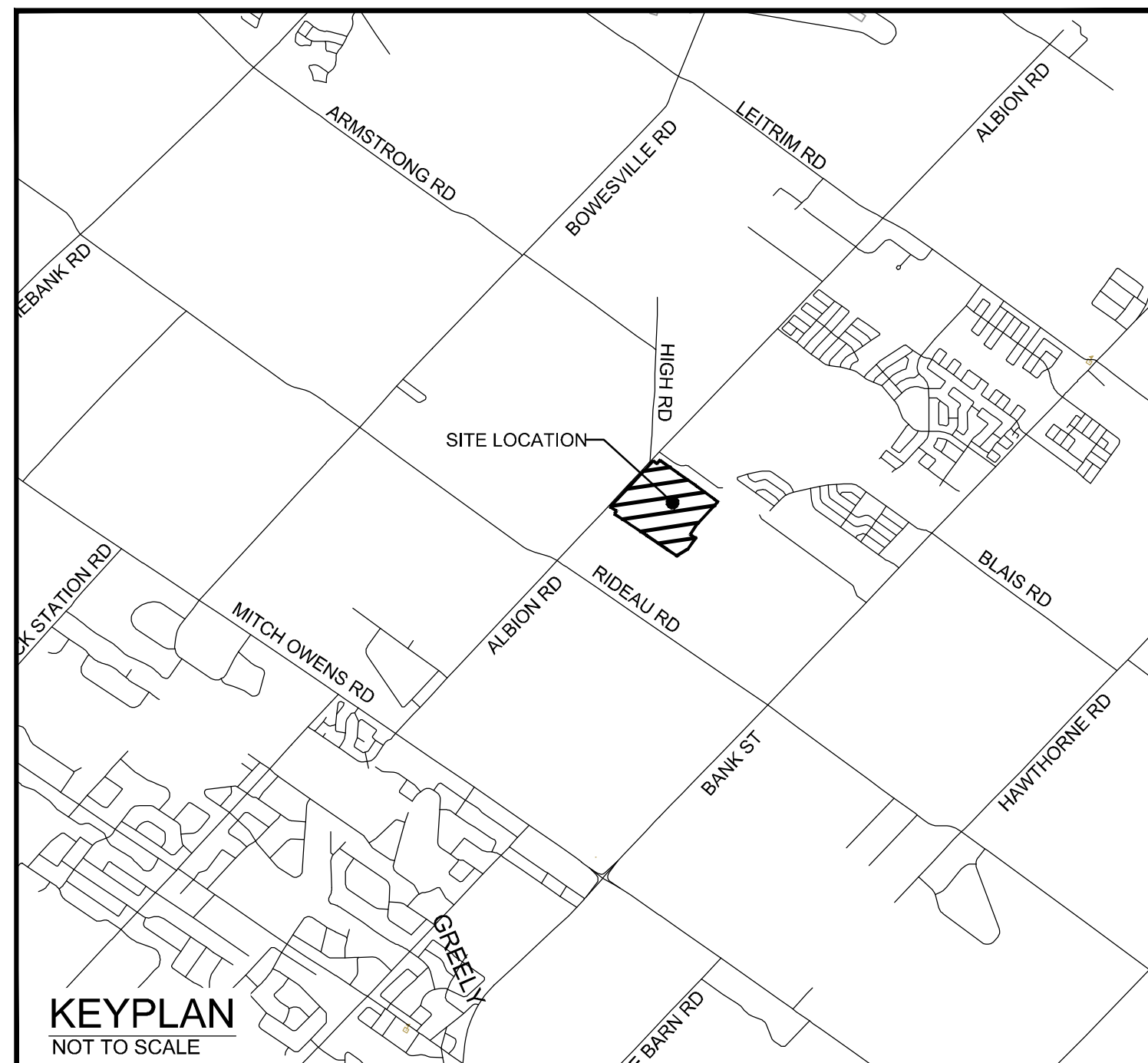


HARD ROCK OTTAWA

4837 ALBION ROAD,
CITY OF OTTAWA

ROADS, SEWERS AND WATERMAINS



NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-5643
Facsimile (613) 254-5867
Website www.novatech-eng.com

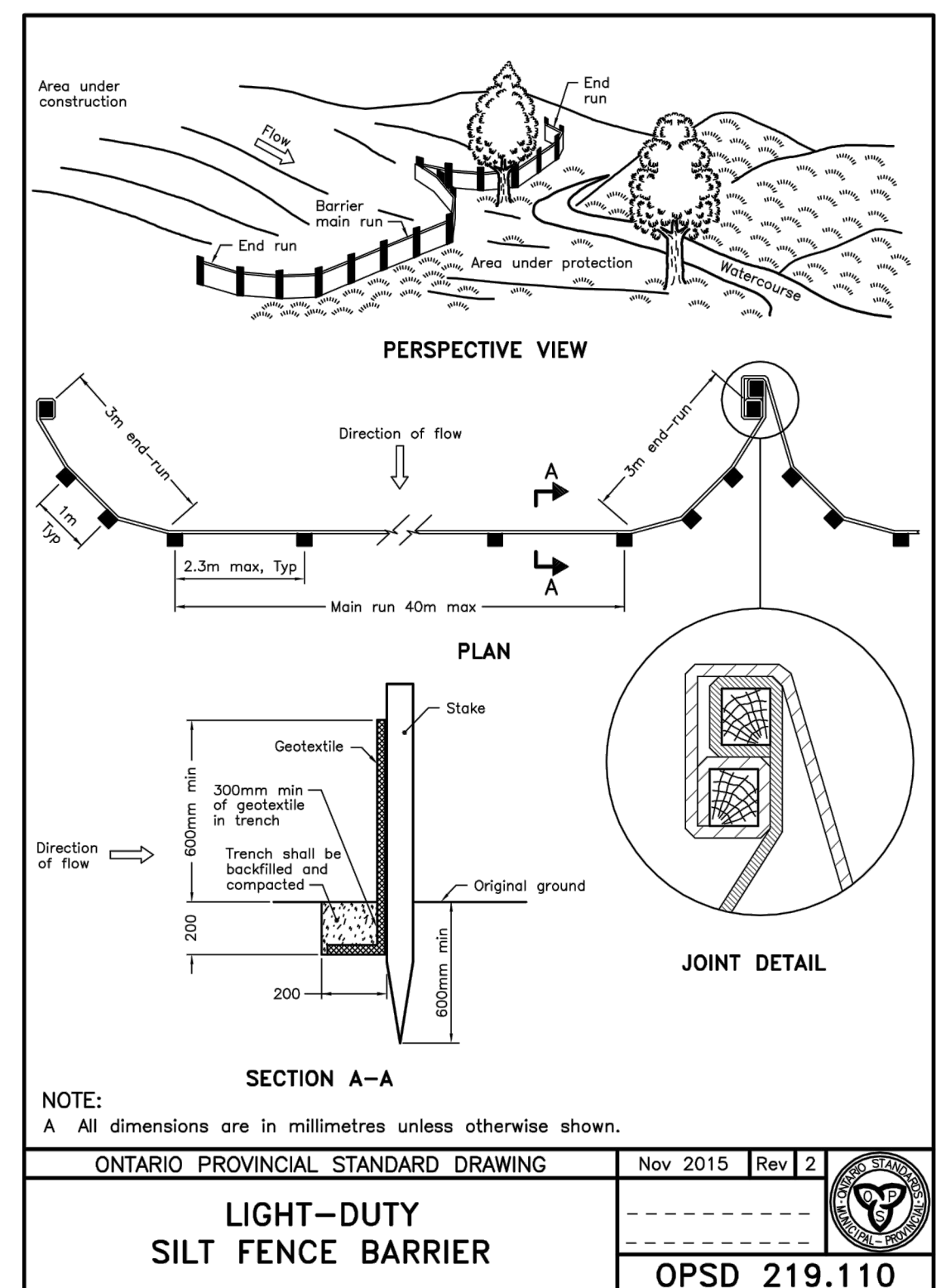
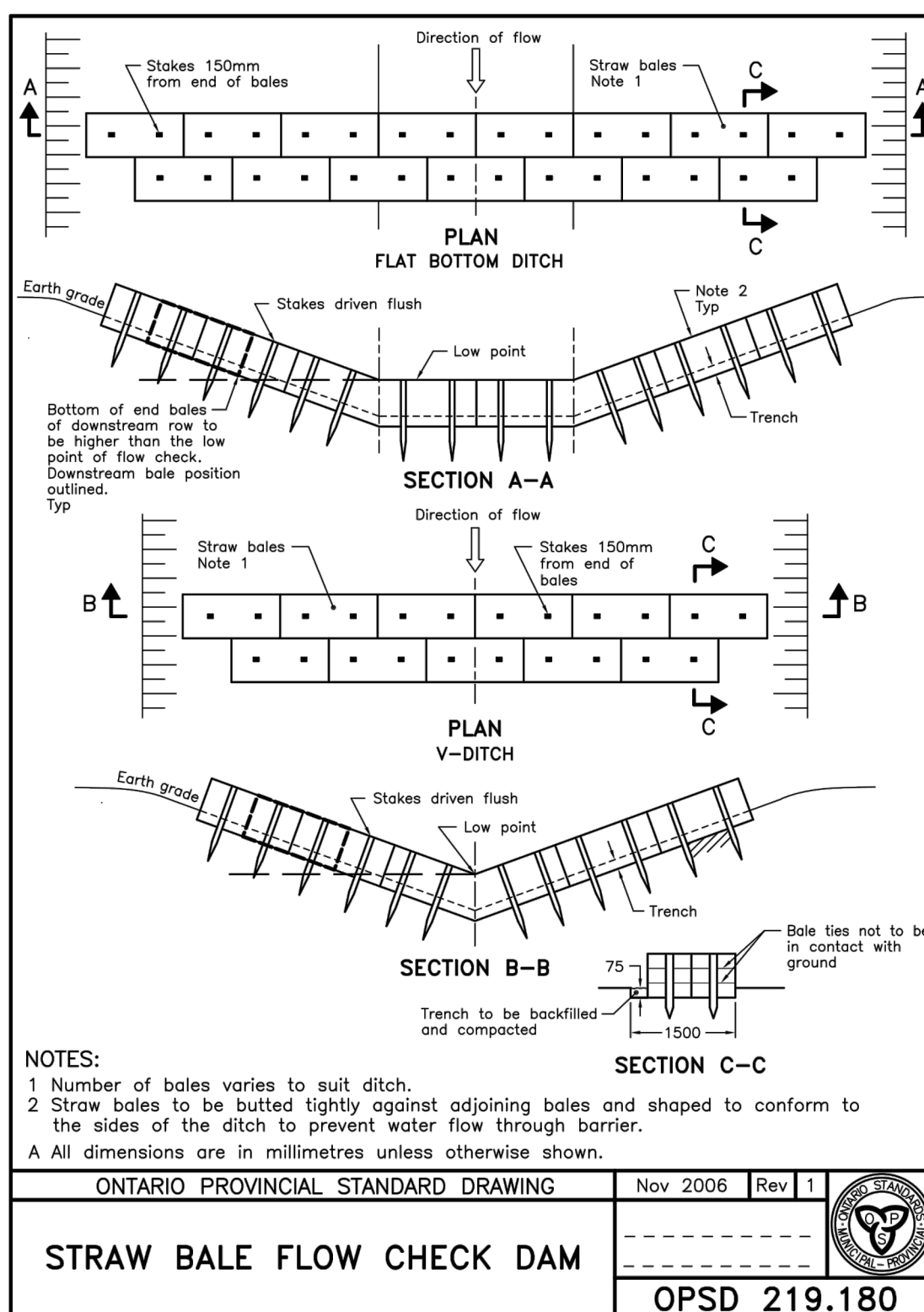
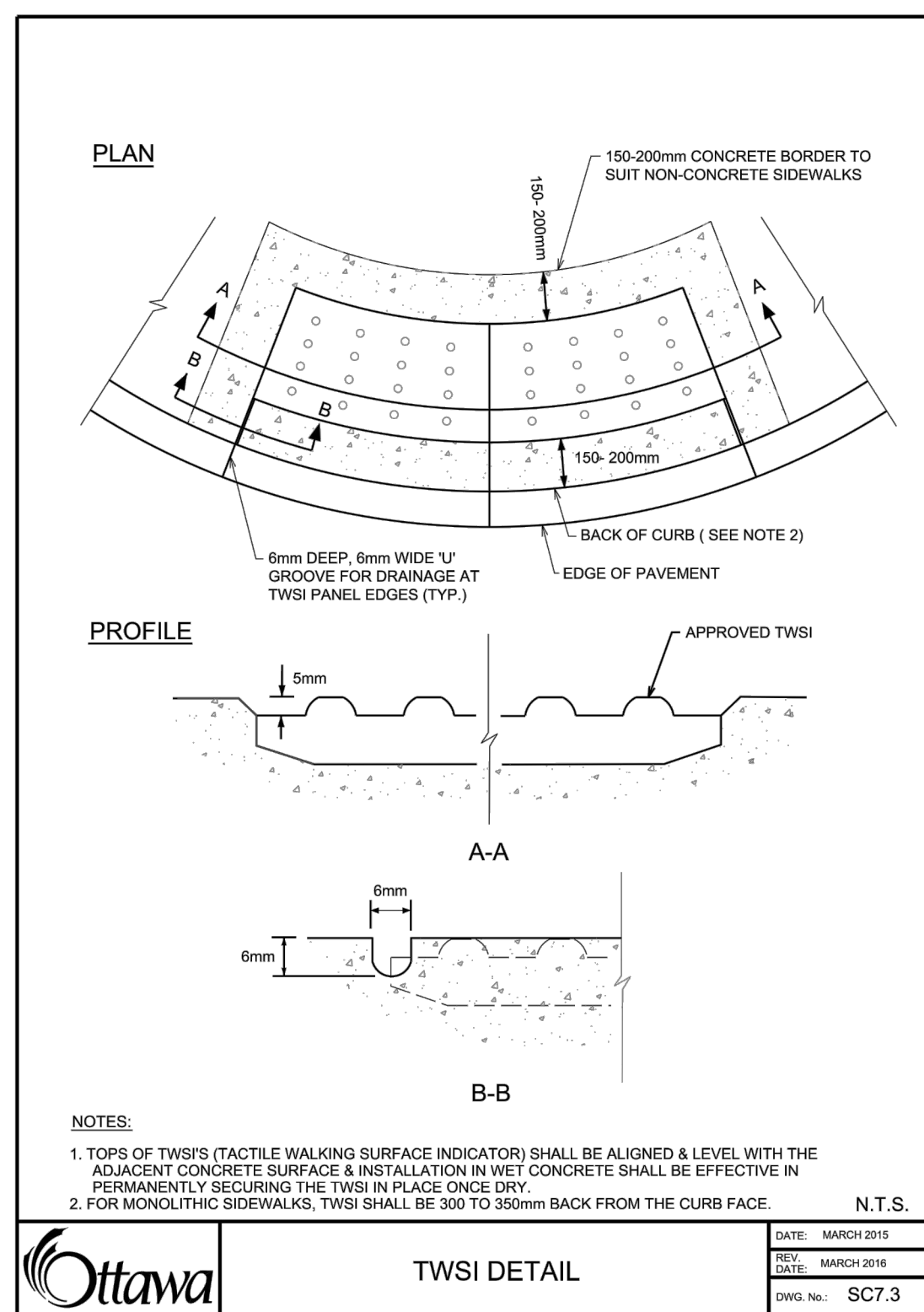
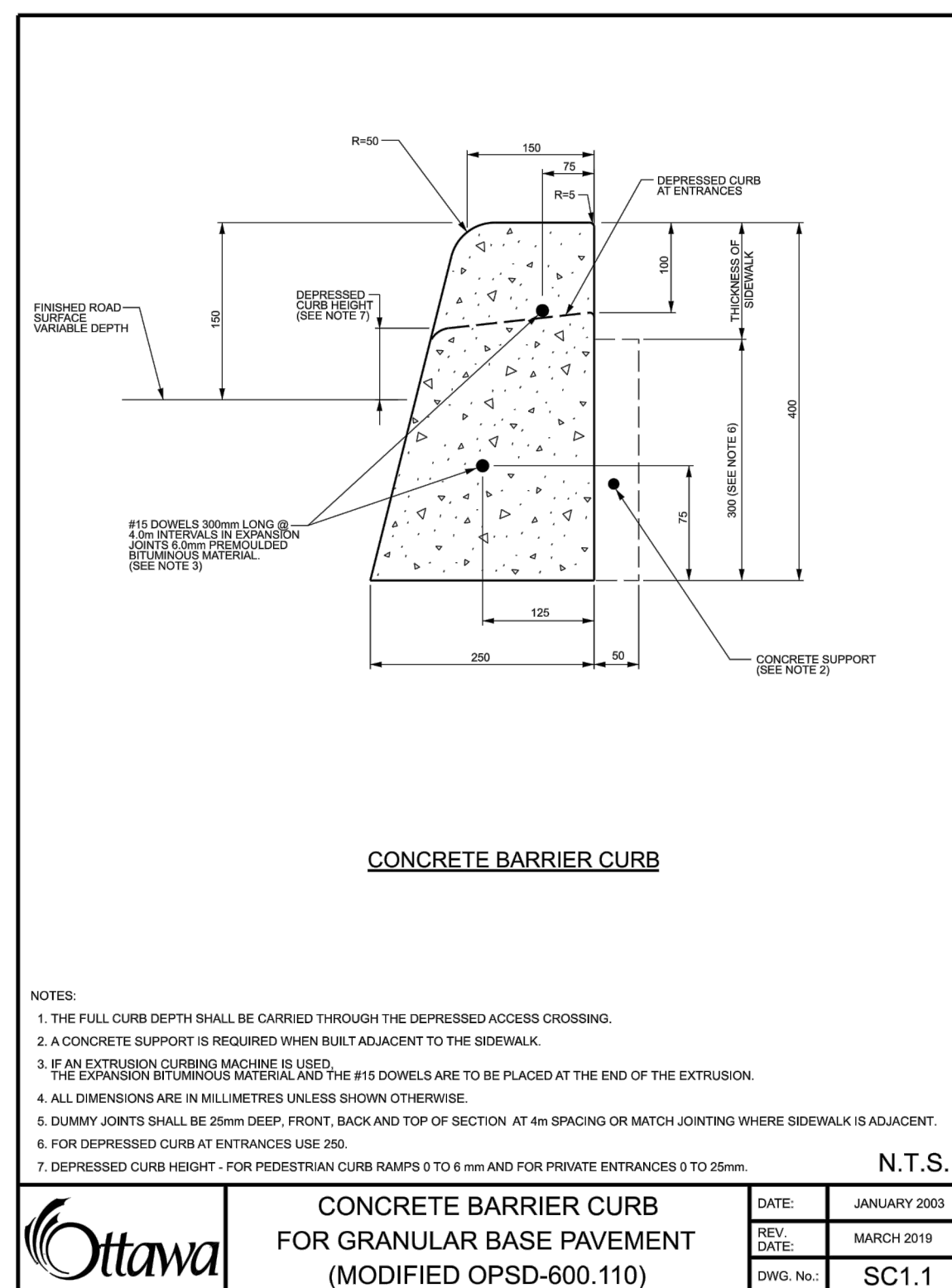


PROJECT No. 116111

REVISED PER CITY COMMENTS

INDEX

116111-ND	NOTES AND DETAILS - GENERAL
116111-ND	NOTES AND DETAILS - STORMTECH CHAMBERS
116111-REM	REMOVALS PLAN
116111-GP	GENERAL PLAN OF SERVICES OVERALL DEVELOPMENT
116111-GP1	GENERAL PLAN OF SERVICES SOUTH-WEST DEVELOPMENT
116111-GP2	GENERAL PLAN OF SERVICES NORTH-WEST DEVELOPMENT
116111-GP3	GENERAL PLAN OF SERVICES SOUTH-EAST DEVELOPMENT
116111-GP4	GENERAL PLAN OF SERVICES NORTH-EAST DEVELOPMENT
116111-GR	GRADING PLAN OVERALL DEVELOPMENT
116111-GR1	GRADING PLAN SOUTH-WEST DEVELOPMENT
116111-GR2	GRADING PLAN NORTH-WEST DEVELOPMENT
116111-GR3	GRADING PLAN SOUTH-EAST DEVELOPMENT
116111-GR4	GRADING PLAN NORTH-EAST DEVELOPMENT
116111-ESC	EROSION SEDIMENT CONTROL PLAN



GENERAL NOTES:

- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- DETERMINE THE EXACT LOCATION, SIZE, MATERIAL, AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
- OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$2,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED AND THE CITY OF OTTAWA AS THIRD PARTY.
- RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD. ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ALL ORGANIC MATERIAL AND DEBRIS. ALL CONTAMINATED MATERIAL (IF ANY) SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
- ALL ELEVATIONS ARE GEODETIC. THE SITE BENCHMARK IS THE TOP OF THE TOP LEFT BOLT ON THE TRAFFIC LIGHT ON THE NORTH SIDE OF THE MAIN ENTRANCE (ELEV. +114.05). REFER TO FARLEY, SMITH & DENIS SURVEYING LTD. TOPOGRAPHIC PLAN OF PART OF LOTS 23 AND 24 CONCESSION 4 GEOGRAPHICAL TOWNSHIP OF GLOUCESTER, CITY OF OTTAWA.
- REFER TO GEOTECHNICAL REPORT NO. PG4315-2 PREPARED BY PATERSON GROUP, DATED OCTOBER 30, 2019, FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
- REFER TO THE DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT NO. R2019-196 DATED APRIL 24, 2020 PREPARED BY NOVATECH.
- REFER TO ARCHITECTS AND LANDSCAPE ARCHITECTS DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
- SAW CUT AND KEYING IN ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10). ALL ROAD CUTS TO BE RENAISSANCE WITH FULL MILL OVERLAY AS PER CITY OF OTTAWA STANDARDS (R10).
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES AND GRADING PLAN INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THE PLANS. AS-BUILT INFORMATION MUST INCLUDE PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND TIG ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, TBM ELEVATIONS, ANY ALIGNMENT CHANGES, AND ALL SURFACE ELEVATION AS BUILT GRADES.

GRADING NOTES:

- ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL SHALL BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS.
- EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL CONSULTANT.
- ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUBEXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS.
- THE GRANULAR BASE SHOULD BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR FILL USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
- GRADE AND/OR FILL BEHIND PROPOSED CURBS AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
- ALL CURBS SHALL BE BARRIER CURBS (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
- AS PER PRIVATE APPROACH BY LAW NO. 2004-47 SECTION 26 (h) THE GRADE OF ANY PART OF A PRIVATE APPROACH TO A BUILDING MAY BE GREATER THAN 6% BUT SHALL NOT EXCEED 12% PROVIDED THAT A SUBSTANCE MELTING DEVICE SUFFICIENT TO KEEP THE PRIVATE APPROACH FREE OF ICE AT ALL TIMES IS INSTALLED AND PROPERLY MAINTAINED BY THE OWNER.

EROSION AND SEDIMENT CONTROL NOTES:

REFER TO ESC PLAN 11611-ESC FOR FURTHER DETAILS

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

- THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL, SUCH AS BUT NOT LIMITED TO, INSTALLING FILTER CLOTHS ACROSS MANHOLE/CATCHBASIN LIDS TO PREVENT SEDIMENTS FROM ENTERING STRUCTURES AND INSTALL AND MAINTAIN A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.
- THE CONTRACTOR SHALL PLACE FILTER BAGS UNDER THE CATCHBASIN AND MANHOLE GRATES FOR THE DURATION OF CONSTRUCTION AND WILL REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION.
- SILT FENCING FOR ENTIRE PERIMETER OF SITE, SHALL BE UTILIZED TO CONTROL EROSION FROM THE SITE DURING CONSTRUCTION.
- THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- PROVIDE MUD MATS AT ALL CONSTRUCTION ACCESS POINTS TO MINIMIZE SEDIMENT TRANSPORT OFFSITE.
- EROSION AND SEDIMENT CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY.

SEWER NOTES:

- SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
- SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
STORM (SANITARY MANHOLE (1200))	701.010	OPSD
STORM MANHOLE (1500)	701.011	OPSD
CATCHBASIN (600x600)	705.010	OPSD
CB FRAME & COVER	400.020	OPSD
STORM (SANITARY) MH FRAME	526	CITY OF OTTAWA
SANITARY COVER	524	CITY OF OTTAWA
STORM COVER (CLOSED)	524.1	CITY OF OTTAWA
STORM COVER (OPEN)	528.1	CITY OF OTTAWA
SEWER TRENCH	56 & 57	CITY OF OTTAWA
STORMTECH CHAMBERS	SC-740	ADS Inc.
STORM SEWER - 450mmØ	PVC SDR 35 (UNLESS SPECIFIED OTHERWISE)	
STORM SEWER - 600mmØ	CONC. RD (UNLESS SPECIFIED OTHERWISE)	
STORM INFILTRATION CHAMBERS	SC-740	STORMTECH
SANITARY SEWER	PVC ØB 35	CITY OF OTTAWA
- SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
- ALL STORM AND SANITARY SERVICE LATERALS SHALL BE EQUIPPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS S14 AND S14.1 OR S14.2.
- ALL WEAVING TILE CONNECTIONS TO BE MADE TO THE PROPOSED STORM SEWER SYSTEM DOWNSTREAM OF ANY INLET CONTROL DEVICES.
- INSULATE ALL PIPES (SANITARY) THAT HAVE LESS THAN 2.0m COVER PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-SEAL, POSI-SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
- STORM MANHOLES AND CBMS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
- ALL CATCHBASINS, MANHOLES AND/OR CATCHBASIN MANHOLES THAT ARE TO HAVE ICDS INSTALLED WITHIN THEM ARE TO HAVE 600mm SUMPS.
- ALL CATCHBASINS AND CATCHBASIN MANHOLES ARE TO BE PROVIDED WITH MINIMUM 3 METER LONG PERFORATED SUBDRAINS WHICH EXTEND IN TWO DIRECTIONS LONGITUDINALLY. TO THE SURFACE LEVEL.
- CONTRACTOR TO TELETYPE (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES AND RE CCTV PRIOR TO ACCEPTANCE.
- THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSD 410.07.16, 410.07.18.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER, WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.

WATERMAIN NOTES:

- SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN	PPVC DR 18	
- SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
- WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
- PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
- WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

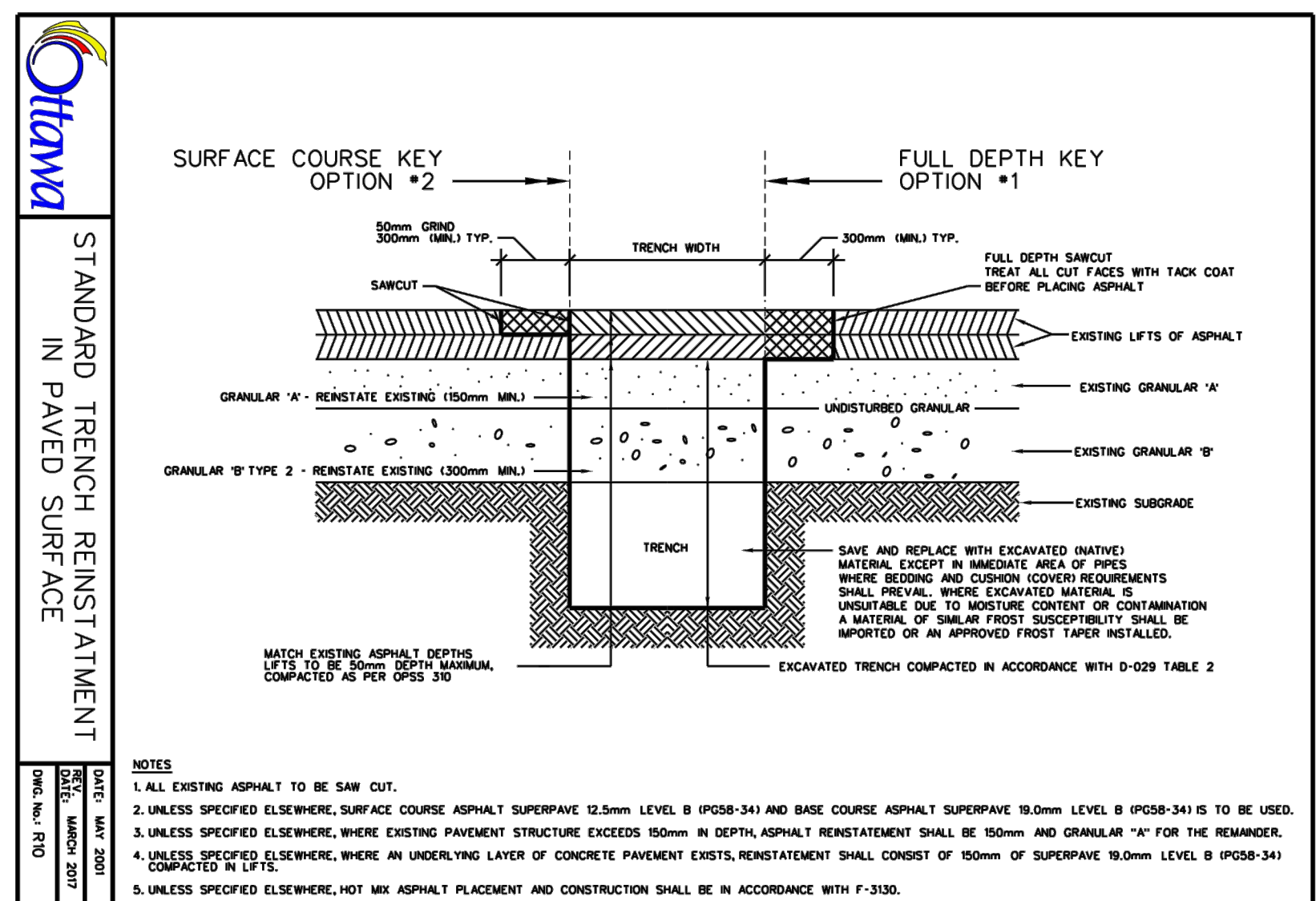
PAVEMENT STRUCTURE:

HEAVY DUTY PAVEMENT

- 40mm SP 12.5
- 50mm SP 10.0
- 150mm OPSS GRANULAR "A"
- 450mm OPSS GRANULAR "B" TYPE II

LIGHT DUTY PAVEMENT

- 10mm SP 12.5
- 150mm OPSS GRANULAR "A"
- 300mm OPSS GRANULAR "B" TYPE II



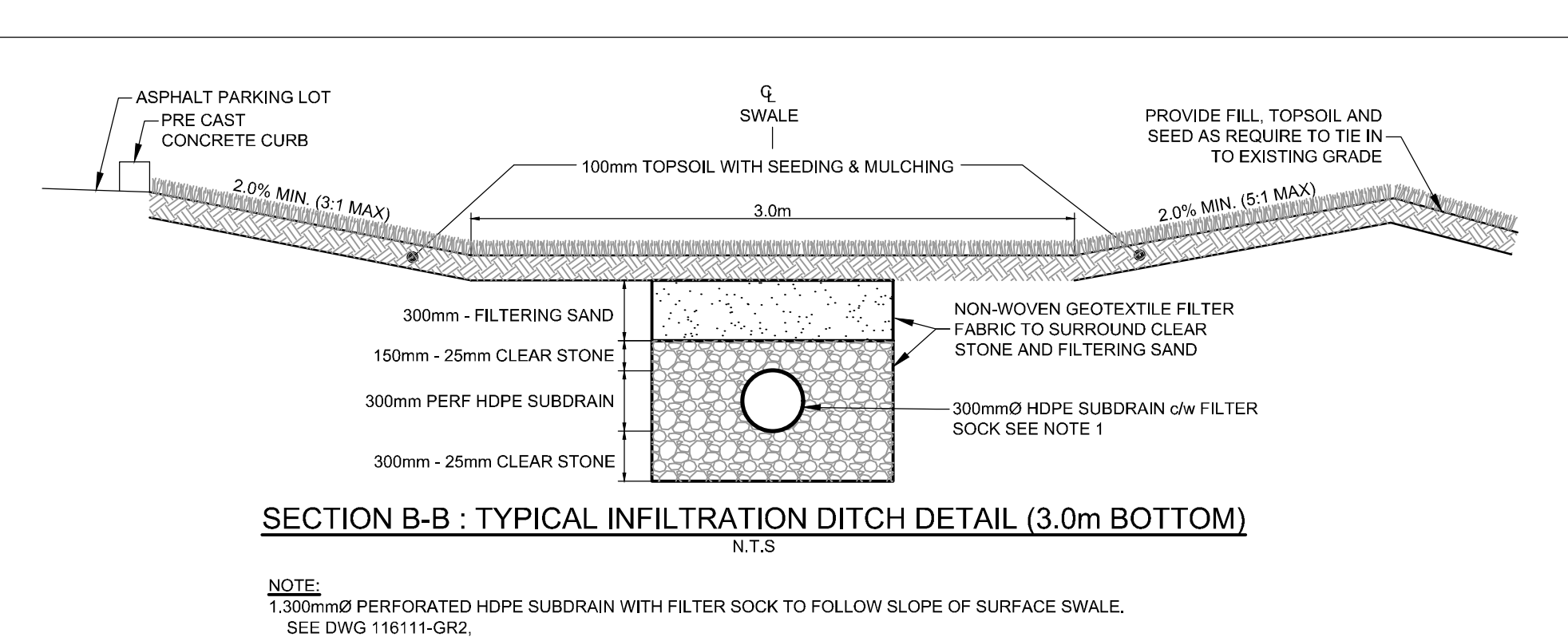
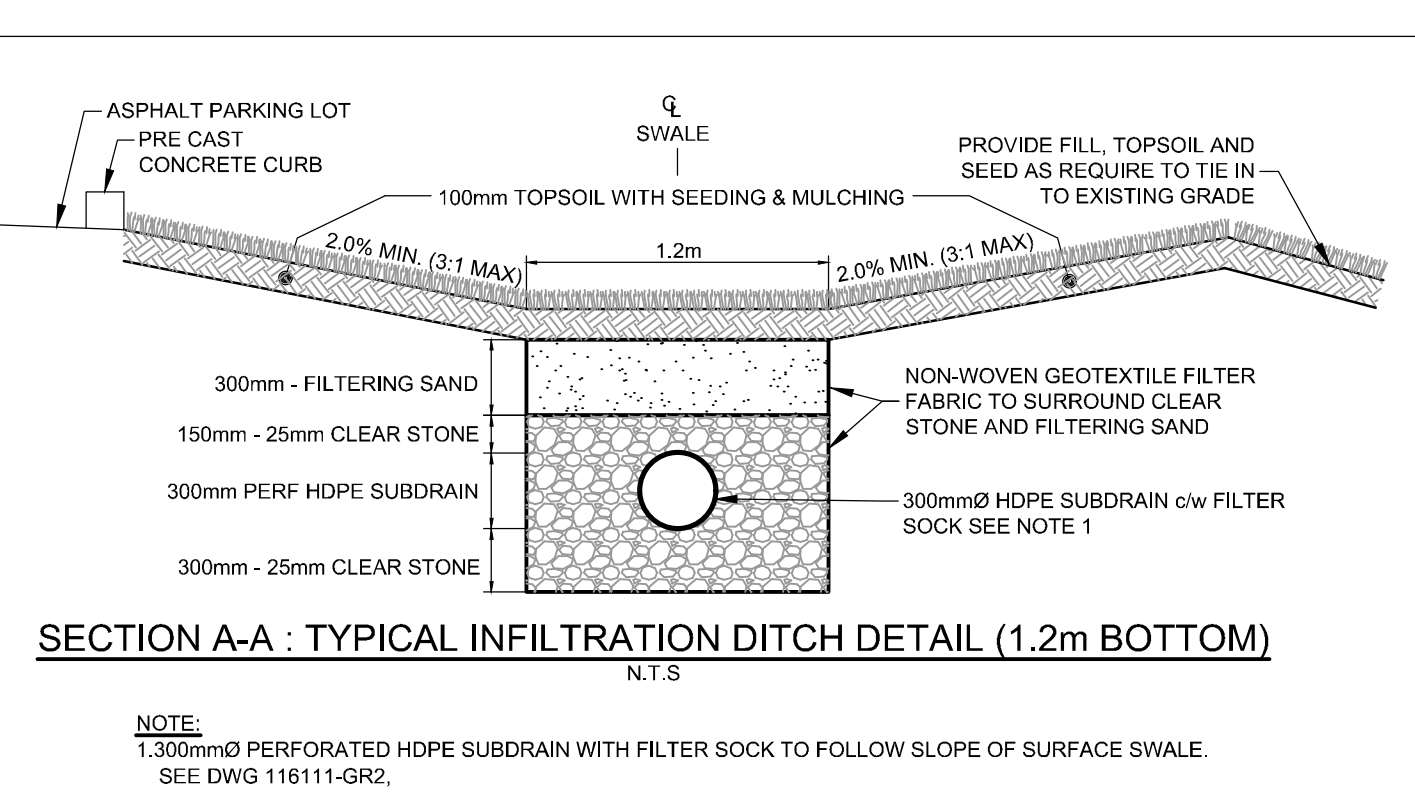
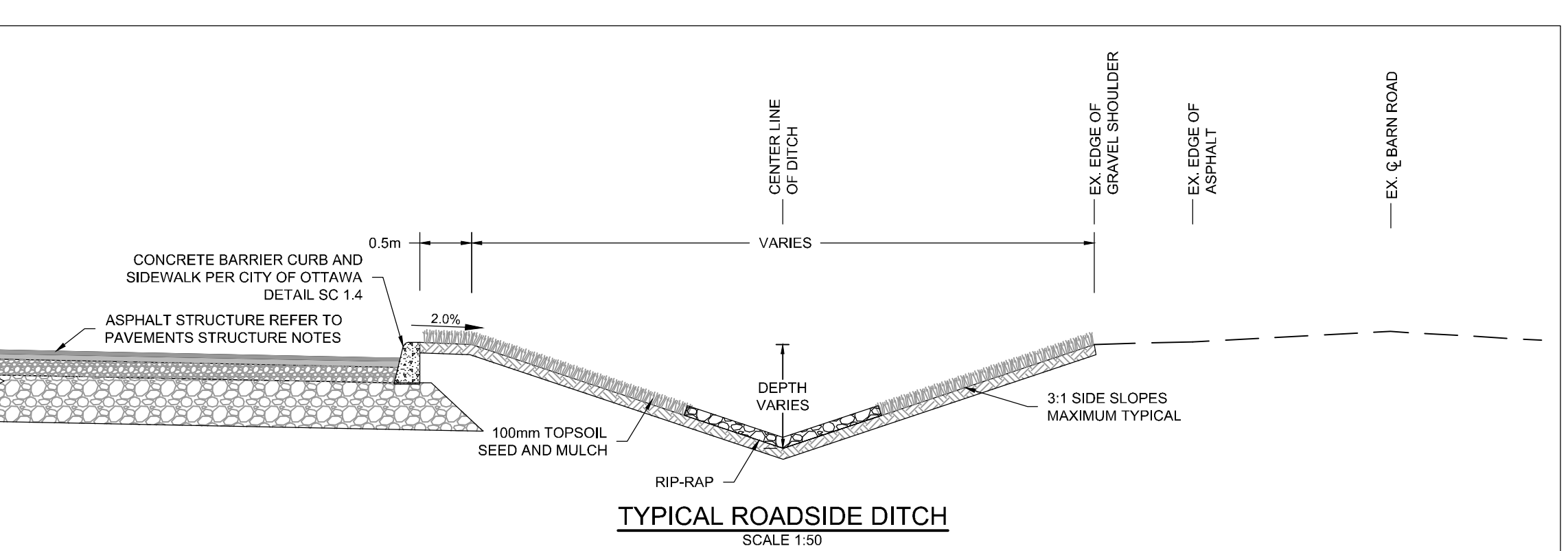
ROOF DRAIN TABLE:

ROOF AREA ID	ROOF DRAIN ID	WEIR SETTING
R-1	RD1 - RD4	3/4 Open
R-2	RD5 - RD7	3/4 Open
R-3	RD8 - RD12	3/4 Open
R-4	RD13 - RD16	N/A
R-5	RD17 - RD24	N/A
R-6	RD25 - RD27	N/A
R-7	RD28 - RD30	N/A

INLET CONTROL DEVICE TABLE:

CB / CBMH ID	IPEX ICD Type (model)	Outlet Pipe Dia. (mm)	Structure Dia. (mm)	100-year Model Results	
				Release Rate (L/s)	Head (m)
EX-CB117	HF-77	250	600x600	14.3	1.47
EX-CB134	HF-85	200	600x600	19.6	1.84
EX-CB137	HF-137	200	600x600	46.9	1.58
EX-CB14	HF-130	200	600x600	57.5	2.89
EX-CB60	HF-110	250	600x600	31.5	1.70
EX-CB64	LMF-100	250	600x600	10.9	1.51
EX-CB72	LMF-100	200	600x600	11.6	1.70
EX-CB82	HF-202	200	600x600	96.3	1.39
EX-CB84	HF-118	200	600x600	35.5	1.66
EX-MH105	HF-199	450	1200	121.7	2.40
EX-MH112	HF-218	300	1200	116.9	1.53
PR-CB10	LMF-80	250	600x600	6.5	1.51
PR-CB13	LMF-85	250	600x600	7.4	1.58
PR-CB14	LMF-85	250	600x600	7.4	1.60
PR-CB18/17	HF-202	250	600x600	96.6	1.41
PR-CB18	LMF-95	250	600x600	9.0	1.43
PR-CB29	LMF-100	300	600x600	10.5	1.44
PR-CB32	LMF-85	250	600x600	8.9	2.05
PR-CB33	No ICD	250	600x600	15.7	0.14
PR-CB36	LMF-80	250	600x600	4.2	0.73
PR-CBMH104	LMF-85	250	1200	6.1	1.34
PR-CBMH105	LMF-85	250	1200	6.1	1.35
PR-CBMH106	LMF-85	250	1200	6.2	1.38
PR-CBMH107	LMF-85	250	1200	7.8	1.52
PR-CBMH108	LMF-95	250	1200	6.4	1.49
PR-CBMH109	LMF-95	300	1200	9.4	1.60
PR-CBMH110	LMF-85	250	1200	8.4	1.73
PR-CBMH111	LMF-72	300	1200	14.3	1.93
PR-CBMH112	LMF-72	300	1200	14.7	2.03
PR-CBMH114	LMF-95	300	1200	10.8	2.02
PR-CBMH115	LMF-95	300	1200	10.5	1.94
PR-CBMH118	LMF-100	300	1200	11.3	1.65
PR-MH100	LMF-105	450	1200	10.1	1.40
PR-TD01	HF-105	150	300x1400	13.0	0.40

1/3-hour Chicago Storm.
 *IPEX ICD's sized based on 100-year model results.



NOTES:

THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR

SCALE: AS NOTED

FOR REVIEW ONLY

DESIGN: MJH
 CHECKED: CJR
 DRAWN: MJR
 CHECKED: CJR
 APPROVED: JLS

LOCATION: 4837 ALBION ROAD, CITY OF OTTAWA, HARD ROCK OTTAWA

DRAWING NAME: NOTES AND DETAILS GENERAL

PROJECT No.: 116111
 REV: REV #1
 DRAWING No.: 116111-ND1

NOVATECH
 Engineers, Planners & Landscape Architects
 Suite 200, 240 Michael Cowland Drive
 Ottawa, Ontario, Canada K2M 1P6
 Telephone: (613) 254-9643
 Facsimile: (613) 254-5867
 Website: www.novatech-eng.com

PROFESSIONAL ENGINEER
 M. FERGUSON
 10021258
 APRIL 24/20
 PROVINCE OF ONTARIO

STORMTECH CHAMBER SPECIFICATIONS

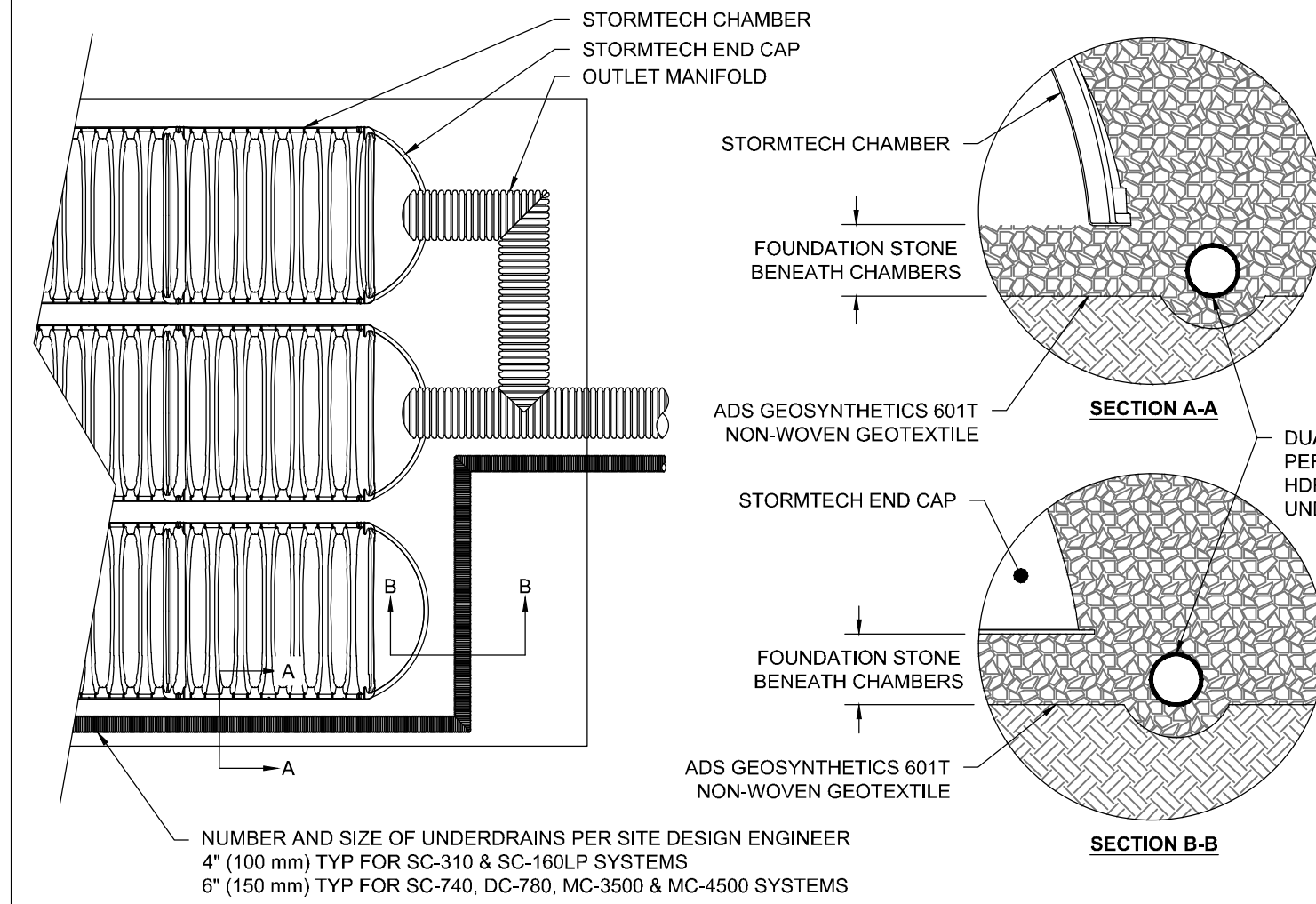
- CHAMBERS SHALL BE STORMTECH SC-740 OR SC-310.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

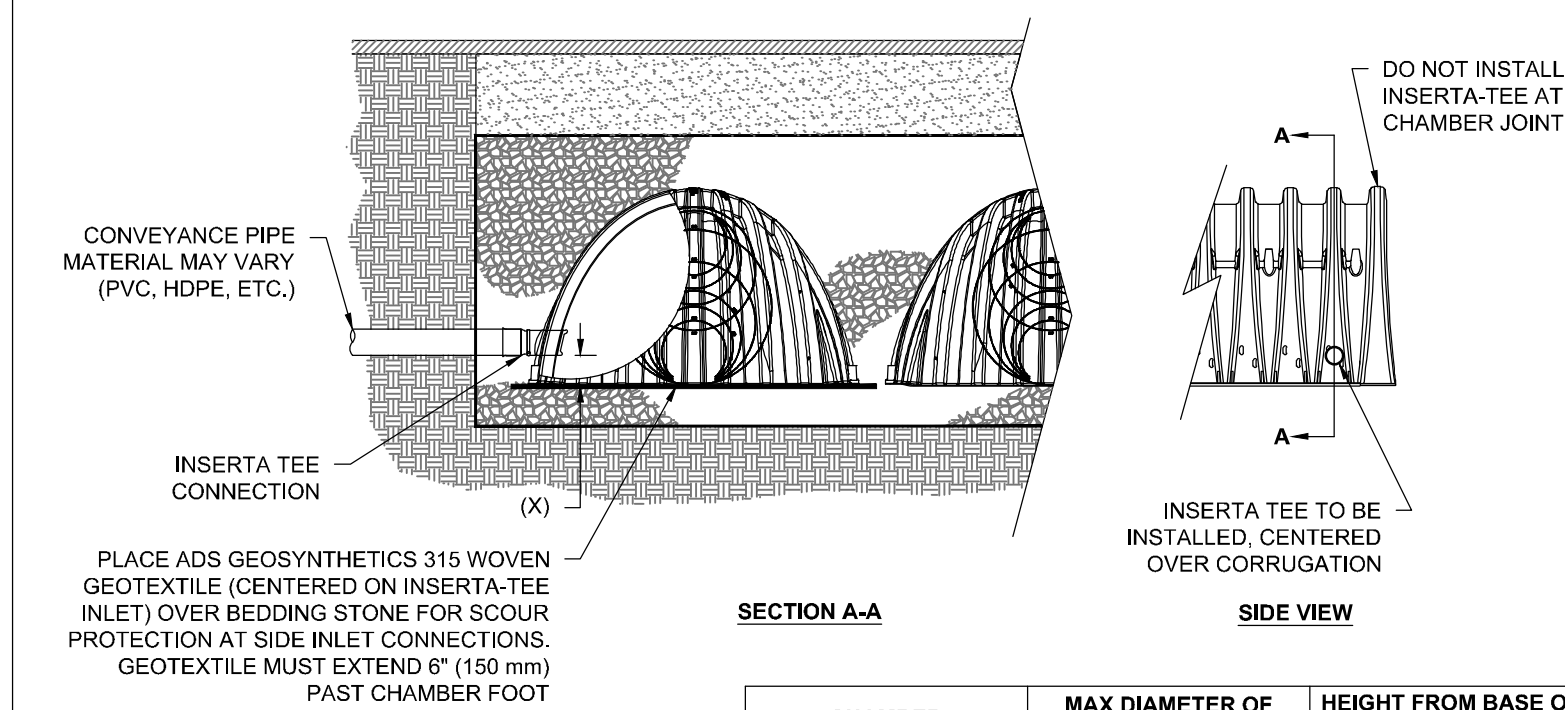
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4" - 2" (20-50 mm).
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

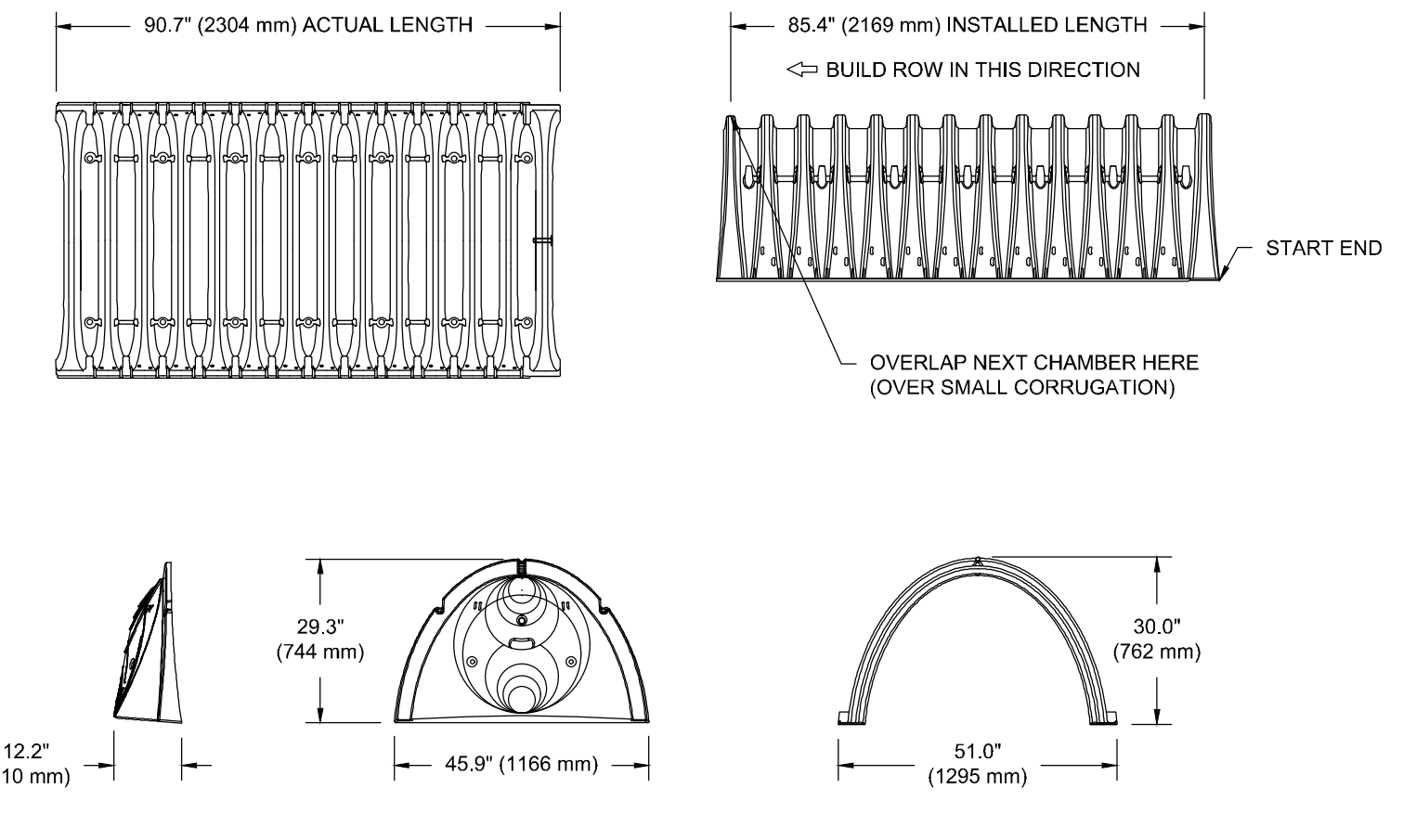
- STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING. USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



5 UNDERDRAIN DETAIL



6 INSER-TA TEE SIDE INLET DETAIL

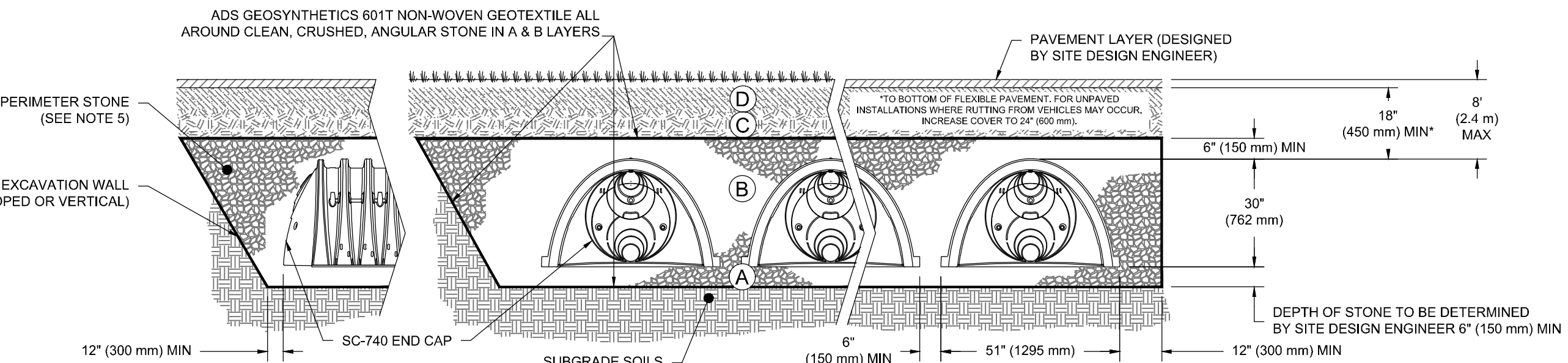


2 SC-740 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (55 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

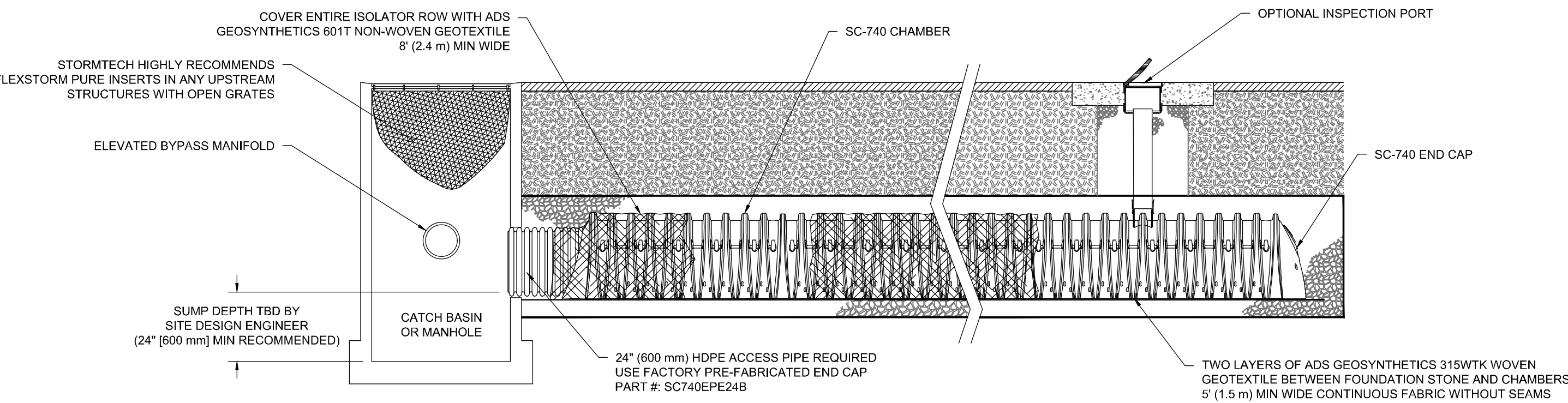
- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERS WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

1 SC-740 CROSS SECTION DETAIL



3 SC-740 ISOLATOR ROW DETAIL

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - ALL ISOLATOR ROWS
 - REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS. RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

4 SC-740 6" (150 mm) INSPECTION PORT DETAIL

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

DATE: APRIL 24, 2020
PROJECT NO: 116111
NOT TO SCALE

DRAWN:
REVIEWED:
REV:

SHEET




4640 TRUEMAN BLVD
HILLIARD, OH 43026



SHEET

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT. NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC TO THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION AND SEALING THE DOCUMENT. IT IS THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEET OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

SCALE		FOR REVIEW ONLY		LOCATION	
AS NOTED	MJH	CJR	MJR	4837 ALBION ROAD, CITY OF OTTAWA	HARD ROCK OTTAWA
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR	DRAWING NAME	NOTES AND DETAILS
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR	STORMTECH CHAMBERS	
No.	REVISION	DATE	BY	PROJECT NO.	116111
				REV	REV # 1
				DRAWING NO.	116111-ND2

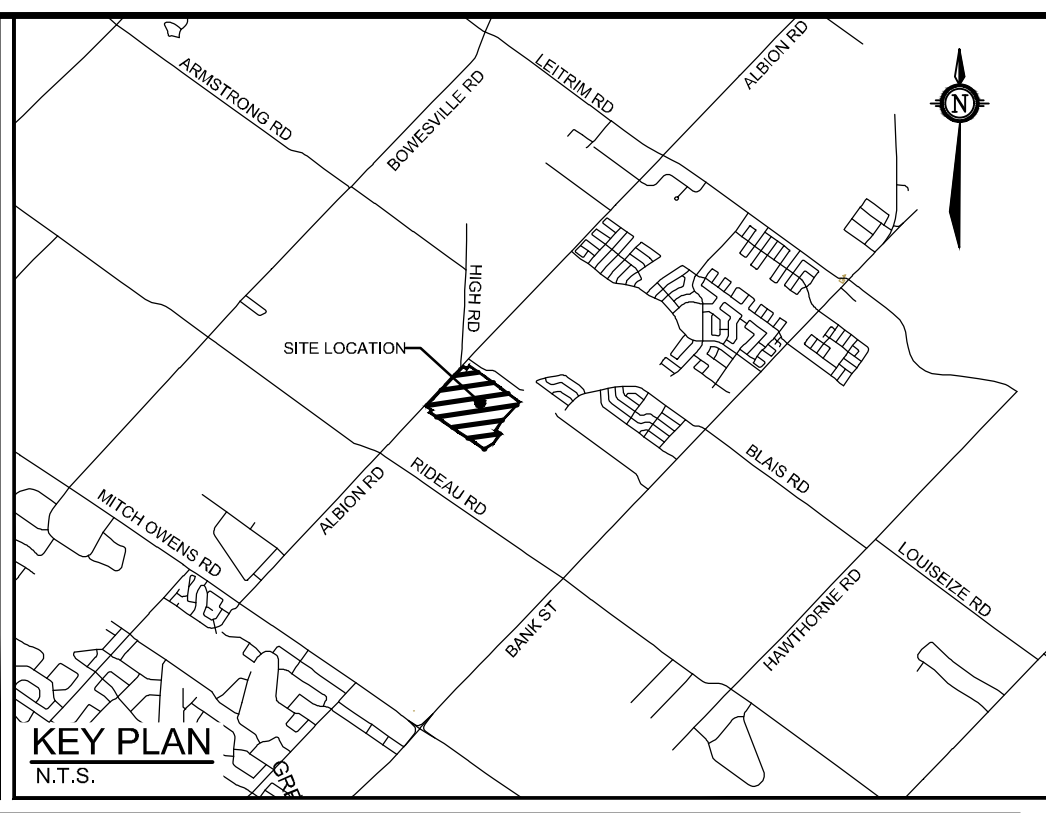
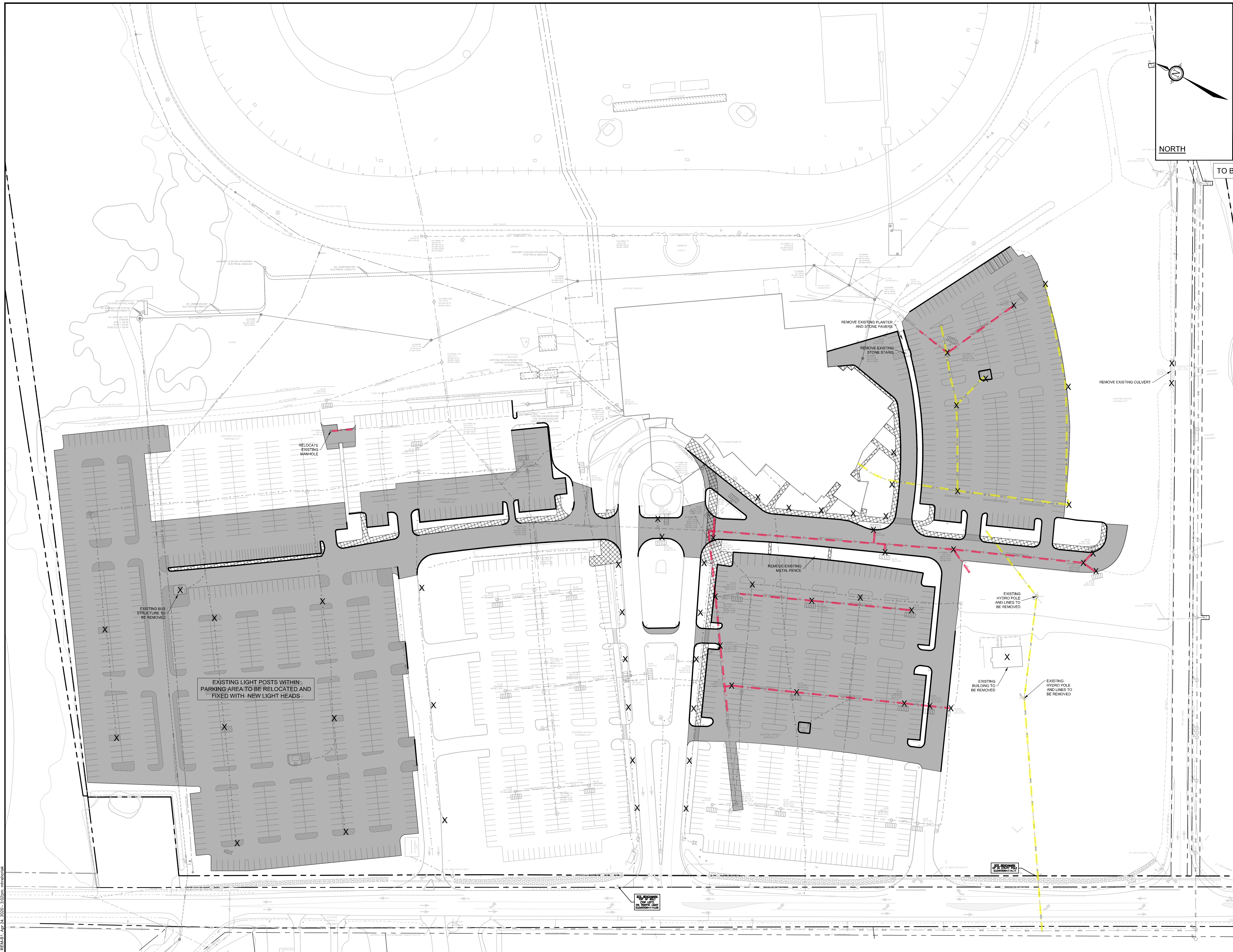


Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

PROJECT NO. 116111

REV # 1

116111-ND2



TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS

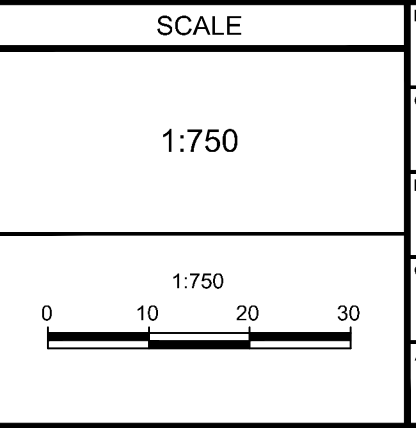
- LEGEND**
- PROPERTY LINE
 - EXISTING STRUCTURE/LIGHT POST REMOVALS
 - REMOVAL/ABANDONMENT OF EXISTING SEWERS
 - EXISTING HYDRO REMOVALS
 - ASPHALT REMOVAL (FULL DEPTH)
 - CONCRETE SIDEWALK REMOVAL
 - CURB REMOVAL
 - EXISTING UTILITY POLE CW GUY WIRES
 - EXISTING WATERMAIN CW VALVE & VALVE CHAMBER
 - EXISTING HYDRANT CW VALVE & LEAD
 - EXISTING SANITARY MANHOLE & SEWER
 - EXISTING STORM MANHOLE & SEWER
 - EXISTING CATCHBASIN
 - EXISTING GAS MAIN
 - EXISTING OVERHEAD WIRES
 - EXISTING BELL LINE
 - EXISTING HYDRO
 - EXISTING STREETLIGHT

- REMOVALS NOTES:**
1. OBTAIN ALL APPROVALS AND PERMITS FROM THE CITY OF OTTAWA PRIOR TO ANY REMOVAL WORK OR CONSTRUCTION.
 2. ALL STORM STRUCTURES AND PIPES WITHIN THE PROPOSED BUILDING AREA TO BE REMOVED AND DISPOSED OF OFF SITE.
 3. ALL STORM PIPES OUTSIDE THE BUILDING AREA TO BE ABANDONED PER CITY OF OTTAWA STANDARD DETAIL S11.4.
 4. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT IN POINTS PER CITY OF OTTAWA STANDARD DETAIL R10.

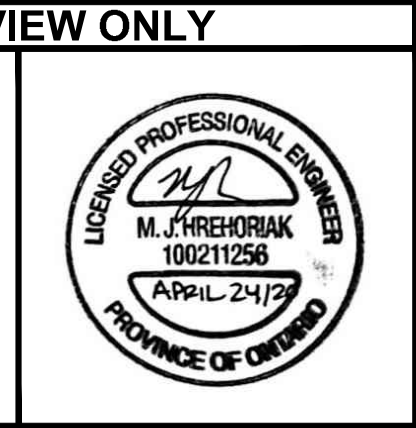
NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
2	REVISED AS PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR



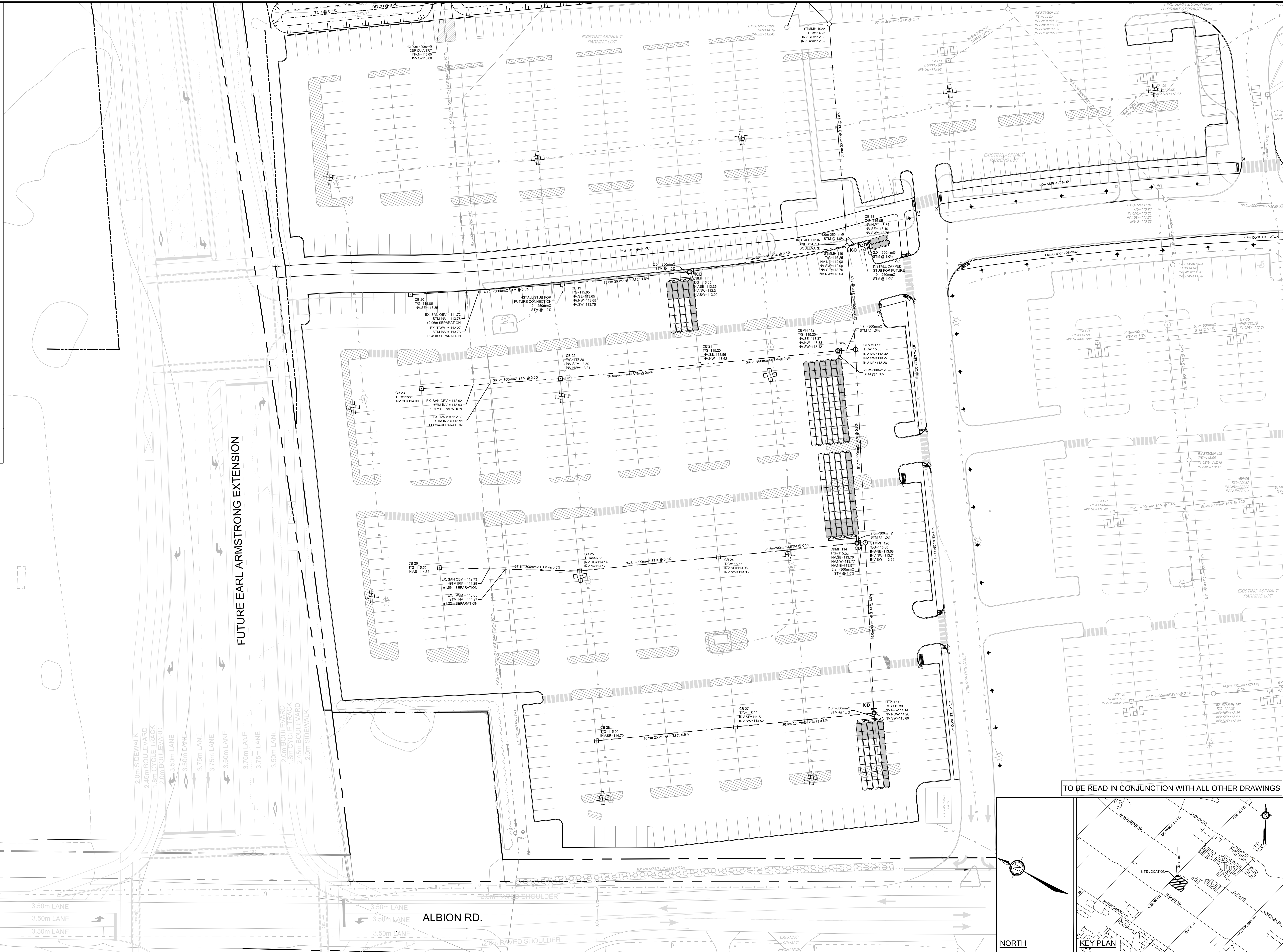
DESIGN	MJH
CHECKED	CJR
DRAWN	MJH
CHECKED	CJR
APPROVED	JLS



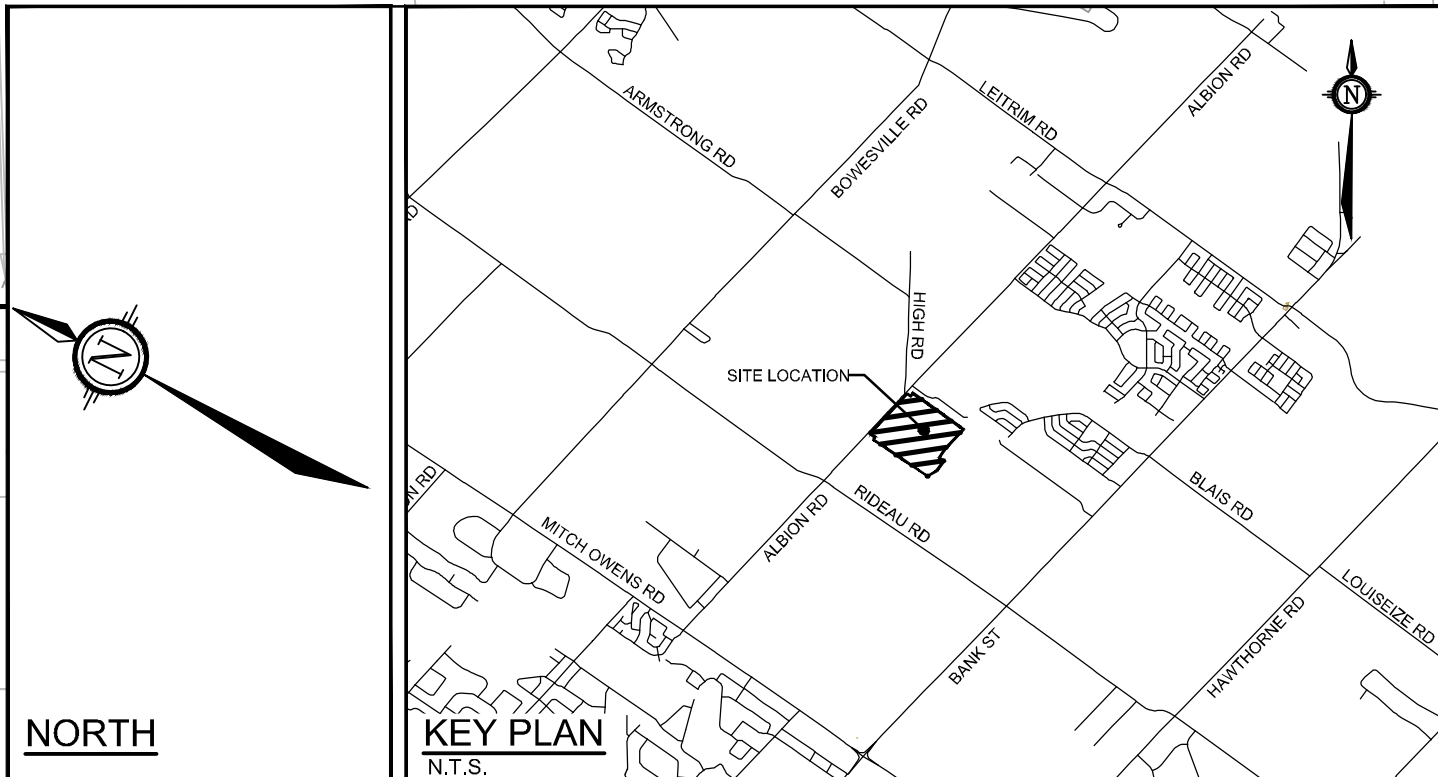
NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Copeland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

LOCATION 4837 ALBION ROAD, CITY OF OTTAWA HARD ROCK OTTAWA	PROJECT No. 116111
DRAWING NAME REMOVALS AND DEMOLITION PLAN	REV # 1
	DRAWING No. 116111-REM

- LEGEND**
- PROPERTY LINE
 - PROPOSED CURB
 - DC PROPOSED DEPRESSED CURB
 - PROPOSED RETAINING WALL
 - PROPOSED PRECAST CONCRETE CURB (C.P. S.D. 803.020)
 - TACTILE WALKING SURFACE INDICATOR (TWSI) PER CITY DETAIL SCT 3
 - PROPOSED CAP
 - PROPOSED CROSSWALK PAINTING
 - PROPOSED PARKING PAINTING
 - PROPOSED SANITARY SERVICE c/w MANHOLE
 - PROPOSED STORM SEWER AND MANHOLE
 - PROPOSED BUILDING ENTRANCE
 - DIRECTION OF FLOW
 - PROPOSED CATCHBASIN MANHOLE
 - PROPOSED INLET CONTROL DEVICE
 - PROPOSED CATCHBASIN
 - PROPOSED UNDERGROUND STORAGE WITH GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
 - PROPOSED UNDERGROUND STORAGE WITHOUT GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
 - PROPOSED LIGHT POST/FIXTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - LIGHTING BOLLARD (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - CONCRETE BOLLARDS
 - HYDRO TRANSFORMER (REFER TO ELECTRICAL PLAN)
 - GENERATOR (REFER TO ELECTRICAL PLAN)
 - ELECTRICAL MANHOLE (REFER TO ELECTRICAL PLAN)
 - EXISTING UTILITY POLE c/w GUY WIRES
 - EXISTING WATERMAIN c/w VALVE & VALVE CHAMBER
 - EXISTING HYDRANT c/w VALVE & LEAD
 - EXISTING SANITARY MANHOLE & SEWER
 - EXISTING SANITARY FORCEMAIN
 - EXISTING STORM MANHOLE & SEWER
 - EXISTING CATCHBASIN
 - EXISTING INFILTRATION CHAMBERS
 - EXISTING GAS MAIN
 - EXISTING OVERHEAD WIRES
 - EXISTING BELL LINE
 - EXISTING HYDRO
 - EXISTING STREETLIGHT POWER SUPPLY
 - EXISTING STREETLIGHT
 - EXISTING PARKING LOT SIGNAGE



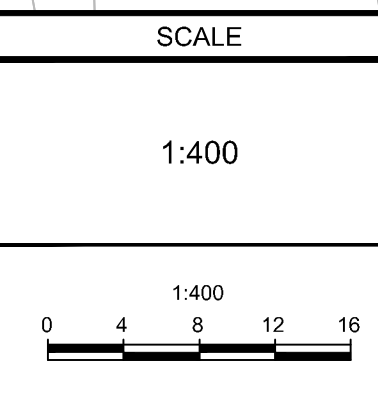
TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS



NOT FOR CONSTRUCTION

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR



DESIGN	MJH
CHECKED	CJR
DRAWN	MJH
CHECKED	CJR
APPROVED	JLS

FOR REVIEW ONLY



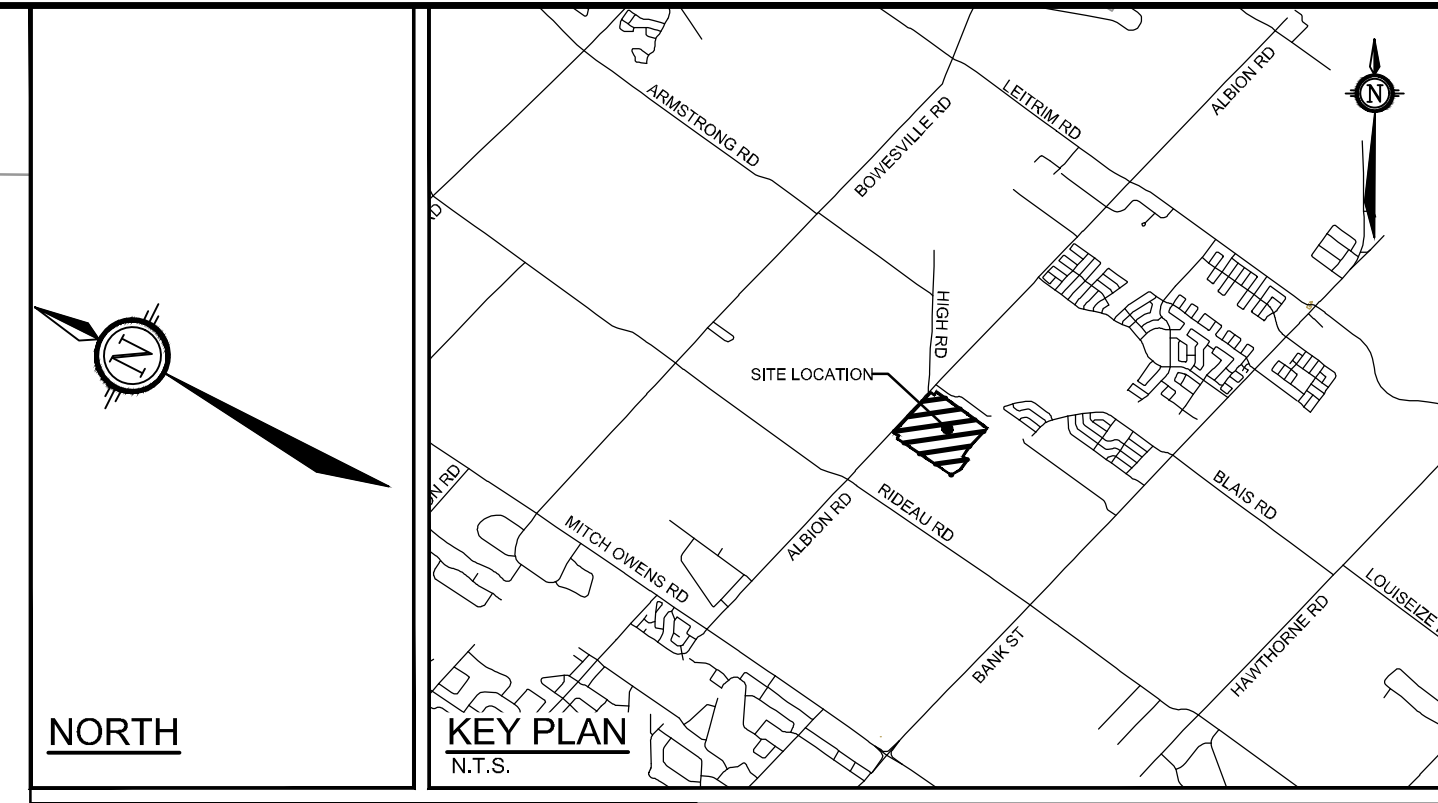
NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

LOCATION
4837 ALBION ROAD, CITY OF OTTAWA
HARD ROCK OTTAWA

DRAWING NAME
GENERAL PLAN OF SERVICES
SOUTH-WEST DEVELOPMENT

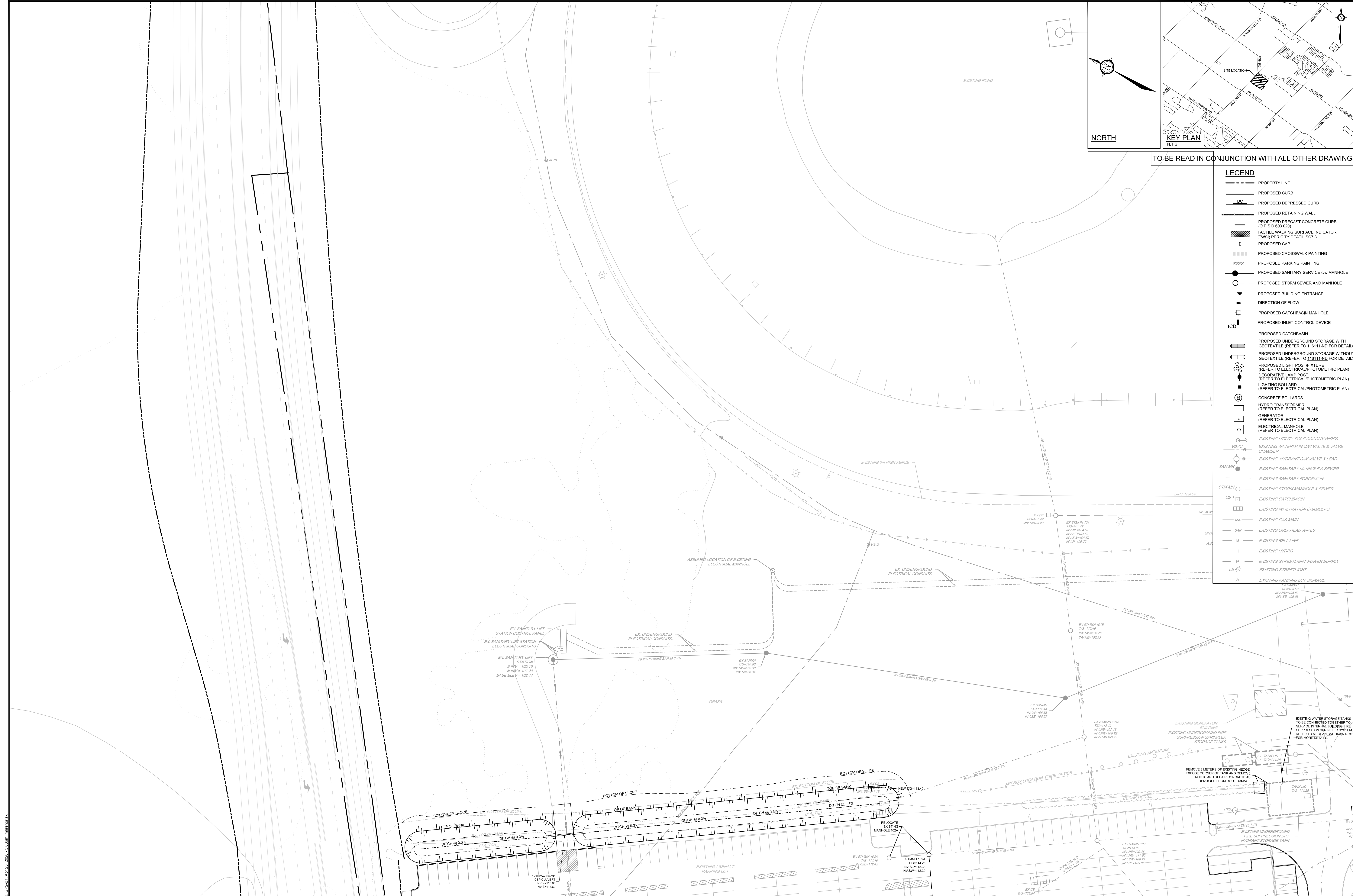
PROJECT No.	116111
REV	REV # 1
DRAWING No.	116111-GP1

C:\000\116111\GP1.dwg (116111-GP1.dwg) Apr 25, 2020 - 3:09pm, m.hargrave



TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS

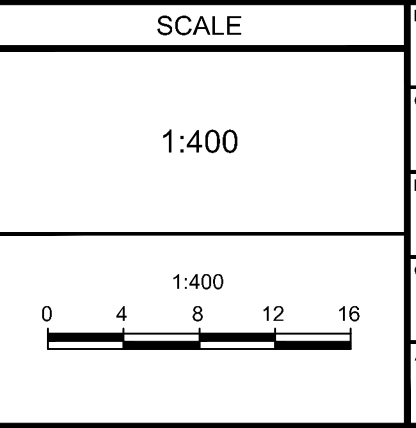
- LEGEND**
- PROPERTY LINE
 - - - PROPOSED CURB
 - DC PROPOSED DEPRESSED CURB
 - PROPOSED RETAINING WALL
 - PROPOSED PRECAST CONCRETE CURB (O.P.S.D 603.020)
 - ▨ TACTILE WALKING SURFACE INDICATOR (TWS) PER CITY DETAIL SC7.3
 - C PROPOSED CAP
 - ▨▨▨ PROPOSED CROSSWALK PAINTING
 - ▨▨▨ PROPOSED PARKING PAINTING
 - PROPOSED SANITARY SERVICE c/w MANHOLE
 - PROPOSED STORM SEWER AND MANHOLE
 - ▶ PROPOSED BUILDING ENTRANCE
 - ▶ DIRECTION OF FLOW
 - PROPOSED CATCHBASIN MANHOLE
 - PROPOSED INLET CONTROL DEVICE
 - ICD PROPOSED CATCHBASIN
 - ▨▨▨ PROPOSED UNDERGROUND STORAGE WITH GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
 - ▨▨▨ PROPOSED UNDERGROUND STORAGE WITHOUT GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
 - ▨▨▨ PROPOSED LIGHT POST FIXTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - ▨▨▨ DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - ▨▨▨ LIGHTING BOLLARD (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - CONCRETE BOLLARDS
 - HYDRO TRANSFORMER (REFER TO ELECTRICAL PLAN)
 - GENERATOR (REFER TO ELECTRICAL PLAN)
 - ELECTRICAL MANHOLE (REFER TO ELECTRICAL PLAN)
 - EXISTING UTILITY POLE c/w GUY WIRES
 - EXISTING WATERMAIN c/w VALVE & VALVE CHAMBER
 - EXISTING HYDRANT c/w VALVE & LEAD
 - EXISTING SANITARY MANHOLE & SEWER
 - EXISTING SANITARY FORCEMAIN
 - EXISTING STORM MANHOLE & SEWER
 - EXISTING CATCHBASIN
 - EXISTING INFILTRATION CHAMBERS
 - EXISTING GAS MAIN
 - EXISTING OVERHEAD WIRES
 - EXISTING BELL LINE
 - EXISTING HYDRO
 - EXISTING STREETLIGHT POWER SUPPLY
 - EXISTING STREETLIGHT
 - EXISTING PARKING LOT SIGNAGE



NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 20/19	CJR



FOR REVIEW ONLY	DESIGN	CHECKED	DRAWN	APPROVED
	MJH	CJR	MJH	CJR
				JLS



LOCATION
4837 ALBION ROAD, CITY OF OTTAWA
HARD ROCK OTTAWA

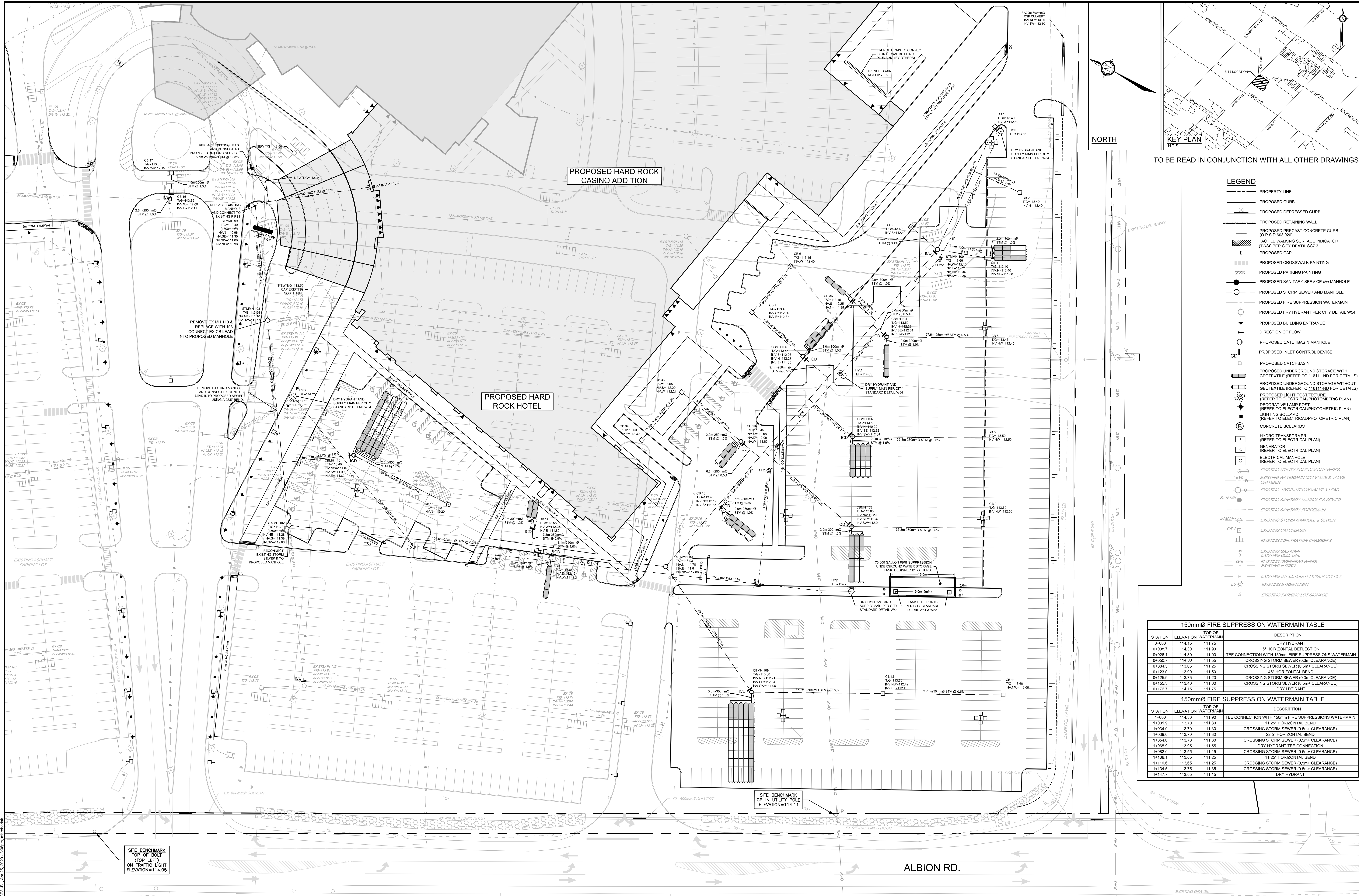
DRAWING NAME
**GENERAL PLAN OF SERVICES
NORTH-WEST DEVELOPMENT**

PROJECT NO.
116111

REV # 1

DRAWING NO.
116111-GP2

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Copland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com



TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS

- LEGEND**
- PROPERTY LINE
 - PROPOSED CURB
 - PROPOSED DEPRESSED CURB
 - PROPOSED RETAINING WALL
 - PROPOSED PRECAST CONCRETE CURB (O.P.S.D 603.020)
 - TACTILE WALKING SURFACE INDICATOR (TWS) PER CITY DETAIL SCT.3
 - PROPOSED CAP
 - PROPOSED CROSSWALK PAINTING
 - PROPOSED PARKING PAINTING
 - PROPOSED SANITARY SERVICE c/w MANHOLE
 - PROPOSED STORM SEWER AND MANHOLE
 - PROPOSED FIRE SUPPRESSION WATERMAIN
 - PROPOSED FRY HYDRANT PER CITY DETAIL W54
 - PROPOSED BUILDING ENTRANCE
 - DIRECTION OF FLOW
 - PROPOSED CATCHBASIN MANHOLE
 - PROPOSED INLET CONTROL DEVICE
 - PROPOSED CATCHBASIN
 - PROPOSED UNDERGROUND STORAGE WITH GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
 - PROPOSED UNDERGROUND STORAGE WITHOUT GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
 - PROPOSED LIGHT POST FIXTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - LIGHTING ISLAND (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
 - CONCRETE BOLLARDS
 - HYDRO TRANSFORMER (REFER TO ELECTRICAL PLAN)
 - GENERATOR (REFER TO ELECTRICAL PLAN)
 - ELECTRICAL MANHOLE (REFER TO ELECTRICAL PLAN)
 - EXISTING UTILITY POLE c/w GUY WIRES
 - EXISTING WATERMAIN c/w VALVE & VALVE CHAMBER
 - EXISTING HYDRANT c/w VALVE & LEAD
 - EXISTING SANITARY MANHOLE & SEWER
 - EXISTING SANITARY FORCEMAIN
 - EXISTING STORM MANHOLE & SEWER
 - EXISTING CATCHBASIN
 - EXISTING INFILTRATION CHAMBERS
 - EXISTING GAS MAIN
 - EXISTING BELL LINE
 - EXISTING OVERHEAD WIRES
 - EXISTING HYDRO
 - EXISTING STREETLIGHT POWER SUPPLY
 - EXISTING STREETLIGHT
 - EXISTING PARKING LOT SIGNAGE

150mm FIRE SUPPRESSION WATERMAIN TABLE

STATION	ELEVATION	TOP OF WATERMAIN	DESCRIPTION
0+000	114.30	111.75	DRY HYDRANT
0+088.7	114.30	111.90	5" HORIZONTAL DEFLECTION
0+268.1	114.30	111.90	TEE CONNECTION WITH 150mm FIRE SUPPRESSIONS WATERMAIN
0+567.7	114.30	111.55	CROSSING STORM SEWER (0.3m+ CLEARANCE)
0+845.5	113.65	111.25	CROSSING STORM SEWER (0.5m+ CLEARANCE)
0+123.0	113.90	111.50	45° HORIZONTAL BEND
0+125.9	113.75	111.20	CROSSING STORM SEWER (0.3m+ CLEARANCE)
0+153.3	113.40	111.00	CROSSING STORM SEWER (0.5m+ CLEARANCE)
0+176.7	114.15	111.75	DRY HYDRANT

150mm FIRE SUPPRESSION WATERMAIN TABLE

STATION	ELEVATION	TOP OF WATERMAIN	DESCRIPTION
1+000	114.30	111.90	TEE CONNECTION WITH 150mm FIRE SUPPRESSIONS WATERMAIN
1+031.9	113.70	111.30	11.25° HORIZONTAL BEND
1+034.9	113.70	111.30	CROSSING STORM SEWER (0.5m+ CLEARANCE)
1+039.0	113.70	111.30	22.5° HORIZONTAL BEND
1+054.4	113.70	111.30	CROSSING STORM SEWER (0.5m+ CLEARANCE)
1+055.9	113.95	111.55	DRY HYDRANT TEE CONNECTION
1+052.0	113.55	111.15	CROSSING STORM SEWER (0.5m+ CLEARANCE)
1+108.1	113.65	111.25	11.25° HORIZONTAL BEND
1+110.6	113.65	111.25	CROSSING STORM SEWER (0.5m+ CLEARANCE)
1+134.5	113.75	111.35	CROSSING STORM SEWER (0.3m+ CLEARANCE)
1+147.7	113.55	111.15	DRY HYDRANT

SITE BENCHMARK
TOP OF BOLT
(TOP LEFT)
ON TRAFFIC LIGHT
ELEVATION=114.05

NOT FOR CONSTRUCTION

SCALE

1:400

FOR REVIEW ONLY

DESIGN	MJH
CHECKED	CJR
DRAWN	MJH
CHECKED	CJR
APPROVED	JLS

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Copland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

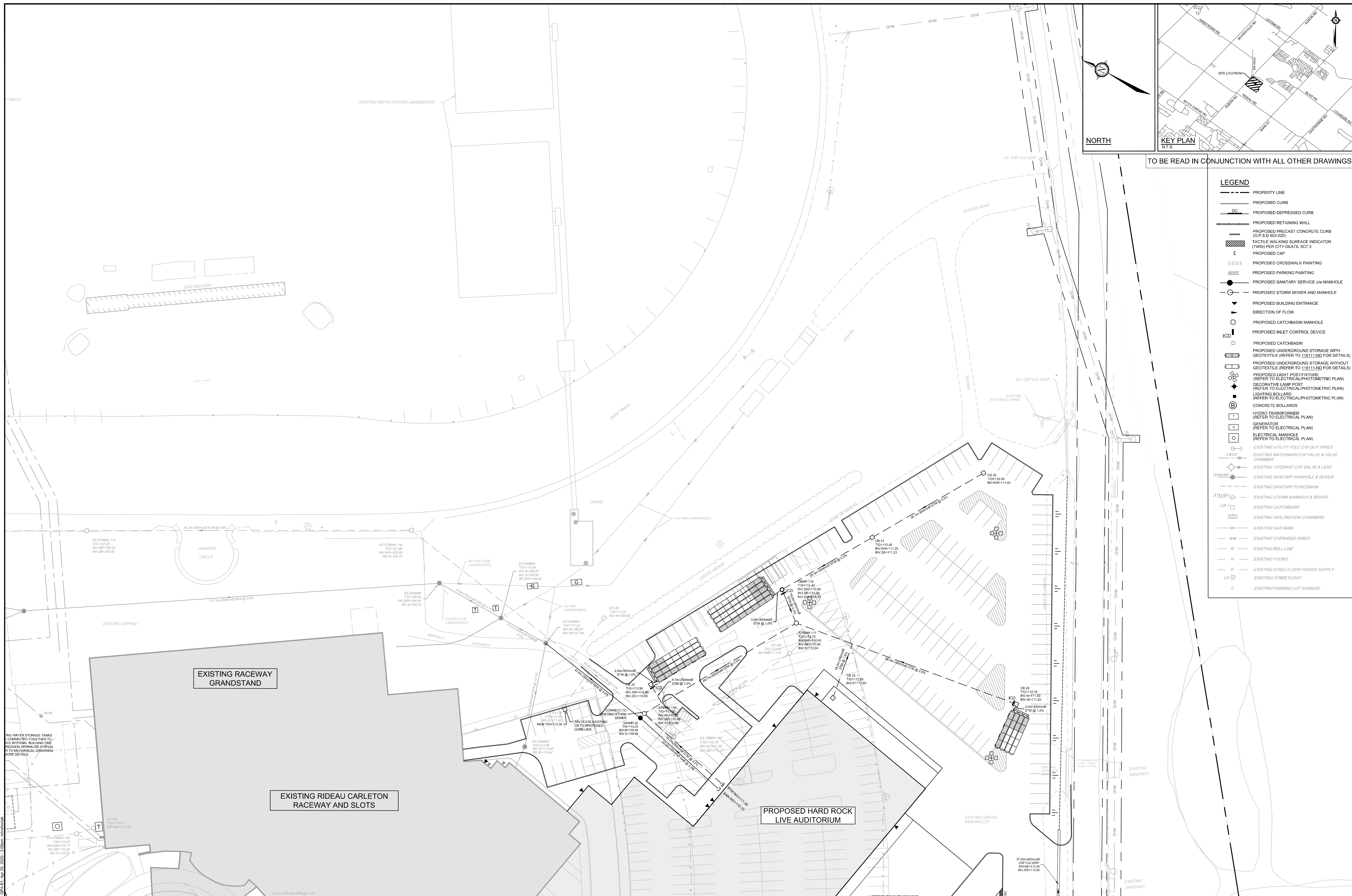
LOCATION
4837 ALBION ROAD, CITY OF OTTAWA
HARD ROCK OTTAWA

DRAWING NAME
GENERAL PLAN OF SERVICES
SOUTH-EAST DEVELOPMENT

PROJECT NO.	116111
REV	REV # 1
DRAWING NO.	116111-GP3

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS,
WATERMANS, SEWERS AND OTHER
UNDERGROUND AND OVERGROUND UTILITIES AND
STRUCTURES IS NOT NECESSARILY SHOWN ON
THE CONTRACT DRAWINGS, AND WHERE SHOWN,
THE ACCURACY OF THE POSITION OF SUCH
UTILITIES AND STRUCTURES IS NOT GUARANTEED.
BEFORE STARTING WORK, DETERMINE THE EXACT
LOCATION OF ALL SUCH UTILITIES AND
STRUCTURES AND ASSUME ALL LIABILITY FOR
DAMAGE TO THEM.

No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR



TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS

LEGEND	
	PROPERTY LINE
	PROPOSED CURB
	PROPOSED DEPRESSED CURB
	PROPOSED RETAINING WALL
	PROPOSED PRECAST CONCRETE CURB (O.P.S.D 603.020)
	TACTILE WALKING SURFACE INDICATOR (TWS) PER CITY DETAIL SCT.3
	PROPOSED CAP
	PROPOSED CROSSWALK PAINTING
	PROPOSED PARKING PAINTING
	PROPOSED SANITARY SERVICE w/ MANHOLE
	PROPOSED STORM SEWER AND MANHOLE
	PROPOSED BUILDING ENTRANCE
	DIRECTION OF FLOW
	PROPOSED CATCHBASIN MANHOLE
	PROPOSED INLET CONTROL DEVICE
	PROPOSED CATCHBASIN
	PROPOSED UNDERGROUND STORAGE WITH GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
	PROPOSED UNDERGROUND STORAGE WITHOUT GEOTEXTILE (REFER TO 116111-ND FOR DETAILS)
	PROPOSED LIGHT POST/FIXTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	LIGHTING BOLLARD (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	CONCRETE BOLLARDS
	HYDRO TRANSFORMER (REFER TO ELECTRICAL PLAN)
	GENERATOR (REFER TO ELECTRICAL PLAN)
	ELECTRICAL MANHOLE (REFER TO ELECTRICAL PLAN)
	EXISTING UTILITY POLE w/ GUY WIRES
	EXISTING WATERMAIN w/ VALVE & VALVE CHAMBER
	EXISTING HYDRANT w/ VALVE & LEAD
	EXISTING SANITARY MANHOLE & SEWER
	EXISTING SANITARY FORCEMAIN
	EXISTING STORM MANHOLE & SEWER
	EXISTING CATCHBASIN
	EXISTING INFILTRATION CHAMBERS
	EXISTING GAS MAIN
	EXISTING OVERHEAD WIRES
	EXISTING BELL LINE
	EXISTING HYDRO
	EXISTING STREETLIGHT POWER SUPPLY
	EXISTING STREETLIGHT
	EXISTING PARKING LOT SIGNAGE

NO WATER STORAGE TANKS TO BE CONNECTED TO THE INTERNAL BUILDING FIRE PROTECTION SYSTEM. REFER TO MECHANICAL DRAWINGS FOR MORE DETAILS.

NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR

SCALE
1:400
1:400

FOR REVIEW ONLY	
DESIGN	MJH
CHECKED	CJR
DRAWN	MJH
CHECKED	CJR
APPROVED	JLS



NOVATECH
 Engineers, Planners & Landscape Architects
 Suite 200, 240 Michael Cowpland Drive
 Ottawa, Canada K2M 1P6
 Telephone: (613) 254-9643
 Facsimile: (613) 254-5867
 Website: www.novatech-eng.com

LOCATION 4837 ALBION ROAD, CITY OF OTTAWA HARD ROCK OTTAWA	PROJECT No. 116111
DRAWING NAME GENERAL PLAN OF SERVICES NORTH-EAST DEVELOPMENT	REV # 1
	DRAWING No. 116111-GP4

C:\Users\116111\OneDrive\116111-GP-04.dwg, GP4-B1, Apr 25, 2020, 3:08pm, m.hargreaves

LEGEND	
	PROPERTY LINE
	PROPOSED ELEVATION
	EXISTING ELEVATION
	PROPOSED SWALE ELEVATION
	PROPOSED BUILDING ENTRANCE
	DIRECTION OF MAJOR OVERLAND FLOW
	PROPOSED SAN MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CATCHBASIN MANHOLE
	PROPOSED LIGHT POST STRUCTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	LIGHTING BOLLARD (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	CONCRETE BOLLARD
	PROPOSED CROSSWALK PAINTING
	PROPOSED PARKING PAINTING
	PROPOSED HIGH POINT
	PROPOSED CURB
	PROPOSED DEPRESSED CURB
	PROPOSED ASPHALT INTO EXISTING ASPHALT
	PROPOSED PRECAST CONCRETE CURB (O.P.S.D. 603.020)
	TACTILE WALKING SURFACE INDICATOR (TWSI) PER CITY DETAIL SCT.3
	SWALE with SUBDRAIN AND DIRECTION OF FLOW
	TERRACING 3:1 SLOPE MAX (UNLESS OTHERWISE INDICATED)
	PROPOSED RETAINING WALL
	SLOPE AND DIRECTION
	100YR PONDING LIMITS
	CROSS-SECTION DETAIL (REFER TO NOTES AND DETAILS SHEET)
	EXISTING UTILITY POLE with GUY WIRES
	EXISTING VALVE & VALVE CHAMBER
	EXISTING VALVE & VALVE BOX
	EXISTING HYDRANT
	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	EXISTING CATCHBASIN
	EXISTING LIGHT STANDARD
	EXISTING FENCE

FUTURE EARL ARMSTRONG EXTENSION

2.0m SIDEWALK
2.25m BOULEVARD
1.5m CYCLE TRACK
2.0m BOULEVARD
3.50m LANE
3.50m LANE
3.75m LANE
3.50m LANE
3.75m LANE
3.50m LANE
3.50m LANE
2.0m SIDEWALK

ALBION RD.

NOT FOR CONSTRUCTION

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR

SCALE	DESIGN	CHECKED	DRAWN	CHECKED	APPROVED
1:400	MJH	CJR	MJH	CJR	JLS

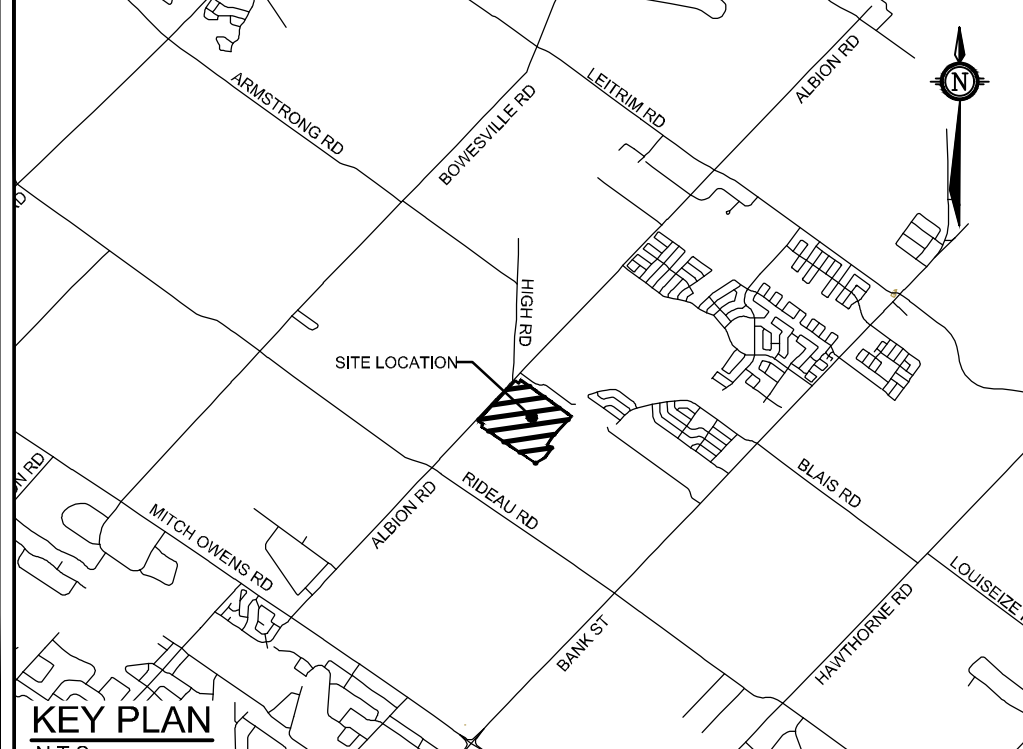
FOR REVIEW ONLY

PROFESSIONAL ENGINEER
M. FRODOUK
10021258
APRIL 24/20
PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Copland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

LOCATION 4837 ALBION ROAD, CITY OF OTTAWA HARD ROCK OTTAWA	PROJECT No. 116111
DRAWING NAME GRADING PLAN SOUTH-WEST DEVELOPMENT	REV #1
DRAWING No. 116111-GR1	

TO BE READ IN CONJUNCTION WITH ALL OTHER PLANS

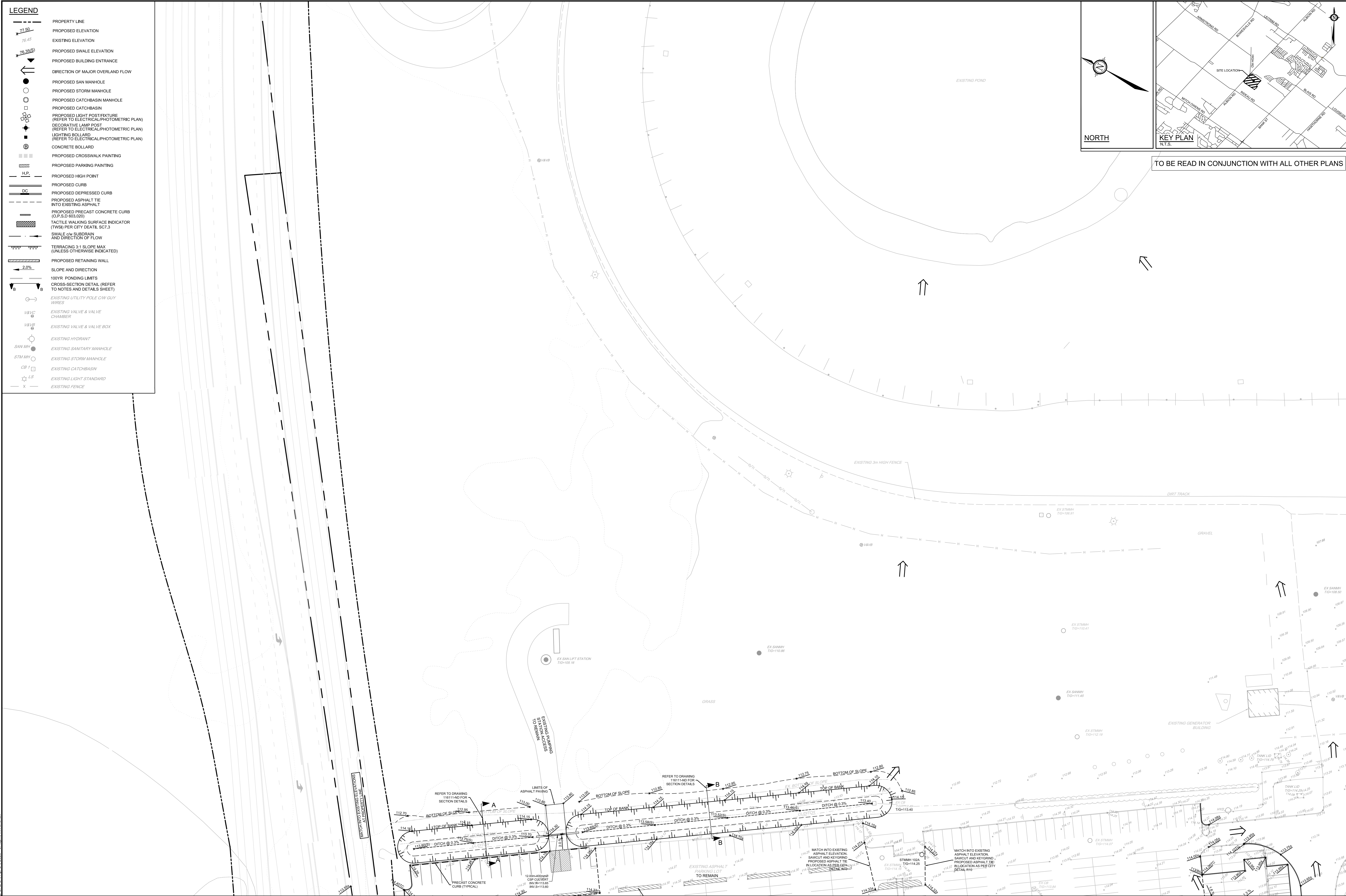
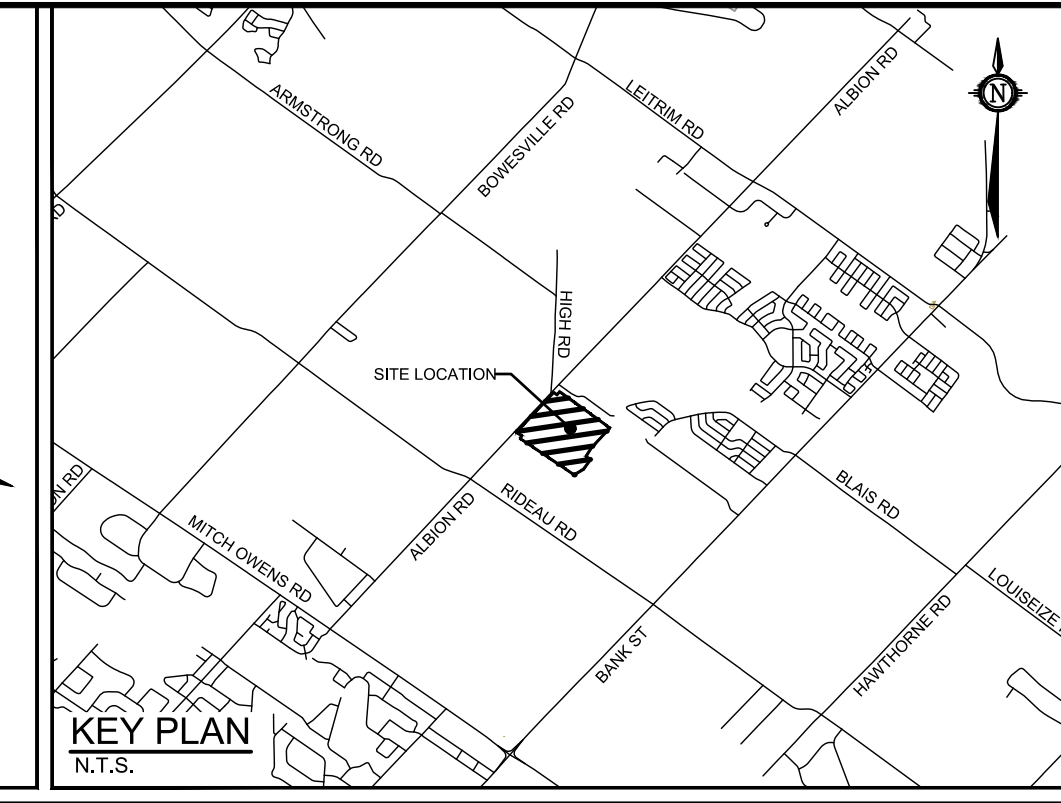


NORTH

C:\Users\116111\OneDrive\116111-GR1.dwg (GR1) - Apr 25, 2020 - 9:18am, mmmmm

LEGEND	
	PROPERTY LINE
	PROPOSED ELEVATION
	EXISTING ELEVATION
	PROPOSED SWALE ELEVATION
	PROPOSED BUILDING ENTRANCE
	DIRECTION OF MAJOR OVERLAND FLOW
	PROPOSED SAN MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CATCHBASIN MANHOLE
	PROPOSED CATCHBASIN
	PROPOSED LIGHT FIXTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	LIGHTING BOLLARD (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	CONCRETE BOLLARD
	PROPOSED CROSSWALK PAINTING
	PROPOSED PARKING PAINTING
	PROPOSED HIGH POINT
	PROPOSED CURB
	PROPOSED DEPRESSED CURB
	PROPOSED ASPHALT TIE INTO EXISTING ASPHALT
	PROPOSED PRECAST CONCRETE CURB (O.P.S.D. 603.020)
	TACTILE WALKING SURFACE INDICATOR (TWSI) PER CITY DETAIL SCT.3
	SWALE <i>o/w</i> SUBDRAIN AND DIRECTION OF FLOW
	TERRACING 3:1 SLOPE MAX (UNLESS OTHERWISE INDICATED)
	PROPOSED RETAINING WALL
	SLOPE AND DIRECTION
	100YR. PONDING LIMITS
	CROSS-SECTION DETAIL (REFER TO NOTES AND DETAILS SHEET)
	EXISTING UTILITY POLE <i>o/w</i> GUY WIRES
	EXISTING VALVE & VALVE CHAMBER
	EXISTING VALVE & VALVE BOX
	EXISTING HYDRANT
	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	EXISTING CATCHBASIN
	EXISTING LIGHT STANDARD
	EXISTING FENCE

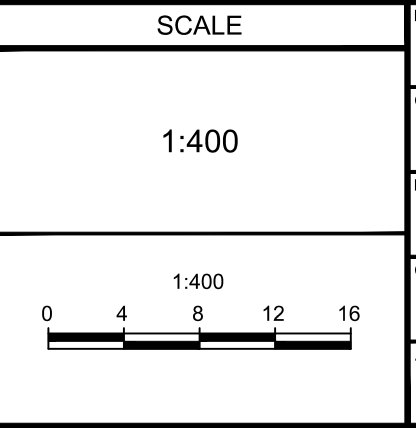
TO BE READ IN CONJUNCTION WITH ALL OTHER PLANS



NOT FOR CONSTRUCTION

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NO.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 20/19	CJR



FOR REVIEW ONLY	
DESIGN	MJH
CHECKED	CJR
DRAWN	MJH
CHECKED	CJR
APPROVED	JLS

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

LOCATION 4837 ALBION ROAD, CITY OF OTTAWA HARD ROCK OTTAWA	PROJECT NO. 116111
DRAWING NAME GRADING PLAN NORTH-WEST DEVELOPMENT	REV # 1
DRAWING NO. 116111-GR2	

C:\Users\1011111111\OneDrive\116111-GR2.dwg GR2-01 Apr 24, 2020 - 3:18pm mmmmmmm

PL-4837-0102 - 03/28/2019 07:00



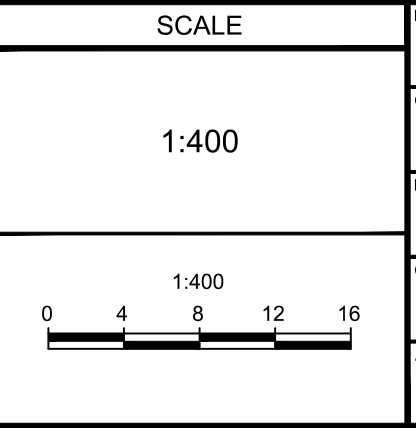
TO BE READ IN CONJUNCTION WITH ALL OTHER PLANS

LEGEND

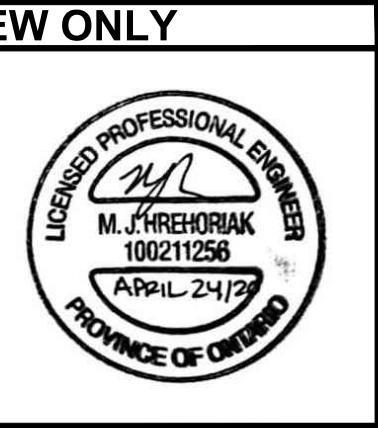
---	PROPERTY LINE
11.50	PROPOSED ELEVATION
76.45	EXISTING ELEVATION
18.35(S)	PROPOSED SWALE ELEVATION
←	PROPOSED BUILDING ENTRANCE
→	DIRECTION OF MAJOR OVERLAND FLOW
○	PROPOSED SAN MANHOLE
○	PROPOSED STORM MANHOLE
○	PROPOSED CATCHBASIN MANHOLE
○	PROPOSED CATCHBASIN
○	PROPOSED LIGHT POST/STRUCTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
○	DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
○	LIGHTING BOLLARD (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
○	CONCRETE BOLLARD
---	PROPOSED CROSSWALK PAINTING
---	PROPOSED PARKING PAINTING
H.P.	PROPOSED HIGH POINT
DC	PROPOSED CURB
---	PROPOSED DEPRESSED CURB
---	PROPOSED ASPHALT INTO EXISTING ASPHALT
---	PROPOSED PRECAST CONCRETE CURB (P.C.S.D 603.020)
---	TACTILE WALKING SURFACE INDICATOR (TWSI) PER CITY DETAIL S.C7.3
---	SWALE c/w SUBDRAIN AND DIRECTION OF FLOW
---	TERRACING 3:1 SLOPE MAX (UNLESS OTHERWISE INDICATED)
---	PROPOSED RETAINING WALL
2.0%	SLOPE AND DIRECTION
100YR	100YR PONDING LIMITS
---	CROSS-SECTION DETAIL (REFER TO NOTES AND DETAILS SHEET)
---	EXISTING UTILITY POLE c/w GUY WIRES
1/8" VC	EXISTING VALVE & VALVE CHAMBER
1/4" VC	EXISTING VALVE & VALVE BOX
---	EXISTING HYDRANT
---	EXISTING SANITARY MANHOLE
---	EXISTING STORM MANHOLE
---	EXISTING CATCHBASIN
---	EXISTING LIGHT STANDARD
X	EXISTING FENCE

NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 2019	CJR



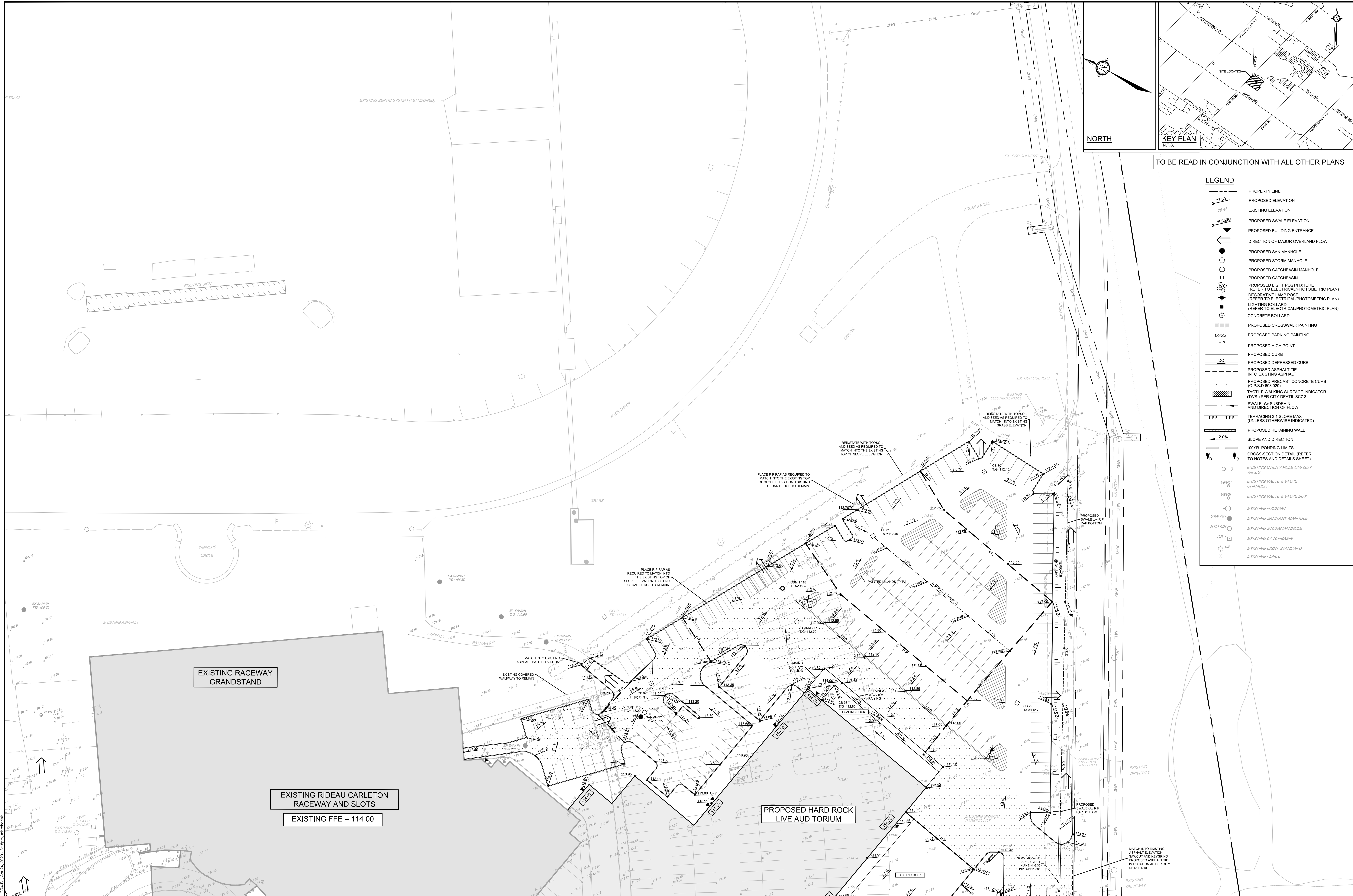
DESIGN	MJH
CHECKED	CJR
DRAWN	MJH
CHECKED	CJR
APPROVED	JLS



NOVATECH
 Engineers, Planners & Landscape Architects
 Suite 200, 240 Michael Cowland Drive
 Ottawa, Ontario, Canada K2M 1P6
 Telephone: (613) 254-9643
 Facsimile: (613) 254-5867
 Website: www.novatech-eng.com

LOCATION	4837 ALBION ROAD, CITY OF OTTAWA HARD ROCK OTTAWA
DRAWING NAME	GRADING PLAN SOUTH-EAST DEVELOPMENT
PROJECT NO.	116111
REV	REV # 1
DRAWING NO.	116111-GR3

NOTE:
 THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.



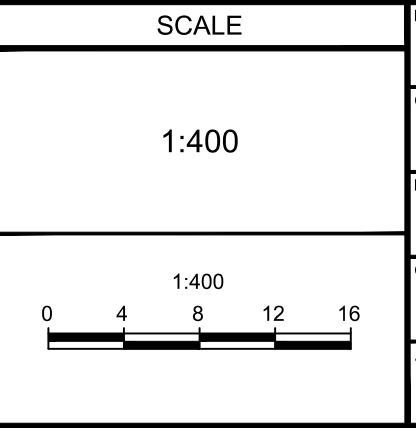
TO BE READ IN CONJUNCTION WITH ALL OTHER PLANS

LEGEND	
	PROPERTY LINE
	PROPOSED ELEVATION
	EXISTING ELEVATION
	PROPOSED SWALE ELEVATION
	PROPOSED BUILDING ENTRANCE
	DIRECTION OF MAJOR OVERLAND FLOW
	PROPOSED SAN MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CATCHBASIN MANHOLE
	PROPOSED CATCHBASIN
	PROPOSED LIGHT POST/FIXTURE (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	DECORATIVE LAMP POST (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	LIGHTING BOLLARD (REFER TO ELECTRICAL/PHOTOMETRIC PLAN)
	CONCRETE BOLLARD
	PROPOSED CROSSWALK PAINTING
	PROPOSED PARKING PAINTING
	PROPOSED HIGH POINT
	PROPOSED CURB
	PROPOSED DEPRESSED CURB
	PROPOSED ASPHALT INTO EXISTING ASPHALT
	PROPOSED PRECAST CONCRETE CURB (O.P.S.D 603.020)
	TACTILE WALKING SURFACE INDICATOR (TWSI) PER CITY DETAIL SCT.3
	SWALE c/w SUBDRAIN AND DIRECTION OF FLOW
	TERRACING 3:1 SLOPE MAX (UNLESS OTHERWISE INDICATED)
	PROPOSED RETAINING WALL
	SLOPE AND DIRECTION
	100YR PONDING LIMITS CROSS-SECTION DETAIL (REFER TO NOTES AND DETAILS SHEET)
	EXISTING UTILITY POLE c/w GUY WIRES
	EXISTING VALVE & VALVE CHAMBER
	EXISTING VALVE & VALVE BOX
	EXISTING HYDRANT
	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	EXISTING CATCHBASIN
	EXISTING LIGHT STANDARD
	EXISTING FENCE

NOTE:
 THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 20/19	CJR

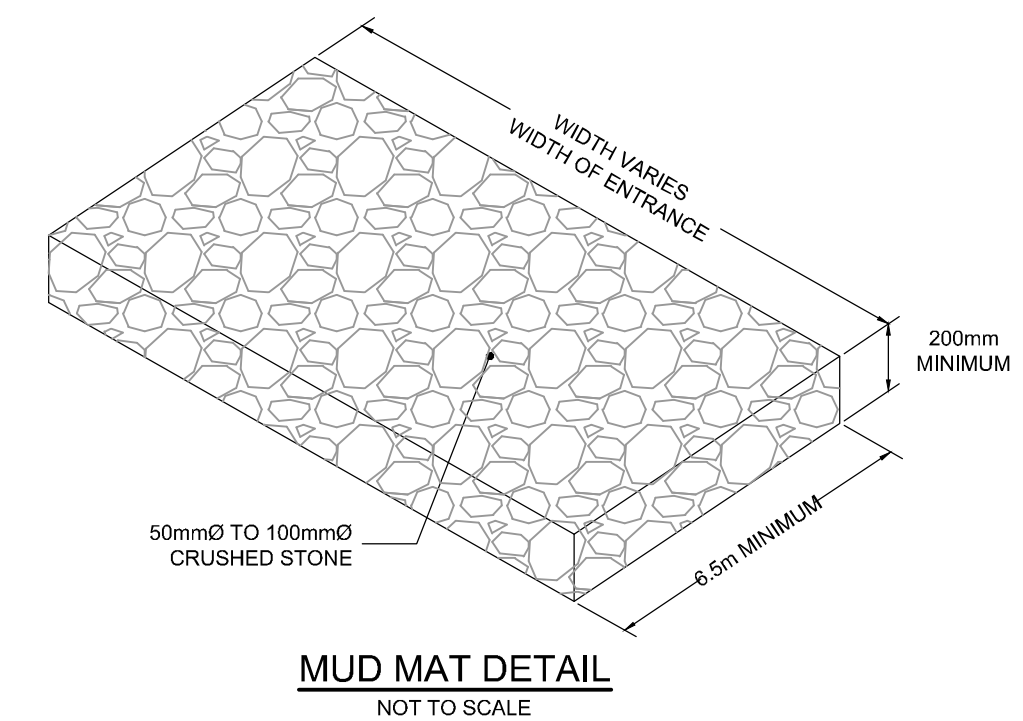
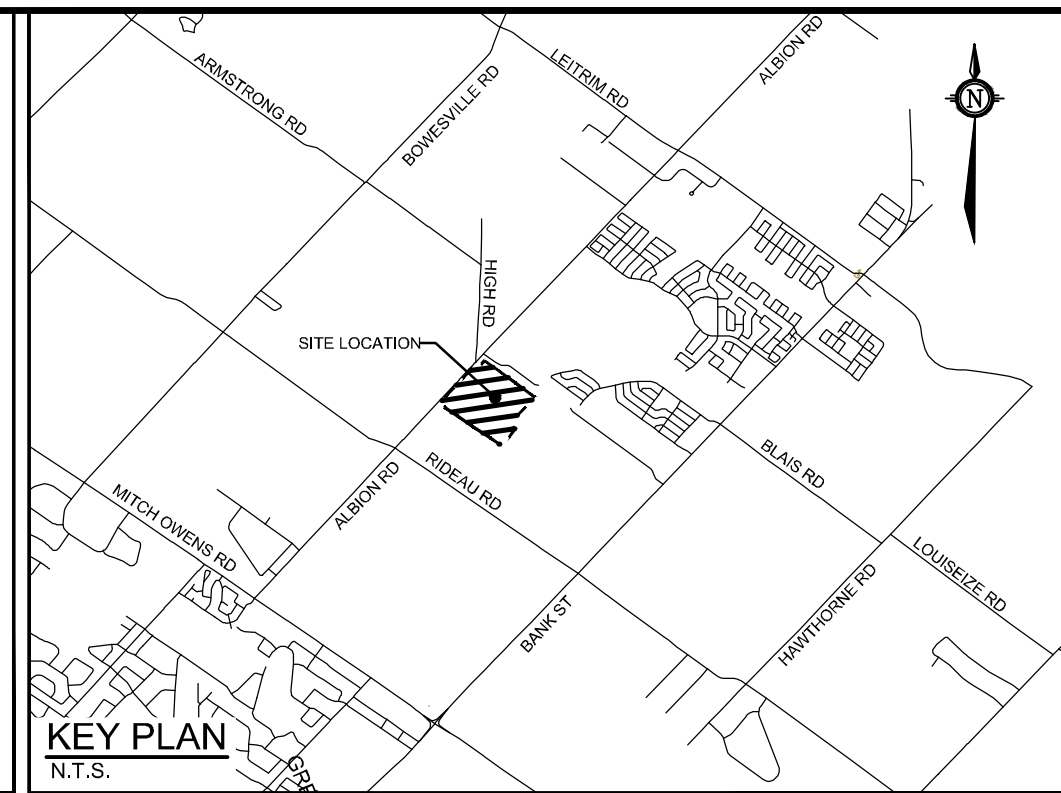


PREPARED BY	DRAWN BY	CHECKED BY	APPROVED BY
MJH	CJR	MJH	CJR
			JLS

SCALE
 1:400
 FOR REVIEW ONLY



LOCATION 4837 ALBION ROAD, CITY OF OTTAWA HARD ROCK OTTAWA	PROJECT NO. 116111
DRAWING NAME GRADING PLAN NORTH-EAST DEVELOPMENT	REV # 1
NOVATECH Engineers, Planners & Landscape Architects Suite 200, 240 Michael Cowpland Drive Ottawa, Ontario, Canada K2M 1P6 Telephone: (613) 254-9643 Facsimile: (613) 254-5867 Website: www.novatech-eng.com	DRAWING NO. 116111-GR4



- LEGEND**
- PROPERTY LINE
 - PROPOSED SWALE
 - TERRACING 3:1 SLOPE MAX (UNLESS OTHERWISE INDICATED)
 - PROPOSED DITCH CENTERLINE
 - ☒ PROPOSED FILTER BAGS AT CATCHBASINS, CATCHBASIN MANHOLES AND TRENCHDRAINS
 - MM PROPOSED MUD MAT
 - PROPOSED FENCE REFER TO LANDSCAPE PLAN
 - LIGHT DUTY SILT FENCE (OPSD 219.110)
 - PROPOSED STORM MANHOLE
 - PROPOSED CATCHBASIN MANHOLE
 - PROPOSED CATCHBASIN
 - ▾ PROPOSED BUILDING ENTRANCE
 - ▬ STRAWBALE CHECK DAM (OPSD 219.180)
 - ▬ RIP-RAP
 - ▬ EXISTING RIP-RAP
 - STM MH EXISTING STORM MANHOLE
 - CB MH EXISTING CATCHBASIN
 - ▬ EXISTING INFILTRATION CHAMBERS
 - ▬ LS EXISTING LIGHT STANDARD
 - EXISTING FENCE

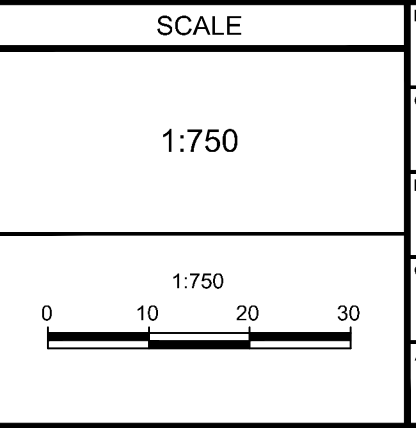


REFER TO 11611-ND FOR ADDITIONAL NOTES

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
2	REVISED PER CITY COMMENTS	APRIL 24/20	CJR
1	ISSUED FOR SITE PLAN APPROVAL	NOV 20/19	CJR



DESIGN	FOR REVIEW ONLY
CHECKED: MJH	
DRAWN: CJR	
CHECKED: MJH	
APPROVED: CJR	
JLS	



NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
Website: www.novatech-eng.com

LOCATION 4837 ALBION ROAD, CITY OF OTTAWA HARD ROCK OTTAWA	PROJECT NO. 116111
DRAWING NAME EROSION SEDIMENT CONTROL PLAN	REV # 1
	DRAWING NO. 116111-ESC

C:\000\116111\116111-ESC.dwg ESC.dwg Apr 24, 2020 - 5:06pm mrohorka