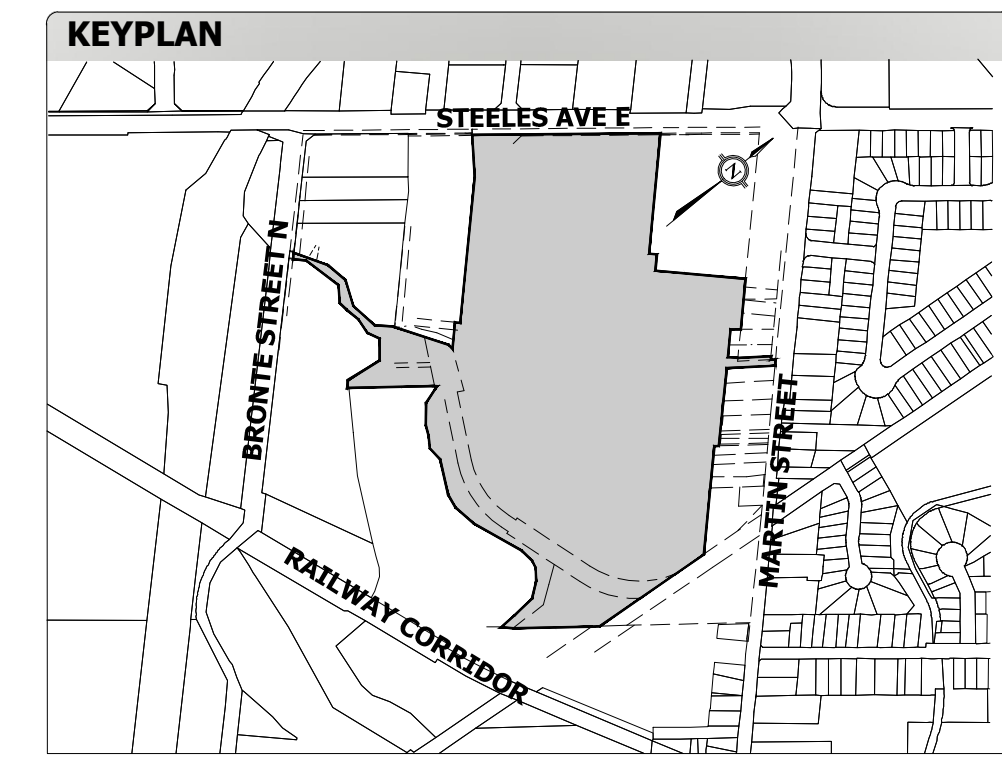
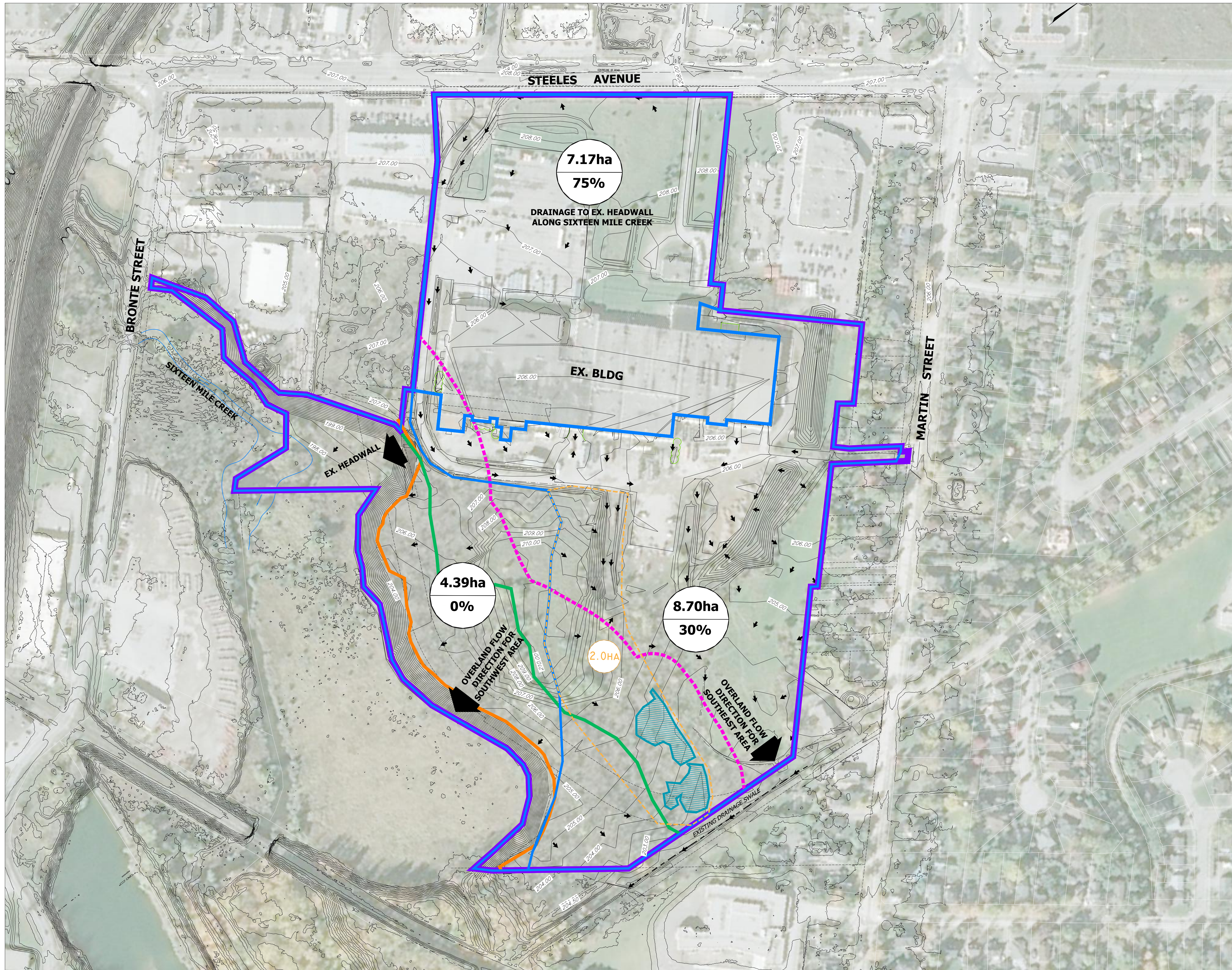


Appendix D

Engineering Drawings

Drawing 1

Pre-Remediation Drainage Plan



LEGEND:

- EXISTING CONTOUR AND ELEVATION
- PROPERTY LINE
- PRE-REMEDIATION CH REGULATED AREA BOUNDARY
- LIMIT OF WETLANDS (PREVIOUS TAILINGS POND) (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
- LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
- PHYSICAL TOP OF BANK (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
- 7.17ha DRAINAGE AREA (HECTARES)
75% % IMPERVIOUSNESS
- EXISTING DRAINAGE AREA BOUNDARY
- EXISTING DRAINAGE AREA BOUNDARY TO TAILINGS POND
- 2.0ha EXISTING SURFACE DRAINAGE TO TAILINGS POND AREA CONTRIBUTION
- EXISTING OVERLAND FLOW DIRECTION

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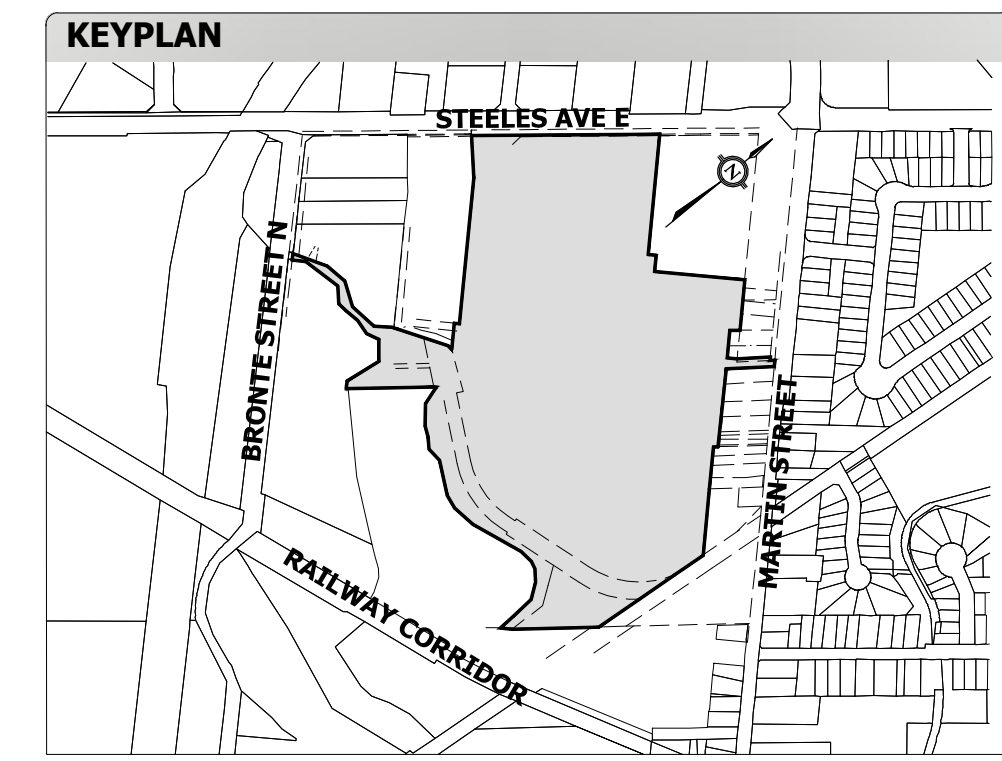
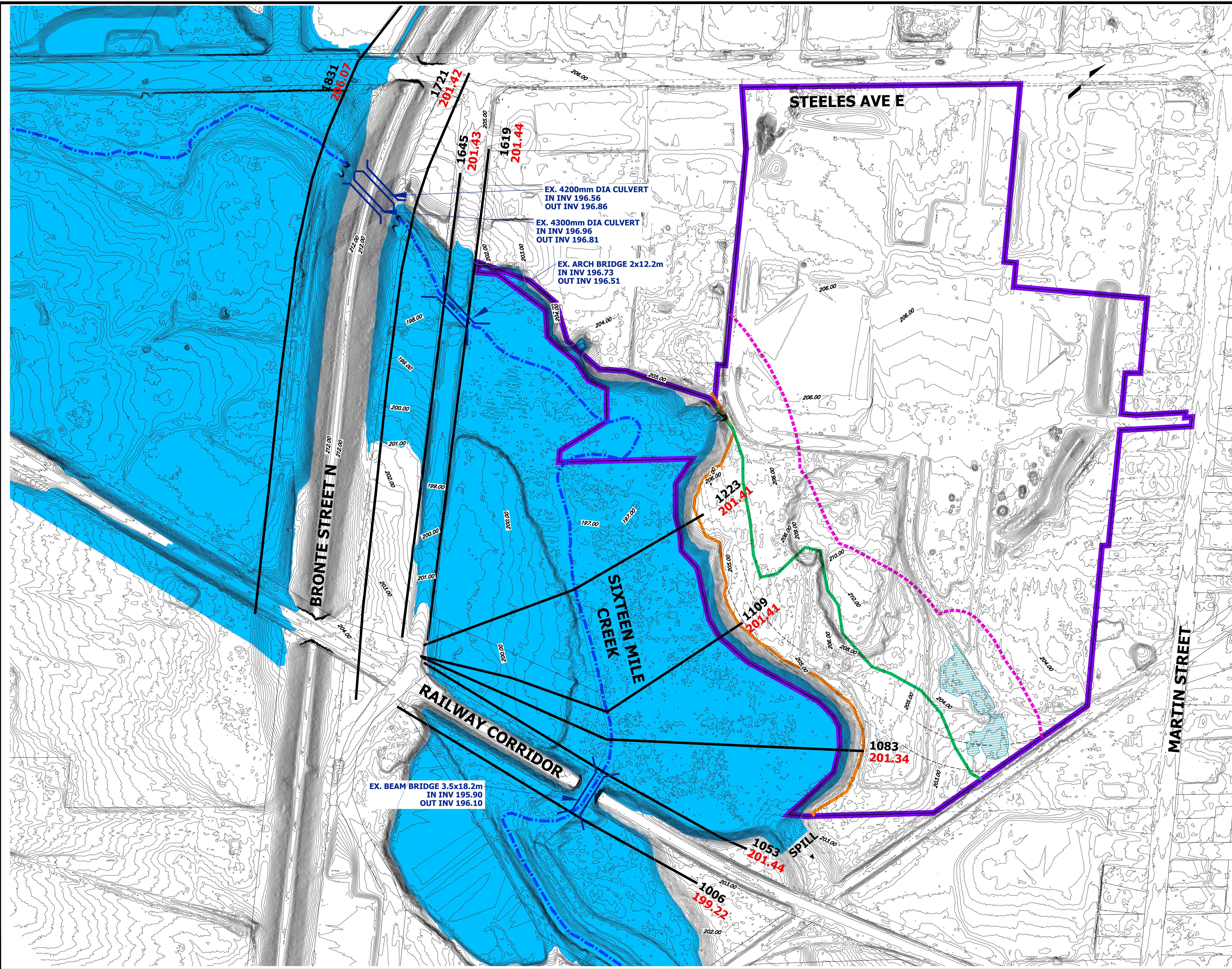
COMPREHENSIVE ENVIRONMENTAL MANAGEMENT STRATEGY
150 STEELES AVENUE

PRE-REMEDIATION DRAINAGE PLAN

PROJECT No.	DATE	SCALE	DWG No.
21-678	JULY 2023	1:1500	1

Drawing 2

Existing Flood Mapping



EX. 4200mm DIA CULVERT
IN INV 196.56
OUT INV 196.86

EX. 4300mm DIA CULVERT
IN INV 196.96
OUT INV 196.81

EX. ARCH BRIDGE 2x12.2m
IN INV 196.73
OUT INV 196.51

EX. BEAM BRIDGE 3.5x18.2m
IN INV 195.90
OUT INV 196.10

LEGEND:

- EXISTING CONTOUR AND ELEVATION
- PROPERTY LINE
- PRE-REMEDIATION CH REGULATED AREA BOUNDARY
- LIMIT OF WETLANDS (PREVIOUS TAILINGS POND) (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
- LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
- PHYSICAL TOP OF BANK (STAKED BY CONSERVATION HALTON JUL 16, 2021)
- REGIONAL FLOODPLAIN
- EXISTING CROSSING
- 1000 → HECRAS STATION ID
- 198.50 → REGIONAL FLOODPLAIN ELEVATION (m)

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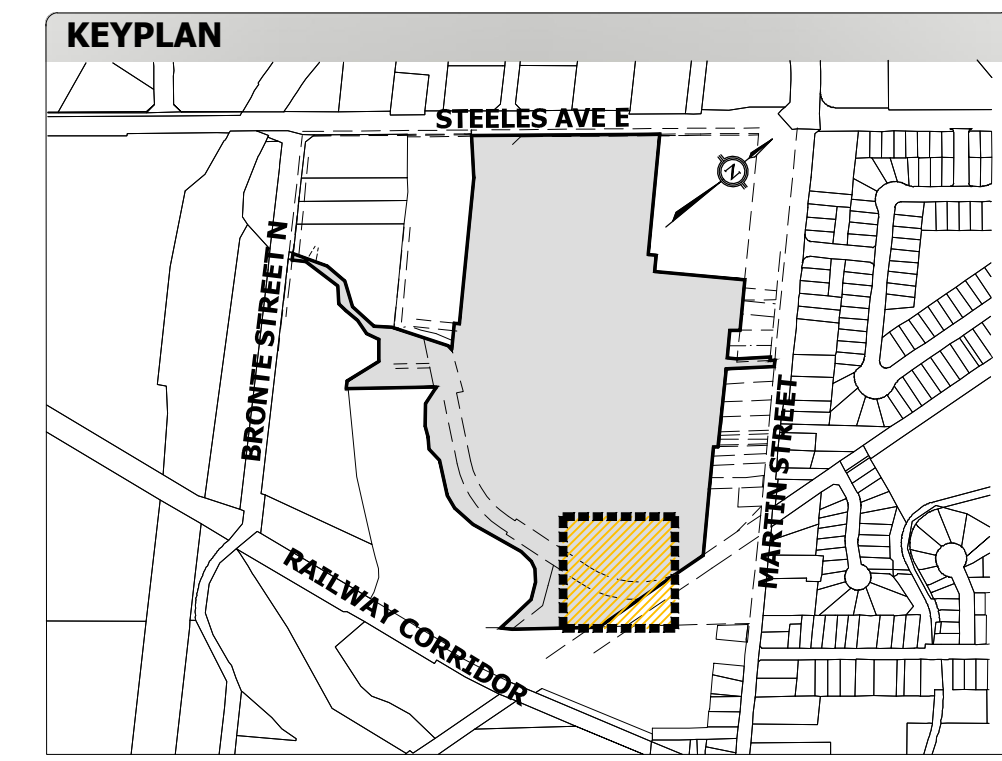
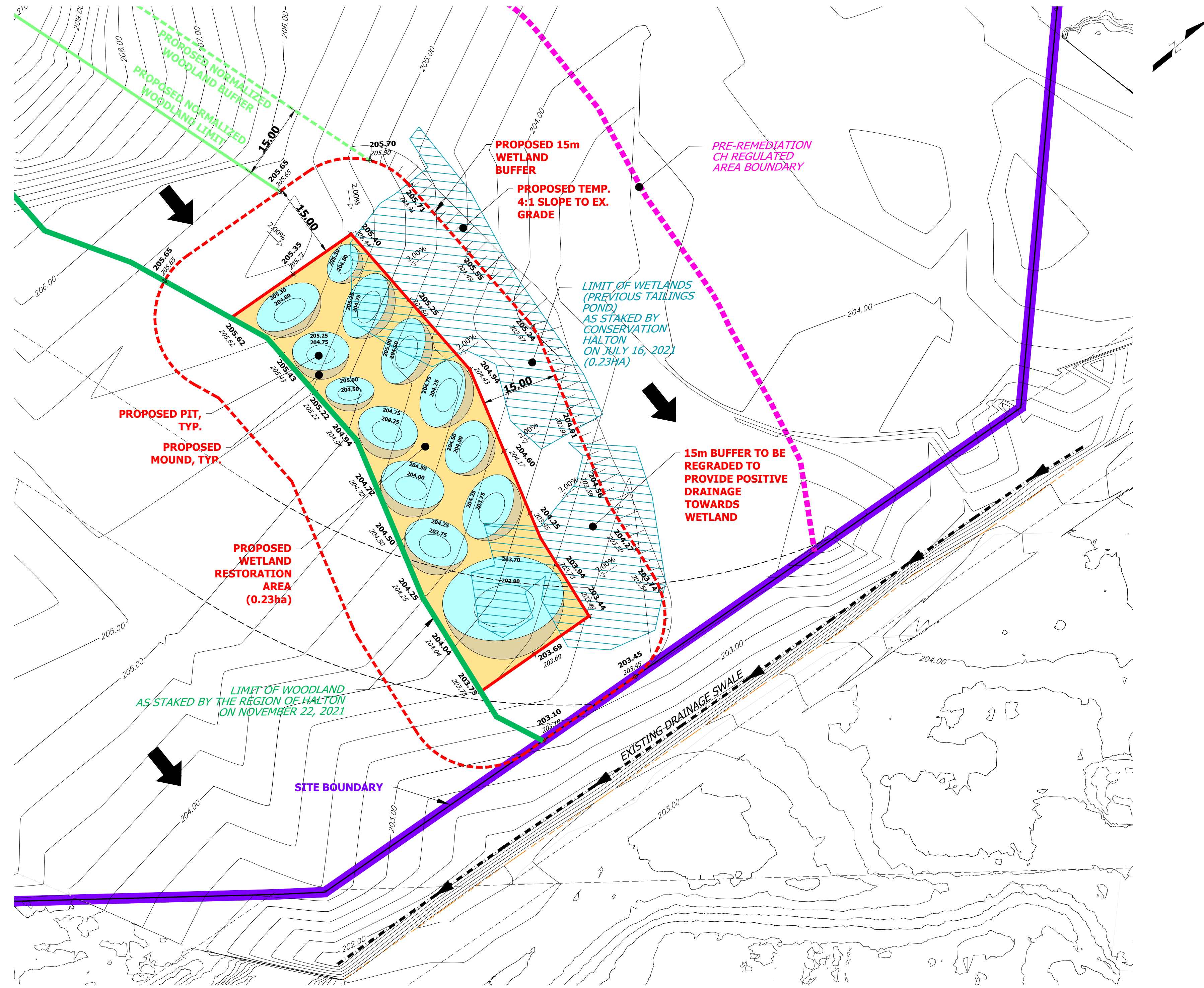
COMPREHENSIVE ENVIRONMENTAL MANAGEMENT STRATEGY
150 STEELES AVENUE

EXISTING FLOODMAPPING

PROJECT No.	DATE	SCALE	DWG No.
21-678	JULY 2023	1:1500	2

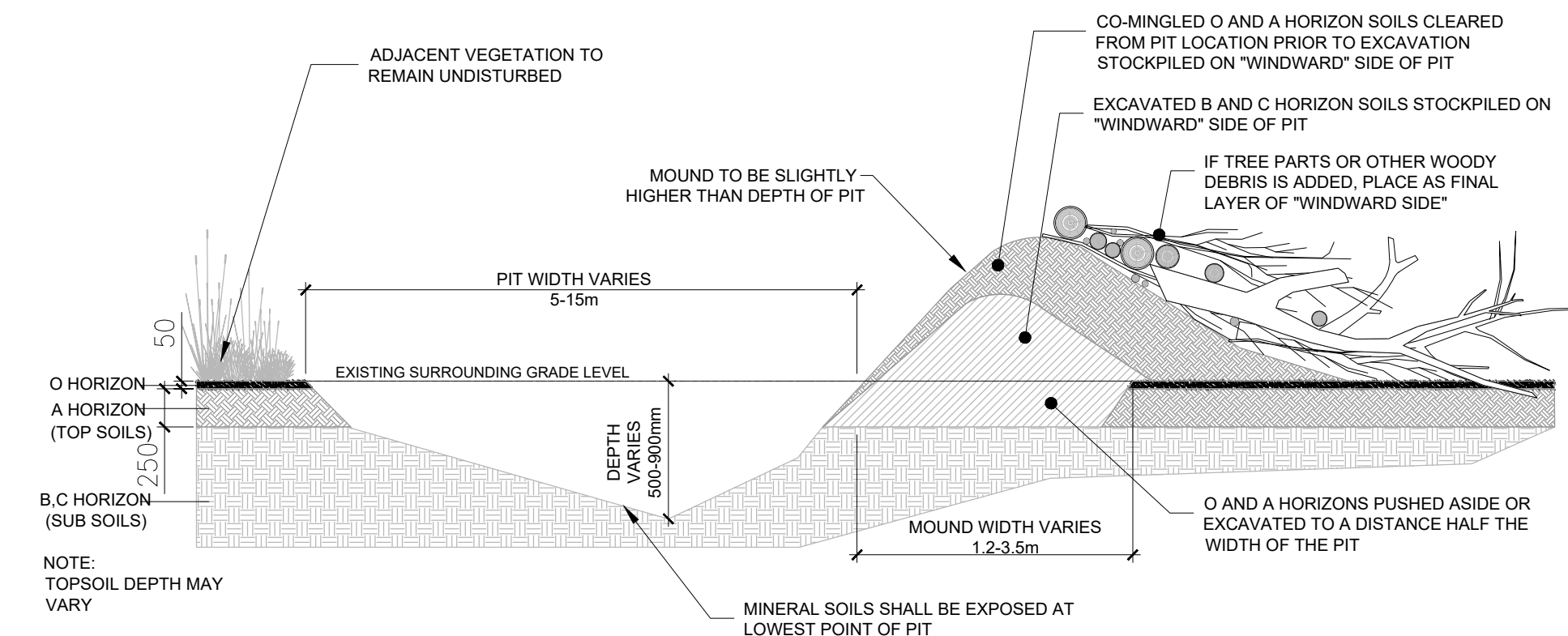
Drawing 3

Proposed Pit and Mound Wetland Design



LEGEND:

- EXISTING CONTOUR AND ELEVATION
- PROPOSED ELEVATION
- EXISTING GROUND ELEVATION
- EXISTING OVERLAND FLOW ARROW
- PROPERTY LINE
- PRE-REMEDIATION CH REGULATED AREA BOUNDARY
- LIMIT OF WETLANDS (PREVIOUS TAILINGS POND) (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
- LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
- PROPOSED NORMALIZED WOODLAND LIMIT
- PROPOSED NORMALIZED WOODLAND BUFFER
- WETLAND RESTORATION AREA
- PIT TOP ELEVATION
- PIT BOTTOM ELEVATION
- MOUND



TYPICAL PIT & MOUND DETAIL (N.T.S.)

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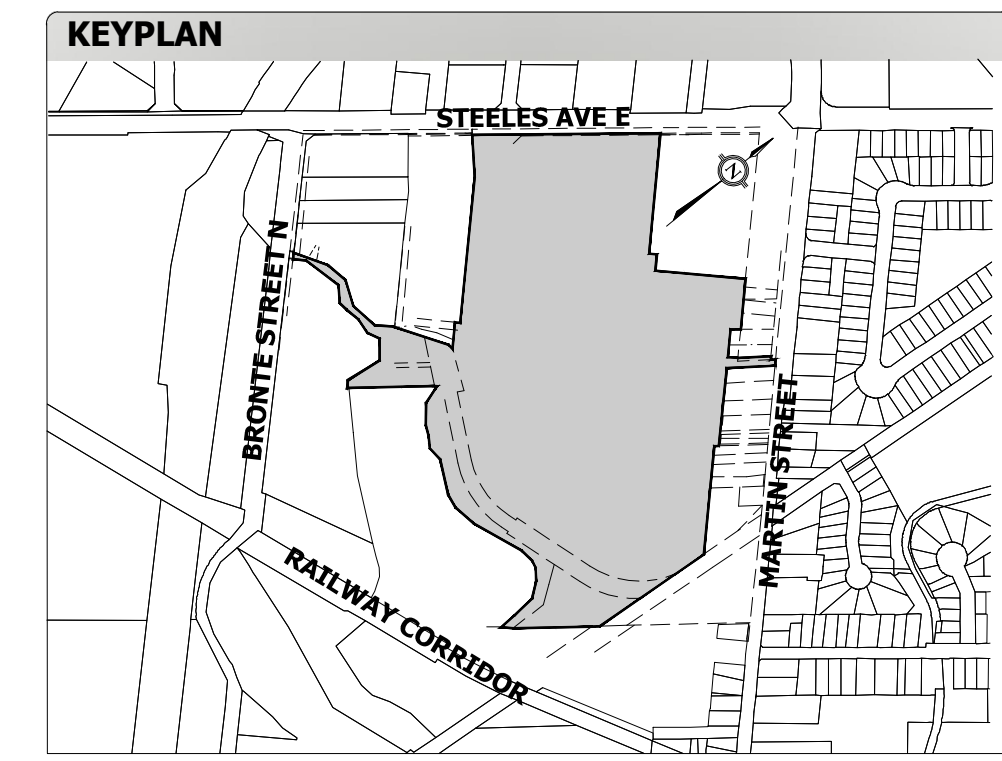
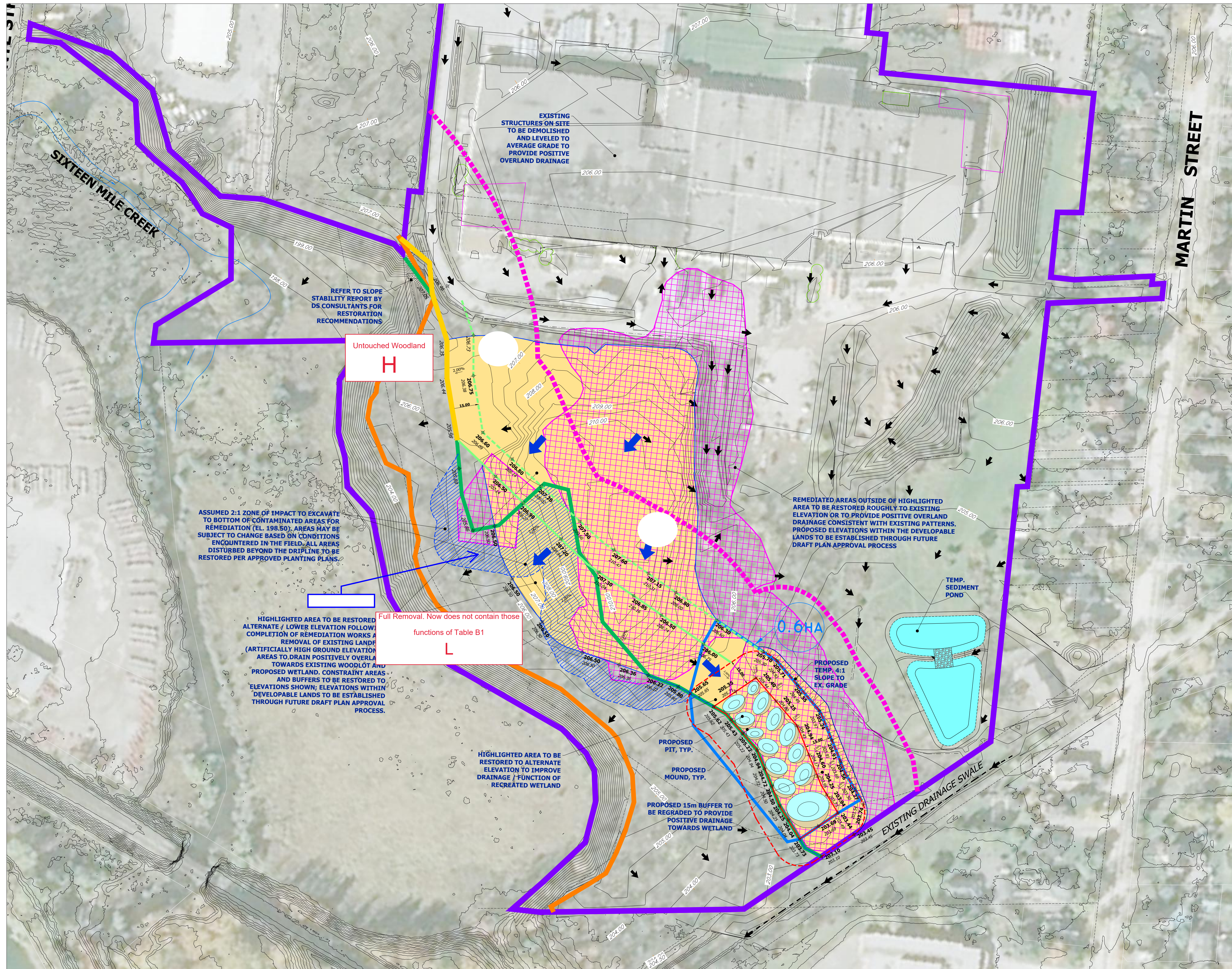
COMPREHENSIVE ENVIRONMENTAL MANAGEMENT STRATEGY
150 STEELES AVENUE

**PROPOSED PIT AND MOUND
 WETLAND CREATION**

PROJECT No.	DATE	SCALE	DWG No.
21-678	JULY 2023	1:500	3

Drawing 4

Post-Remediation Grading Plan



REFER TO SLOPE STABILITY REPORT BY DS CONSULTANTS FOR RESTORATION RECOMMENDATIONS

EXISTING STRUCTURES ON SITE TO BE DEMOLISHED AND LEVELED TO AVERAGE GRADE TO PROVIDE POSITIVE OVERLAND DRAINAGE

ASSUMED 2:1 ZONE OF IMPACT TO EXCAVATE TO BOTTOM OF CONTAMINATED AREAS FOR REMEDIATION (EL. 198.50). AREAS MAY BE SUBJECT TO CHANGE BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. ALL AREAS DISTURBED BEYOND THE DRIPLINE TO BE RESTORED PER APPROVED PLANTING PLANS.

HIGHLIGHTED AREA TO BE RESTORED ALTERNATE / LOWER ELEVATION FOLLOWING COMPLETION OF REMEDIATION WORKS AND REMOVAL OF EXISTING LANDFILL (ARTIFICIALLY HIGH GROUND ELEVATION AREAS TO DRAIN POSITIVELY OVERLAND TOWARDS EXISTING WOODLOT AND PROPOSED WETLAND. CONSTRAINT AREAS AND BUFFERS TO BE RESTORED TO ELEVATIONS SHOWN; ELEVATIONS WITHIN DEVELOPABLE LANDS TO BE ESTABLISHED THROUGH FUTURE DRAFT PLAN APPROVAL PROCESS.

HIGHLIGHTED AREA TO BE RESTORED TO ALTERNATE ELEVATION TO IMPROVE DRAINAGE / FUNCTION OF RECREATED WETLAND

REMIATED AREAS OUTSIDE OF HIGHLIGHTED AREA TO BE RESTORED ROUGHLY TO EXISTING ELEVATION OR TO PROVIDE POSITIVE OVERLAND DRAINAGE CONSISTENT WITH EXISTING PATTERNS. PROPOSED ELEVATIONS WITHIN THE DEVELOPABLE LANDS TO BE ESTABLISHED THROUGH FUTURE DRAFT PLAN APPROVAL PROCESS

Untouched Woodland
H

Full Removal. Now does not contain those functions of Table B1
L

PROPOSED TEMP. 4:1 SLOPE TO EX. GRADE

PROPOSED PIT, TYP.
PROPOSED MOUND, TYP.

EXISTING DRAINAGE SWALE

LEGEND:

- EXISTING CONTOUR AND ELEVATION
- PROPERTY LINE
- PRE-REMIEDIATION CH REGULATED AREA BOUNDARY
- LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
- PROP. NORMALIZED WOODLAND LIMIT
- PROP. NORMALIZED WOODLAND BUFFER
- PHYSICAL TOP OF BANK (STAKED BY CONSERVATION HALTON JUL 16, 2021)
- LIMIT OF PROPOSED WETLAND
- 15m BUFFER FROM PROPOSED WETLAND
- ANTICIPATED REMEDIATION AREAS
- 2:1 ZONE OF IMPACT TO REACH REMEDIATION DEPTH BEYOND DRIPLINE
- AREAS TO BE REGRADED
- POST-RESTORATION DRAINAGE BOUNDARY TO PROP. WETLAND
- POST-RESTORATION DRAINAGE AREA TO PROPOSED WETLAND
- EXISTING OVERLAND FLOW DIRECTION
- PROPOSED OVERLAND FLOW DIRECTION

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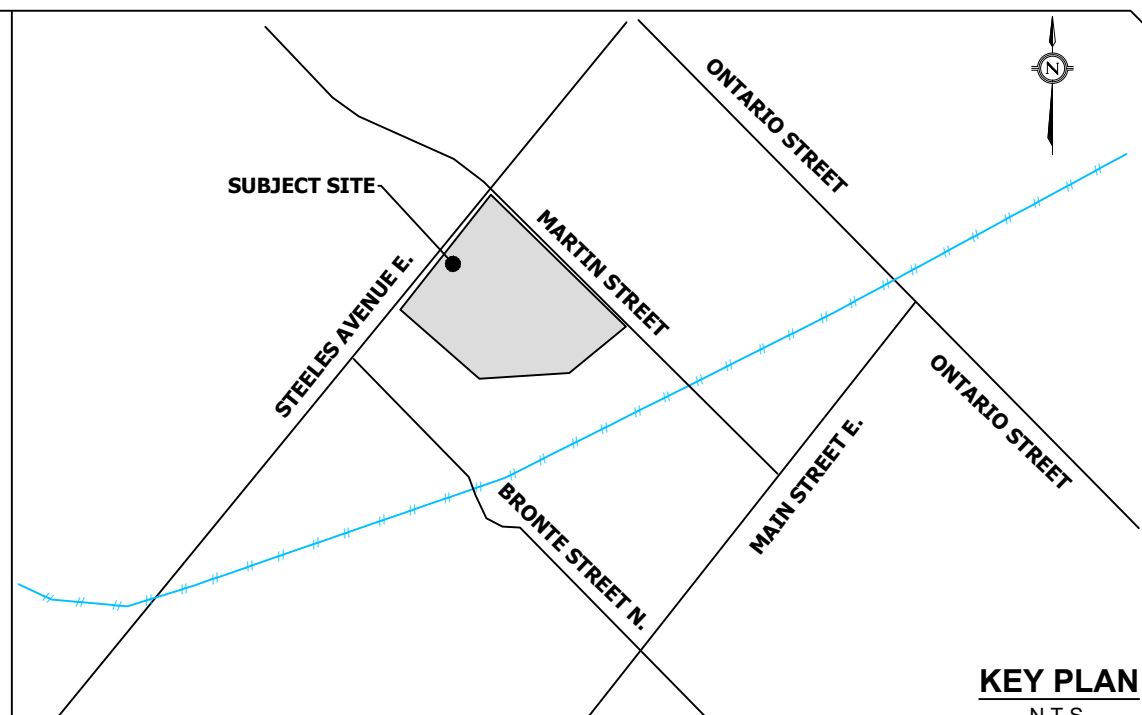
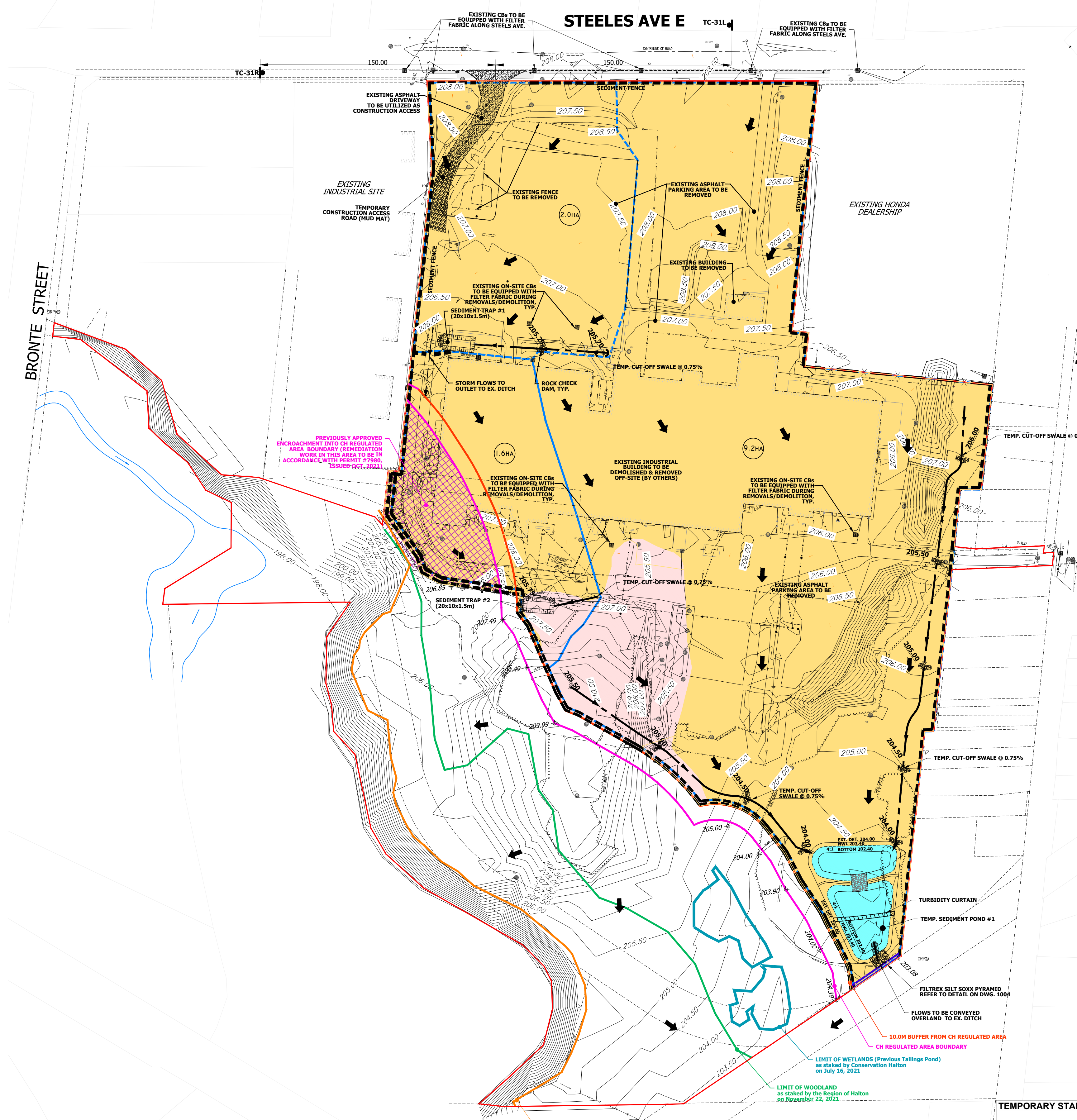
COMPREHENSIVE ENVIRONMENTAL MANAGEMENT STRATEGY
150 STEELES AVENUE

POST-REMIEDIATION GRADING PLAN

PROJECT No.	DATE	SCALE	DWG No.
21-678	JULY 2023	1:1000	4

Drawing 1001

**Erosion and Sediment Control plan –
Phase 1 Area**



- LEGEND:**
- EXISTING CONTOUR AND ELEVATION
 - PROPOSED ELEVATION
 - EXISTING OVERLAND FLOW ARROW
 - PROPERTY LINE
 - PRE-REMEDIATION CH REGULATED AREA BOUNDARY
 - 10m-BUFFER FROM CH REGULATED AREA BOUNDARY
 - LIMIT OF WETLANDS (PREVIOUS TAILINGS POND) (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
 - TOP OF BANK (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - SEDIMENT CONTROL FENCE
 - DOUBLE SEDIMENT CONTROL FENCE
 - CONSTRUCTION FENCE
 - TEMPORARILY CUT-OFF SWALE
 - FILTREX SILT SOXX (OR EQUIVALENT)
 - ESC DRAINAGE BOUNDARY
 - ROCK CHECK DAM
 - PROPOSED SEDIMENT TRAP
 - EXISTING SURFACE DRAINAGE AREA CONTRIBUTION
 - PHASE 1 WORK AREA
 - ESTIMATED REMEDIATION AREA (TO BE REFINED THROUGH ENVIRONMENTAL WORK)

- NOTES:**
- REFER TO DWG. 1004 FOR ESC GENERAL NOTES AND DETAILS.
 - DISTURBED AREAS TO BE STABILIZED IMMEDIATELY FOLLOWING THE COMPLETION OF RESTORATION WORKS.
- STAGING NOTES:**
1. INSTALL CONSTRUCTION ACCESS AS SHOWN.
 2. INSTALL ALL FENCING AS SHOWN ON THIS PLAN.
 3. INSTALL CUT-OFF SWALE AND ROCK CHECK DAMS AS SHOWN.
 4. CUT SEDIMENT POND AS SHOWN. REFER TO DWG. 1001A FOR CROSS SECTION DETAILS.

BENCHMARK NO. 828158:
 EXISTING ELEVATIONS ARE DERIVED FROM THE TOPOGRAPHIC SURVEY PREPARED BY WAHBA, DATED MAY 17, 2021.

NOTES:
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE LOCAL BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT THE RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON THIS SKETCH. BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.

ELEVATION NOTE:
 ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC AND DERIVED FROM GPS OBSERVATIONS.

3			
2			
1	PHASE 2A PERMIT APPLICATION	APRIL 2023	SR
No.	REVISION	DATE	BY

150 STEELES AVE EAST MILTON MERITOR



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EROSION PLAN (PHASE 1)

DESIGNED:	SR	CHECKED:	DZ	PROJECT No.:	21-678
DRAWN:	SR	DATE:	MARCH 2023	SHEET No.:	
SCALE:			1:1500	DRAWING No.:	1001

NOTE: CH REGULATED AREA
 ALL REMEDIATION WORK WITHIN CH REGULATED BOUNDARY TO BE COMPLETED IN ACCORDANCE WITH CONDITIONS OF PERMIT #7980, ISSUED OCT. 2021.

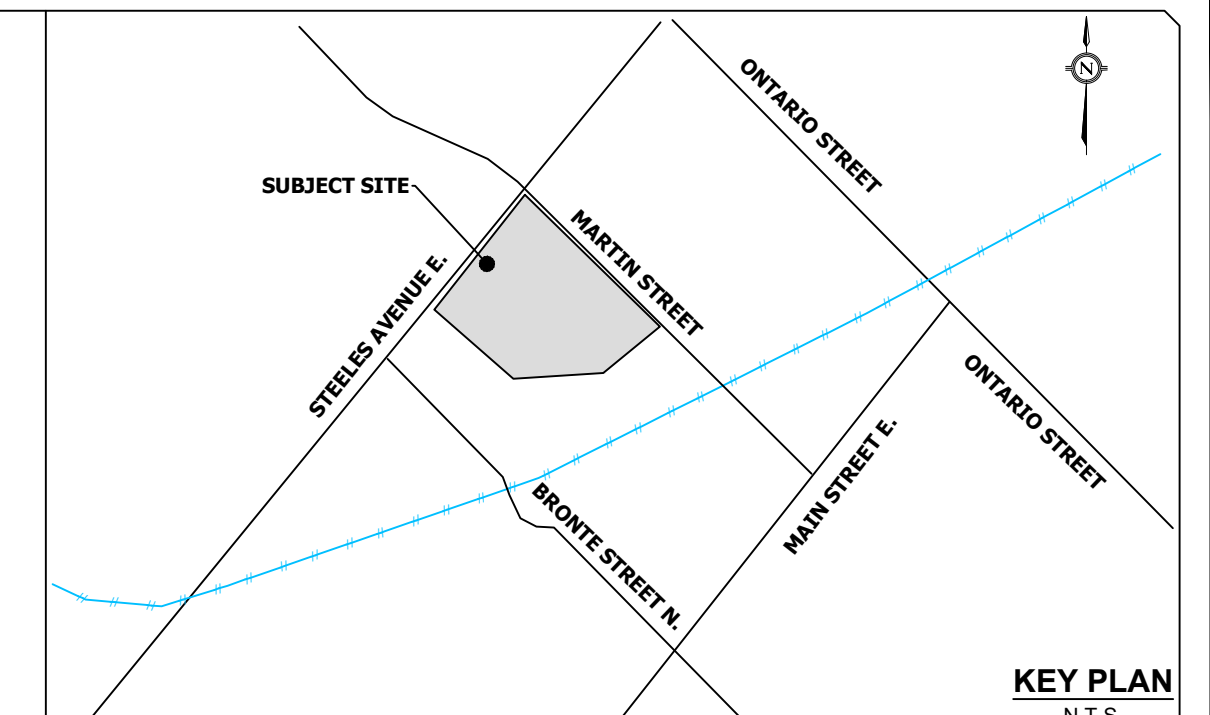
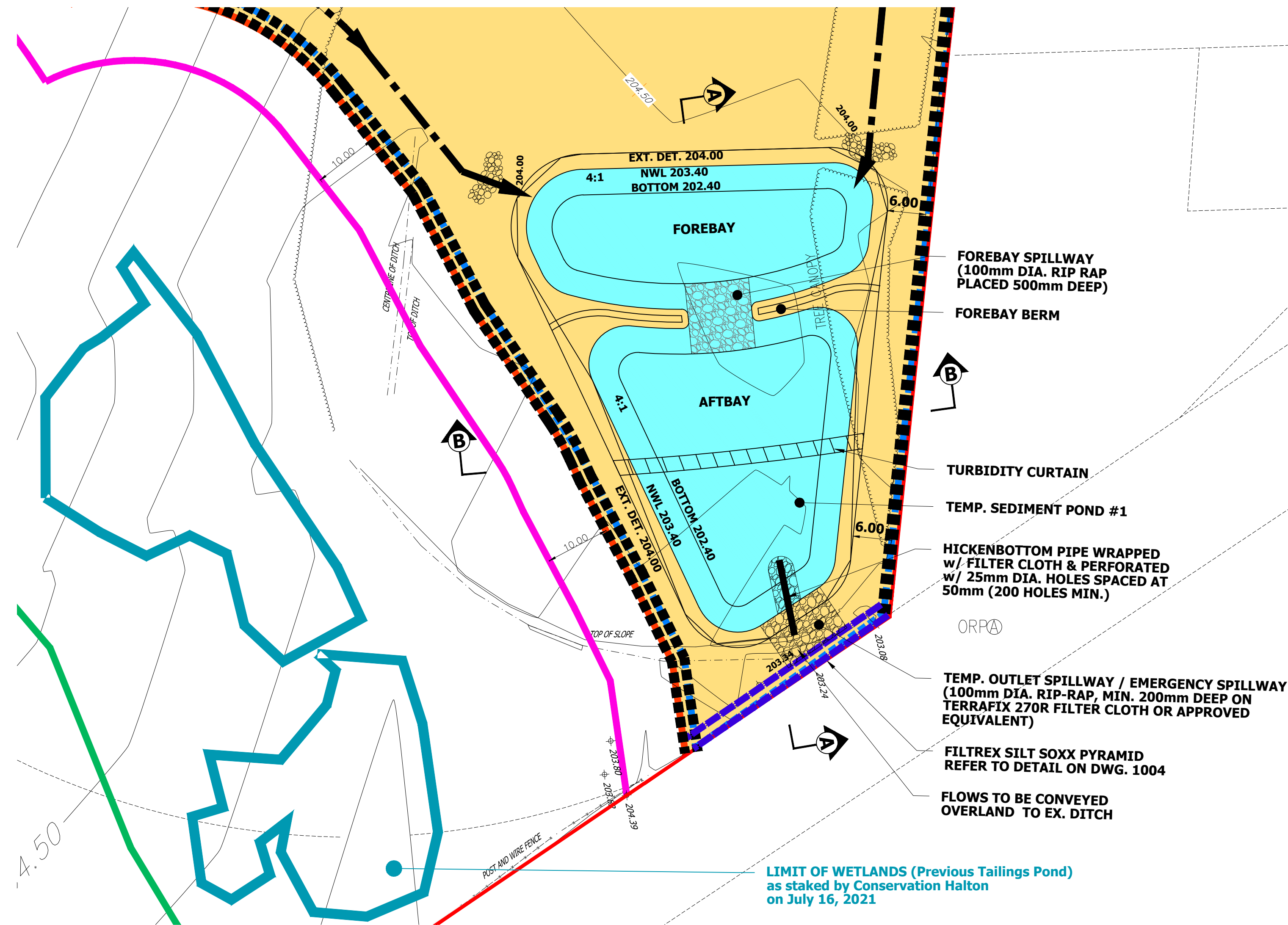
TEMPORARY STABILIZATION SEED MIX

COMMON NAME	SPECIES	PERCENTAGE
CANADA WILD RYE	<i>Elymus canadensis</i>	25
ANNUAL OATS	<i>Avena sativa</i>	25
CREEPING BENT GRASS	<i>Agrostis stolonifera</i>	25
LITTLE BLUESTEM	<i>Schizachyrium scoparium</i>	20
MEADOW SEDGE	<i>Carex granularis</i>	5

- NOTES:**
1. APPLY SEED MIX AT A RATE OF 30 kg PER HECTARE.
 2. SEEDING SHALL OVERLAP ADJACENT GROUND COVER BY 300 mm.
 3. APPLY A NURSE CROP OF VIRGINIA WILD RYE (*Elymus virginicus*) AT A RATE OF 60 kg PER HECTARE.
 4. WATER SOIL AFTER SEED APPLICATION.

Drawing 1001A

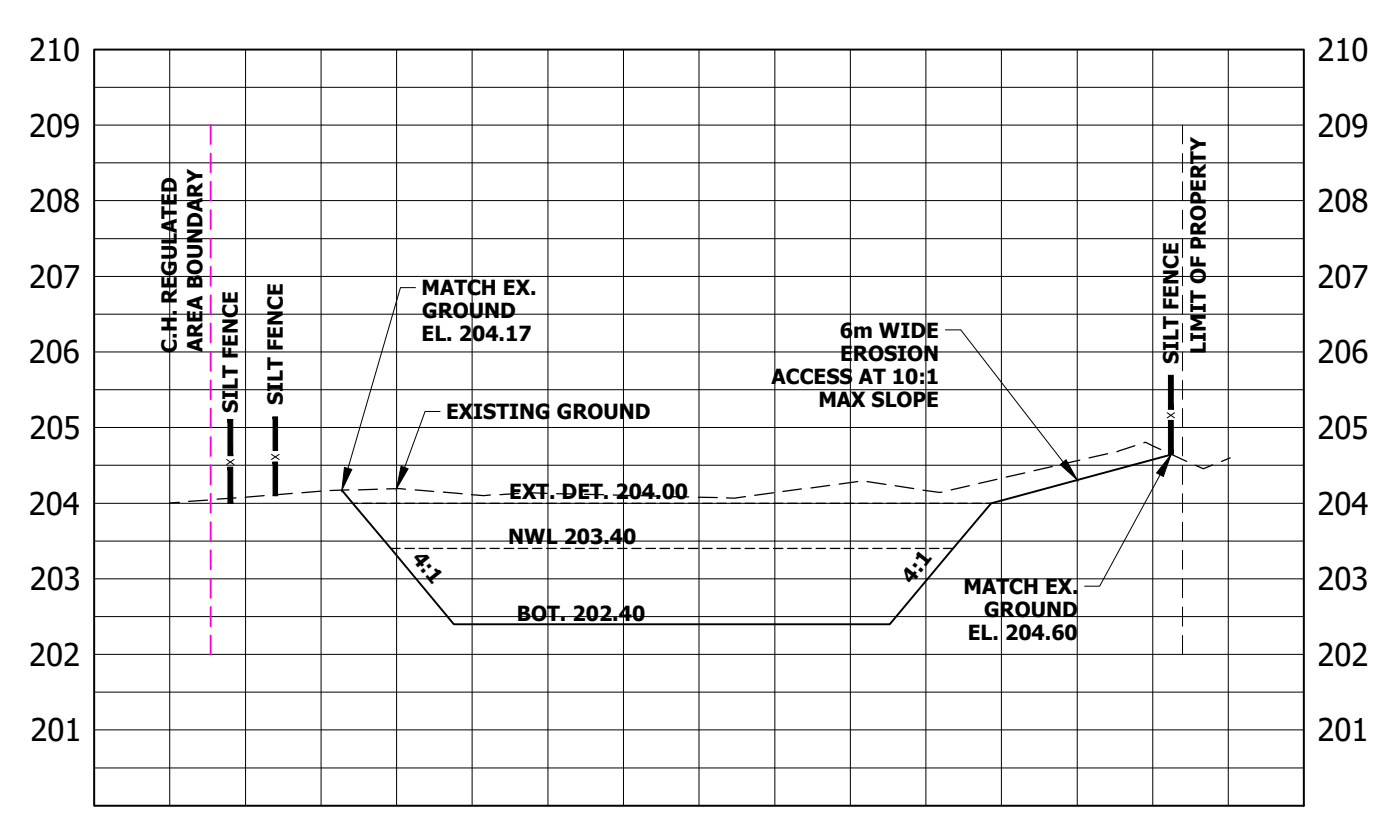
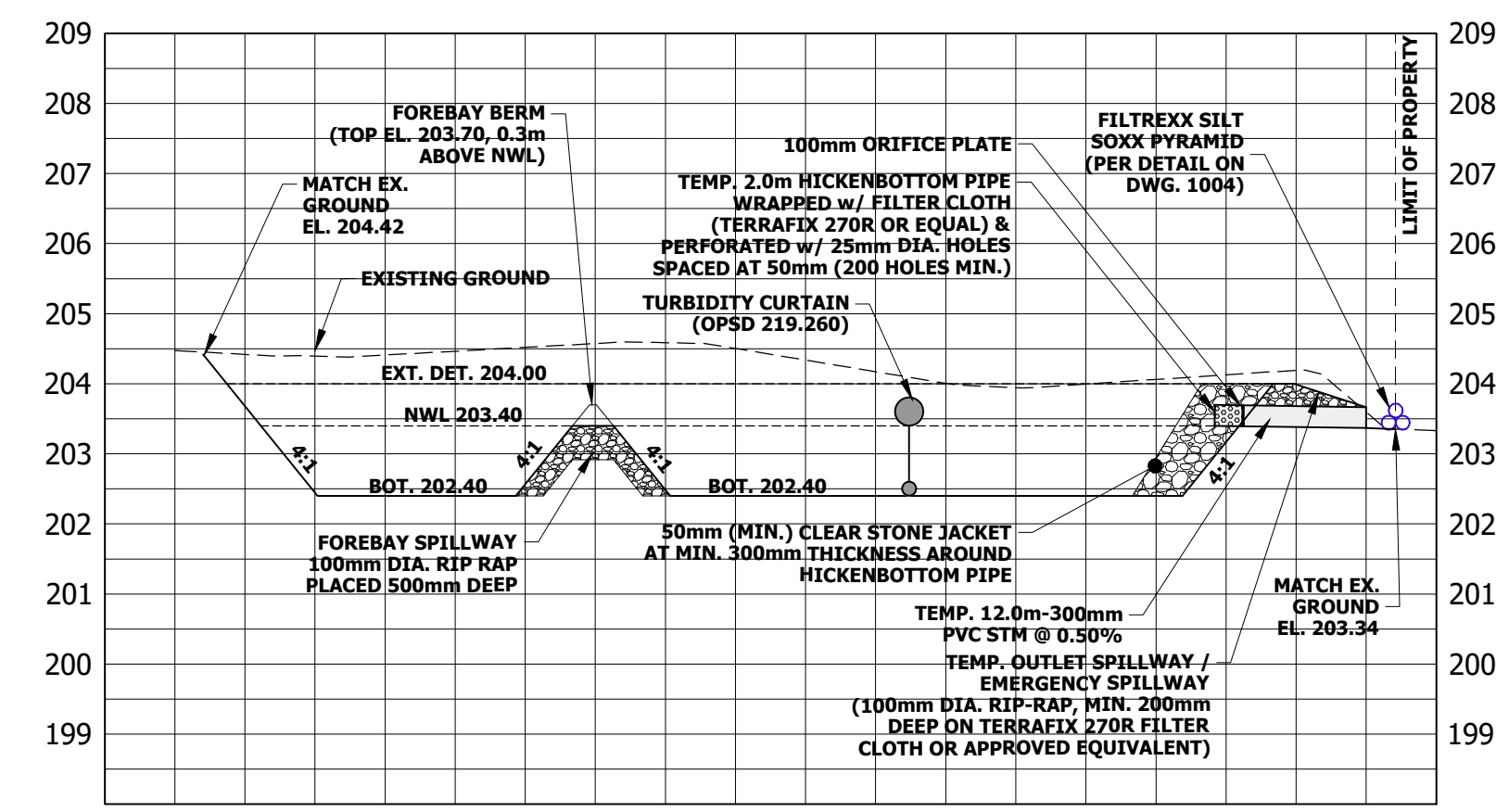
**Erosion and Sediment Control Plan –
Pond Cross Sections**



- LEGEND:**
- EXISTING CONTOUR AND ELEVATION
 - PROPOSED ELEVATION
 - EXISTING OVERLAND FLOW ARROW
 - PROPERTY LINE
 - PRE-REMEDIATION CH REGULATED AREA BOUNDARY
 - 10m-BUFFER FROM CH REGULATED AREA BOUNDARY
 - LIMIT OF WETLANDS (PREVIOUS TAILINGS POND) (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
 - TOP OF BANK (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - SEDIMENT CONTROL FENCE
 - DOUBLE SEDIMENT CONTROL FENCE
 - CONSTRUCTION FENCE
 - TEMPORARILY CUT-OFF SWALE
 - FILTREX SILT SOXX (OR EQUIVALENT)
 - ESC DRAINAGE BOUNDARY
 - ROCK CHECK DAM
 - PROPOSED SEDIMENT TRAP

TEMPORARY SEDIMENT CONTROL POND #1
 DRAINAGE AREA = 10.2ha (25% IMP)
 MAX. SIDE SLOPES = 4:1
 MAX. POND DEPTH = 1.60m
 BOTTOM EL. = 202.40m
 N.W.L. = 203.40m
 EXT. DET / H.W.L. = 204.00m
 REQ'D. PERM. POOL STORAGE (185m³/ha) = 1881 m³
 PROVIDED STORAGE (PERMANENT POOL) = 1967 m³
 REQ'D. STORAGE (EXT. DET. : 125m³/ha) = 1271 m³
 PROVIDED STORAGE (ABOVE NWL) = 1746 m³
 TOTAL PROVIDED STORAGE = 3713 m³

NOTES:
 REFER TO DWG. 1004 FOR ESC GENERAL NOTES AND DETAILS.
BENCHMARK NO. 828158:
 EXISTING ELEVATIONS ARE DERIVED FROM THE TOPOGRAPHIC SURVEY PREPARED BY WAHBA, DATED MAY 17, 2021.
 NOTES:
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE LOCAL BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT THE RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON THIS SKETCH.
 BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.
 ELEVATION NOTE:
 ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC AND ARE DERIVED FROM GPS OBSERVATIONS.



No.	REVISION	DATE	BY
3			
2			
1	PHASE 2A PERMIT APPLICATION	APRIL 2023	SR

150 STEELES AVE EAST MILTON MERITOR

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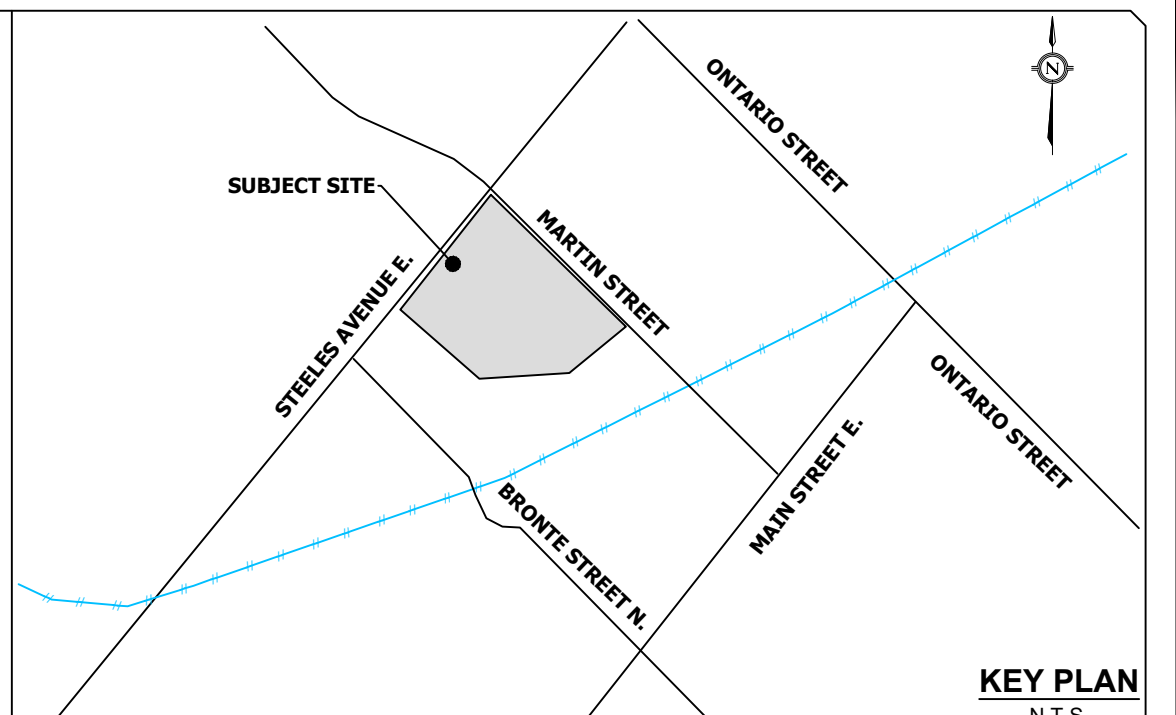
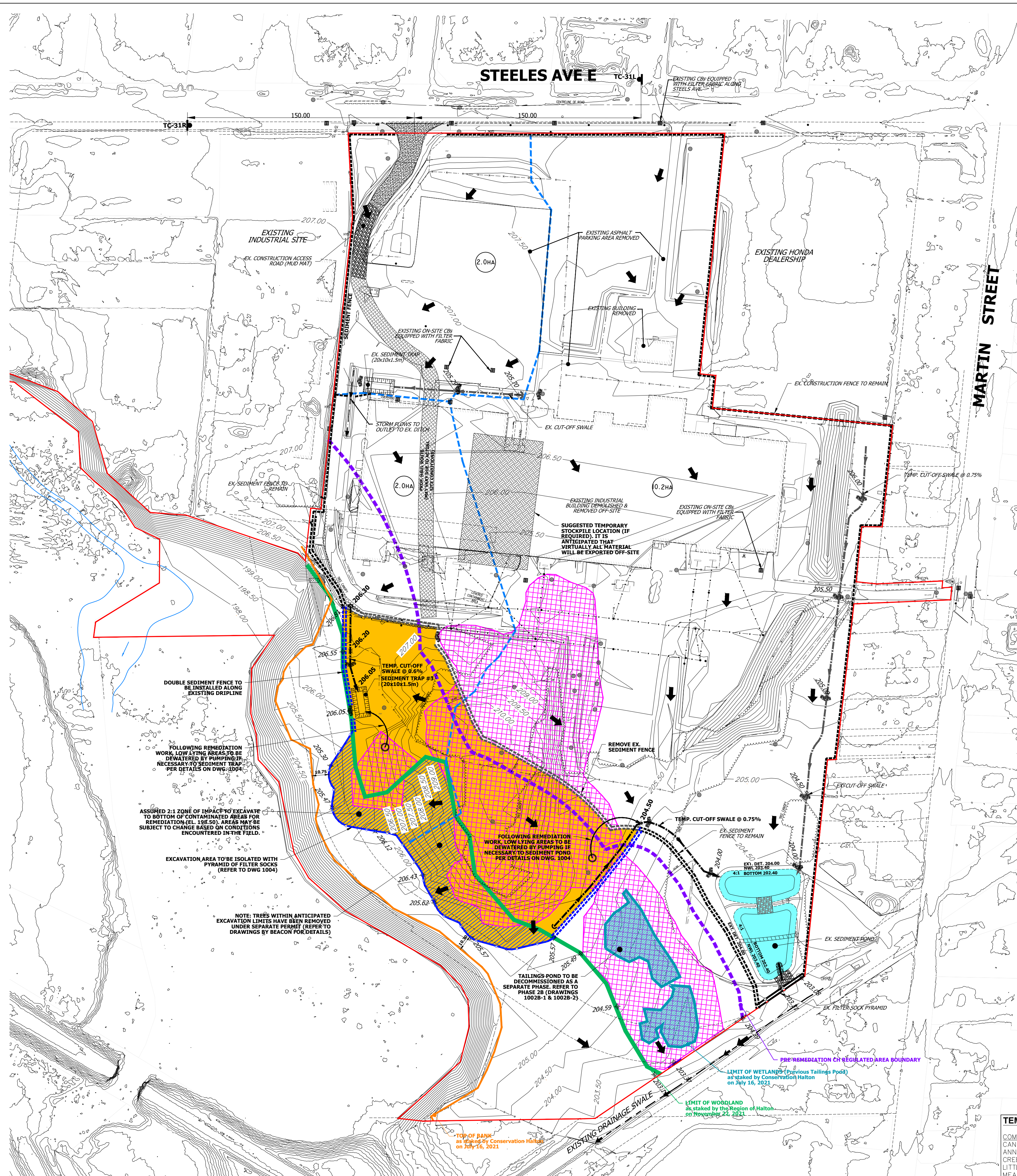


ESC POND CROSS SECTIONS

DESIGNED: SR	CHECKED: DZ	PROJECT No.: 21-678
DRAWN: SR	DATE: MARCH 2023	SHEET No.:
SCALE: AS SHOWN	DRAWING No.:	1001A

Drawing 1002A-1

**Erosion and Sediment Control Plan –
Phase 2A Area, Stage 2**



- LEGEND:**
- EXISTING CONTOUR AND ELEVATION
 - PROPOSED ELEVATION
 - EXISTING OVERLAND FLOW ARROW
 - PROPERTY LINE
 - PRE-REMEDIATION CH REGULATED AREA BOUNDARY
 - LIMIT OF WETLANDS (PREVIOUS TAILINGS POND) (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
 - TOP OF BANK (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - EX. SEDIMENT CONTROL FENCE (TO REMAIN)
 - EX. SEDIMENT CONTROL FENCE (TO BE REMOVED)
 - PROPOSED SEDIMENT CONTROL FENCE
 - PROPOSED FILTER SOCK PYRAMID
 - EX. FILTER SOCK PYRAMID
 - EX. CONSTRUCTION FENCE
 - TEMPORARY CUT-OFF SWALE
 - ESC DRAINAGE BOUNDARY
 - ROCK CHECK DAM
 - SEDIMENT TRAP
 - EXISTING SURFACE DRAINAGE AREA CONTRIBUTION (HECTARES)
 - WORK AREA
 - ESTIMATED REMEDIATION AREA (TO BE REFINED THROUGH ENVIRONMENTAL WORK)
 - APPROXIMATE 2:1 EXCAVATION LIMIT BEYOND DRIPLINE TO REACH ANTICIPATED REMEDIATION DEPTH

NOTES:

- WHEN EXCAVATION IN PROXIMITY TO THE EXISTING TREES IS COMPLETE AND A QUALIFIED PERSON IN ENVIRONMENTAL SITE ASSESSMENTS HAS DETERMINED THAT THE REMEDIAL EXCAVATION IS COMPLETE IN THE AREA, AN ARBORIST WILL ATTEND ON-SITE TO UNDERTAKE OR DIRECT PROPER ROOT PRUNING AND WILL ENSURE THAT ROOTS ARE CLEANLY PRUNED AS PER ARBORICULTURAL BEST MANAGEMENT PRACTISES.
- DEEP EXCAVATION AND SIDE SLOPES TO BE MONITORED BY THE ON-SITE GEOTECHNICAL ENGINEER. APPROPRIATE SLOPE STABILIZATION MEASURES TO BE IMPLEMENTED WHEREVER NECESSARY (I.E. COIR MATTING, SEEDING ETC.) AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER, CONSERVATION AUTHORITY AND/OR TOWN.

STAGING NOTES:

- TREE REMOVALS TO COMPLETED WITHIN ANTICIPATED PHASE 2A WORK LIMITS, INCLUDING THE ASSUMED 2:1 EXCAVATION LIMITS TO REACH THE ANTICIPATED REMEDIATION DEPTH. REFER TO DWGS BY BEACON.
- PHASE 2A WORK AREA TO BE ISOLATED WITH DOUBLE SEDIMENT FENCE ALONG STAKED DRIPLINE AS SHOWN. FOR AREAS WHERE EXCAVATION IS REQUIRED BEYOND THE STAKED DRIPLINE TO REACH REMEDIATION DEPTH, IT IS RECOMMENDED TO USE FILTER SOCK PYRAMID INSTEAD FOR EASE OF INSTALLATION AND TO ALLOW THE FILTER SOCK TO BE SHIFTED IN CASE THE REMEDIATION DEPTHS VARY IN THE FIELD.
- ONCE WORK AREAS ARE ISOLATED, THE REMEDIATION WORK IS TO PROCEED UNDER SUPERVISION OF DS CONSULTANTS.
- UPON COMPLETION OF THE REQUIRED REMEDIATION WORK, LOW LYING AREAS MAY NEED TO BE DEWATERED BY PUMPING TO EITHER THE SEDIMENT TRAP OR SEDIMENT POND. REFER TO DETAILS ON DWG. 1004.
- DISTURBED AREAS TO BE RESTORED TO GRADES AS SHOWN ON DRAWING 1002A-2.

TEMPORARY STABILIZATION SEED MIX

COMMON NAME	SPECIES	PERCENTAGE
CANADA WILD RYE	<i>Elymus canadensis</i>	25
ANNUAL OATS	<i>Avena sativa</i>	25
CREEPING BENT GRASS	<i>Agrostis stolonifera</i>	25
LITTLE BLUESTEM	<i>Schizachyrium scoparium</i>	20
MEADOW SEDGE	<i>Carex granularis</i>	5

- NOTES:**
- APPLY SEED MIX AT A RATE OF 30 kg PER HECTARE.
 - SEEDING SHALL OVERLAP ADJACENT GROUND COVER BY 300 mm.
 - APPLY A NURSE CROP OF VIRGINIA WILD RYE (*Elymus virginicus*) AT A RATE OF 60 kg PER HECTARE.
 - WATER SOIL AFTER SEED APPLICATION.

BENCHMARK NO. 828158:
 EXISTING ELEVATIONS ARE DERIVED FROM THE TOPOGRAPHIC SURVEY PREPARED BY WAHBA, DATED MAY 17, 2021.
 NOTES:
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE LOCAL BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT THE RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON THIS SKETCH BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.
 ELEVATION NOTE:
 ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC AND DERIVED FROM GPS OBSERVATIONS.

3			
2			
1	PHASE 2A PERMIT APPLICATION	APRIL 2023	SR
No.	REVISION	DATE	BY
			APPROVED

150 STEELES AVE EAST MILTON MERITOR

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EROSION PLAN (PHASE 2A, STAGE 1)

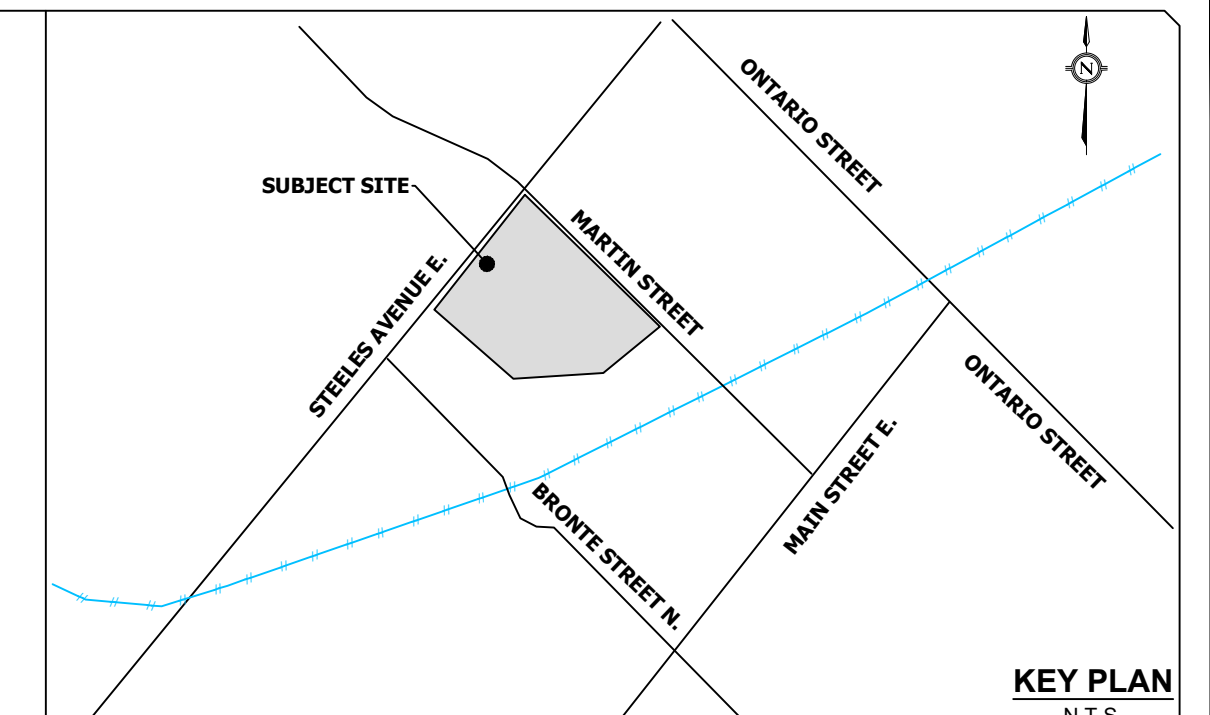
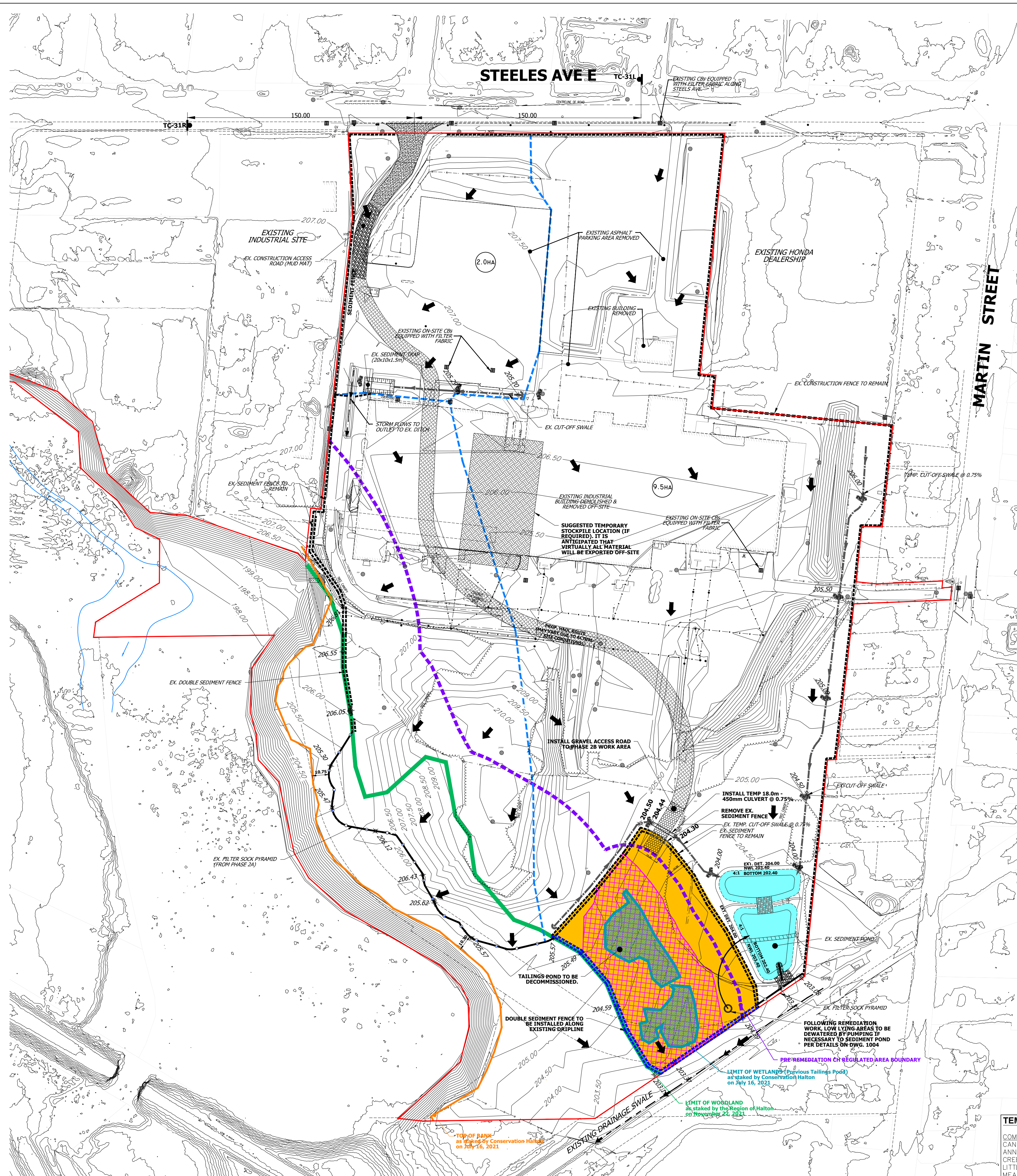
DESIGNED: SR	CHECKED: DZ	PROJECT No.: 21-678
DRAWN: SR	DATE: MARCH 2023	SHEET No.:
SCALE: 1:1500		DRAWING No.: 1002A-1

Drawing 1002A-2

**Erosion and Sediment Control Plan –
Phase 2A Area, Stage 2**

Drawing 1002B-1

**Erosion and Sediment Control Plan –
Stage 2B Area, Stage 1**



- LEGEND:**
- EXISTING CONTOUR AND ELEVATION
 - PROPOSED ELEVATION
 - EXISTING OVERLAND FLOW ARROW
 - PROPERTY LINE
 - PRE-REMEDIATION CH REGULATED AREA BOUNDARY
 - LIMIT OF WETLANDS (PREVIOUS TAILINGS POND) (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
 - TOP OF BANK (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - EX. SEDIMENT CONTROL FENCE (TO REMAIN)
 - EX. SEDIMENT CONTROL FENCE (TO BE REMOVED)
 - PROPOSED SEDIMENT CONTROL FENCE
 - PROPOSED FILTER SOCK PYRAMID
 - EX. FILTER SOCK PYRAMID
 - EX. CONSTRUCTION FENCE
 - TEMPORARY CUT-OFF SWALE
 - ESC DRAINAGE BOUNDARY
 - ROCK CHECK DAM
 - SEDIMENT TRAP
 - EXISTING SURFACE DRAINAGE AREA CONTRIBUTION (HECTARES)
 - WORK AREA
 - ESTIMATED REMEDIATION AREA (TO BE REFINED THROUGH ENVIRONMENTAL WORK)

NOTES:

- WHEN EXCAVATION IN PROXIMITY TO THE EXISTING TREES IS COMPLETE AND A QUALIFIED PERSON IN ENVIRONMENTAL SITE ASSESSMENTS HAS DETERMINED THAT THE REMEDIAL EXCAVATION IS COMPLETE IN THE AREA, AN ARBORIST WILL ATTEND ON-SITE TO UNDERTAKE OR DIRECT PROPER ROOT PRUNING AND WILL ENSURE THAT ROOTS ARE CLEANLY PRUNED AS PER ARBORICULTURAL BEST MANAGEMENT PRACTISES.
- DEEP EXCAVATION AND SIDE SLOPES TO BE MONITORED BY THE ON-SITE GEOTECHNICAL ENGINEER. APPROPRIATE SLOPE STABILIZATION MEASURES TO BE IMPLEMENTED WHEREVER NECESSARY (I.E. COIR MATTING, SEEDING ETC.) AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER, CONSERVATION AUTHORITY AND/OR TOWN.

STAGING NOTES:

- TREE REMOVALS TO BE COMPLETED WITHIN ANTICIPATED PHASE 2B WORK LIMITS. REFER TO DWGS BY BEACON.
- PHASE 2B WORK AREA TO BE ISOLATED WITH DOUBLE SEDIMENT FENCE ALONG STAKED DRIPLINE AS SHOWN.
- ONCE WORK AREAS ARE ISOLATED, THE REMEDIATION WORK IS TO PROCEED UNDER SUPERVISION OF DS CONSULTANTS.
- UPON COMPLETION OF THE REQUIRED REMEDIATION WORK, LOW LYING AREAS MAY NEED TO BE DEWATERED BY PUMPING TO THE SEDIMENT POND. REFER TO DETAILS ON DWG. 1004.
- DISTURBED AREAS TO BE RESTORED TO GRADES AS SHOWN ON DRAWING 1002B-2.

TEMPORARY STABILIZATION SEED MIX

COMMON NAME	SPECIES	PERCENTAGE
CANADA WILD RYE	<i>Elymus canadensis</i>	25
ANNUAL OATS	<i>Avena sativa</i>	25
CREEPING BENT GRASS	<i>Agrostis stolonifera</i>	25
LITTLE BLUESTEM	<i>Schizachyrium scoparium</i>	20
MEADOW SEDGE	<i>Carex granularis</i>	5

NOTES:

- APPLY SEED MIX AT A RATE OF 30 kg PER HECTARE.
- SEEDING SHALL OVERLAP ADJACENT GROUND COVER BY 300 mm.
- APPLY A NURSE CROP OF VIRGINIA WILD RYE (*Elymus virginicus*) AT A RATE OF 60 kg PER HECTARE.
- WATER SOIL AFTER SEED APPLICATION.

BENCHMARK NO. 828158:
 EXISTING ELEVATIONS ARE DERIVED FROM THE TOPOGRAPHIC SURVEY PREPARED BY WAHBA, DATED MAY 17, 2021.

NOTES:
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE LOCAL BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT THE RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE INFORMATION SHOWN ON THIS SKETCH BEFORE DIGGING, UNDERGROUND SERVICES SHOULD BE LOCATED ON SITE BY THE RESPECTIVE AGENCIES.

ELEVATION NOTE:
 ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC AND DERIVED FROM GPS OBSERVATIONS.

3			
2			
1	PHASE 2A PERMIT APPLICATION	APRIL 2023	SR
No.	REVISION	DATE	BY

150 STEELES AVE EAST MILTON MERITOR

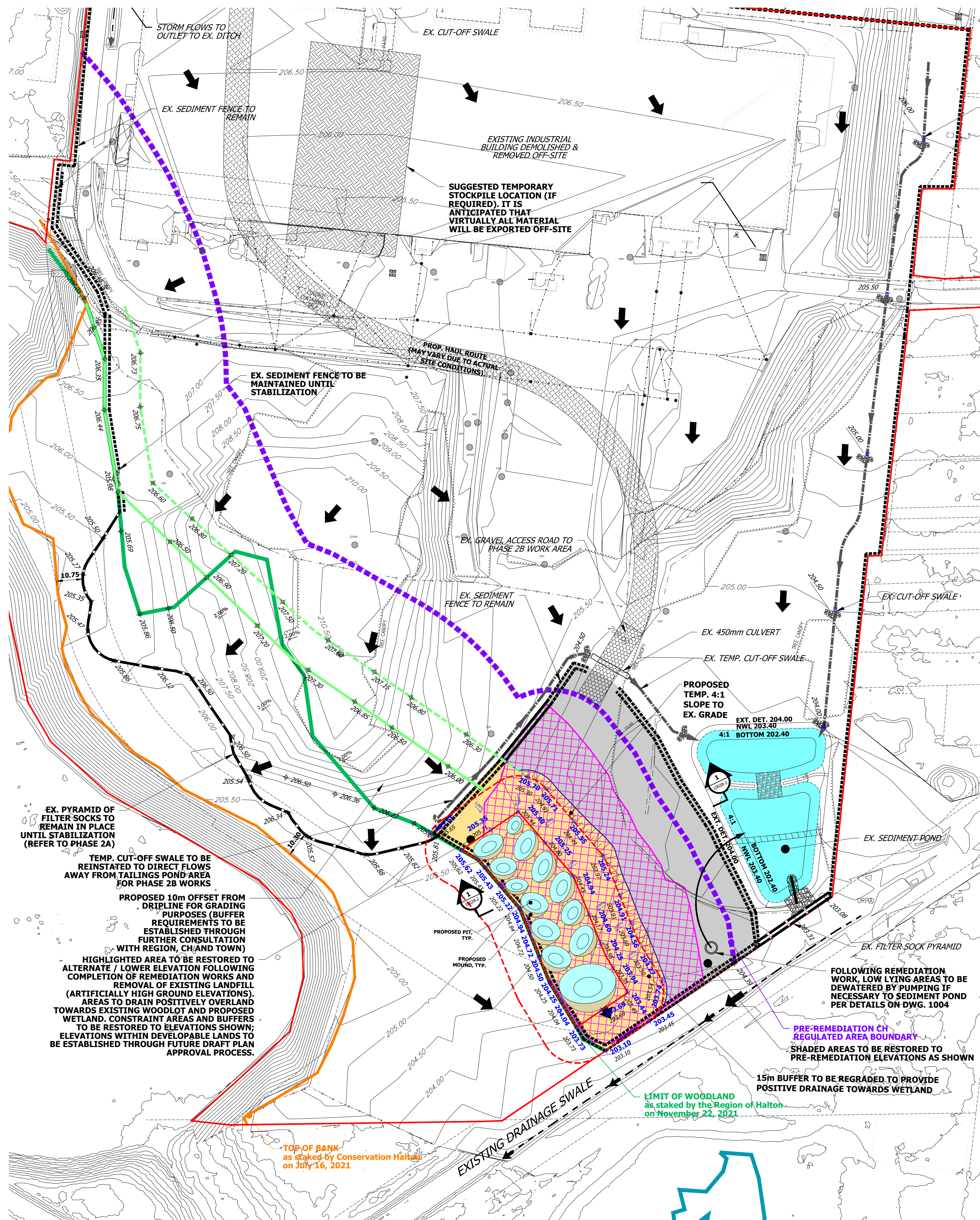
URBANTECH
 Urbantech Consulting
 A Division of Leighton-Zac Ltd.
 3760 14th Avenue, Suite 301,
 Markham, ON L3R 3T7
 TEL 905.948.9461 • urbantech.com

EROSION PLAN (PHASE 2B, STAGE 1)

DESIGNED: SR	CHECKED: DZ	PROJECT No.: 21-678
DRAWN: SR	DATE: MARCH 2023	SHEET No.:
SCALE: 1:1500		DRAWING No.: 1002B-1

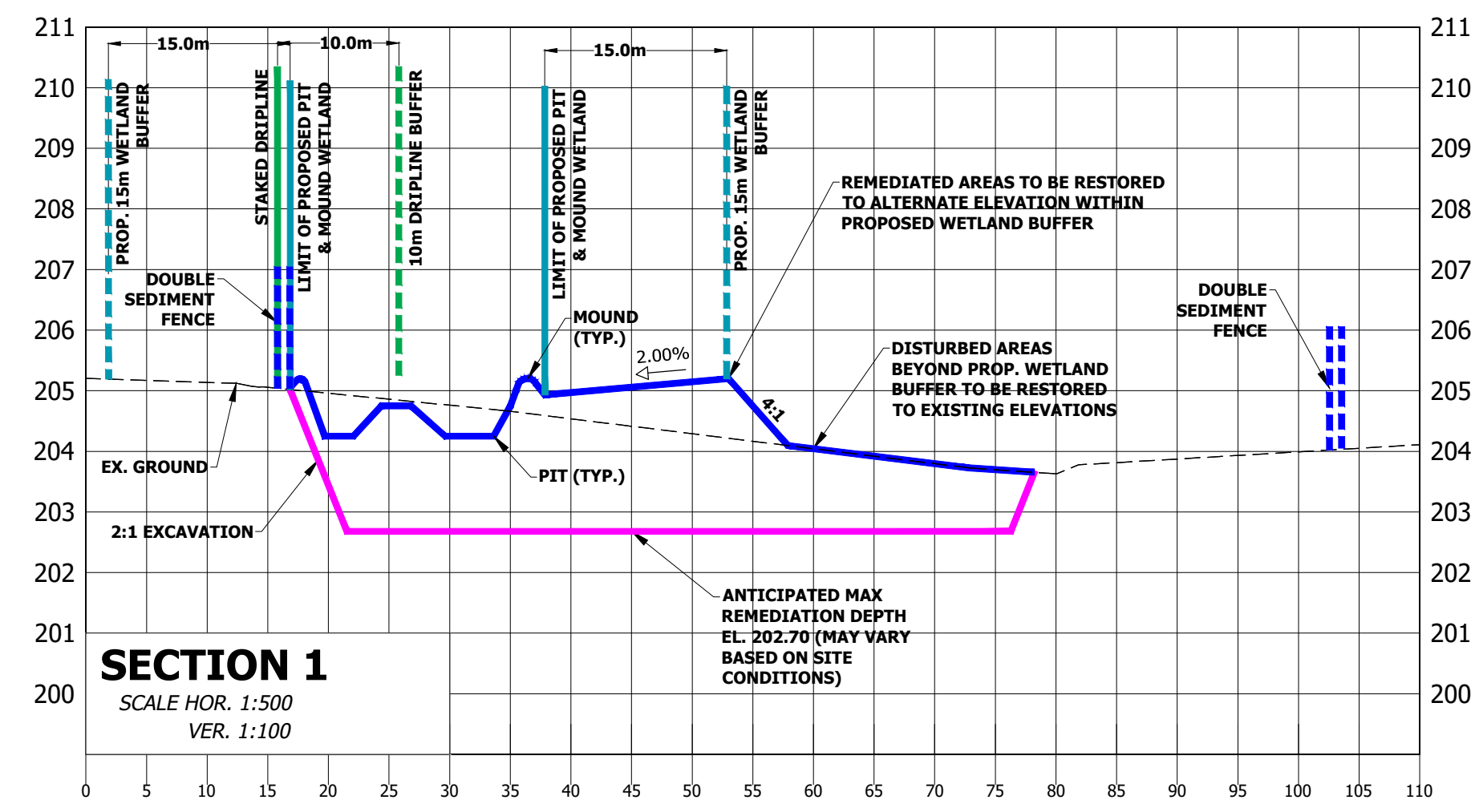
Drawing 1002B-2

**Erosion and Sediment Control Plan –
Phase 2B Area, Stage 2**

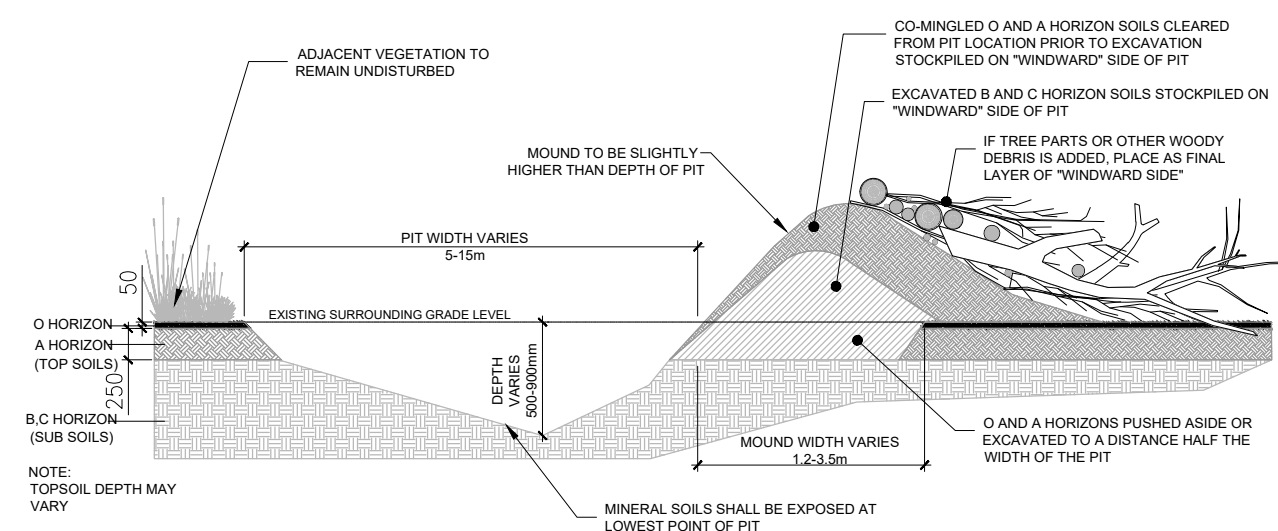


STAGING NOTES:

- UPON COMPLETION OF REMEDIATION WORKS WITHIN THE PHASE 2B AREA, EXCAVATION TO BE BACKFILLED SEQUENTIALLY UNDER SUPERVISION OF THE GEOTECHNICAL ENGINEER.
- DISTURBED AREAS SHALL BE FILLED / REGRADED AS PER THE ELEVATIONS SHOWN ON THIS PLAN TO PROVIDE POSITIVE DRAINAGE. WITHIN THE DEVELOPMENT (I.E. OUTSIDE OF THE NEW REGULATED LIMIT) GRADES SHALL BE RESTORED ONLY TO PROVIDE POSITIVE DRAINAGE AND NOT NECESSARILY TO PRE-REMEDIATION ELEVATIONS. ALL DISTURBED LANDS TO BE STABILIZED IMMEDIATELY.
- ALL ESC MEASURES TO BE MAINTAINED AND REGULARLY INSPECTED UNTIL THE AREAS THEY SERVE ARE REPLANTED AND STABILIZED. REFER TO DRAWINGS BY BEACON FOR ADDITIONAL DETAILS.



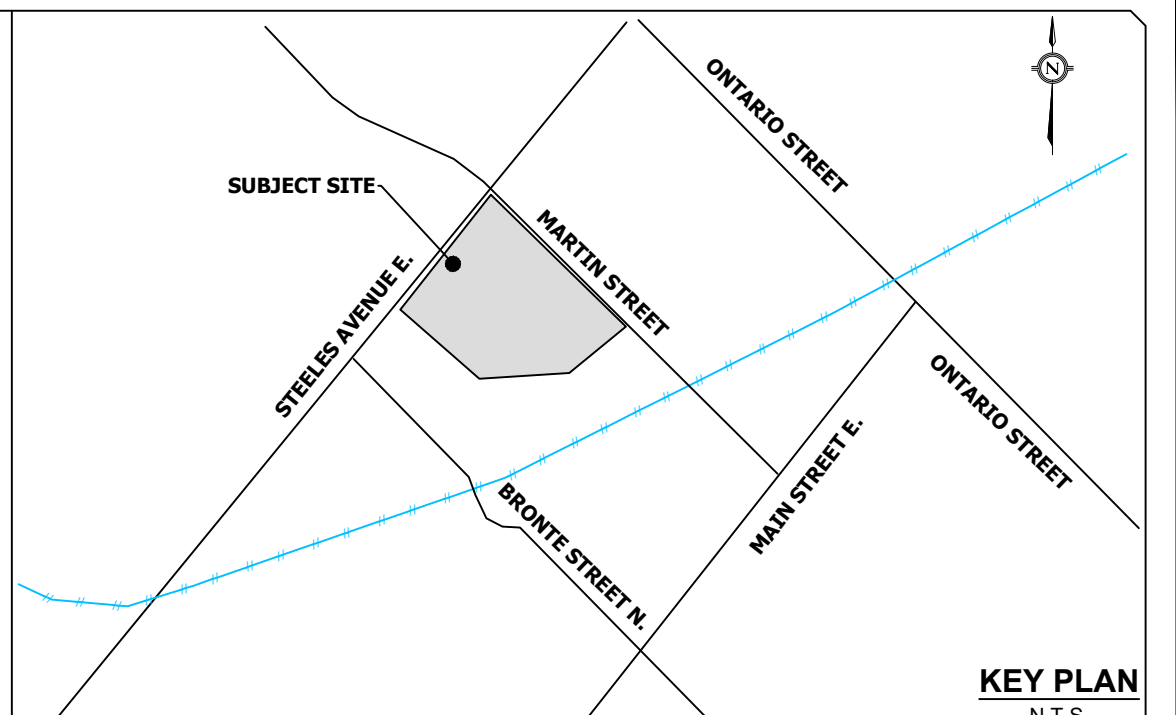
TYPICAL PIT & MOUND DETAIL (N.T.S.)



TEMPORARY STABILIZATION SEED MIX

COMMON NAME	SPECIES	PERCENTAGE
CANADA WILD RYE	<i>Elymus canadensis</i>	25
ANNUAL OATS	<i>Avena sativa</i>	25
CREEPING BENT GRASS	<i>Agrostis stolonifera</i>	25
LITTLE BLUESTEM	<i>Schizachyrium scoparium</i>	20
MEADOW SEDGE	<i>Carex granularis</i>	5

NOTES:
 1. APPLY SEED MIX AT A RATE OF 30 kg PER HECTARE.
 2. SEEDING SHALL OVERLAP ADJACENT GROUND COVER BY 300 mm.
 3. APPLY A NURSE CROP OF VIRGINIA WILD RYE (*Elymus virginicus*) AT A RATE OF 60 kg PER HECTARE.
 4. WATER SOIL AFTER SEED APPLICATION.



- LEGEND:**
- EXISTING CONTOUR AND ELEVATION
 - PROPOSED ELEVATION
 - EXISTING OVERLAND FLOW ARROW
 - PROPERTY LINE
 - PRE-REMEDIATION CH REGULATED AREA BOUNDARY
 - LIMIT OF PROPOSED PIT & MOUND WETLANDS
 - LIMIT OF WOODLAND (STAKED BY REGION OF HALTON NOV. 22, 2021)
 - PROP. NORMALIZED LIMIT OF WOODLAND
 - PROP. NORMALIZED WOODLAND BUFFER
 - TOP OF BANK (STAKED BY CONSERVATION HALTON JUL. 16, 2021)
 - EX. SEDIMENT CONTROL FENCE (TO REMAIN)
 - EX. SEDIMENT CONTROL FENCE (TO BE REMOVED)
 - PROPOSED SEDIMENT CONTROL FENCE
 - PROPOSED FILTER SOCK PYRAMID
 - EX. FILTER SOCK PYRAMID
 - EX. CONSTRUCTION FENCE
 - TEMPORARY CUT-OFF SWALE
 - ROCK CHECK DAM
 - SEDIMENT TRAP
 - AREAS TO BE RESTORED TO ALTERNATE ELEVATION AS SHOWN
 - AREAS TO BE RESTORED TO PRE-REMEDIATION ELEVATION
 - ESTIMATED REMEDIATION AREA (TO BE REFINED THROUGH ENVIRONMENTAL WORK)

BENCHMARK NO. 828158:
 EXISTING ELEVATIONS ARE DERIVED FROM THE TOPOGRAPHIC SURVEY PREPARED BY WAHBA, DATED MAY 17, 2021.
 NOTES:
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 ELEVATION NOTE:
 ELEVATIONS SHOWN ON THIS PLAN ARE GEODETIC AND ARE DERIVED FROM GPS OBSERVATIONS.

No.	REVISION	DATE	BY
3			
2			
1	PHASE 2A PERMIT APPLICATION	APRIL 2023	SR

150 STEELES AVE EAST MILTON MERITOR

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 3760 14th Avenue, Suite 301,
 Markham, ON, L3R 3T7
 TEL 905.946.9461 • urbantech.com

GRADING PLAN (PHASE 2B, STAGE 2)

DESIGNED: SR	CHECKED: DZ	PROJECT No.: 21-678
DRAWN: SR	DATE: MARCH 2023	SHEET No.:
SCALE: 1:1000	DRAWING No.:	1002B-2

Drawing 1003A

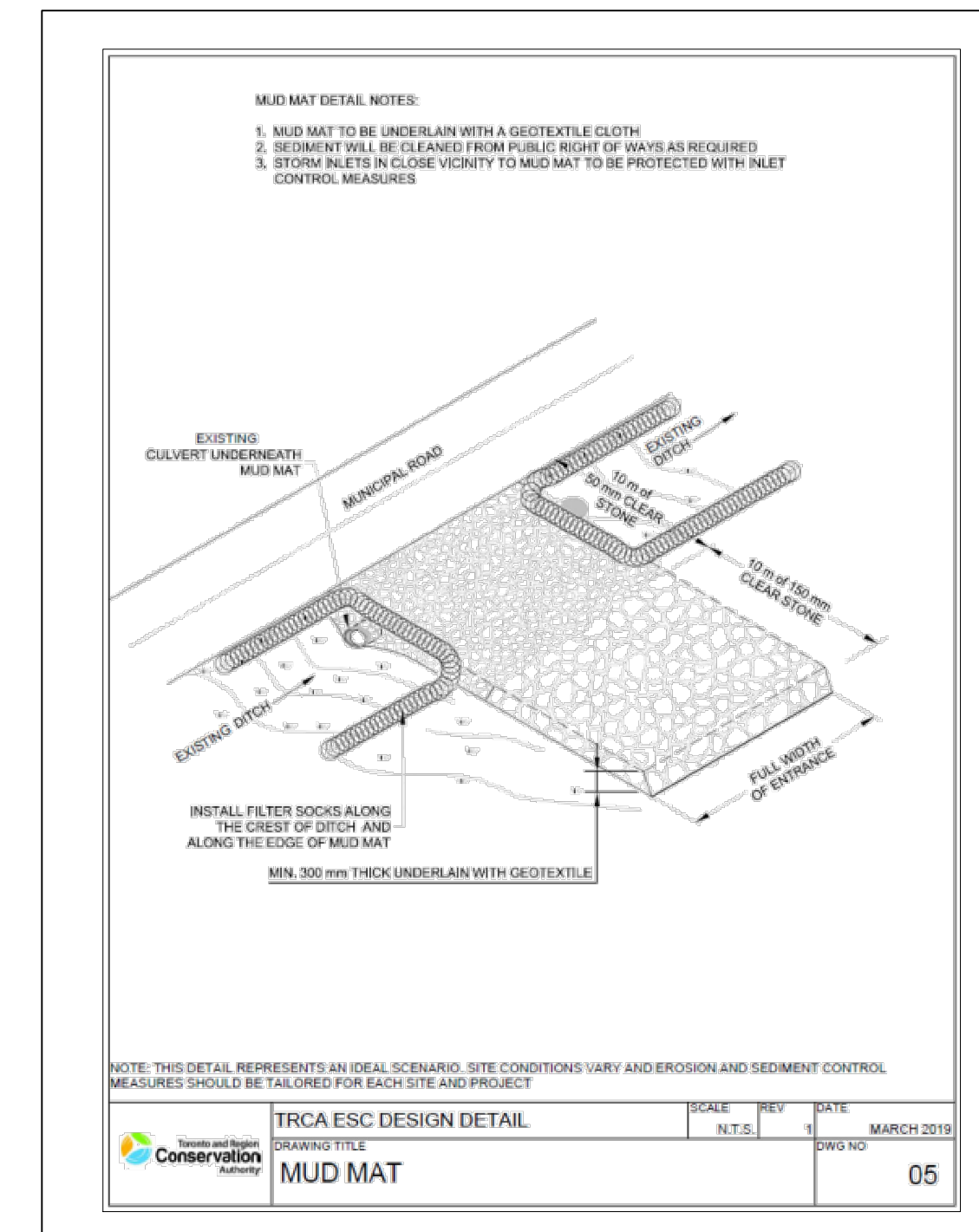
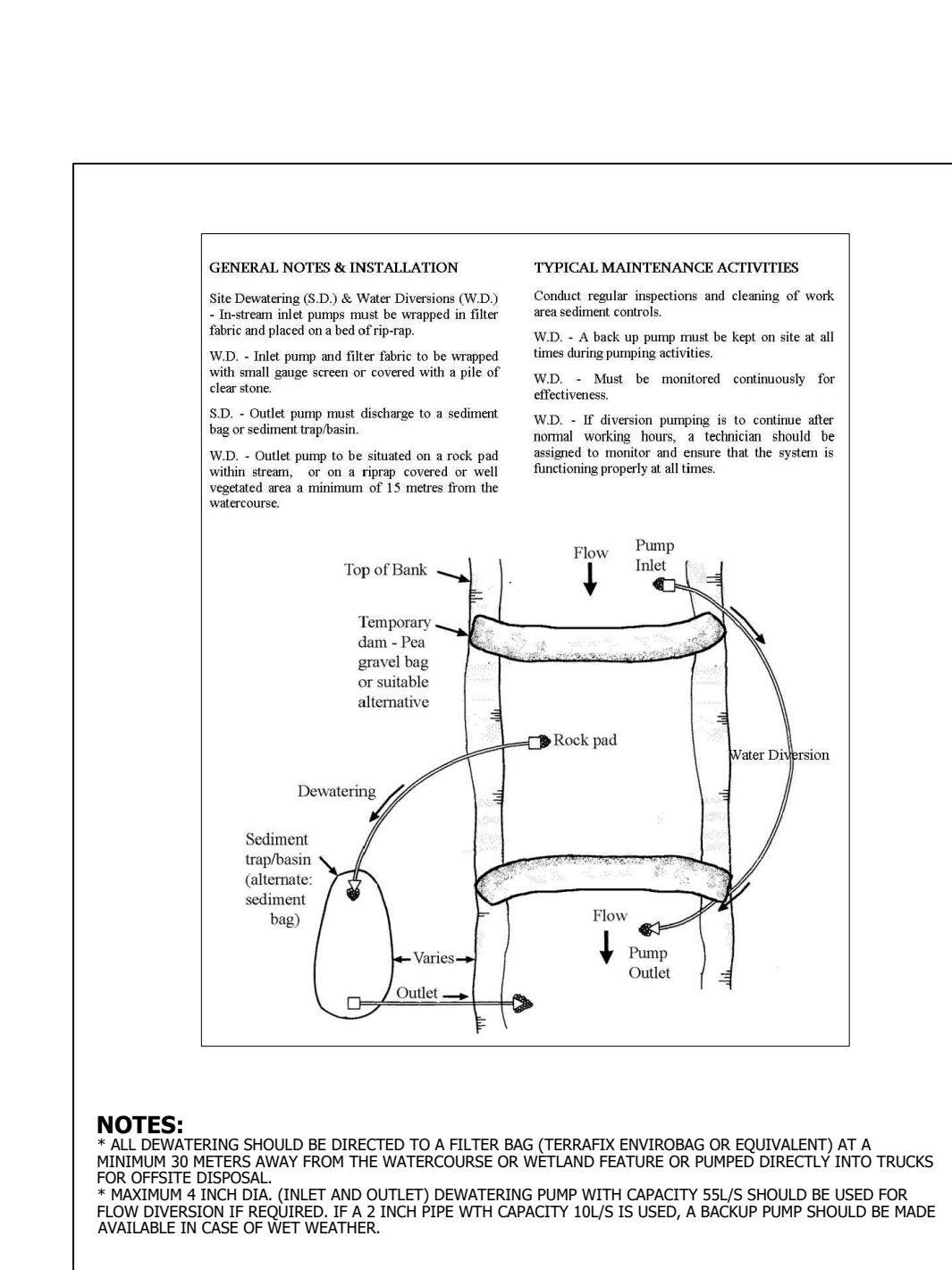
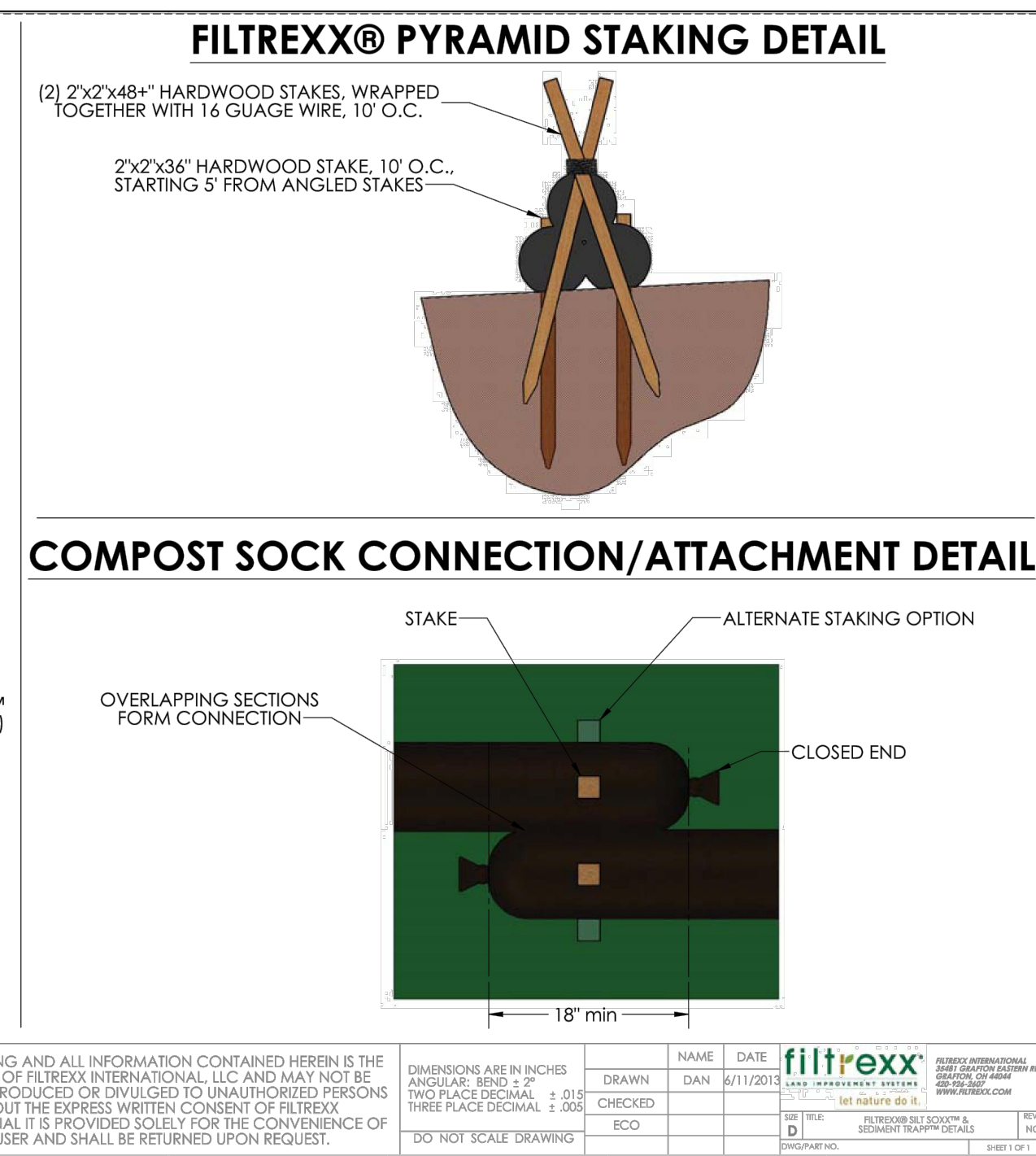
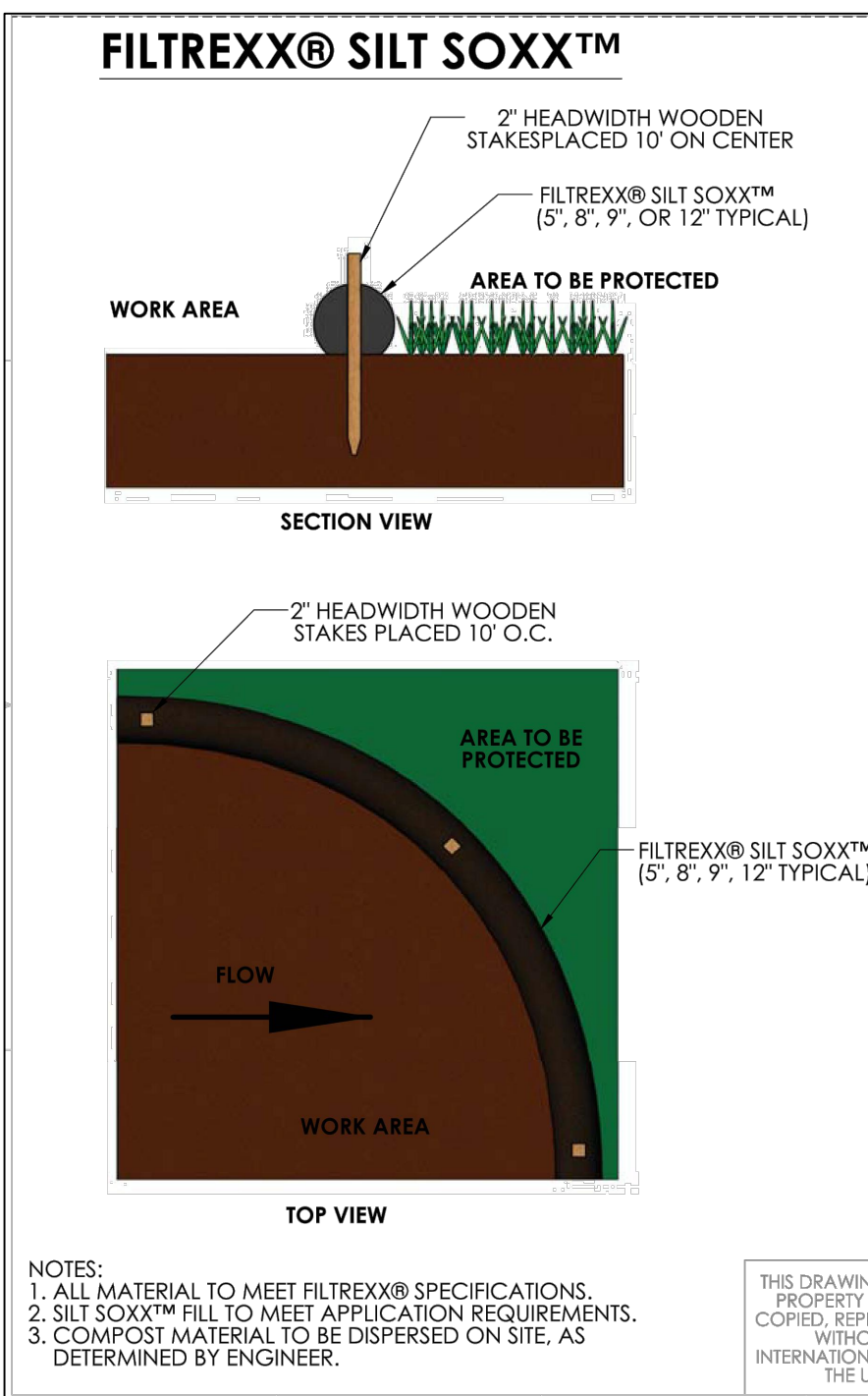
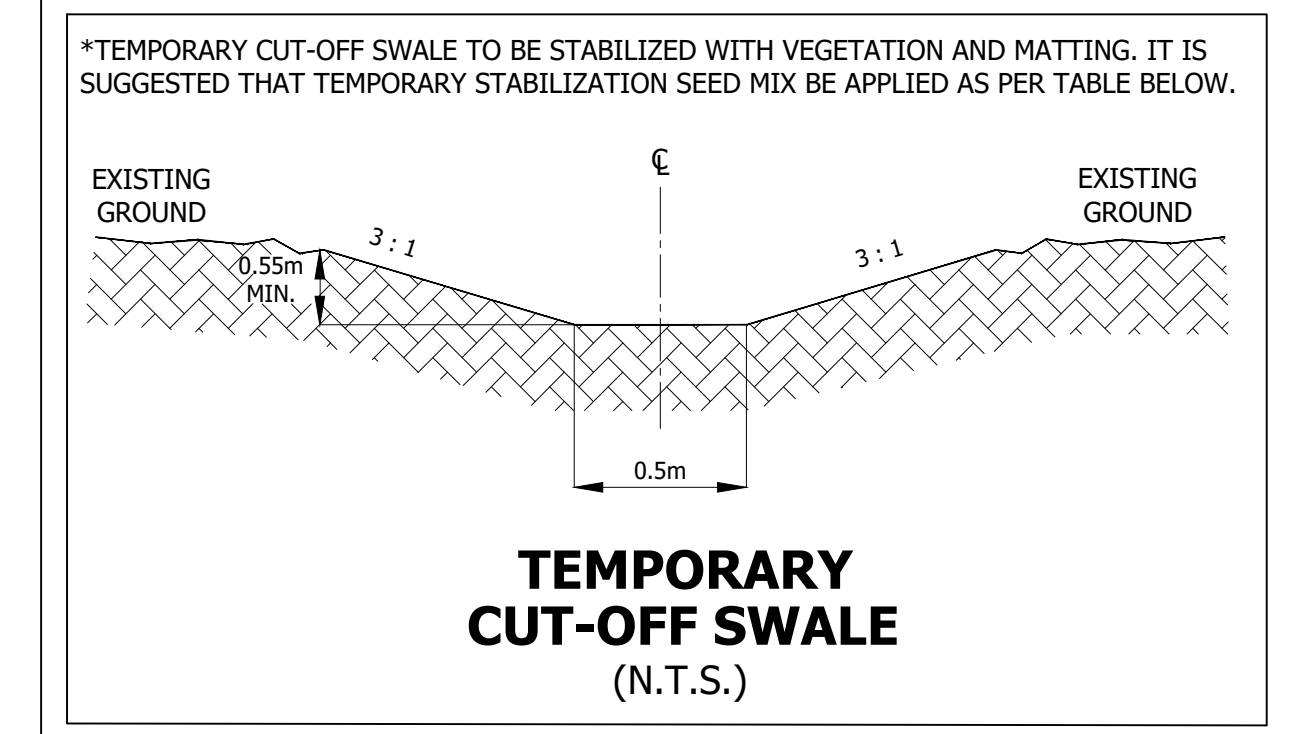
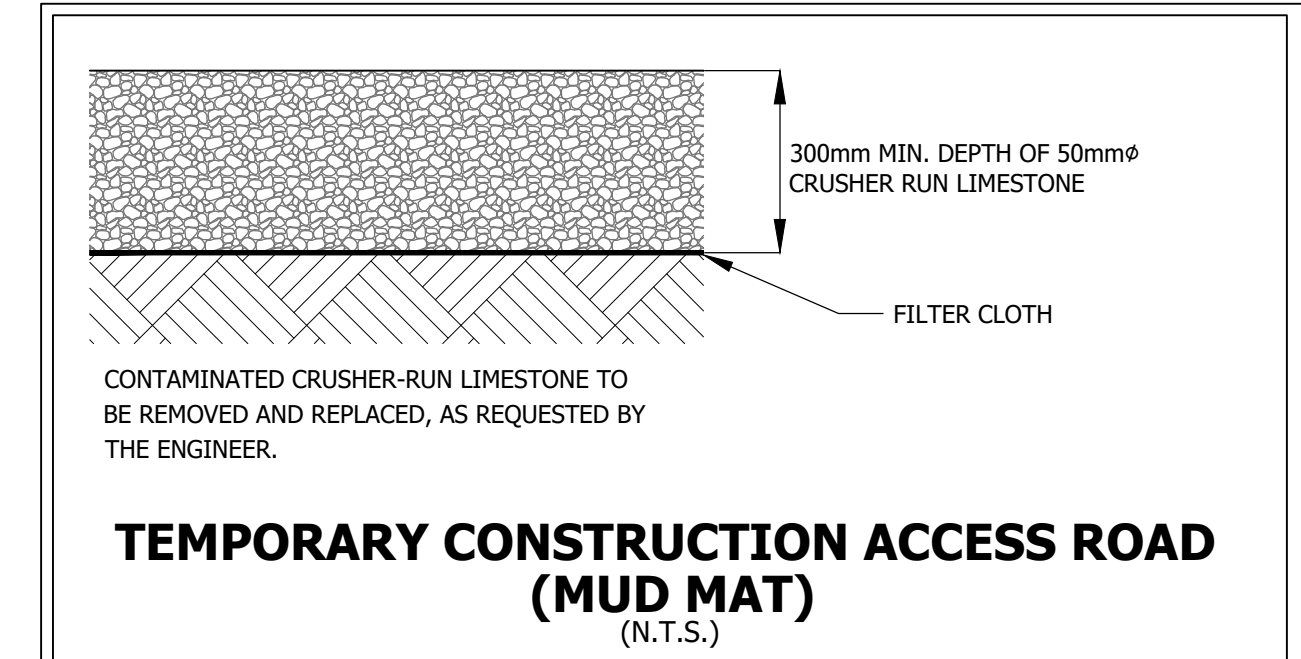
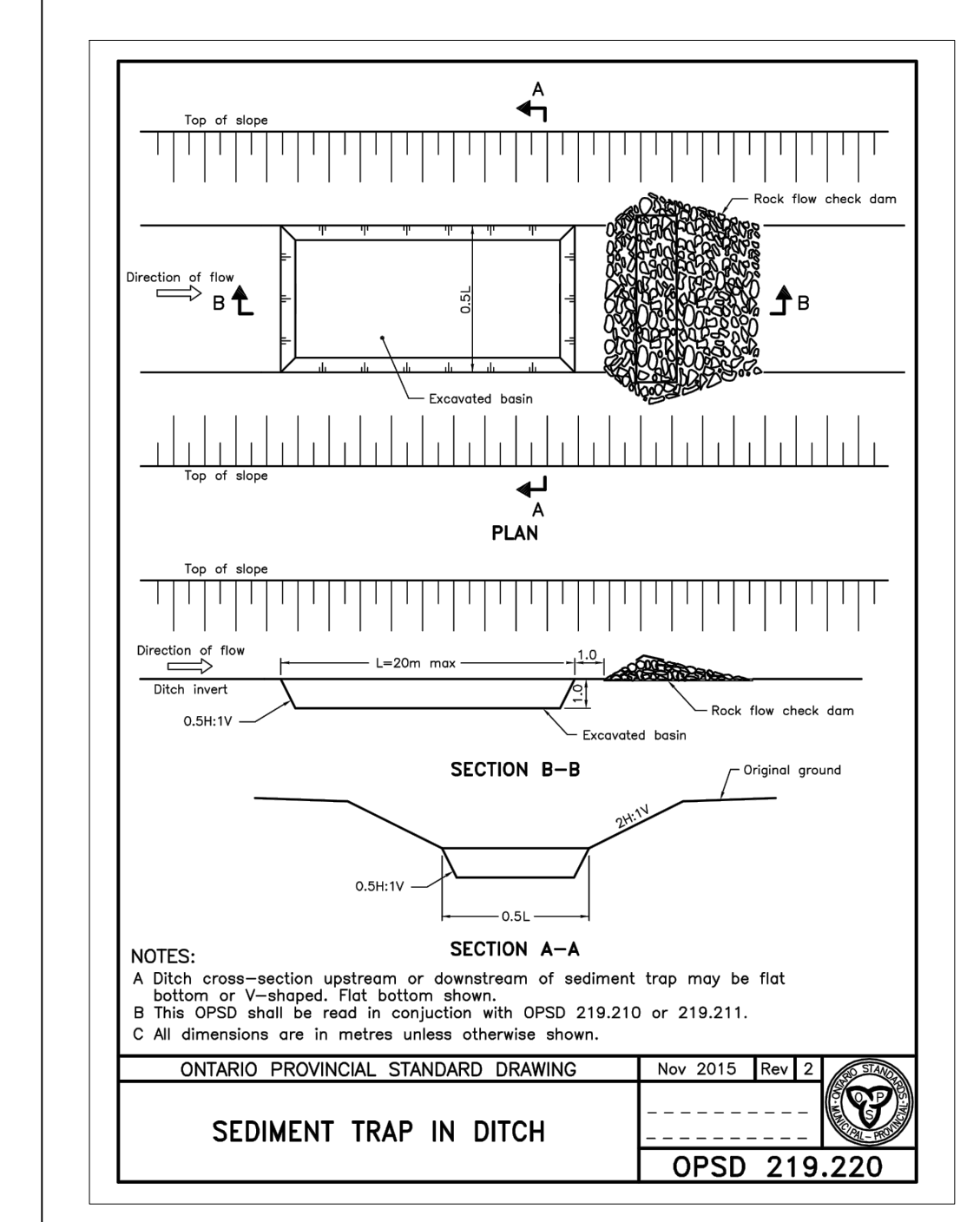
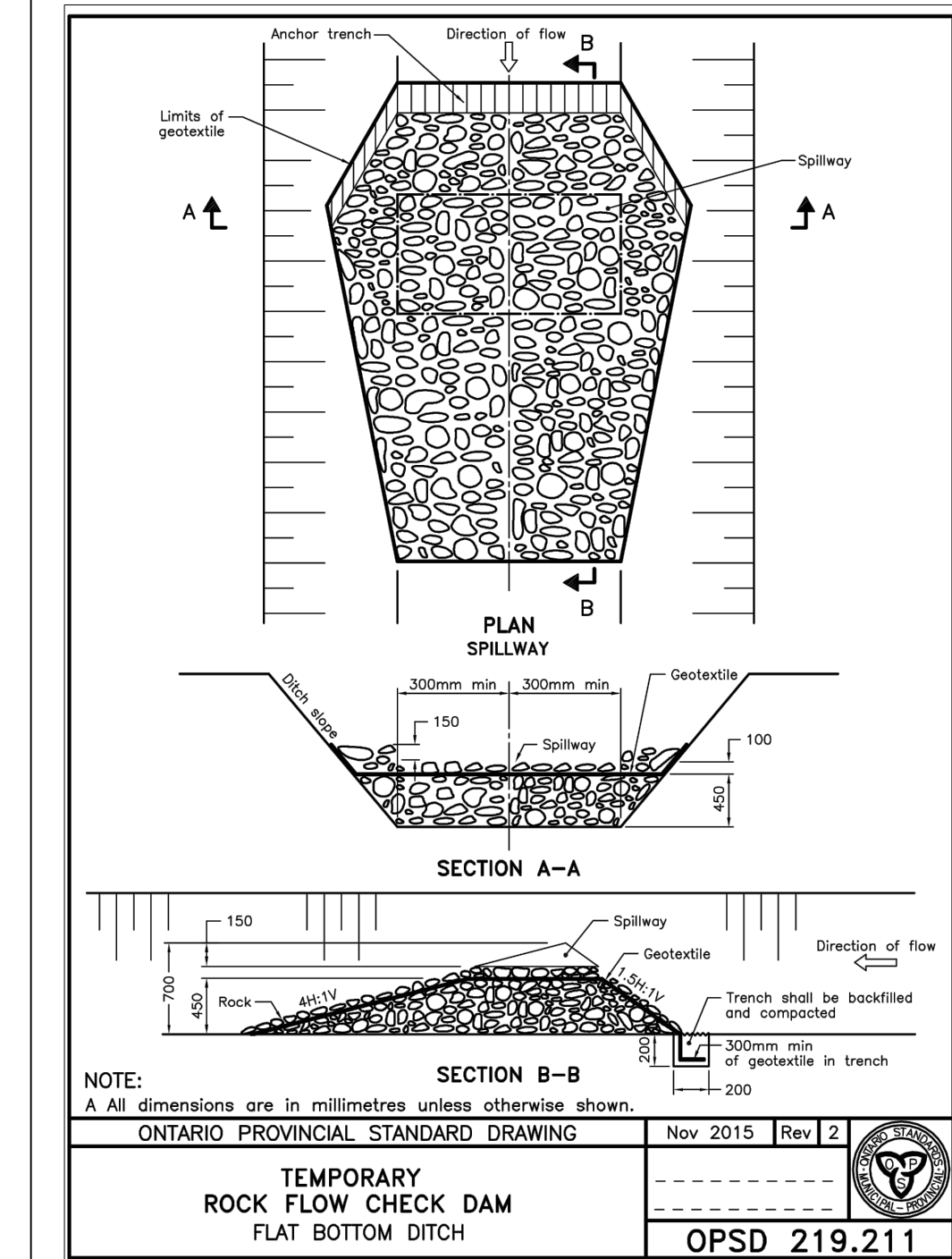
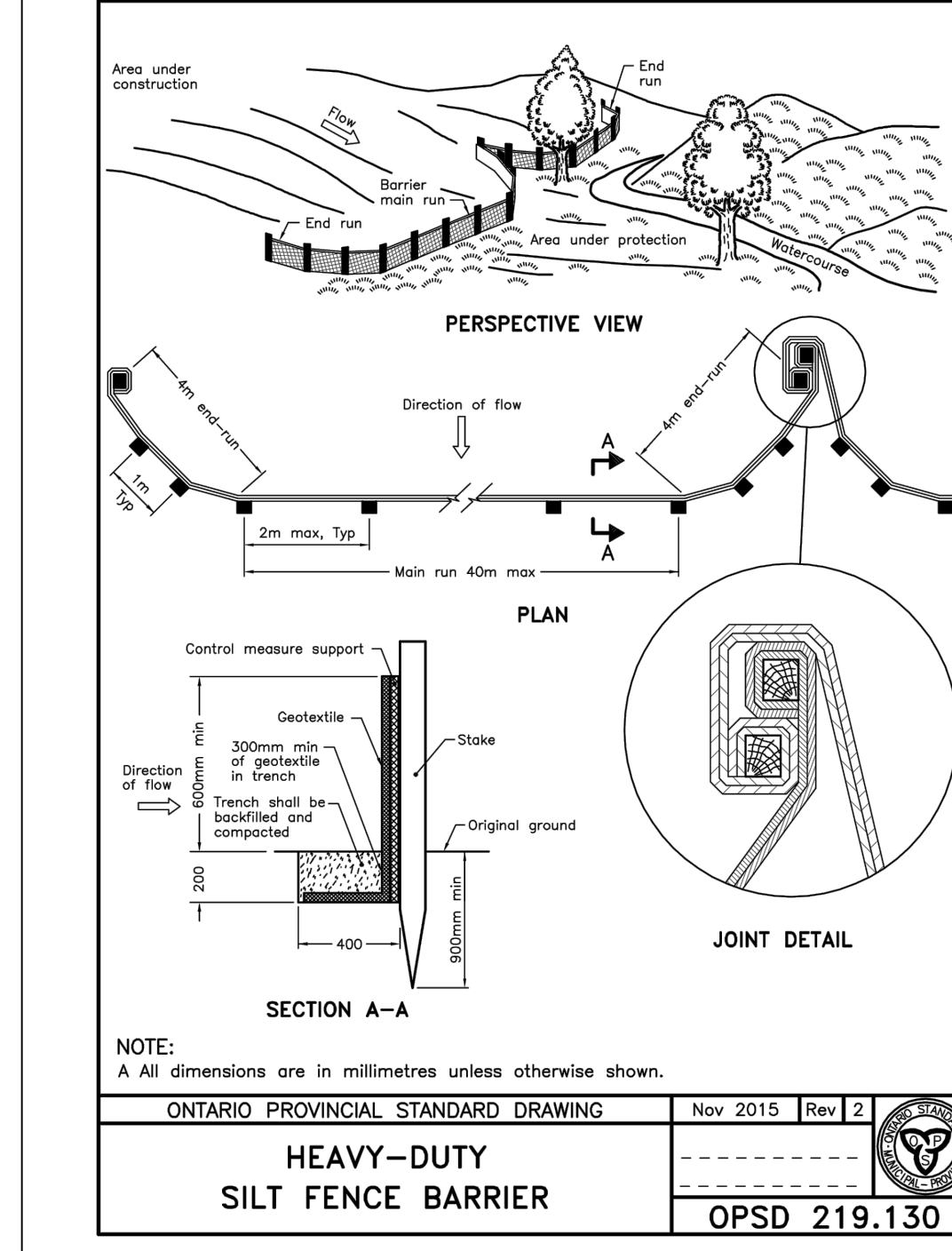
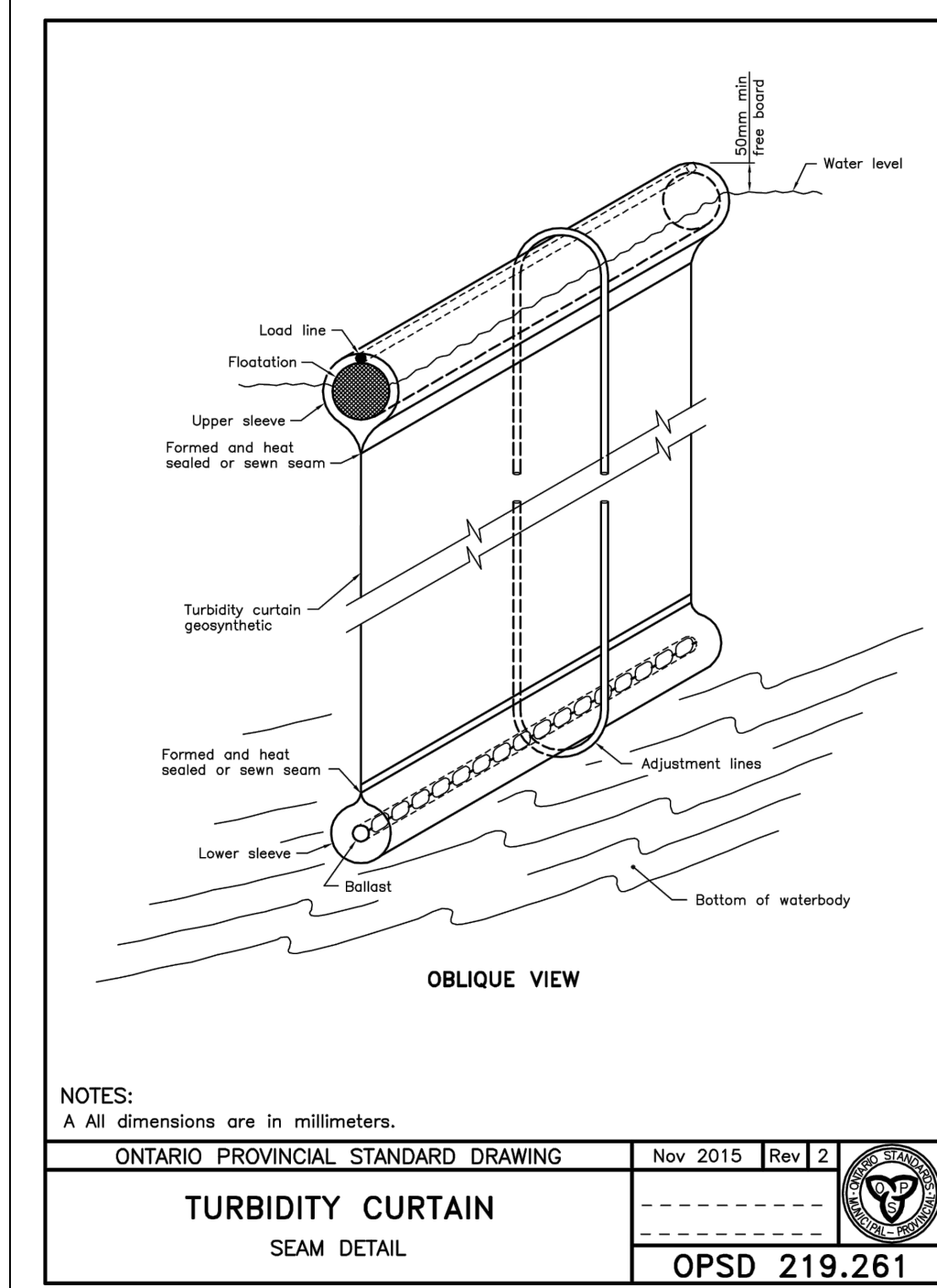
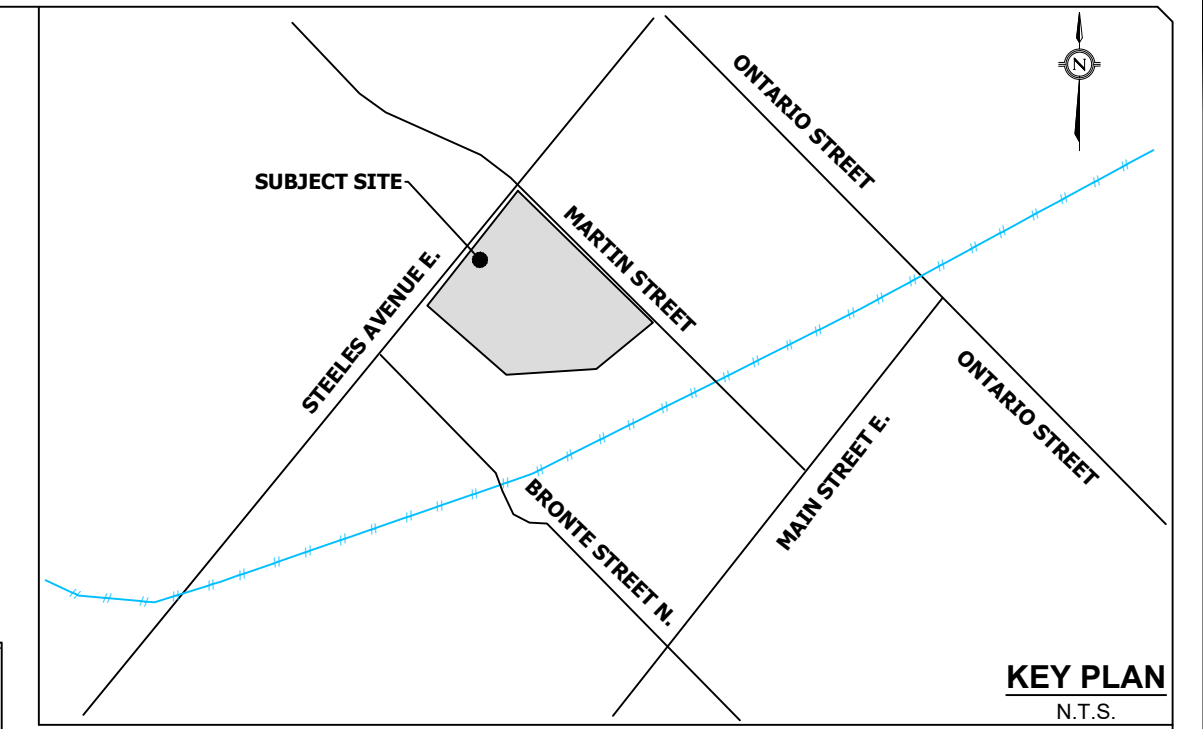
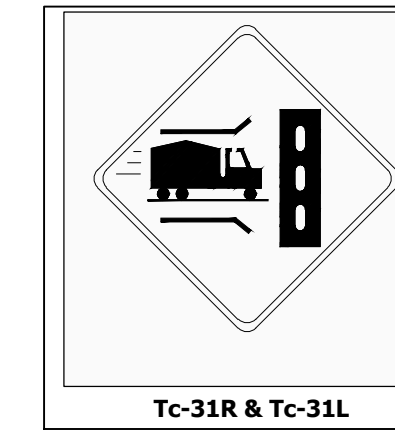
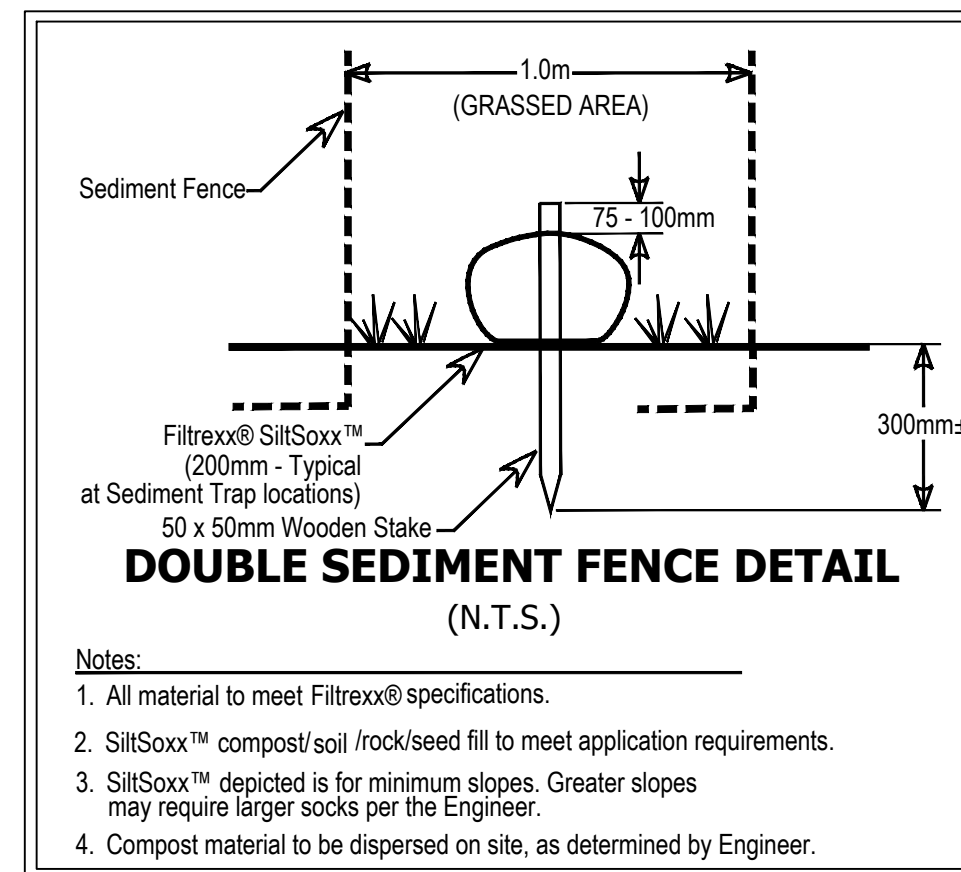
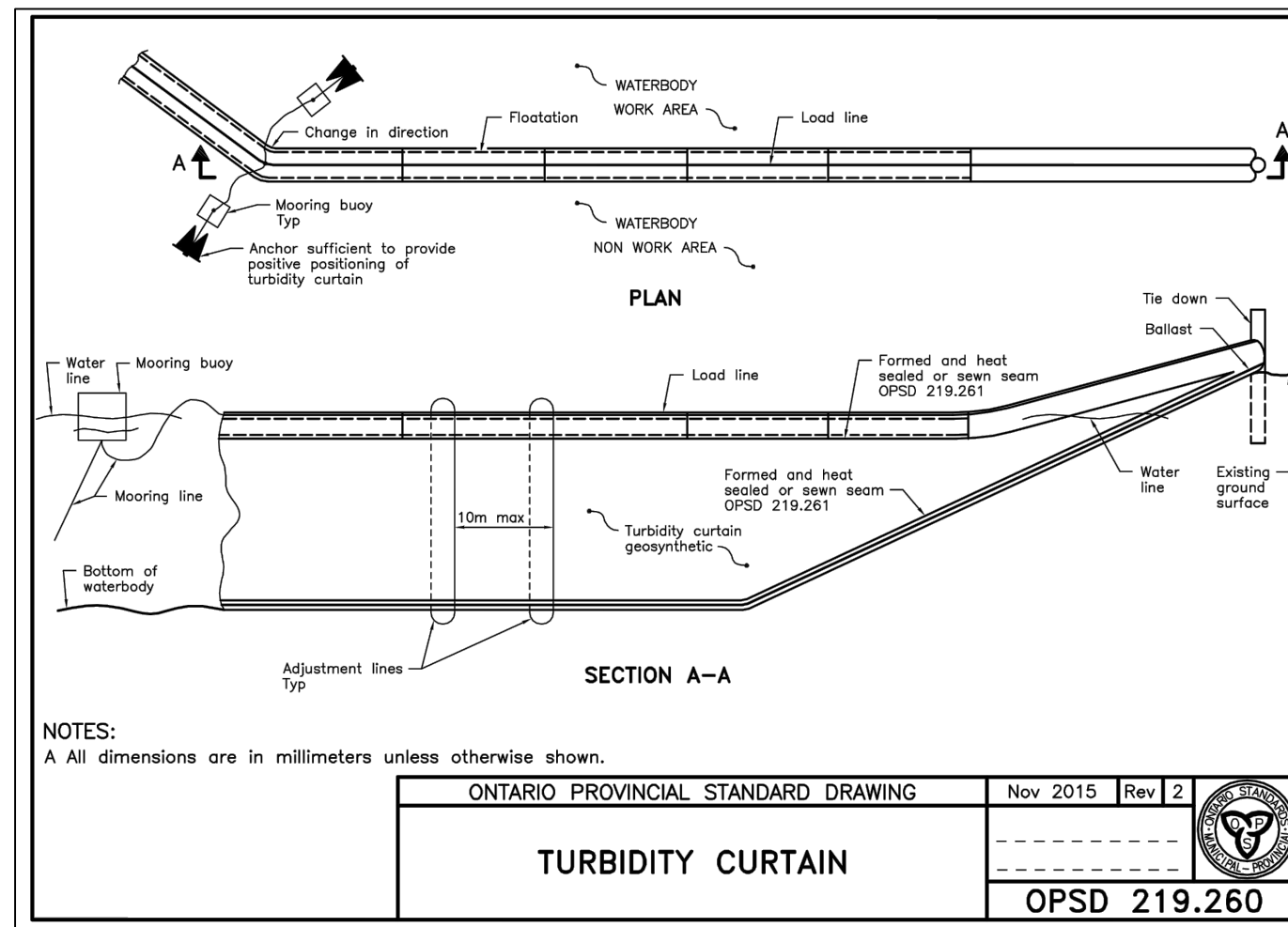
**Erosion and Sediment Control Plan –
Phase 2A Cross Sections**

Drawing 1004

Erosion and Sediment Control Plan – Details

ESC GENERAL NOTES:

- A. THE APPLICANT IS REQUIRED TO SCHEDULE AN INITIAL INSPECTION BY TOWN STAFF TO ENSURE THAT THE EROSION AND SEDIMENT CONTROL MEASURES ARE PROPERLY INSTALLED AT THE ONSET OF THE PROJECT. THE PROPONENT IS RESPONSIBLE FOR ENSURING THAT EROSION AND SEDIMENT CONTROLS AND DRAINAGE FEATURES/INFRASTRUCTURE ARE WELL MAINTAINED AND FUNCTIONING AS INTENDED ON A DAILY BASIS. DOCUMENTATION OF ALL INSPECTIONS SHOULD BE WRITTEN IN INK, RECORDED IN A LOGBOOK/DIARY AND KEPT ON SITE DURING THE COURSE OF CONSTRUCTION.
- B. THE PROPONENT'S CONSULTANT WILL ASSURE CONSTRUCTION ACTIVITIES COMPLY WITH THE ENVIRONMENTAL PROVISIONS OF THE SIS, TOWN AND CONSERVATION HALTON PERMITS. THE CONSULTANT WILL SERVE AS A POINT OF CONTACT FOR COMMUNICATIONS WITH THE TOWN, REGION AND CONSERVATION AUTHORITY DURING CONSTRUCTION.
- C. THE FREQUENCY OF INSPECTIONS SHOULD BE:
 - ON A WEEKLY BASIS
 - PRIOR TO PREDICTED RAINFALL EVENTS
 - AFTER EVERY RAINFALL EVENT
 - AFTER SIGNIFICANT SNOWMELT EVENTS, AND
 - DAILY DURING EXTENDED RAIN OR SNOWMELT PERIOD
- D. ALL DAMAGED ESC MEASURES SHOULD BE REPAIRED AND/OR REPLACED WITHIN 48 HOURS OF THE INSPECTION. THE CONSULTANT IS REQUIRED TO SUBMIT AN UPDATE TO THE DAMAGE AND STATE OF REPAIR TO THE RESPECTIVE PERMITTING AGENCY IN A TIMELY MANNER. ESC MEASURES MUST ALSO BE MODIFIED AS SITE CONDITIONS WARRANT.
- E. INSPECTORS MUST BE QUALIFIED PROFESSIONALS TRAINED IN SEDIMENT AND EROSION CONTROLS (CERTIFIED INSPECTOR OF SEDIMENT AND EROSION CONTROL (CISEC), CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROLS (CPESC) OR APPROVED EQUIVALENT).
- F. THE DEVELOPER IS RESPONSIBLE FOR ENSURING THAT THE EROSION AND SEDIMENT CONTROLS ARE MAINTAINED AND OPERATING AS INTENDED, INCLUDING MAKING FIELD ADJUSTMENTS AS NECESSARY, TO THE SATISFACTION OF THE TOWN OF MILTON AND CONSERVATION HALTON, TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL PROTECTION.
- G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION, AS DIRECTED BY THE ENGINEER.
- H. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED AND SHALL BE DETERMINED BY THE ENGINEER.
- I. NO CONSTRUCTION ACTIVITY OR MACHINERY SHALL INTRUDE BEYOND THE SILT FENCE OR LIMIT OF SUBDIVISION. ALL CONSTRUCTION VEHICLES SHALL LEAVE THE SITE AT THE DESIGNATED LOCATION SHOWN ON THE PLAN.
- J. SERVICING OF CONSTRUCTION EQUIPMENT ON-SITE IS PROHIBITED.
- K. THE CONTRACTOR MUST HAVE SEVERAL SPILL RESPONSE KITS ON-SITE AT ALL TIMES.
- L. MATERIALS TO REPAIR DAMAGED ESC MEASURES MUST BE KEPT ON-SITE AT ALL TIMES.
- M. ALL PROPOSED TEMPORARY SWALES AND THE TEMPORARY DETENTION POND DOWN TO PERMANENT WATER LEVEL MUST BE STABILIZED AS PER THE DRAWING BEFORE USE.
- N. THE ESC STRATEGIES ON THESE PLANS ARE NOT STATIC AND MAY NEED TO BE UPGRADED/AMENDED AS SITE CONDITIONS CHANGE TO PREVENT SEDIMENT RELEASES TO THE NATURAL ENVIRONMENT.
- O. SEDIMENT ACCUMULATION IN THE TEMPORARY SEDIMENT POND MUST BE MEASURED A MINIMUM OF ONCE EVERY 6 MONTHS. THE POND WILL REQUIRE CLEANING WHEN SEDIMENT ACCUMULATION REACHES 50% OF THE FOREBAY DESIGN CAPACITY.
- P. ACCUMULATED SEDIMENT TO BE USED ON-SITE OR REMOVED OFF-SITE PRIOR TO THE REMOVAL OF THE SILT FENCE.
- Q. THE SILT FENCE MUST BE INSPECTED WEEKLY AND IMMEDIATELY AFTER RAINFALL OR SIGNIFICANT SNOWMELT EVENTS FOR RIPS OR TEARS, BROKEN STAKES, BLOW OUTS (STRUCTURAL FAILURE) AND ACCUMULATION OF SEDIMENT. ACCUMULATED SEDIMENT MUST BE REMOVED FROM THE SILT FENCE WHEN ACCUMULATION REACHES 50% OF THE HEIGHT OF THE FENCE.
- R. STOCKPILES MUST BE SEEDED IMMEDIATELY UPON COMPLETION WITH RECOMMENDED SEED MIX TO STABILIZE AGAINST EROSION.
- S. THE SPILLWAY SLOPE GRADES (3:1) TO BE STABILIZED WITH EITHER EROSION BLANKET OR VEGETATION.
- T. THE CONTRACTOR SHALL ENDEAVOUR TO PREVENT MUD TRACKING ONTO EXISTING RIGHT-OF-WAY AND SHALL PROVIDE CLEAN AT HIS/HER OWN EXPENSE AS DIRECTED BY THE ENGINEER, TOWN OR REGION.
- U. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING APPROVED DUST CONTROL MEASURES WHEN NECESSARY AND/OR AS DIRECTED BY THE ENGINEER, TOWN OR CONSERVATION AUTHORITY.



BENCHMARK NO. 828158:
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No.	REVISION	DATE	BY
3			
2			
1	PHASE 2A PERMIT APPLICATION	APRIL 2023	SR

150 STEELES AVE EAST MILTON MERITOR

MILTON

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3760 14th Avenue, Suite 301,
Markham, ON, L3R 3T7
TEL. 905.946.9461 • urbantech.com

EROSION AND SEDIMENT CONTROL DETAILS

DESIGNED: SR CHECKED: DZ PROJECT No.: 21-678
DRAWN: SR DATE: MARCH 2023 SHEET No.:
SCALE: DRAWING No.: **1004**

PROFESSIONAL ENGINEER
S.B. RIEMER
100214712
JULY 2007
PROVINCE OF ONTARIO