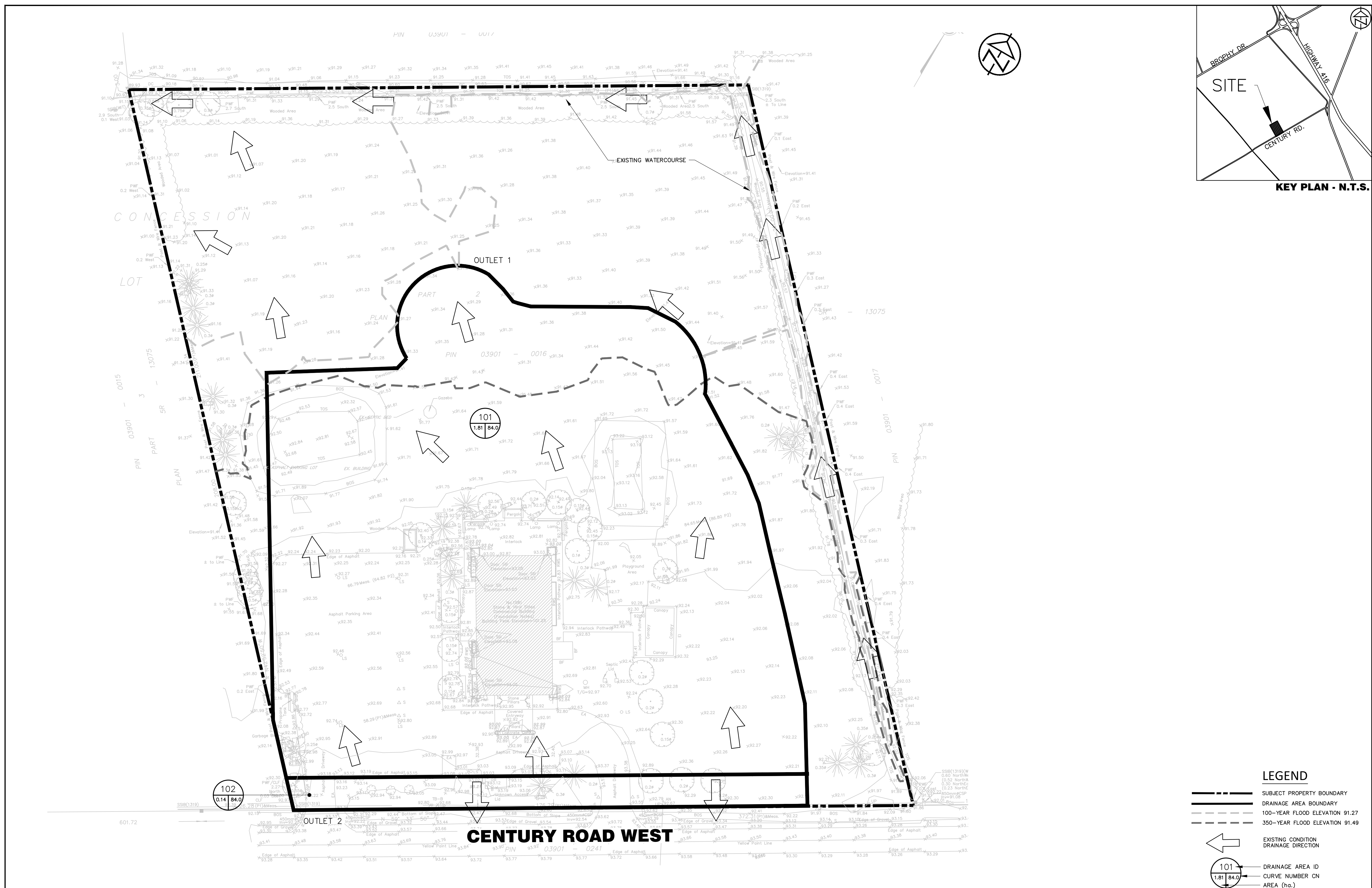




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LEGAL AND TOPOGRAPHIC SURVEY COMPLETED BY ANNIS, O'SULLIVAN VOLLEBEKK LTD. ONTARIO LAND SURVEYOR, ON MAY 11, 2023.

ELEVATION SHOWN ARE GEODETIC AND ARE REFERRED TO CGVD28 GEODETIC DATUM.

TBM1: TOP OF PROPERTY IRON BAR LOCATED ON SOUTHEAST OF THE PROPERTY, ELEVATION 91.86.

No.	REVISION DESCRIPTION	DATE
2.	RE-ISSUED FOR SITE PLAN APPROVAL	JUL 2025
3.	RE-ISSUED FOR SITE PLAN APPROVAL	AUG 2025
4.	RE-ISSUED FOR SITE PLAN APPROVAL	APR 2026
5.	ISSUED FOR BUILDING PERMIT	JULY 2026
6.	RE-ISSUED FOR SITE PLAN APPROVAL	JULY 2026

ENGINEER STAMP

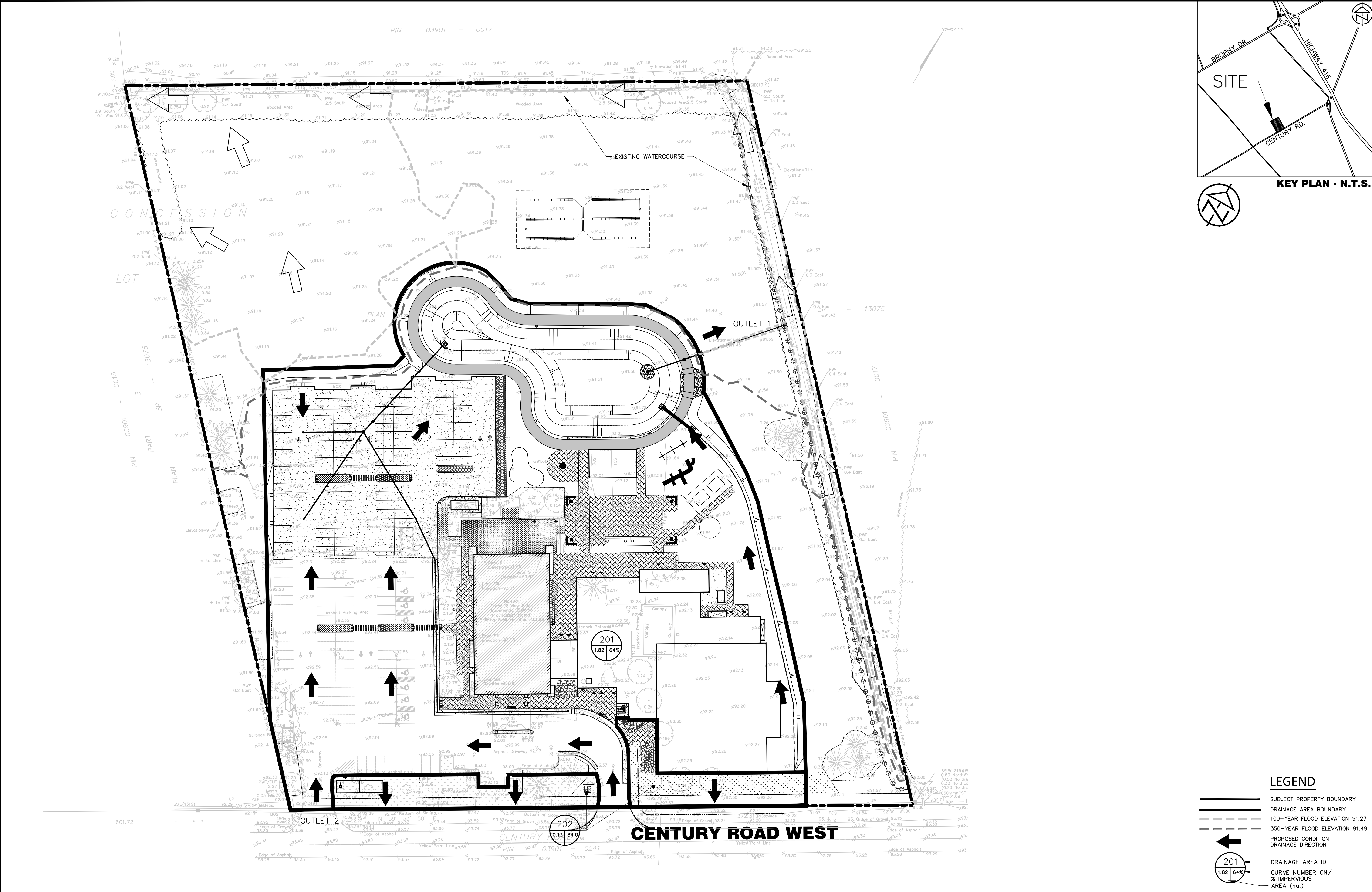


**1981 CENTURY RD. WEST
CITY OF OTTAWA
BRUNSTAD CHRISTIAN CHURCH OTTAWA**

EXISTING CONDITION DRAINAGE PLAN



DESIGN: HY	FILE: 523654	DWG: DP-1
DRAWN: HY	DATE: SEPT 2024	
CHECK: GC	SCALE: 1:500	



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6.	RE-ISSUED FOR SITE PLAN APPROVAL	JULY 2026

ENGINEER STAMP

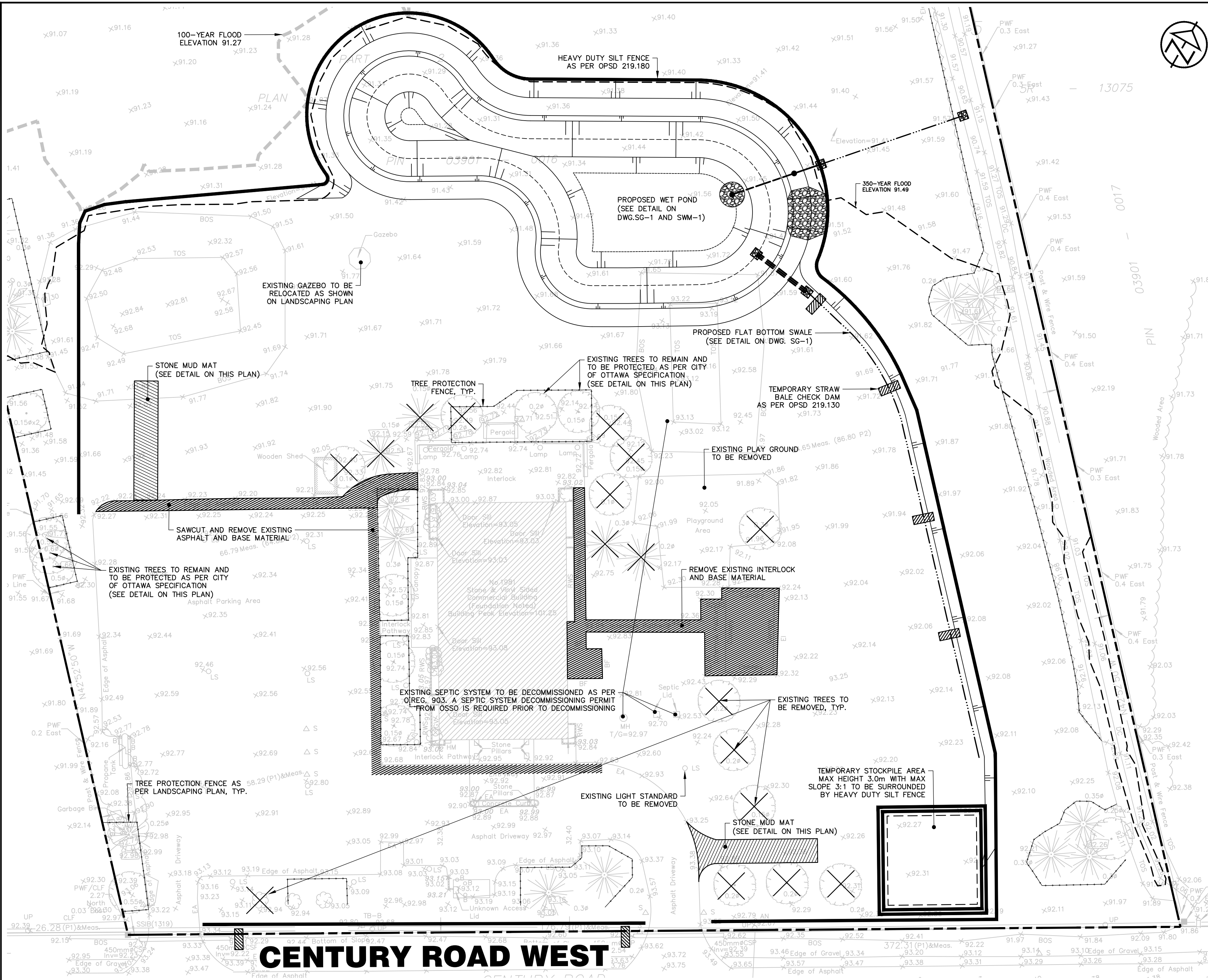
J.R. ASH
100123082
PROVINCE OF ONTARIO

1981 CENTURY RD. WEST
CITY OF OTTAWA
BRUNSTAD CHRISTIAN CHURCH OTTAWA

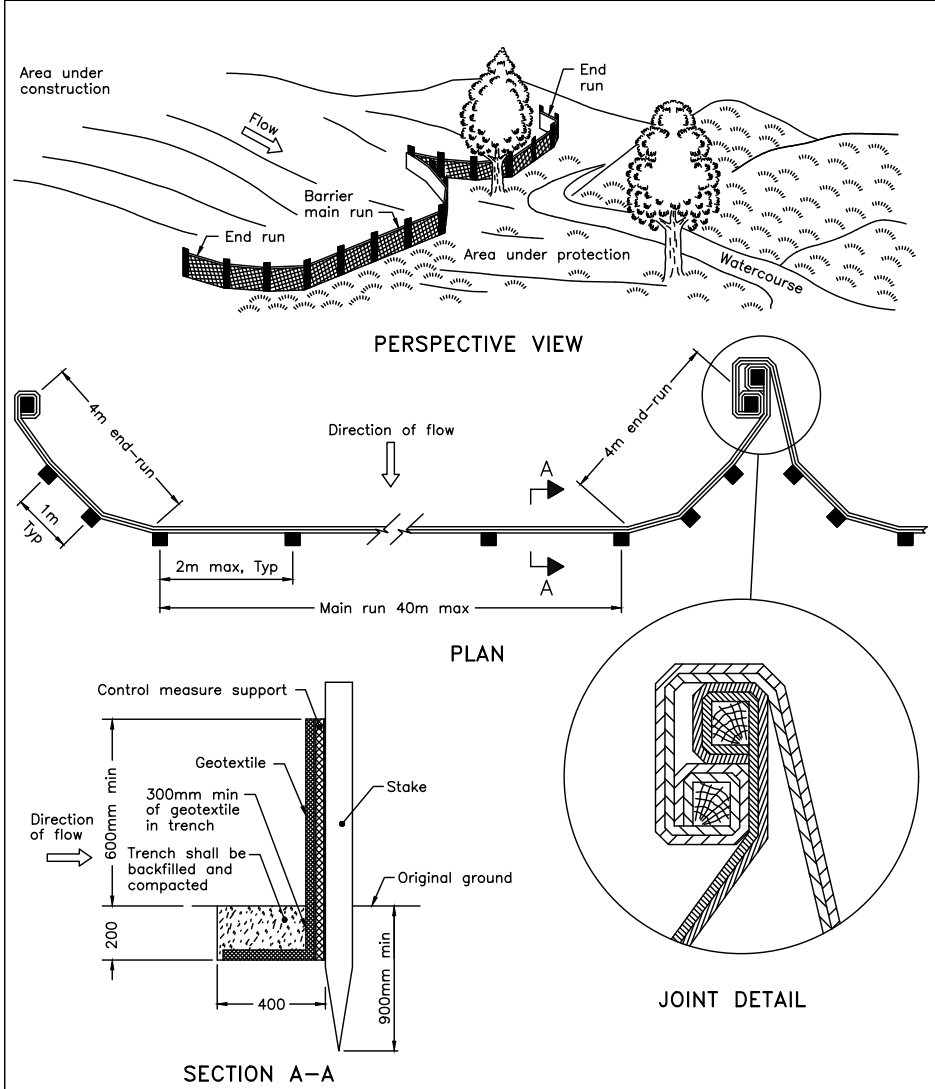
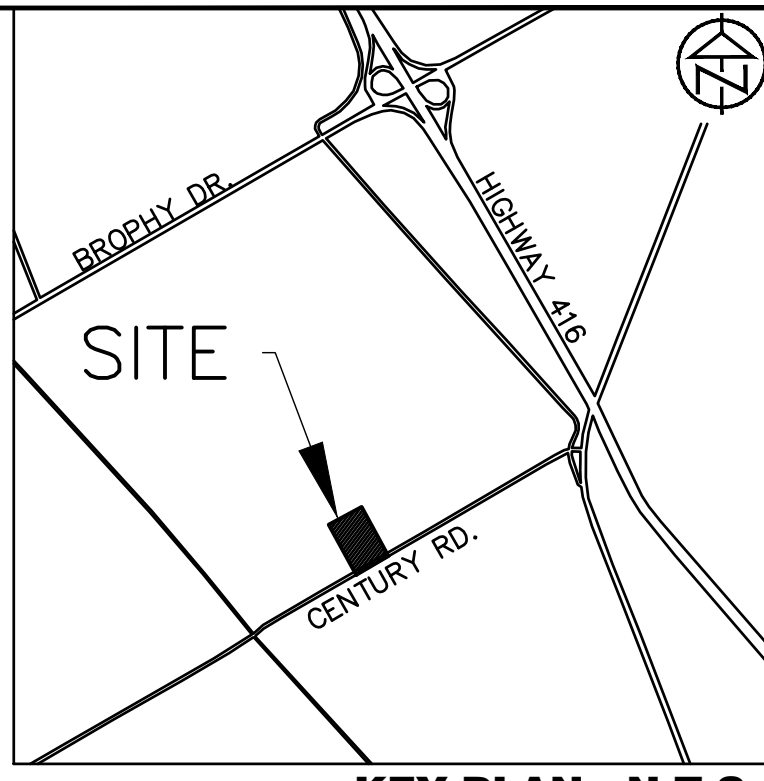
PROPOSED CONDITION
DRAINAGE PLAN

TATHAM
ENGINEERING

DESIGN: HY	FILE: 523654	DWG: DP-2
DRAWN: HY	DATE: SEPT 2024	
CHECK: GC	SCALE: 1:500	

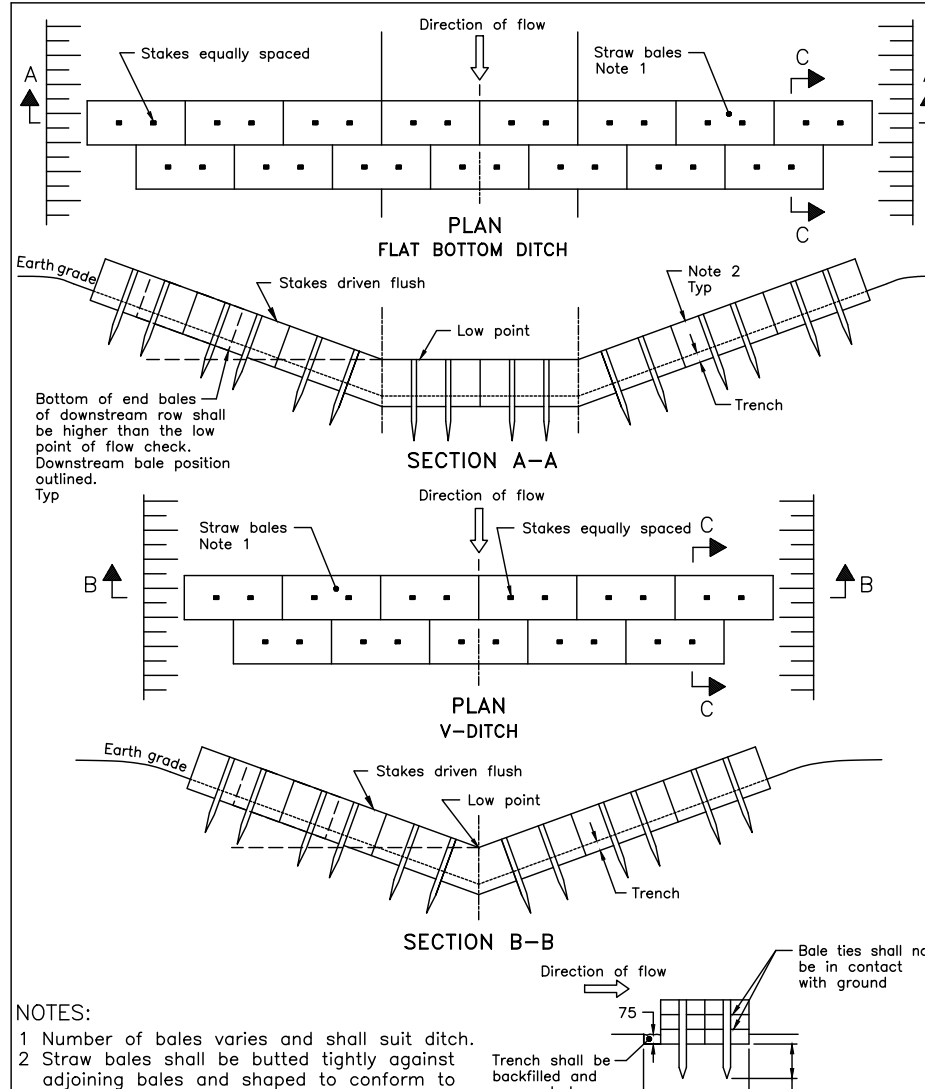


- GENERAL NOTES**
1. CONTRACTOR TO INSTALL AND MAINTAIN SILT FENCE AND STRAW BALE CHECK DAMS AT LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER.
 2. IF CONSTRUCTION IS INTERRUPTED AND/OR INACTIVITY EXCEEDS 30 DAYS, THEN STOCKPILED, STRIPPED OR EXPOSED AREAS MUST BE STABILIZED BY HYDROSEEDING AND ANY OTHER APPROPRIATE GEOTEXTILE MATERIAL, IF REQUIRED.
 3. REMOVAL OF ALL SILT FENCES AND STRAW BALE CHECK DAMS AT THE END OF CONSTRUCTION TO BE APPROVED BY THE ENGINEER AFTER THE SITE HAS STABILIZED.
 4. SILT FENCE TO OPSD 219.130 AND STRAW BALE CHECK DAM TO OPSD 219.180.
 5. CLEARING OF VEGETATION AND TREE COVER IS TO OCCUR OUTSIDE OF BIRD BREEDING SEASON AS RECOMMENDED BY THE CITY OF OTTAWA'S PROTOCOL FOR WILDLIFE PROTECTION DURING CONSTRUCTION (APRIL 15 – AUGUST 15).
 6. ALL SIDE SLOPES 3:1 OR GREATER ARE TO BE STABILIZED IMMEDIATELY WITH HYDROSEED (USING A NATIVE SEED MIX) UNLESS OTHERWISE NOTED. USE OF AN EROSION CONTROL BLANKET SUCH AS TERRAFIX S-100 (OR APPROVED EQUAL) IS RECOMMENDED IF CONSTRUCTION OCCURS OUTSIDE OF THE GROWING SEASON.



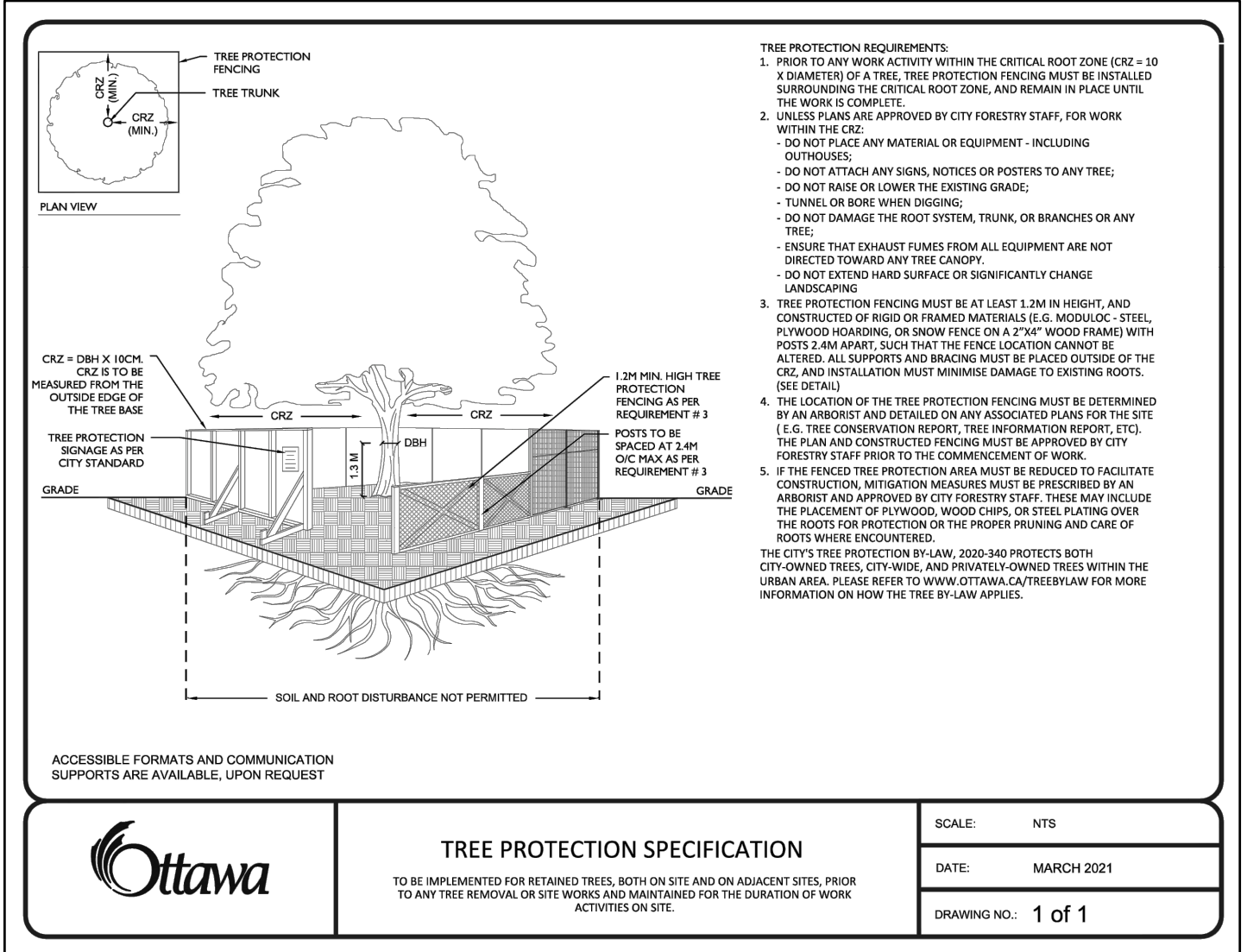
NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
HEAVY-DUTY SILT FENCE BARRIER		
OPSD 219.130		

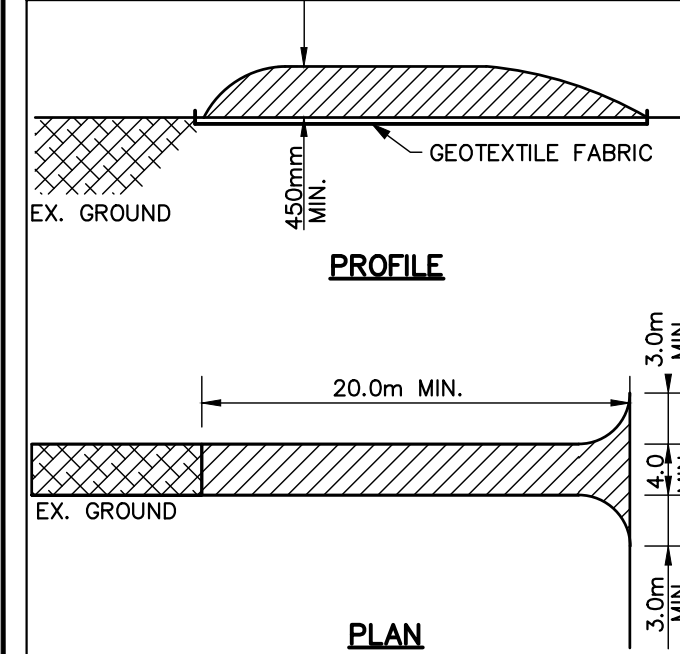


NOTES:
1 Number of bales varies and shall suit ditch.
2 Straw bales shall be balled tightly against adjoining bales and shaped to conform to the sides of the ditch to prevent water flow through barrier.
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2015	Rev 2
STRAW BALE FLOW CHECK DAM		
OPSD 219.180		



- TREE PROTECTION REQUIREMENTS**
1. PRIOR TO ANY WORK ACTIVITY WITHIN THE CRITICAL ROOT ZONE (CRZ) - 10 X DIAMETER OF A TREE, TREE PROTECTION FENCING MUST BE INSTALLED SURROUNDING THE CRITICAL ROOT ZONE AND REMAIN IN PLACE UNTIL THE WORK IS COMPLETE.
 2. UNLESS PLANS ARE APPROVED BY CITY FORESTRY STAFF, FOR WORK WITHIN THE CRZ:
 - DO NOT PLACE ANY MATERIAL OR EQUIPMENT - INCLUDING OUTRIGGERS.
 - DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE.
 - DO NOT BASE OR LOWER THE EXISTING GRADE.
 - TUNNEL OR BORE WHEN DIGGING.
 - DO NOT DAMAGE THE ROOT SYSTEM, TRUNK, OR BRANCHES OF ANY TREE.
 - ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARD ANY TREE CANOPY.
 - DO NOT EXTEND HARD SURFACE OR SIGNIFICANTLY CHANGE LANDSCAPING.
 3. TREE PROTECTION FENCING MUST BE AT LEAST 1.2M IN HEIGHT, AND CONSTRUCTED OF RIGID OR FRAMED MATERIALS (E.G. WOODWORK, STEEL, PLYWOOD HOARDING, OR SNOW FENCE ON A 2"x4" WOOD FRAME) WITH POSTS 3M APART, SUCH THAT THE FENCE LOCATION CANNOT BE ALTERED. ALL SUPPORTS AND BRACING MUST BE PLACED OUTSIDE OF THE CRZ AND INSTALLATION MUST MINIMIZE DAMAGE TO EXISTING TREES (SEE DETAIL).
 4. THE LOCATION OF THE TREE PROTECTION FENCING MUST BE DETERMINED BY AN ARBORIST AND DECEALED ON AN ASSOCIATED PLAN FOR THE SITE (E.G. TREE CONSERVATION REPORT, TREE INFORMATION REPORT, ETC). THE PLAN AND CONSTRUCTED FENCING MUST BE APPROVED BY CITY FORESTRY STAFF PRIOR TO THE COMMENCEMENT OF WORK.
 5. IF THE FENCED TREE PROTECTION AREA MUST BE REDUCED TO FACILITATE CONSTRUCTION, MITIGATION MEASURES MUST BE PRESCRIBED BY AN ARBORIST AND APPROVED BY CITY FORESTRY STAFF. THESE MAY INCLUDE THE PLACEMENT OF PLYWOOD, WOOD CHIPS, OR STEEL PLATING OVER THE ROOTS FOR PROTECTION ON THE PROPER PRUNING AND CARE OF ROOTS WHERE ENCOUNTERED.
- THE CITY'S TREE PROTECTION BY-LAW, 2003-340 PROTECTS BOTH CITY-OWNED TREES, CITY-WIDE, AND PRIVATELY-OWNED TREES WITHIN THE URBAN AREA. PLEASE REFER TO WWW.OTTAWA.CA/TREES/LAW FOR MORE INFORMATION ON HOW THE TREE BY-LAW APPLIES.
- ACCESSIBLE FORMATS AND COMMUNICATION SUPPORTS ARE AVAILABLE, UPON REQUEST
- OTTAWA**
- TREE PROTECTION SPECIFICATION**
- TO BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ON ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF WORK ACTIVITIES ON SITE.
- | | |
|--------------|------------|
| SCALE: | N.T.S. |
| DATE: | MARCH 2021 |
| DRAWING NO.: | 1 of 1 |



STONE MUD MAT DETAIL
SCALE: N.T.S.

STONE SIZE - THE STONE PAD SHALL BE A MIN. 450mm THICK, USE 50mm STONE OR RECLAIMED CONCRETE EQUIVALENT FOR FIRST 10m FROM ADJACENT ROAD & 150mm STONE, FOR REMAINDER OF STONE PAD.

LENGTH - AS REQUIRED BUT NOT LESS THAN 20m.

WIDTH - 4m MIN. BUT NOT LESS THAN THE WIDTH AT POINTS WHERE INGRESS, AND EGRESS OCCURS. GEOTEXTILE FABRIC (TERRAFIX 270R OR EQUAL) WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.

SURFACE WATER - ALL SURFACE WATER FLOWING OR DIRECTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE.

MAINTENANCE - THE CONTRACTOR SHALL MAINTAIN THE ENTRANCE IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR. UPON OBSERVATION OF CONTINUOUS MUD TRACKING ONTO ADJACENT STREETS, THE STONE MAT IS TO BE FULLY REPLACED.

WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

INSPECTION AND REQUIRED MAINTENANCE AFTER EACH RAIN SHALL BE PROVIDED BY THE CONTRACTOR.

- SCHEDULE OF CONSTRUCTION WORKS**
1. IMPLEMENTATION OF EROSION CONTROL MEASURES AS SPECIFIED ON THIS PLAN
 2. REMOVALS AS SPECIFIED ON THIS PLAN
 3. TOPSOIL STRIPPING AND STOCKPILING
 4. EXCAVATION OF THE DRY SWM FACILITY TO BE USED AS A TEMPORARY SETTLING BASIN DURING CONSTRUCTION. EXCAVATION OF SWALE TO INTERCEPT RUNOFF FROM THE CONSTRUCTION ZONE AND DIRECT IT TO THE SWM POND.
 5. EARTH EXCAVATION AND ROUGH GRADING THROUGH OUT THE SITE

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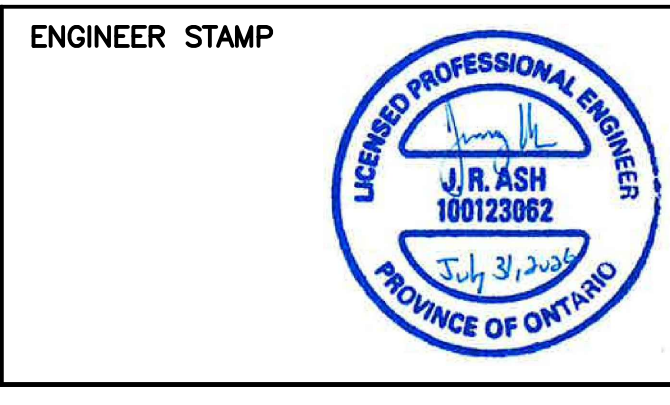
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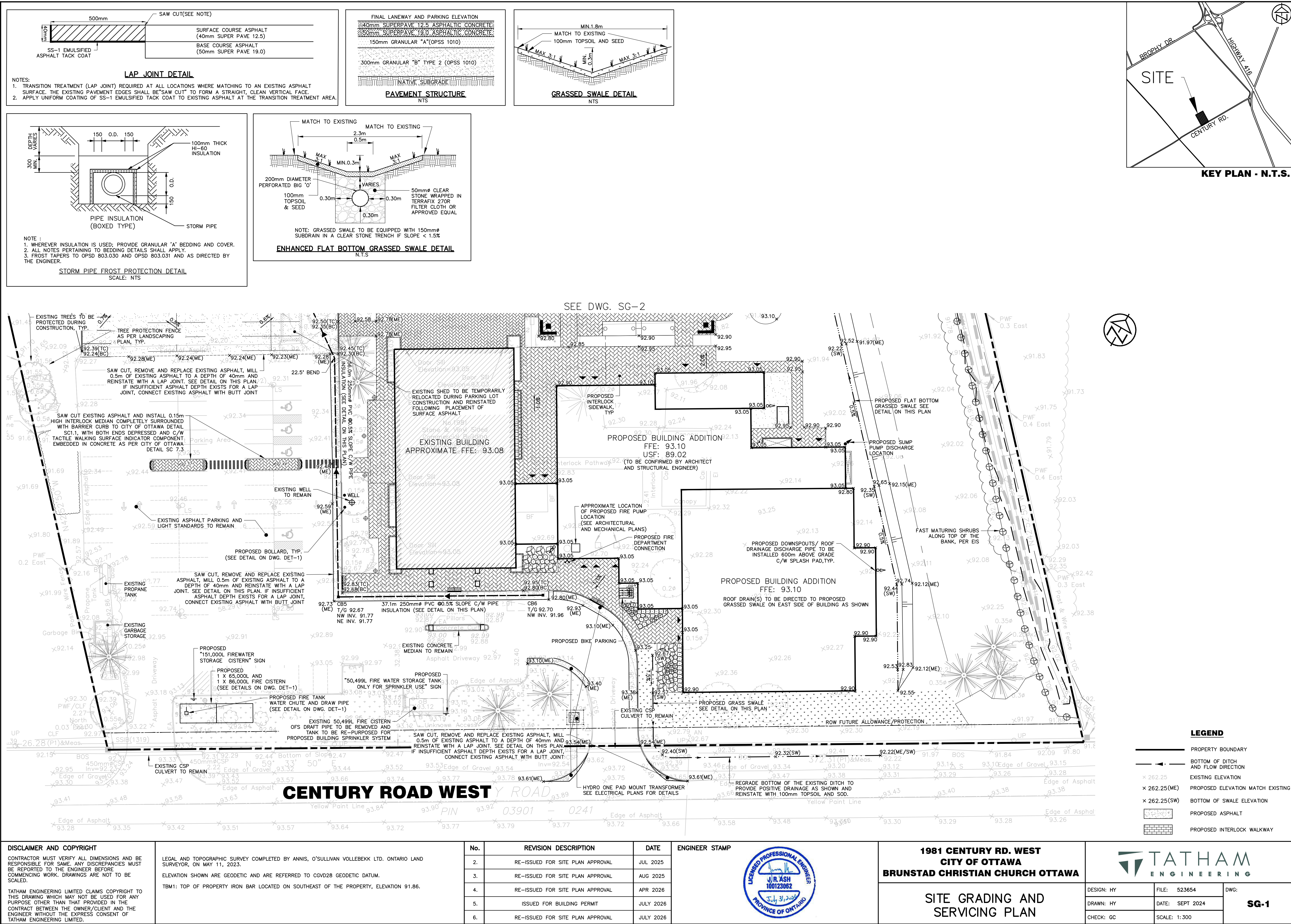
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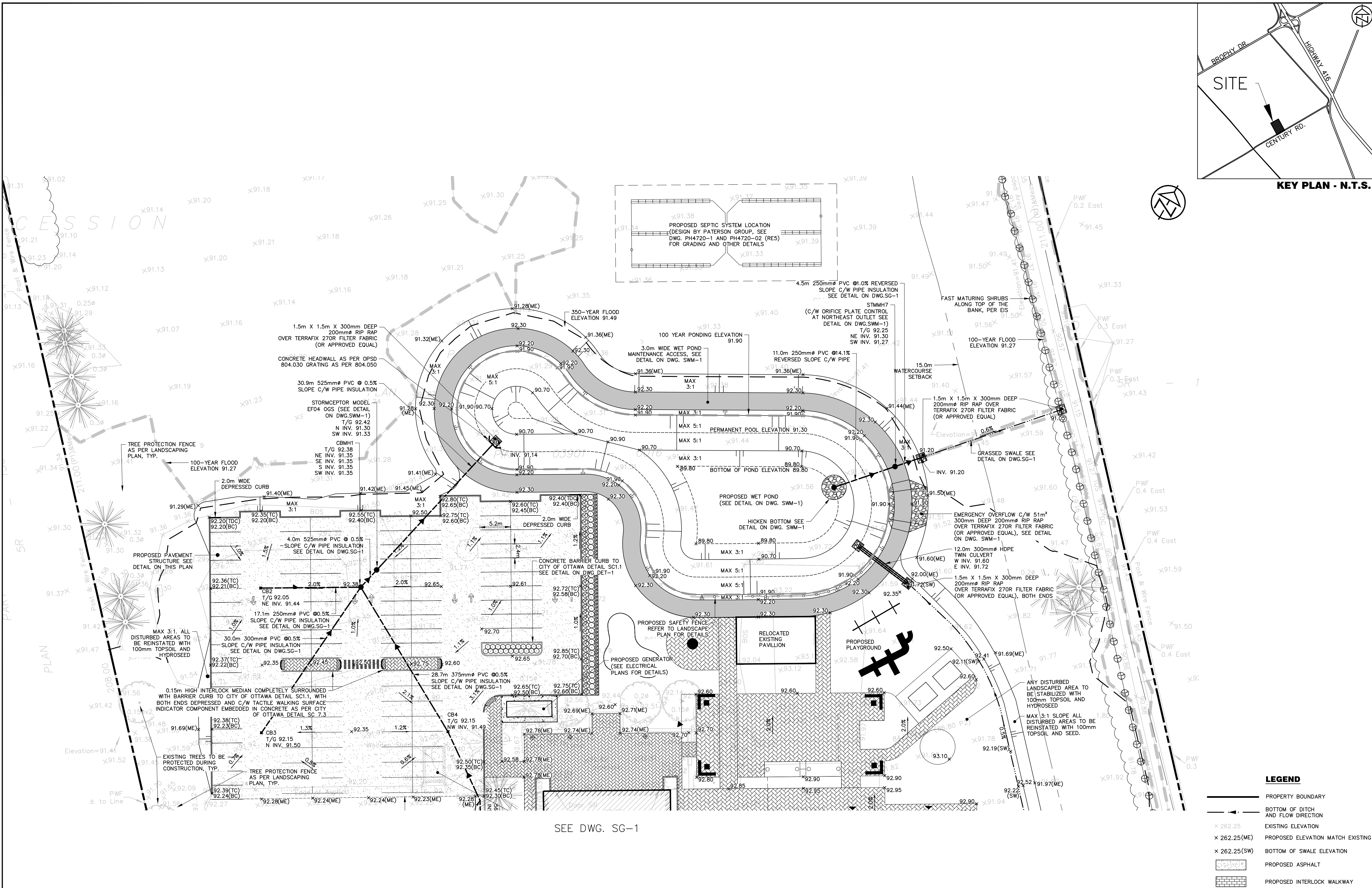


1981 CENTURY RD. WEST
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BRUNSTAD CHRISTIAN CHURCH OTTAWA

REMOVALS, SILTATION AND EROSION CONTROL PLAN

DESIGN: HY	FILE: 523654	DWG:
DRAWN: HY	DATE: SEPT 2024	SC-1
CHECK: GC	SCALE: 1:400	





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ENGINEER STAMP

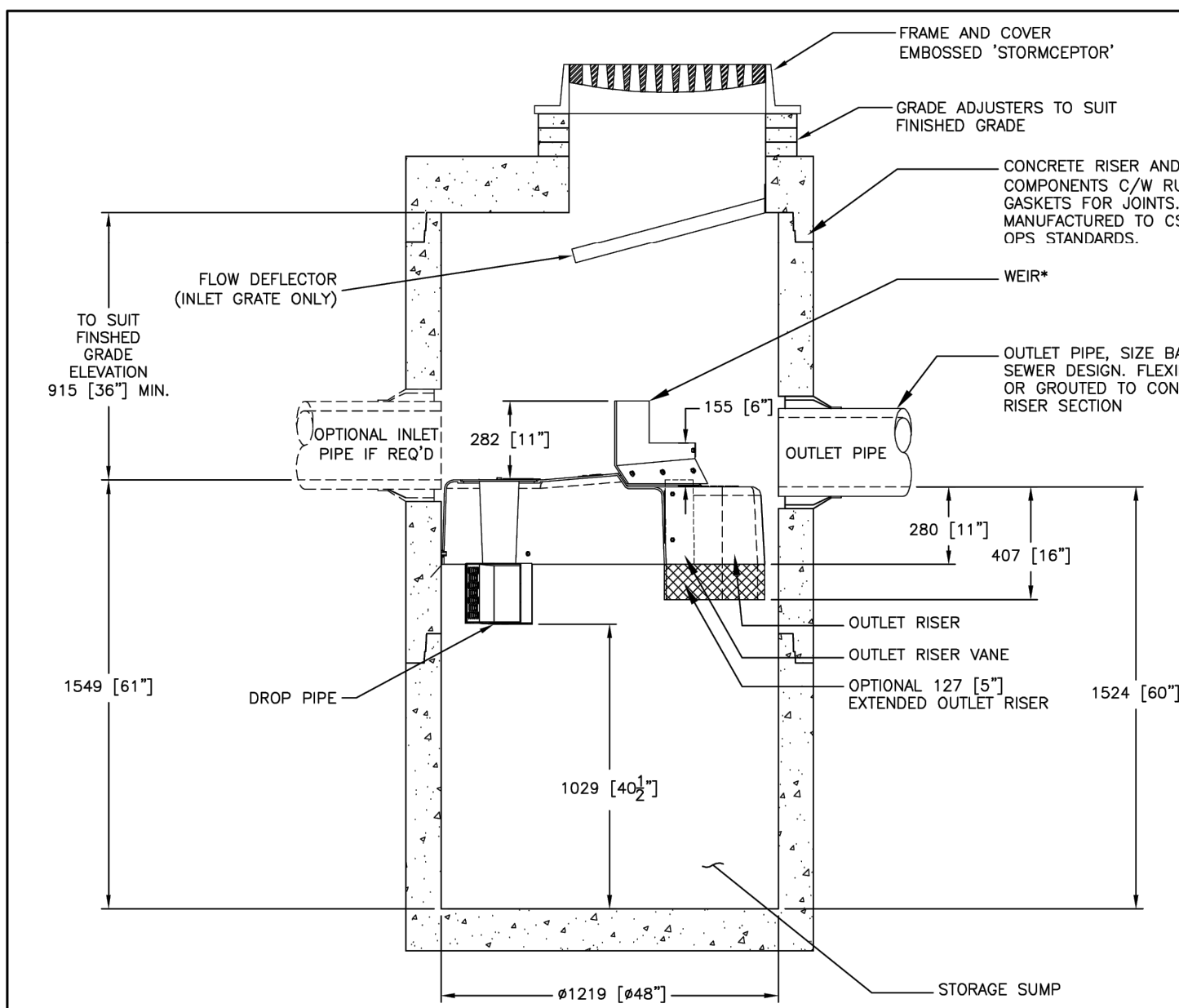
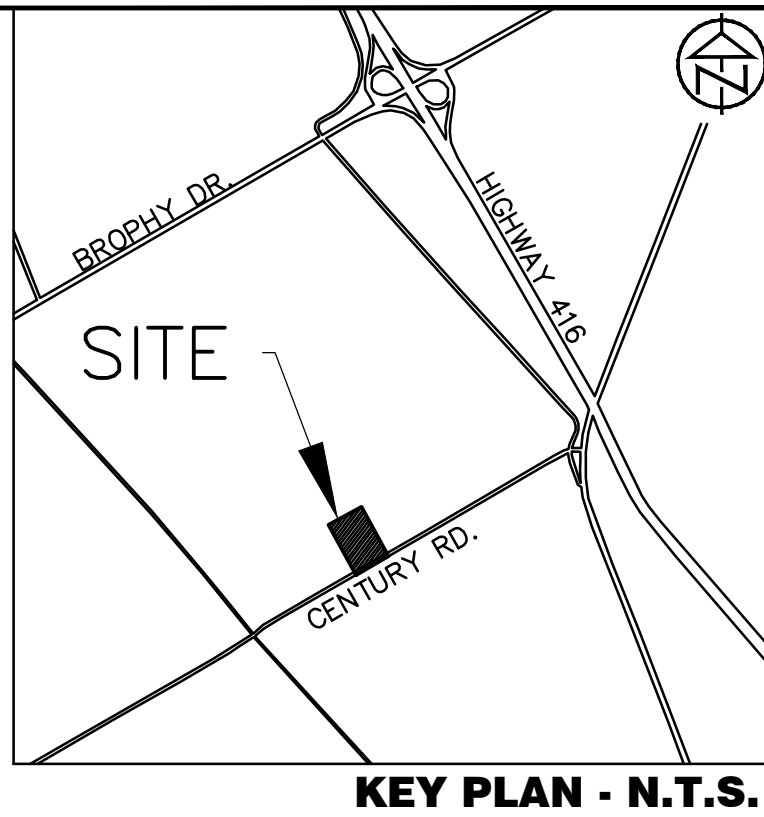
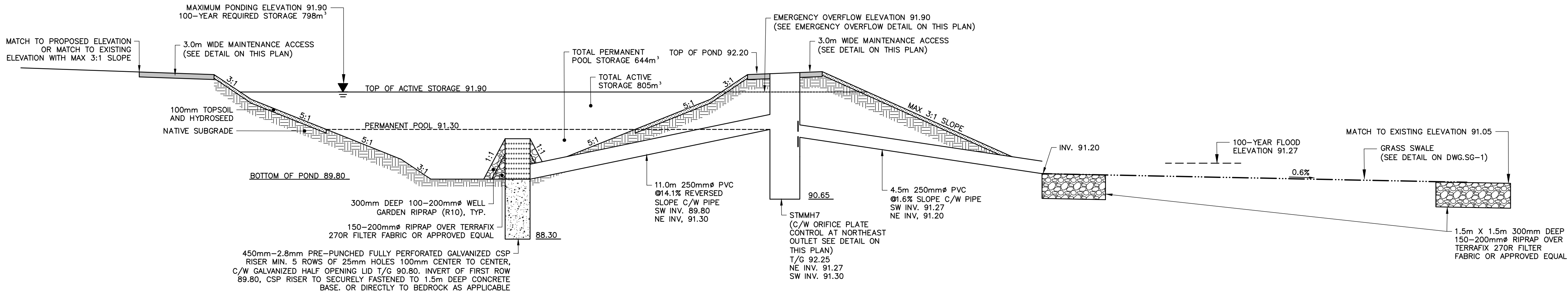
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1981 CENTURY RD. WEST
CITY OF OTTAWA
BUNSTAD CHRISTIAN CHURCH OTTAWA

SITE GRADING AND
SERVICING PLAN

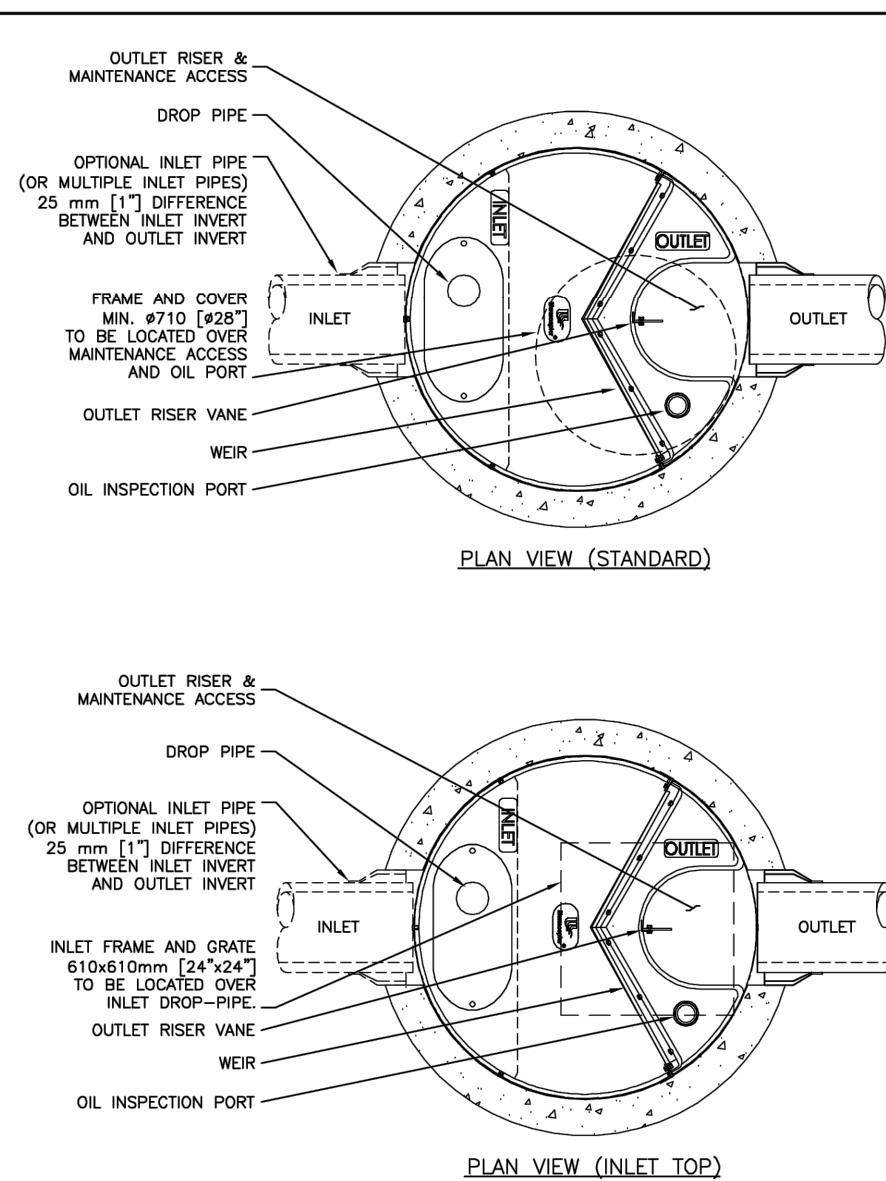
TATHAM ENGINEERING

DESIGN: HY	FILE: 523654	DWG:
DRAWN: HY	DATE: SEPT 2024	SG-2
CHECK: GC	SCALE: 1:300	



- GENERAL NOTES:**
- * MAXIMUM SURFACE LOADING RATE (SLR) INTO LOWER CHAMBER THROUGH DROP PIPE IS 1135 L/min/m² (27.9 gpm/m²) FOR STORMCEPTOR EF4 AND S35 L/min/m² (13.1 gpm/m²) FOR STORMCEPTOR EFO4 (OIL CAPTURE CONFIGURATION). WEIR HEIGHT IS 150 mm (6 INCH) FOR EFO4.
 - ALL DIMENSIONS INDICATED ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.
 - STORMCEPTOR STRUCTURE INLET AND OUTLET PIPE SIZE AND ORIENTATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
 - UNLESS OTHERWISE NOTED, BYPASS INFRASTRUCTURE, SUCH AS ALL UPSTREAM DIVERSION STRUCTURES, CONNECTING STRUCTURES OR PIPE CONDUITS CONNECTING TO COMPLETE THE STORMCEPTOR SYSTEM SHALL BE PROVIDED AND ADDRESSED SEPARATELY.
 - DRAWING FOR INFORMATION PURPOSES ONLY. REFER TO ENGINEERS SITE/UTILITY PLAN FOR STRUCTURE ORIENTATION.
 - NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED).
 - CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERTIGHT OR FLEXIBLE BOOT).
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT THE DEVICE FROM CONSTRUCTION-RELATED EROSION RUNOFF.
 - DEVICE ACTIVATION, BY CONTRACTOR, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE STORMCEPTOR UNIT IS CLEAN AND FREE OF DEBRIS.

**STANDARD DETAIL
NOT FOR CONSTRUCTION**



FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT YOUR LOCAL STORMCEPTOR REPRESENTATIVE. SITE SPECIFIC DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. SOME FIELD REVISIONS TO THE SYSTEM LOCATION OR CONNECTION PIPING MAY BE NECESSARY BASED ON AVAILABLE SPACE OR SITE CONFIGURATION REVISIONS. ELEVATIONS SHOULD BE MAINTAINED EXCEPT WHERE NOTED ON BYPASS STRUCTURE (IF REQUIRED).

SITE SPECIFIC DATA REQUIREMENTS					
STORMCEPTOR MODEL	EFO4				
STRUCTURE ID	*				
HYDROCARBON STORAGE REQ'D (L)	*				
WATER QUALITY FLOW RATE (L/s)	*				
PEAK FLOW RATE (L/s)	*				
RETURN PERIOD OF PEAK FLOW (yrs)	*				
DRAINAGE AREA (HA)	*				
DRAINAGE AREA IMPERVIOUSNESS (%)	*				
PIPE DATA:	I.E.	MATL	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

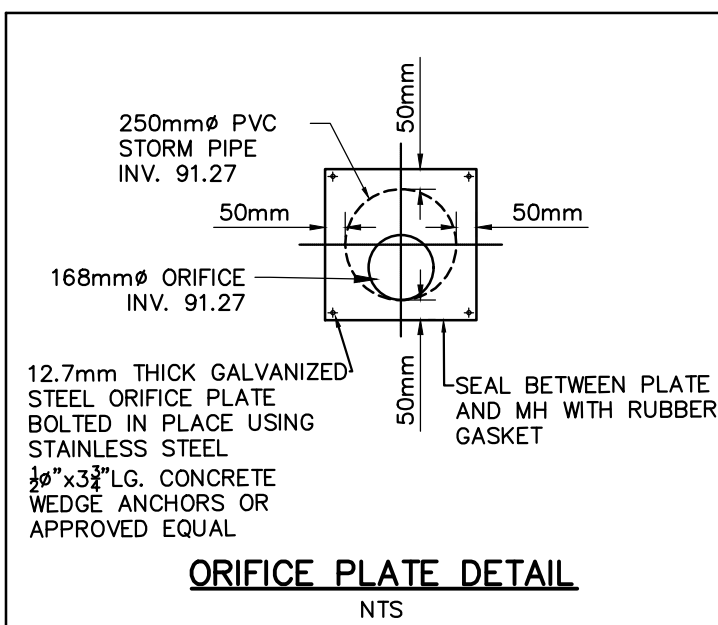
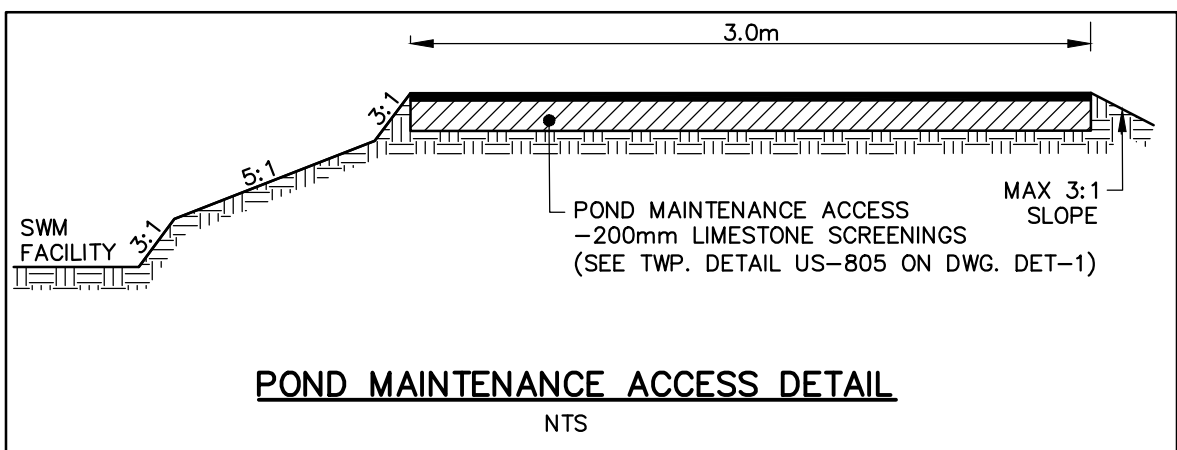
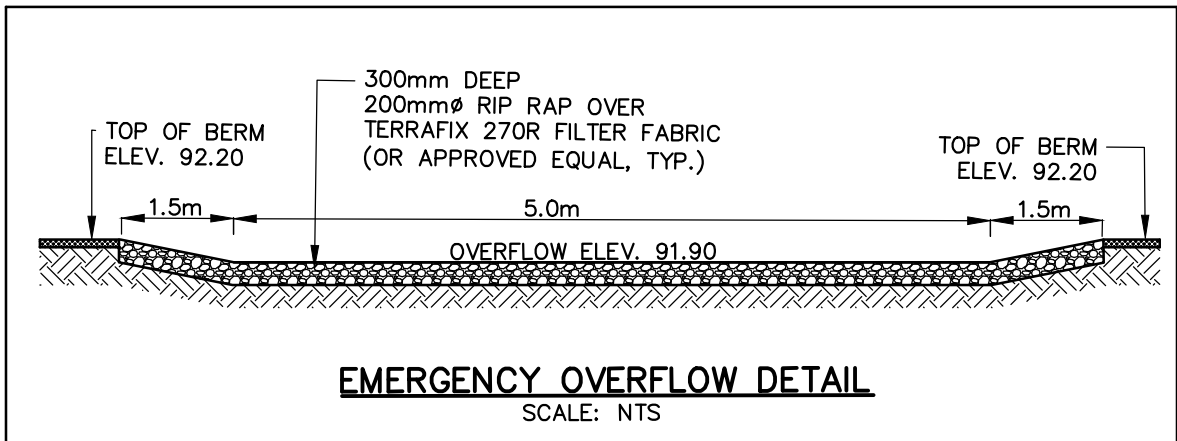
* PER ENGINEER OF RECORD

REVISION DESCRIPTION					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
10/13/2017	JKK	INITIAL RELEASE			
10/13/2017	JKK	UPDATES			
10/13/2017	JKK	FINAL RELEASE			

Stormceptor® EF

imbrum

DATE: 10/13/2017
DESIGNED: J.R. KASH
CHECKED: BSF
PROJECT NO: EFO4
SHEET: 1 OF 1



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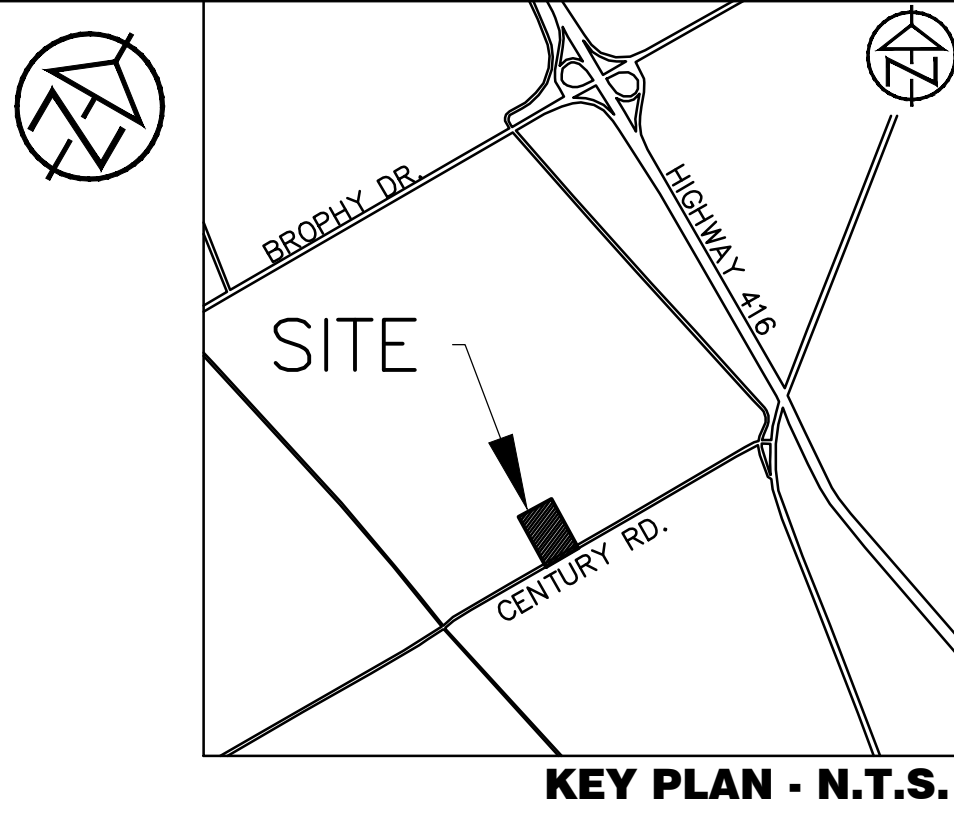
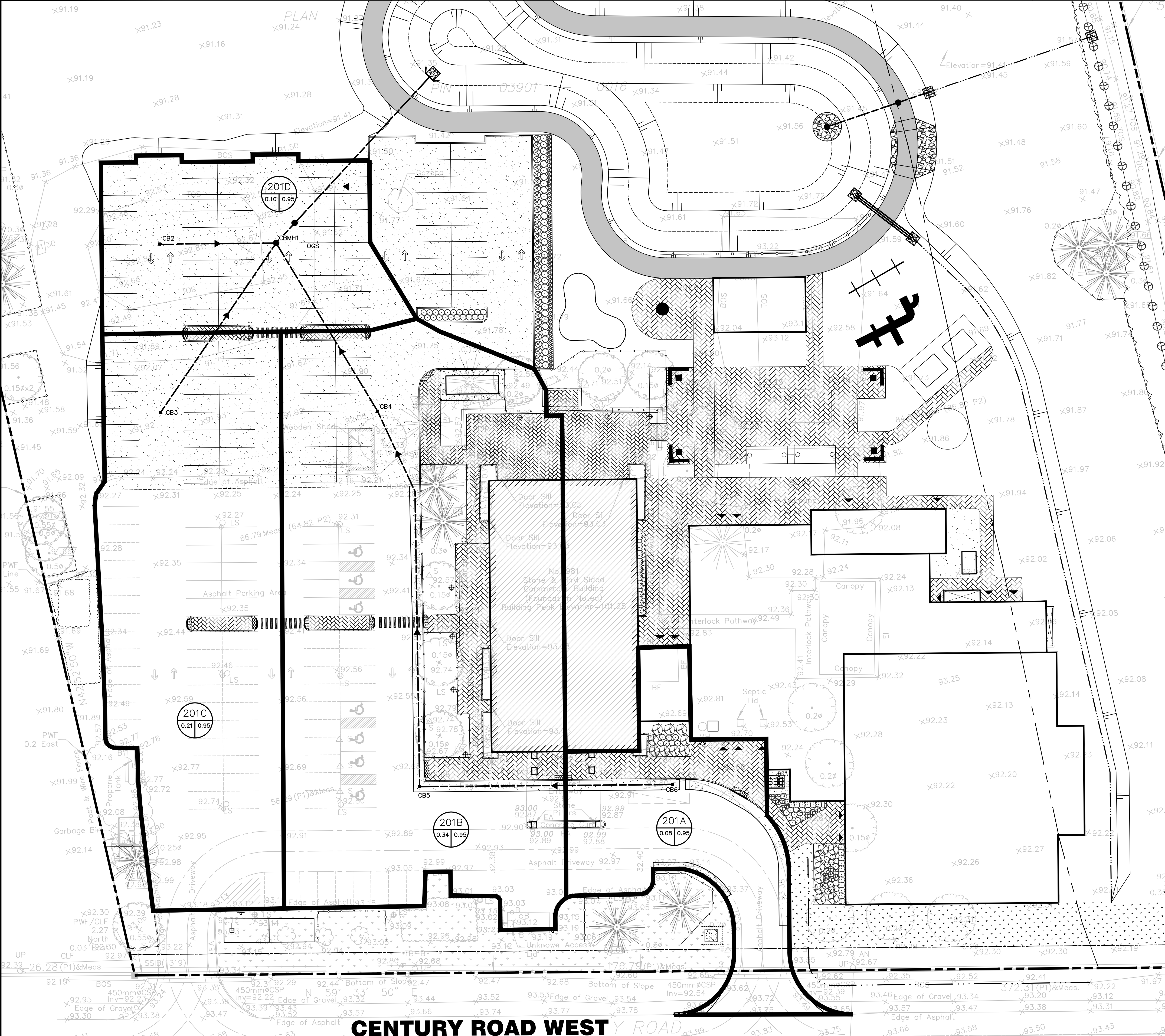


**1981 CENTURY RD. WEST
CITY OF OTTAWA
BRUNSTAD CHRISTIAN CHURCH OTTAWA**

**STORMWATER MANAGEMENT
PLAN**

**TATHAM
ENGINEERING**

DESIGN: HY	FILE: 523654	DWG:
DRAWN: HY	DATE: SEPT 2024	SWM-1
CHECK: GC	SCALE: AS SHOWN	



- LEGEND**
- PROPERTY BOUNDARY
 - BOTTOM OF DITCH AND FLOW DIRECTION
 - STORM DRAINAGE BOUNDARY
 - HEAVY DUTY ASPHALT
 - CONCRETE WALKWAY
 - 201A
0.08 0.95
AREA ID
RUNOFF COEFFICIENT
DRAINAGE AREA

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ENGINEER STAMP

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CITY OF OTTAWA
BRUNSTAD CHRISTIAN CHURCH OTTAWA**

STORM DRAINAGE PLAN

TATHAM ENGINEERING

DESIGN: HY	FILE: 523654	DWG: STM-1
DRAWN: HY	DATE: SEPT 2024	
CHECK: GC	SCALE: 1:300	

1. STANDARDS AND DRAWINGS

- A. THE NOTES ON THIS SHEET APPLY TO ALL WORKS UNDER THIS CONTRACT UNLESS OTHERWISE NOTED ON DRAWINGS AND/OR SPECIFIC DETAIL DRAWINGS.
- B. THE STANDARDS OF THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS (OPSS), THE ONTARIO PROVINCIAL STANDARDS DRAWINGS (OPSD) AND ELECTRICAL SAFETY AUTHORITY (ESA) CONSTITUTE PART OF THE PLANS OF THIS CONTRACT.
- C. ORDER OF PRECEDENCE OF STANDARDS IS FIRSTLY CITY OF OTTAWA.
- D. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT.
- E. THE STANDARD DRAWINGS INCLUDED WITH THESE PLANS ARE PROVIDED FOR CONVENIENCE ONLY AND ARE NOT TO BE CONSTRUED TO BE A COMPLETE SET FOR THE PURPOSE OF THE CONTRACT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL RELEVANT STANDARD DRAWINGS AND SPECIFICATIONS AS REQUIRED FOR THIS CONTRACT.

2. MEASUREMENTS

- A. ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE AND STRUCTURE DIAMETERS, WHICH ARE IN MILLIMETRES.
- B. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

3. GENERAL

- A. PIPES TO BE CONSTRUCTED WITH BEDDING, COVER AND BACKFILL OR EMBEDMENT AND BACKFILL CONFORMING TO OPSD 802.010, 802.013, 802.014, 802.030, 802.031, 802.032, 802.033 AND 802.034 AS APPLICABLE BASED ON PIPE MATERIAL AND SOIL CONDITIONS. BEDDING, COVER, AND EMBEDMENT MATERIALS SHALL BE GRANULAR 'A'. EMBEDMENT, BEDDING, COVER AND BACKFILL MATERIAL TO BE COMPACTED TO A DRY DENSITY OF AT LEAST 100% OF THE MATERIALS SPMD. IN WET AREAS EMBEDMENT MATERIAL TO BE 9.5 MM CLEAR LIMESTONE WRAPPED IN AN APPROVED GEOTEXTILE (TERRAFIX 270R OR APPROVED EQUIVALENT).
- B. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE CITY ENGINEERING DEPARTMENT. ALL DISTURBED AREAS WITHIN THE CITY RIGHT-OF-WAY TO BE SODDED.
- C. EXISTING SERVICES AND UTILITIES SHOWN ON THESE CONTRACT DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION.
- D. EXISTING BELL DUCT BANKS, HYDRO BANKS AND GAS MAINS IN PAVEMENT OR BOULEVARD (AS LOCATED BY UTILITY PROVIDER) TO BE EXPOSED AT CONTRACTORS COST PRIOR TO INSTALLATION OF SANITARY OR STORM SEWER, CULVERTS, WATERMAIN OR SERVICES WHICH CROSS DUCT BANK OR GAS MAINS. ALL UTILITY DUCT BANKS ARE TO BE PROPERLY SUPPORTED WHEN SEWERS OR SERVICES ARE INSTALLED UNDERNEATH. SPACE BETWEEN DUCT BANK AND SEWER OR SERVICE TO BE BACKFILLED WITH UNSHRIKABLE FILL.
- E. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY SUPPORT OF EXISTING CULVERTS, SEWER AND WATERMAIN AT ALL CROSSINGS.
- F. THE CONTRACTOR SHALL OBTAIN ROAD OCCUPANCY AND ACCESS PERMITS FOR ALL WORK IN THE MUNICIPAL ROW. THE PERMIT(S) OBTAINED SHALL BE TAKEN OUT IN THE NAME OF THE CONTRACTOR.
- G. THE CONTRACTOR SHALL PROTECT SURVEY MONUMENTS AND BENCHMARKS ENCOUNTERED DURING THE WORK. ALL SURVEY MONUMENTS AND BENCHMARK DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY AN ONTARIO LAND SURVEYOR, AT THE CONTRACTOR'S EXPENSE.
- H. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ALL MATERIALS TO CONTRACT ADMINISTRATOR FOR REVIEW PRIOR TO ORDERING.
- I. THE CONTRACTOR IS REQUIRED TO CONFIRM EXISTING GRADES AND PIPE INVERTS AT CONNECTIONS AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE COMMENCING WORK.
- J. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER AND/OR CALCIUM CHLORIDE AS REQUIRED FOR COMPACTION AND/OR DUST CONTROL.
- K. TREES/SHRUBS THAT MUST BE REMOVED SHALL BE IDENTIFIED AND PERMISSION FOR REMOVAL SHALL BE OBTAINED FROM THE CONTRACT ADMINISTRATOR.
- L. CONTRACTOR IS TO NOTIFY THE CITY OF ALL CONSTRUCTION ACTIVITIES A MINIMUM OF 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- M. TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL CONFORM TO THE MOST CURRENT ONTARIO CONSTRUCTION REGULATIONS INCLUDING REGULATION No. 213 UNDER OHSA AND REFERENCE TO MTO TEMPORARY CONDITIONS MANUAL BOOK No. 7.
- N. ALL EARTH GRADING TO OPSS 206.
- O. EXCESS STOCKPILED OR UNSUITABLE MATERIALS TO BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED OFFSITE LOCATION IN ACCORDANCE WITH O.REG.406/19.
- P. FOR THE DURATION OF THE CONTRACT, MATERIAL THAT BECOMES CONTAMINATED DUE TO CONTRACTOR'S ACTIVITY SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

4. ENTRANCE, DRIVE AISLES AND PARKING AREAS

- A. ALL TOPSOIL MUST BE STRIPPED FROM LANEWAY AND PARKING AREAS PRIOR TO CONSTRUCTION.
- B. CONTRACTOR TO REMOVE ALL TOPSOIL AND ORGANIC MATERIAL LOCATED BELOW EXISTING FILL MATERIAL WITHIN THE LANEWAY AND PARKING AREAS. BACKFILL TO BE APPROVED ENGINEERED FILL OR NATIVE MATERIAL COMPACTED TO 95% SPMD. THE SUBGRADE SHOULD BE COMPACTED, PROOF ROLLED AND INSPECTED BY A GEOTECHNICAL ENGINEER.
- C. GRANULAR 'B' SUBBASE TO BE PLACED IN 150mm MAXIMUM LOOSE LIFT AND COMPACTED TO 98% OF MATERIAL'S SPMD.
- D. GRANULAR 'A' BASES TO BE PLACED IN 150mm MAXIMUM LOOSE LIFT AND COMPACTED TO 100% OF MATERIAL'S SPMD.
- E. ALL ASPHALT MATERIAL AND PLACEMENT TO BE IN ACCORDANCE WITH OPSS 310.
- F. PAVEMENT AND GRANULAR STRUCTURES SHALL BE AS PER PAVEMENT STRUCTURE TABLE ON DRAWING SG-1 AND GEOTECHNICAL RECOMMENDATIONS.
- G. FROST TREATMENT FOR ALL STORM SEWERS IN ACCORDANCE WITH OPSD 803.030.
- H. BOULDER TREATMENT TO OPSD 204.010.
- I. TRANSITION TREATMENT FOR EARTH/ROCK CUT/FILL OPERATIONS TO OPSD 205.010, 205.020, 205.040, 205.050 ACCORDINGLY.

5. STORM SEWER

- A. PIPE MATERIAL TO BE PVC SDR 35 CERTIFIED TO C.S.A. STANDARDS B182.2 AND B182.4 OR CONCRETE REINFORCED PIPE, CONFORMING TO CSA STANDARD A25.1 WITH A STRENGTH AS INDICATED ON THE DRAWINGS OR APPROVED EQUIVALENTS. WHERE SPECIFIED, HDPE STORM SEWER TO BE CORRUGATED DOUBLE WALL PIPE CONFORMING TO CSA B1 82.8 AND WITH MIN. 320 KPA PIPE STIFFNESS.
- B. ALL PIPE HANDLING AND INSTALLATION MUST BE IN STRICT COMPLIANCE WITH MANUFACTURERS INSTALLATION GUIDES AND THE UNIBELL GUIDELINES.
- C. MAXIMUM DEFLECTION FROM COMBINED LINE AND DEAD LOADING SHALL NOT EXCEED ANY C.S.A., O.P.S. OR MANUFACTURERS RECOMMENDED SPECIFICATIONS.
- D. SINGLE CATCHBASINS TO BE 600 mm SQUARE PRECAST CONCRETE TO OPSD 705.010, FRAME AND GRATE TO CITY OF OTTAWA DETAIL 'S19', 900mm SUMP, CATCHBASIN MAINTENANCE HOLE TO BE 1200mm ϕ PRECAST CONCRETE TO OPSD 701.010 FRAME AND GRATE TO CITY OF OTTAWA DETAIL S28.1 500mm SUMP.
- E. STORM SEWER WITH LESS THAN 2.0M COVER TO PIPE CROWN REQUIRES INSULATION AS PER DETAIL ON DWG SG-1 OR APPROVED EQUIVALENT.
- F. TESTING OF STORM SEWERS SHALL INCLUDE:
- CCTV VIDEO INSPECTION
 - FLUSHING AND CLEANING

- G. PIPE SUPPORT AT ALL STRUCTURES TO OPSD 708.020.
- H. IF SEPARATION BETWEEN STORM SEWER AND OTHER STRUCTURES, PIPE OR UTILITIES IS LESS THAN 0.3m, INSTALL 50mm HI-60 INSULATION AS DIRECTED BY THE ENGINEER.
- I. ALL RIP RAP SHALL CONFORM WITH OPSD 810.010.
- J. WHERE THE SERVICE TRENCH IS BELOW THE GROUNDWATER TABLE, CLAY SEALS SHALL BE PLACED NO MORE THAN 60.0m APART. CLAY SEALS SHALL BE 1.5m LONG IN THE TRENCH DIRECTION AND SHALL EXTEND FROM TRENCH WALL TO TRENCH WALL. CLAY SEALS TO BE PLACED IN MAXIMUM 225mm LOOSE LIFTS AND COMPACTED TO 95% OF THE MATERIALS SPMD. CLAY SEAL TO BE IN ACCORDANCE WITH CITY DETAIL S8.
6. UTILITIES
- A. LOCATION OF EXISTING UTILITIES ARE APPROXIMATE ONLY, ACTUAL LOCATION TO BE CONFIRMED BY CONTRACTOR.
- B. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING LOCATES AND INFORMATION IN REGARD TO EXACT LOCATION OF BURIED UTILITIES AND INFRASTRUCTURE. THIS SHALL INCLUDE HYDRO VACUUM EXCAVATION IF NECESSARY. THE CONTRACTOR MUST EXERCISE NECESSARY CARE IN CONSTRUCTION OPERATIONS INCLUDING IF NECESSARY HAND DIGGING TO SAFEGUARD UTILITIES AND ALL OTHER BURIED INFRASTRUCTURE FROM DAMAGE. THE CONTRACTOR IS LIABLE FOR ALL DAMAGE TO UTILITIES AND ALL BURIED INFRASTRUCTURE OCCURRING WITHIN OR OUTSIDE THE CONTRACT LIMITS CAUSED BY HIS OPERATIONS.
- C. ANY AREA OF POSSIBLE CONFLICTS WITH EXISTING UTILITIES SHALL BE EXCAVATED BY HAND PRIOR TO CONSTRUCTION.
- D. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO UTILITY CORPORATIONS PRIOR TO CROSSING UTILITIES FOR THE PURPOSE OF INSPECTION BY THE CONCERNED CORPORATION. THIS INSPECTION WILL BE FOR THE DURATION OF CONSTRUCTION WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING FROM SUCH INSPECTION.
7. CONSTRUCTION DEWATERING

- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING THAT MAY BE REQUIRED TO PRODUCE A DRY AND STABLE TRENCH FOR CONSTRUCTION OF THE WORKS. WORK TO BE IN ACCORDANCE WITH ONTARIO REGULATION 63/16, OPSS 518.
- B. DURING NORMAL OPERATIONS, THE MAXIMUM VOLUME OF WATER TO BE DISCHARGED FROM THE DE-WATERING OPERATION ON A DAILY BASIS WITHOUT A MECP PERMIT TO TAKE WATER IS 400,000 L/DAY. FOR DE-WATERING BETWEEN 50,000L/DAY AND 400,000L/DAY THE CONTRACTOR IS REQUIRED TO REGISTER THE ACTIVITY ON THE EASR IN ACCORDANCE WITH O.REG. 63/16.
- C. ALL WATER DISCHARGED FROM THE DEWATERING OPERATION SHALL BE DISCHARGED TO AN APPROVED OUTLET AS DETERMINED BY THE CONTRACT ADMINISTRATOR.
- D. DEWATERING PUMPS SHALL DISCHARGE TO A GEOTEXTILE FILTER BAG LOCATED ON A GENTLY SLOPING GRASSSED SURFACE TO THE APPROVED OUTLET.
- E. WHERE REQUIRED, SUPPLEMENTARY SEDIMENT AND EROSION CONTROL WORKS, SUCH AS SILT FENCE AND STRAW BALE CHECK DAMS, SHALL BE INSTALLED DOWN GRADIENT OF THE FILTER BAGS TO ENSURE DISCHARGE WATER IS FREE OF SEDIMENT AND TO PREVENT EROSION.
- F. TO MINIMIZE THE VOLUME OF WATER TO BE REMOVED FROM EXCAVATIONS, THE WORK AREA SHALL BE GRADED TO DIRECT SURFACE RUNOFF AROUND AND AWAY FROM OPEN EXCAVATIONS.
- G. THE CONTRACTOR SHALL MEASURE AND RECORD, ON A DAILY BASIS, THE TOTAL VOLUME OF WATER DISCHARGED (L/DAY) AND THE AVERAGE DISCHARGE RATE (L/S). THE CONTRACTOR SHALL SUBMIT COPIES OF THE DEWATERING DISCHARGE FLOW RECORDS TO THE CONTRACT ADMINISTRATOR ON A WEEKLY BASIS OR UPON REQUEST. THE METHOD OF MEASURING THE VOLUME OF WATER DISCHARGED SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR PRIOR TO COMMENCING DEWATERING OPERATIONS.
- H. DEWATERING OPERATIONS ARE TO BE SUSPENDED DURING SEVERE STORM EVENTS.

