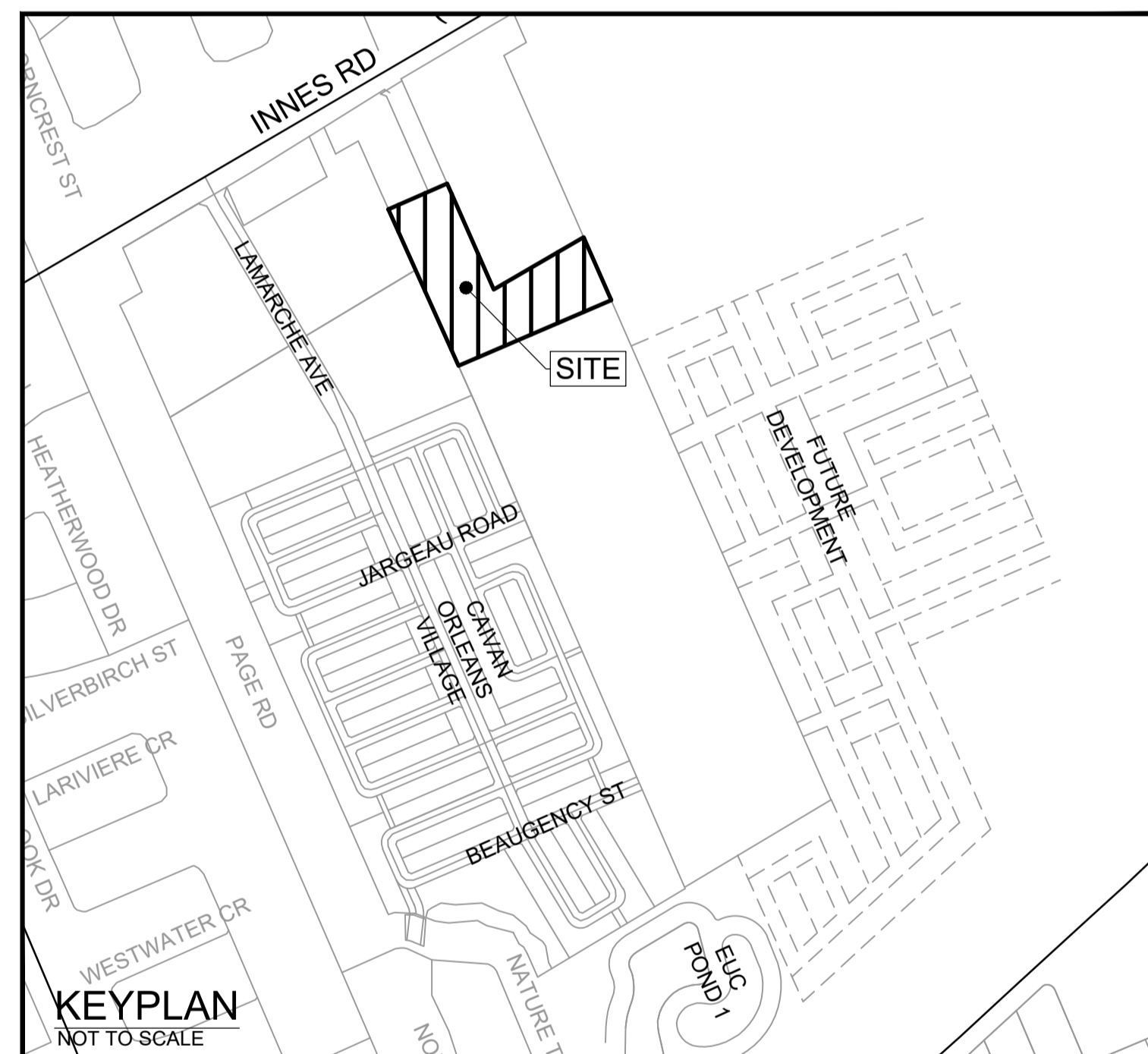


THE COMMONS - MEDIUM DENSITY CITY OF OTTAWA



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PROJECT No. 118224-MD
FOR CITY REVIEW

NOVEMBER 2024

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GENERAL

- 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 AND PAY ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. GAS, HYDRO, TELEPHONE OR ANY OTHER UTILITY THAT MAY EXIST ON SITE OR WITHIN THE STREETLINES MUST BE LOCATED BY ITS OWN UTILITIES AND VERIFIED PRIOR TO CONSTRUCTION.
- RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
- ALL UNDERGROUND SERVICES MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND CODES OF THE MUNICIPALITY.
- ALL SURFACE DRAINAGE SHALL BE SELF-CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
- WHEREVER PIPES ARE PASSING THROUGH UNCOMPACTED FILL AREA, THE BEDDING TRENCH SHALL BE EXCAVATED TO THE UNDISTURBED GROUND LEVEL AND BACKFILLED WITH GRANULAR "A" COMPACTED TO 100% STANDARD PROCTOR DENSITY.
- THE OWNER SHALL BE RESPONSIBLE TO SUPPLY A CIVIL ENGINEERING FIRM FOR FULL TIME INSPECTION FOR ALL WORKS UNDERTAKEN WITHIN THE CITY ROAD ALLOWANCE. THE CIVIL ENGINEERING FIRM SHALL BE RESPONSIBLE FOR SUPPLYING WITHIN 48 HOURS OF REINSTATEMENT, A WRITTEN REPORT DETAILING THE WORKS WITHIN THE CITY'S ROAD ALLOWANCE. THIS REPORT SHALL CONFIRM THAT THE REINSTATEMENT HAS BEEN IN ACCORDANCE WITH THE CITY STANDARDS, SPECIFICATIONS AND BY-LAWS. FAILURE TO COMPLY SHALL MEAN SEIZURE OF SECURITIES TO COVER COSTS INCURRED BY THE CITY TO INVESTIGATE AND WHERE REQUIRED UNDERTAKE REINSTATEMENT TO THE SATISFACTION OF THE MUNICIPALITY.
- BEFORE COMMENCING CONSTRUCTION PROVIDE PROOF OF COMPREHENSIVE ALL RISK AND OPERATIONAL LIABILITY INSURANCE INCLUDING BLASTING (ONLY IF REQUIRED), INSURANCE POLICY TO NAME THE OWNER, ENGINEER AND ARCHITECT AS CO-INSURED. AMOUNT OF INSURANCE TO BE SPECIFIED BY OWNERS AGENT.
- CONNECTION TO EXISTING SYSTEMS AS DETAILED, INCLUDING ALL RESTORATION WORK NECESSARY TO REINSTATE SURFACES TO THE CONDITION THAT EXISTED PRIOR TO CONSTRUCTION OR BETTER.
- STANDARD ROAD CUT SHALL CONFORM TO CITY OF OTTAWA STANDARD DETAIL R25.
- ASPHALT RESTORATION SHALL BE IN ACCORDANCE WITH OPSS-310.
- BOULEVARDS SHALL BE REINSTATED WITH 100mm OF TOPSOIL AND SODDED.
- INVESTIGATION REPORT FOR SUBSURFACE INFORMATION PREPARED BY THE GEOTECHNICAL CONSULTANT. INTERPRETATION OF INFORMATION IS THE RESPONSIBILITY OF THE CONTRACTOR. NO RECYCLED GEOTECHNICAL MATERIAL SHALL BE PERMITTED FOR USE ON-SITE.
- REMOVE AND STOCKPILE ON-SITE IN A SUITABLE LOCATION ALL TOPSOIL.
- TOPSOIL IN FILL AREA TO BE STRIPPED AND CLEAN FILL TO BE PLACED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- REFER TO ARCHITECT'S DRAWING FOR BUILDING DIMENSIONS AND LAYOUT INFORMATION. IT SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
- THE ORIGINAL TOPOGRAPHY AND GROUND ELEVATIONS, SERVICING AND SURVEY DATA SHOWN ON THIS PLAN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL INFORMATION OBTAINED FROM THESE PLANS.
- THICKNESS OF GRANULAR MATERIAL AND ASPHALT LAYERS SHALL BE IN ACCORDANCE WITH CITY STANDARD ROAD CROSS SECTION.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS. ALL MEASUREMENTS UTILIZE METRIC UNITS.
- ALL DESIGNATED TREES WITHIN SITE LIMITS TO BE MAINTAINED. REFER TO LANDSCAPE ARCHITECT AND TREE PRESERVATION DRAWINGS.
- TEMPORARY SEDIMENT CONTROL (FILTER CLOTH UNDER GRATE OR COVER) TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED ROAD CATCHBASINS, REARYARD CATCHBASINS AND CATCHBASIN MANHOLES.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INDICATE PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANTS LOCATIONS, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

PARKING AREAS AND DRIVEWAYS

- MEDIUM DUTY ASPHALT PAVEMENT FOR PARKING AREAS SHALL CONSIST OF 300mm SUB-BASE TYPE 2 MATERIAL, 150mm BASE COURSE OPSS GRANULAR "A" CRUSHED STONE, 50mm WEAR COURSE ASPHALT.
- PROVIDE PARKING AND LINE PAINTING WHERE APPLICABLE.
- DEPRESSED CURB AND BARRIER CURB TO BE IN ACCORDANCE WITH CITY STANDARD SC1.2.
- SIDEWALKS TO BE MAINTAINED TO CITY STANDARDS.

GRADING

- CONTACT MUNICIPALITY FOR ROUGH GRADING INSPECTION PRIOR TO PLACEMENT OF TOPSOIL OR TOPSOIL AND SOD
- THE OWNER SHALL CONTACT THE CITY ENGINEER FOR INSPECTION OF THE ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT OR TOPSOIL AND SOD.
- FINISH LOT GRADING WILL NOT ADVERSELY AFFECT DRAINAGE PATTERNS OF ADJACENT LANDS.
- ALL GRADES TO BE WITHIN 33% MAX. (3:1) SLOPE AT PROPERTY LINE AND WITHIN THE SITE.
- MATCH EXISTING ELEVATIONS AT ALL PROPERTY LINES. ENSURE POSITIVE DRAINAGE WHETHER INDICATED OR NOT.
- WHERE EXISTING GRADE IS FOUND TO BE MORE THAN 300mm BELOW THE PROPOSED GRADES INDICATED ON THIS GRADING PLAN, CONTACT ENGINEER IMMEDIATELY.
- SWALES LESS THAN 1.5% SHALL HAVE A 250mm SUBDRAIN AS PER CITY OF OTTAWA STANDARD S29, S30 AND S31.

WATERMANS

- CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. WATERMAIN TO BE PVC DR 18. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY CONTRACTOR. CONNECTION TO EXISTING WATERMAIN BY CITY OF OTTAWA. NO WORK TO COMMENCE UNLESS A MUNICIPAL WATER WORKS INSPECTOR IS ON SITE.
- WATERMAIN MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.25m OVER AND 0.50m UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING AS PER OTTAWA STANDARD DETAIL W 25 AND W25.2
- WATERMANS AND/OR WATER SERVICE ARE TO HAVE A MINIMUM COVER OF 2.4m WITH A MINIMUM HORIZONTAL SPACING OF 2.0m FROM THEMSELVES AND OTHER UTILITIES, AS PER THE GREATER OF CITY OF OTTAWA STANDARD DETAIL W38, R20 AND PIBS 7064E.
- CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS CITY OF OTTAWA STANDARD DETAILS W39, 40, 41, 42.
- PROVIDE THERMAL INSULATION FOR WATERMAIN AT OPEN STRUCTURES PER CITY OF OTTAWA STANDARD DETAIL W23.
- WATERMANS TO BE INSTALLED TO GRADE AS SHOWN. COPY OF GRADE SHEET MUST BE SUPPLIED TO INSPECTOR PRIOR TO COMMENCEMENT OF WORK WHERE REQUESTED BY THE INSPECTOR.
- IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
- WATERMAIN TRENCHING AND BEDDING TO CONFORM TO CITY OF OTTAWA STANDARD DETAIL W17.
- VALVES AND VALVE BOXES TO CONFORM WITH CITY OF OTTAWA STANDARD DETAIL W24.
- FIRE HYDRANT C/W GATE VALVE AND BOX SHALL CONFORM TO CITY OF OTTAWA STANDARD DETAIL W19.
- CONCRETE THRUST BLOCKS TO CONFORM TO OTTAWA STANDARD DETAIL W25.3 AND W25.4.
- ALL WATERMAIN SERVICE INSTALLATIONS AT SEWER CROSSINGS PER CITY OF OTTAWA STANDARD DETAIL W38.

CLAY SEALS :

- INSTALL CLAY SEALS AS PER MODIFIED S8 ON DRAWING 118224-MD-D1.
- CLAY SEALS SHOULD BE AT LEAST 1.5m LONG AND SHALL EXTEND FROM TRENCH WALL TO TRENCH WALL. SEALS SHOULD EXTEND FROM THE FROST LINE AND FULLY PENETRATE THE BEDDING, SUB-BEDDING AND COVER MATERIAL.
- CLAY SEALS SHALL CONSIST OF RELATIVELY DRY AND COMPATIBLE BROWN SILTY CLAY PLACED IN MAXIMUM 225mm THICK LOOSE LAYERS AND COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS SPMDD.
- REFER TO PROFILE DRAWINGS FOR LOCATION OF SEEPAGE BARRIERS.

TYPICAL SINGLE, SEMI-DETACHED AND TOWNHOUSE LOT SERVICING NOTES:

- NO HORIZONTAL BENDS IN RIGHT-OF-WAY UNLESS OTHERWISE APPROVED BY THE CITY. MAXIMUM OF TWO 22.5° HORIZONTAL BENDS FOR SANITARY AND STORM SERVICES.
- 1% MINIMUM SANITARY AND STORM SERVICE GRADIENT WITH 2% PREFERRED.
- STORM SERVICE LATERAL SHALL BE LOCATED TO THE LEFT OF SANITARY SERVICE LATERAL WHEN LOOKING AT THE STRUCTURE FROM THE STREET. SERVICE SIZES IN CONFORMANCE WITH S11.
- SEE S6 FOR PIPE FOUNDATION, EMBEDMENT AND FINAL BACKFILL REQUIREMENTS.
- MULTIPLE TAPS WITH SADDLES IN PVC WATERMAIN SHALL BE STAGGERED AND MINIMUM 600mm APART.
- ELEVATION OF SERVICES VARIABLE DEPENDING ON GRADIENT AND/OR DEPTH OF COVER.
- ALL DIMENSIONS ARE IN MILLIMETRES.
- GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- TRANSFORMER PEDESTALS AND FIRE HYDRANTS (WHERE APPLICABLE) TO BE INSTALLED AT END OF TOWNHOUSE BLOCKS.
- REFER TO R.O.W. CROSS SECTIONS FOR UTILITY LOCATIONS.
- SEE W27 FOR ADDITIONAL WATER SERVICING SCENARIOS.

PAVEMENT STRUCTURE - LOCAL ROADWAYS

40mm HL-3 or SUPERPAVE 12.5
50mm HL-8 or SUPERPAVE 19.0
150mm GRANULAR "A" CRUSHED STONE
400mm GRANULAR "B" TYPE II

DRIVEWAY STRUCTURE

50mm HL-3 or SUPERPAVE 12.5
150mm GRANULAR "A" CRUSHED STONE
300mm GRANULAR "B" TYPE II

TOPOGRAPHIC INFORMATION :

TOPOGRAPHIC INFORMATION PROVIDED BY:
NOVATECH - VARIOUS TOPO SURVEYS COMPLETED IN 2020
CITY OF OTTAWA 1-1000 MAPPING DATA (SHEET No. 382035C, 382034A, 382035D, 382034B, 382034D, 382034C)

LEGAL INFORMATION:

DRAFT M-PLAN PROVIDED BY: J.D. BARNES
REFERENCE No.: 23-10-047-00 (THE COMMONS PH-2)
DATED: NOVEMBER 29, 2023

EROSION AND SEDIMENT CONTROL NOTES:

- 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, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS AND DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SUCH AS BUT NOT LIMITED TO INSTALLING INLET PROTECTION MEASURES ACROSS MH & CBS AND INSTALLING AND MAINTAINING LIGHT DUTY SILT FENCE BARRIERS AND STRAW BALE CHECK DAMS AS REQUIRED.
- CONDITIONS OF THE SILT FENCE AND STRAW BALE DAMS TO BE INSPECTED REGULARLY AND REPLACED OR REPAIRED AS INSTRUCTED BY THE ENGINEER.
- THE CONTRACTOR SHALL ENSURE THAT ROADS ARE KEPT CLEAN AT ALL TIMES USING SUCH PRACTICES AS WASHING DOWN TRUCK TIRES, ROAD SWEEPING AND FLUSHING ETC.
- THE CONTRACTOR ACKNOWLEDGES THAT SURFACE EROSION AND SEDIMENT RUNOFF RESULTING FROM THEIR CONSTRUCTION OPERATIONS WILL HAVE A DETRIMENTAL IMPACT TO ANY DOWNSTREAM WATERCOURSE OR SEWER, AND THAT ALL CONSTRUCTION OPERATIONS THAT MAY IMPACT UPON WATER QUALITY SHALL BE CARRIED OUT IN A MANNER THAT STRICTLY MEETS THE REQUIREMENTS OF ALL APPLICABLE LEGISLATION AND REGULATIONS.
- AS SUCH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THEIR OPERATIONS, AND SUPPLYING AND INSTALLING ANY APPROPRIATE CONTROL MEASURES, SO AS TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING ANY SEWER OR WATERCOURSE WITHIN DOWNSTREAM OF THE WORKING AREA.

SPECIFIC MEASURES SHALL BE INSTALLED AT THE SPECIFIED LOCATIONS AND IN ACCORDANCE WITH THE REQUIREMENTS OF OPSS 805 WHERE APPROPRIATE, OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

- WHERE, IN THE OPINION OF THE CONTRACT ADMINISTRATOR OR ANY REGULATORY AGENCY, THE INSTALLED CONTROL MEASURES FAIL TO PERFORM ADEQUATELY, THE CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL OR ALTERNATIVE MEASURES AS DIRECTED BY THE CONTRACT ADMINISTRATOR OR THE REGULATORY AGENCY. AS SUCH, THE CONTRACTOR SHALL HAVE ADDITIONAL CONTROL MATERIALS ON SITE AT ALL TIMES WHICH ARE EASILY ACCESSIBLE AND MAY BE IMPLEMENTED BY THEM AT A MOMENT'S NOTICE.
- THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS, INCLUDING SUB-CONTRACTORS, IN THE WORKING AREA ARE AWARE OF THE IMPORTANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES AND INFORMED OF THE CONSEQUENCES OF THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AGENCIES AND THE SPECIFICATIONS DETAILED HEREIN.
- THE CONTRACTOR SHALL PERIODICALLY, OR WHEN REQUESTED BY THE CONTRACT ADMINISTRATOR, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES, INCLUDING THOSE DEPOSITS THAT MAY ORIGINATE FROM OUTSIDE THE CONSTRUCTION AREA. ACCUMULATED SEDIMENT SHALL BE REMOVED IN SUCH A MANNER THAT PREVENTS THE DEPOSITION OF THIS MATERIAL INTO ANY SEWER OR WATERCOURSE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. THE SEDIMENT SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH THE REQUIREMENTS FOR EXCESS EARTH MATERIAL, AS SPECIFIED ELSEWHERE IN THE CONTRACT.

SEWERS

- ALL SEWER MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS.
- ALL CATCHBASIN MANHOLES AND MANHOLES SHALL BE PRECAST AND CONFORM TO OPSP 701.01, 701.011 AND 701.012
- ALL DOUBLE CATCHBASIN MANHOLES SHALL BE PRECAST AND CONFORM TO OPSP 705.02
- ALL CATCHBASINS SHALL BE PRECAST AND CONFORM TO OPSP 705.01.
- ALL CATCHBASIN MANHOLES AND CATCHBASINS TO HAVE A MINIMUM 0.6m SUMP AND TOP AS PER CITY UNLESS NOTED OTHERWISE. STORM MANHOLES TO HAVE A SUMP OF 300mm FOR 825mm AND SMALLER AND BENCHING FOR PIPES 900mm AND GREATER.
- THE CATCHBASIN FRAME AND GRATE SHALL CONFORM TO CITY OF OTTAWA STANDARDS.
- ALL CATCHBASINS CONSTRUCTED IN FILL AREAS TO BE SUPPORTED ON 14 MPa CONCRETE TO SOLID GROUND.
- REARYARD CATCHBASINS SHALL BE IN ACCORDANCE WITH MUNICIPALITY STANDARD DETAILS.
- ALL ROAD CATCHBASINS SHALL INCLUDE 6.0m OF 150mmØ PERFORATED SUBDRAIN C/W FILTER CLOTH.
- STORM SEWER SHALL BE CONCRETE 6SD WITH TYPE "B" BEDDING OR PVC PIPE SDR 35 THROUGHOUT EXCEPT AT RISERS, UNLESS OTHERWISE NOTED, AS PER OPSP.
- ALL PROPOSED FOUNDATION DRAINS SHALL BE CONNECTED TO STORM SEWER IF AVAILABLE, OR PUMPED TO SURFACE IF STORM SEWER NOT AVAILABLE.
- MANHOLE BENCHING SHALL FOLLOW MUNICIPALITY STANDARD DETAIL.
- SEWER TRENCHING AND BEDDING SHALL BE AS PER CLASS "B" BEDDING CITY OF OTTAWA STANDARD DRAWING S13, UNLESS NOTED OTHERWISE.

A. BEDDING SHALL BE MINIMUM 150mm OF GRANULAR "A" FOR EARTH AND 300mm OF GRANULAR "A" FOR ROCK AS PER CITY OF OTTAWA DETAIL S7. COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.

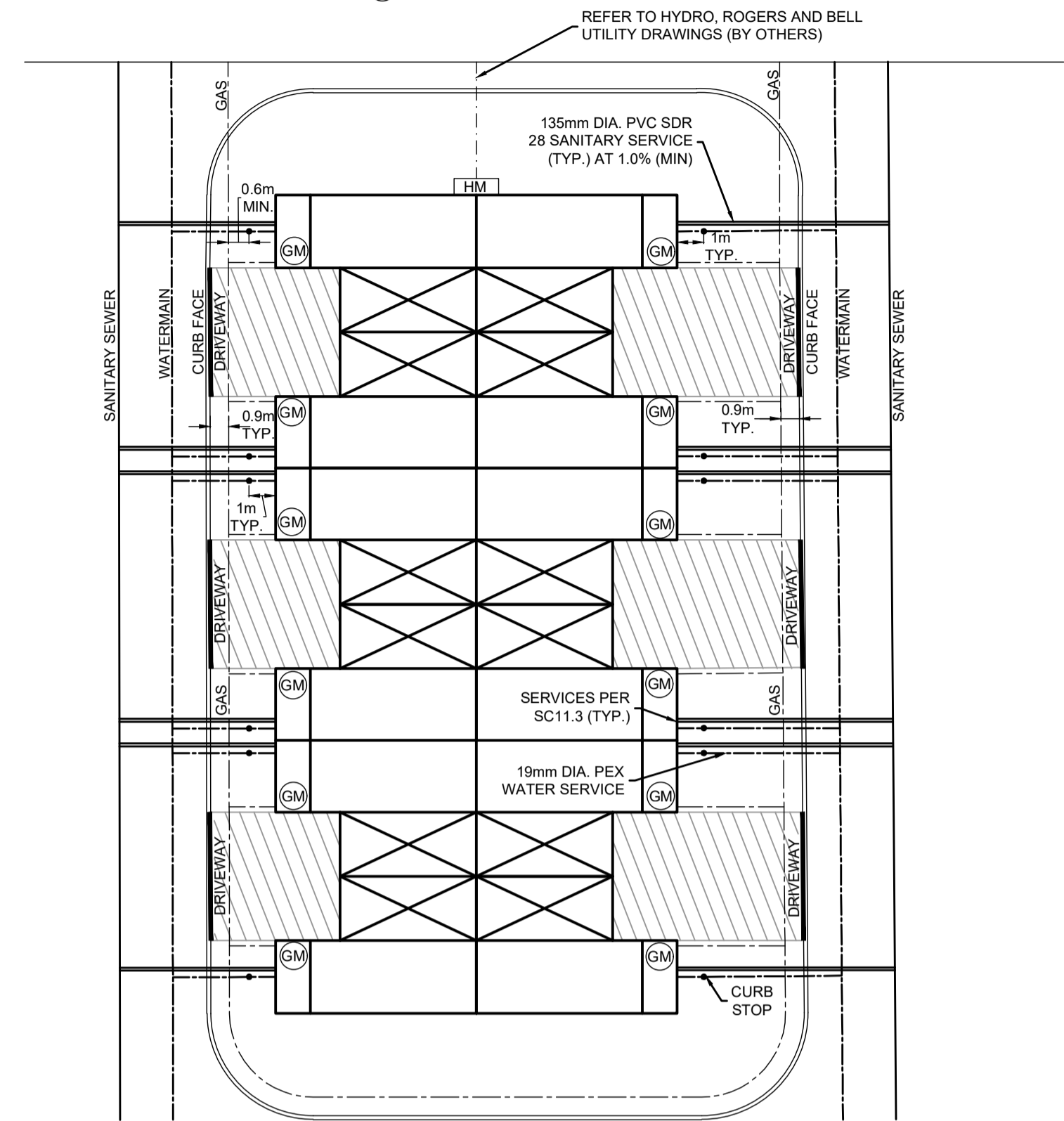
B. SUB-BEDDING, IF REQUIRED, SHALL CONSIST OF 300mm OF COMPACTED GRANULAR "B", TYPE 11.

C. BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR GRANULAR "B" TYPE 1.

D. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2 METRE BELOW FINISHED GRADE) SHALL MATCH ADJACENT SOIL CONDITIONS.

- SANITARY SEWERS AND CONNECTIONS 150mmØ AND SMALLER TO BE PVC SDR 28.
- SANITARY SEWERS AND CONNECTIONS 200mmØ AND LARGER TO BE PVC SDR 35 WITH TYPE "B" BEDDING THROUGHOUT EXCEPT AT RISERS, UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE PRECAST AND CONFORM TO OPSP 701.01. FRAME AND COVER TO CONFORM TO CITY OF OTTAWA STANDARD DETAILS S24, S24.1 AND S25.
- ALL WORKS SHALL BE PERFORMED AS APPLICABLE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SPECIFICATIONS, AND IN PARTICULAR O.P.S.S. 407 AND 410.
- ALL STORM AND SANITARY SERVICES ARE TO BE THE SIZES INDICATED AND THE MATERIAL SHALL BE PVC DR-28 @ 1.0% MINIMUM.
- PROVIDE T.V. INSPECTION REPORT FOR STORM AND SANITARY SEWERS.
- INSULATE ALL STORM AND SANITARY SEWERS THAT HAVE LESS THAN 1.5m OF COVER WITH THERMAL INSULATION. PROVIDE 150mm OF CLEARANCE BETWEEN PIPE AND INSULATION.
- SUPPLY AND INSTALLATION OF ALL PIPING AND APPURTENANCES AS SHOWN AND DETAILED TO PROPERTY LINE. PROVIDE TEMPORARY CAPS, AS DIRECTED BY ENGINEER.
- REFER TO DRAWING 118224-GP-ND FOR CATCH BASIN AND MANHOLE STRUCTURE INFORMATION.
- CONSTRUCT ALL SEWERS AND APPURTENANCES TO ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS.

- TOWNHOUSE SERVICES REFER TO S11.3
- SANITARY WATER- 1-135mmØ PVC DR 28 @ 1.0% (MIN) 2.0% DESIRED
1-19mmØ (TYPE K COPPER)
 - SANITARY WATER- 2-135mmØ PVC DR 28 @ 1.0% (MIN) 2.0% DESIRED
2-19mmØ (TYPE K COPPER)
 - HM HYDRO / COMMUNICATIONS GANG METER
 - GM GAS METER



**TYPICAL SERVICE CONNECTION
BACK TO BACK TOWNHOUSE (SLAB ON GRADE)
N.T.S**

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.

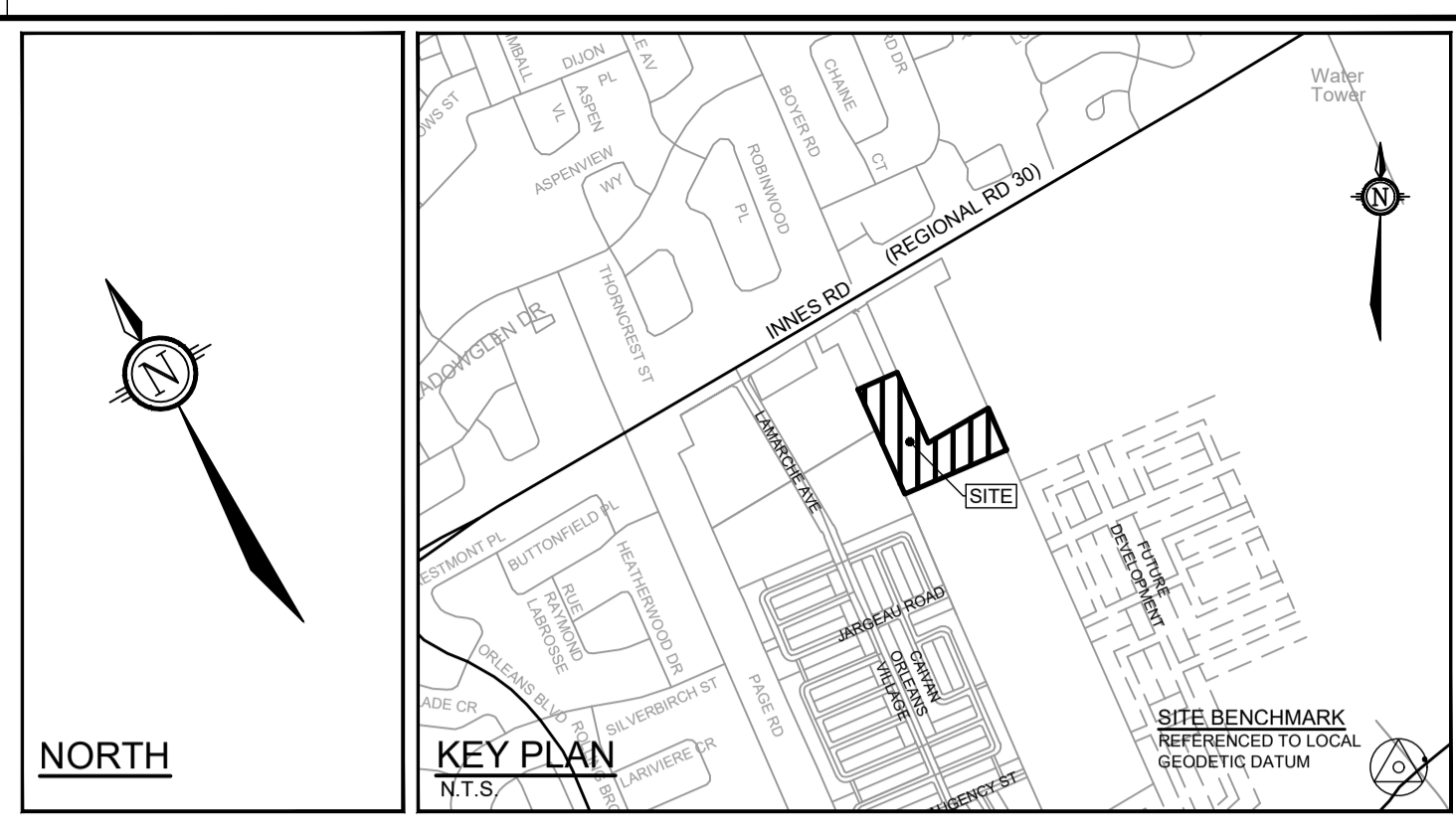
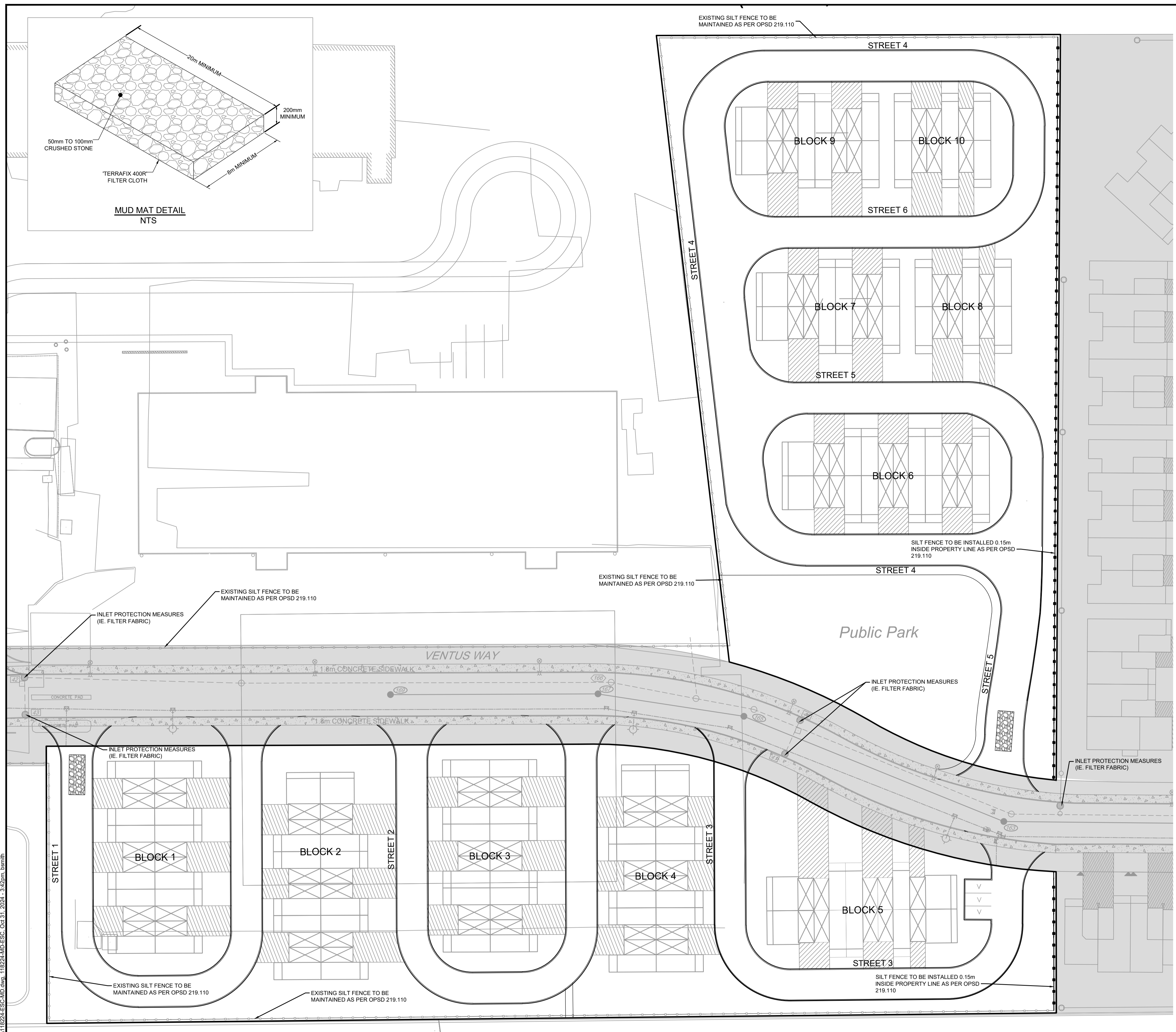
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1.	ISSUED FOR CITY REVIEW	NOV 01/24	MS

SCALE	DESIGN	CHECKED	DRAWN	CHECKED	APPROVED
AS SHOWN	BR	BHB	BR	BHB	BHB

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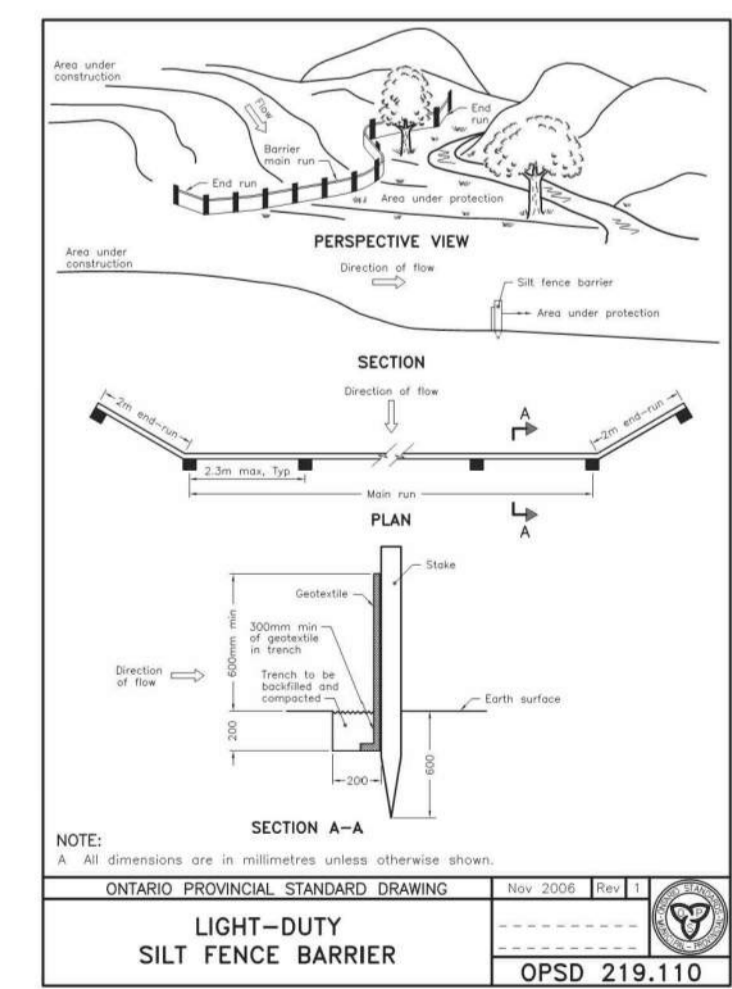
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LOCATION CITY OF OTTAWA THE COMMONS - MEDIUM DENSITY	PROJECT No. 118224-MD
DRAWING NAME	REV REV # 1
NOTES AND DETAILS	DRAWING No. 118224-MD-ND



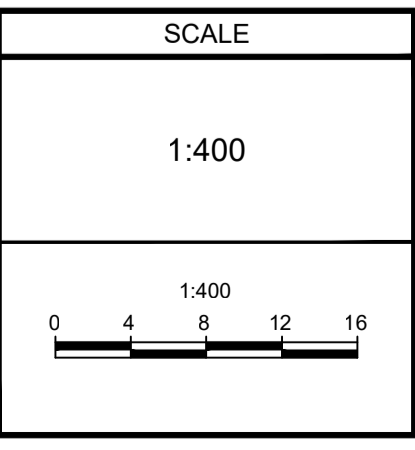
- LEGEND**
- PROPOSED LIGHT DUTY SILT FENCE BARRIER AS PER OPSD 219.110
 - EXISTING LIGHT DUTY SILT FENCE BARRIER AS PER OPSD 219.110
 - PROPOSED MUD MAT
 - INLET PROTECTION MEASURES

- EROSION AND SEDIMENT CONTROL NOTES:**
1. 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.
 2. THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS AND DURING ALL PHASES OF THE SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL, SUCH AS BUT NOT LIMITED TO INSTALLING INLET PROTECTION MEASURES ACROSS MH & CBS AND INSTALLING AND MAINTAINING LIGHT DUTY SILT FENCE BARRIERS AND STRAW BALE CHECK DAMS AS REQUIRED.
 3. CONDITIONS OF THE SILT FENCE AND STRAW BALE DAMS TO BE INSPECTED REGULARLY AND REPLACED OR REPAIRED AS INSTRUCTED BY THE ENGINEER.
 4. THE CONTRACTOR SHALL ENSURE THAT ROADS ARE KEPT CLEAN AT ALL TIMES USING SUCH PRACTICES AS WASHING DOWN TRUCK TIRES, ROAD SWEEPING AND FLUSHING ETC.
 5. THE CONTRACTOR ACKNOWLEDGES THAT SURFACE EROSION AND SEDIMENT RUNOFF RESULTING FROM THEIR CONSTRUCTION OPERATIONS WILL HAVE A DETRIMENTAL IMPACT TO ANY DOWNSTREAM WATERCOURSE OR SEWER, AND THAT ALL CONSTRUCTION OPERATIONS THAT MAY IMPACT UPON WATER QUALITY SHALL BE CARRIED OUT IN A MANNER THAT STRICTLY MEETS THE REQUIREMENTS OF ALL APPLICABLE LEGISLATION AND REGULATIONS.
 6. AS SUCH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THEIR OPERATIONS, AND SUPPLYING AND INSTALLING ANY APPROPRIATE CONTROL MEASURES, SO AS TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING ANY SEWER OR WATERCOURSE WITHIN DOWNSTREAM OF THE WORKING AREA. FOR THIS PROJECT THE SUGGESTED ON-SITE MEASURES SHALL INCLUDE BUT SHALL NOT BE LIMITED TO THE FOLLOWING METHODS:
 SPECIFIC MEASURES SHALL BE INSTALLED AT THE SPECIFIED LOCATIONS AND IN ACCORDANCE WITH THE REQUIREMENTS OF OPSD 805 WHERE APPROPRIATE, OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 7. WHERE, IN THE OPINION OF THE CONTRACT ADMINISTRATOR OR ANY REGULATORY AGENCY, THE INSTALLED CONTROL MEASURES FAIL TO PERFORM ADEQUATELY, THE CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL OR ALTERNATIVE MEASURES AS DIRECTED BY THE CONTRACT ADMINISTRATOR OR THE REGULATORY AGENCY. AS SUCH, THE CONTRACTOR SHALL HAVE ADDITIONAL CONTROL MATERIALS ON SITE AT ALL TIMES WHICH ARE EASILY ACCESSIBLE AND MAY BE IMPLEMENTED BY THEM AT A MOMENT'S NOTICE.
 8. THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS, INCLUDING SUB-CONTRACTORS, IN THE WORKING AREA ARE AWARE OF THE IMPORTANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES AND INFORMED OF THE CONSEQUENCES OF THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AGENCIES AND THE SPECIFICATIONS DETAILED HEREIN.
 9. THE CONTRACTOR SHALL PERIODICALLY, OR WHEN REQUESTED BY THE CONTRACT ADMINISTRATOR, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES, INCLUDING THOSE DEPOSITS THAT MAY ORIGINATE FROM OUTSIDE THE CONSTRUCTION AREA. ACCUMULATED SEDIMENT SHALL BE REMOVED IN SUCH A MANNER THAT PREVENTS THE DEPOSITION OF THIS MATERIAL INTO ANY SEWER OR WATERCOURSE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. THE SEDIMENT SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH THE REQUIREMENTS FOR EXCESS EARTH MATERIAL, AS SPECIFIED ELSEWHERE IN THE CONTRACT.



NOTE:
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No.	REVISION	DATE	BY
1.	ISSUED FOR CITY REVIEW	NOV 01/24	BHB



DESIGN CV/MS

CHECKED MS

DRAWN CV

CHECKED MS

APPROVED BHB

FOR REVIEW ONLY

NOVATECH
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 Suite 200, 240 Michael Cowpland Drive
 Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
 Facsimile (613) 254-5857
 Website www.novatech-eng.com

LOCATION
 CITY OF OTTAWA
 THE COMMONS - PHASE 4

DRAWING NAME
EROSION AND SEDIMENT CONTROL PLAN

PROJECT No. 118224-MD

REV # 1

DRAWING No. 118224-MD-ESC

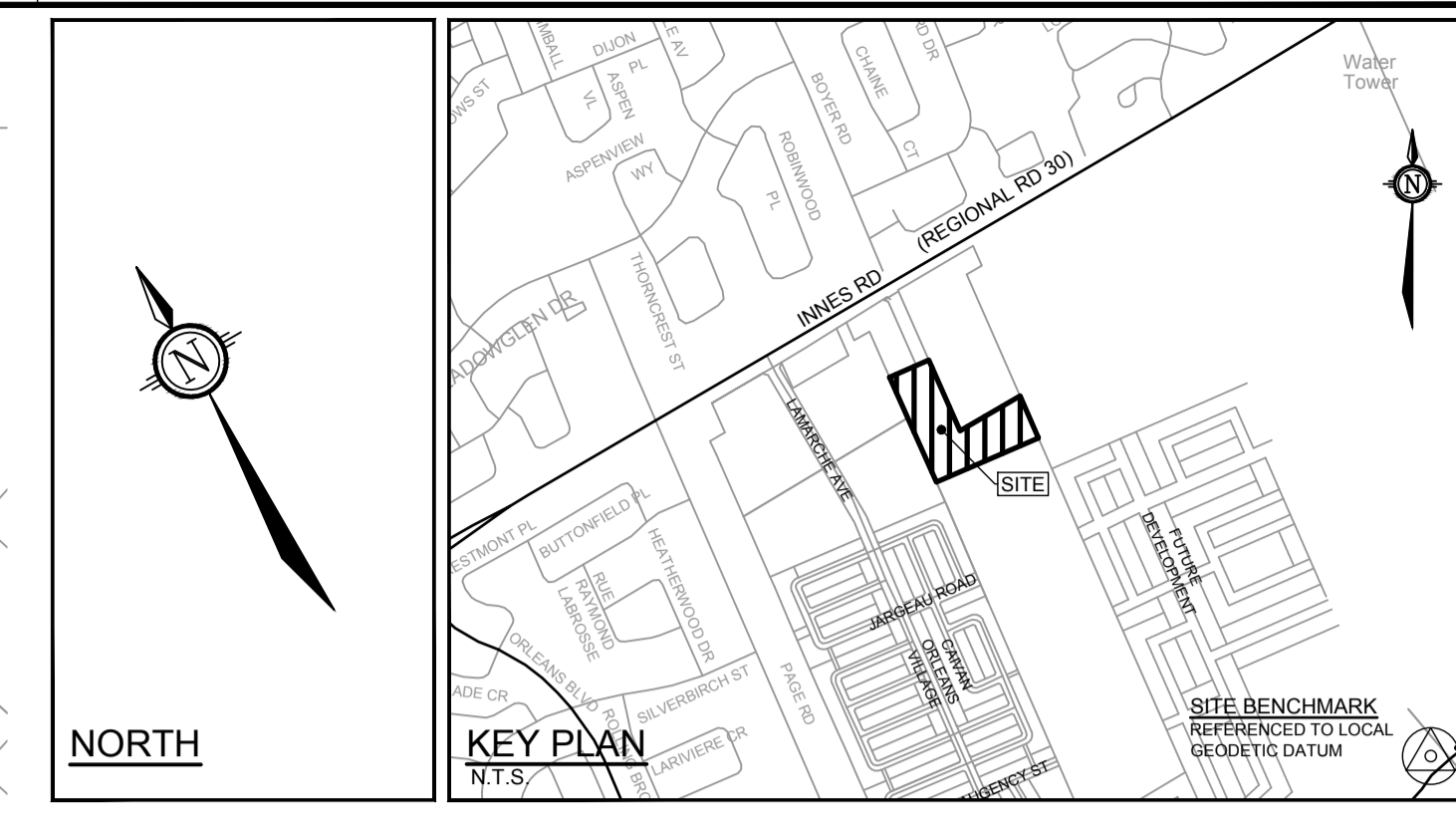
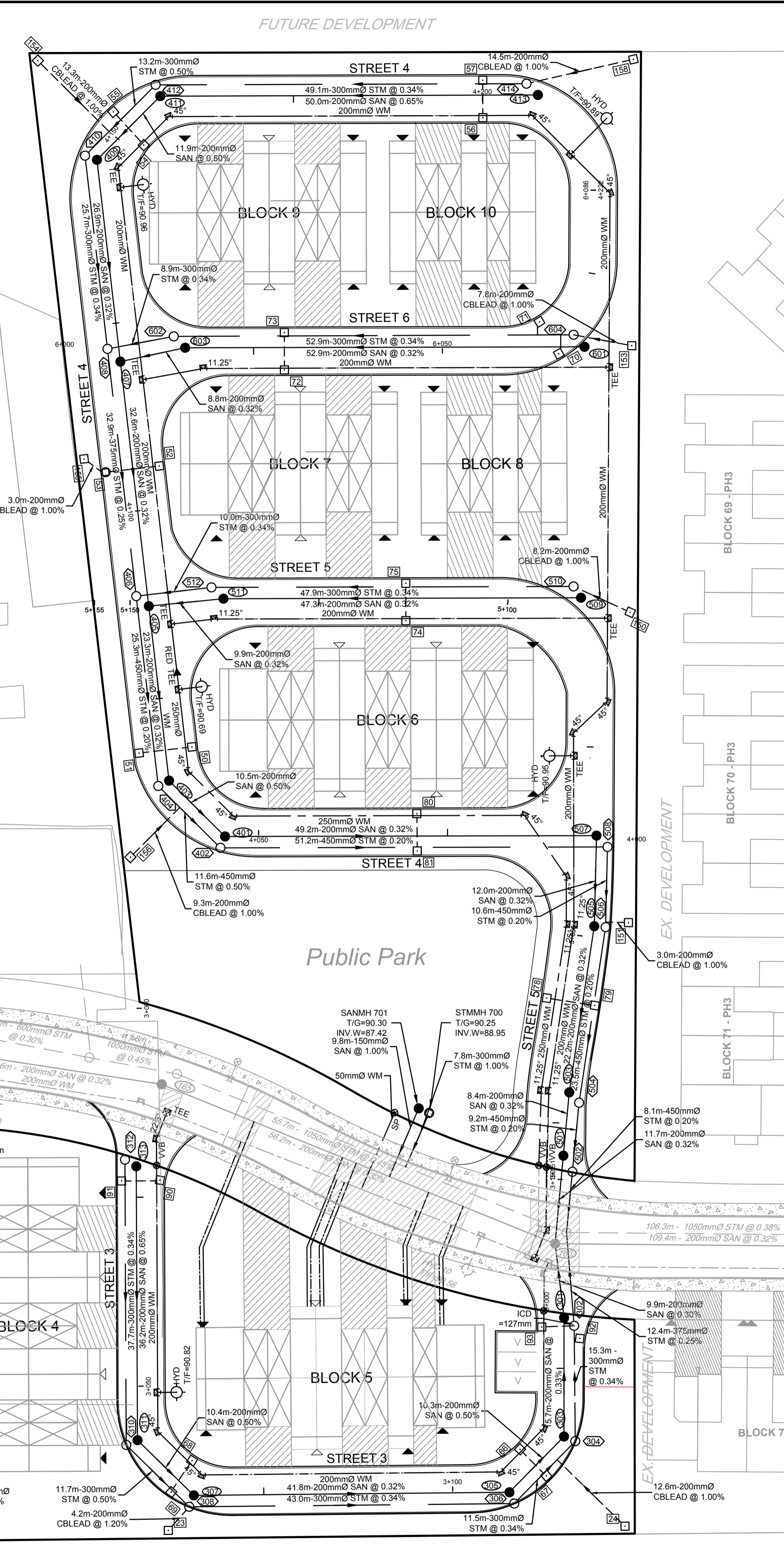
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SAN MANHOLE TABLE			
MANHOLE ID	STATION	T/G ELEV	INVERT
101	1+139.12	90.92	SW=88.14 SE=88.09
103	1+100.66	90.98	W=88.31 NE=88.26
105	1+090.47	91.10	NW=88.40 E=88.35
107	1+071.47	91.05	N=88.51 SE=88.46
109	1+062.15	90.96	NE=88.60 S=88.55
111	1+021.59	90.83	SW=88.86
201	2+023	91.05	NW=87.99 NE=87.94 S=87.99
203	2+025.20	91.10	SW=88.06 N=88.01
205	2+062.96	91.04	NE=88.19
207	2+140.68	90.68	SW=87.85 E=87.80
209	2+098.20	90.89	NE=87.99
301	3+131.70	90.44	SW=87.54 NE=87.49
303	3+116.44	90.57	W=87.64 NE=87.59
305	3+107.04	90.51	NW=87.74 E=87.69
307	3+066.19	90.54	N=87.92 SE=87.87
311	3+056.68	90.58	NE=88.02 S=87.97
313	3+020.91	90.45	SW=88.26

SAN MANHOLE TABLE			
MANHOLE ID	STATION	T/G ELEV	INVERT
401	4+054.14	90.75	N=87.96 SE=87.91
403	4+064.18	90.59	NE=88.06 S=88.01
405	4+067.31	90.87	NE=88.13 SW=88.13 SE=88.18
407	6+007.37	90.87	NE=88.24 SW=88.24 SE=88.29
409	4+146.42	90.62	E=88.37 SW=88.32
411	4+157.66	90.66	SE=88.48 W=88.43
413	4+206.95	90.75	NW=88.80
501	5+020.67	90.26	E=87.50 W=87.50
503	5+029.19	90.34	E=87.56 W=87.53
505	5+051.38	90.60	E=87.66 W=87.63
507	5+063.33	90.76	NW=87.75 W=87.70
509	5+092.56	90.67	NW=88.39
511	5+137.63	90.68	SE=88.24 NW=88.21
601	6+067.02	90.62	NW=88.52
603	6+015.94	90.70	SE=88.33 NW=88.32

STM MANHOLE TABLE			
MANHOLE ID	STATION	T/G ELEV	INVERT
100	1+140.54	90.90	SE=89.10 NW=89.14 SW=88.55 NE=88.48
102	1+100.62	91.02	NE=88.69 W=88.73
104	1+090.55	91.12	E=88.78 NW=88.83
106	1+071.47	91.07	SE=88.90 NE=88.95
108	1+062.12	90.99	S=89.00 NE=89.05
110	1+020.74	90.82	SW=89.19
202	2+139.78	90.68	SW=88.33 E=88.25
204	2+101.49	90.85	W=88.51 NE=88.46
206	2+090.45	91.01	NW=88.62 E=88.57
208	2+071.09	91.08	N=88.74 SE=88.69
210	2+061.63	90.99	NE=88.74 SW=88.79
212	2+021.54	91.01	SW=88.38 SE=89.22 NW=88.23
302	3+130.62	90.46	SW=88.41 NE=86.36 NW=88.65
304	3+116.42	90.60	W=86.91 NE=86.46
306	3+107.04	90.54	NW=87.00 E=86.95
308	3+066.19	90.57	N=87.20 SE=87.15 W=89.04
310	3+056.68	90.62	NE=87.31 S=87.26
312	3+020.02	90.39	SW=87.44

STM MANHOLE TABLE			
MANHOLE ID	STATION	T/G ELEV	INVERT
402	4+054.24	90.70	N=87.18 SE=87.13
404	4+064.13	90.54	NE=87.29 S=87.24
406	4+088.81	90.80	NE=87.42 SW=87.34 SE=87.49
408	4+121.75	90.86	NE=87.57 SW=87.50 SE=87.57
410	4+146.45	90.57	E=87.71 SW=87.66
412	4+157.57	90.61	SE=87.83 W=87.78
414	4+205.33	90.69	NW=88.00 SE=88.40
502	5+018.55	90.20	E=86.87 W=86.87
504	5+027.89	90.28	E=86.88 W=86.88
506	5+051.38	90.56	E=86.96 W=86.93
508	4+003.83	90.69	NW=87.71 W=86.96
510	5+093.77	90.74	SE=87.55 NW=87.52
512	5+139.22	90.66	SE=87.63 NW=87.60
602	6+014.44	90.67	NW=87.81 S=89.07
604	6+067.06	90.62	NW=87.81 S=89.07



CATCHBASIN TABLE				
CB No.	STATION	T/G ELEVATION	INVERT	ICD DIA.
20	2+021.76	90.35	88.05	83mm
21	1+066.74	89.92	88.72	83mm
23	2+100.25	90.29	88.79	83mm
24	3+112.80	88.85	87.65	83mm
28	1+111.06	90.82	89.12	100mm IPEX LMF
59	1+111.06	90.82	89.06	100mm IPEX LMF
60	1+051.30	90.81	89.09	75mm IPEX LMF
61	1+051.30	90.85	89.15	85mm IPEX LMF
62	2+109.61	90.74	89.01	95mm IPEX LMF
63	2+109.61	90.74	88.95	95mm IPEX LMF
64	2+050.65	90.84	88.81	95mm IPEX LMF
65	2+050.65	90.84	89.05	95mm IPEX LMF
66	3+111.55	90.40	88.70	70mm IPEX LMF
67	3+111.55	90.44	88.64	70mm IPEX LMF
68	3+063.74	90.54	88.82	95mm IPEX LMF
69	3+063.74	90.54	88.76	95mm IPEX LMF
82	4+065	90.88	88.84	83mm
83	1+023.25	90.90	88.90	83mm
84	1+140.53	90.86	88.86	83mm
85	1+140.54	90.86	88.86	83mm
86	2+021.57	90.96	88.96	83mm
87	2+021.50	90.96	88.96	83mm
88	2+138.08	90.73	88.73	83mm
89	2+138.08	90.69	88.67	83mm
90	3+022.85	90.47	88.42	83mm
91	3+022.84	90.47	88.36	83mm
92	3+128.91	90.47	88.97	83mm
93	3+130.47	90.44	88.41	83mm

CATCHBASIN TABLE				
CB No.	STATION	T/G ELEVATION	INVERT	ICD DIA.
50	4+068.15	90.41	88.42	65mm IPEX LMF
51	4+068.15	90.41	88.34	65mm IPEX LMF
52	4+105.57	90.46	88.97	70mm IPEX LMF
53	4+105.57	90.47	88.41	70mm IPEX LMF
54	4+151.73	90.49	88.50	75mm IPEX LMF
55	4+152.14	90.58	88.43	65mm IPEX LMF
56	4+200.05	90.59	89.09	75mm IPEX LMF
57	4+200.05	90.59	89.03	65mm IPEX LMF
70	4+113.72	90.62	88.65	80mm IPEX LMF
71	4+119.20	90.54	88.57	80mm IPEX LMF
72	4+115.75	90.46	88.51	85mm IPEX LMF
73	4+121.71	90.46	88.45	85mm IPEX LMF
74	5+113.50	90.35	88.38	83mm
75	5+113.50	90.35	88.32	83mm
78	5+041.17	90.42	88.48	83mm
79	5+041.17	90.50	88.40	83mm
80	4+029.05	90.44	88.41	75mm IPEX LMF
81	4+029.01	90.44	88.35	75mm IPEX LMF
150	5+088.83	90.29	88.29	83mm
151	5+052.20	90.20	88.20	83mm
153	6+069.76	90.35	88.85	83mm
155	4+107.65	89.94	88.44	83mm
156	4+060.31	89.93	87.93	83mm
158	4+212.13	90.25	88.25	83mm

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1.	ISSUED FOR CITY REVIEW	NOV 1/24	MS

SCALE	
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CV/MS	MS
CHECKED	CV
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CHECKED	MS
APPROVED	BHB

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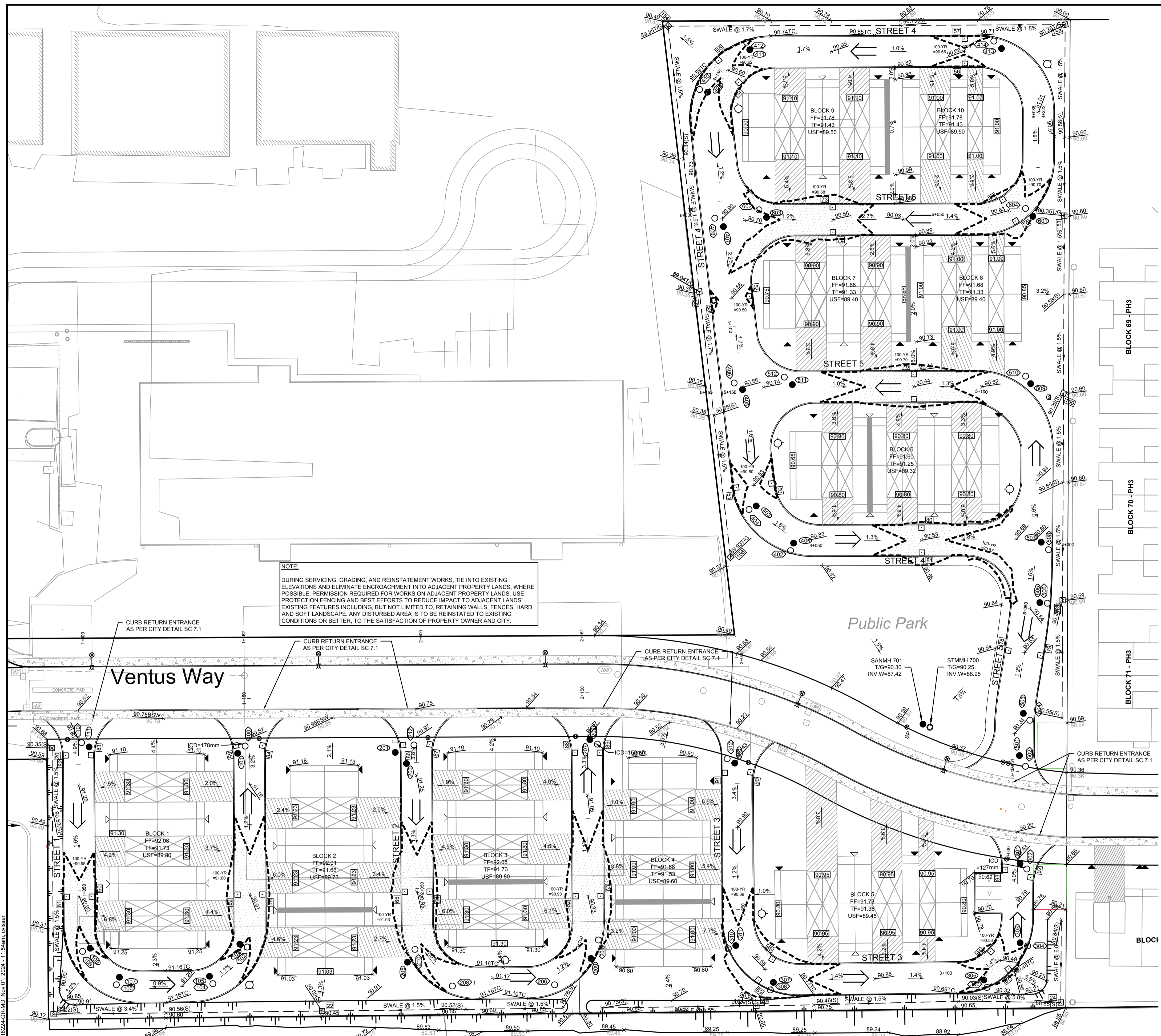
PROFESSIONAL ENGINEER
M. SAVIC
100102651
11/01/24
PROVINCE OF ONTARIO

NOVATECH
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Suite 200, 240 Michael Coppland Drive
Ottawa, Ontario, Canada K2M 1P6
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Facsimile: (613) 254-5867
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LOCATION
CITY OF OTTAWA
THE COMMONS - PHASE 4

DRAWING NAME
GENERAL PLAN OF SERVICES

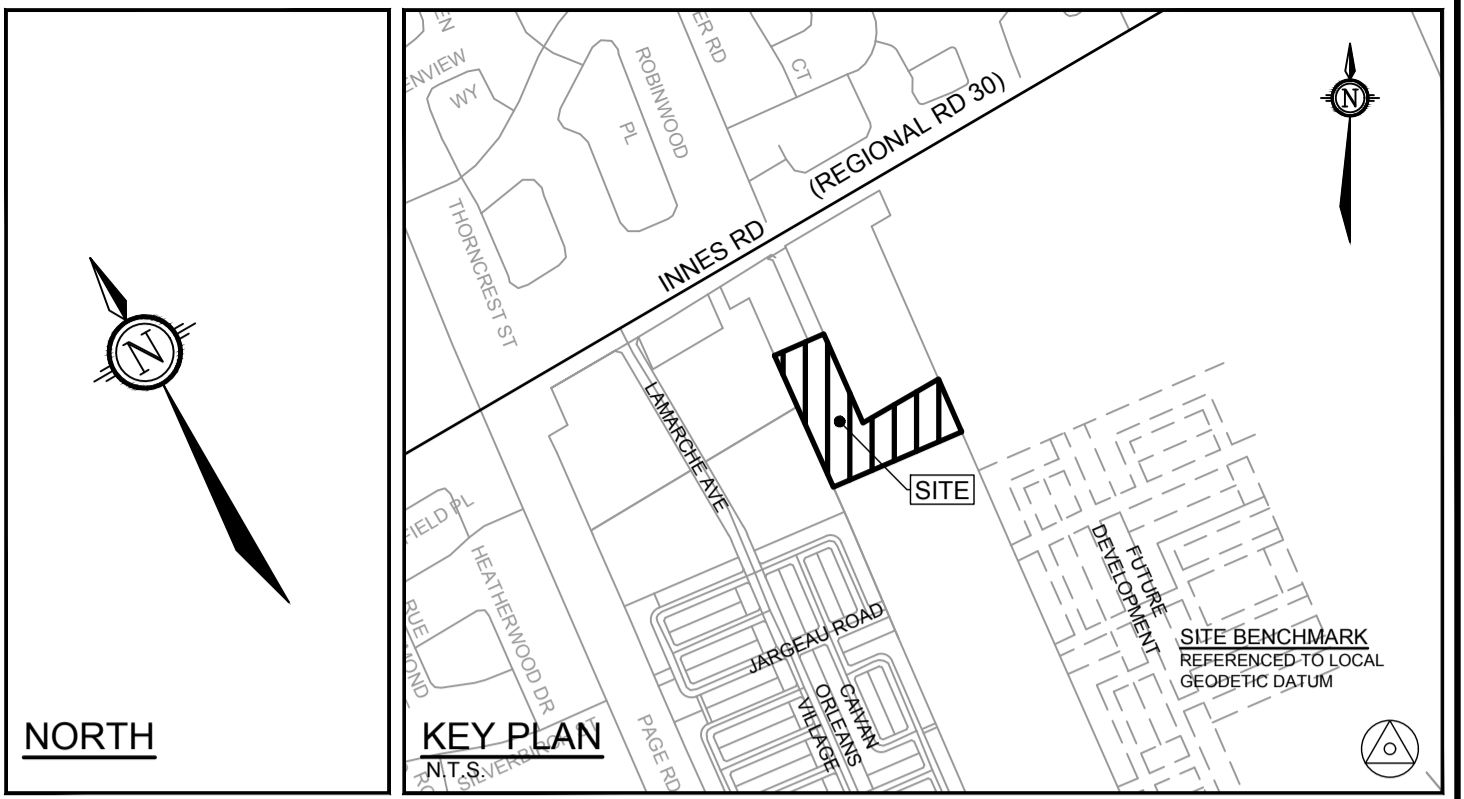
PROJECT No. 118224-MD
REV #1
DRAWING No. 118224-MD-GP



NOTE:
 DURING SERVICING, GRADING, AND REINSTATEMENT WORKS, TIE INTO EXISTING ELEVATIONS AND ELIMINATE ENCROACHMENT INTO ADJACENT PROPERTY LANDS, WHERE POSSIBLE. PERMISSION REQUIRED FOR WORKS ON ADJACENT PROPERTY LANDS. USE PROTECTION FENCING AND BEST EFFORTS TO REDUCE IMPACT TO ADJACENT LANDS' EXISTING FEATURES INCLUDING, BUT NOT LIMITED TO, RETAINING WALLS, FENCES, HARD AND SOFT LANDSCAPE. ANY DISTURBED AREA IS TO BE REINSTATED TO EXISTING CONDITIONS OR BETTER, TO THE SATISFACTION OF PROPERTY OWNER AND CITY.

Ventus Way

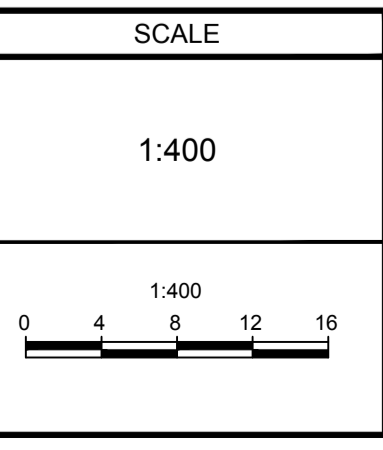
Public Park



- LEGEND**
- PROPOSED ELEVATION
 - EXISTING ELEVATION
 - PROPOSED SWALE ELEVATION
 - PROPOSED TOP OF GRATE ELEVATION
 - PROPOSED VERTICAL POINT OF INTERSECTION ELEVATION
 - GRADE AND DIRECTION
 - PROPOSED TERRACE ELEVATION
 - FF=91.60
 - TF=91.25
 - USF=89.32
 - TEST PIT LOCATION
 - SURVEY BENCHMARK (TOP OF SPINDLE ON HYDRANT)
 - EMERGENCY OVERLAND FLOW
 - PROPOSED TERRACING
 - PROPOSED SWALE
 - PROPOSED SANITARY MH
 - PROPOSED STORM MH
 - PROPOSED LANDSCAPE TEE CATCH BASIN
 - PROPOSED LANDSCAPE ELBOW CATCH BASIN
 - PROPOSED REAR YARD CATCH BASIN MANHOLE
 - PROPOSED REAR YARD CATCH BASIN
 - PROPOSED ROAD CATCHBASIN
 - EXISTING TREE TO REMAIN IF POSSIBLE
 - PROPOSED FIREWALL LOCATION
 - 100-YR = 97.84m
- ALL ELEVATIONS ARE MTM ZONE 9, NAD83 ORIGINAL

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CHECKED	MS
DRAWN	CV
CHECKED	MS
APPROVED	BHB

LICENSED PROFESSIONAL ENGINEER
 M. SAVIC
 100102651
 11/01/24
 PROVINCE OF ONTARIO

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LOCATION
 CITY OF OTTAWA
 THE COMMONS - PHASE 4

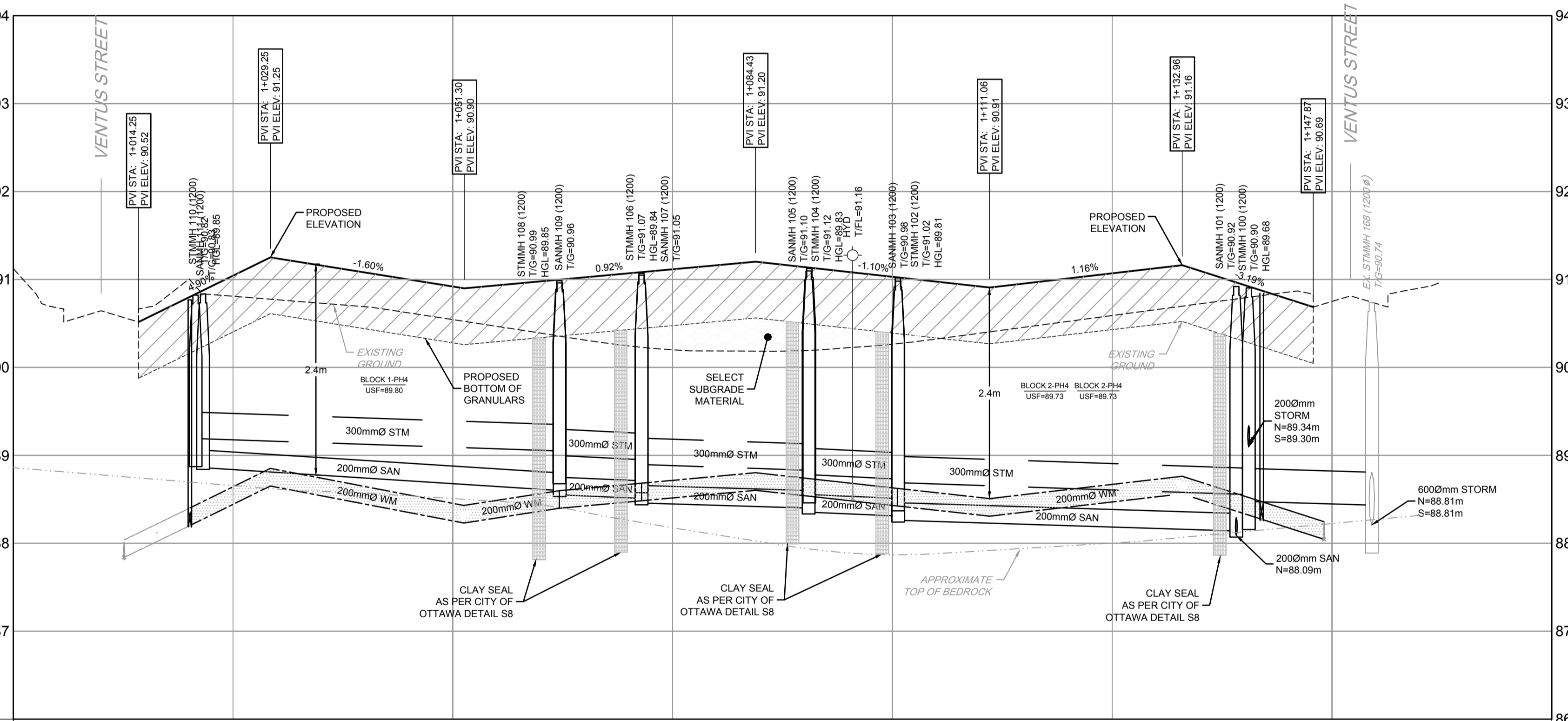
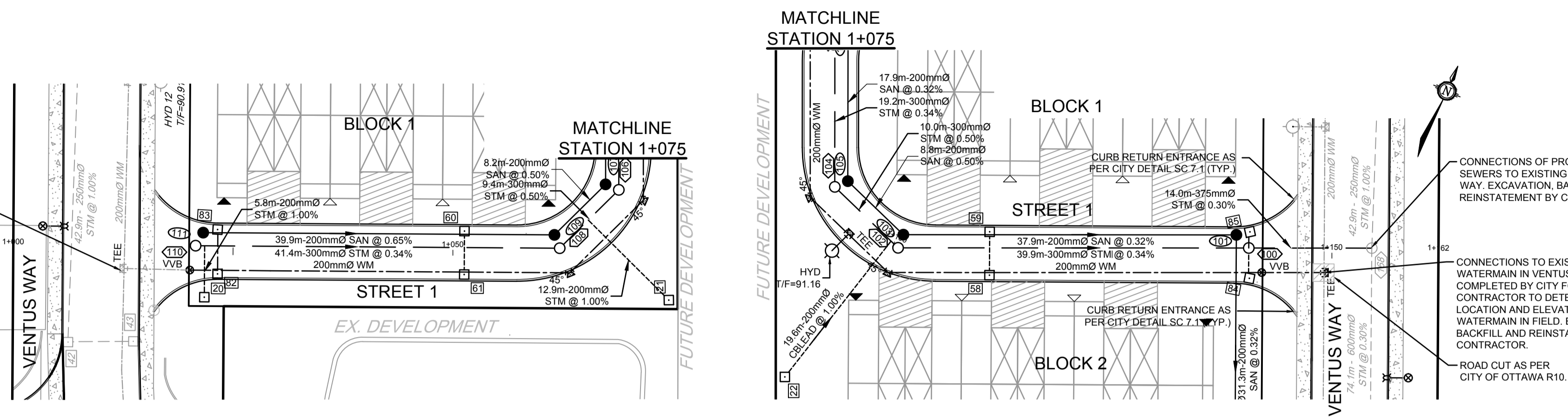
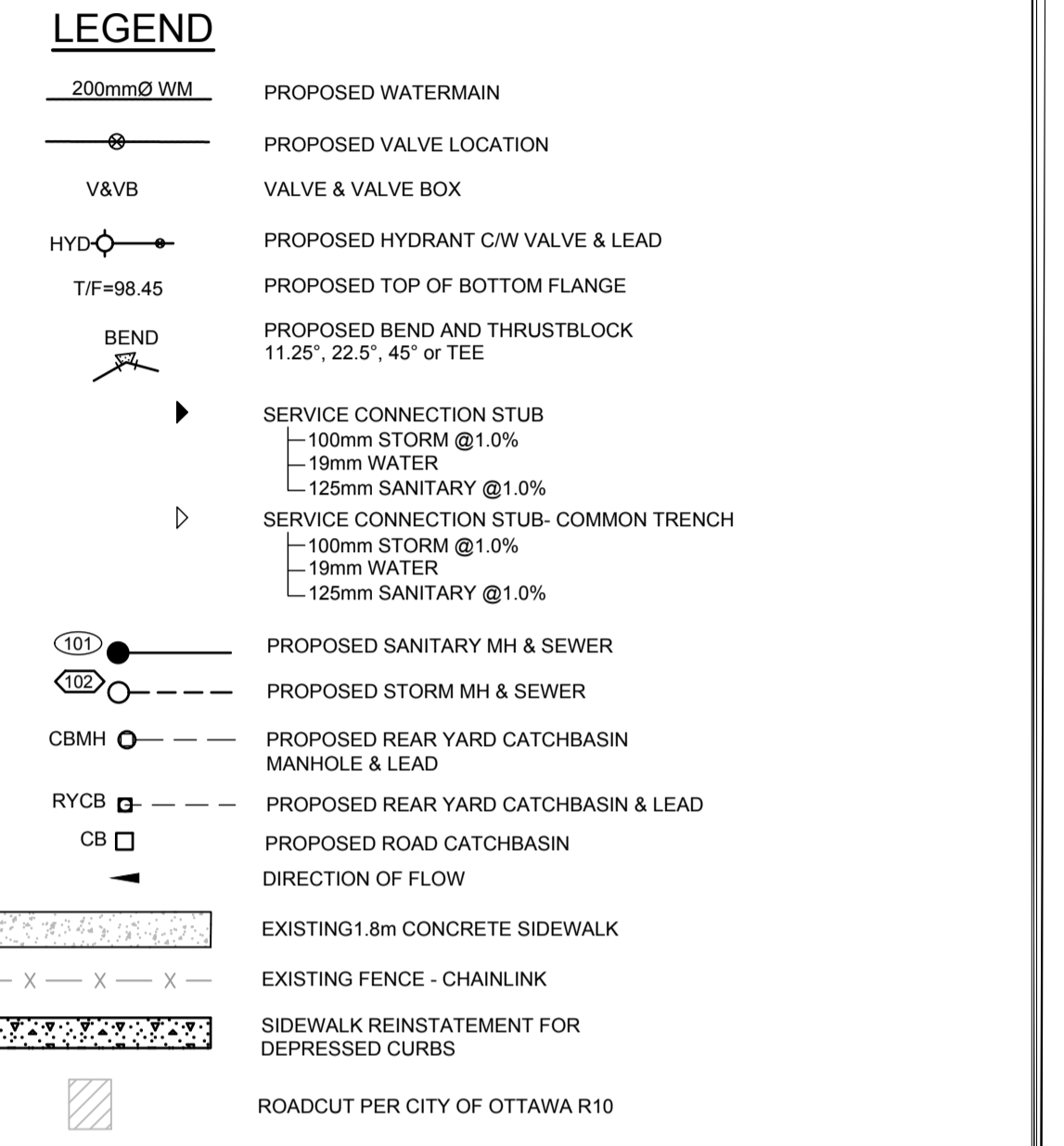
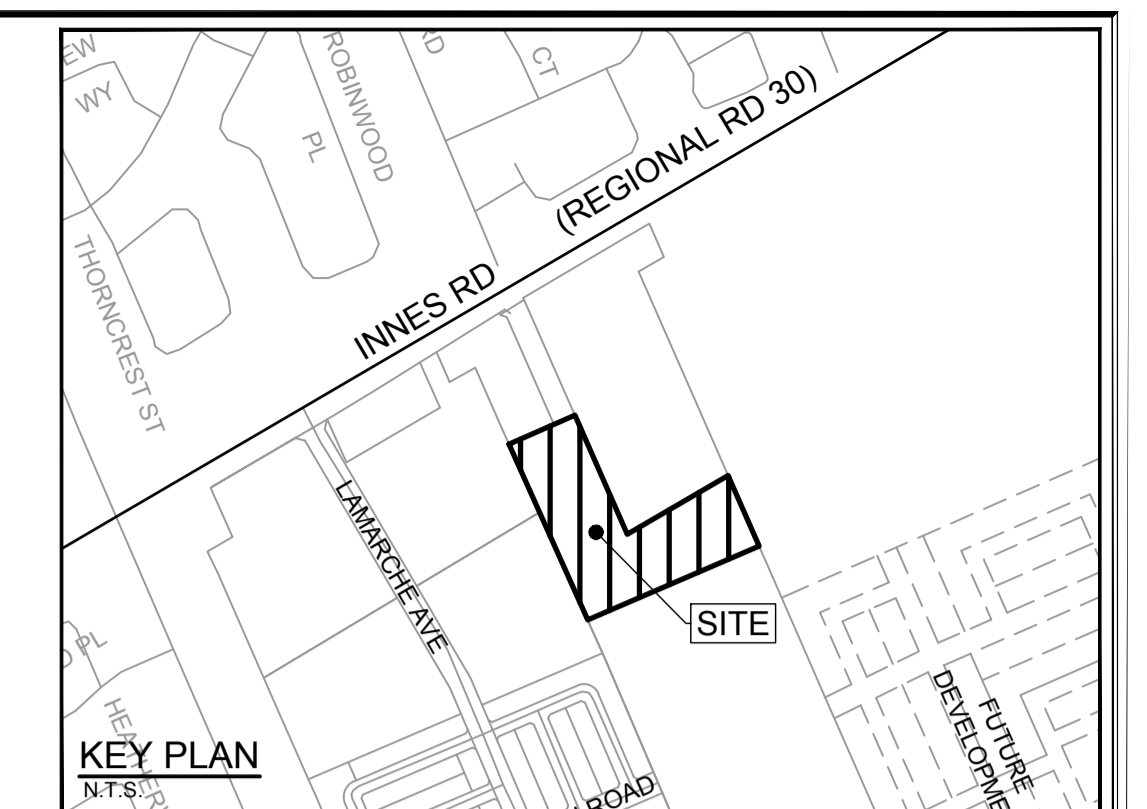
DRAWING NAME
GRADING PLAN

PROJECT No.
 118224-00

REV
 REV # 1

DRAWING No.
 118224-GR-MD

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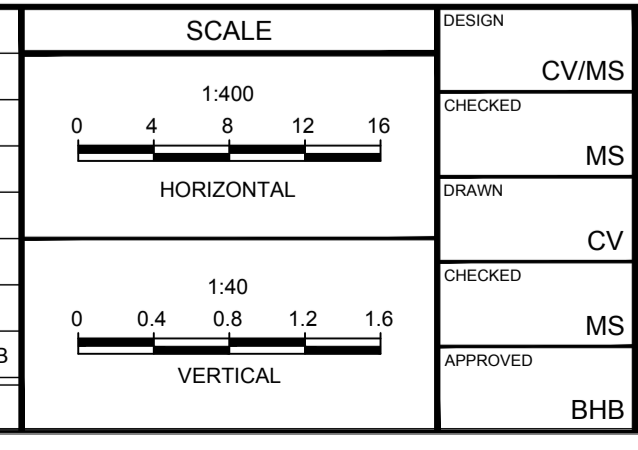


CHAINAGE	PROPOSED ELEVATION	TOP OF WM ELEVATION	STORM SEWER INVERTS	SANITARY SEWER INVERTS	EXISTING ELEVATION
1+000	89.42				89.42
1+012.62 TEE	90.52	88.04			89.42
1+020.00 VVB	91.04	88.40	SW=89.19	SW=88.86	89.42
1+030.56 SANMH 109	91.25	88.85			89.42
1+025					89.42
1+050	90.92	88.52			89.42
1+050.52 STMMH 108	90.90	88.50			89.42
1+055.12 SANMH 109		88.60	SE=89.00, NE=89.05, SW=89.19, NW=89.24	SE=88.86, NE=88.91, SW=88.86, NW=88.91	89.42
1+071.47 STMMH 106		88.68			89.42
1+071.47 SANMH 107		88.72			89.42
1+075	91.12	88.72			89.42
1+080.52 STMMH 104	91.20	88.80			89.42
1+080.47 SANMH 105		88.73			89.42
1+095.48 HYD		89.03			89.42
1+100.57 4E		88.82			89.42
1+100.52 STMMH 102		88.82			89.42
1+100.56 SANMH 103		88.82			89.42
1+125	90.91	88.51			89.42
1+130.12 SANMH 101	91.07	88.67			89.42
772 STMMH 100	91.16	88.76	SE=89.10, NE=89.14, SW=88.85, NW=88.89	SE=88.85, NE=88.89, SW=88.85, NW=88.89	89.42
1+142.03 VVB		88.47			89.42
1+150.11 TEE	90.69	88.29			89.42
1+150.11 TEE		88.33			89.42
1+154.52 STMMH 109		88.33			89.42
1+175					89.42

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DESIGN: CV/MS
 CHECKED: MS
 DRAWN: CV
 CHECKED: MS
 APPROVED: BHB

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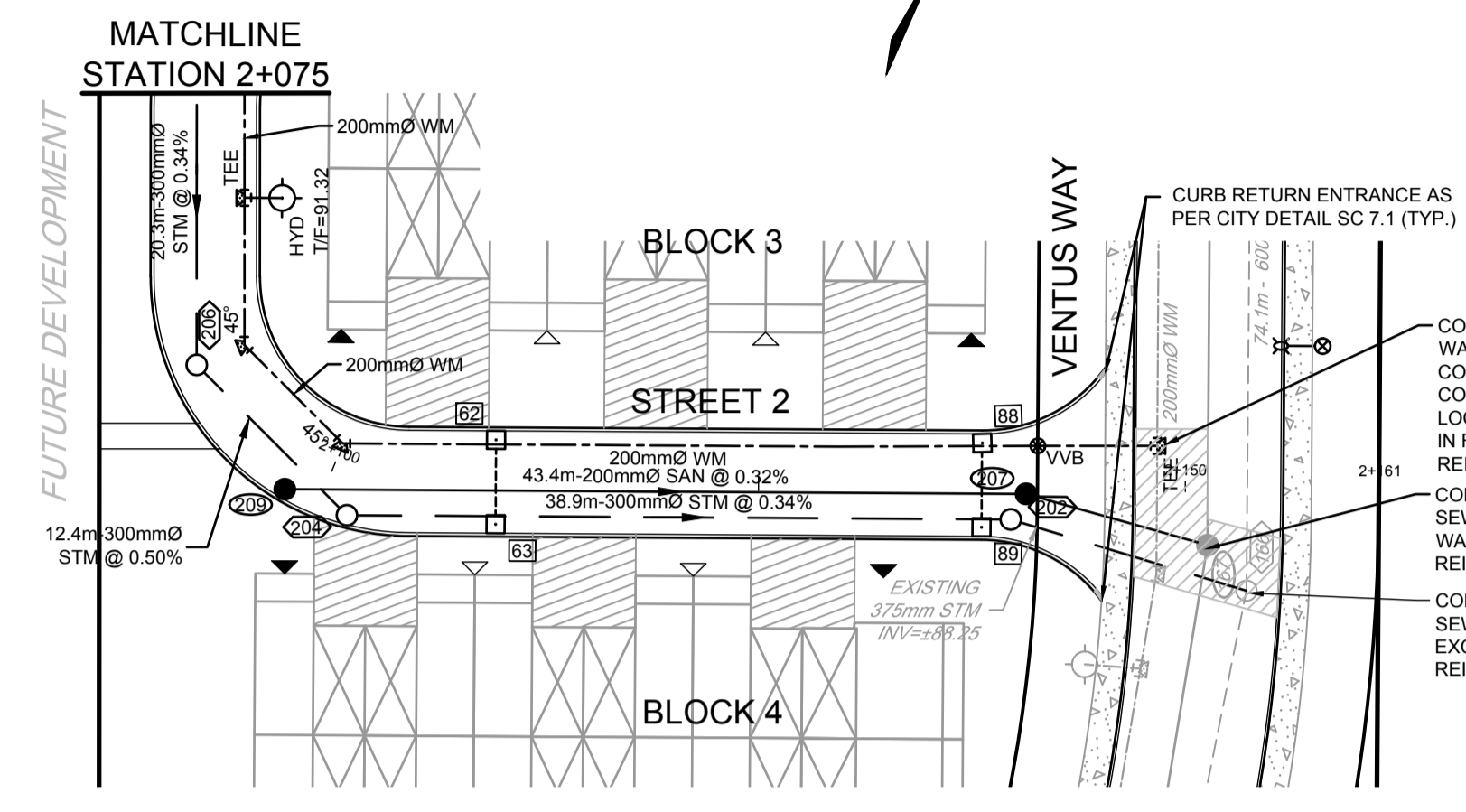
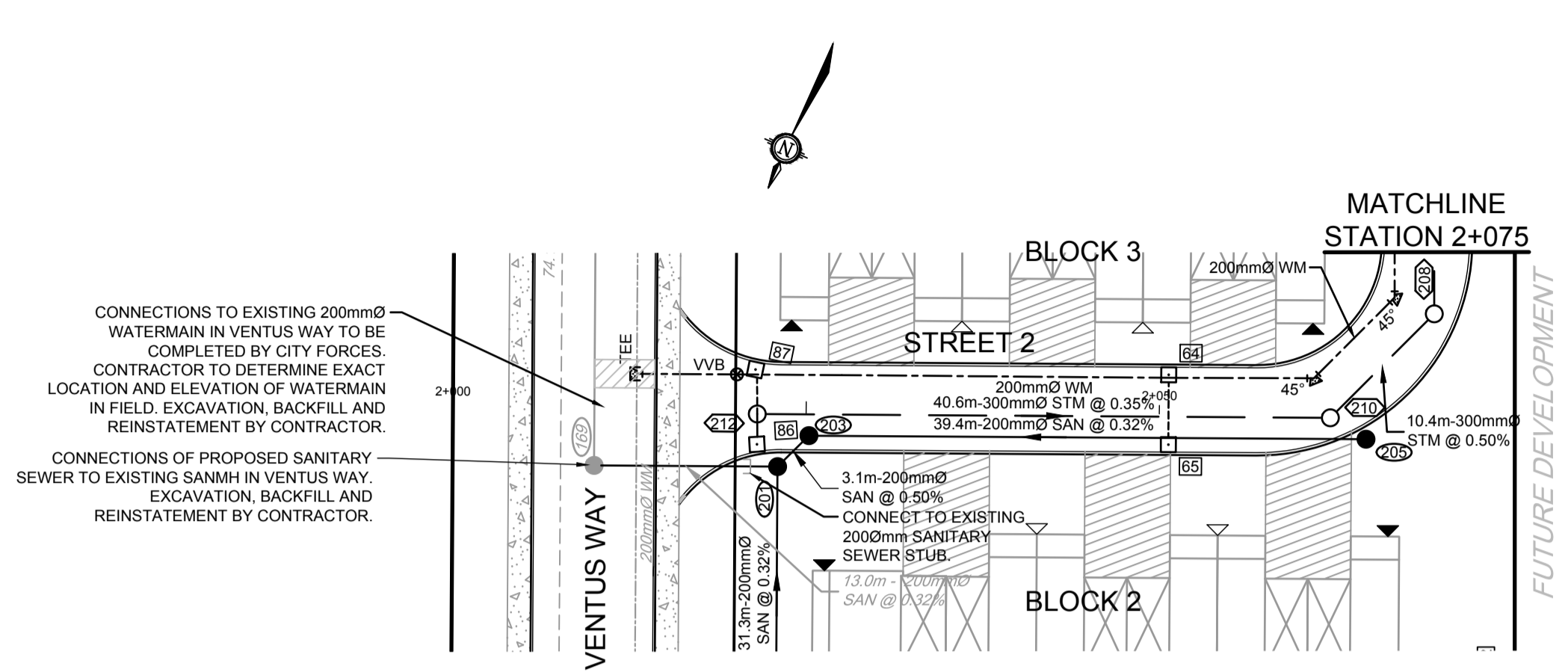
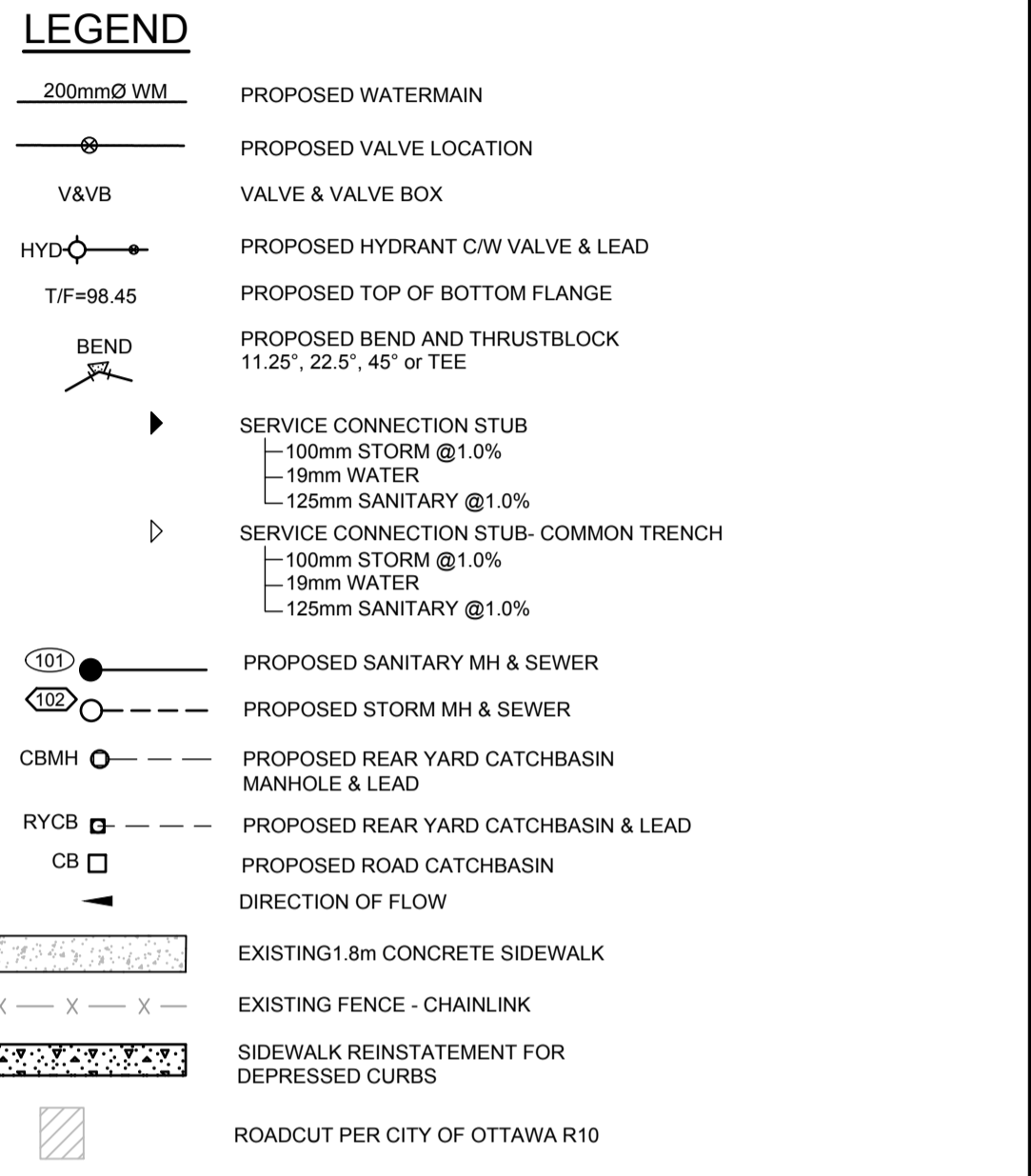
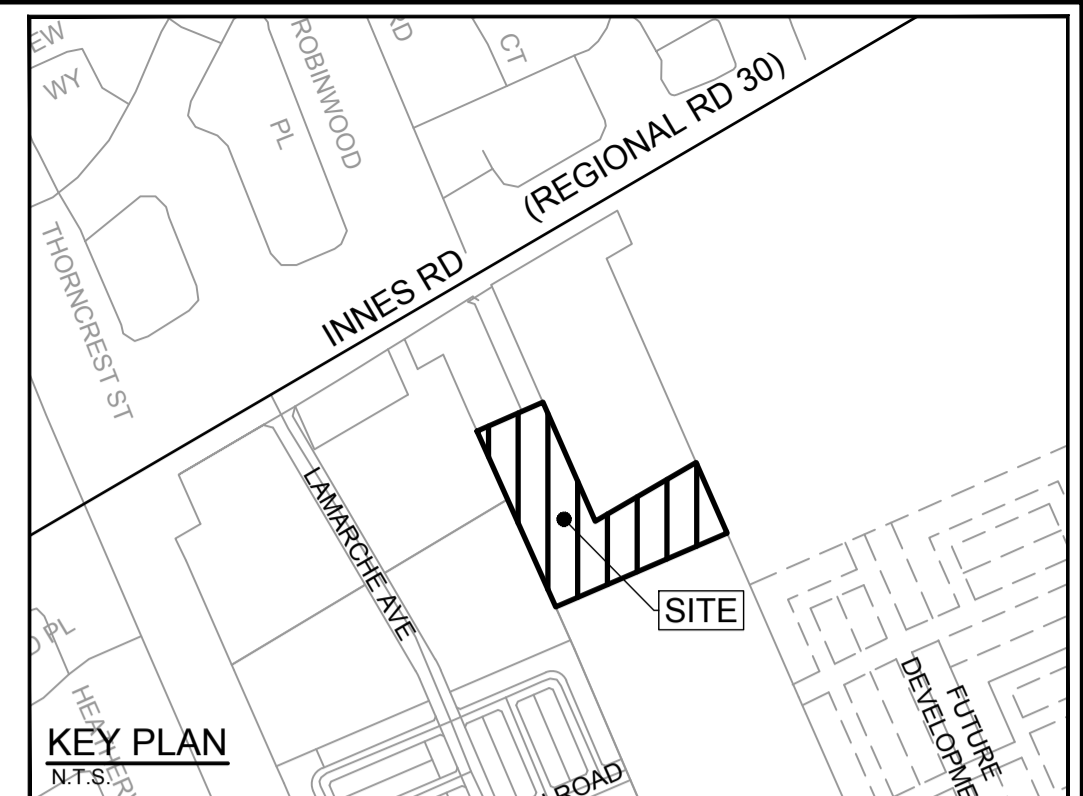
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LOCATION: CITY OF OTTAWA
 THE COMMONS - PHASE 4

DRAWING NAME: PLAN AND PROFILE
 STREET 1
 STATION 1+000 TO 1+175

PROJECT No.: 118224-MD
 REV: REV #1
 DRAWING No.: 118224-MD-PR1

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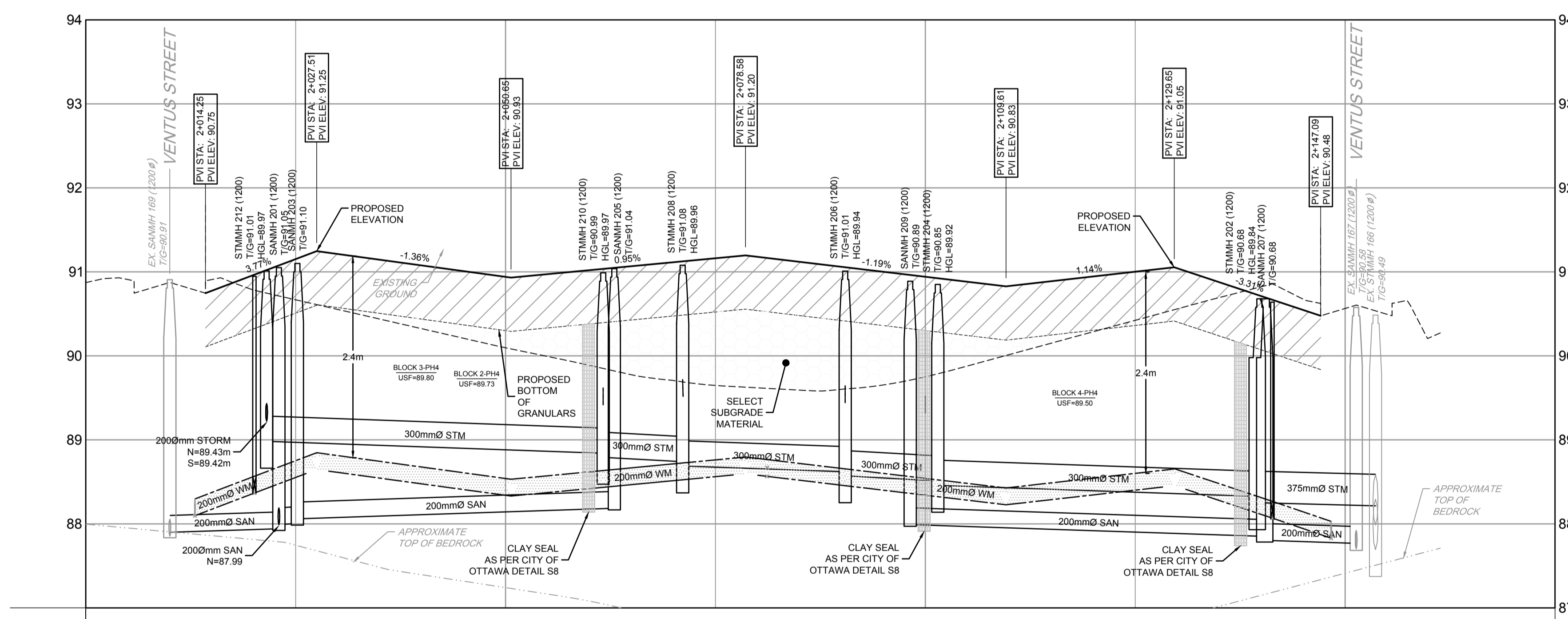
CONNECTION TO EXISTING 200mm \varnothing WATERMAIN IN VENTUS WAY TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION OF PROPOSED SANITARY SEWER TO EXISTING SANMH IN VENTUS WAY. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION TO EXISTING 200mm \varnothing WATERMAIN IN VENTUS WAY TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

CONNECTION OF PROPOSED STORM SEWERS TO EXISTING STMMH IN VENTUS WAY. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.

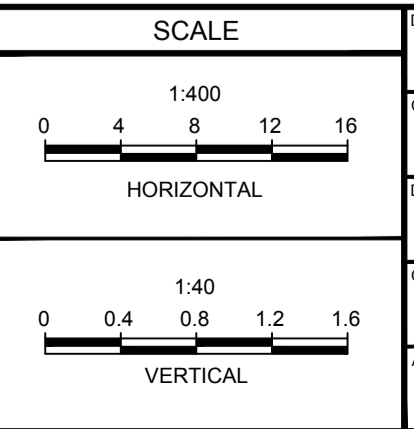
CONNECTION OF PROPOSED SANITARY SEWER TO EXISTING SANMH IN VENTUS WAY. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.



PROPOSED ELEVATION	91.15	90.94	91.16	90.94	91.00	88.27	88.08	88.03
TOP OF WM ELEVATION	88.33 88.35	88.57	88.75	88.85	88.54	88.43	88.60	88.65
STORM SEWER INVERTS	SW=88.98 SE=89.22 NW=89.23 NE=89.23	3.1m	40.6m - 300mm \varnothing STM @ 0.35%	NE=88.84 SE=88.79	10.4m - 300mm \varnothing STM @ 0.50%	20.3m - 300mm \varnothing STM @ 0.34%	12.4m - 300mm \varnothing STM @ 0.50%	38.9m - 300mm \varnothing STM @ 0.34%
SANITARY SEWER INVERTS	13.0m - 200mm \varnothing SAN @ 0.32%	200mm \varnothing SAN	39.4m - 200mm \varnothing SAN @ 0.32%	NE=88.19	11.0m - 200mm \varnothing SAN @ 0.32%	43.4m - 200mm \varnothing SAN @ 0.32%	14.4m - 200mm \varnothing SAN @ 0.25%	11.0m - 200mm \varnothing SAN @ 0.32%
EXISTING ELEVATION	89.97	89.67	89.65	89.65	89.42	89.69	89.69	89.69
CHAINAGE	2+000	2+010.01	2+020.08	2+025.20	2+050	2+075	2+100	2+115

NOTE:
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No.	REVISION	DATE	BY
1.	ISSUED FOR CITY REVIEW	NOV 1/24	BHB



DESIGN	CV/MS
CHECKED	MS
DRAWN	CV
CHECKED	MS
APPROVED	BHB

FOR REVIEW ONLY

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
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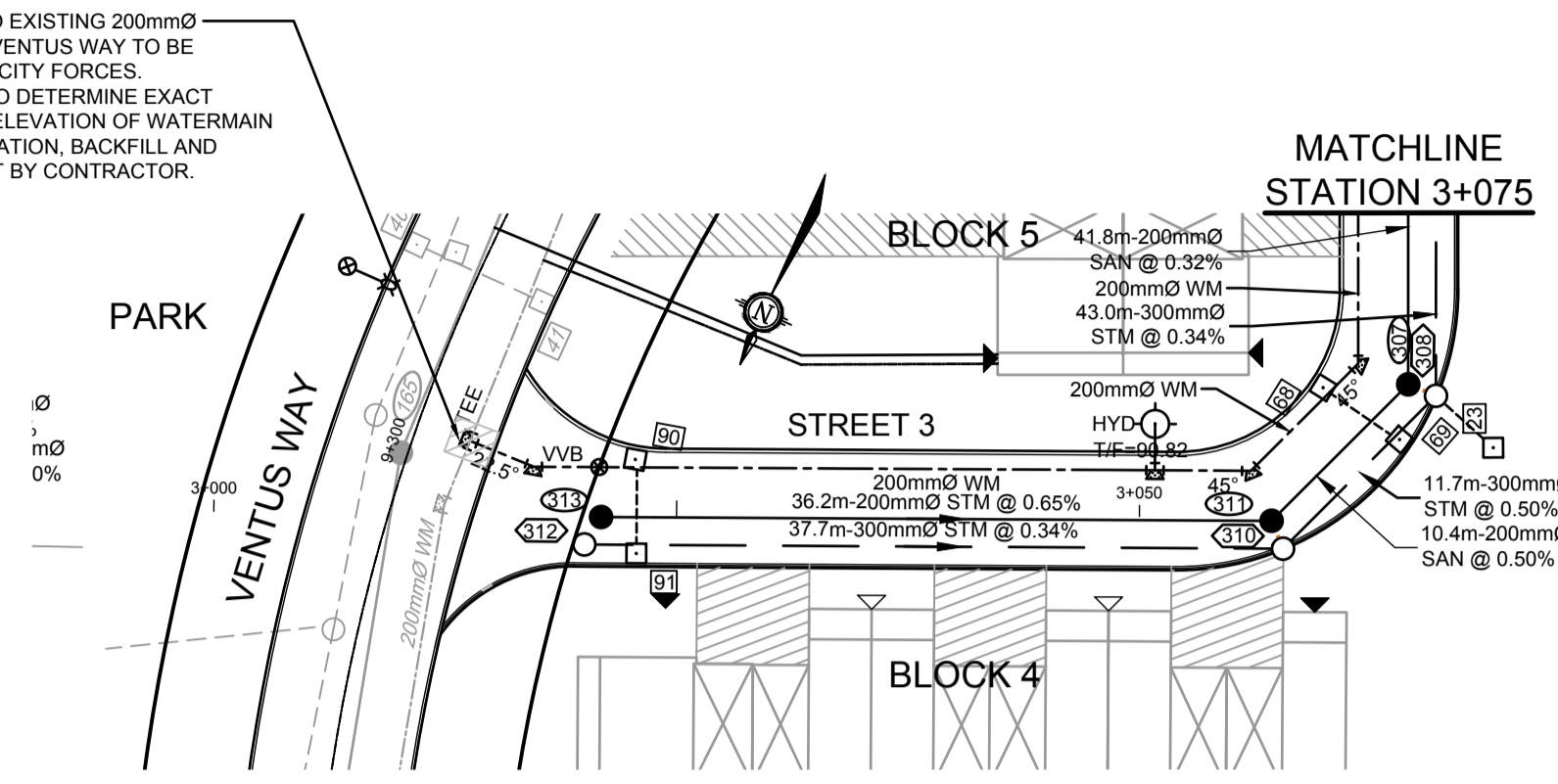
LOCATION
CITY OF OTTAWA
THE COMMONS - MEDIUM DENSITY

DRAWING NAME
**PLAN AND PROFILE
STREET 2
STATION 2+000 TO 2+175**

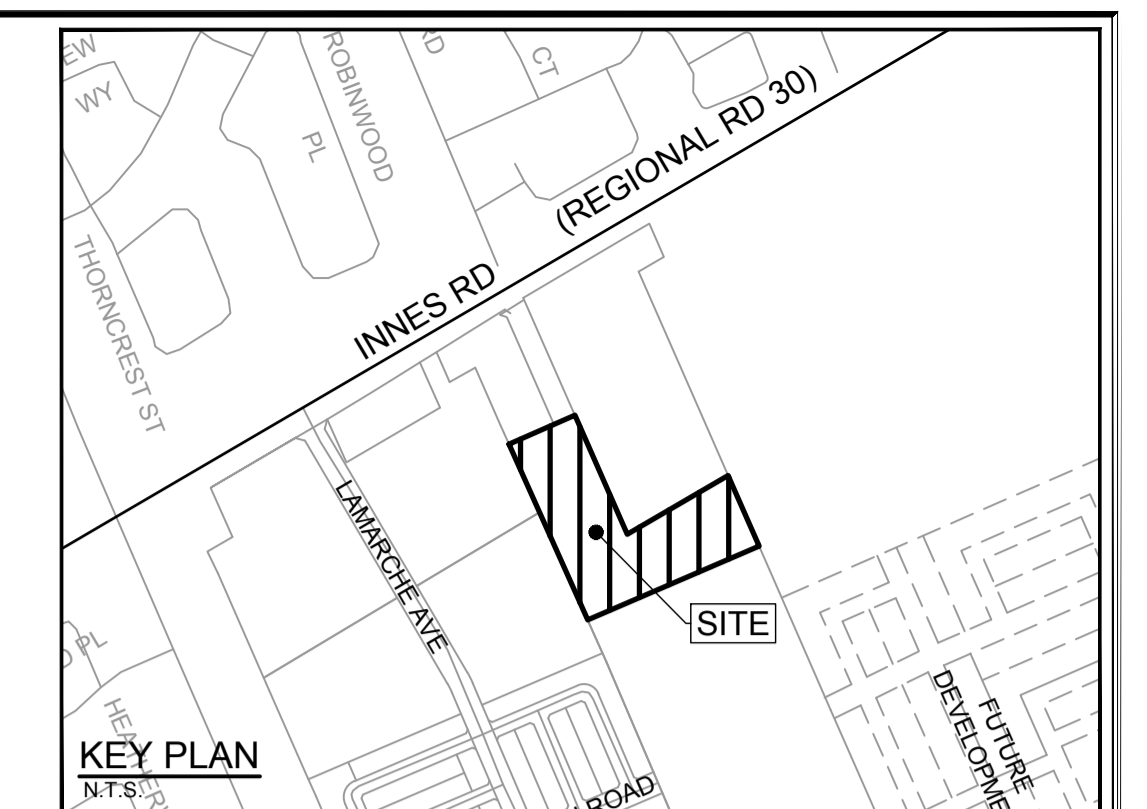
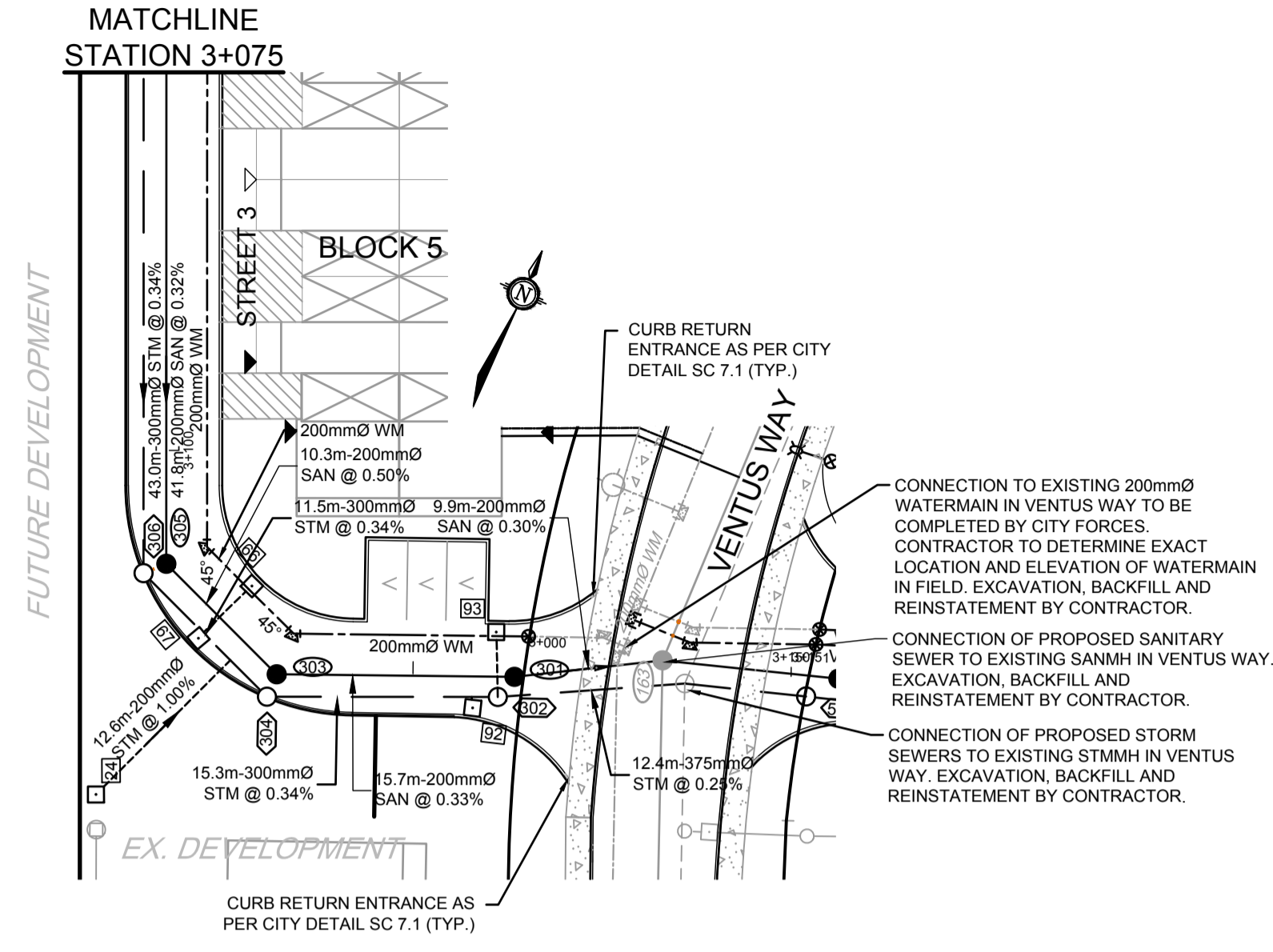
PROJECT No. 118224-MD
REV 118224-MD-PR2
DRAWING No. 118224-MD-PR2

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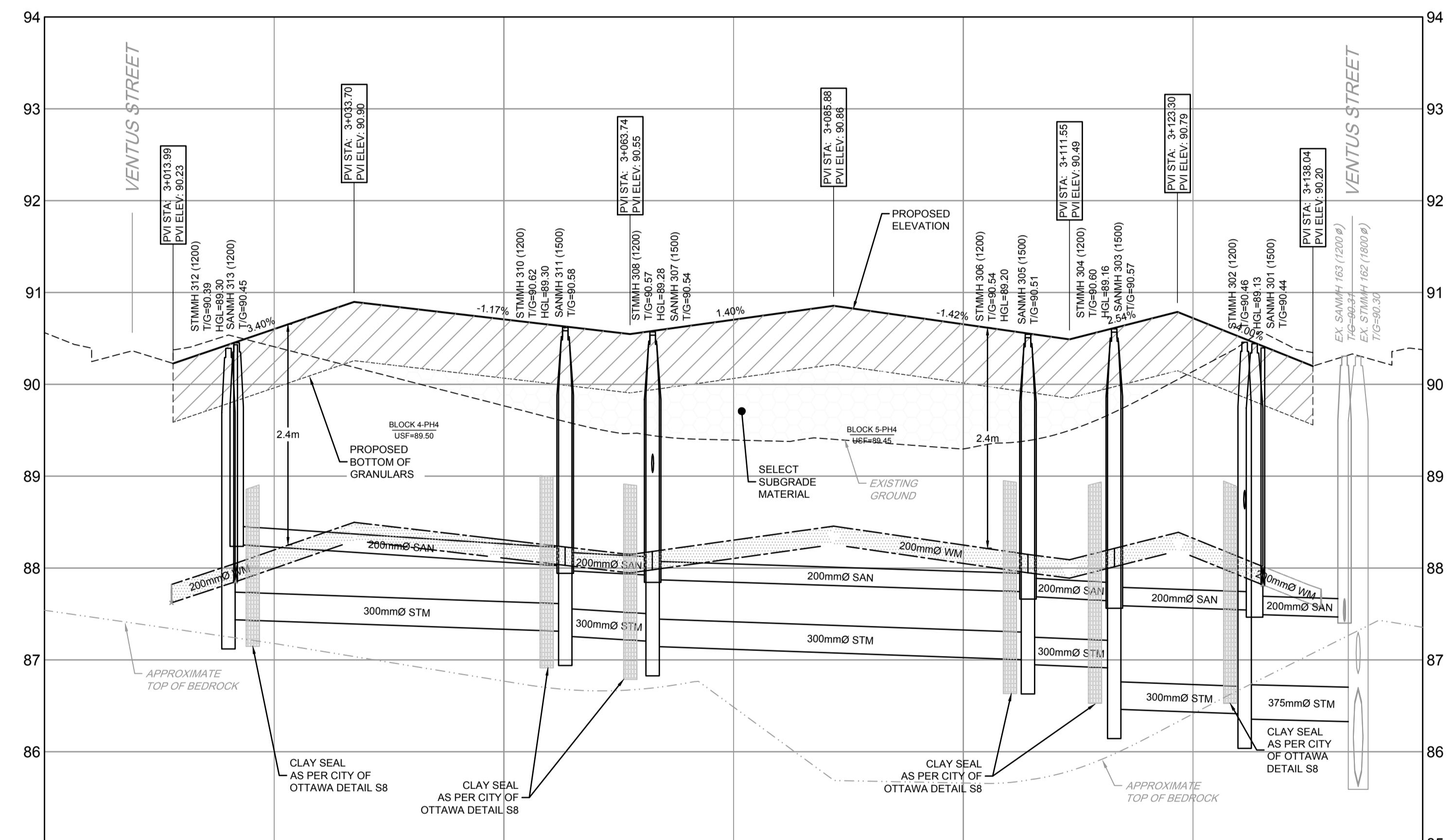
CONNECTION TO EXISTING 200mmØ WATERMAIN IN VENTUS WAY TO BE COMPLETED BY CITY FORCES. CONTRACTOR TO DETERMINE EXACT LOCATION AND ELEVATION OF WATERMAIN IN FIELD. EXCAVATION, BACKFILL AND REINSTATEMENT BY CONTRACTOR.



MATCHLINE STATION 3+075



- LEGEND**
- 200mmØ WM PROPOSED WATERMAIN
 - PROPOSED VALVE LOCATION
 - V&VB VALVE & VALVE BOX
 - HYD-Ø PROPOSED HYDRANT C/W VALVE & LEAD
 - TF=98.45 PROPOSED TOP OF BOTTOM FLANGE
 - BEND PROPOSED BEND AND THRUSTBLOCK 11.25', 22.5', 45' or TEE
 - SERVICE CONNECTION STUB
 - 100mm STORM @ 1.0%
 - 19mm WATER
 - 125mm SANITARY @ 1.0%
 - SERVICE CONNECTION STUB- COMMON TRENCH
 - 100mm STORM @ 1.0%
 - 19mm WATER
 - 125mm SANITARY @ 1.0%
 - 101 PROPOSED SANITARY MH & SEWER
 - 102 PROPOSED STORM MH & SEWER
 - CBMH PROPOSED REAR YARD CATCHBASIN MANHOLE & LEAD
 - RYCB PROPOSED REAR YARD CATCHBASIN & LEAD
 - CB PROPOSED ROAD CATCHBASIN
 - — — — — DIRECTION OF FLOW
 - EXISTING 1.8m CONCRETE SIDEWALK
 - x — x — x — EXISTING FENCE - CHAINLINK
 - SIDWALK REINSTATEMENT FOR DEPRESSED CURBS
 - ROADCUT PER CITY OF OTTAWA R10



CHAINAGE	EXISTING ELEVATION	SANITARY SEWER INVERTS	STORM SEWER INVERTS	TOP OF WM ELEVATION	PROPOSED ELEVATION
3+000	86.59				
3+013.82 TEE				87.82	
3+020.89 STMMH 313		SV=88.26	SV=87.44		90.60
3+025	86.41				
3+050	86.77			88.31	90.71
3+056.66 45°		NE=89.31 S=87.20	37.7m - 300mmØ STM @ 0.34%	88.23	
3+056.68 STMMH 310		NE=89.30 S=87.19			
3+056.68 STMMH 311		NE=89.30 S=87.19			
3+065.19 STMMH 308		NE=87.92 SE=87.87	11.7m - 300mmØ STM @ 0.50%	88.15	
3+066.21 45°		NE=87.92 SE=87.87		88.18	
3+075	86.39			88.30	90.70
3+100	86.30			88.25	90.65
3+107.04 45°		NW=87.00 E=86.85	43.0m - 300mmØ STM @ 0.34%	88.15	
3+107.04 STMMH 306		NW=87.24 E=87.69			
3+107.04 STMMH 305		NW=87.24 E=87.69			
3+116.42 STMMH 304		NW=86.91 E=86.76	11.5m - 300mmØ STM @ 0.34%	88.09	
3+116.42 45°		NW=86.91 E=86.76		88.21	
3+125	86.14			88.39	90.72
3+130.62 STMMH 302		SW=87.54 NE=86.36	15.3m - 300mmØ STM @ 0.34%	88.32	
3+132.61 V&B		SW=87.54 NE=86.36			
3+138.85 TEE		SW=87.49 NE=86.35			
3+141.49 STMMH 103		SW=87.49 NE=86.35	12.4m - 375mmØ STM @ 0.25%	87.88	
3+142.89 STMMH 102		SW=87.49 NE=86.35		87.77	
3+150	86.38				

NOTE:
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No.	REVISION	DATE	BY
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SCALE

HORIZONTAL: 1:400 (0, 4, 8, 12, 16)

VERTICAL: 1:40 (0, 0.4, 0.8, 1.2, 1.6)

FOR REVIEW ONLY

DESIGN: CV/MS
CHECKED: MS
DRAWN: CV
CHECKED: MS
APPROVED: BHB

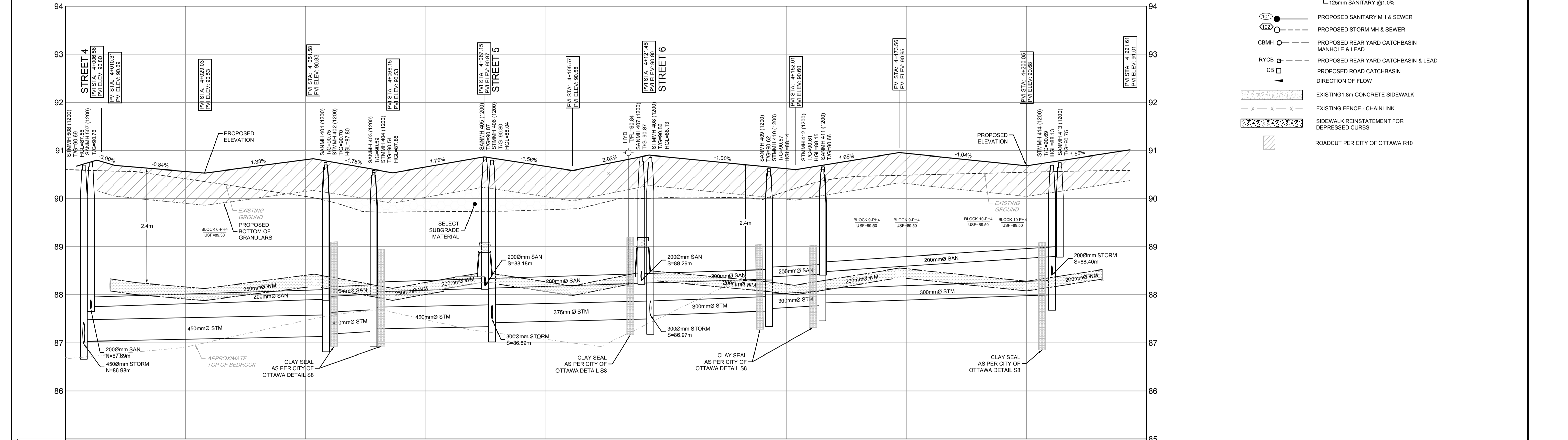
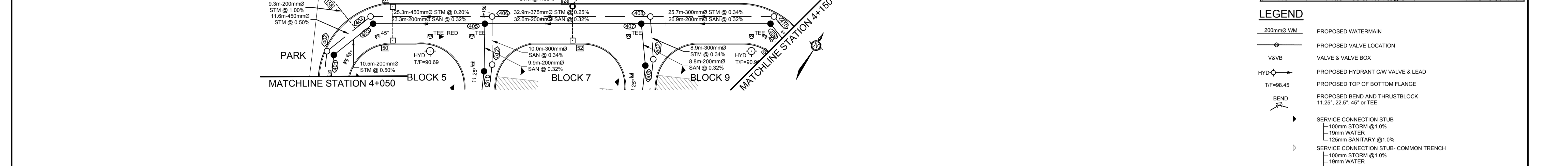
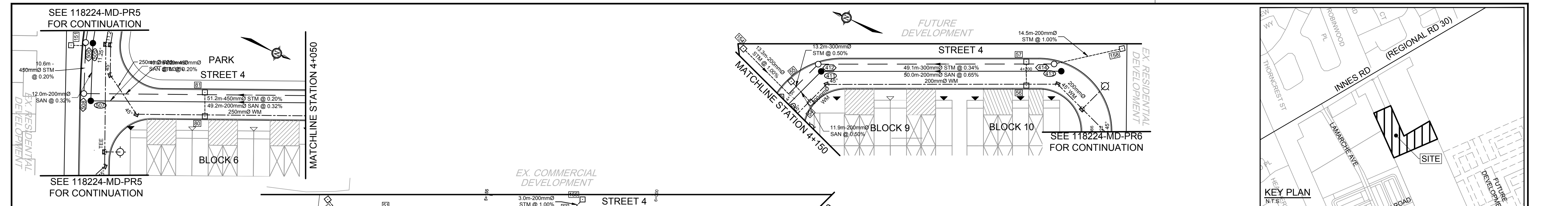
LICENSED PROFESSIONAL ENGINEER
M. SAVIC
100102651
11/01/24
PROVINCE OF ONTARIO

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Website: www.novatech-eng.com

LOCATION:
CITY OF OTTAWA
THE COMMONS - PHASE 4

DRAWING NAME:
PLAN AND PROFILE
STREET 3
STATION 3+000 TO 3+150

PROJECT No: 118224-MD
REV: REV #1
DRAWING No: 118224-MD-PR3



CHAINAGE	EXISTING ELEVATION	SANITARY SEWER INVERTS	STORM SEWER INVERTS	TOP OF WM ELEVATION	PROPOSED ELEVATION
4+000	99.60				
4+003.83 STMMH 508 777 SANMH 507		NW=87.03 W=86.98		88.40	
777.45		NW=87.75 W=87.70		88.33 88.25	
4+014.81 4E				88.25	
4+025	90.41		51.2m - 450mm STM @ 0.20%	88.16	90.56
4+050	90.04			88.41	90.81
4+054.24 STMMH 402 4+054.14 SANMH 401		NE=87.15 SE=87.13	11.6m - 450mm STM @ 0.50%	88.43	
4+064.18 SANMH 403 4+064.13 STMMH 404		NE=87.06 SE=87.91	10.5m - 200mm SAN @ 0.50%	88.13	
4+075	89.72		23.3m - 200mm SAN @ 0.32%	88.13	90.86
4+087.31 SANMH 405 4+088.81 STMMH 406		NE=88.13 SW=88.13	32.9m - 375mm STM @ 0.25%	88.26 88.27	90.67
4+100	89.76		32.9m - 200mm SAN @ 0.32%	88.18	90.67
4+117.17 TEE		NE=88.24 SW=88.24	11.6m - 450mm STM @ 0.50%	88.42	
6+007.37 SANMH 407 4+121.75 STMMH 408		NE=87.57 SE=88.29	25.7m - 300mm STM @ 0.34%	88.30 88.26	90.87
4+125	90.02		26.9m - 200mm SAN @ 0.32%	88.47	90.87
4+143.21 TEE		E=87.71 SW=87.66	13.2m - 300mm STM @ 0.50%	88.22	
4+146.45 STMMH 410 4+146.38 SANMH 409		E=88.37 SW=88.32	49.1m - 300mm STM @ 0.34%	88.30 88.20	90.52
4+150	90.15		11.9m - 200mm SAN @ 0.50%	88.30	90.52
4+157.57 STMMH 412 4+157.56 SANMH 411		SE=88.48 W=88.43	25.7m - 200mm SAN @ 0.32%	88.30	90.52
4+175	90.49		50.0m - 200mm SAN @ 0.65%	88.55 88.54	90.84
4+200	90.55			88.28	90.88
4+205.33 STMMH 414 4+205.32 SANMH 413		NW=88.00 SE=88.40	49.1m - 300mm STM @ 0.34%	88.39	90.88
4+215.80 TEE				88.52	
4+225					90.88

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SCALE
 HORIZONTAL: 1:400
 VERTICAL: 1:40

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DESIGN: CV/MS
 CHECKED: MS
 DRAWN: CV
 CHECKED: MS
 APPROVED: BHB

LICENSED PROFESSIONAL ENGINEER
 M. SAVIC
 100102651
 11/01/24
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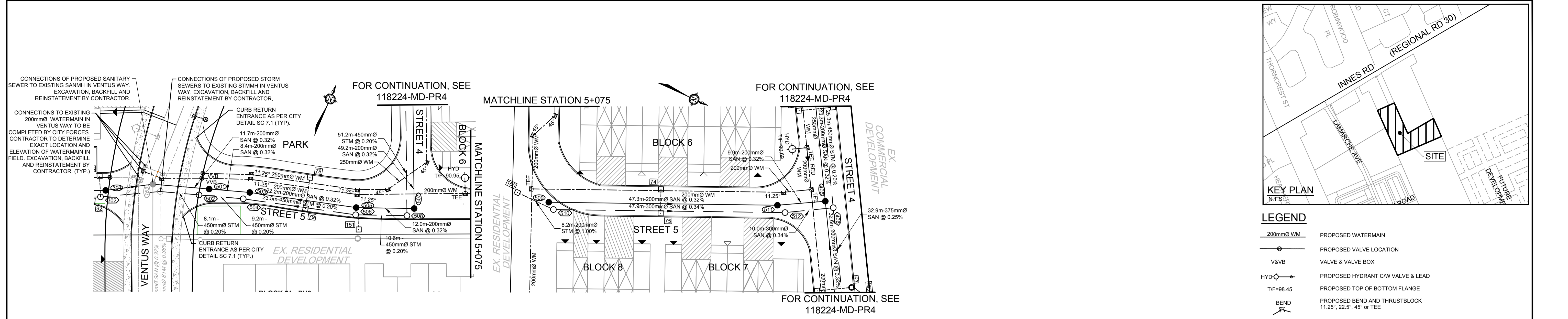
LOCATION
 CITY OF OTTAWA
 THE COMMONS - PHASE 4

DRAWING NAME
 PLAN AND PROFILE
 STREET 4
 STATION 4+000 TO 4+225

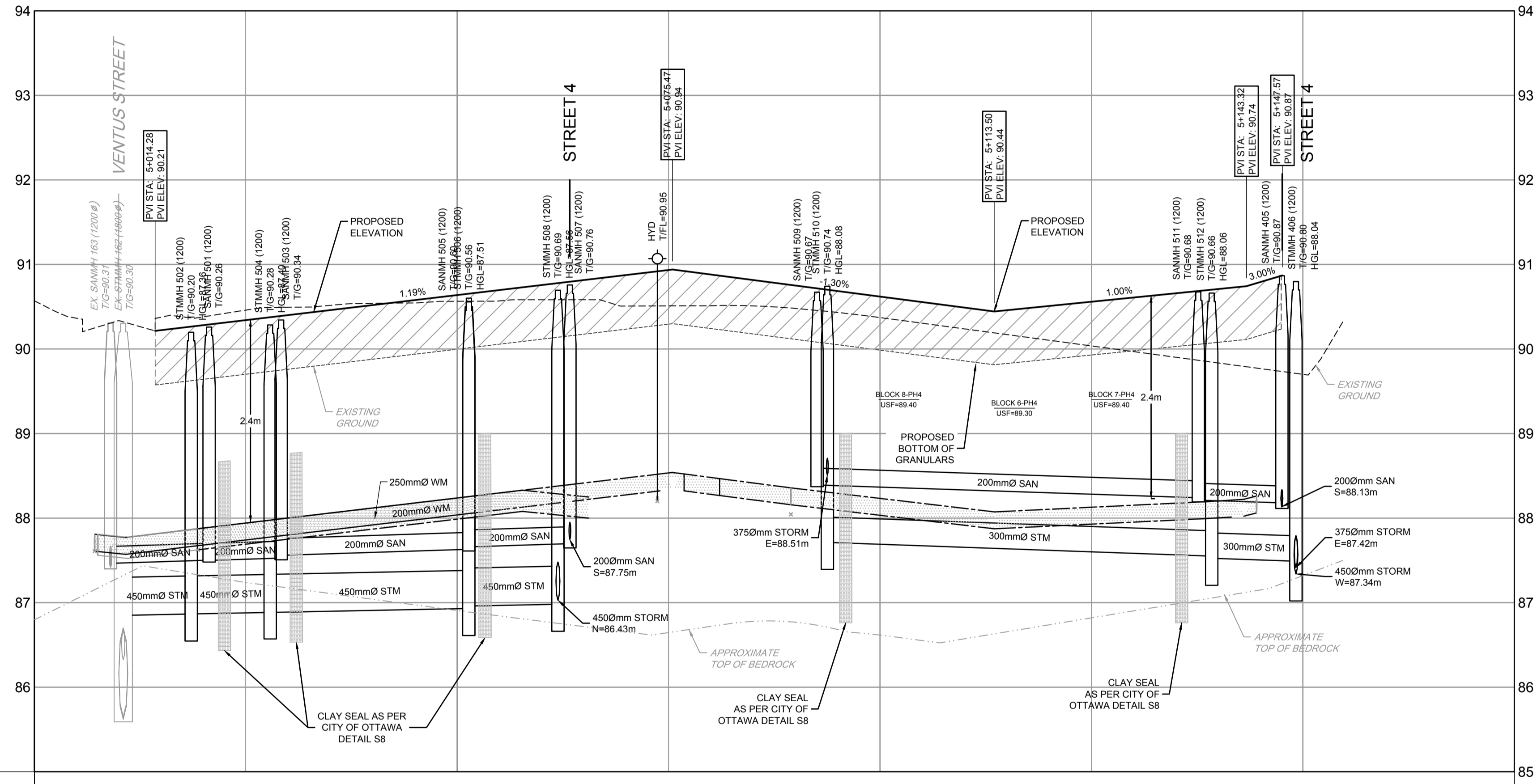
PROJECT No. 118224-MD
REV #1
DRAWING No. 118224-MD-PR4

1. ISSUED FOR CITY REVIEW NOV 1/24 BHB

No.	REVISION	DATE	BY



- LEGEND**
- 200mm WM PROPOSED WATERMAIN
 - PROPOSED VALVE LOCATION
 - V&VB VALVE & VALVE BOX
 - HYD-TF=98.45 PROPOSED HYDRANT C/W VALVE & LEAD
 - PROPOSED TOP OF BOTTOM FLANGE
 - BEND PROPOSED BEND AND THRUSTBLOCK 11.25', 22.5', 45' or TEE
 - SERVICE CONNECTION STUB
 - 100mm STORM @ 1.0%
 - 19mm WATER
 - 125mm SANITARY @ 1.0%
 - SERVICE CONNECTION STUB- COMMON TRENCH
 - 100mm STORM @ 1.0%
 - 19mm WATER
 - 125mm SANITARY @ 1.0%
 - PROPOSED SANITARY MH & SEWER
 - PROPOSED STORM MH & SEWER
 - PROPOSED REAR YARD CATCHBASIN MANHOLE & LEAD
 - PROPOSED REAR YARD CATCHBASIN & LEAD
 - PROPOSED ROAD CATCHBASIN
 - DIRECTION OF FLOW
 - EXISTING 1.8m CONCRETE SIDEWALK
 - EXISTING FENCE - CHAINLINK
 - SIDEWALK REINSTATEMENT FOR DEPRESSED CURBS
 - ROADCUT PER CITY OF OTTAWA R10



PROPOSED ELEVATION	TOP OF WM ELEVATION	STORM SEWER INVERTS	SANITARY SEWER INVERTS	EXISTING ELEVATION	CHAINAGE
90.34	87.86 87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+007.13 5+009.02 5+010.52	5+007.13 5+009.02 5+010.52
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+016.55 5+019.35 5+020.67	5+016.55 5+019.35 5+020.67
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+027.89 5+031.15	5+027.89 5+031.15
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+038.58 5+042.84	5+038.58 5+042.84
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+051.40 5+051.38	5+051.40 5+051.38
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+062.55 5+063.33	5+062.55 5+063.33
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+073.08 5+076.83	5+073.08 5+076.83
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+081.04	5+081.04
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+089.46	5+089.46
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+092.55 5+093.77	5+092.55 5+093.77
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+101.40	5+101.40
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+107.03 5+109.22	5+107.03 5+109.22
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+117.52 5+117.52	5+117.52 5+117.52
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+127.89 5+131.15	5+127.89 5+131.15
90.64	87.81	8.1m - 450mm STM @ 0.20% E=86.65 W=86.32	11.7m - 200mm SAN @ 0.32% E=87.47 W=87.14	5+147.52 5+147.52	5+147.52 5+147.52

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SCALE

CV/MS
 1:400
 0 4 8 12 16
 HORIZONTAL

1:40
 0 0.4 0.8 1.2 1.6
 VERTICAL

DESIGN
 CHECKED: IMS
 DRAWN: CV
 CHECKED: IMS
 APPROVED: BHB

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LICENSED PROFESSIONAL ENGINEER
 M. SAVIC
 100102651
 11/01/24
 PROVINCE OF ONTARIO

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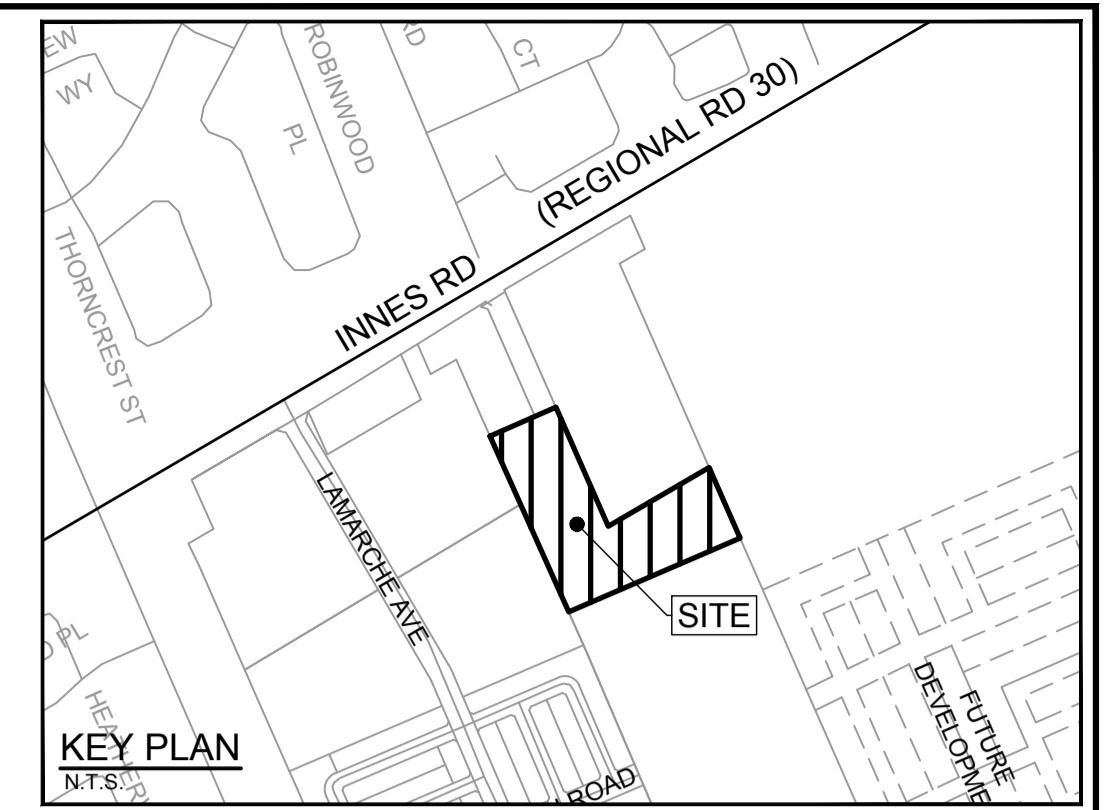
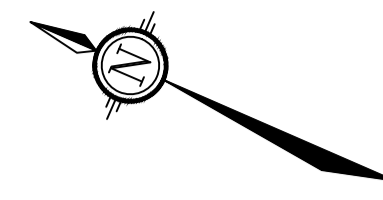
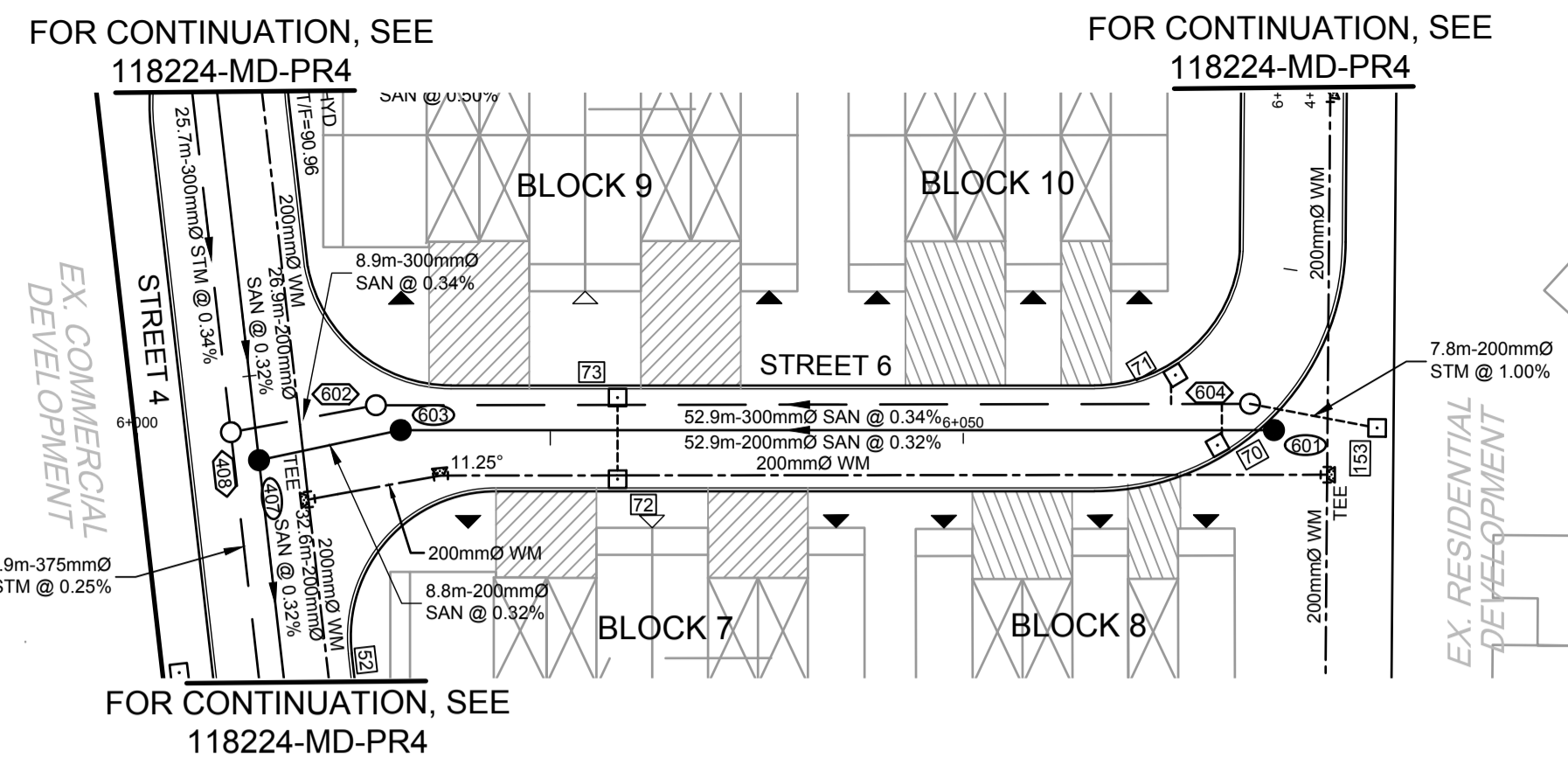
LOCATION
 CITY OF OTTAWA
 THE COMMONS PHASE 4

DRAWING NAME
 PLAN AND PROFILE
 STREET 5
 STATION 5+000 TO 5+175

PROJECT No.
 118224-MD

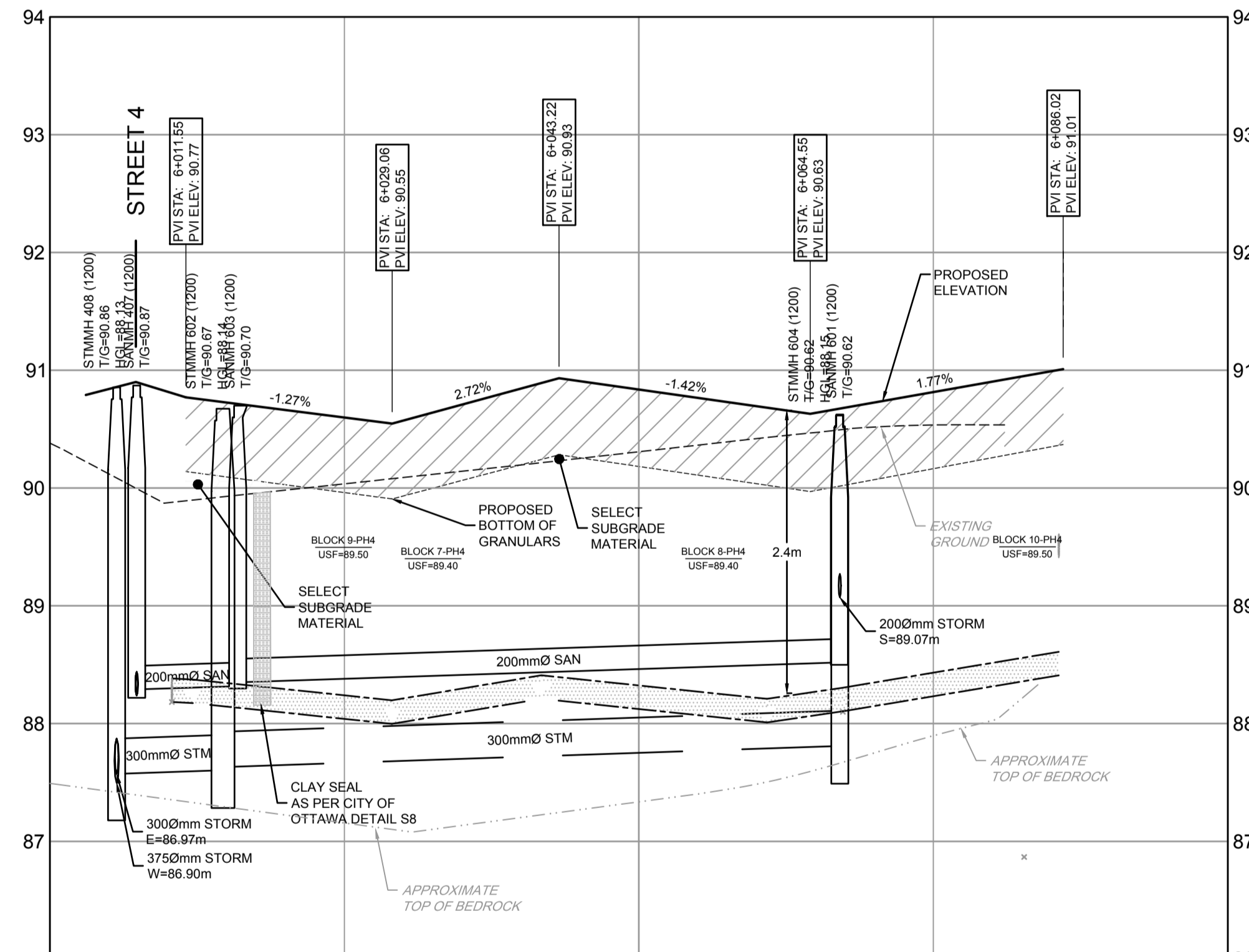
REV
 REV # 1

DRAWING No.
 118224-PR5-MD



LEGEND

- 200mm Ø WM PROPOSED WATERMAIN
- PROPOSED VALVE LOCATION
- V&VB VALVE & VALVE BOX
- HYD PROPOSED HYDRANT C/W VALVE & LEAD
- T/F=98.45 PROPOSED TOP OF BOTTOM FLANGE
- BEND PROPOSED BEND AND THRUSTBLOCK 11.25', 22.5', 45' or TEE
- SERVICE CONNECTION STUB
 - 100mm STORM @ 1.0%
 - 19mm WATER
 - 125mm SANITARY @ 1.0%
- SERVICE CONNECTION STUB- COMMON TRENCH
 - 100mm STORM @ 1.0%
 - 19mm WATER
 - 125mm SANITARY @ 1.0%
- PROPOSED SANITARY MH & SEWER
- PROPOSED STORM MH & SEWER
- PROPOSED REAR YARD CATCHBASIN MANHOLE & LEAD
- PROPOSED REAR YARD CATCHBASIN & LEAD
- PROPOSED ROAD CATCHBASIN
- DIRECTION OF FLOW
- EXISTING 1.8m CONCRETE SIDEWALK
- EXISTING FENCE - CHAINLINK
- SIDEWALK REINSTATEMENT FOR DEPRESSED CURBS
- ROADCUT PER CITY OF OTTAWA R10

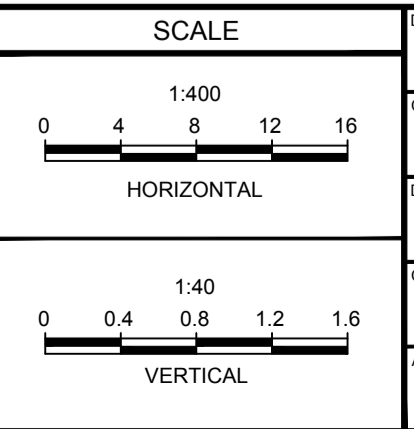


PROPOSED ELEVATION	90.00	90.04	90.01
TOP OF WM ELEVATION	88.24	88.20	88.41
STORM SEWER INVERTS	NE=87.57 SW=87.50 SE=87.57 S=0.34%	89.42 88.38	52.9m - 300mm Ø STM @ 0.34%
SANITARY SEWER INVERTS	NE=88.24 SW=88.24 SE=88.29 S=0.32%	88.41	52.9m - 200mm Ø SAN @ 0.32%
EXISTING ELEVATION	89.04	89.27	89.54

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DURING SERVICING, GRADING, AND REINSTATEMENT WORKS, TIE INTO EXISTING ELEVATIONS AND ELIMINATE ENCROACHMENT INTO ADJACENT PROPERTY LANDS, WHERE POSSIBLE. PERMISSION REQUIRED FOR WORKS ON ADJACENT PROPERTY LANDS. USE PROTECTION FENCING AND BEST EFFORTS TO REDUCE IMPACT TO ADJACENT LANDS' EXISTING FEATURES INCLUDING, BUT NOT LIMITED TO, RETAINING WALLS, FENCES, HARD AND SOFT LANDSCAPE. ANY DISTURBED AREA IS TO BE REINSTATED TO EXISTING CONDITIONS OR BETTER, TO THE SATISFACTION OF PROPERTY OWNER AND CITY.

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No.	REVISION	DATE	BY
1.	ISSUED FOR CITY REVIEW	NOV 1/24	BHB



DESIGN	CV/MS
CHECKED	MS
DRAWN	CV
CHECKED	MS
APPROVED	BHB

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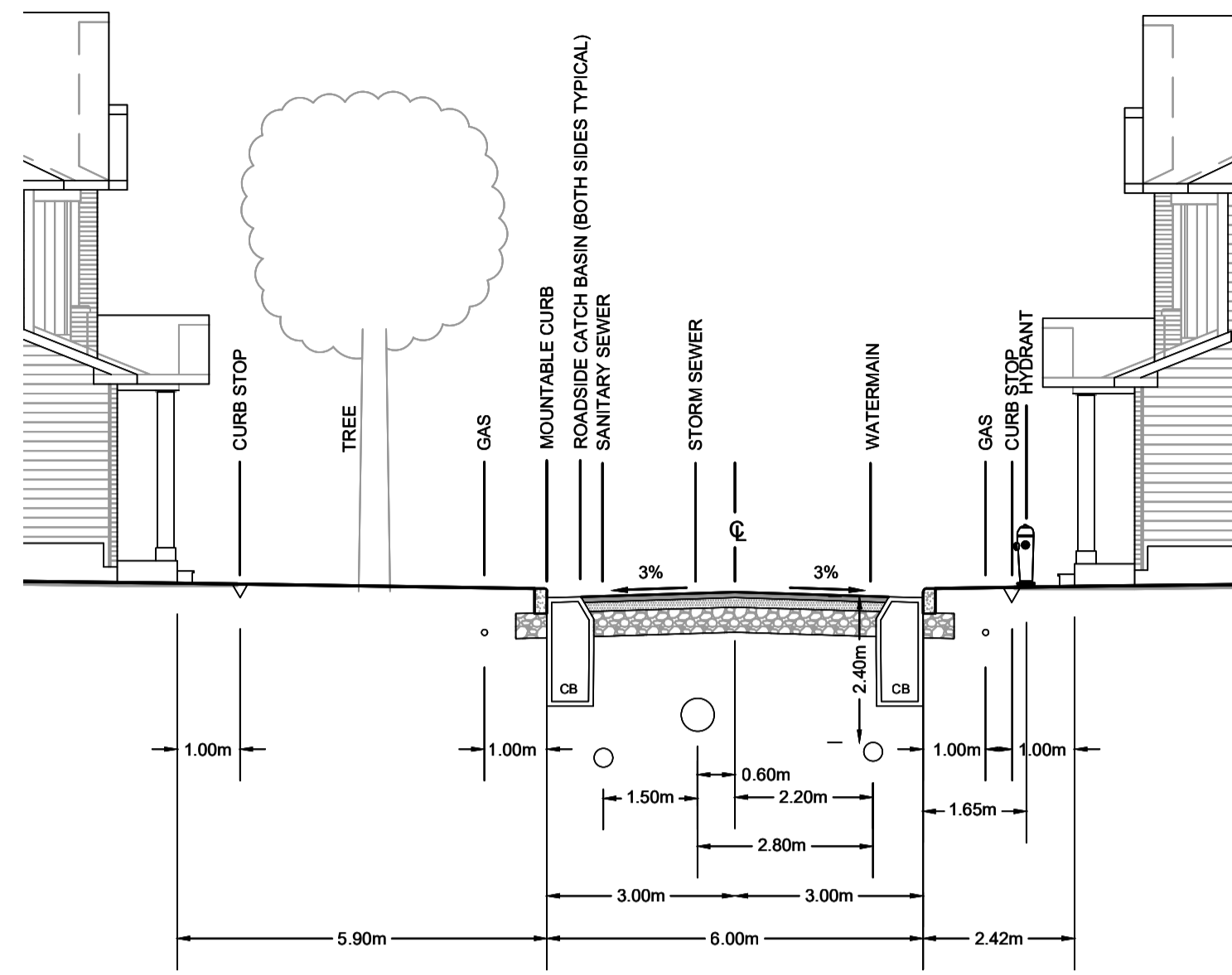
NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
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LOCATION
CITY OF OTTAWA
THE COMMONS - PHASE 4

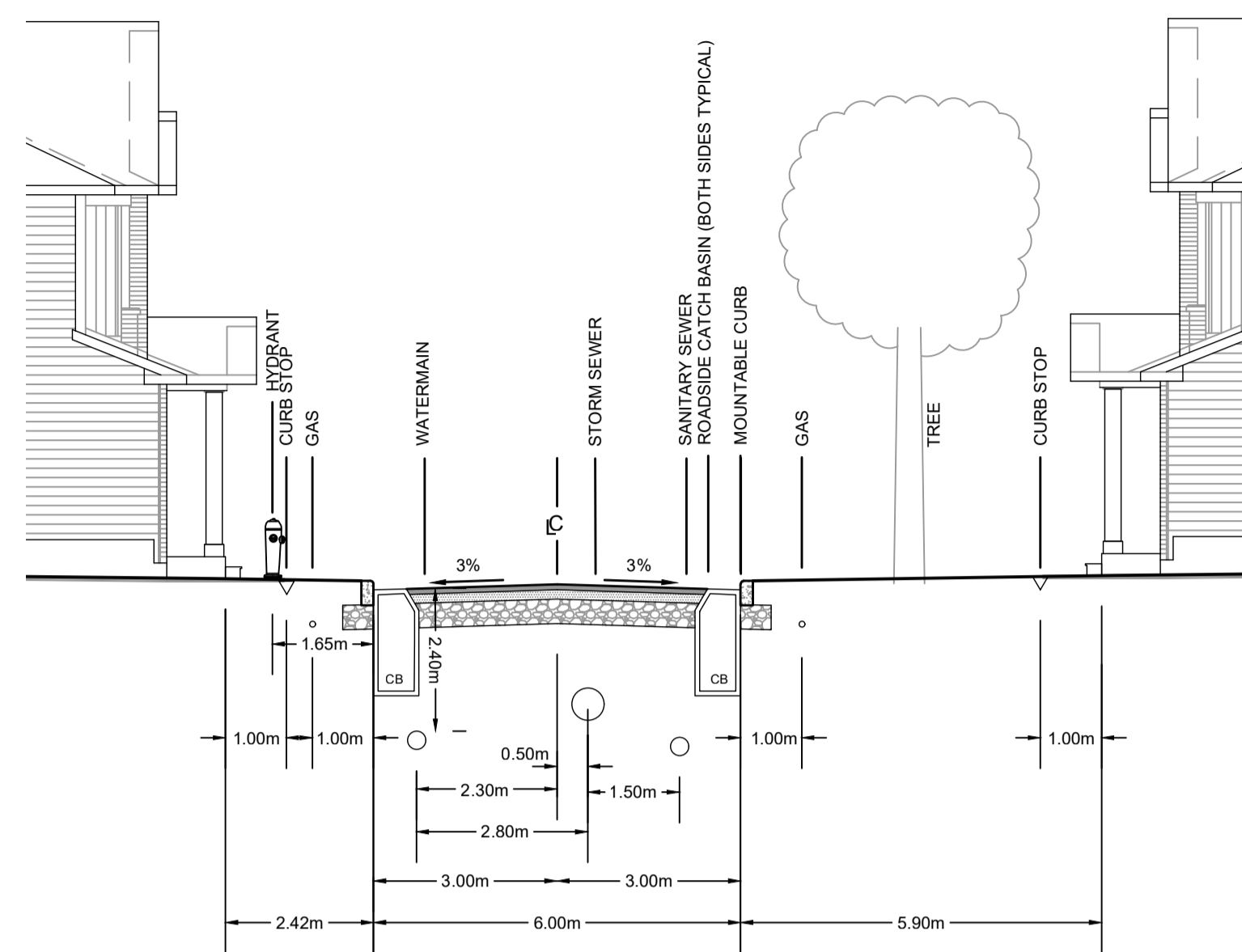
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**PLAN AND PROFILE
STREET 6
STATION 6+000 TO 6+100**

PROJECT No.	118224-MD
REV	REV # 1
DRAWING No.	118224-MD-PR6

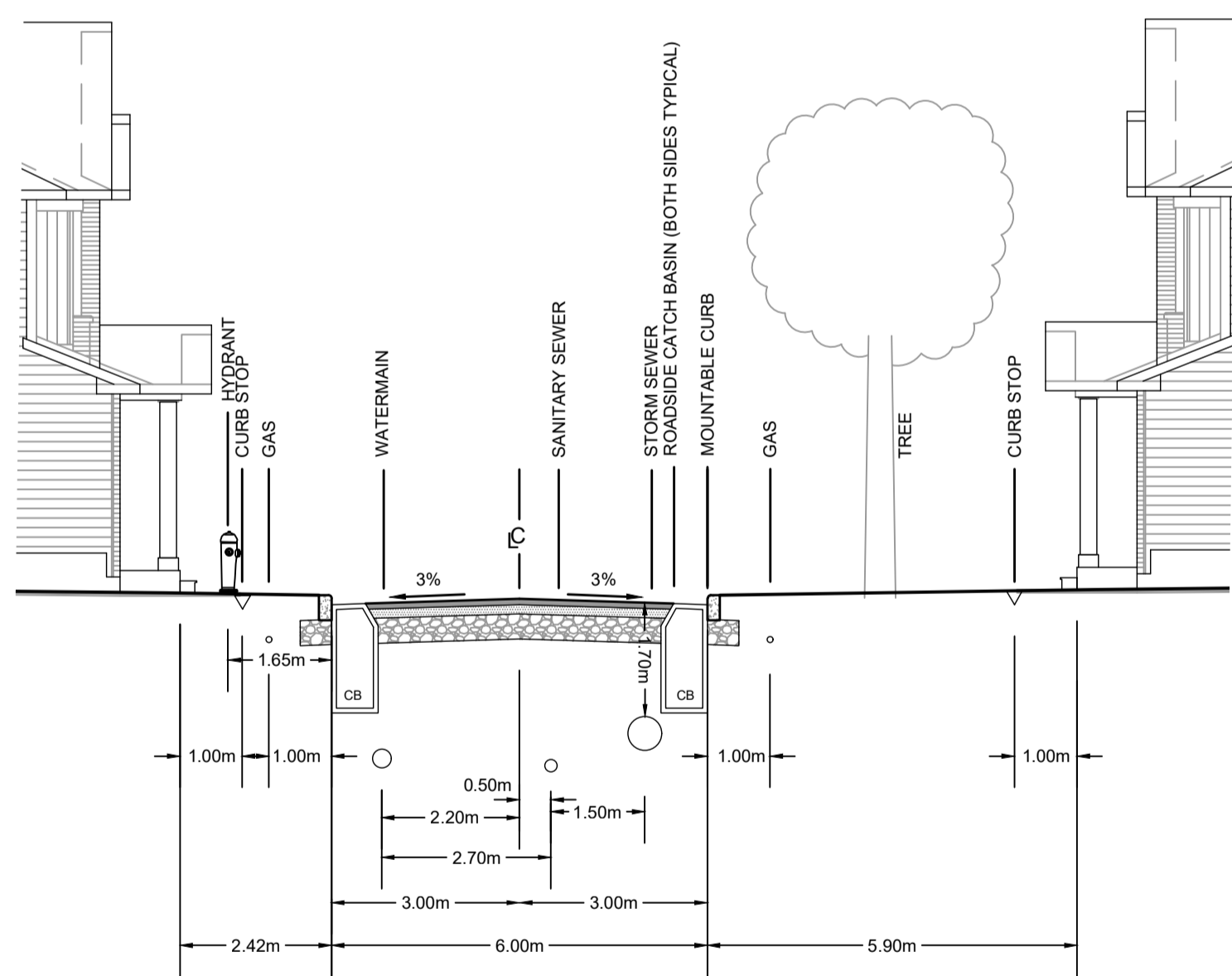
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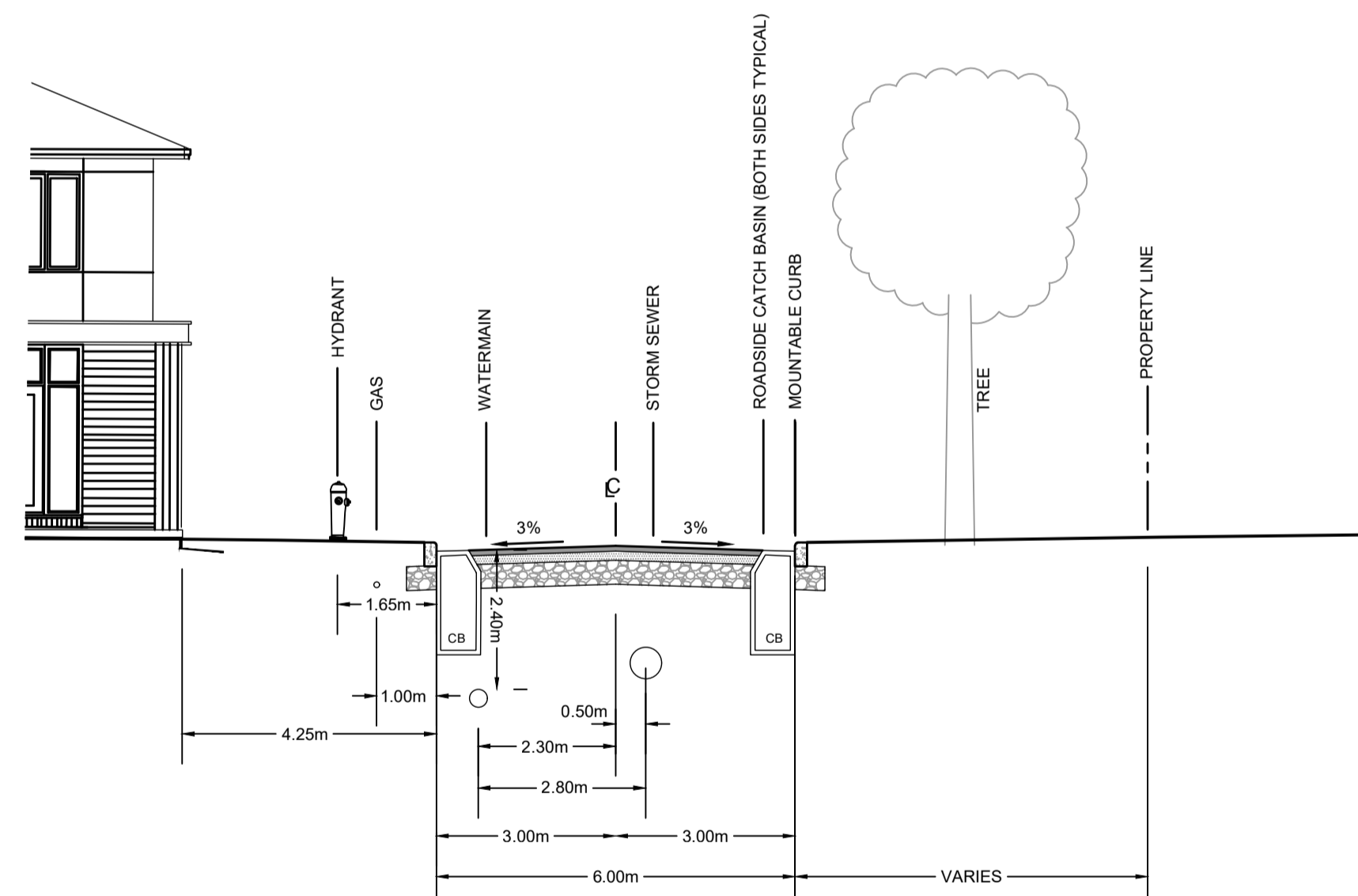
STREET 1 - 1+020 to 1+142



STREET 2 - 2+025 to 2+060



STREET 2 - 2+100 to 2+140
STREET 3 - 3+020 to 3+130



STREET 2 - 2+060 to 2+100

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SCALE

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DESIGN

CV/MS

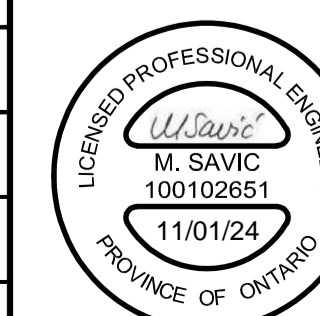
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LOCATION
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THE COMMONS PHASE 4

DRAWING NAME
CROSS SECTIONS
STREETS 1, 2 & 3

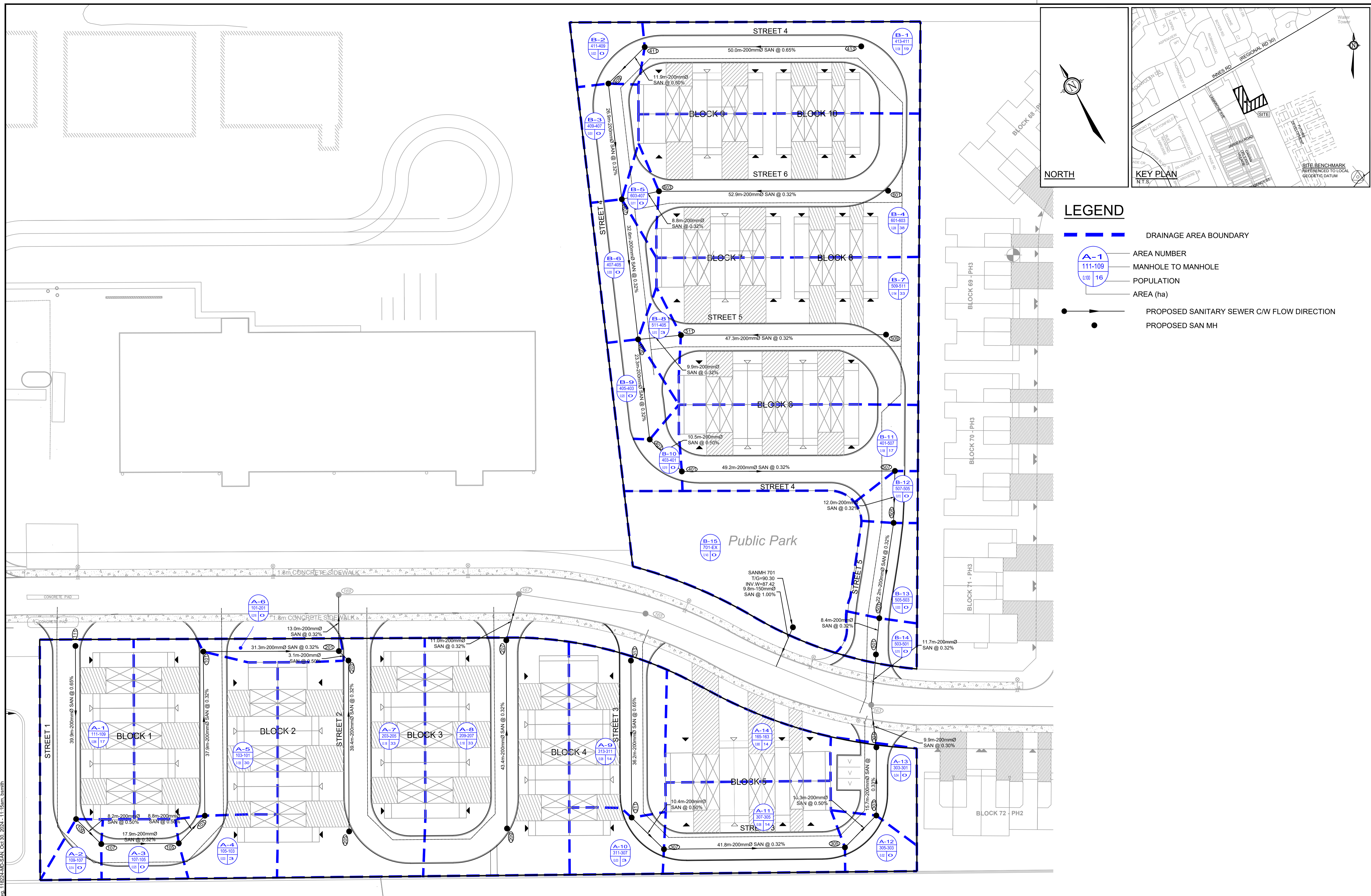
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118224-MD

REV # 1

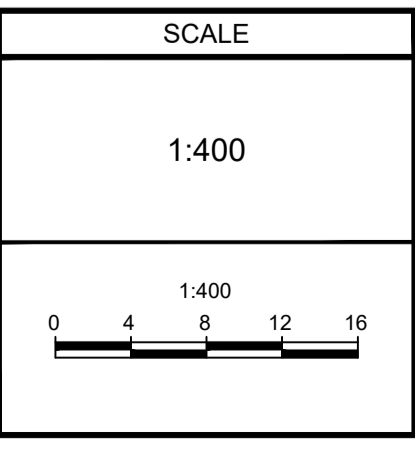
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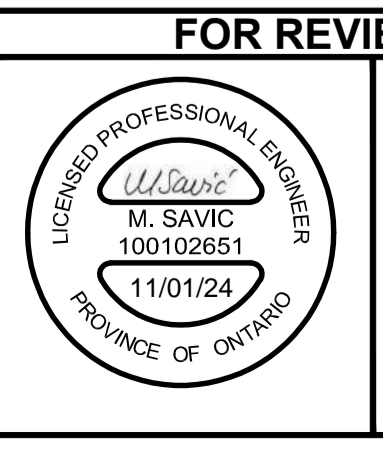


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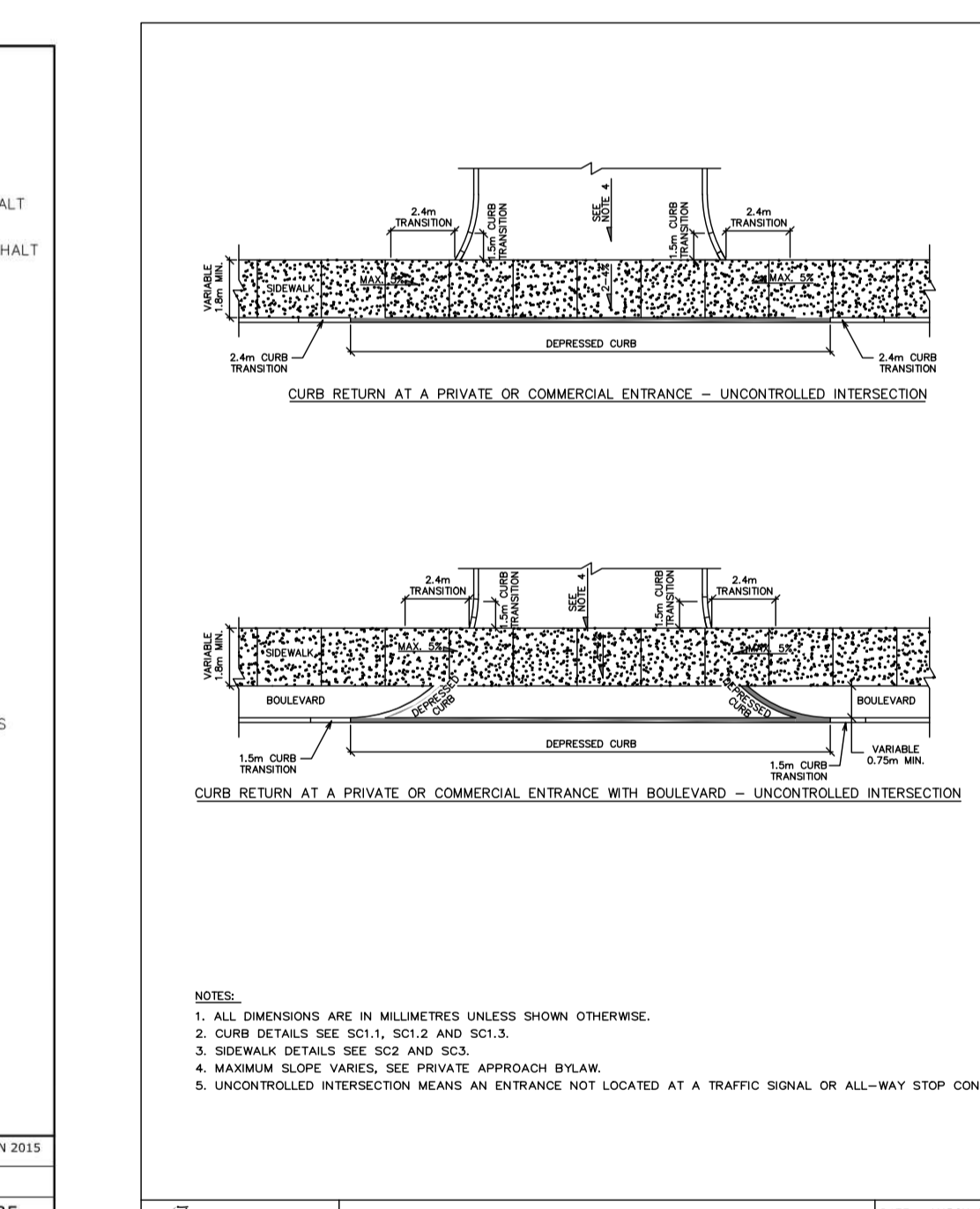
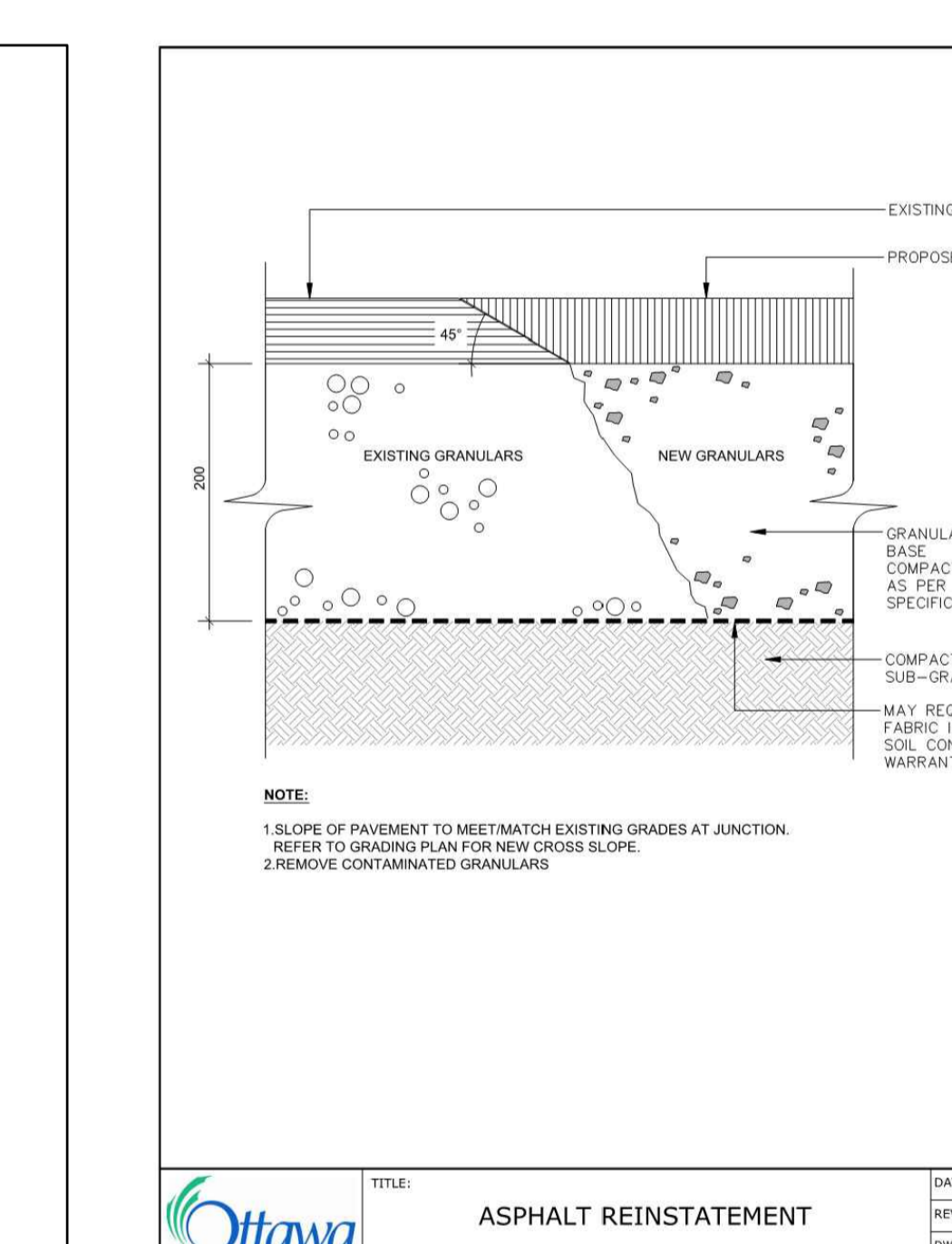
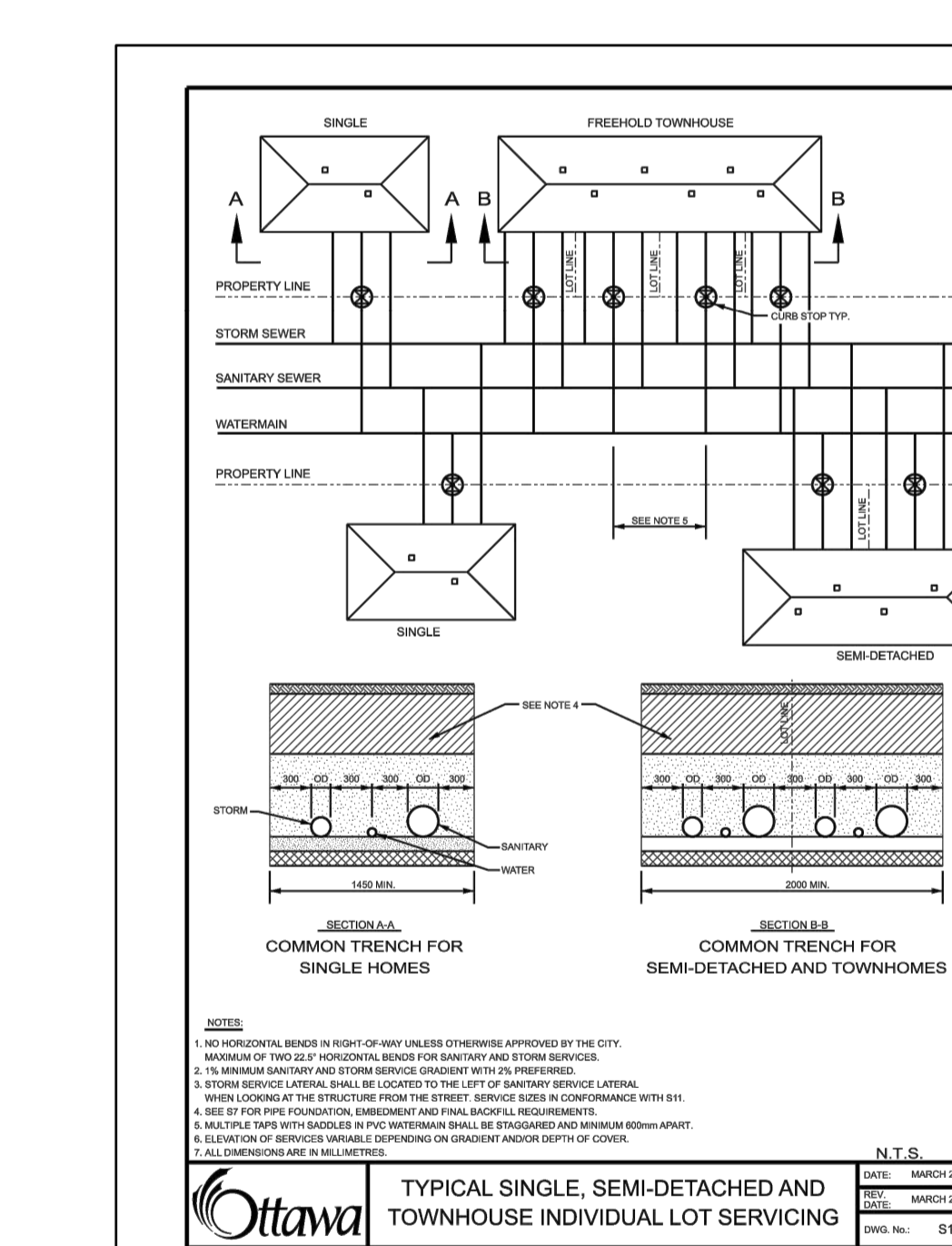
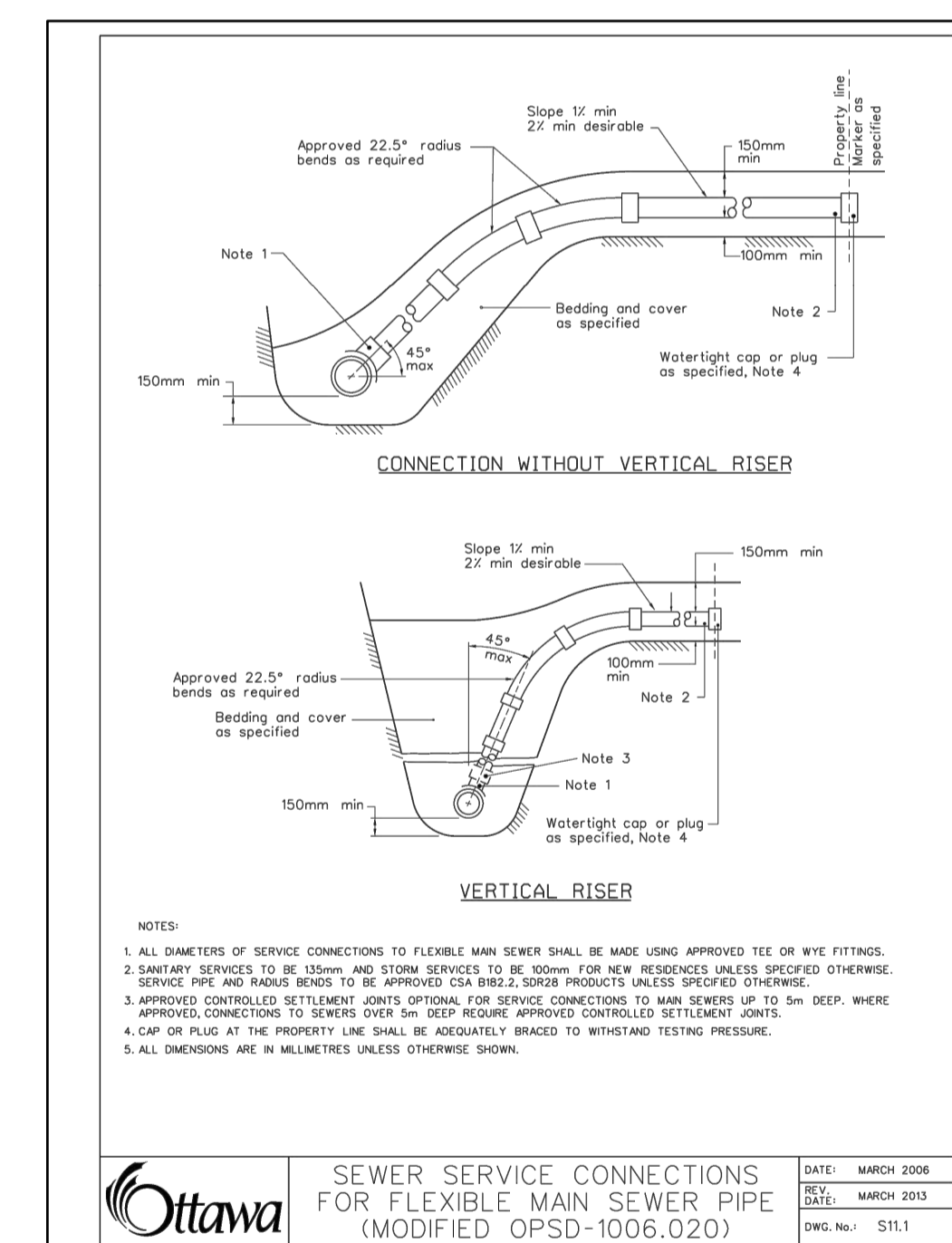
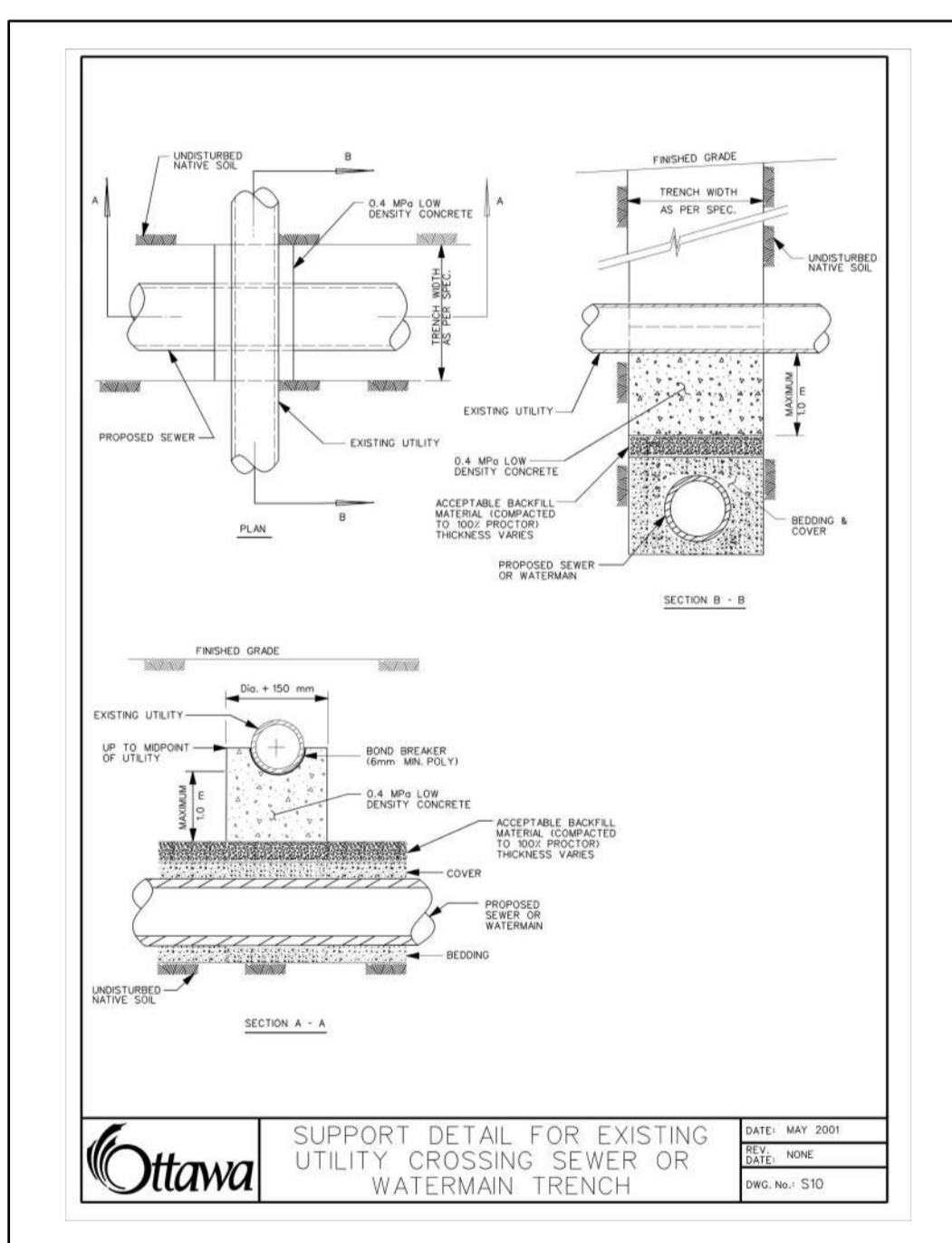
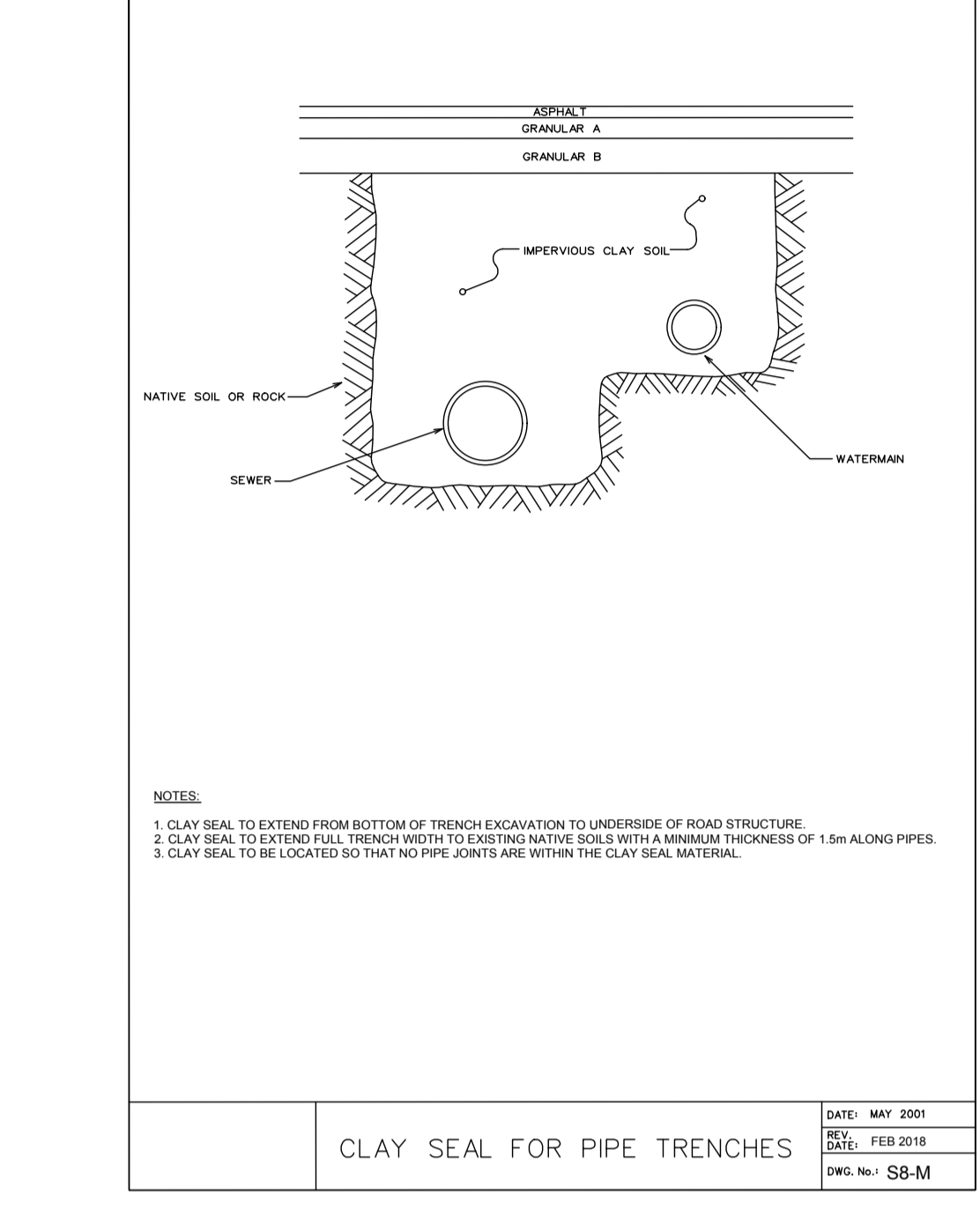
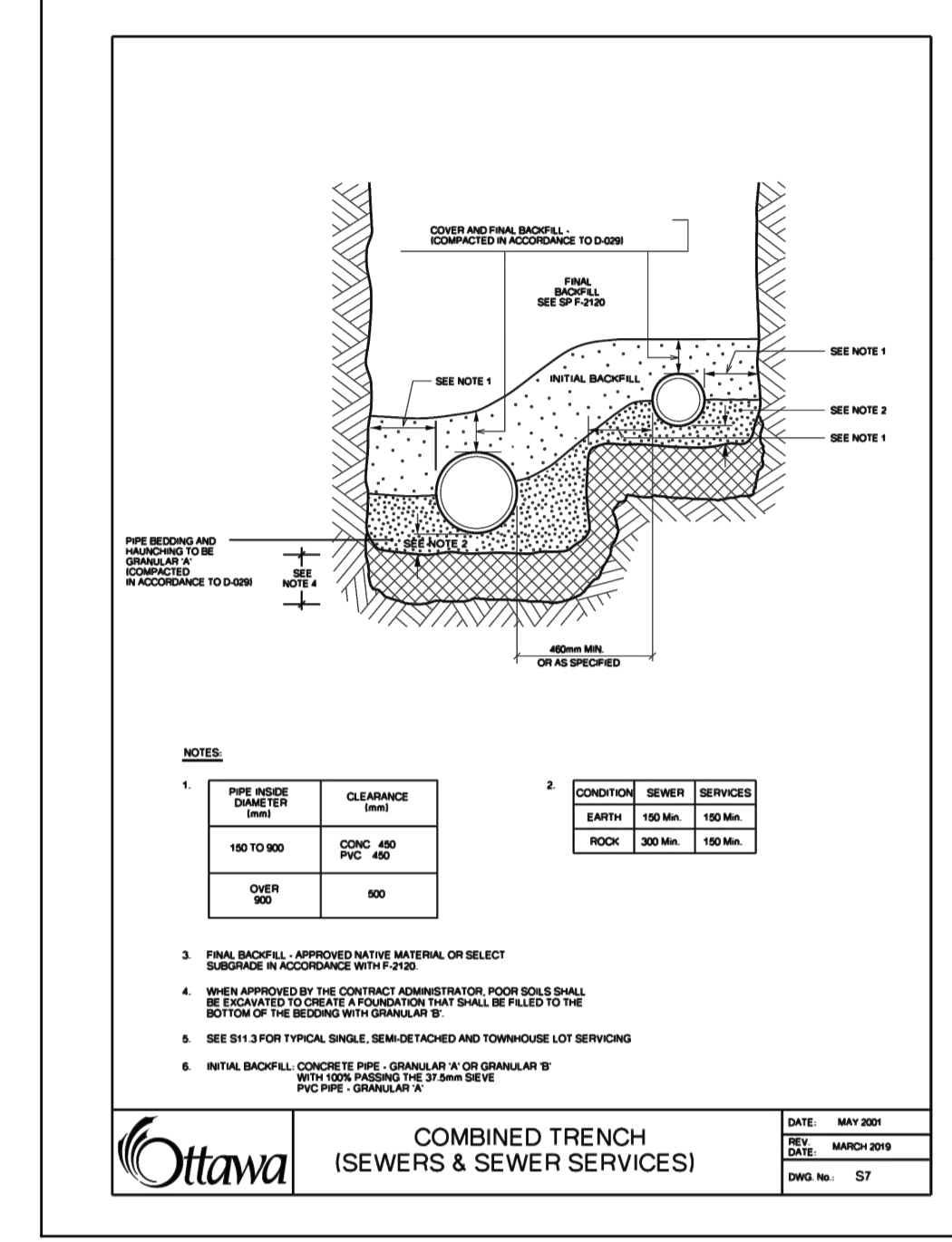
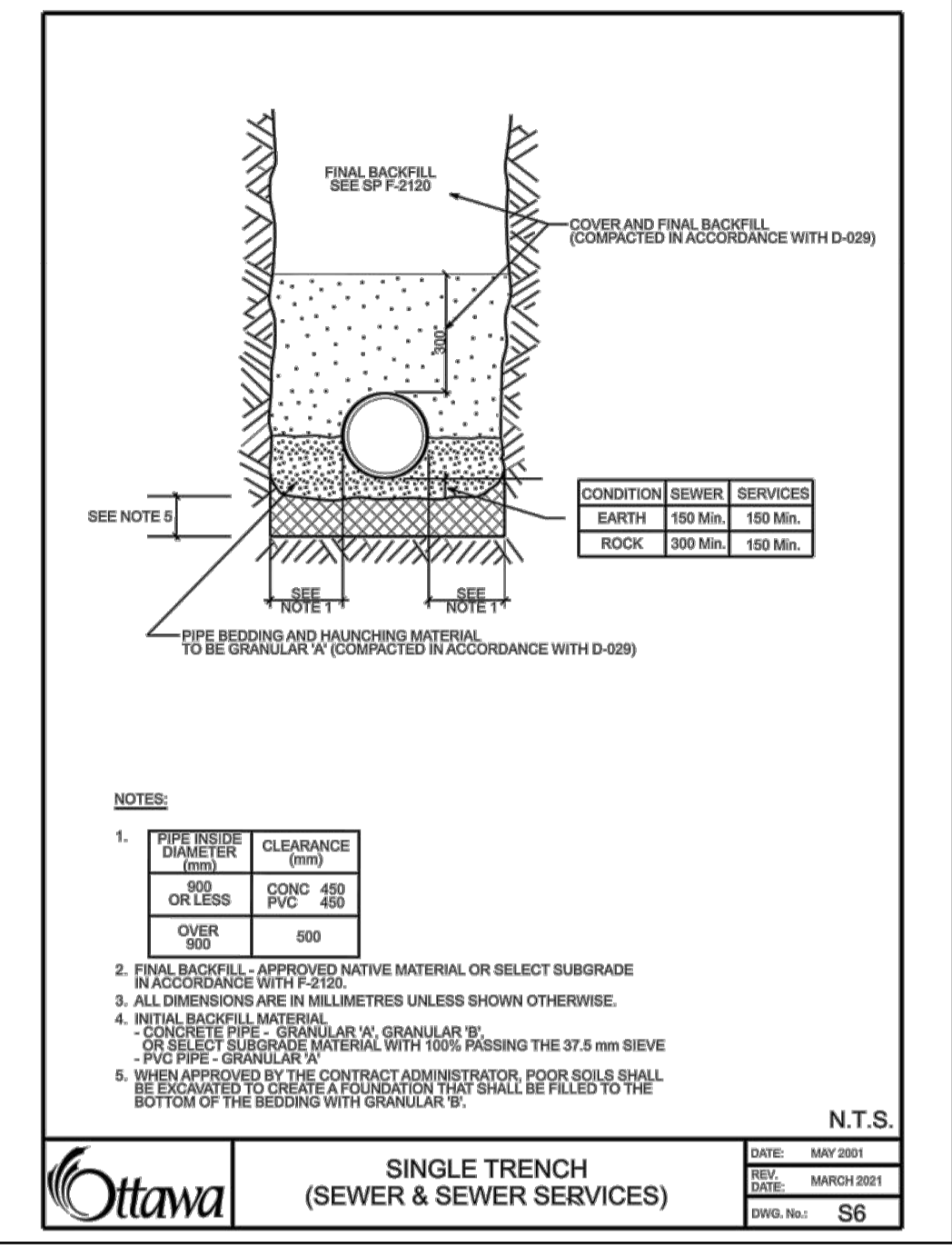
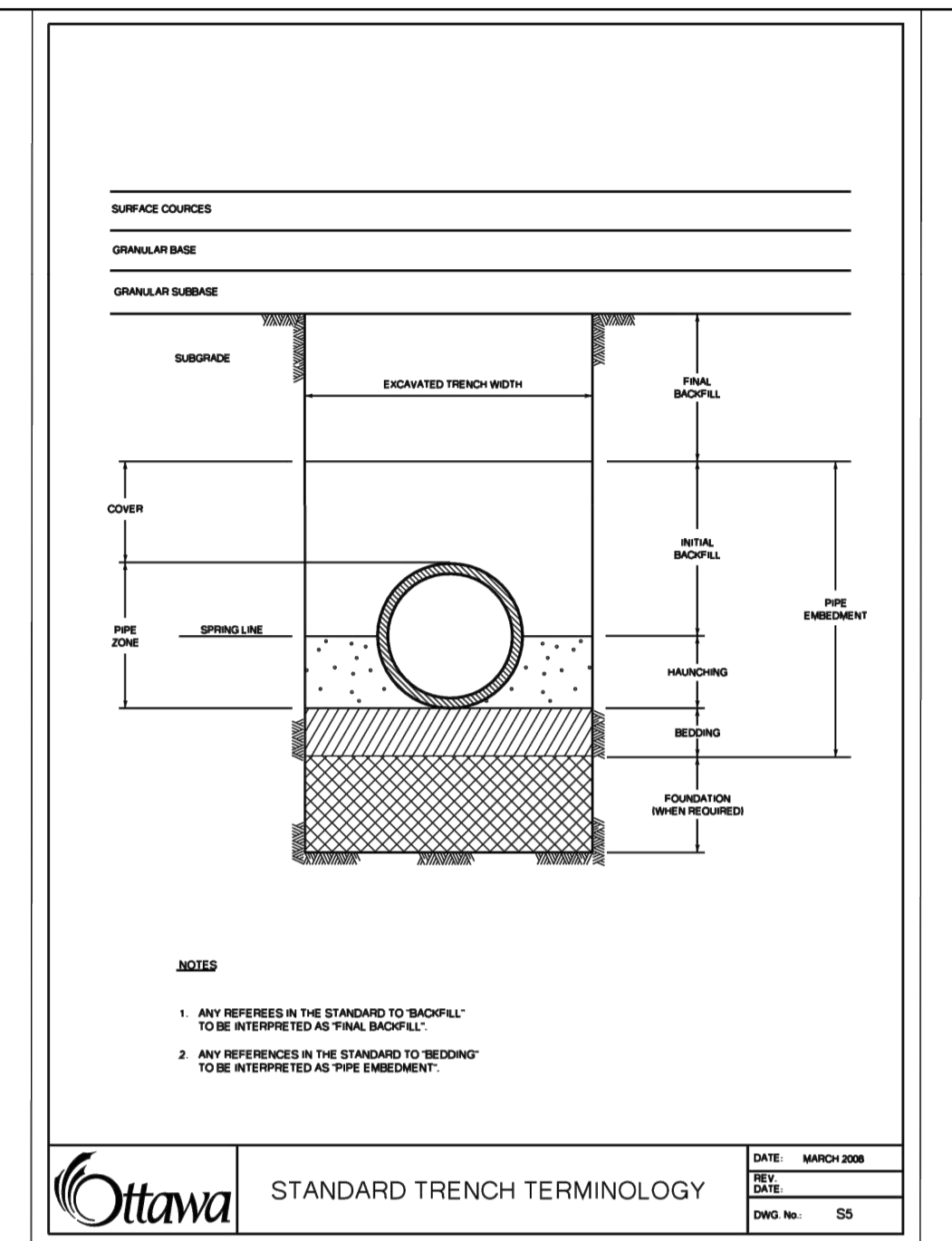
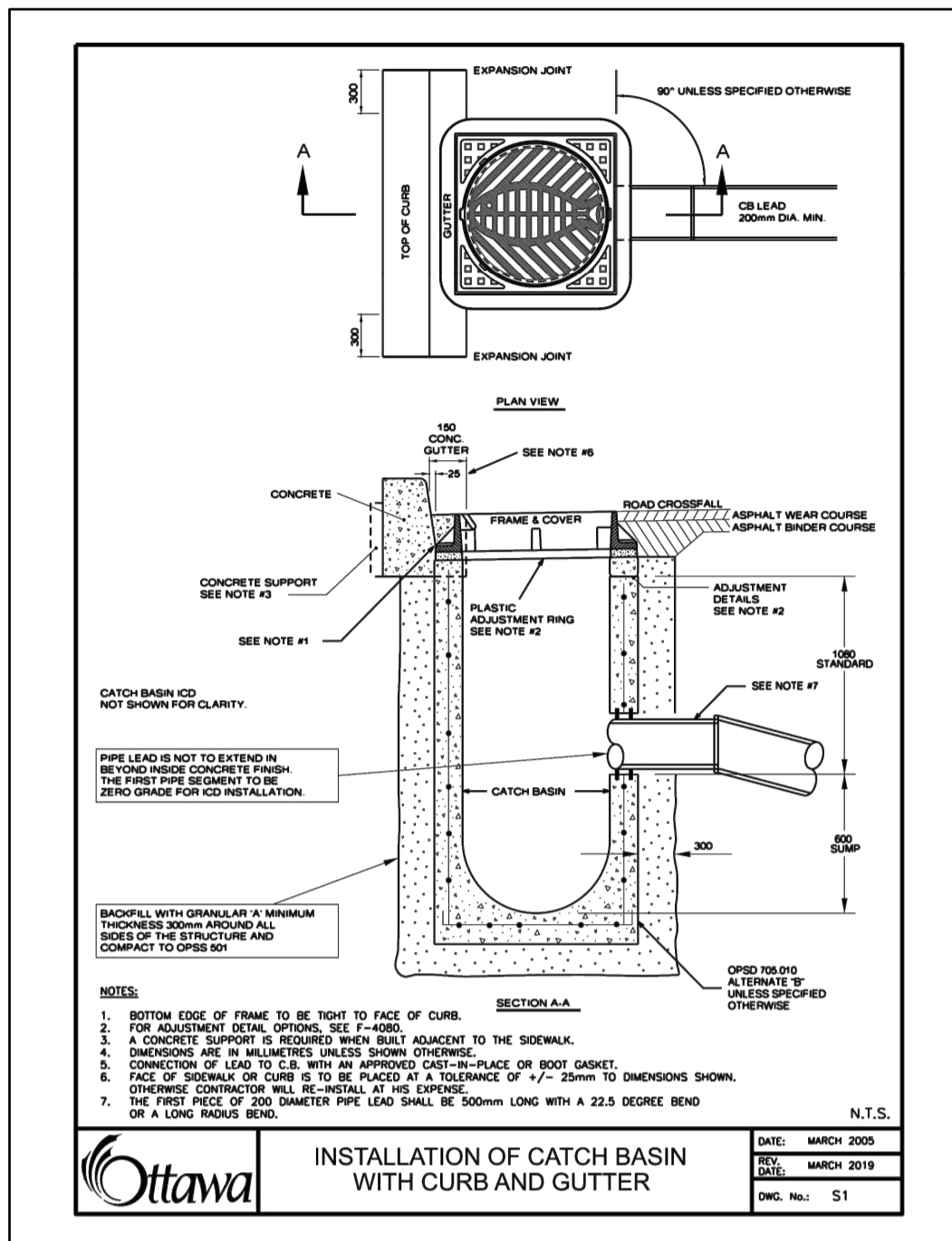
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 Website www.novatech-eng.com

LOCATION CITY OF OTTAWA THE COMMONS - MEDIUM DENSITY		PROJECT No. 118224-MD
DRAWING NAME SANITARY DRAINAGE AREA PLAN		REV REV # 1
		DRAWING No. 118224-MD-SAN

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M. SAVIC
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11/01/24
PROVINCE OF ONTARIO

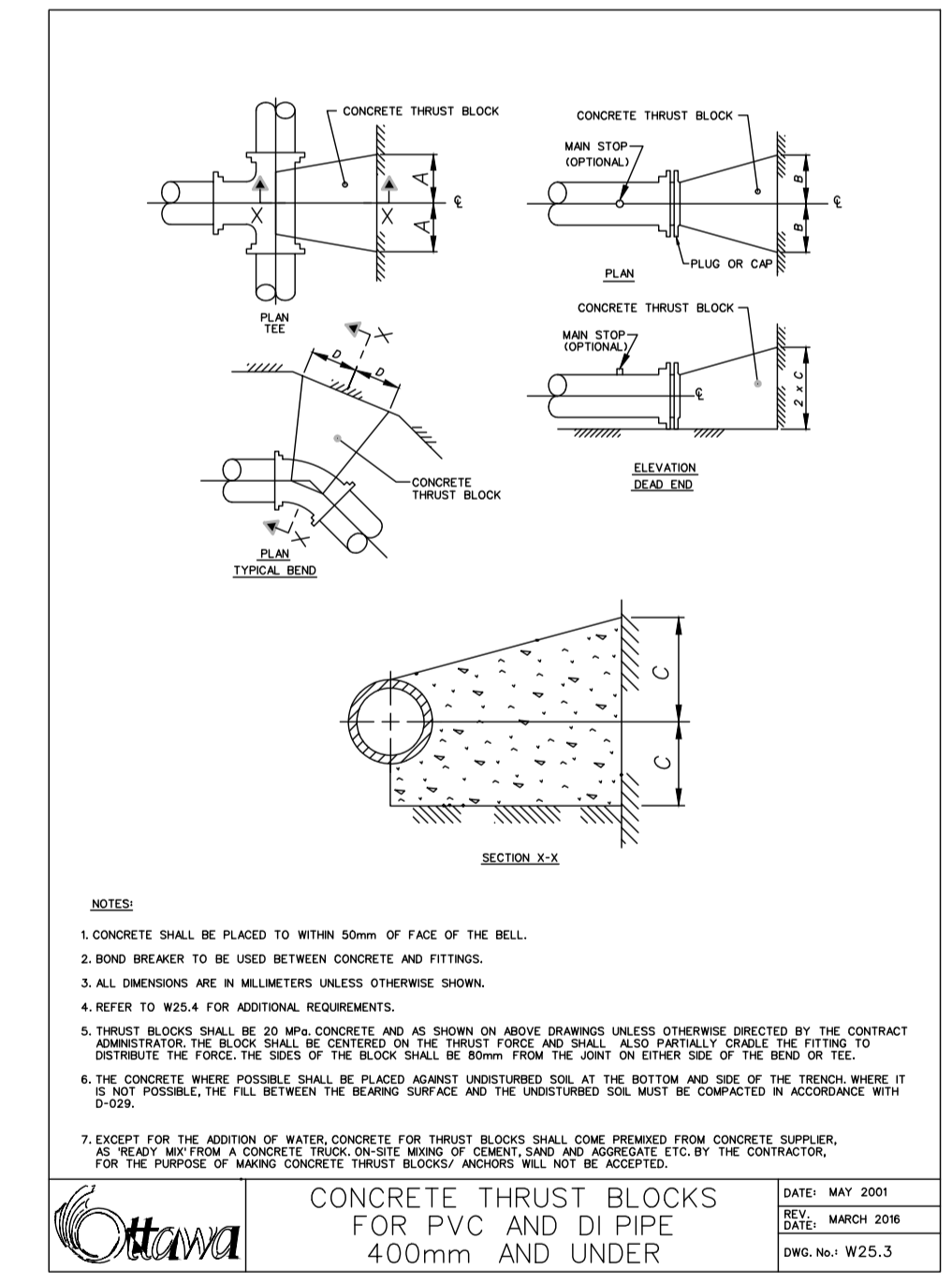
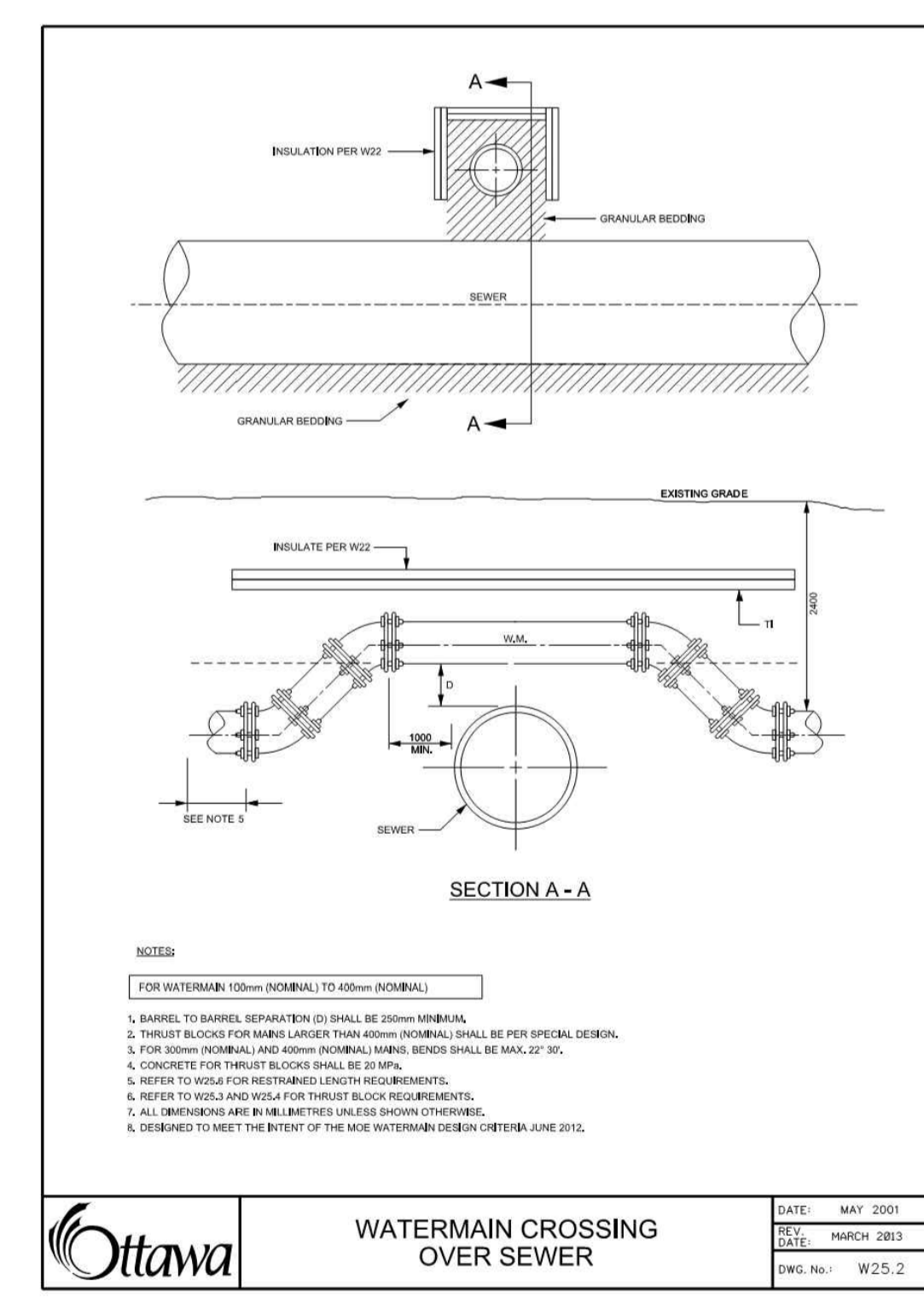
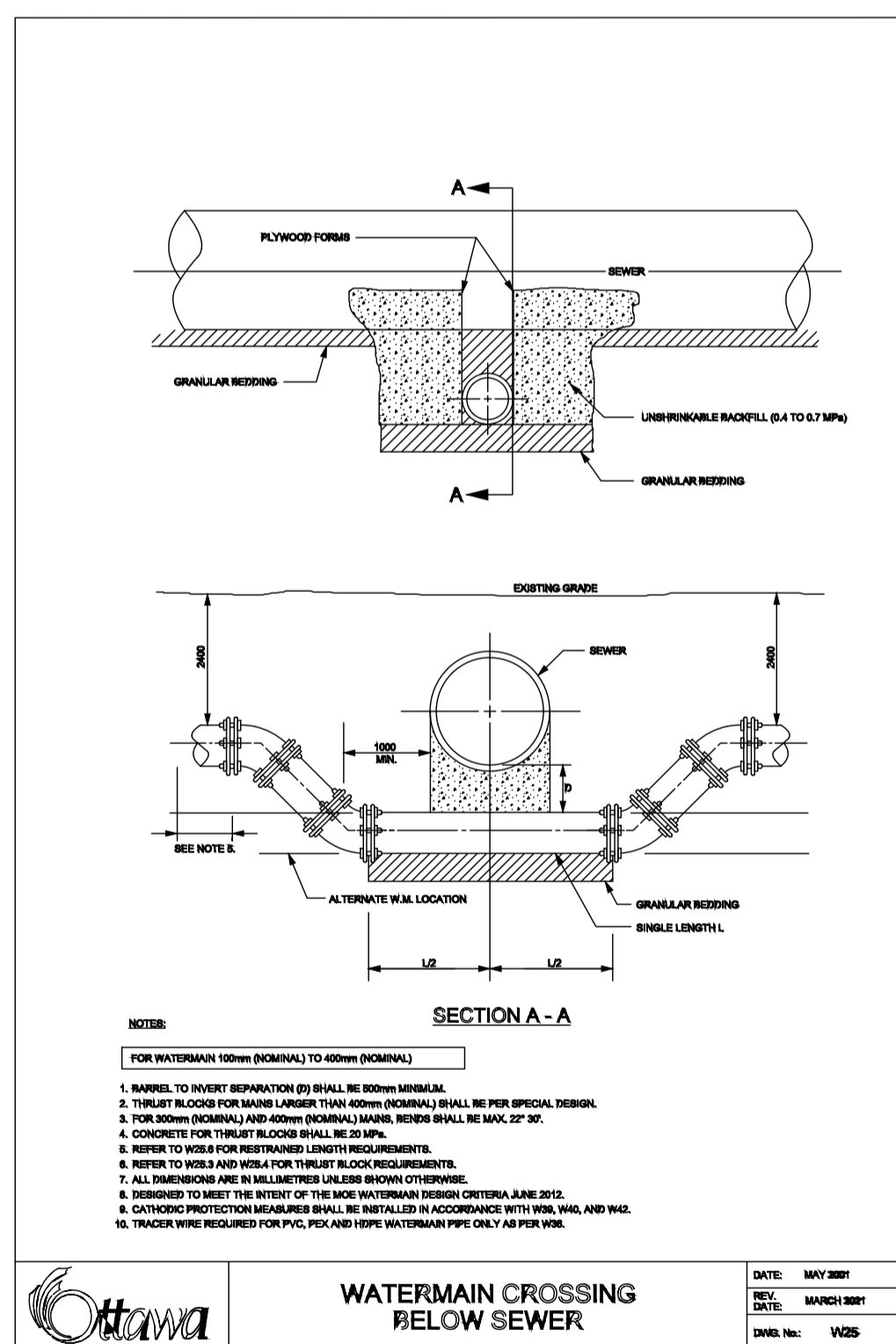
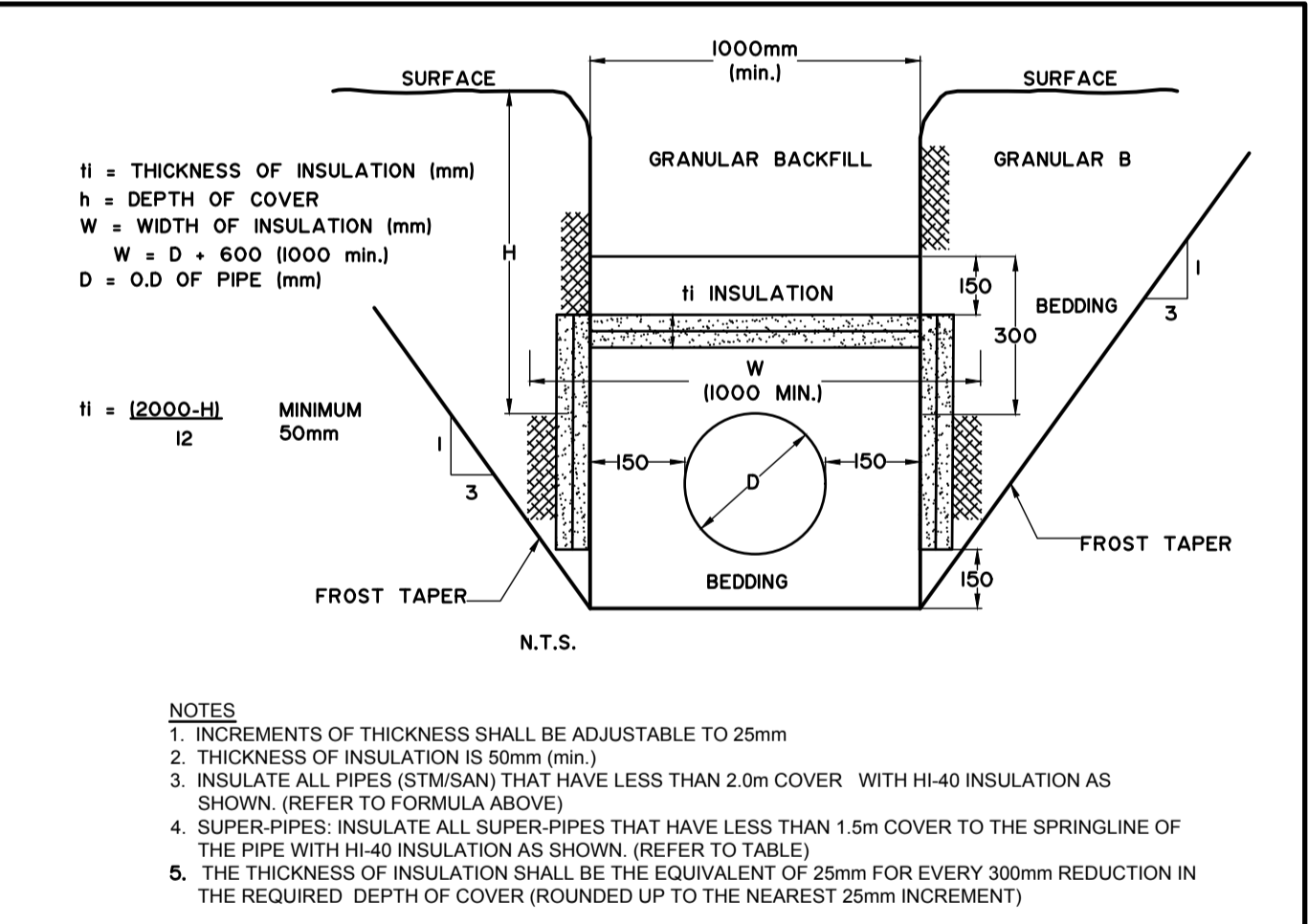
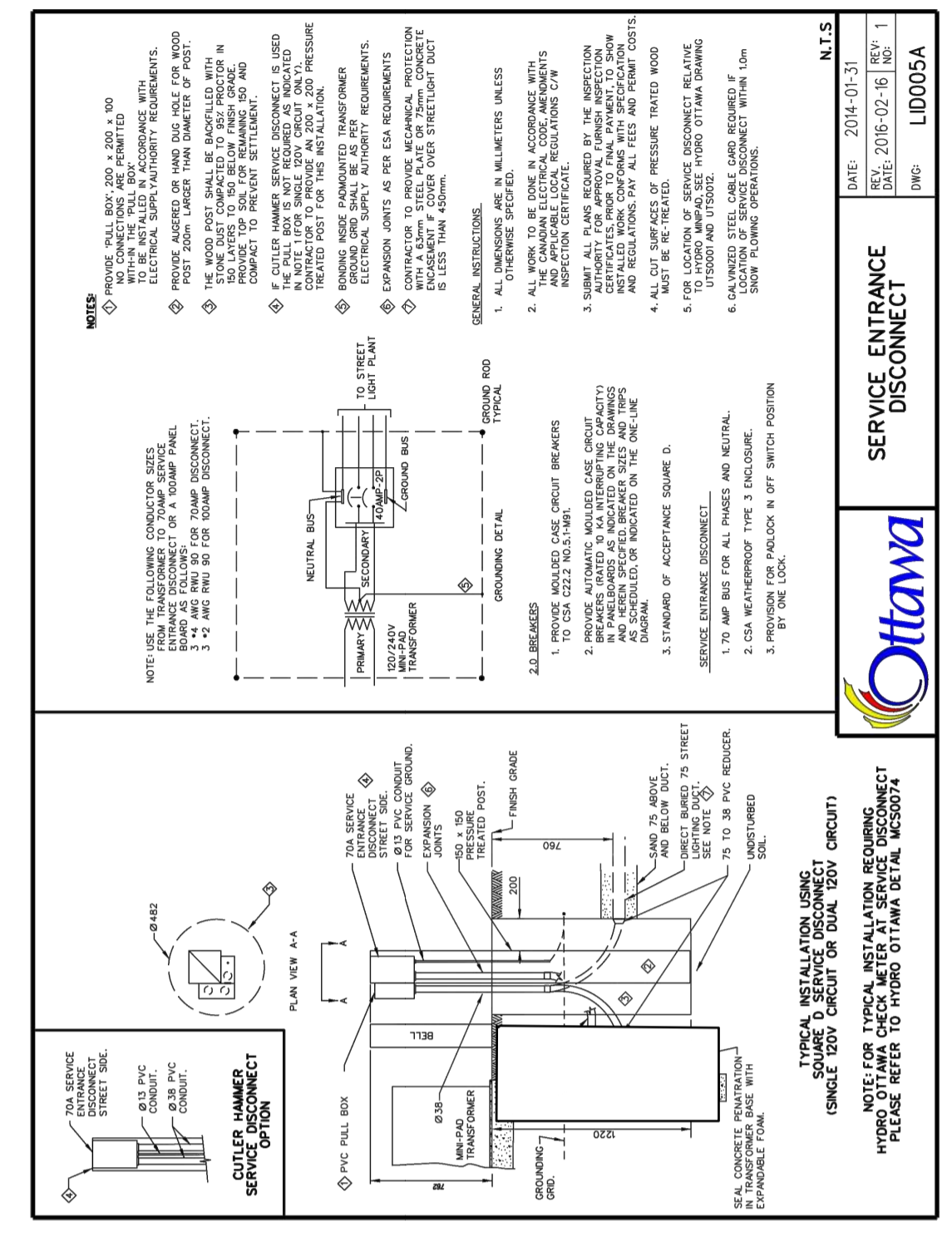
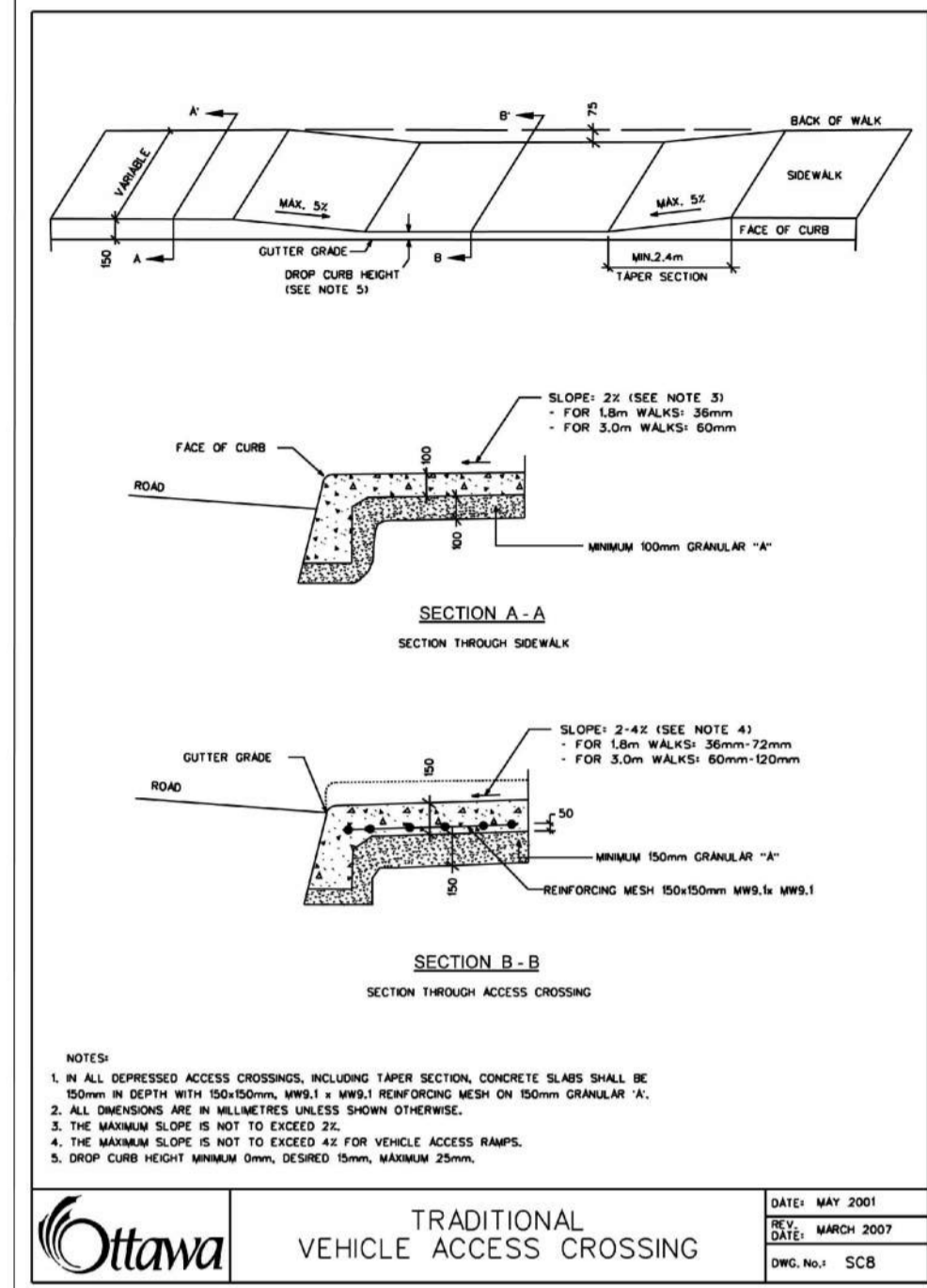
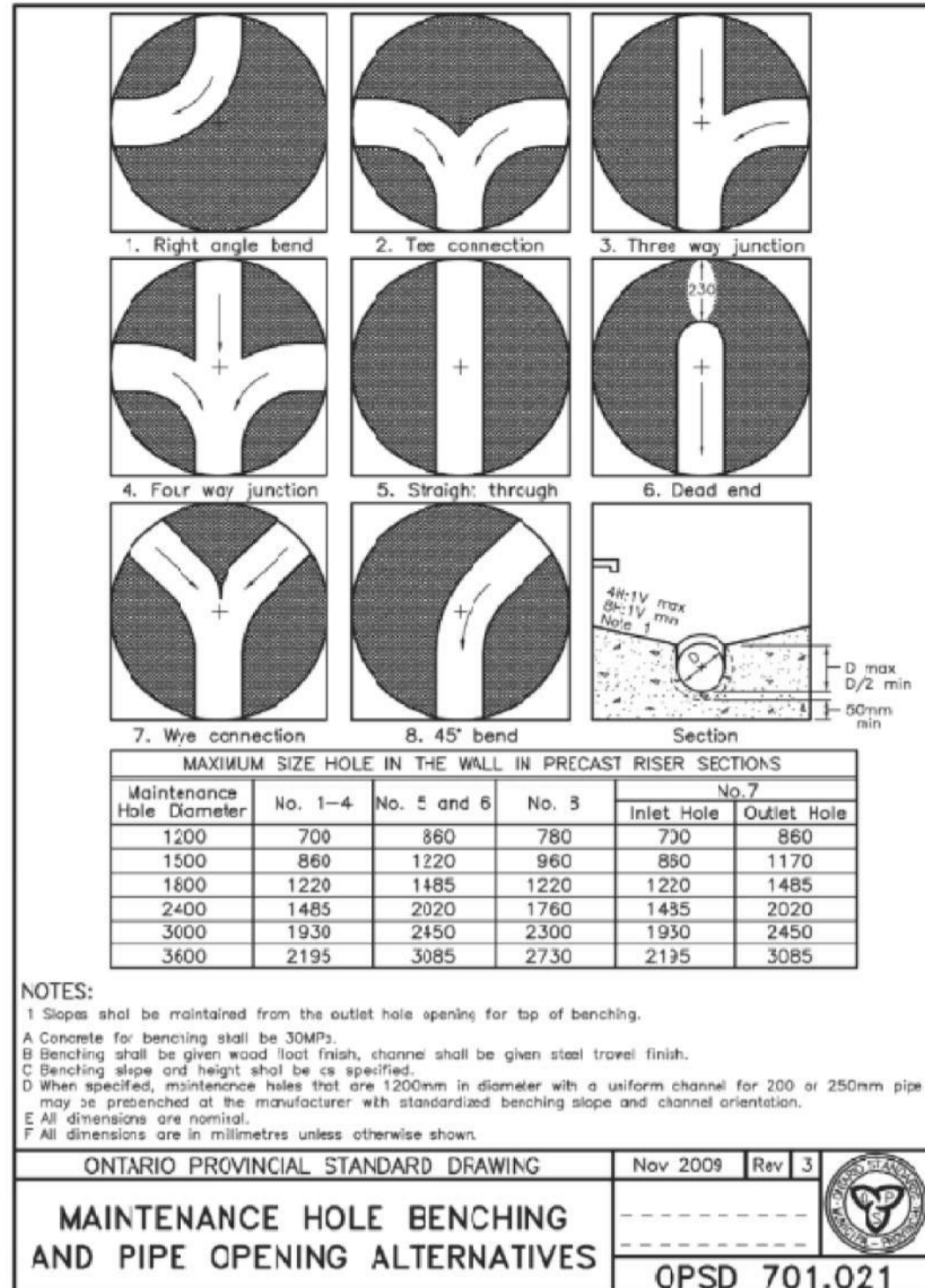
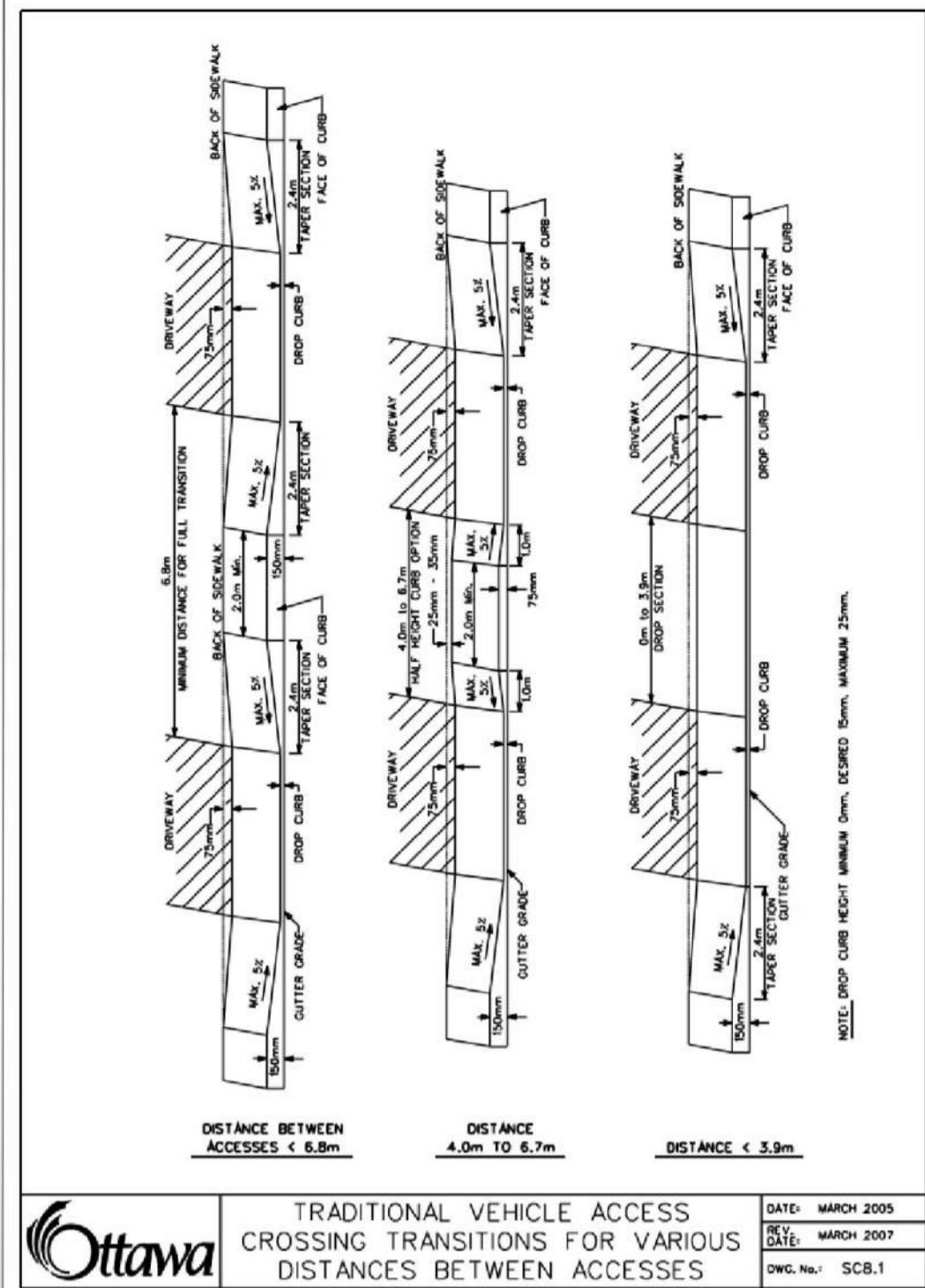
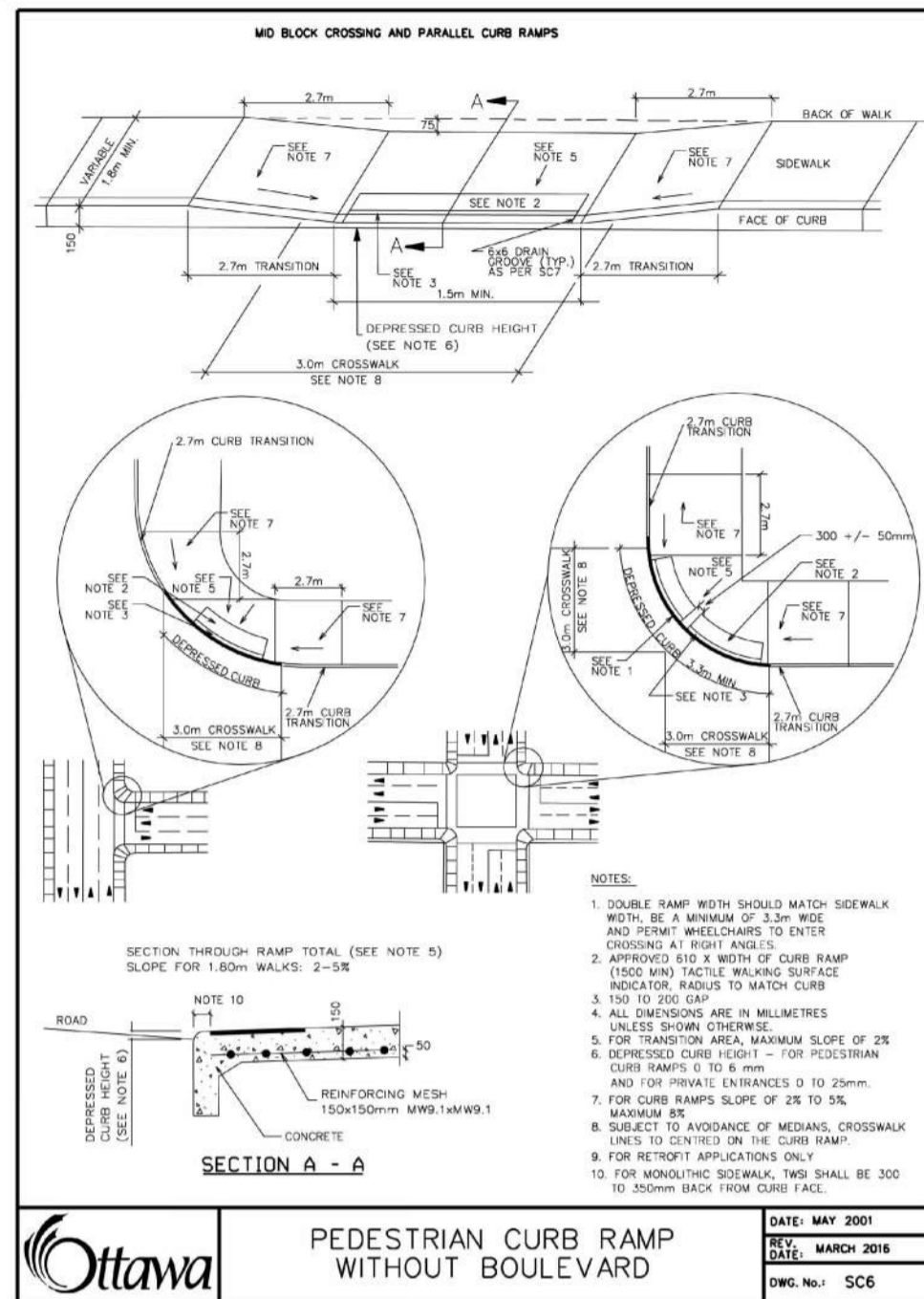
LOCATION: CITY OF OTTAWA
THE COMMONS - PHASE 4

DRAWING NAME: STANDARD DETAILS

PROJECT No.: 118224-MD

REV: REV #1

DRAWING No.: 118224-MD-D1



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.

REFER TO 118224-ND FOR ADDITIONAL NOTES & DETAILS

No.	REVISION	DATE	BY
1.	ISSUED FOR CITY REVIEW	NOV 1/24	BHB

SCALE: AS SHOWN

DESIGN: CV/MS

CHECKED: MS

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APPROVED: BHB

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LICENSED PROFESSIONAL ENGINEER
M. SAVIC
100102651
11/01/24
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LOCATION: CITY OF OTTAWA THE COMMONS - PHASE 4 - MEDIUM DENSITY

DRAWING NAME: STANDARD DETAILS

PROJECT No.: 118224-MD

REV: REV #1

DRAWING No.: 118224-MD-D2

1. SOIL DESCRIPTION: VERY FINE SANDS, SANDY CLAYS, CLAYS.
SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	250	250	200	200
152	400	400	250	300
203	550	550	300	450
254	650	650	400	500
305	800	800	450	650
406	1050	1050	600	850

2. SOIL DESCRIPTION: SILTY SAND, GRAVELS OR CLAYEY SANDS, MIXTURES, MODERATE AMOUNT OF FINES.
SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	300	300	200	200
152	450	450	250	270
203	550	550	300	350
254	650	650	350	400
305	800	800	400	450
406	1050	1050	500	550

3. SOIL DESCRIPTION: SANDS, GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.
SOILS WITH TYPICAL BEARING STRENGTH OF 300 KPa AND OVER

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	400	400	150	150
152	500	500	200	200
203	600	600	250	230
254	700	700	300	270
305	800	800	350	300
406	1050	1050	450	450

1. THE ABOVE THRUST BLOCK DIMENSIONS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERNATIONS AUTHORIZED UNDER A DRIVING IN THE HOUSING PERMIT.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:
a. MAXIMUM OPERATING PRESSURE OF 1000 kPa.
b. MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.5 m/s OF 1.5 TIMES THE OPERATING PRESSURE OF 1000 kPa.
c. MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.5 m/s OF 1.5 TIMES THE OPERATING PRESSURE OF 1000 kPa.
3. THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC. WHERE THE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.
4. DIMENSIONS MAY BE ADJUSTED AS LONG AS THE BEARING SURFACE AREA OF THE THRUST BLOCK IS NOT REDUCED.
4. TO BE USED IN CONJUNCTION WITH W25.3.

THRUST BLOCK DIMENSION TABLES FOR PVC AND DI PIPE 400mm AND UNDER
DATE: MAY 2001
REV: MARCH 2011
DWG. No.: W25.4

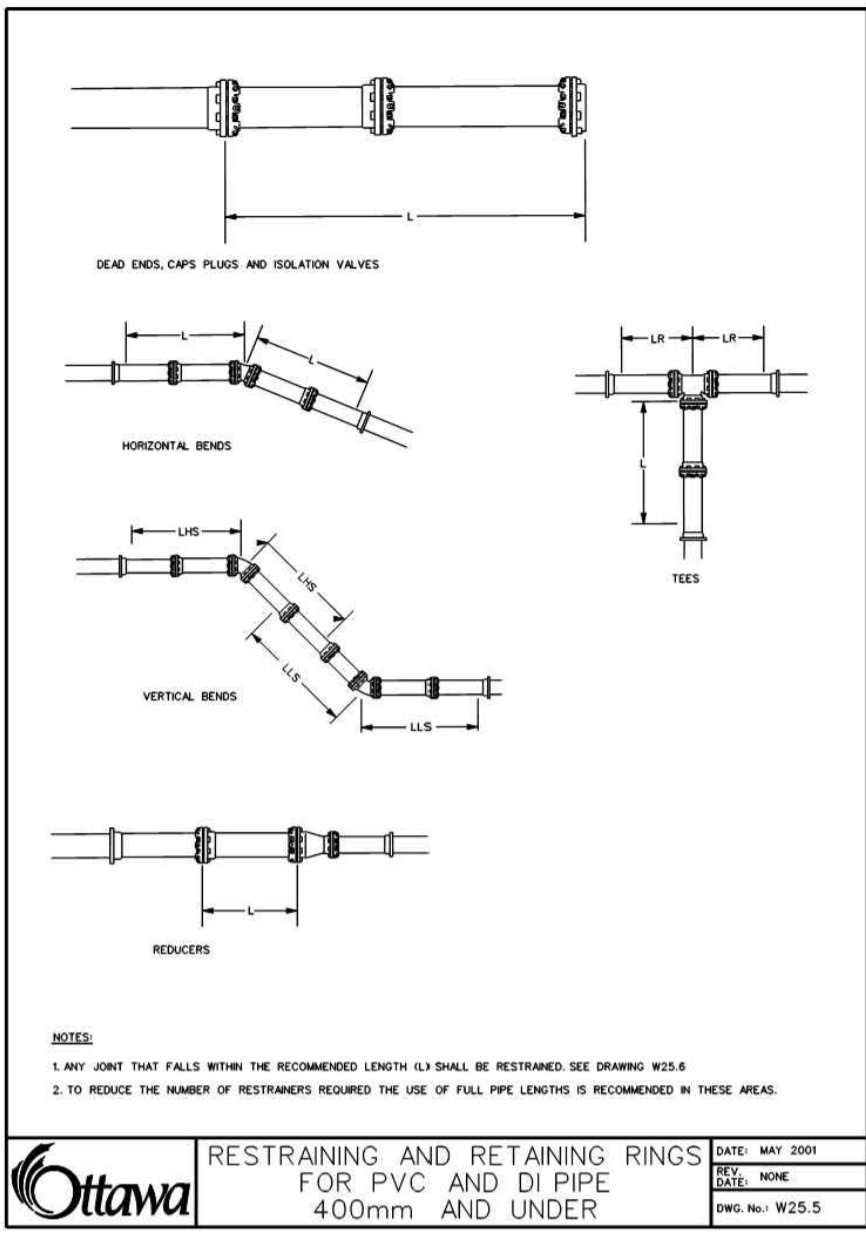


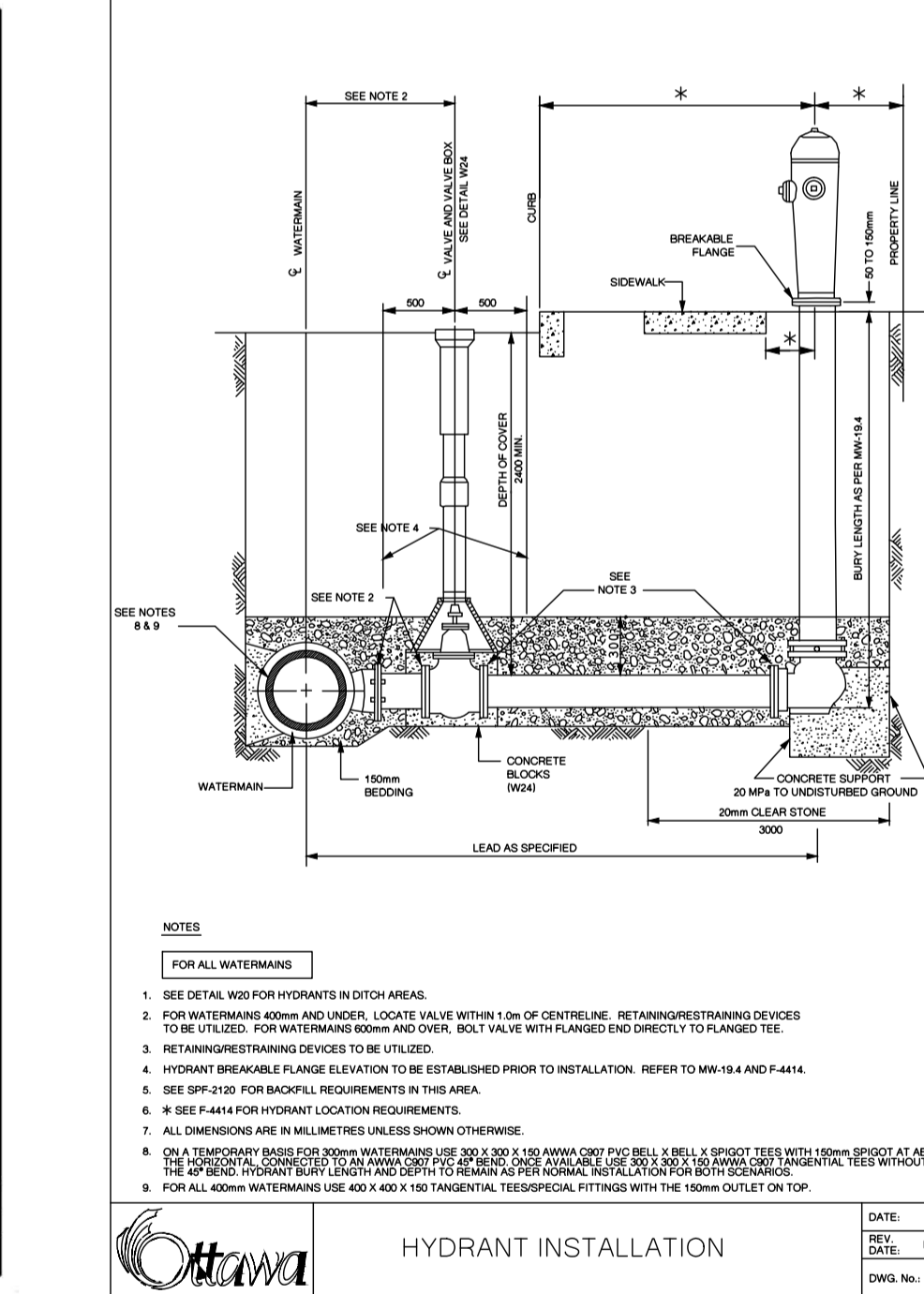
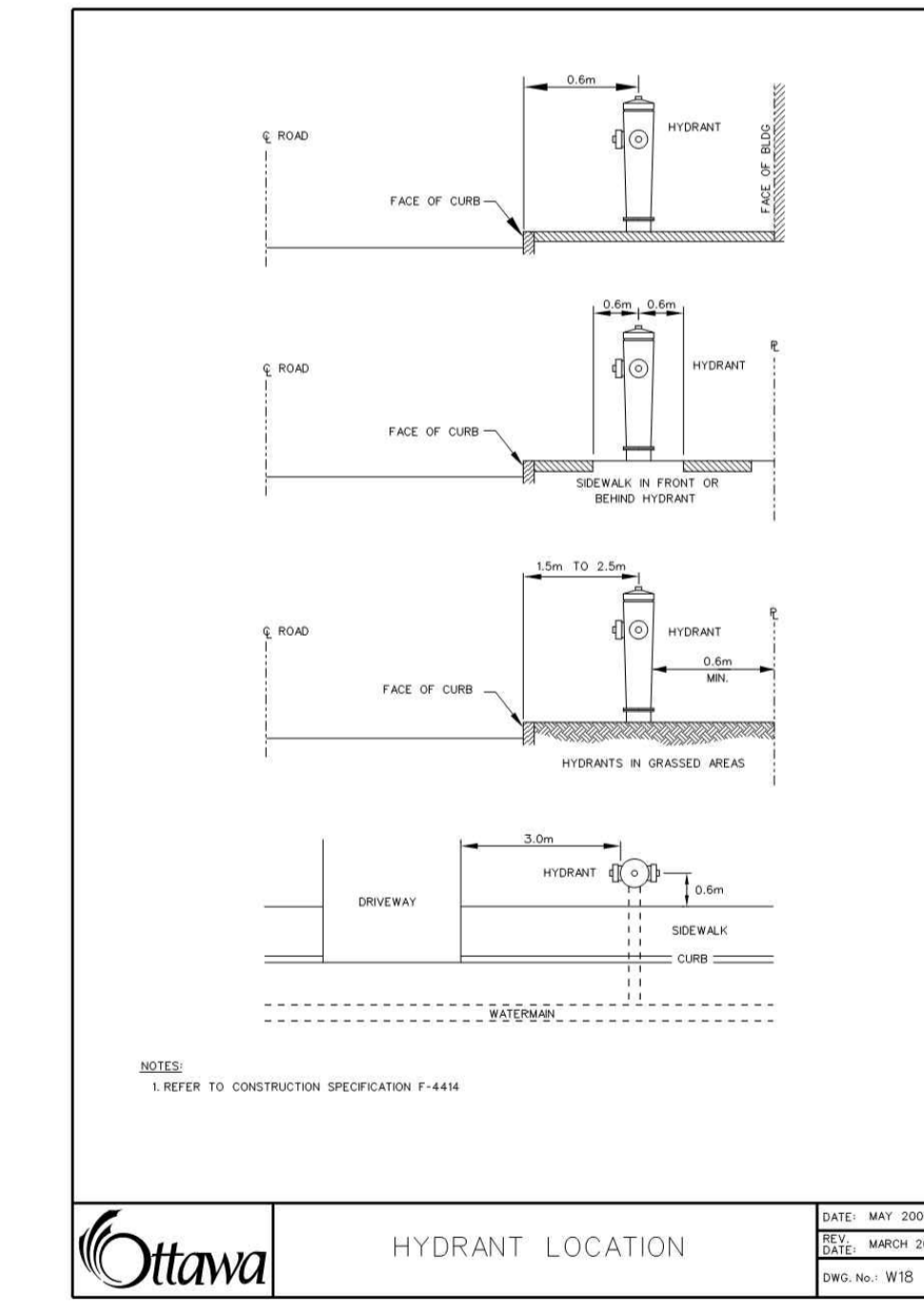
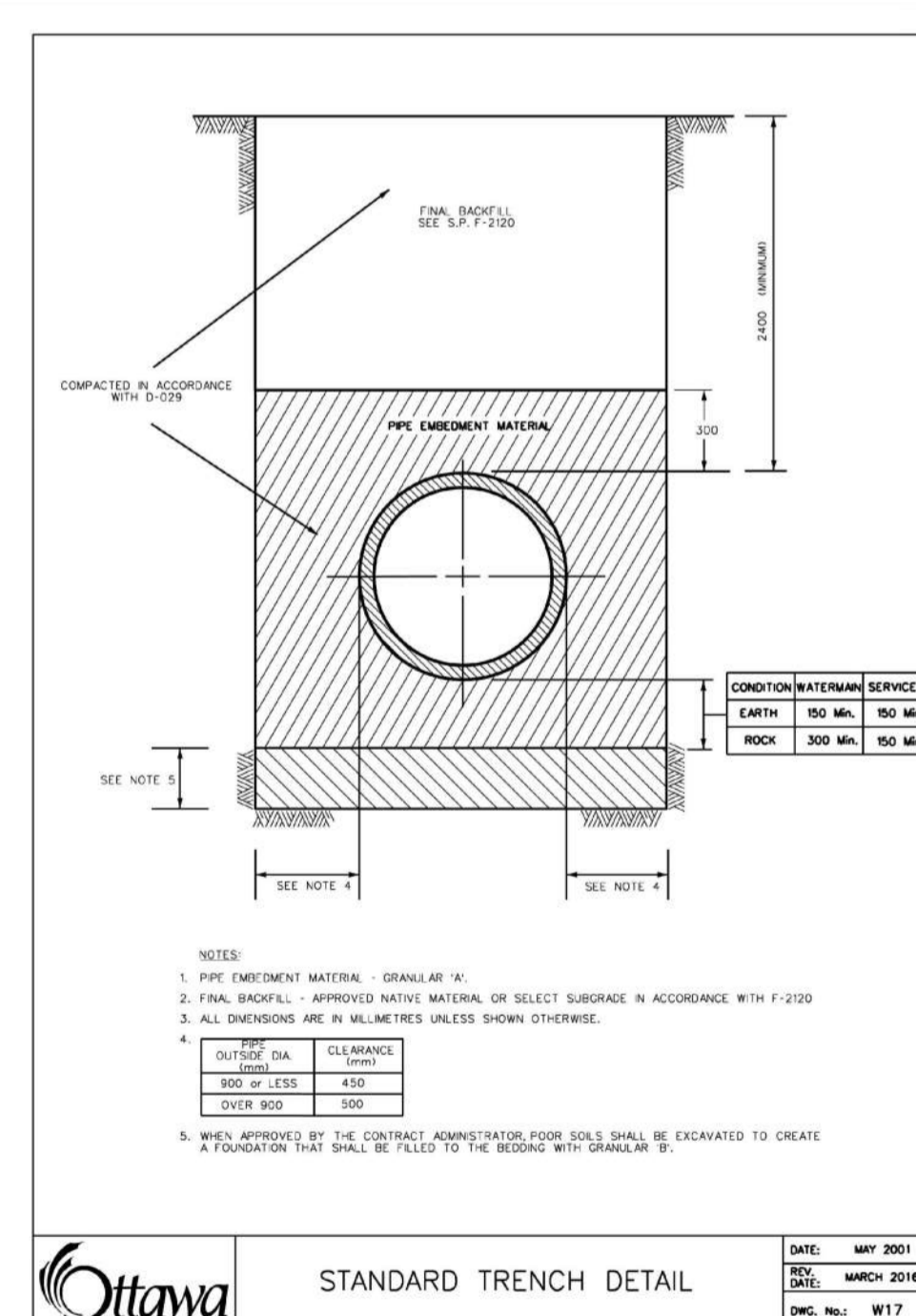
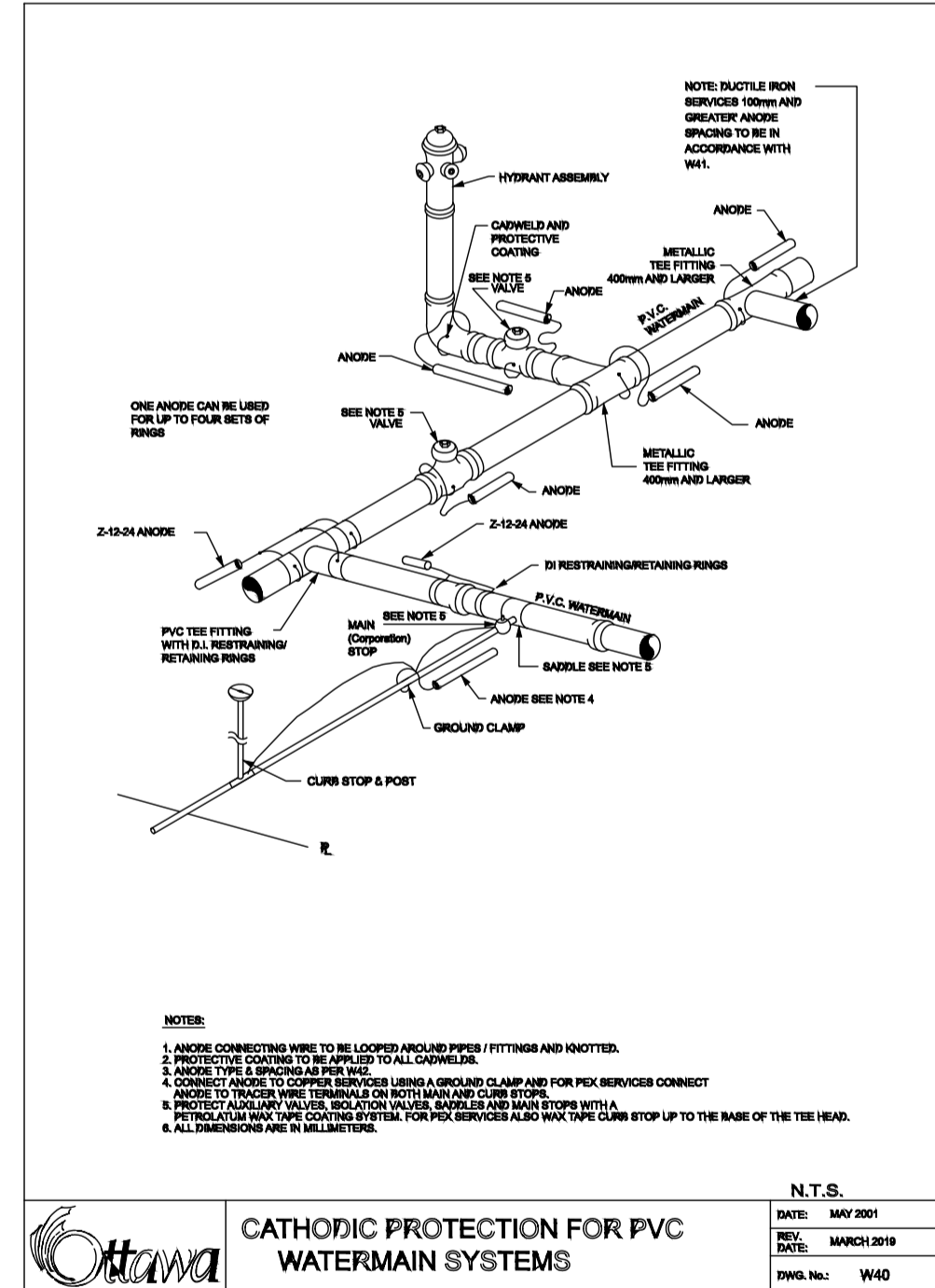
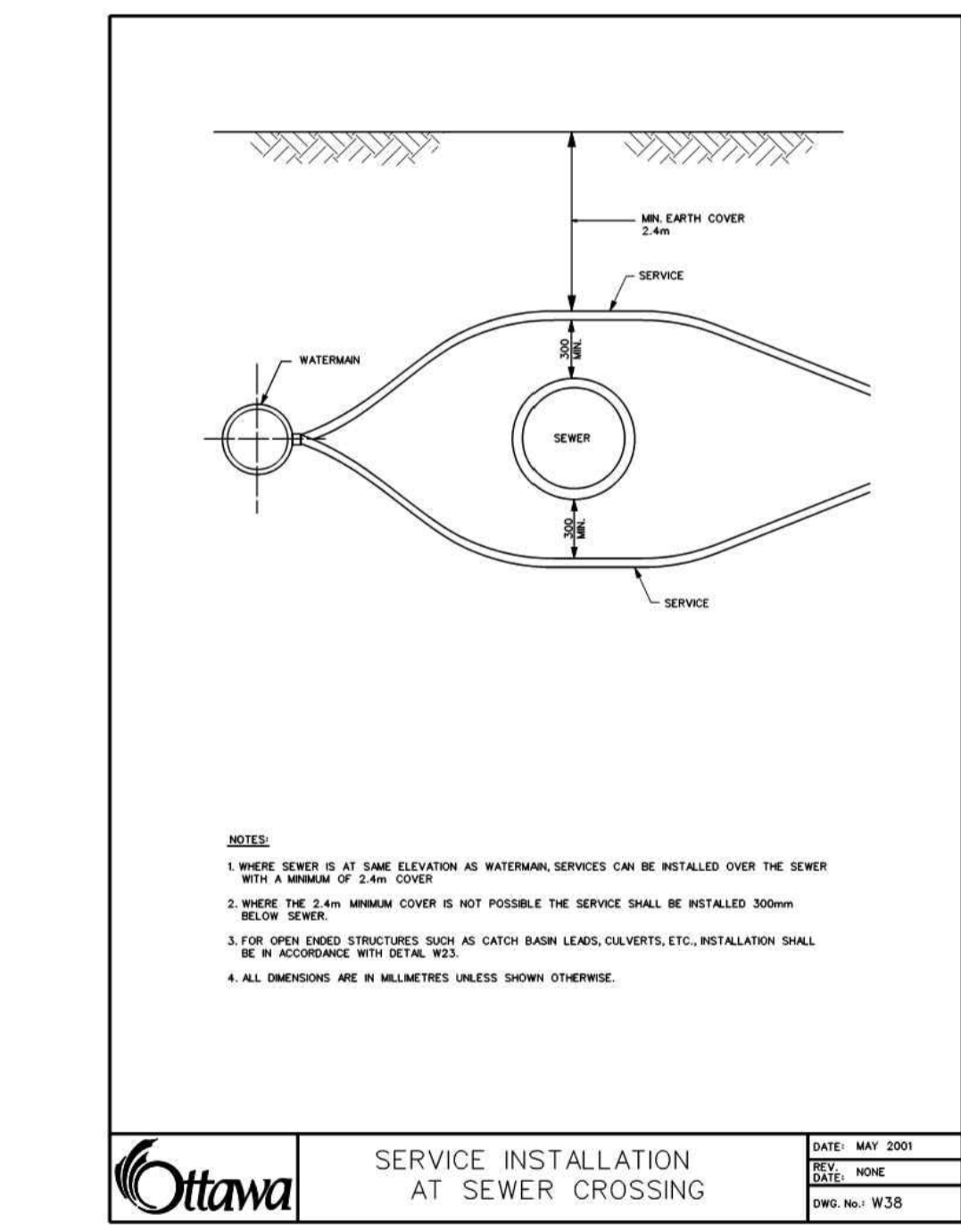
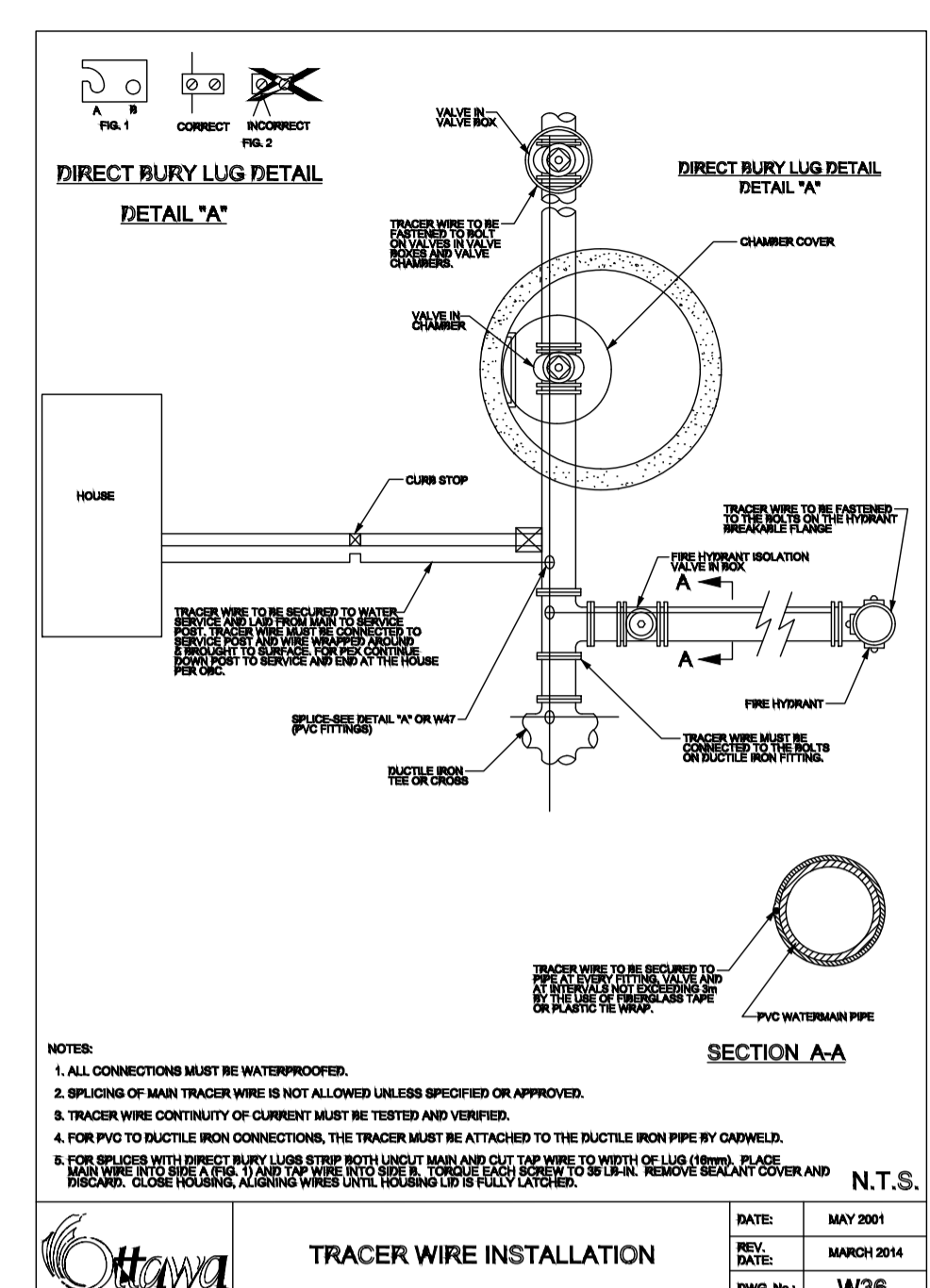
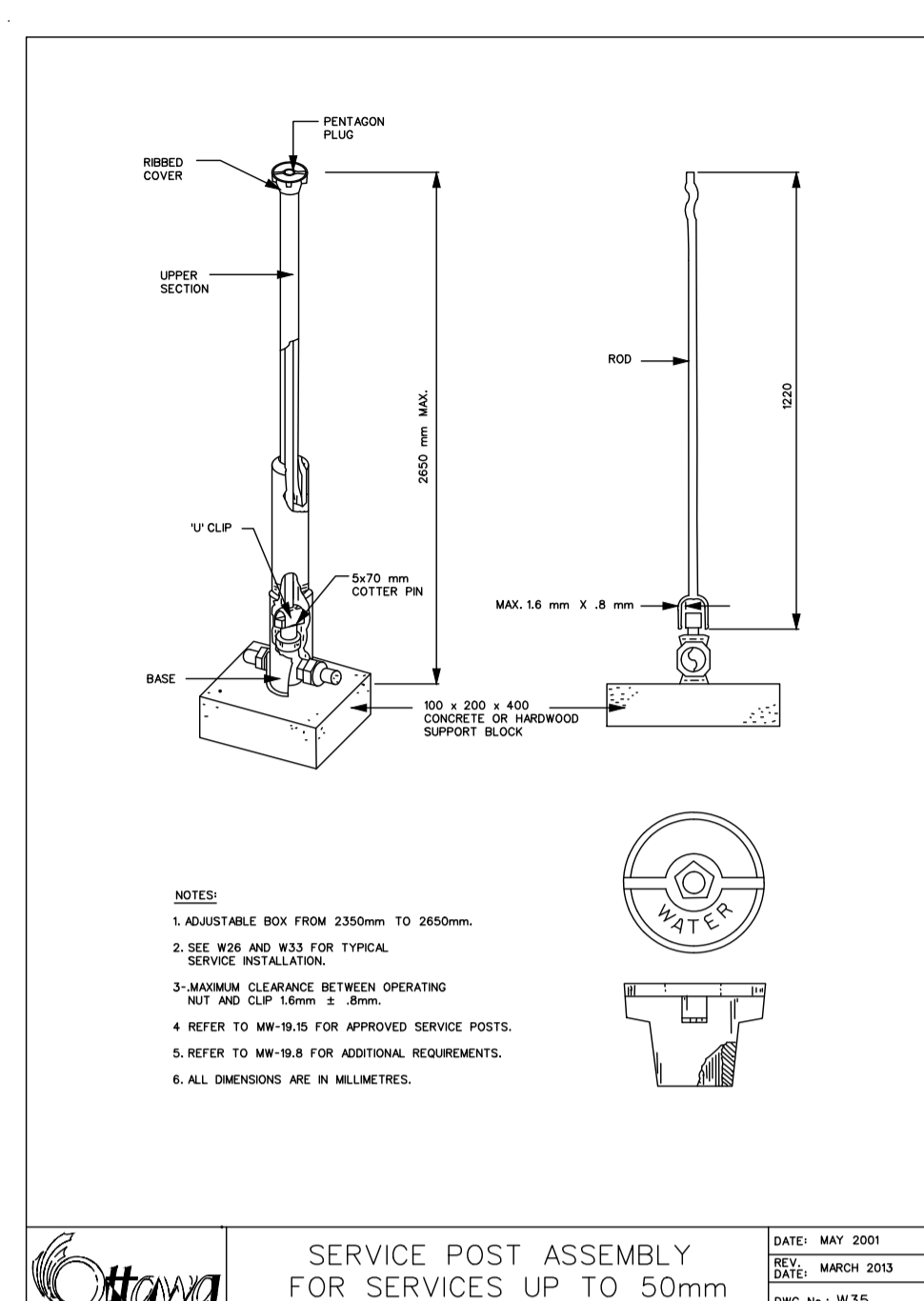
TABLE OF RESTRAINED LENGTHS FOR DI AND PVC WATERMAIN PIPE IN STANDARD GRANULAR 'A' EMBEDMENT IN SOILS OF BEARING CAPACITY OF 100 KPa AND OVER

REDUCERS	LARGER DIAMETER SIDE (TO BE RESTRAINED)					
	100mm	150mm	200mm	250mm	300mm	400mm
100mm	N/A	3	6	8	10	14
150mm	N/A	N/A	4	6	9	13
200mm	N/A	N/A	N/A	3	6	11
250mm	N/A	N/A	N/A	N/A	4	9
300mm	N/A	N/A	N/A	N/A	N/A	7
400mm	N/A	N/A	N/A	N/A	N/A	N/A

PIPE DIAMETER	PIPE DIAMETER					
	100mm	150mm	200mm	250mm	300mm	400mm
DEAD ENDS, CAPS, PLUGS, VALVES						
BEFORE CAPS AND EITHER SIDE OF VALVES - L						
5						
6						
9						
10						
12						
16						
VERTICAL BENDS						
LENGTH HIGH SIDE - LHS						
3						
4						
5						
6						
7						
9						
LENGTH LOW SIDE - LLS						
1.5						
2						
2.5						
3						
3.5						
4.5						
TEES						
LENGTH ALONG THE BRANCH - L						
1						
1						
1						
1						
1						
1						
LENGTH ALONG THE RUN - Lr						
3						
3						
3						
3						
3						
3						
HORIZONTAL BENDS						
11.25, 22.5, AND 45 DEGREE BENDS						
1						
1.5						
1.5						
2						
2						
2.5						

NOTES:
1. THE ABOVE RESTRAINED LENGTHS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERNATIONS AUTHORIZED UNDER A DRIVING IN THE HOUSING PERMIT.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:
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b. MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.5 m/s OF 1.5 TIMES THE OPERATING PRESSURE OF 1000 kPa.
3. FOR SOFTWALL CALCULATIONS A TEST PRESSURE OF 1000 kPa AND A SAFETY FACTOR OF 1.5 WAS USED WHICH RESULTS IN 200 kPa MAXIMUM PRESSURE.
4. TYPE 'T' BENDS.
5. DEPTH TO SPOT 2.4 METRES EXCEPT FOR VERTICAL BENDS WHERE THE HIGH SIDE IS AT 1.8 METRES.
6. EMBEDEDMENT MATERIAL GRANULAR 'A' WITH COMPACTION OF 95% OR BETTER.
7. IF SOILS ARE DESCRIBED AS POORLY GRADED GRAVEL AND SAND-GRAVEL, MIXES WITH LITTLE OR NO FINES.
8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
9. THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC. WHERE THE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.
10. RESTRAINED LENGTHS ARE IN METRES.

TABLES OF RESTRAINED LENGTHS FOR PVC AND DI PIPE 400mm AND UNDER
DATE: MAY 2001
REV: MARCH 2011
DWG. No.: W25.6



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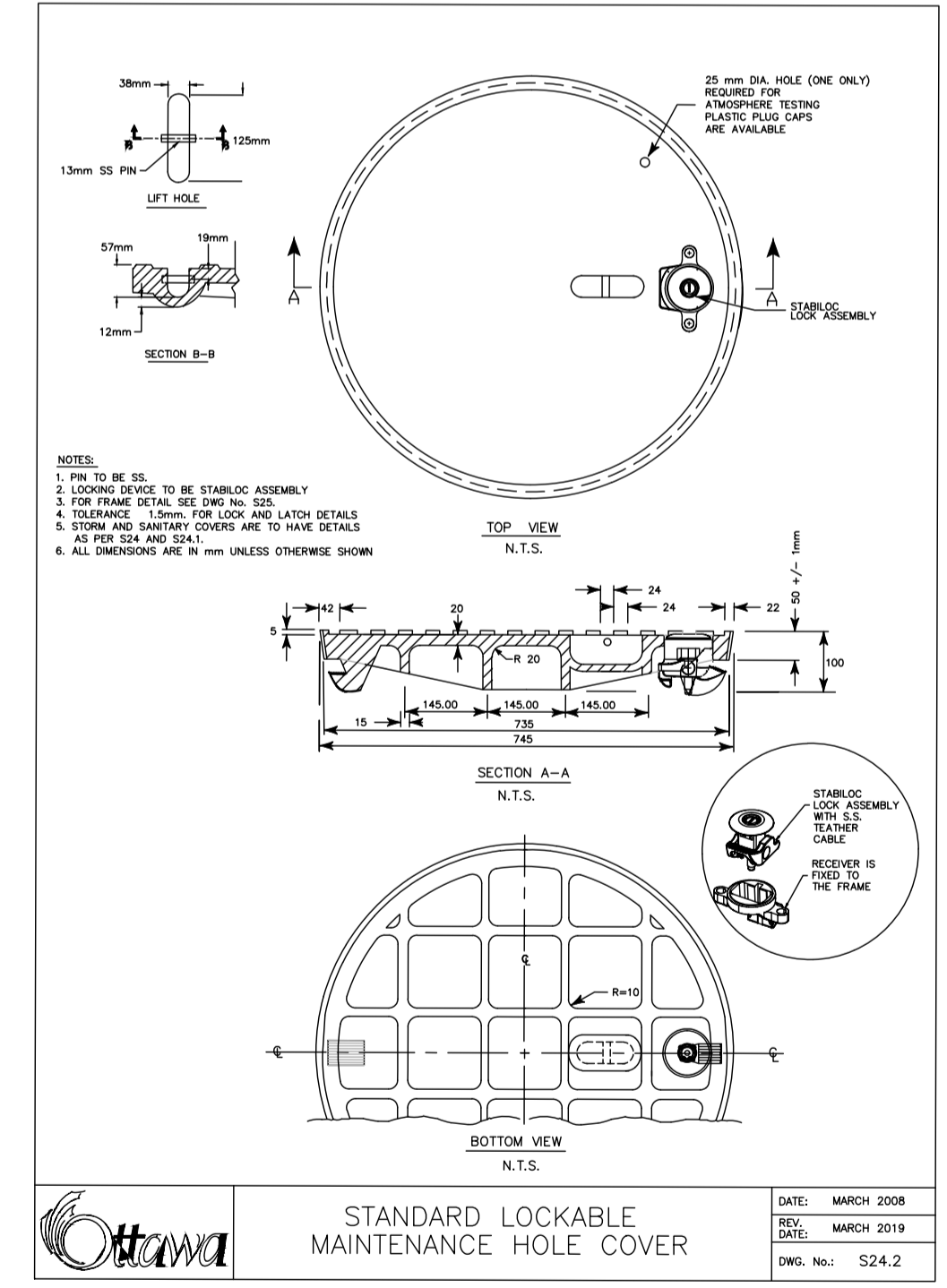
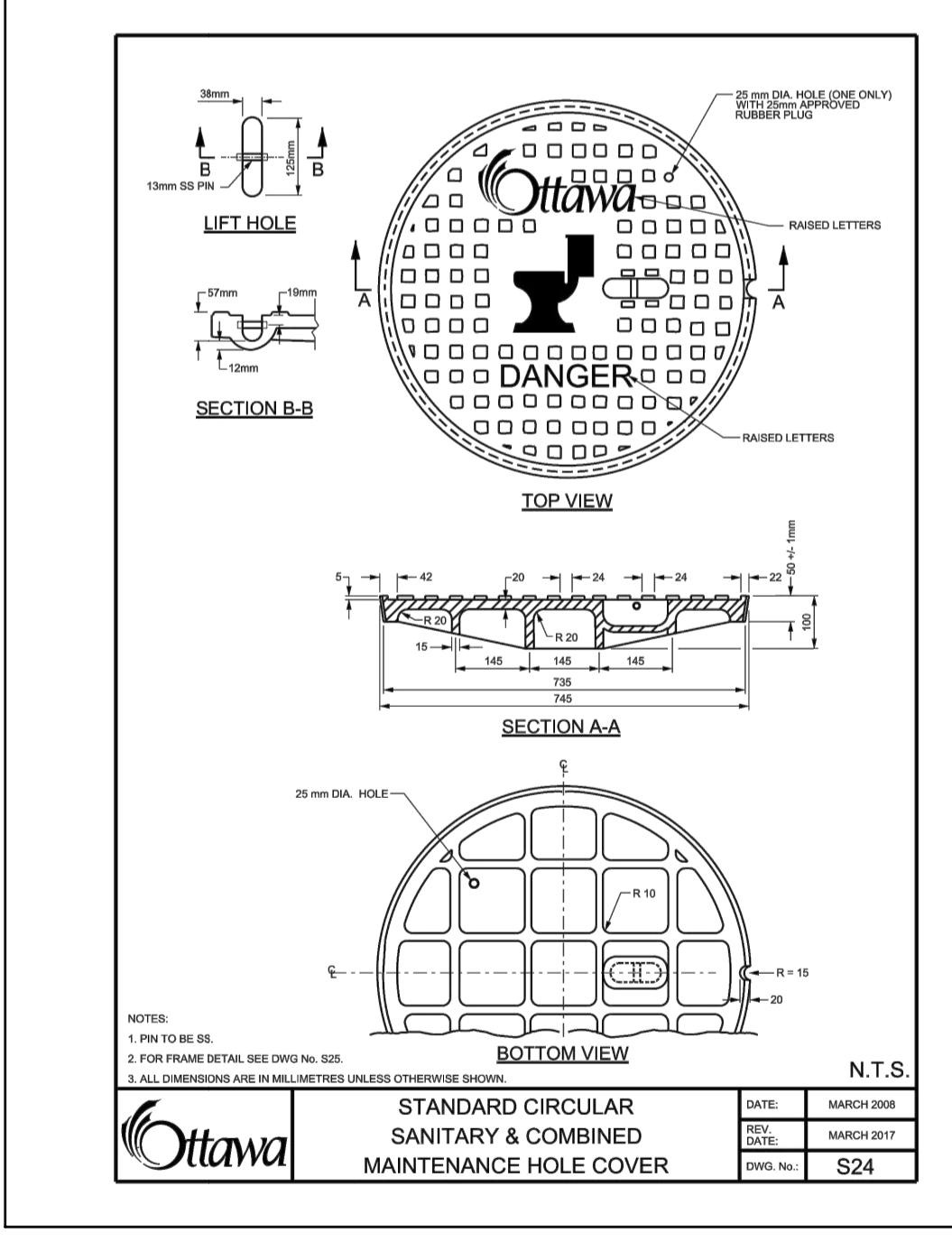
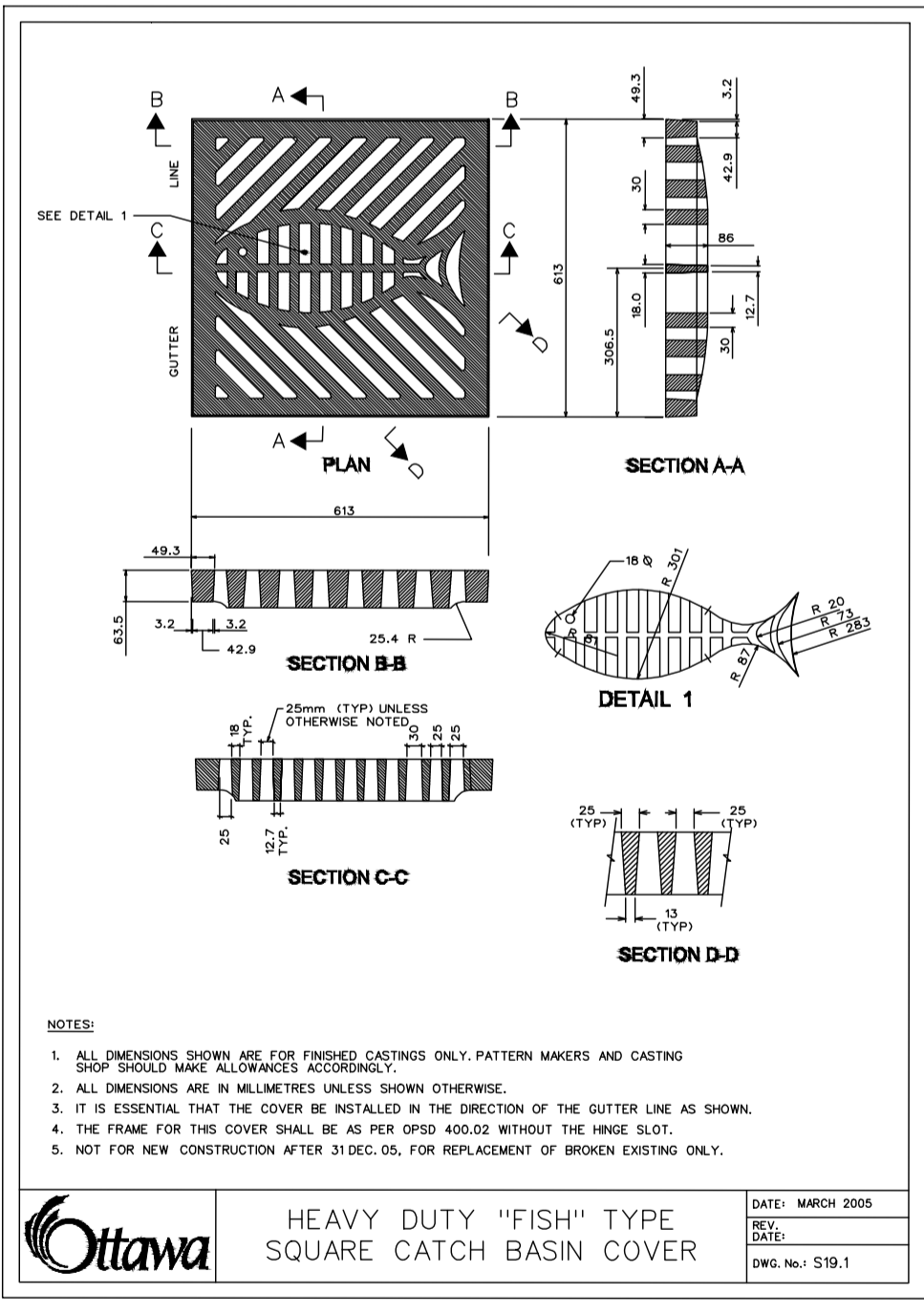
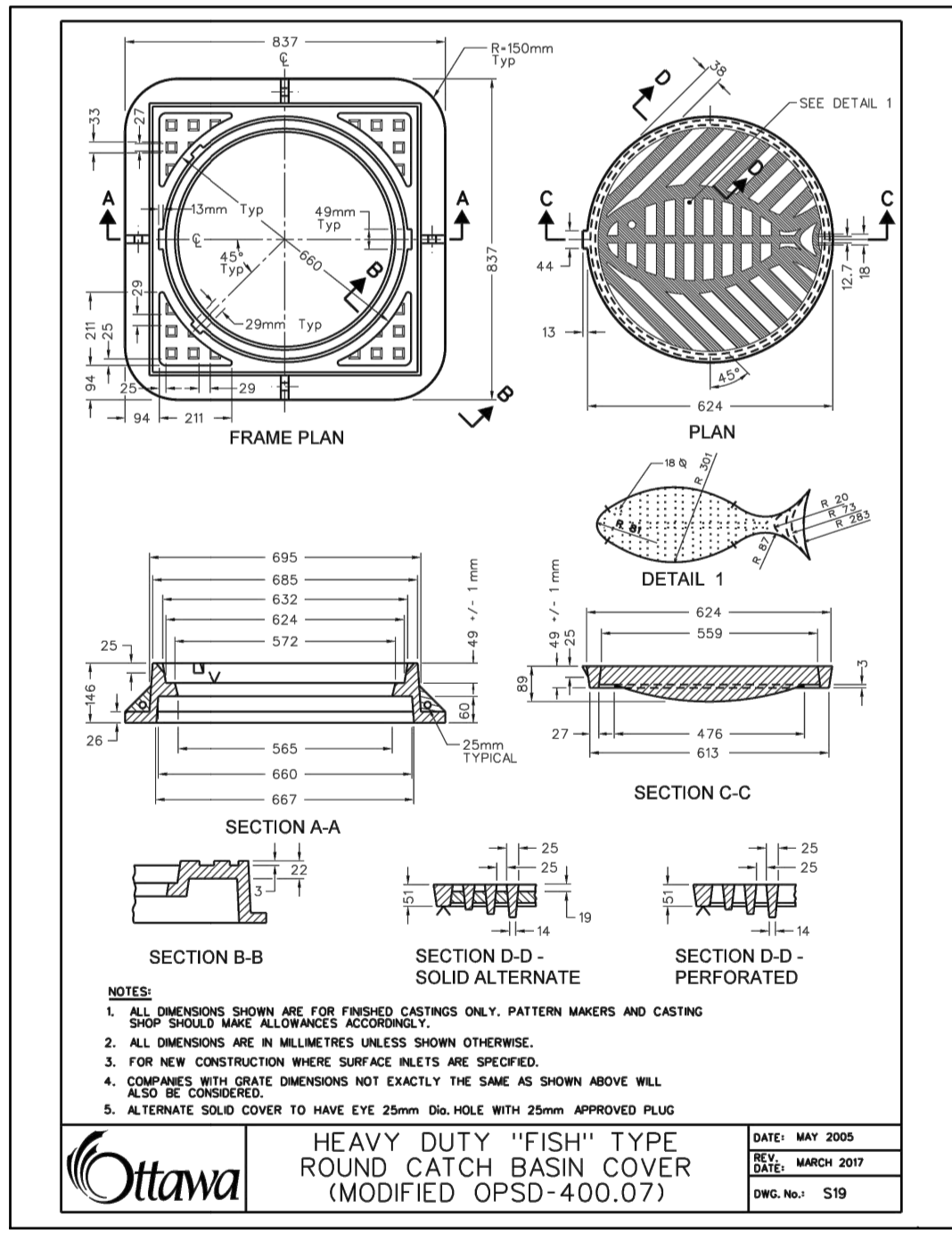
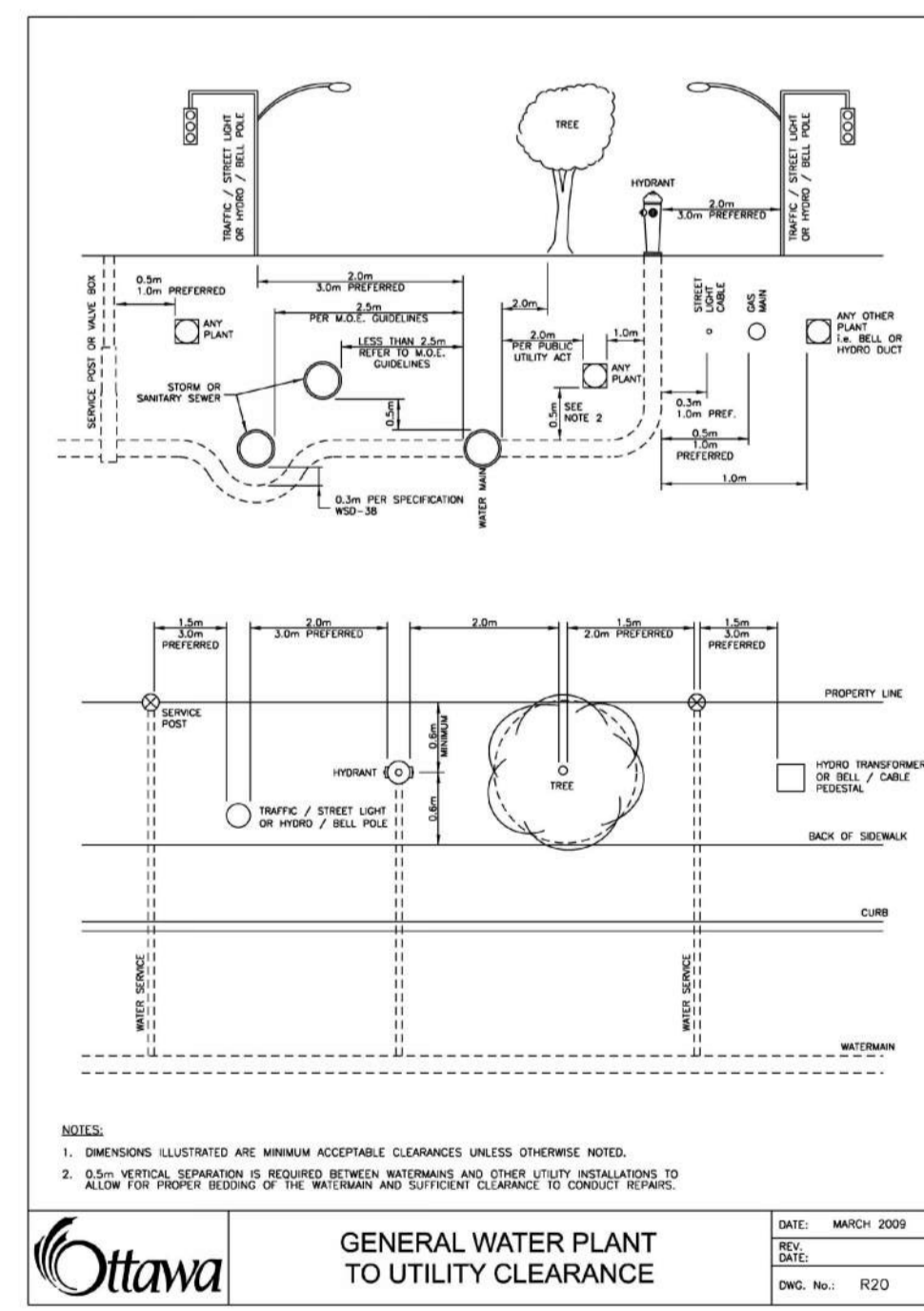
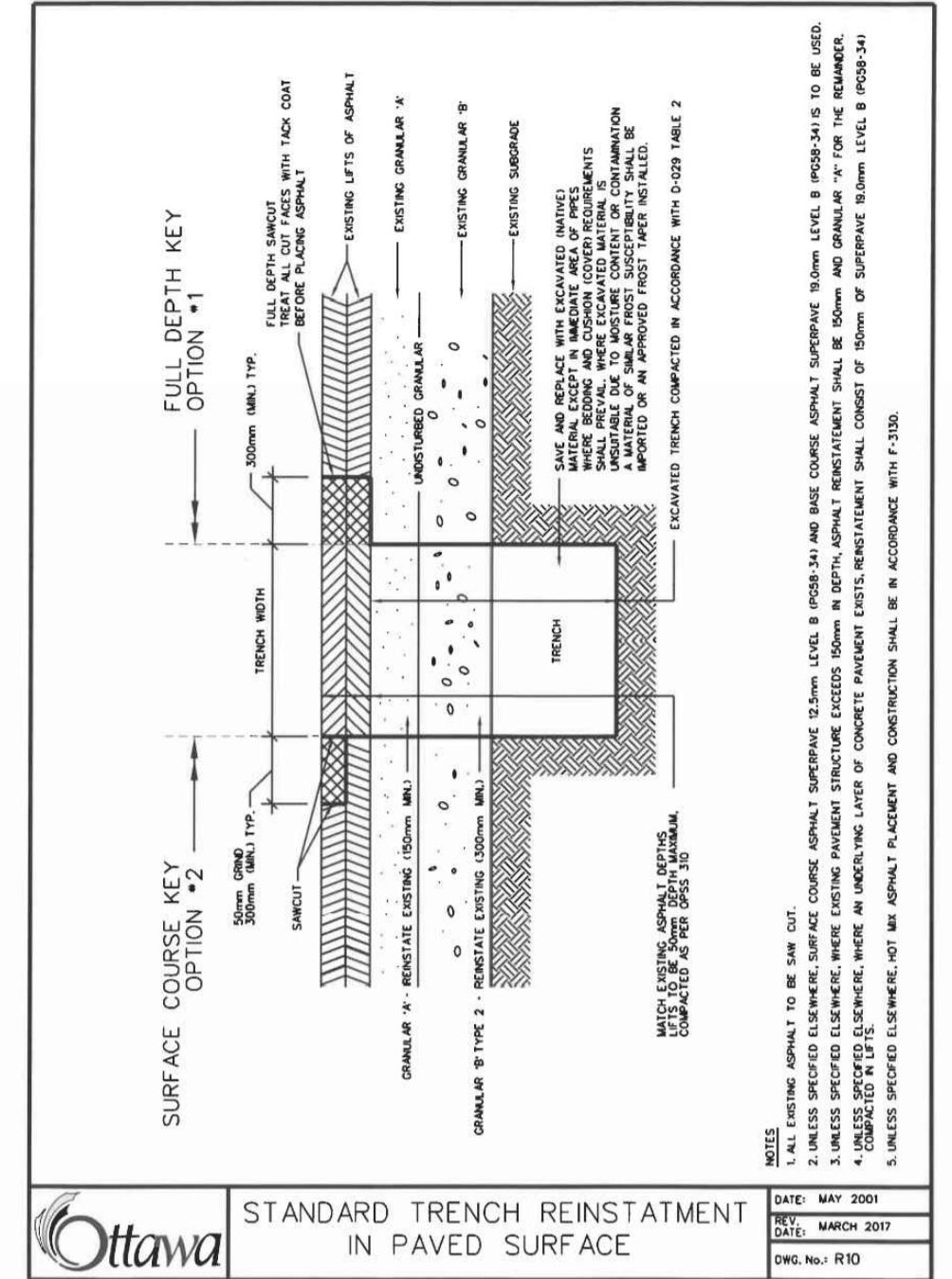
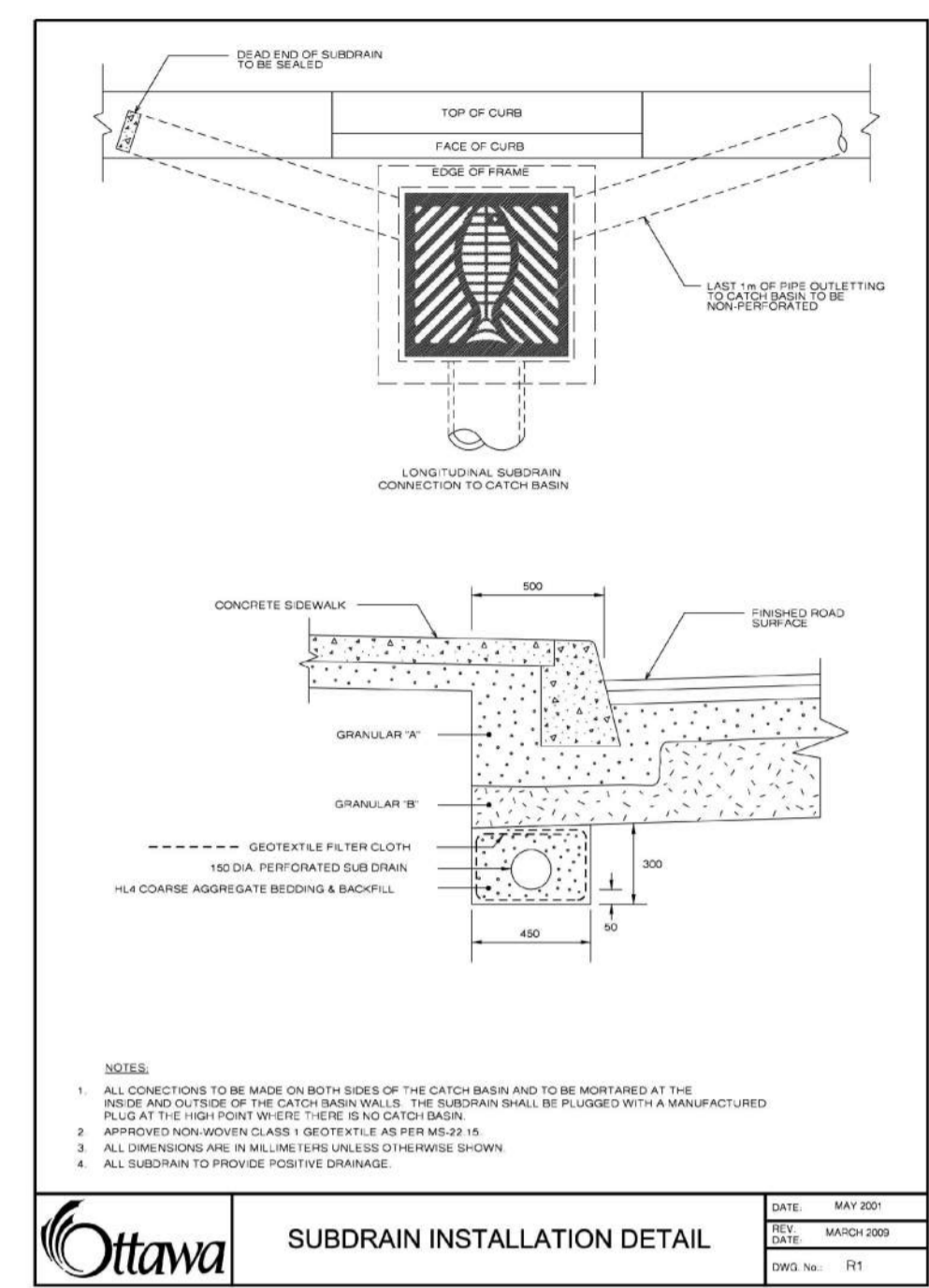
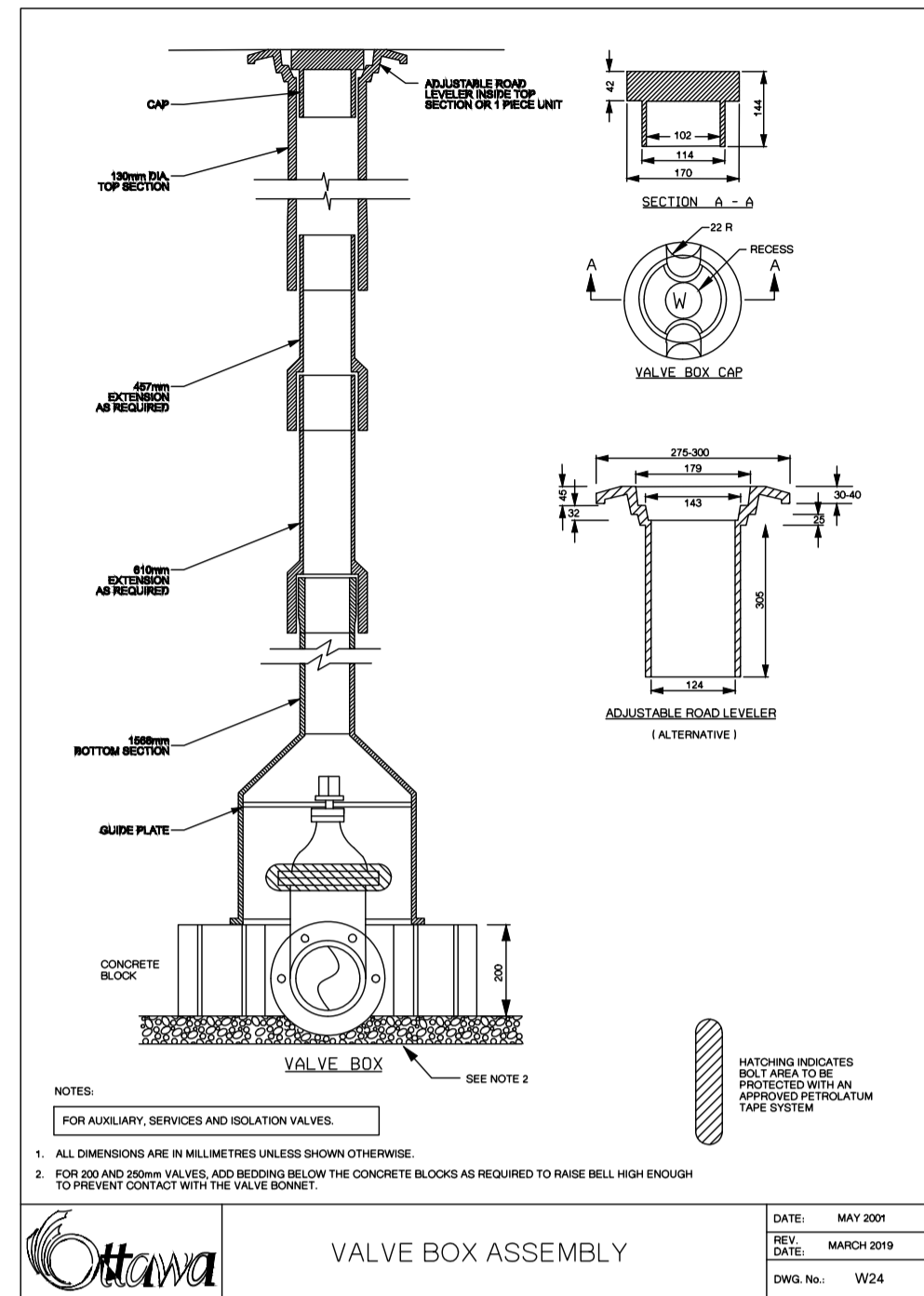
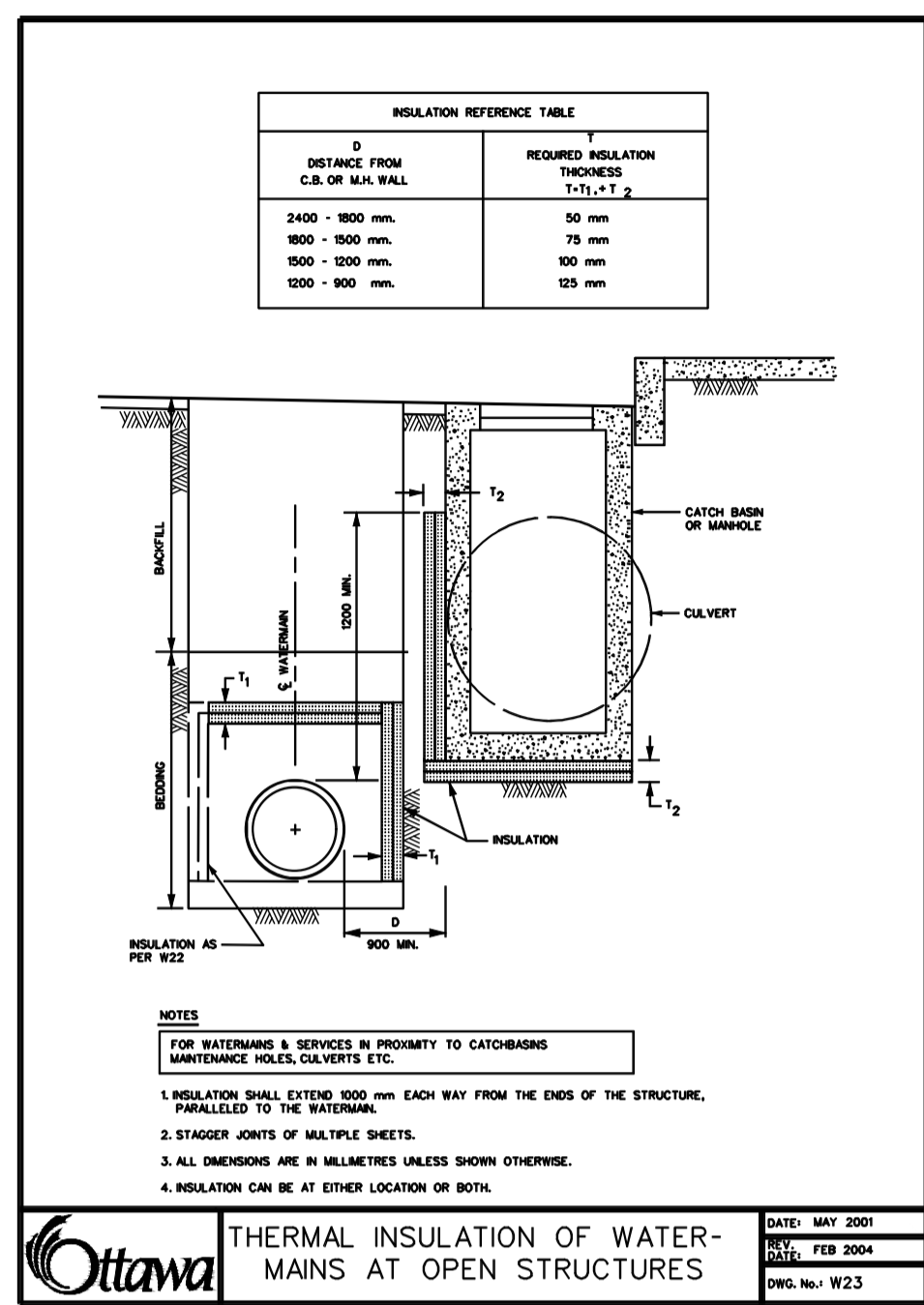
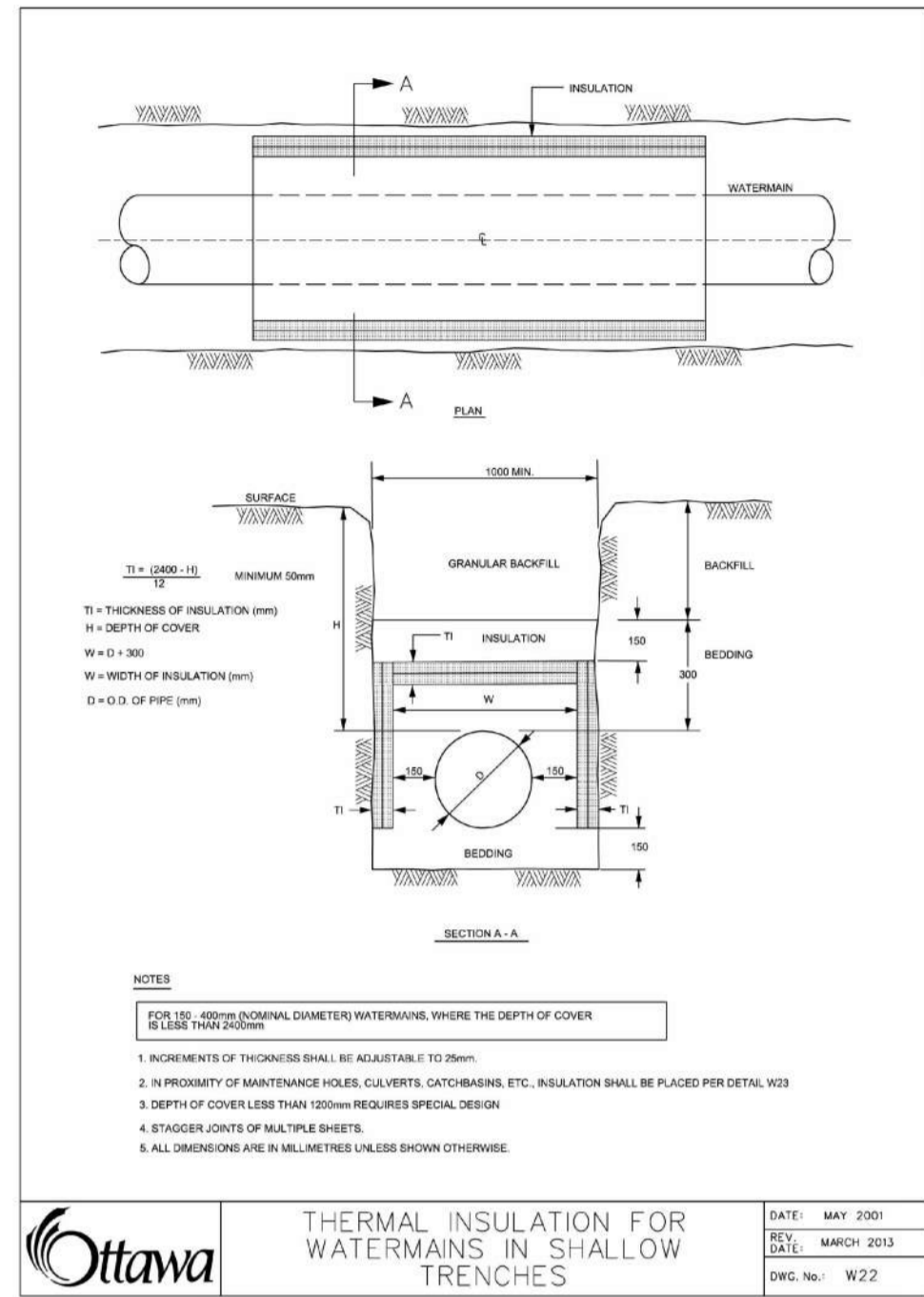
No.	REVISION	DATE	BY
1.	ISSUED FOR CITY REVIEW	NOV 1/24	BHB

SCALE	DESIGN
AS SHOWN	CV/MS
	CHECKED MS
	DRAWN CV
	CHECKED MS
	APPROVED BHB

FOR REVIEW ONLY

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone: (613) 254-9643
Facsimile: (613) 254-5867
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LOCATION	DRAWING NAME	PROJECT No.
CITY OF OTTAWA THE COMMONS - PHASE 4	STANDARD DETAILS	118224-MD
		REV #1
		DRAWING No.
		118224-MD-D3



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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.

REFER TO 118224-MD-ND FOR ADDITIONAL NOTES & DETAILS

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SCALE	
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LICENSED PROFESSIONAL ENGINEER
M. SAVIC
100102651
11/01/24
PROVINCE OF ONTARIO

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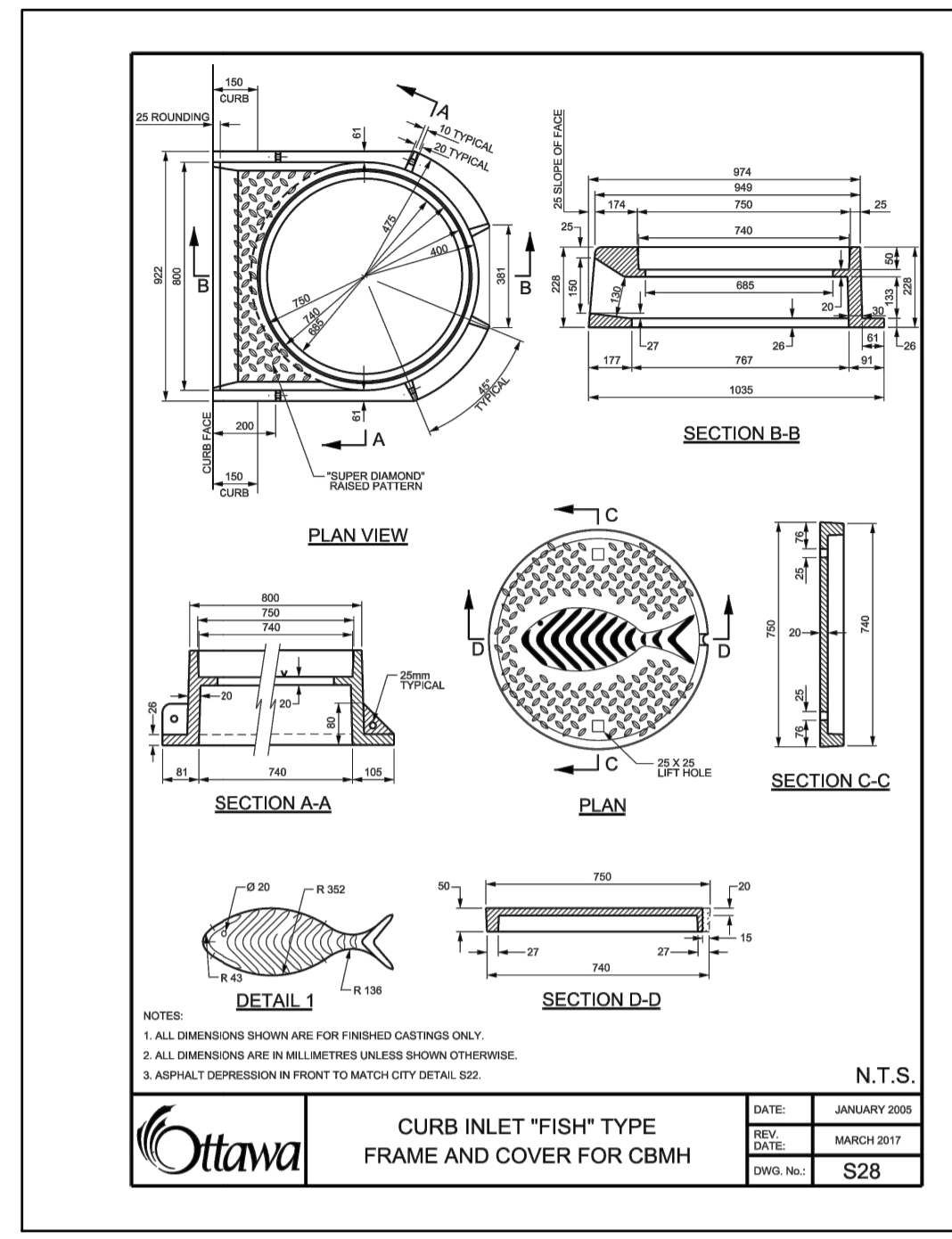
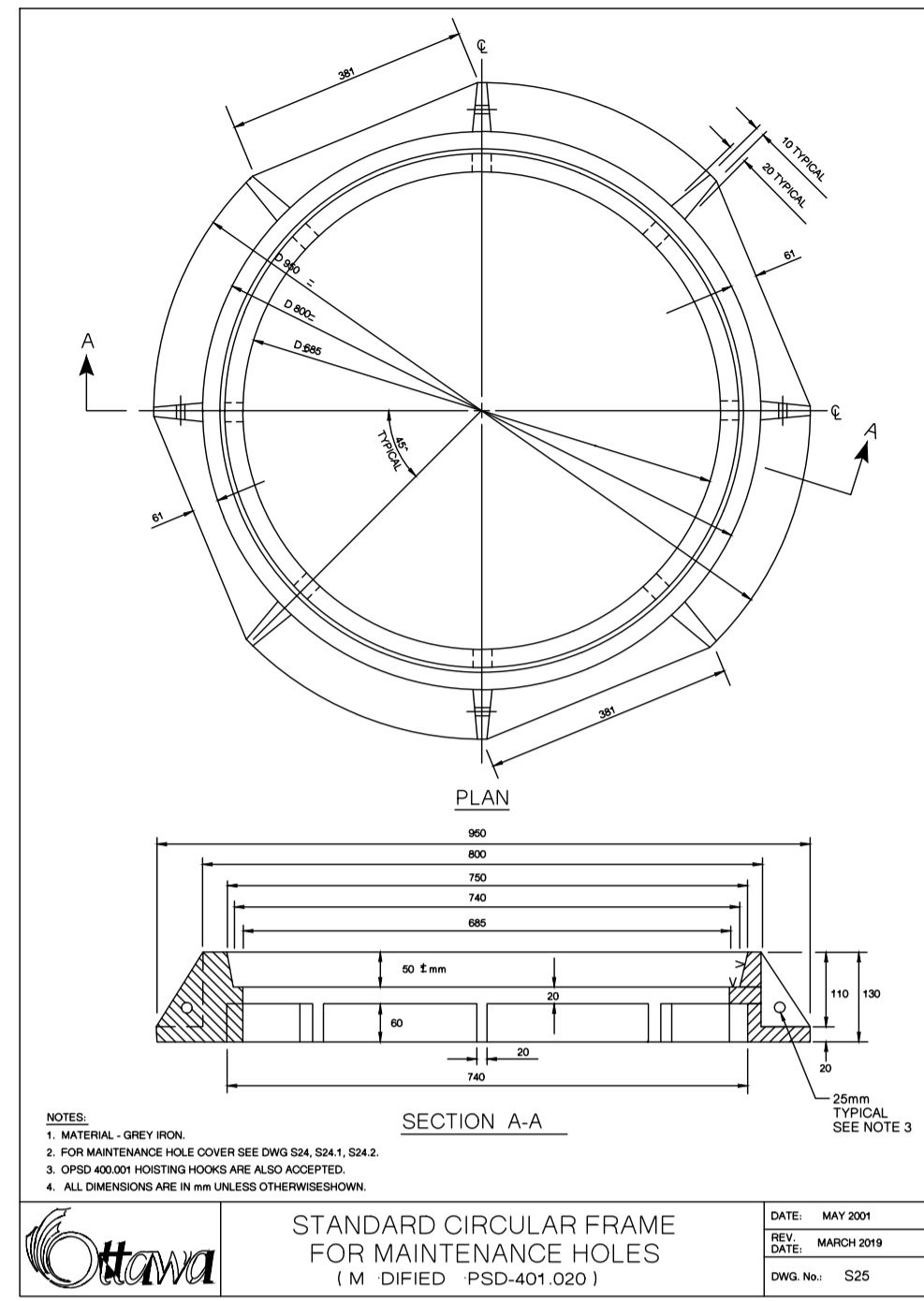
LOCATION
CITY OF OTTAWA
THE COMMONS - PHASE 4 - MEDIUM DENSITY

DRAWING NAME
STANDARD DETAILS

PROJECT No.
118224-MD

REV
REV #1

DRAWING No.
118224-MD-D4



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LOCATION	PROJECT No.
CITY OF OTTAWA THE COMMONS - PHASE 4	118224-00
DRAWING NAME	REV
STANDARD DETAILS	REV # 1
	DRAWING No.
	118224-MD-D5