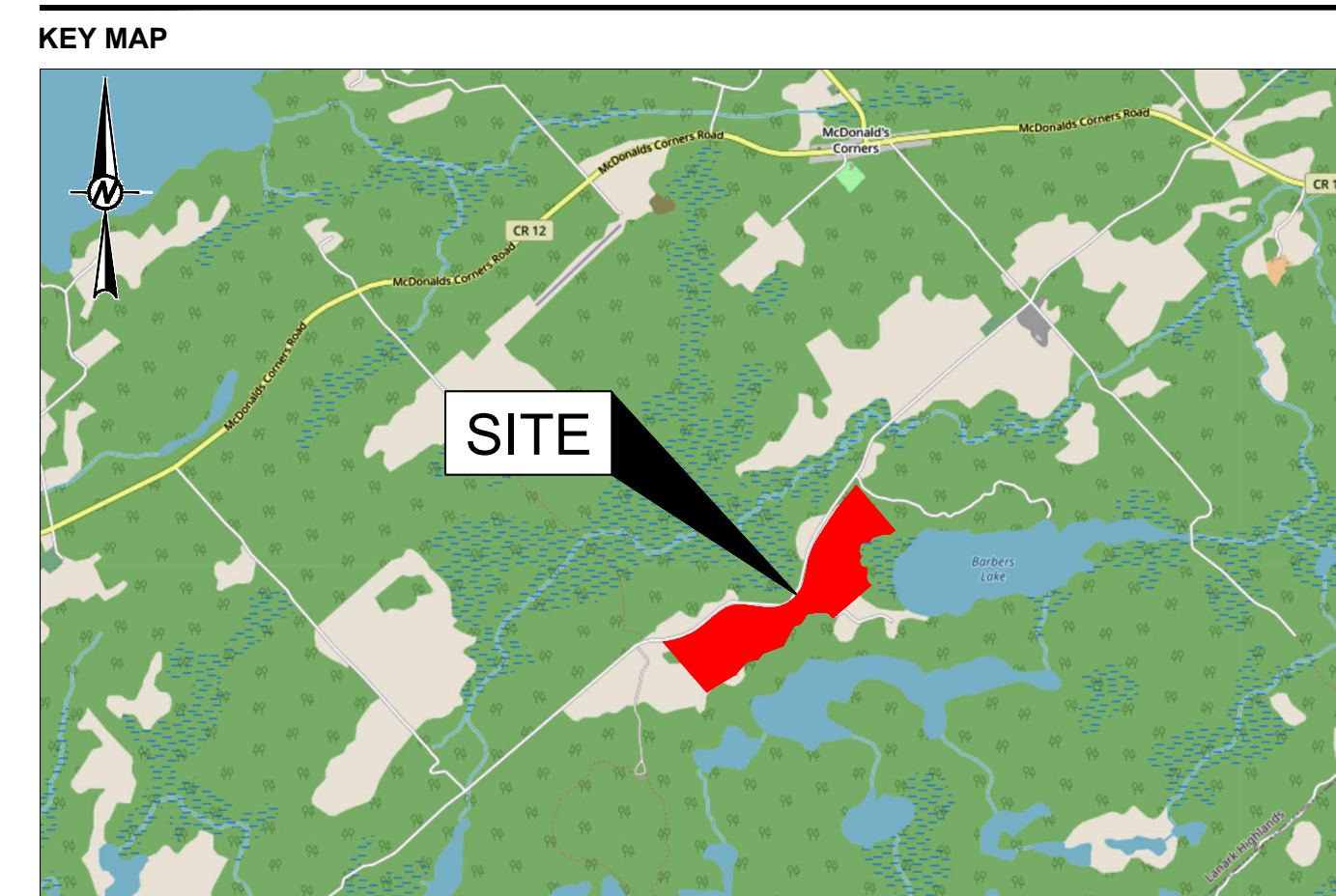


EXISTING FEATURES - GENERAL
SCALE 1:4,000 m

LAND USE / ZONING TWP. OF LANARK HIGHLANDS BY-LAW NO. 2003-451	
RU	RURAL
LSR	LIMITED SERVICES RURAL
MAR-h	MINERAL AGGREGATE RESOURCES RESERVE
MXP	MINERAL AGGREGATE RESOURCES PIT

NOTE:

- 1. ZONES WITH AN "h" FOLLOWING THE ZONE SYMBOL (e.g. MAR-h) ILLUSTRATES PROPERTIES WHICH HAVE BEEN PLACED IN A HOLDING ZONE.



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

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

PIT LICENCE NO. 626599

NOTE(S)

1. LICENCED AREA, HIGHLAND LINE PIT 37.6 HECTARES.
2. AREA OF OPERATION, HIGHLAND LINE PIT 28.4 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
- - - 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
- CON 10, LOT 5
CON 10, LOT 4
- MAR-h 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
- x — x PAGE WIRE FENCE/GATE
- ▲ 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

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

APPLICANT	YYYY-MM-DD	2025-01-13
DESIGNED	BH	
PREPARED	JM	
REVIEWED	KAM	
APPROVED	KAM	

PROJECT NO. 19126620 CONTROL 0014 REV. 1 DRAWING 1 OF 5

[Signature] 01-13-25
 SIGNATURE OF APPLICANT/LICENSEE DATE

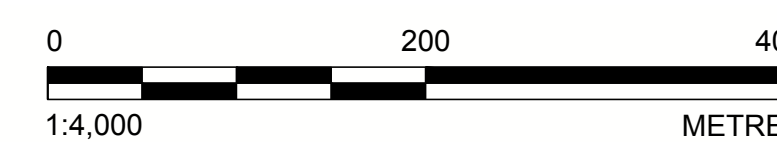
[Signature] 01-13-25
 PREPARED UNDER THE DIRECTION OF: DATE
 BRIAN HENDERSON

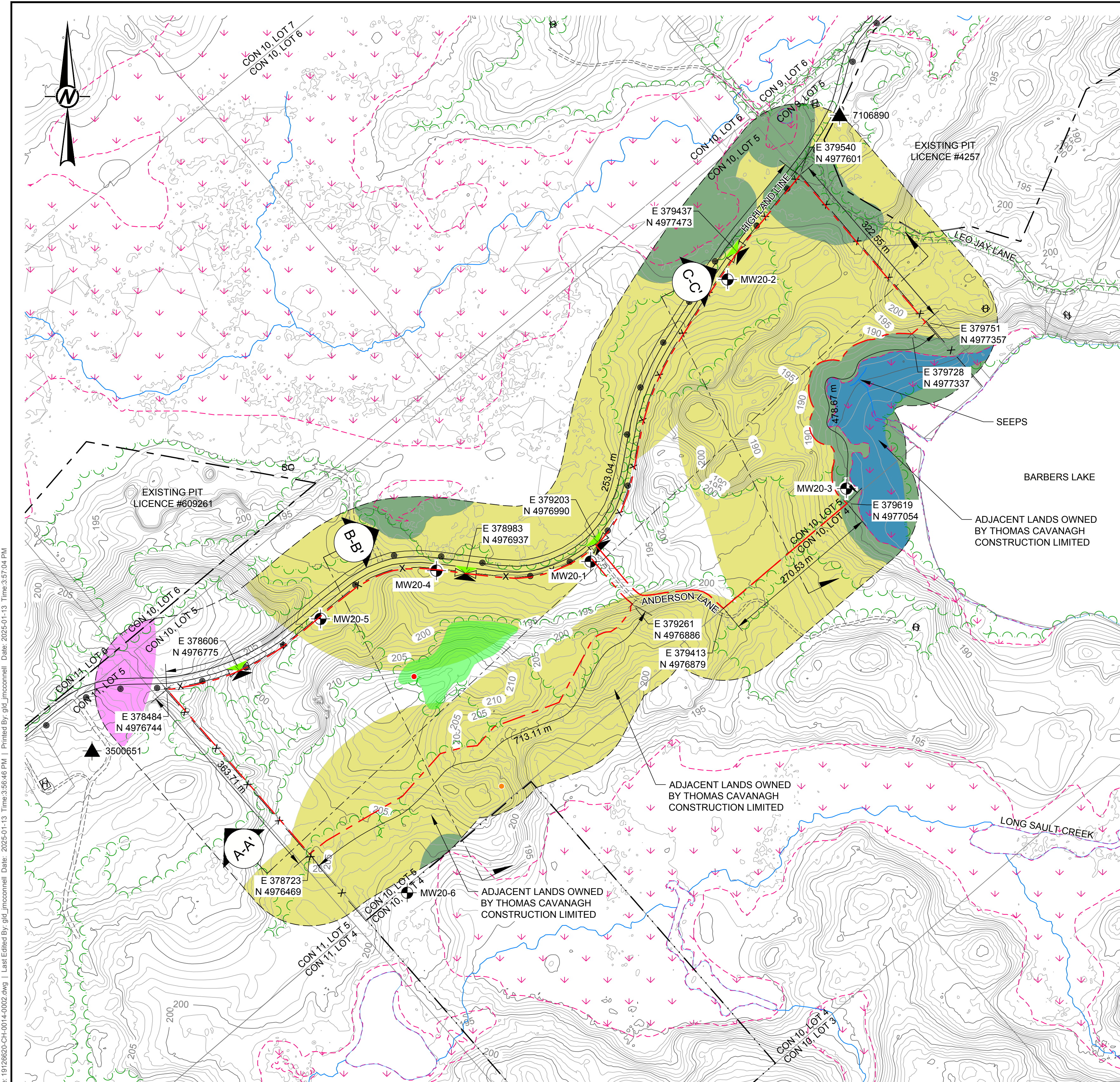
THOMAS CAVANAGH CONSTRUCTION LIMITED

AMENDMENTS	DATE	APPROVAL DATE

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

SIGNATURE _____ DATE _____





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 195.4 189 METRES ABOVE SEA LEVEL ON THE SOUTHERN CORNER (AS MEASURED AT MW20-6) WESTERN EXCAVATION AREA. 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 182.9 183.5 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 THE 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);
SIGNIFICANT NATURAL FEATURES ON THE SITE:
1. HABITAT FOR ENDANGERED AND THREATENED SPECIES: TRI-COLOURED BAT; LITTLE BROWN MYOTIS; NORTHERN MYOTIS; BLANDING'S TURTLE.
2. SIGNIFICANT WILDLIFE HABITAT - SPECIES OF CONSERVATION CONCERN: BARN SWALLOW.
SIGNIFICANT NATURAL FEATURES WITHIN 120 METRES OF THE SITE:
1. HABITAT FOR ENDANGERED AND THREATENED SPECIES: BLACK ASH; BLANDING'S TURTLE; EASTERN MEADOWLARK.
2. SIGNIFICANT WILDLIFE HABITAT - SPECIES OF CONSERVATION CONCERN: BARN SWALLOW; EASTERN WOOD PEWEE; COMMON NIGHTHAWK.
3. SIGNIFICANT WILDLIFE HABITAT - SEEPS

21 SIGNIFICANT HUMAN-MADE FEATURES ON AND WITHIN 120 METRES OF THE 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 WITHIN 120 METRES OF THE SITE INCLUDE BARBERS LAKE (SOUTHEAST), 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 LOGATED WITHIN 120 METRES OF THE SITE.

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.

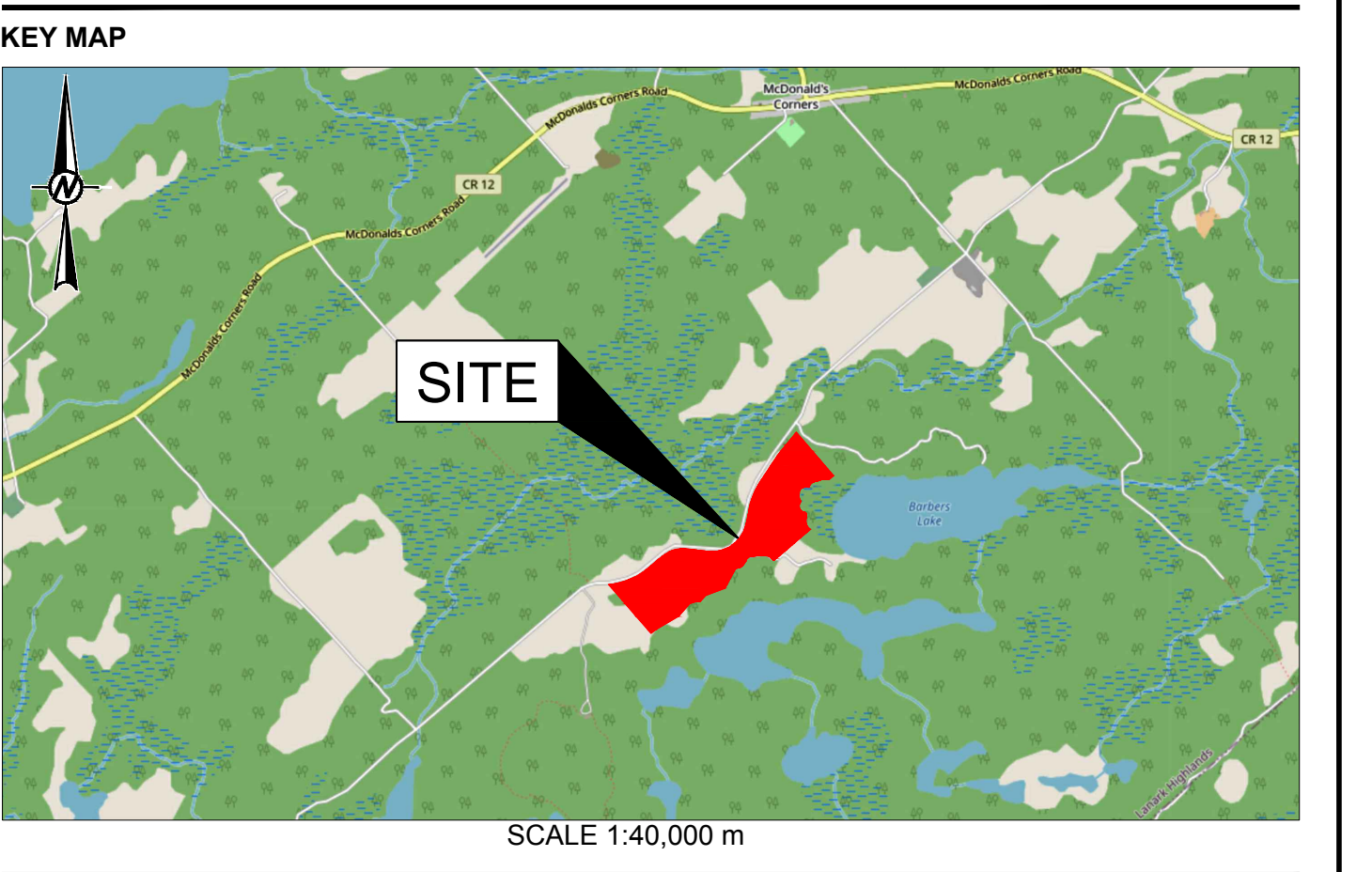
EXISTING FEATURES CROSS-SECTIONS
69 LOCATION OF CROSS-SECTIONS
REFER TO DRAWING (PAGE 2 OF 5) FOR LOCATION OF EXISTING FEATURES CROSS-SECTIONS.

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 195.4 189 METRES ABOVE SEA LEVEL ON THE SOUTHERN CORNER (AS MEASURED AT MW20-6) WESTERN EXCAVATION AREA. 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 182.9 183.5 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
GEOGRAPHIC TOWNSHIP OF DALHOUSIE
TOWNSHIP OF LANARK HIGHLANDS,
LANARK COUNTY, ONTARIO

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

PIT LICENCE NO. 626599

NOTE(S)
1. LICENCED AREA, HIGHLAND LINE PIT 37.6 HECTARES.
2. AREA OF OPERATION, HIGHLAND LINE PIT 28.4 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.
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- LEGEND**
- BOUNDARY OF AREA TO BE LICENCED
 - 120-METRE SURROUND
 - BOREHOLE / MONITORING WELL
 - PRIVATE WELL (AS PER MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS WATER WELL INFORMATION SYSTEM)
 - 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
 - PAGE WIRE FENCE/GATE
 - POTENTIAL TRI-COLOURED BAT ROOST HABITAT
 - POTENTIAL TRI-COLOURED BAT MATERNITY ROOST
 - CATEGORY 1/2 BLANDING'S TURTLE HABITAT
 - CATEGORY 3 BLANDING'S TURTLE HABITAT
 - POTENTIAL CATEGORY 3 EASTERN MEADOWLARK HABITAT
 - EASTERN WOOD PEWEE
 - BLACK ASH HABITAT
 - 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
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3. PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18, VERTICAL DATUM: CGVD28

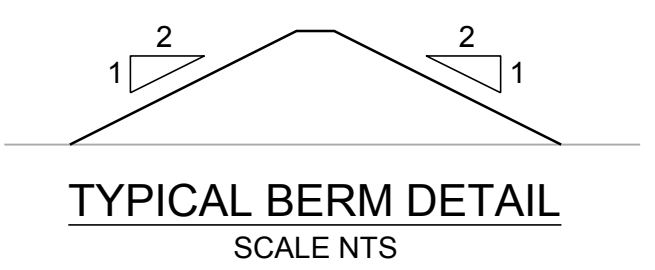
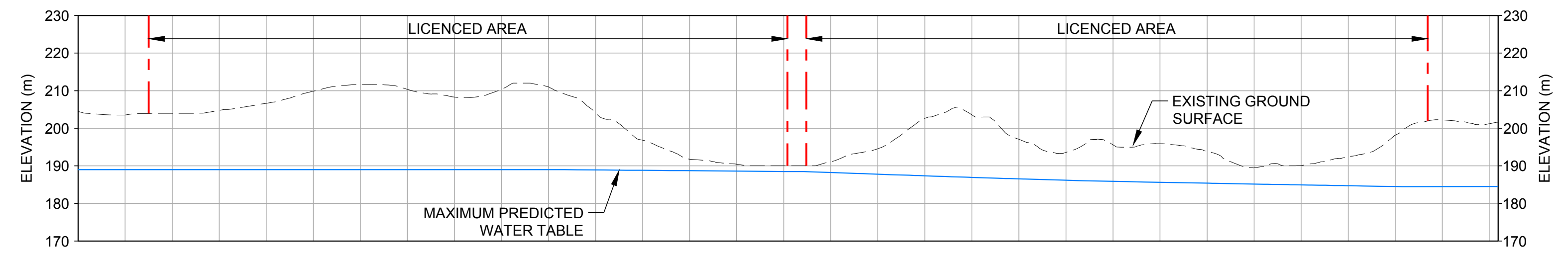
CLIENT
THOMAS CAVANAGH CONSTRUCTION LIMITED

PROJECT
HIGHLAND LINE PIT

TITLE
EXISTING FEATURES - SITE

APPLICANT	YYYY-MM-DD	DATE
THOMAS CAVANAGH CONSTRUCTION LIMITED	2025-01-13	
DESIGNED	BH	
PREPARED	JM	
REVIEWED	KAM	
APPROVED	KAM	

PROJECT NO.	CONTROL	REV.	DRAWING
19126620	0014	1	2 OF 5



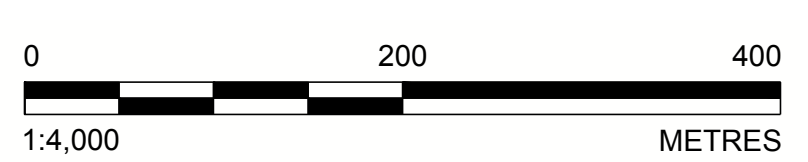
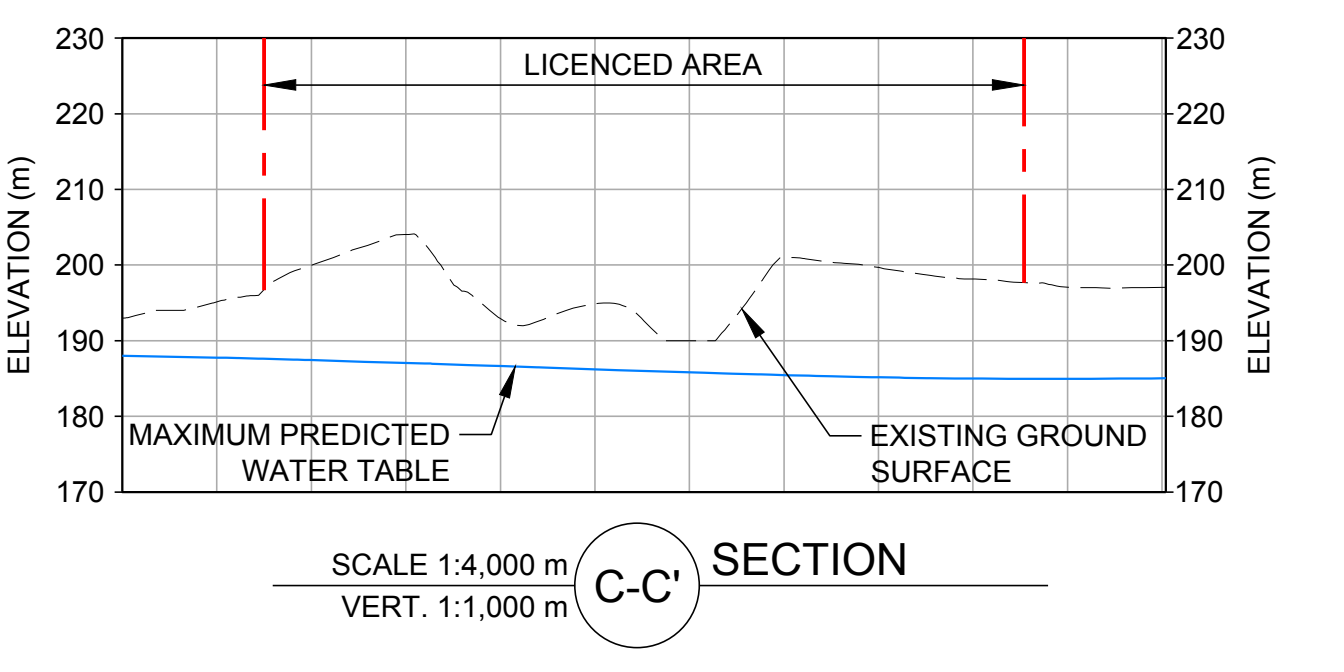
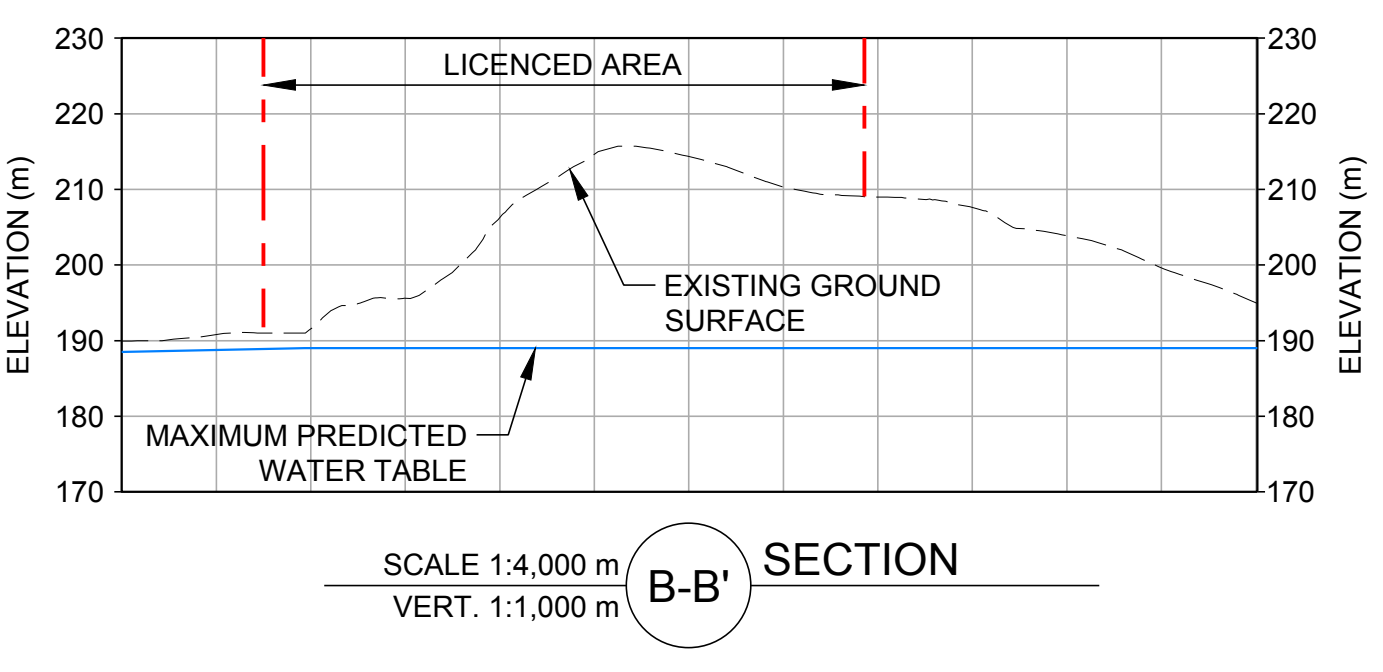
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[Signature] 01-13-25
PREPARED UNDER THE DIRECTION OF: DATE
BRIAN HENDERSON

THOMAS CAVANAGH CONSTRUCTION LIMITED

AMENDMENTS	DATE	APPROVAL DATE

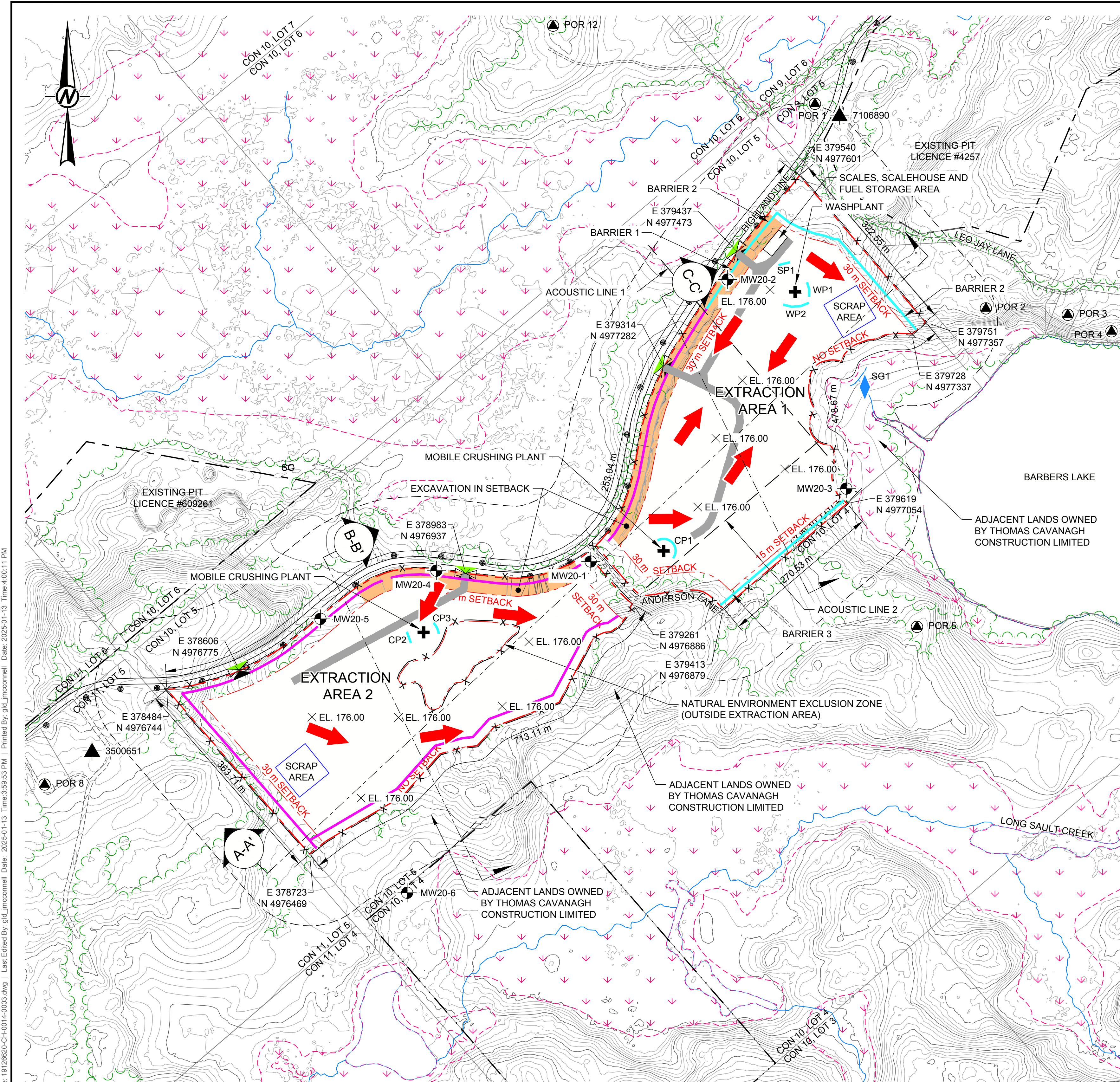
SITE PLANS APPROVED BY THE MINISTRY OF NATURAL RESOURCES AND FORESTRY.

SIGNATURE	DATE
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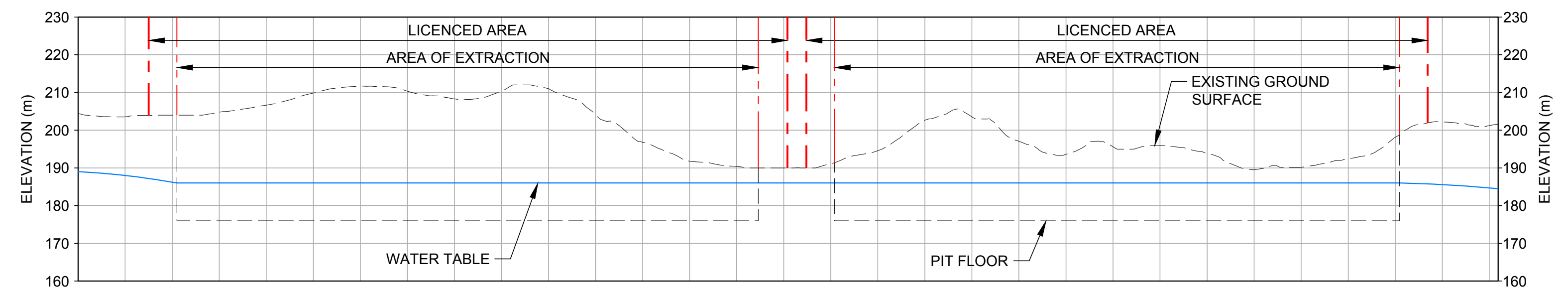


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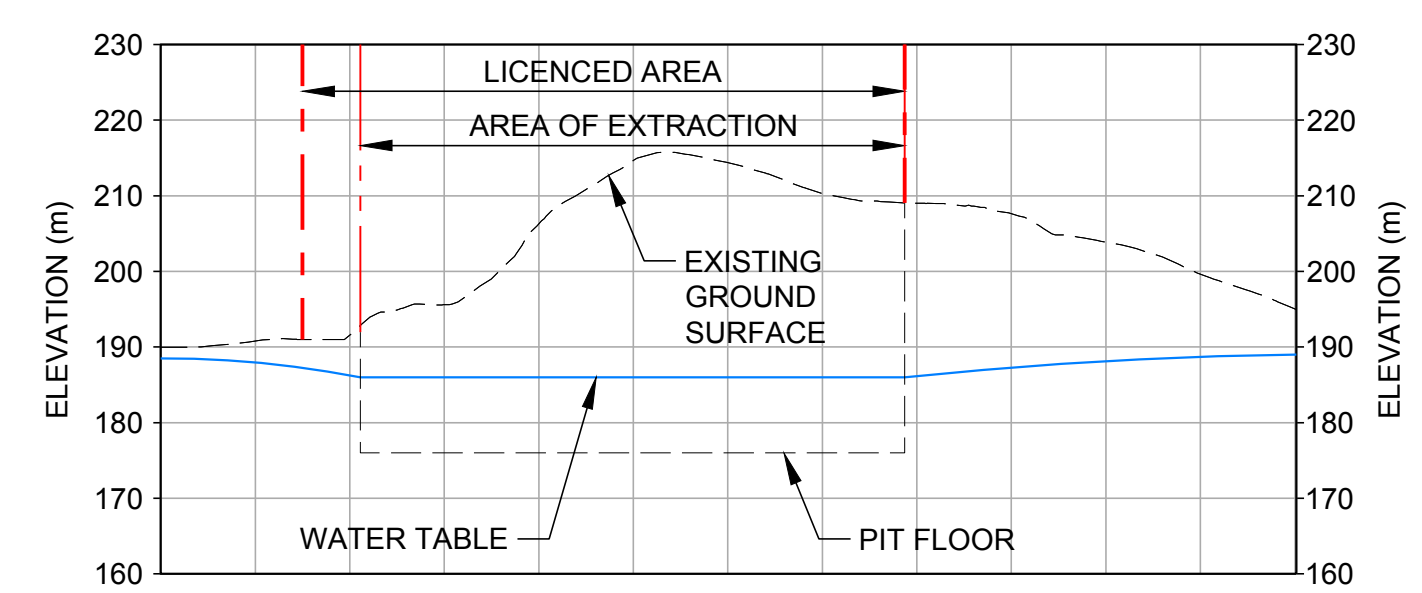
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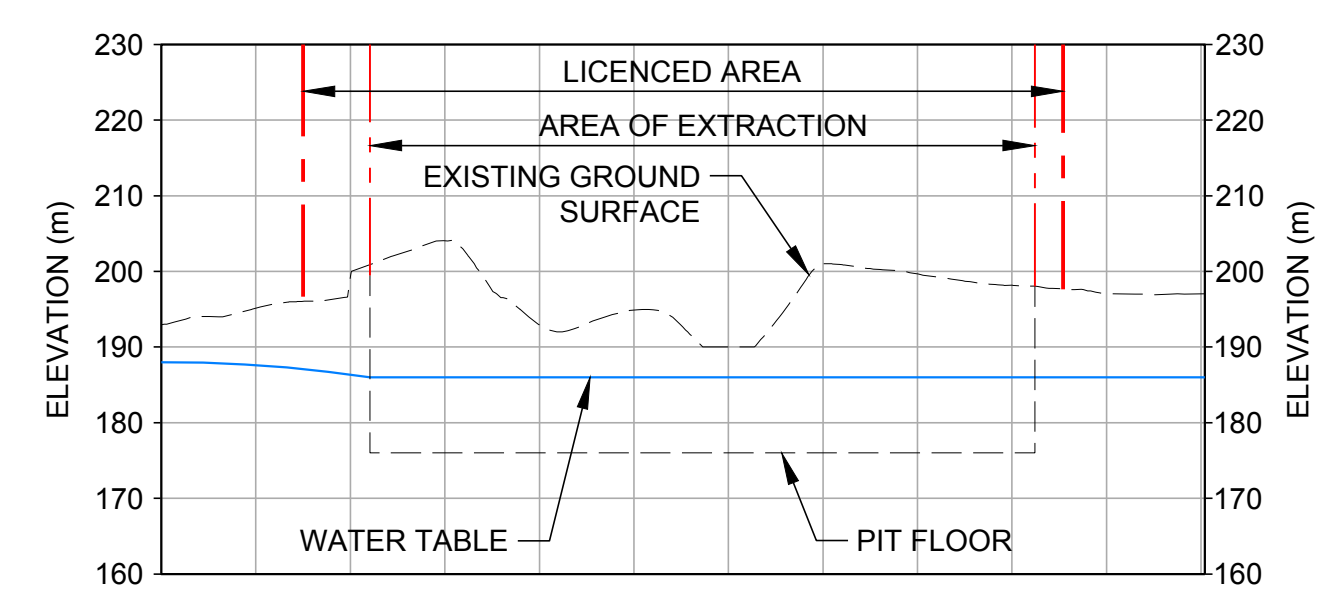
OPERATIONS PLAN
SCALE 1:4,000 m



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



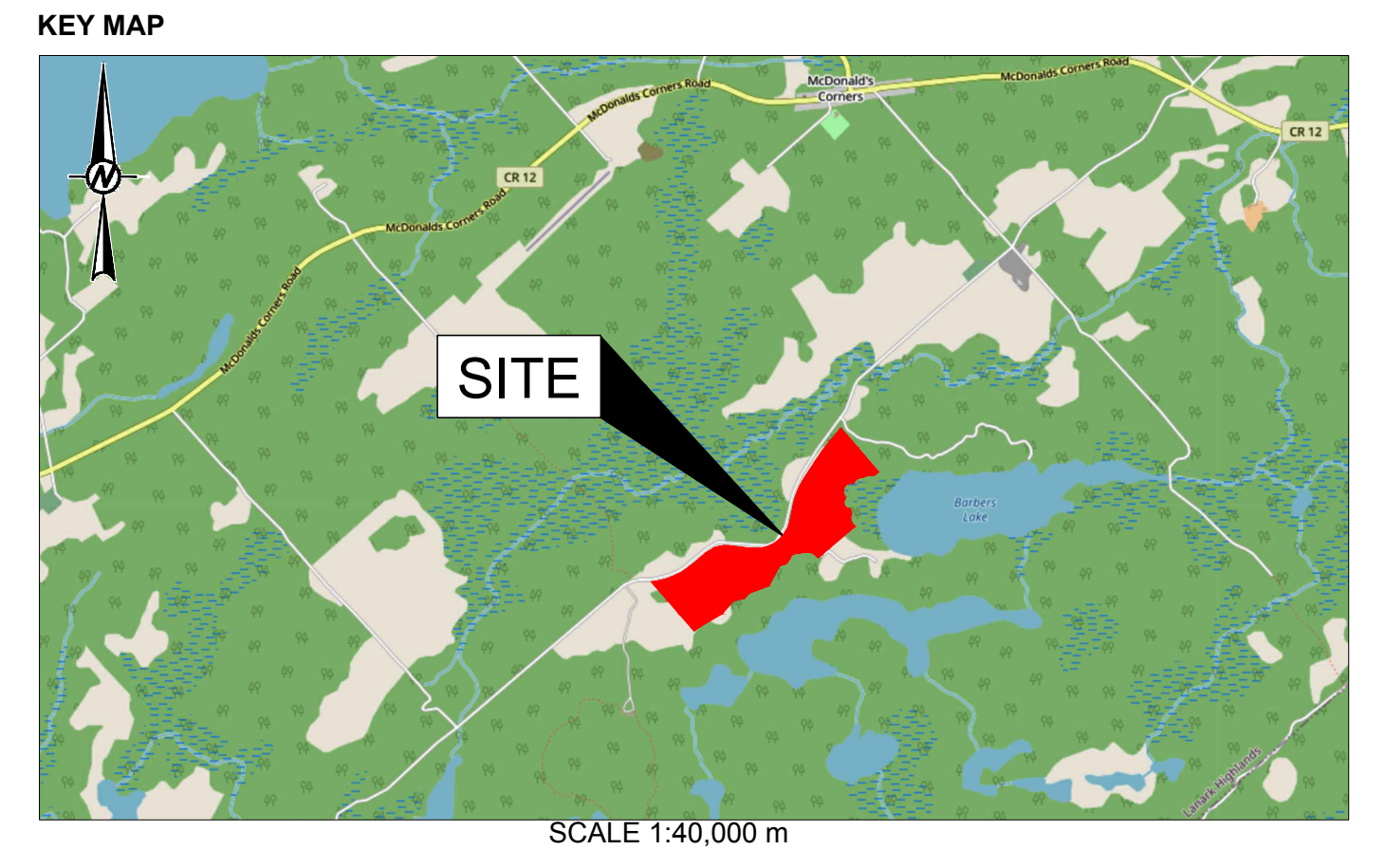
SCALE 1:4,000 m
VERT. 1:1,000 m **B-B' SECTION**



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

RECOMMENDED NOISE BARRIERS						
BARRIER	MINIMUM HEIGHT (M / MASL)	MINIMUM LENGTH (M)	MAXIMUM DISTANCE FROM SOURCE (M)	REQUIRED TO SHIELD LINE OF SIGHT FROM IDENTIFIED SOURCE ID	REQUIRED TO SHIELD LINE OF SIGHT TO IDENTIFIED RECEPTOR/S	DESCRIPTION
BARRIER_1 (SITE BERM)	196 MASL	UP TO 100 M	-	MOBILE SCREENING PLANT AND EXTRACTION OPERATIONS OCCURRING IN EXTRACTION AREA 1 EAST OF LINE AA	POR_12*	NEW BARRIER (BERM / LIFT FACE): REQUIRED TO SHIELD NOISE IMPACTS TO THE IDENTIFIED RECEPTORS WHEN OPERATING IN EXTRACTION AREA 1 EAST OF ACOUSTIC LINE 1 (ONLY REQUIRED FOLLOWING DEVELOPMENT OF A NEW NOISE SENSITIVE DEVELOPMENT AT POR 12)
BARRIER_2 (SITE BERM)	196 MASL	UP TO 400 M	-	MOBILE SCREENING PLANT AND EXTRACTION OPERATIONS OCCURRING IN EXTRACTION AREA 1 EAST OF LINE AA	POR_1, POR_2, POR_3, POR_4	NEW BARRIER (BERM / LIFT FACE): REQUIRED TO SHIELD NOISE IMPACTS TO THE IDENTIFIED RECEPTORS WHEN OPERATING IN EXTRACTION AREA 1 EAST OF ACOUSTIC LINE 1
BARRIER_3 (SITE BERM)	3 M	UP TO 285 M	-	MOBILE SCREENING PLANT AND EXTRACTION OPERATIONS OCCURRING IN EXTRACTION AREA 1 SOUTH OF LINE BB	POR_5	NEW BARRIER (BERM): REQUIRED TO SHIELD NOISE IMPACTS AT THE IDENTIFIED RECEPTOR WHEN OPERATING IN EXTRACTION AREA 1 SOUTH OF ACOUSTIC LINE 2
BARRIER_SP1 (STOCKPILE)	4 M	10 M	20 M	SCREENER WHEN OPERATING IN EXTRACTION AREA 1	POR_1, POR_2, POR_3, POR_5	NEW BARRIER (STOCKPILE): REQUIRED TO BE MAINTAINED TO SHIELD NOISE IMPACTS AT THE IDENTIFIED RECEPTORS WHEN OPERATING GREATER THAN 20 M FROM A LIFT FACE OR SITE BERM THAT OTHERWISE SHIELDS IN THE DIRECTION OF THE IDENTIFIED RECEPTORS
BARRIER_WP1 (STOCKPILE)	7 M	20 M	25 M	WASH PLANT AND ASSOCIATED GENERATOR WHEN OPERATING IN EXTRACTION AREA 1	POR_2	NEW BARRIER (STOCKPILE): REQUIRED TO BE MAINTAINED TO SHIELD NOISE IMPACTS AT THE IDENTIFIED RECEPTOR
BARRIER_WP2 (STOCKPILE)	6 M	30 M	25 M	WASH PLANT AND ASSOCIATED GENERATOR WHEN OPERATING IN EXTRACTION AREA 1	POR_5	NEW BARRIER (STOCKPILE): REQUIRED TO BE MAINTAINED TO SHIELD NOISE IMPACTS AT THE IDENTIFIED RECEPTOR
BARRIER_CP1 (STOCKPILE)	10 M	47 M (55 M)*	20 M	CRUSHER WHEN OPERATING IN EXTRACTION AREA 1	POR_1, POR_2, POR_3, POR_5, POR_12*	NEW BARRIER (STOCKPILE): REQUIRED TO BE MAINTAINED TO SHIELD NOISE IMPACTS AT THE IDENTIFIED RECEPTOR
BARRIER_CP2 (STOCKPILE)	6 M	20 M	25 M	CRUSHER WHEN OPERATING IN EXTRACTION AREA 2	POR_8	NEW BARRIER (STOCKPILE): REQUIRED TO BE MAINTAINED TO SHIELD NOISE IMPACTS AT THE IDENTIFIED RECEPTOR
BARRIER_CP3 (STOCKPILE)	6 M	30 M	25 M	CRUSHER WHEN OPERATING IN EXTRACTION AREA 2	POR_1, POR_2, POR_3, POR_4, POR_5	NEW BARRIER (STOCKPILE): REQUIRED TO BE MAINTAINED TO SHIELD NOISE IMPACTS AT THE IDENTIFIED RECEPTOR

*SHIELDING OF RECEPTORS REPRESENTING VACANT LOTS ONLY REQUIRED FOLLOWING DEVELOPMENT OF A NEW NOISE SENSITIVE DEVELOPMENT.



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

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

PIT LICENCE NO. 626599

NOTE(S)

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- AREA OF OPERATION, HIGHLAND LINE PIT 28.4 HECTARES.
- THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE FOR A PIT BELOW THE GROUND WATER TABLE.
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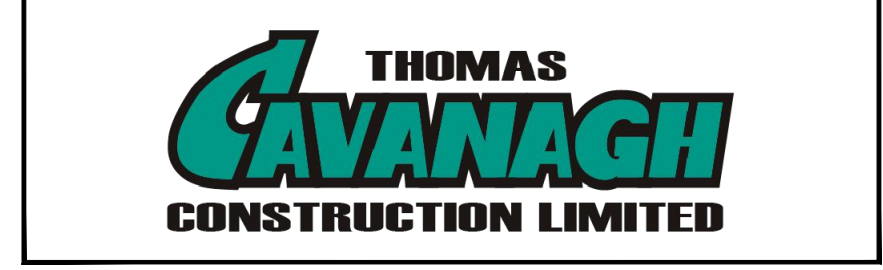
LEGEND

- 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)
- SURFACE WATER STATION
- 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
- PAGE WIRE AND TURTLE FENCE/GATE
- CROSS-SECTIONS
- ENTRANCE
- EXIT
- GENERAL DIRECTION OF EXCAVATION
- POINTS OF RECEPTION (PORs) FROM ACOUSTIC REPORT
- WASH PLANT AND MOBILE CRUSHING PLANT
- ACOUSTIC BERM
- HAUL ROAD
- PROPOSED PIT FLOOR SPOT ELEVATION, mASL

ITEM/OPERATIONAL STANDARD (O.REG. 244/97)	VARIATION TO OPERATIONAL STANDARDS	RATIONALE
EXCAVATION SETBACK AREAS 0.13 (1) 9 0.13 (1) 10 0.13 (1) 11	EXCAVATION IN THE SETBACK AREAS CAN OCCUR ALONG HIGHLAND LINE ROAD IN AREAS IDENTIFIED ON PAGE 3 OF 5 WHERE ELEVATIONS OF THE EXISTING GROUND SURFACE IS ABOVE THE ELEVATION OF THE ROAD. AGGREGATE WILL BE REMOVED IN THE SETBACK AREA TO A MAXIMUM DEPTH OF EXTRACTION OF 11 METRES.	REMOVAL OF AGGREGATE WITHIN THE SETBACK AREA ALONG THE ROAD WILL ALLOW FOR A CLEARER VIEW OF THE HIGHWAY IN BOTH DIRECTIONS AT THE ENTRANCES AND EXISTS.
SETBACKS 0.13 (1) 10i	NO SETBACK ALONG THE SOUTHEASTERN EDGE OF THE SITE WHERE THE ADJACENT LANDS ARE OWNED BY THE APPLICANT.	REDUCTION OF SETBACK ALONG COMMON BOUNDARY TO ALLOW FOR AGGREGATE EXTRACTION.

SIGNATURE OF APPLICANT/LICENSSEE: [Signature]
DATE: 01-13-25

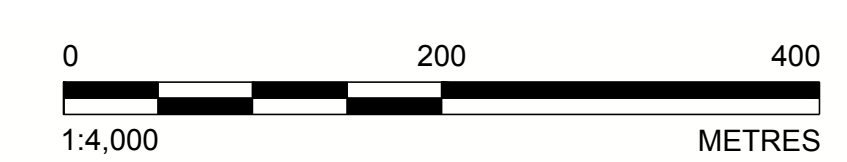
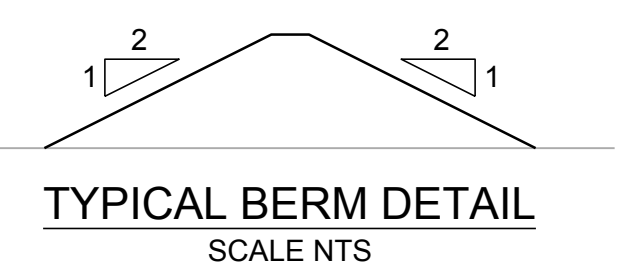
PREPARED UNDER THE DIRECTION OF:
BRIAN HENDERSON
DATE: 01-13-25



AMENDMENTS	DATE	APPROVAL DATE

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

SIGNATURE: _____ DATE: _____



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.
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- PROJECTION: TRANSVERSE MERCATOR, DATUM: NAD 83, COORDINATE SYSTEM: UTM ZONE 18, VERTICAL DATUM: CGVD28

CLIENT
THOMAS CAVANAGH CONSTRUCTION LIMITED

PROJECT
HIGHLAND LINE PIT

TITLE
OPERATIONS PLAN

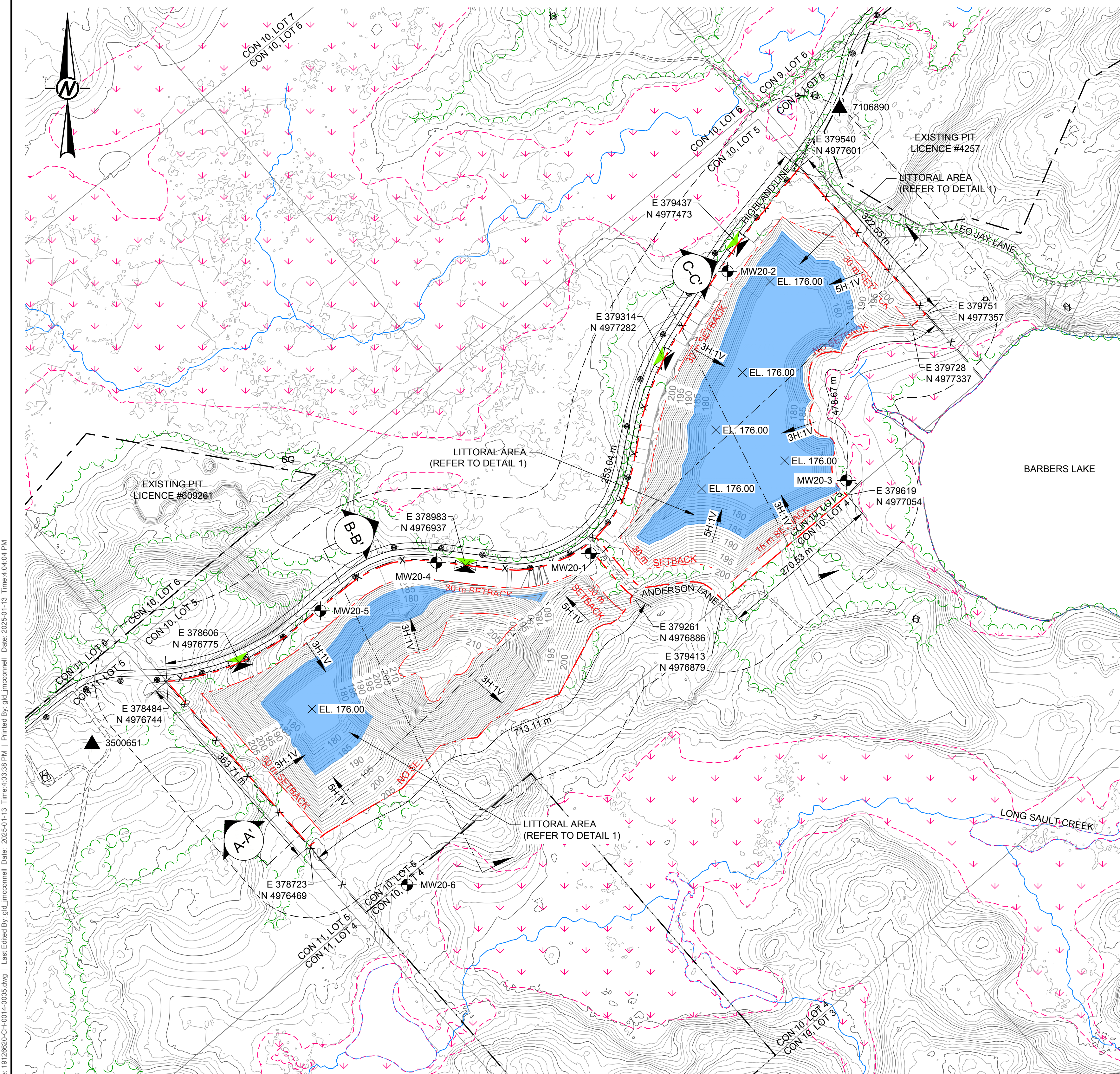
APPLICANT
THOMAS CAVANAGH CONSTRUCTION LIMITED

DESIGNED: BH
PREPARED: JM
REVIEWED: KAM
APPROVED: KAM

PROJECT NO. 19126620 CONTROL 0014 REV. 1 DRAWING 3 OF 5

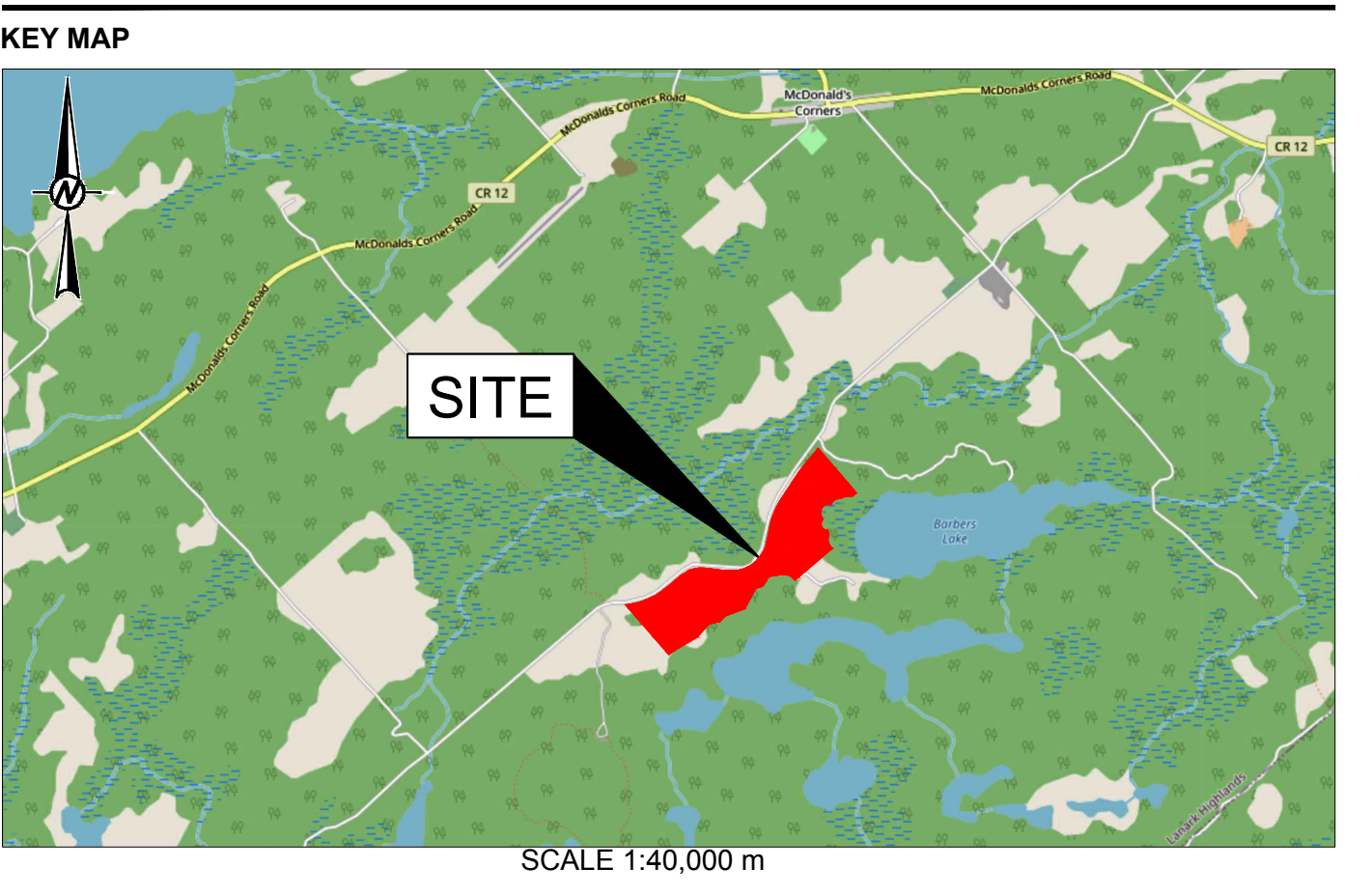
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3 (300mm x 420mm) TO A4 (210mm x 297mm)



REHABILITATION PLAN
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.
THE MAXIMUM DISTURBED AREA FOR THE SITE SHALL NOT EXCEED 50% OF THE TOTAL EXTRACTION AREA, WHICH INCLUDES BOTH EXTRACTION AREA 1 AND EXTRACTION AREA 2. ONCE 50% OF THE EXTRACTION AREA HAS BEEN DISTURBED, PROGRESSIVE REHABILITATION SHALL TAKE PLACE ON FINAL SIDE SLOPES PRIOR TO THE DEVELOPMENT OF ADDITIONAL DISTURBED AREA.
 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).
1. 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
A-1. ESTABLISH FINAL GRADES AS DESCRIBED ON THE SITE PLAN CREATION OF 3:1 SLOPES (OR SLOPING RATIO OTHERWISE DESCRIBED ON THE FINAL REHABILITATION PLAN PAGE 5 OF 5)
B. TOP DRESSING TO ESTABLISH VEGETATION.
2. LIQUID SOIL, AS DEFINED IN ONTARIO REGULATION 406/19 UNDER THE ENVIRONMENTAL PROTECTION ACT, IS NOT AUTHORIZED FOR IMPORTATION TO THE SITE.
3. 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.
4. 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.
5. 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.
6. THE CUMULATIVE TOTAL AMOUNT OF EXCESS SOIL THAT MAY BE IMPORTED TO THIS SITE FOR REHABILITATION PURPOSES IS 4,446,999.4,000.000 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 GRASSES 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.
WITHIN THE SHALLOW LITTORAL ZONES, APPROXIMATELY 100 NODES OF HERBACEOUS AND/OR WOODY WETLAND SPECIES WILL BE PLANTED WITH A TARGETED DENSITY OF 75% COVER AT ESTABLISHMENT, AND A TARGET DIVERSITY OF AT LEAST 10 SPECIES.
 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.
MONITORING WILL CONSIST OF PLOTS WITHIN THE LITTORAL ZONES, A TARGET OF 60% COVER BY NATIVE SPECIES, AND 60% SURVIVAL OF WOODY PLANTS WILL BE IMPLEMENTED. PERCENT COVER AND DIVERSITY WILL BE NOTED AND MONITORED EACH SUMMER FOR THREE YEARS AFTER PLANTING. SHOULD ANY WOODY SPECIES CONSISTENTLY UNDERPERFORM, THAT SPECIES SHALL BE REPLACED WITH A DIFFERENT SPECIES. A GENERAL ASSESSMENT OF THE UPLAND SEEDED SLOPES WILL ALSO BE CONDUCTED AT THE SAME TIME, USING A SYSTEMATIC MEANDER APPROACH TO COVER THE ENTIRE AREA. IF BARE SOILS ARE WIDESPREAD (E.G., >25%) OVERSEEDING WITH THE SAME SEED MIX WILL BE COMPLETED. AFTER THE INITIAL THREE YEARS OF THE MONITORING PROGRAM, THE NEED FOR ADDITIONAL REMEDIAL ACTION AND ADDITIONAL MONITORING WILL BE ASSESSED.
 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.
IF THERE IS CONSISTENT DIRECT SURFACE WATER OUTFLOW FROM THE PIT LAKE, AN OUTFLOW STRUCTURE WITH EROSION CONTROL SHALL BE CONSTRUCTED AND/OR RETAINED AT THE OUTFLOW LOCATION.
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
GEOGRAPHIC TOWNSHIP OF DALHOUSIE
TOWNSHIP OF LANARK HIGHLANDS,
LANARK COUNTY, ONTARIO

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

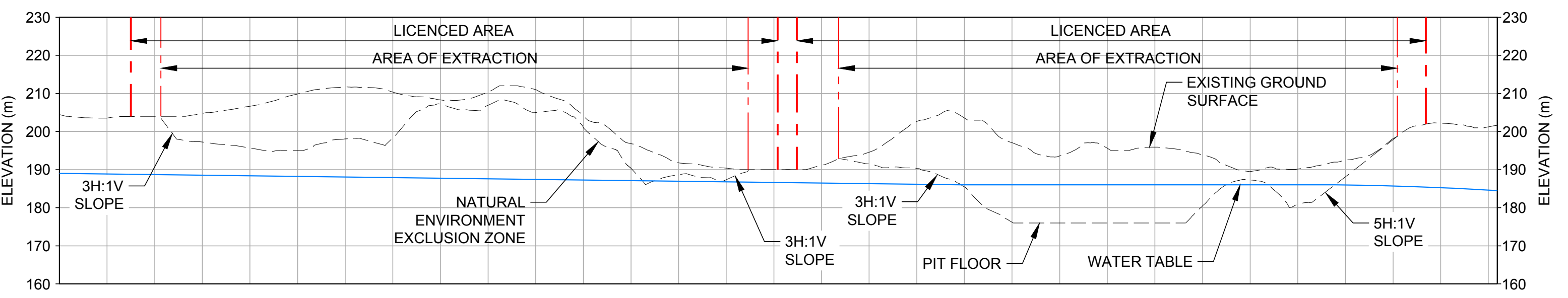
PIT LICENCE NO. 626599

NOTE(S)
 1. LICENCED AREA, HIGHLAND LINE PIT 37.60 HECTARES.
 2. AREA OF OPERATION, HIGHLAND LINE PIT 28.39 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.

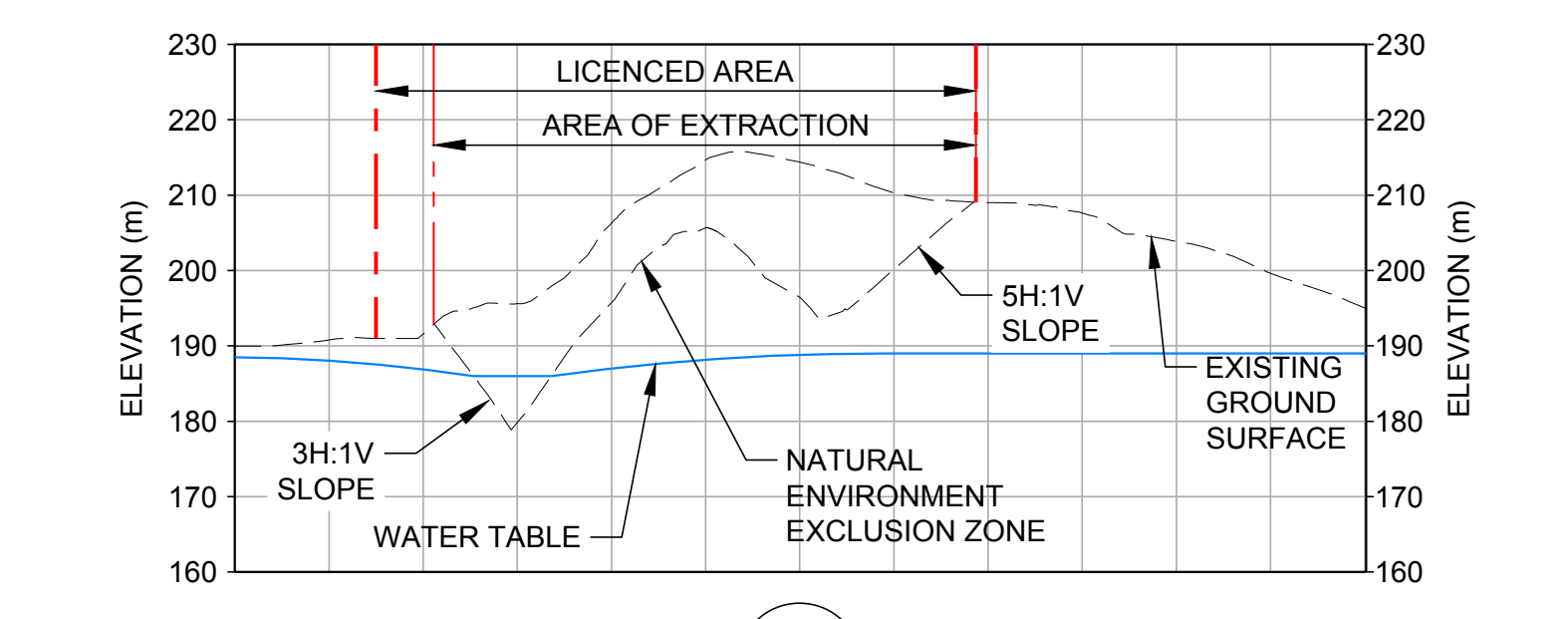
LEGEND

---	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)
- - -	LOTS AND CONCESSION LINES
---	ADJACENT PIT AND QUARRY BOUNDARY
○	UTILITY POLE
H	BUILDING; S-SLO, 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
X EL. 176.00	PROPOSED PIT FLOOR SPOT ELEVATION, mASL

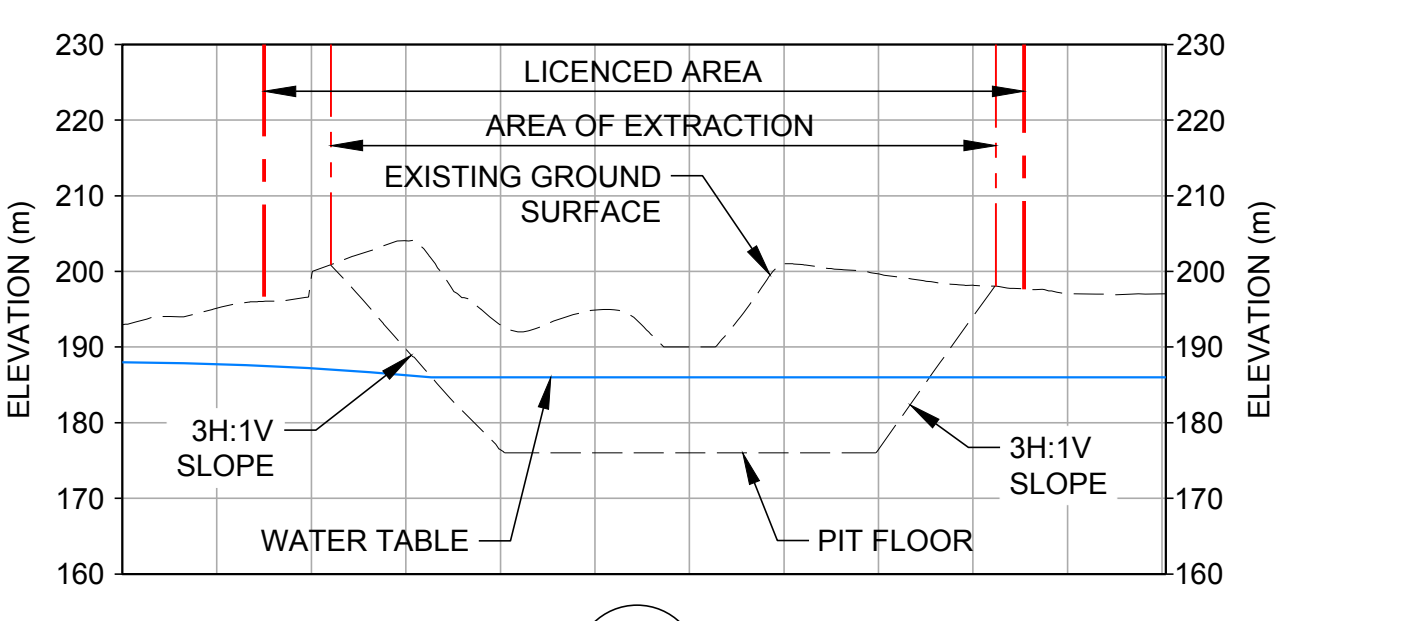
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 1. KEY PLAN: Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community.
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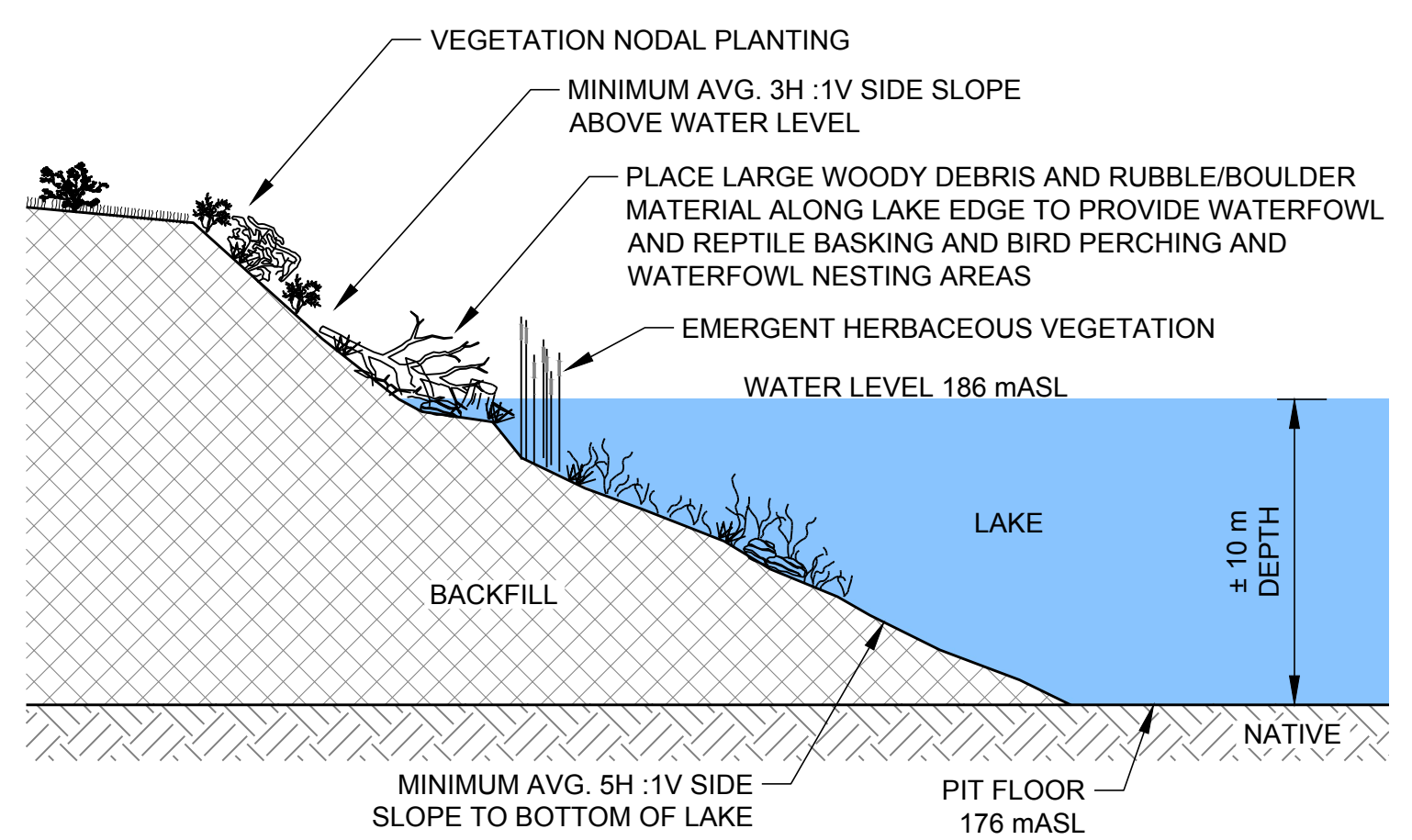
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 VERT. 1:1,000 m
A-A' PROFILE



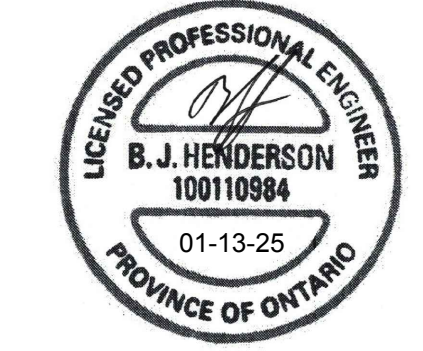
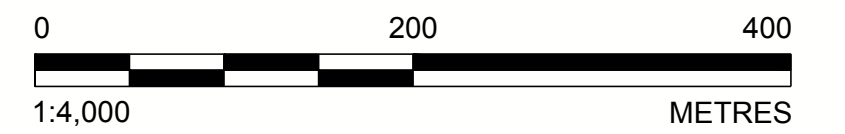
SCALE 1:4,000 m
 VERT. 1:1,000 m
B-B' SECTION



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



DETAIL 1
 NOT TO SCALE



SIGNATURE OF APPLICANT/LICENSSEE: [Signature] DATE: 01-13-25
 PREPARED UNDER THE DIRECTION OF: [Signature] DATE: 01-13-25
 BRIAN HENDERSON



AMENDMENTS	DATE	APPROVAL DATE

CLIENT
 THOMAS CAVANAGH CONSTRUCTION LIMITED

PROJECT
 HIGHLAND LINE PIT

TITLE
 REHABILITATION PLAN

APPLICANT	YYYY-MM-DD	2025-01-13
DESIGNED	BH	
PREPARED	JM	
REVIEWED	KAM	
APPROVED	KAM	

PROJECT NO. 19126620 CONTROL 0014 REV. 1 DRAWING 5 OF 5

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