

N.T.S.

LEGEND

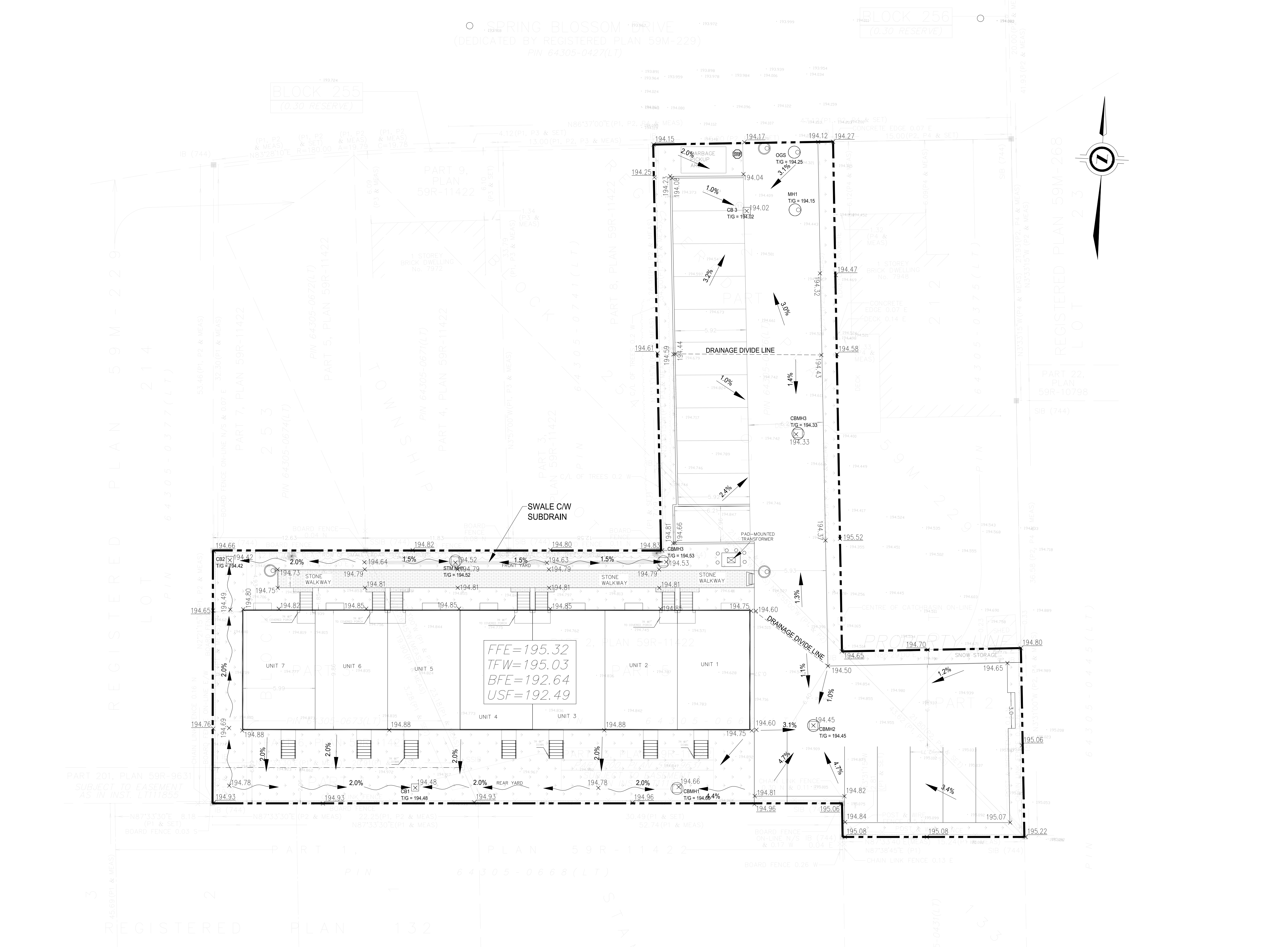
- PROPERTY BOUNDARY
EXISTING GROUND ELEVATION + 100.00
EXISTING GROUND ELEVATION TO REMAIN x 100.00
PROPOSED GROUND ELEVATION x 100.00
OVERLAND FLOW
SWALE
STM MH
CB
SAN MH
CBMH

GENERAL NOTES:

- THESE NOTES APPLY TO ALL WORKS UNDER THIS CONTRACT UNLESS OTHERWISE NOTED ELSEWHERE ON THIS OR OTHER PLANS AND/OR ON SPECIFIC DETAILS.
- THE MUNICIPALITY OF KINCARDINE SITE GRADING, EROSION CONTROL, SERVICING & STORM-WATER MANAGEMENT GUIDELINES, CITY OF BURLINGTON STANDARD DRAWINGS, ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS (OPSS) AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS CONSTITUTE PART OF THE PLANS OF THIS CONTRACT.
- ALL PROPOSED CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS. ALL TRENCHING TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- ALL TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7: ONTARIO TRAFFIC MANUAL JANUARY 2014 - TEMPORARY CONDITIONS FIELD EDITION.
- ALL DIMENSIONS ARE IN METERS AND ALL DIAMETERS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED ON THIS PLAN.
- ALL DIMENSIONS AND ELEVATIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION AND ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- EXISTING SERVICES AND UTILITIES SHOWN ON THESE CONTRACT DRAWINGS ARE BASED ON THE BEST INFORMATION AVAILABLE AND THEIR LOCATIONS ARE NOT GUARANTEED. THE CONTRACTOR SHALL INTERPRET THIS INFORMATION AS HE WISHES WITH THE UNDERSTANDING THAT THE OWNER DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY AND/OR SUFFICIENCY.
- THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE LOCATED AND VERIFIED BY EACH UTILITY PRIOR TO CONSTRUCTION. ANY RELOCATION OF UTILITIES REQUIRED BY THE DEVELOPMENT OF THE SUBJECT LANDS TO BE UNDERTAKEN AT THE DEVELOPER'S EXPENSE.
- ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE ENGINEER. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 150mm OF APPROVED TOPSOIL AND NURSERY SOD.
- LANDSCAPE ARCHITECT OR ARBORIST TO COMMENT ON PROTECTING EXISTING TREES AND ROOTS. PLEASE USE HYDRO VAC OR HAND DIGGING WHILE WORKING AROUND THEM.

GRADING NOTES

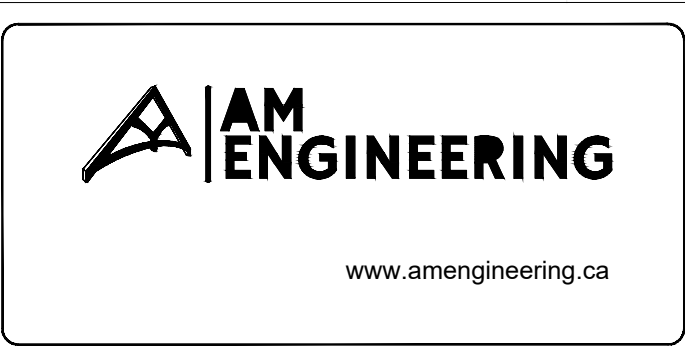
- ALONG ADJOINING PROPERTIES GRADE TO MEET EXISTING OR PROPOSED ELEVATIONS WITH SODDED SLOPES (MINIMUM: 3H TO 1V) AND/OR RETAINING WALLS AS SPECIFIED.
- ALL RETAINING WALLS, WALKWAYS, CURBS, ETC., SHALL BE PLACED A MINIMUM OF 0.45m OFF THE PROPERTY LINE. ALL WALLS 1.0m OR HIGHER SHALL BE DESIGNED BY A P.ENG.
- SHOULD A RETAINING WALL BE REQUIRED, THE TOP OF WALL ELEVATIONS SHALL BE SET 150mm ABOVE THE PROPOSED SIDE YARD SWALES.
- SLOPES OF SWALES FOR BOTH "BACK TO FRONT" AND "SPLIT" DRAINAGE SHALL BE NO LESS THAN 2.0% GRADE AND NO GREATER THAN 33% GRADE (3:1 SLOPES).
- WHEN MATCHING TO EXISTING PROPERTIES WHERE A 2.0% GRADE CANNOT BE ACHIEVED, A 1.5% GRADE IS PERMITTED PROVIDED A 150mm SUB-DRAIN IS INSTALLED BELOW THE BOTTOM OF THE SWALES AND DRAINED TO A SUITABLE OUTLET, (WITH A MINIMUM 0.3m COVER OVER THE SUB-DRAIN), OR OTHER MITIGATION MEASURES.
- UNLESS OTHERWISE NOTED, THE GROUND BETWEEN PROPOSED ELEVATIONS ON SIDE LOTS SHALL BE GRADED AS A STRAIGHT LINE.
- IF GRADING IS REQUIRED ON LANDS ADJACENT TO THE DEVELOPMENT WHICH ARE NOT OWNED BY THE DEVELOPER, THEN THE DEVELOPER MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNER TO ALLOW THE DEVELOPER TO GRADE ON THE ADJACENT LANDS, OTHERWISE RETAINING WALLS MUST BE USED.
- THE WRITTEN PERMISSION REQUIRED FROM THE ADJACENT LANDOWNER SHALL BE OBTAINED PRIOR TO ENTERING THE LANDS. SHOULD PERMISSION NOT BE OBTAINED OR IS WITHDRAWN PRIOR TO COMMENCING THE WORK, THEN THE DEVELOPER SHALL LIMIT HIS ACTIVITIES TO THE LIMITS OF THE DEVELOPMENT SITE.
- DRIVEWAY AND DRIVEWAY APPROACHES SHALL BE LOCATED SUCH THAT HYDRO VAULTS AND OTHER STREET FURNITURE ARE A MIN. OF 1.2m FROM THE PROJECTIONS OF THE OUTSIDE WALLS.
- THE PROVIDED SURVEY ON THIS PLAN IS TOPOGRAPHICAL SURVEY OF EXISTING GRADES ONLY AND NOT A LEGAL SURVEY. IF REQUIRED, LEGAL SURVEY ARE TO BE PREPARED BY AN ONTARIO LAND SURVEYOR DURING BUILDING PERMIT STAGE, CONSTRUCTION STAGE AND BUILDING OCCUPANCY STAGE.



2.	2025-07-18	S.K.	G.M.		FIRST SUBMISSION
1.	2025-07-16	S.K.	G.M.		DRAFT FOR REVIEW
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Design	G.K.	Checked	G.M.
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7956 SPRING BLOSSOM
DRIVE, NIAGARA FALLS

GRADING PLAN

Project No. 25037

Drawing No. 1

LOCATES AND LIABILITY:

THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY, AND WHERE SHOWN ON THE DRAWING(S) THE ACCURACY OF THE LOCATION OF SUCH UTILITIES ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ENGINEER 48 HOURS PRIOR TO THE COMMENCING SITE WORKS TO ARRANGE FOR INSPECTION. THE ENGINEER SHALL DETERMINE THE EXTENT OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF THE UNDERGROUND SERVICE INSTALLATION AS MANDATED BY THE ONTARIO BUILDING CODE DIVISION C, PART 1, SECTION 1.2.2, GENERAL REVIEW. FAILURE TO MAKE SUITABLE ARRANGEMENTS FOR INSPECTION WILL LEAD TO POST CONSTRUCTION TESTING AND INSPECTION AS DETERMINED BY THE ENGINEER, THE COSTS OF WHICH INCLUDING ANY DELAYS IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR. FULL PAYMENT FOR UN-INSPECTED WORKS MAY BE WITHHELD UNTIL THE COMPLETION OF THE POST CONSTRUCTION INSPECTION AND TESTING TO THE SATISFACTION OF THE ENGINEER.

NOTES:

1. WEEK PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL FIELD LOCATE THE EXISTING SANITARY, WATER, GAS, BELL, ROGERS AND HYDRO CONNECTIONS. THE LOCATIONS OF THESE EXISTING UTILITIES SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. ALL SURFACES WITHIN THE ROAD ALLOWANCE WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO A CONDITION AT LEAST AS GOOD AS ORIGINAL TO THE SATISFACTION OF THE MUNICIPALITY AT NO COST TO THE MUNICIPALITY.

CONTRACTOR TO SAW CUT EXISTING ASPHALT, RESTORE ROAD BEDDING AND PAVEMENT TO MIN. CITY OF NIAGARA FALLS ROAD STANDARD. CONTRACTOR TO PROVIDE ADEQUATE COMPACTION OF GRANULAR BEDDING, BACKFILL AND ASPHALT PAVEMENT STRUCTURE AS PER CITY STANDARDS. ROAD CUT IS TO BE PERFORMED UNDER "EXCAVATION PERMIT" BY A CONTRACTOR BONDED WITH THE CITY OF NIAGARA FALLS.

EX. SEWER SIZE UNKNOWN
REPLACE IF SMALLER THAN
PROPOSED

EX. 2000 STM @ 0.5%

EX. 200mm WM

EX. WATER SERVICE TO BE
CAPPED AT THE MAIN

ADS STORMTECH SC-800 CHAMBER FOR
DETAILS & SPECIFICATIONS SEE
SERVICING DRAWING

(12) STORMTECH SC-800 CHAMBERS
(4) STORMTECH SC-800 END CAPS
INSTALLED WITH 305 mm COVER STONE,
229 mm BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 34.85 m³
AREA OF SYSTEM: 53.13 m²

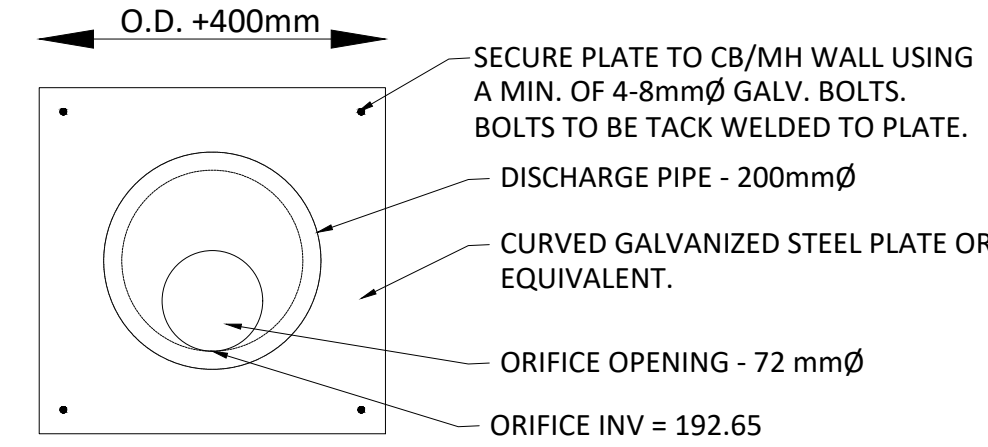
CBMH3(OPSD 701.010)
RIM=194.53
INV=193.00W
INV=192.92E

CBMH3(OPSD 701.010)
RIM=194.33
INV=192.87S
INV=192.82W
INV=192.79N

SANMH2 (OPSD 701.010)
RIM=19.56
INV=191.94W
INV=191.88N

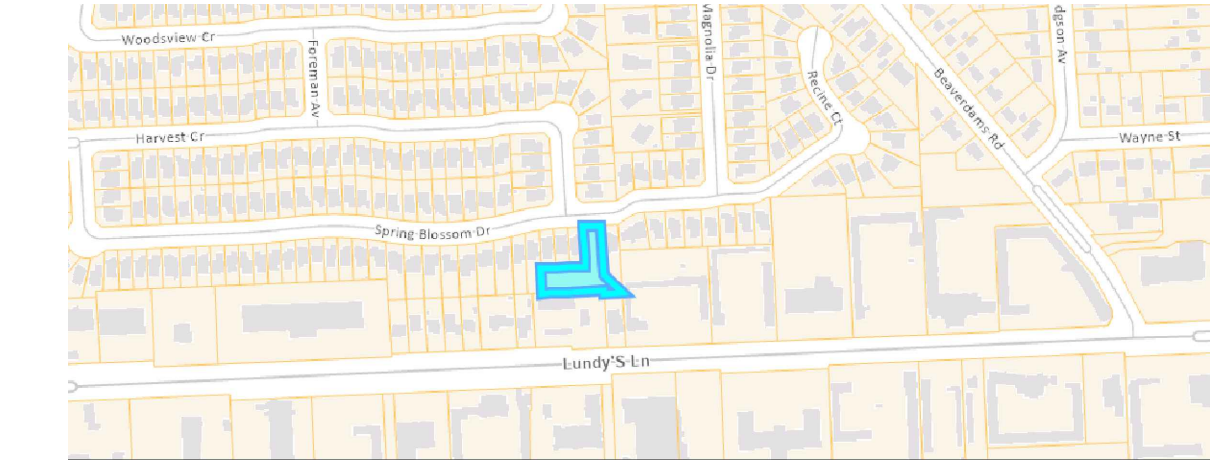
CBMH2(OPSD 701.010)
RIM=194.45
INV=193.07W
INV=192.99N

EX. 200 STM TO BE REMOVED
AND CAPPED AT PROPERTY LINE



ALL OPENINGS AROUND PERIMETER OF PLATE TO BE SEALED WITH AN APPROVED RUBBER GASKET OR ALTERNATIVELY THE STORM SEWER TO EXTEND INTO THE WITH END CAP DRILLED FOR SPECIFIED ORIFICE SIZE.

ORIFICE PLATE DETAIL
NOT TO SCALE



N.T.S.

LEGEND

- PROPERTY BOUNDARY
- PROPOSED SANITARY SERVICE
- PROPOSED WATER SERVICE
- PROPOSED STORM SERVICE
- STM MH
- CB
- SAN MH
- CBMH

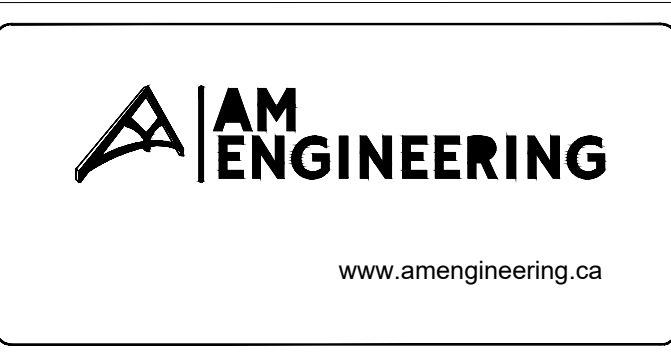
SERVICING NOTES

1. FIELD LOCATES OF ALL UNDERGROUND UTILITIES INCLUDING BUT NOT LIMITED TO; UNDERGROUND GAS, HYDRO, TELEPHONE, AND CABLE SHALL BE ARRANGED PRIOR TO CONSTRUCTION AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. PROPOSED UTILITY PLANS ARE TO BE SUBMITTED TO THE CITY OF NIAGARA FALLS FOR APPROVAL PRIOR TO THE INSTALLATION.
3. 48-HOURS NOTICE MUST BE GIVEN TO THE CITY OF NIAGARA FALLS PUBLIC WORKS DEPARTMENT BEFORE ANY CONSTRUCTION WITHIN THE CITY OF NIAGARA FALLS ROAD ALLOWANCE.
4. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNTIL STAMPED 'ISSUED FOR CONSTRUCTION'.
5. ALL CONSTRUCTION TO BE COMPLETED TO MUNICIPAL SERVICING STANDARD FOR THE CITY OF NIAGARA FALLS.
6. ALL EXISTING STRUCTURES TO BE RAISED TO MATCH PROPOSED GRADES. MAXIMUM 0.3M OF CONCRETE ADJUSTMENT RINGS. IF MORE THAN 0.3m IS REQUIRED, A 0.3m RISE SHALL BE ADDED TO THE STRUCTURE.
7. THE POSITION OF ALL EXISTING UTILITIES ARE APPROXIMATE ONLY AND NOT GUARANTEED. PRIOR TO COMMENCEMENT, CONTRACTOR SHALL VERIFY THE POSITION OF ALL UNDERGROUND UTILITIES WITHIN THE LIMITS OF CONSTRUCTION
8. ALL WORK SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE OPSS AND OPSD STANDARDS, THE CITY OF NIAGARA FALLS STANDARDS AND THE BUILDING CODE.
9. ALL SEWER/WATERMAIN BEDDING/INITIAL BACKFILL AS PER CITY OF NIAGARA FALLS STANDARDS ALL SEWER/WATERMAIN BEDDING/INITIAL BACKFILL SHALL BE COURSE SAND COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). TRENCH BACKFILL ON SITE TO BE SELECT NATIVE MATERIAL, COMPACTED TO 98% SPMDD. ALL TRENCHING AS PER OCCUPATION HEALTH & SAFETY ACT.
10. ALL SEWERS ABOVE 150mm TO PVC. SEWERS TO BE PVC SDR-28 .STM & SAN SEWERS TO HAVE RUBBER GASKET JOINTS. CONTRACTOR TO USE LASER TO INSTALL SEWERS.
11. 1000-2000 WATERMAIN TO BE CL150 DR-18. 250 WATERMAIN TO BE MUNICIPEX WATERMAIN TO BE INSTALLED WITH MIN. 1.5m COVER. PLASTIC FITTINGS TO BE CERTIFIED TO CSA B137.2. FIRE HYDRANT AS PER CITY STANDARDS.
12. MANHOLE FRAME/COVER AS PER OPSD 401.01-A (CLOSED). ALL MANHOLES AS PER OPSD 701.010 (12000). MANHOLES STEPS AS PER OPSD 405.01 (ALUMINUM). MANHOLE COMPONENTS AS PER OPSD 701.03. STORM CATCHBASINS AS PER OPSD 705.010 AND DICB'S AS PER OPSD 703.020 WITH 600mm SUMP. CBMH AS PER OPSD 701.01 (12000) W/ 600mm SUMP. CB COVERS AS PER OPSD 400.02
13. WRITTEN AUTHORIZATION IS REQUIRED FROM THE CITY OF NIAGARA FALLS WATER DEPARTMENT PRIOR TO CONSTRUCTION OF WATER MAIN AND WATER SERVICES WITHIN THE CITY OF NIAGARA FALLS' ROAD ALLOWANCE INCLUDING A LISTING OF MATERIALS BEING USED, NOTIFICATIONS TO EXISTING CUSTOMERS AND THE METHOD OF INSTALLATION, TESTING AND DISINFECTION.
14. A 5.4 KG ANODE IS REQUIRED ON EACH OF THE WATER SERVICE MAIN STOPS AND CURB STOPS.
15. WATER SERVICES SHALL BE 19mm DIAMETER, TYPE 'K' SOFT COPPER TUBING, TO ASTM B88 STANDARDS UNLESS OTHERWISE NOTED ON THE CONTRACT DRAWINGS
16. ALL MATERIALS FOR WATER SERVICE AND INSTALLATION PROCEDURE MUST BE IN ACCORDANCE TO CITY OF NIAGARA FALLS STANDARDS.
17. STORM SERVICES BUILDING LATERALS TO BE 100mm DR 28 PVC PIPES AND INSTALLATION MUST BE IN ACCORDANCE TO CITY OF NIAGARA FALLS STANDARDS.
18. SANITARY SERVICES LATERALS TO BE 100mm DR35 PVC PIPES AND AND INSTALLATION MUST BE IN ACCORDANCE TO CITY OF NIAGARA FALLS.
19. IN CASE OF HORIZONTAL CLEARANCE OF 2.5m BETWEEN WATERMAIN AND SEWERS IS NOT POSSIBLE AS PER MOECC, ENSURE A VERTICAL CLEARANCE OF 0.5m IS KEPT BETWEEN WATERMAIN INVERT AND SEWER OBVERT.

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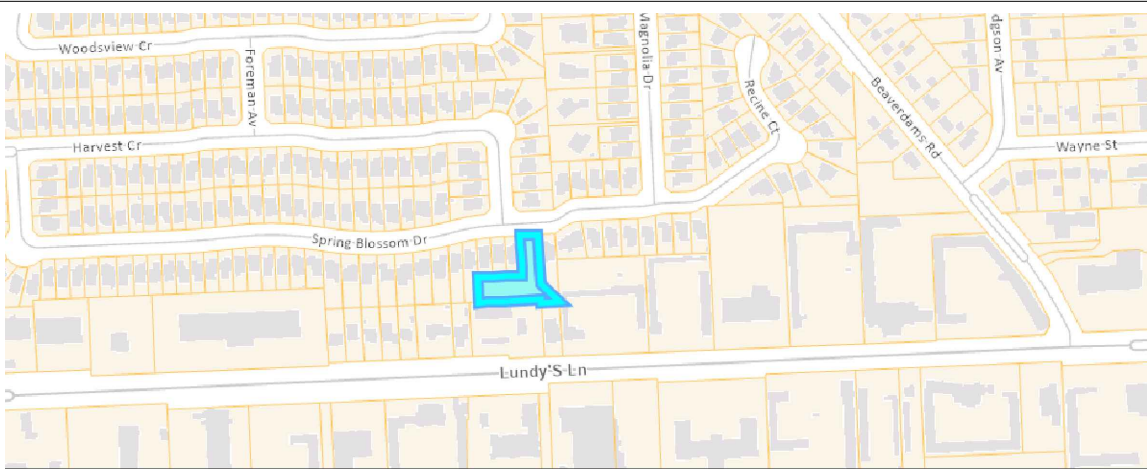
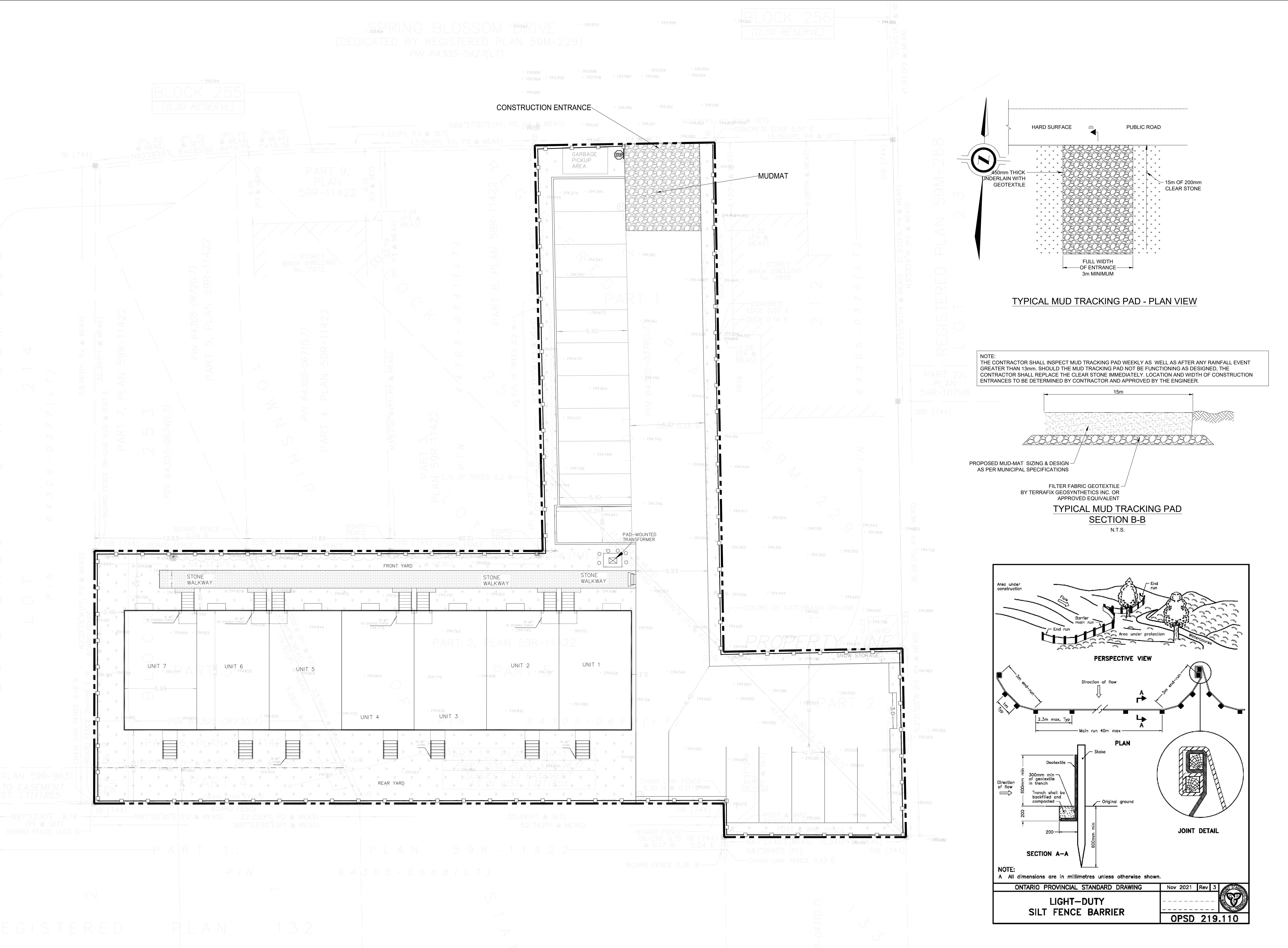


7956 SPRING BLOSSOM
DRIVE, NIAGARA FALLS

SERVICING PLAN

Project No. 25037

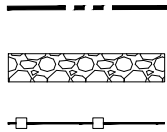
Drawing No. 2



N.T.S.

LEGEND

PROPERTY BOUNDARY
MUD MAT
SILT FENCE



EROSION CONTROL NOTES:

- ALL SILT FENCING TO BE INSTALLED PRIOR TO COMMENCEMENT OF ANY AREA GRADING, EXCAVATING, OR DEMOLITION TO PROTECT ADJACENT AREAS FROM MIGRATION OF SEDIMENT IN OVERLAND FLOW.
- EROSION CONTROL FENCING TO BE PLACED AROUND THE BASE OF ALL STOCKPILES. ALL STOCKPILES MUST BE KEPT A MINIMUM DISTANCE OF 2.5M FROM ALL PROPERTY LINES AND 15M AWAY FROM ALL WATER COURSES.
- EROSION PROTECTION TO BE PROVIDED AROUND ALL STORM AND SANITARY MANHOLES AND/OR CATCHBASINS AS PER THE ATTACHED FOUND IN THE DRAWING SET.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. CONTRACTOR TO PROVIDE ALL ADDITIONAL EROSION CONTROL STRUCTURES.
- EROSION CONTROL STRUCTURES TO BE MONITORED REGULARLY BY ENGINEER AND ANY DAMAGE REPAIRED IMMEDIATELY. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF ONE THIRD (1/3) THE HEIGHT OF THE SILT FENCE.
- ALL EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RESTABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
- NO ALTERNATE METHODS OF EROSION CONTROL PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY ENGINEER AND THE TOWN OF QUINTE WEST (ENGINEERING).
- THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SEDIMENTS FROM THE MUNICIPAL ROADWAY AND SIDEWALKS AT THE END OF EACH WORK DAY.
- ALL CATCHBASINS SHALL BE PROTECTED WITH EITHER SILT SACKS OR WRAPPED IN GEOTEXTILE CLOTH.
- THE ENGINEER TO MONITOR THE SITE DEVELOPMENT TO ENSURE ALL EROSION CONTROLS ARE INSTALLED AND MAINTAINED TO CITY REQUIREMENTS. CONTRACTOR TO COMPLY WITH THE ENGINEER'S INSTRUCTIONS TO INSTALL, MODIFY, OR MAINTAIN EROSION CONTROL WORKS.
- ALL DISTURBED AREAS WILL BE STABILIZED AS QUICKLY AS POSSIBLE TO MINIMIZE THE OPPORTUNITY FOR EROSION PER OPSS 572
- SLOPES GREATER THAN 5:1 WILL BE STABILIZED USING SUITABLE METHODS (E.G., EROSION CONTROL MATS, TACKIFIER AND SEED, ETC.) AS SOON AS PRACTICAL.
- SILTATION CONTROL BARRIERS SHALL BE PLACED AS DETAILED.
- ALL SILTATION CONTROL MEASURES SHALL BE CLEANED AND MAINTAINED AFTER EACH RAINFALL AS DIRECTED AND TO THE SATISFACTION OF THE TOWN OF QUINTE WEST.
- ADDITIONAL SILT CONTROL LOCATIONS MAY BE REQUIRED AS DETERMINED BY THE TOWN OF QUINTE WEST.
- SILT FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION SURROUNDING THE SITE.

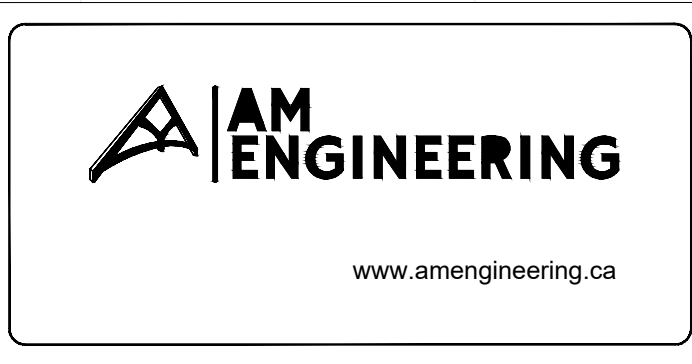
LOCATES AND LIABILITY:

- THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE CITY.
- THE LOCATION OF ALL UNDER/ABOVE GROUND UTILITIES AND STRUCTURES ARE APPROXIMATE ONLY, AND WHERE SHOWN ON THE DRAWING(S) THE ACCURACY OF THE LOCATION OF SUCH UTILITIES ARE NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES BY CONSULTING THE APPROPRIATE AUTHORITIES OR UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE OR RESTORATION TO SAME.
- THE OWNER SHALL BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS WITH EXISTING SERVICES.

2.	2025-07-18	S.K.	G.M.		FIRST SUBMISSION
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7956 SPRING BLOSSOM
DRIVE, NIAGARA FALLS

ESC PLAN

Project No. 25037

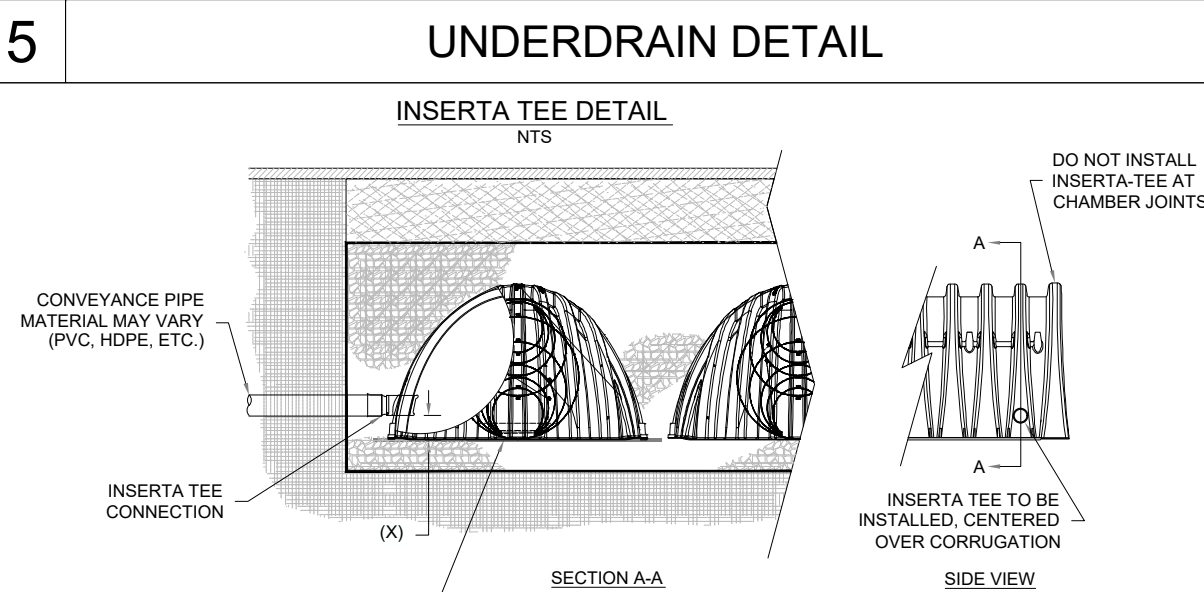
Drawing No. 3

1. CHAMBERS SHALL BE STORMTECH SG-800.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL SYSTEMS COVER COVERS FOR DRAINAGE APPLICATIONS."
4. CHAMBERS ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPIDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE ASHITO RLPD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) ONE (1) TON (2000 LBS) DEAD LOAD AND 2) LIVE LOADS, BASED ON THE ASHITO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENTS.
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL WATER/STORM COLLECTION CHAMBERS." LOAD CONFIGURATIONS SHALL BE BASED ON THE FOLLOWING: A) 1 MINUTE ASHITO DESIGN TRUCK (LIVE LOAD ON MINIMUM COVER) 2) MAXIMUM PERMANENT (75-PSY) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) ASHITO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - 1) TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STIFFENING LUGS
 - 2) TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2"
 - 3) TO MAINTAIN THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, (A) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 750 LBS/FT³, THE ARCH IS DEFINED IN SECTION 6.2.8 OF ASTM F2418, AND (B) TO RESIST CORROSION/DEFORMATION, CHAMBERS SHALL BE MANUFACTURED FROM POLYPROPYLENE (PP) WITH GLASS FIBER REINFORCEMENT (GFRP) AT 125°F (52°C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORED.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - 1) THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER
 - 2) THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.65 FOR LIVE LOADS AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIREMENTS FOR ASTM F2787 AND BY SECTIONS 6.2.8 AND 12.12 OF THE ASHITO RLPD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - 3) THE ENGINEER DERIVED CRACK WIDTH CRITERIA SHALL BE SPECIFIED AND SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN
 - 4) THE CRACK WIDTH SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANHOLE SIZE IS TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANHOLE SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANHOLE COMPONENTS IN THE FIELD.
11. AIDS DOES NOT DESIGN OR PROVIDE MANHOLE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL, OF LINER SYSTEMS, THE MANHOLE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTECHNICAL PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

1. STORMTRENCH SC-800 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTRENCH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTRENCH SC-800 PRE-CONSTRUCTION 786 CONSTRUCTION CHECKLIST".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTRENCH RECOMMENDS 3 BACKFILL METHODS:
 a. STONEHOSER LOCATED OFF THE CHAMBER BED
 b. BACKFILL HAS ROWS ARE BUILT USING AN EXCAVATOR OR ON THE FOUNDATION STONE OR SUBGRADE.
 c. BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM . 3" (75 mm) SPACING BETWEEN THE CHAMBERS ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE. ASTM#2 MAX #3, 357, 4, 467, 5, 6, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS & BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATERMANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

1. STORMTRENCH SC-800D CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTRENCH SC-3105C/400C/800C-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-800D CHAMBERS IS LIMITED:
NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
NO RUBBER TIED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTRENCH SC-3105C/400C/800C-780 CONSTRUCTION GUIDE".
WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTRENCH SC-3105C/400C/800C-780 CONSTRUCTION GUIDE".
3. FILL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

CONTACT STORMTECH AT 1-800-821-8710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



NOTES:

- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

9	INSERT A TEE SIDE INLET DETAIL
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[illegible]

NOMINAL END CAP SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH)
END CAP STORAGE
MINIMUM INSTALLED STORAGE**
WEIGHT

**ASSUMES 6" (150 mm) STONE ABOVE AND BELOW END CAPS, 3" (75 mm) BETWEEN ROWS, 12" (300 mm) BEYOND END CAPS

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TRC"

NOTE: ALL DIMENSIONS ARE NOMINAL

	CC 555 TESTINATOR OF ESTIMATIONS
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[illegible]

STEP 1) INSPECT INSOLATOR ROLL PLUS FOR SEDIMENT

- A. INSPECTION POINTS (IF PRESENT)
 - 1. REMOVE COVER/NO ON NYLOPLAST INLINE DRAIN
 - 2. REMOVE AND CLEAN FLEXIDRAIN FILTER IF INSTALLED
 - 3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - 4. LOWER A CAMERA ON A 10' POLE TO INSPECT BOTTOM OF ROLL PLUS. RECORD ANY OBSERVATIONS (OPTIONAL)
 - 5. IF SEDIMENT IS AT OR ABOVE 3" (80 mm) PROCEED TO STEP 2; IF NOT, PROCEED TO STEP 3.
- B. ALL INSOLATOR PLUS ROLLS
 - 1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF 2" ROLL ROLL PLUS
 - 2. USING A FLASHLIGHT, INSPECT DOWN THE INSOLATOR ROLL PLUS THROUGH OUTLET PIPE
 - 3. MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
IF FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - 4. IF SEDIMENT IS AT OR ABOVE 3" (80 mm) PROCEED TO STEP 2; IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT INSOLATOR ROLL PLUS USING THE JETVAC PROCESS

- A. DREDGE OUTLIERT CLEANING NOZZLE WITH BACKFLOWS SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLOWS WATER IS CLEAN
- C. 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 STORMWATER SYSTEM.

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREY

1. 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.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

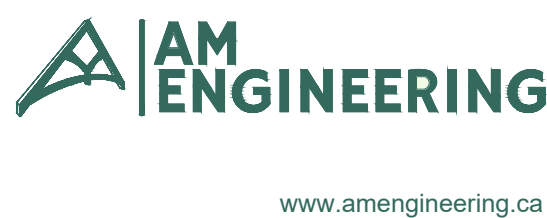


2. SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2789 STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS. THE RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SHALL BE THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTIED DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - a. TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STAGGLED JOINTS.
 - b. TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 279 (9mm).
 - c. TO PREVENT THE INTEGRAL INTERLOCKING JOINTS DURING INSTALLATION, AN ARCH STIFFNESS CONSTANT AS DEFINED IN ASTM F2714 SHALL BE GREATER THAN OR EQUAL TO 750 (2.0) N/mm² (100 PSI).
 - d. LEFTS) AND D) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

CC 000 GROSS SECTION DETAIL

BENCHMARK:

Design	G.K.	Checked	G.M.
Drawn	S.K.	Checked	G.M.
Scale			
Date 2025-07-18			



7956 SPRING BLOSSOM
DRIVE, NIAGARA FALLS
ADVANCED DRAINAGE
SYSTEM

Project No. 25037

Drawing No.4