CHEO Integrated Treatment Centre

ISSUED FOR SPC RESUBMISSION 2 2025-10-01

VOLUME 2 - CIVIL









































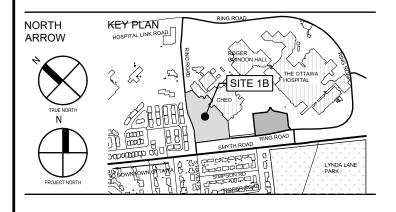




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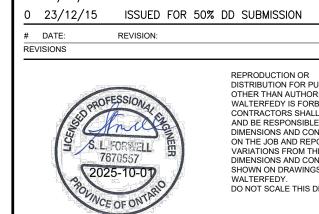


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21 01/10/25 ISSUED FOR SPC RESUBMISSION 2 20 10/09/25 ISSUED FOR CSI-004 19 07/08/25 ISSUED FOR CSI-003 18 14/05/25 ISSUED FOR CSI-002 17 01/04/25 ISSUED FOR SPC RE-SUBMISSION 16 25/03/24 ISSUED FOR 100% CD SUBMISSION R1 15 25/02/24 ISSUED FOR 100% CD RE-SUBMISSION 14 25/01/10 ISSUED FOR 100% CD RE-SUBMISSION 13 24/12/09 ISSUED FOR SPC RE-SUBMISSION 12 24/11/27 ISSUED FOR 100% CD SUBMISSION 10 24/09/20 ISSUED FOR CSI-001 SITE CURB AT TUNNEL 9 24/08/23 ISSUED FOR BUILDING PERMIT 8 24/08/23 ISSUED FOR SITE PLAN CONTROL 7 24/08/07 ISSUED FOR 50% CD SUBMISSION 6 24/06/03 ISSUED FOR 100% DD SUBMISSION R2 5 24/05/10 ISSUED FOR FOUNDATION PERMIT 4 24/04/19 ISSUED FOR 100% DD SUBMISSION

3 24/01/24 RE-ISSUED FOR BUILDING PERMIT (TUNNEL) 2 23/12/20 ISSUED FOR BUILDING PERMIT (TUNNEL) 1 23/12/15 RE-ISSUED FOR 50% DD SUBMISSION



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CHEO INTEGRATED TREATMENT CENTRE 401 SMYTH RD. OTTAWA, ON K1H8L1

SHEET LIST

DRAWN BY: DL, TK, ZS REVIEWED BY: SF JOB NUMBER: 2021-0821-13 PLOT DATE: 2025.10.01

DRAWING NUMBER:

GENERAL NOTES

- 1. 1D4C LEGAL BOUNDARY AND TOPOGRAPHICAL INFORMATION FROM SURVEY BY FAIRHALL MOFFATT & WOODLAND LIMITED DATED SEPTEMBER 17, 2018.
- . 1D4C GEOTECHNICAL DESIGN REPORT BY THURBER ENGINEERING LTD. DATED NOVEMBER 3, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR SULPHATE ATTACK.

3. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL STAMPED BY

4. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER. 5. THIS PLAN NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE

THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.

- PERMISSION OF WALTERFEDY. 6. THE POSITION OF POLE LINES, CONDUITS, WATERMAINS, 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 LITH ITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM THEMSELVES OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM AND THOSE NOT LOCATED
- ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE CONSULTANT AND AUTHORITY HAVING JURISDICTION. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DAMAGED AND/OR DISTURBED PROPERTY WITHIN THE MUNICIPAL RIGHT-OF-WAY TO MUNICIPAL STANDARDS.
- 8. ALL HEALTH AND SAFETY RELATED SIGNAGE MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICES. 9. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE

ANY AREA DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS

CONSULTANT WITH A DIGITAL FILE OF AS-CONSTRUCTED DRAWINGS. THE DRAWINGS MUST REFLECT THE CONSTRUCTED STATE OF THE WORK SUBMISSION OF UNALTERED DESIGN DRAWINGS AND CONTRACT CHANGES WILL NOT BE ACCEPTED.

EROSION CONTROL NOTES

PRIOR TO CONSTRUCTION.

- ALL FROSION AND SEDIMENT CONTROLS ARE TO BE INSTALLED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF OTTAWA. THEY ARE TO BE APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION. THESE PRACTICES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL AND SHOULD INCLUDE AS A MINIMUM THOSE MEASURES INDICATED ON THE PLAN.
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED DURING CONSTRUCTION IN ACCORDANCE WITH THE "GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES" (GOVERNMENT OF ONTARIO, MAY 1987). THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR
- MEETING ALL REGULATORY AGENCY REQUIREMENTS. . TO PREVENT SURFACE EROSION FROM ENTERING ANY STORM SEWER SYSTEM DURING CONSTRUCTION, FILTER CLOTH WILL BE PLACED UNDER GRATES OF NEARBY CATCHBASINS AND STRUCTURES A LIGHT DUTY SILT FENCE BARRIER WILL ALSO BE INSTALLED AROUND THE CONSTRUCTION AREA (WHERE APPLICABLE). THESE CONTROL MEASURES WILL REMAIN IN PLACE UNTIL CONSTRUCTION IS
- 4. TO LIMIT EROSION: MINIMIZE THE AMOUNT OF EXPOSED SOILS AT ANY GIVEN TIME, RE-VEGETATE EXPOSED AREAS AND SLOPES AS SOON AS POSSIBLE AND PROTECT
- EXPOSED SLOPES WITH NATURAL OR SYNTHETIC MULCHES. 5. FOR MATERIAL STOCKPILING: MINIMIZE THE AMOUNT OF EXPOSED MATERIALS AT ANY GIVEN TIME; APPLY TEMPORARY SEEDING, TARPS, COMPACTION AND/OR SURFACE ROUGHENING AS REQUIRED TO STABILIZE STOCKPILED MATERIALS THAT
- WILL NOT BE USED WITHIN 14 DAYS. 6. THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURES ARE NO LONGER REQUIRED. NO CONTROL MEASURES MAY BE PERMANENTLY REMOVED WITHOUT PRIOR
- AUTHORIZATION FROM THE ENGINEER. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO ANY STORM SEWER SYSTEM. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO
- MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY. SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY

EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL

- APPLICABLE REGULATORY AGENCY 9. ROADWAYS ARE TO BE SWEPT AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR THE MUNICIPALITY.
- 10. THE CONTRACTOR SHALL ENSURE PROPER DUST CONTROL IS PROVIDED WITH THE APPLICATION OF WATER (AND IF REQUIRED, CALCIUM CHI ORIDE) DURING DRY PERIODS MONITOR DUST LEVELS DURING SITE PREPARATION/EXCAVATION AND CONSTRUCTION ACTIVITIES. AND WHEN DUST LEVELS BECOME VISUALLY APPARENT SPRAY WATER TO MINIMIZE THE RELEASE OF DUST FROM GRAVEL, PAVED AREAS AND EXPOSED SOILS. USE CHEMICAL DUST SUPPRESSANTS ONLY WHERE

GRADING NOTE:

NECESSARY ON PROBLEM AREAS.

- MATCH EXISTING GRADES AT ALL PROPERTY LINES AND/OR LIMITS OF CONSTRUCTION EXCEPT WHERE PROPOSED GRADES ARE NOTED.
- MANAGEMENT OF EXCESS MATERIALS SHALL BE IN ACCORDANCE WITH OPSS 180. FNVIRONMENTALLY IMPACTED SOILS. WHERE AND WHEN ENCOUNTERED, SHALL BE MANAGED ON SITE AS REQUIRED UNTIL SUCH TIME THAT LABORATORY TESTING RESULTS HAVE CONFIRMED THE NATURE OF THE IMPACTS AND A SUITABLE
- SURPLUS MATERIAL OF ALL TYPES NOT REQUIRED FOR BACKFILL, GRADING OR LANDSCAPING SHALL BECOME THE PROPERTY OF THE OWNER AND BE REMOVED FROM THE SITE AS DIRECTED BY THE CONSULTANT. THE COSTS OF ALL OFFSITE DISPOSAL SHALL BE BORNE BY THE CONTRACTOR UNLESS A SPECIFIC PROVISION IS MADE IN THE CONTRACT DOCUMENTS FOR PAYMENT FROM DISPOSAL OF A SPECIFIC SURPLUS MATERIAL
- A QUALIFIED PERSON SHALL BE RETAINED TO PREPARE AND SIGN OFF ON A SOIL MANAGEMENT PLAN (SMP). THE SMP SHALL INCLUDE THE MANAGEMENT OF EXCESS SOIL EXCAVATED FROM THE SITE INCLUDING THE MANAGEMENT OF THE SOIL FROM THE BASEMENT EXCAVATION IN ACCORDANCE WITH ONTARIO REGULATION 406/19 AND WITH MANAGEMENT OF EXCESS SOIL - A GUIDE FOR BEST MANAGEMENT PRACTICES. A SMP SHALL BE IMPLEMENTED FOR THE SITE PRIOR TO ANY
- EXCAVATION WORKS BEING DONE. THE MAIN ELEMENTS REQUIRED FROM THE SOIL MANAGEMENT PLAN INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: 4.1. THE SMP SHALL MAXIMIZE THE RE-USE OF ALL SOILS ON SITE AND INCORPORATION INTO LANDSCAPE FEATURES OR LISE LINDER ROADWAYS AND

THE BACKGROUND DOCUMENTS.

4.2. THE SMP SHALL PROVIDE A FRAMEWORK FOR THE HANDLING AND DISPOSAL OF EXCESS SOILS IN ACCORDANCE WITH ALL PERTINENT PROVINCIAL REGULATIONS

WALKWAYS IN ACCORDANCE WITH THE GEOTECHNICAL REPORTS PROVIDED IN

- AND REQUIREMENTS AND REFERENCE DOCUMENTS. 4.3. THE SMP SHALL PROVIDE SAFE WORKING PRACTICES AND PROCEDURES THAT SHOULD BE FOLLOWED DURING SUBSURFACE WORK.
- 4.4. THE SMP SHALL INFORM WORKERS AND CONTRACTORS WHO MAY COME INTO CONTACT WITH IMPACTED SOILS IF ANY ABOUT THE POTENTIAL HEALTH AND SAFETY HAZARDS ASSOCIATED WITH ANY KNOWN CONTAMINATIONS WITHIN THE GROUNDWATER AND IMPACTED SOILS AND OTHER HAZARDS THAT MAY BE
- ENCOUNTERED. . MATERIALS TO BE REMOVED SHALL BE NEATLY SAW-CUT ALONG ITS LIMITS, IN ADVANCE OF THE REMOVAL. THE LIMITS OF REMOVAL SHALL BE AS NOTED ON THE PLANS UNLESS AN EXTENSION OR REDUCTION OF THE MATERIAL TO BE REMOVED IS APPROVED IN ADVANCE BY THE CONSULTANT. AS SUCH, THE COSTS OF ANY OVER-EXCAVATION NOT APPROVED IN ADVANCE SHALL BE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR. THIS RESPONSIBILITY SHALL ALSO EXTEND
- TO RESTORATION OR REPLACEMENT OF DISTURBED FEATURES AND SURFACES DUE TO UNAUTHORIZED EXCAVATION. 6. ALL FILL PLACED ON SITE SHALL BE COMPACTED TO A MINIMUM 95% SPMDD (UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER OR ON THE DRAWINGS AND IN THE SPECIFICATIONS). ALL MATERIAL SHALL BE PLACED IN LAYERS NOT EXCEEDING 300mm LIFTS EXCEPT WHERE UNDER PAVING, AND WALKS
- WHEN LAYERS SHALL BE 150mm MAX. MAXIMUM SLOPE IN GRASSED AREAS TO BE 3:1. SLOPES GREATER THAN 3:1 TO BE LANDSCAPED WITH LOW MAINTENANCE GROUND COVER. MINIMUM SLOPE IN GRASSED AREAS TO BE 1%. GRASS SWALES WITH A SLOPE LESS THAN 1% TO BE
- 8. FINISH GRADE AT FOUNDATION WALLS TO BE MINIMUM 150mm BELOW THE TOP OF FOUNDATION WALL/BRICK LINE UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS. 9. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE ON ALL SURFACES TO THE APPROPRIATE OUTLET STRUCTURE. AREAS OF PONDING CAUSED BY CONSTRUCTION ERROR WILL BE REPAIRED BY THE CONTRACTOR TO THE
- SATISFACTION OF THE CONSULTANT AT THE CONTRACTORS EXPENSE. 10. SHOULD THE NATURE OF THE SOIL AT THE DEPTH INDICATED PROVE UNSATISFACTORY AS DETERMINED BY THE GEOTECHNICAL ENGINEER. THE EXCAVATION SHALL BE CARRIED DOWN TO SUCH A DEEPER LEVEL AS THE GEOTECHNICAL ENGINEER MAY REQUIRE UNTIL A SATISFACTORY BEARING STRATUM
- THIS CONTRACTOR SHALL BE PAID THE COST OF SUCH EXTRA EXCAVATION AT THE UNIT PRICE ESTABLISHED IN THE CONTRACT.
- 10.2. ALL EXTRA DEPTHS OF EXCAVATION AND FILLING MUST HAVE THEIR AREA AND
- VOLUME DOCUMENTED BY AN INDEPENDENT INSPECTION AND TESTING
- COMPANY OR THE CONSULTANT TO QUALIFY FOR PAYMENT. 10.3. QUANTITIES USED FOR PAYMENT OF EXCAVATION AND FILLING AT EXTRA DEPTHS TO BE DETERMINED BY THE CONSULTANT.

GENERAL SERVICING

UNDERLAIN WITH A FRENCH DRAIN

THE MUNICIPALITY HAVING JURISDICTION. RIGID PIPE BEDDING: CLASS 'B' AS PER OPSD 802.030 (EARTH EXCAVATION, TYPE 1

1. ALL WORK TO BE COMPLETED IN ACCORDANCE WITH THE REGULATIONS SET OUT BY

GRANULAR FILL SHALL BE DEPOSITED IN THE TRENCH, FOR THE FULL WIDTH OF THE

TRENCH, COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY IN

- OR 2 SOIL), OPSD 802.031 (EARTH EXCAVATION, TYPE 3 SOIL), OPSD 802.032 (EARTH EXCAVATION, TYPE 4 SOIL). 3. FLEXIBLE PIPE BEDDING: AS PER OPSD 802.010 (EARTH)
- LAYERS NOT OVER 300mm DEPTH_EXCEPT WHERE UNDER PAVING_AND WALKS WHEN LAYERS SHALL BE 150mm MAX. 5. SITE SERVICING CONTRACTOR TO TERMINATE ALL SERVICES 1.0m FROM
- FOUNDATION WALL AND COORDINATE WITH THE GENERAL OR MECHANICAL CONTRACTOR AS REQUIRED TO FACILITATE THE CONNECTION. . WHEN BELL AND SPIGOT PIPE IS LAID, THE BELL END OF THE PIPE SHALL BE LAID
- PIPE SHALL BE KEPT CLEAN AND DRY AS WORK PROGRESSES. THE TRENCH SHALL 8. A REMOVABLE WATERTIGHT BULKHEAD SHALL BE INSTALLED DAILY AT THE OPEN
- END OF THE LAST PIPE LAID. 9. PIPE SHALL NOT BE LAID UNTIL THE PRECEDING PIPE JOINT HAS BEEN COMPLETED AND THE PIPE IS BEDDED AND SECURED IN PLACE.
- 10. ALL PIPE ENDS SHALL BE THOROUGHLY CLEANED PRIOR TO THE INSTALLATION OF
- GASKETS. ALL GASKETS TO BE LUBRICATED PRIOR TO BEING INSTALLED OR AS RECOMMENDED BY THE PIPE MANUFACTURER. 11. A TEMPORARY LOCATION MARKER 50x75mm SHALL BE PLACED AT THE END OF ALL CAPPED SERVICE CONNECTIONS. THE MARKER SHALL BE PLACED 300mm ABOVE THE
- PLUGGED END OF THE SERVICE PIPE, CUT AT LEAST 500mm ABOVE THE FINISHED GRADE, AND MARKED WITH BRIGHT PAINT. 12. ALL MANHOLES, BASINS, CHAMBERS ETC. TO BE INSTALLED LEVEL AND PLUMB TO
- THE SATISFACTION OF THE CONSULTANT.

STORM AND SANITARY SEWER

- I. ALL SEWER MATERIALS TO COMPLY WITH CITY OF OTTAWA MS-22.15 REQUIREMENTS THE SITE SERVICING CONTRACTOR SHALL PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS, SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410 07 01 15 AND 407 07 25 AND IN ACCORDANCE WITH THE PLUMBING CODE. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS TO THE CITY OF OTTAWA. CONTRACTOR TO PROVIDE CONSULTANT MINIMUM 1 WEEK NOTICE OF SCHEDULING PRIOR TO COMPLETING TESTING ON SITE.
- POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS: SMOOTH PROFILES, TO OPSS 1841 AND CSA B182.2, WITH SEPARATE GASKET AND INTEGRAL BELL SYSTEM, IN 6.0m NOMINAL LENGTHS AS FOLLOWS:
- 3.1. 200mm OD AND LARGER: SDR35 PVC WITH 320 kPa STIFFNESS. SUBSURFACE DRAINAGE PIPE AND FITTINGS: TO OPSS 405, PERFORATED PVC PIPE TO OPSS 1841 OR PE PIPE TO OPSS.MUNI 1840, TO CAN/CSA-B182.1; COMPLETE WITH KNITTED SOCK GEOTEXTILE AS REQUIRED (TERRAFIX 270R OR EQUIVALENT).
- MANHOLES AND CATCHBASIN MANHOLES TO BE PRECAST 1200mm DIAMETER WITH ALUMINUM STEPS AT 300mm SPACING AS PER OPSD 701.010 UNLESS SPECIFIED . CATCHBASINS TO BE 600mm SQUARE PRECAST AS PER OPSD 705.010. DOUBLE CATCHBASINS TO BE 600x1450mm PRECAST AS PER OPSD 705.020.
- 7. CATCHBASIN MANHOLES, CATCHBASINS, AND DOUBLE CATCHBASINS TO HAVE A MINIMUM 600mm DEEP SUMP. 8. STORM MANHOLES TO HAVE MINIMUM 300mm DEEP SUMP.
- 9. MANHOLE AND CATCHBASIN, FRAMES, GRATES, CASTINGS, LIDS TO BE AS PER OPSS 10. CAST IRON FRAMES AND COVERS OR GRATES- STORM SEWERS: TO OPSS 1850 AND
- OPSD 400.020, OPSD 401.010 (B, OPEN). 11. CAST IRON FRAMES AND COVERS OR GRATES - SANITARY SEWERS: TO OPSS 1850,

OPSD 401.010 (A, CLOSED).

- 12. ALL SANITARY MANHOLES LOCATED IN STORM WATER PONDING AREAS TO HAVE WATERTIGHT FRAME AND COVERS AS PER OPSD 401.030 STORM SEWERS AND SERVICES TO HAVE MINIMUM 2.0m COVER TO TOP OF PIPE WHERE COVER TO TOP OF PIPE IS DEFICIENT, CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER PIPE IN ACCORDANCE WITH APPLICABLE 'SEWER PIPE INSULATION DETAIL' INDICATED IN DRAWING DETAILS.
- 4 SANITARY SEWERS AND SERVICES TO HAVE A MINIMUM 2.0m COVER TO TOP OF PIPE WHERE COVER TO TOP OF PIPE IS DEFICIENT. CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER PIPE IN ACCORDANCE WITH APPLICABLE 'SEWER PIPE
- INSULATION DETAIL' INDICATED IN DRAWING DETAILS. 15. ALL PIPES, TO BE INSTALLED FLUSH WITH THE INSIDE WALLS OF THE STRUCTURE AND PARGED TO A SMOOTH FINISH.
- 16. ALL SANITARY MANHOLES TO BE PRE-BENCHED OR BENCHED WITH 30MPa CONCRETE AS PER OPSD 701.021. BENCHING SHALL EXTEND TO THE SPRING LINE OF LARGEST PIPE IN THE MANHOLE AND SHALL HAVE A SLOPE OF 1:8. 17. CONTRACTOR TO SUPPLY AND PAY FOR CCTV INSPECTION OF ALL SEWER LINES AND
- 8. ACCEPTANCE OF SEWER LINES AND STRUCTURES SHALL BE MADE AFTER THE CONSULTANT HAS REVIEWED THE CCTV DOCUMENTATION AND VIDEOS, AND EXPRESSED IN WRITING THAT THE SEWER LINES AND STRUCTURES ARE
- 19. IF CCTV INSPECTIONS SHOW ADDITIONAL CLEANING IS REQUIRED, CLEAN AND RE-INSPECT THE SEWER UNTIL ACCEPTED BY THE CONSULTANT.
- 20. A MINIMUM OF ONE (1) AND MAXIMUM OF THREE (3) ADJUSTMENT UNITS SHALL BE INSTALLED ON EACH STRUCTURE TO A MINIMUM HEIGHT OF 75mm AND MAXIMUM OF 300mm. THE FIRST ADJUSTMENT UNIT SHALL BE LAID IN A FULL BED OF MORTAR AND ALIGNED WITH THE OPENING IN THE STRUCTURE. SUCCESSIVE ADJUSTMENT UNITS SHALL BE LAID PLUMB TO THE FIRST ADJUSTMENT UNIT AND SEALED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, FRAMES WITH GRATES OR COVERS SHALL BE SET IN A FULL BED OF MORTAR ON THE ADJUSTMENT UNITS AND SUPPORTED USING SHIMS, ROCKS, STONES AND DEBRIS WILL NOT BE PERMITTED FOR USE AS

STRUCTURES.

- 1. ALL WATERMAIN MATERIALS TO COMPLY WITH CITY OF OTTAWA MS-19.15 REQUIREMENTS.
- POLYVINYL CHLORIDE (PVC) PIPE: MANUFACTURED TO CAST IRON OD (CIOD): COLOUR CODED BLUE, WITH INTEGRAL WALL THICKENED BELL DESIGNED FOR JOINT ASSEMBLY USING AN ELASTOMERIC GASKET CONFORMING TO ASTM D3139 AND CSA B137 3 TO CSA B137 3 COMPLETE WITH TRACER WIRE
- 2.1. 100 TO 300mm: TO AWWA C900, DR 18, IPEX OR APPROVED EQUAL. 3. MOLECULARLY ORIENTED POLYVINYL CHLORIDE (PVCO) PIPE: MANUFACTURED TO CIOD: COLOUR CODED BLUE, BIAXIALLY ORIENTED, WITH INTEGRAL WALL THICKENED BELL DESIGNED FOR JOINT ASSEMBLY USING AN ELASTOMERIC GASKE CONFORMING TO ASTM D3139 AND CSA B137.3.1, COMPLETE WITH TRACER WIRE.
- 3.1. 100 TO 300mm: TO AWWA C909, PC 1620 kPa, BIONAX OR APPROVED EQUAL. 4. ALL WATER SERVICING TO HAVE MINIMUM 2.4m COVER.
- 5. ALL WATER SERVICING PROVIDING FIRE FLOWS MUST BE PRESSURE TESTED TO 200 PSI AS PER THE OBC PLUMBING CODE. 6. FITTINGS: FOR POLYVINYL CHLORIDE (PVC) AND MOLECULARLY ORIENTED
- POLYVINYL CHLORIDE (PVCO) PIPE SHALL BE EITHER: 6.1. GRAY IRON ACCORDING TO AWWA C110/A21.10.
- 6.2. DUCTILE IRON ACCORDING TO C110/A21.10 OR AWWA C153 AND SHALL BE CEMENT LINED ACCORDING TO AWWA C104/A21.4.
- 6.3. INJECTION MOULDED POLYVINYL CHLORIDE, BLUE IN COLOUR AND ACCORDING TO AWWA C907 AND CSA B137.2. 6.4. PREFABRICATED POLYVINYL CHLORIDE, BLUE IN COLOUR AND ACCORDING TO AWWA C905 AND CSA B137.3.
- . JOINT RESTRAINTS: 7.1. FOR PVC PIPE AND FITTINGS: TO ASTM F1674 AND AWWA C111, SERRATED RING TYPE; FOR PUSH ON JOINTS UNIFLANGE (SERIES 1300, 1350 & 1360), EBAA (SERIES 1600, 2500 & 2800) OR CLOW (SERIES 300 & 350); OR WEDGE ACTION
- TYPE AS MANUFACTURED BY EBAA (SERIES 2000PV), OR UNIFLANGE (SERIES 1500) AND STAR STARGRIP 4000, 4100P. 7.2. FOR PVCO PIPE (AWWA C909) AND FITTINGS: SERRATED RING TYPE; FOR PUSH ON JOINTS UNIFLANGE (SERIES 1360), EBAA (SERIES 2500); WEDGE ACTION TYPE
- 7.3. ALL MECHANICAL JOINTS IN TEMPORARY AND PERMANENT CONNECTIONS TO INCLUDE MECHANICAL JOINT RESTRAINTS. 7.4. WATERMAIN FITTINGS WHICH CHANGE DIRECTIONS VERTICALLY OR

AS MANUFACTURED BY CLOW (SERIES 2000 TUF GRIP), STAR (STARGRIP 3500).

HORIZONTALLY TO BE FULLY RESTRAINED BY MECHANICAL JOINT RESTRAINT OR

LENGTH ON EACH RUN OF THE TEE, OR PROVIDE A THRUST BLOCK PER OPSD

- THRUST BLOCKS (OPSD 1103.01 AND 1103.02). THREADED ROD WILL NOT BE 7.5. WATERMAIN FITTINGS TO BE SUPPLIED WITH MECHANICAL JOINT RESTRAINTS. FOR WATERMAIN PIPE SIZES 150mmØ OR LESS ALL PIPE JOINTS TO BE RESTRAINED WITHIN 5 0m FROM ALL FITTINGS. IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. FOR WATERMAIN PIPE SIZES GREATER THAN 150mmØ ALL PIPE JOINTS TO BE RESTRAINED WITHIN 10.0m FROM ALL FITTING, IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. ALL TEES TO HAVE MINIMUM 2.0m SOLID PIPE
- TRACER WIRE:
- 8.1. T.W.U. OR R.W.U #10 GAUGE MIN. 7 STRANDS COPPER WIRE, MIN 60°C OR HIGHER, 600v OR APPROVED EQUIVALENT.
- 8.2. PVC WATERMAIN SHALL HAVE TRACER WIRE STRAPPED TO TOP AT 5.0m INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRANTS AND CONNECTED TO THE LOWER FLANGE OF THE HYDRANT
- 8.3. DO NOT CONNECT THE TRACER WIRE ON NON-METALLIC SYSTEMS TO NEW OR EXISTING METALLIC WATERMAIN PIPING AND/OR ASSOCIATED FITTINGS. WATERMAIN VALVES, 100mm AND LARGER, SHALL BE AS PER AWWA C509-MUELLER A2362 OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND
- CATHODIC PROTECTION. 10 HYDRANTS: CONFORM TO AWWA C502 FOR DRY-BARREL HYDRANTS. WITH TWO 63.5mm HOSE NOZZLES AT 180 DEGREES AND A 114.3mm PUMPER NOZZLE WITH A 100mm ULC APPROVED STORTZ CONNECTION; 32mm SQUARE OPERATING NUT, OPEN COUNTER-CLOCKWISE AND HAVE MECHANICAL JOINT END; COMPLETE WITH 150mm LEAD. 150mm GATE VALVE. ANCHOR TEE. VALVE AND BOX PROVIDED IN
- ACCORDANCE WITH THE CITY OF OTTAWA. ANODES TO BE PROVIDED AS REQUIRED BY THE CITY OF OTTAWA MS-19.15
- 12. CHAMBERS FOR VALVES AND METERS TO BE PROVIDED IN ACCORDANCE WITH OPSS
- 12.1. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CHAMBER AND METER ASSEMBLY TO THE CONSULTANT FOR REVIEW. 12.2. COMPLETE WITH FACTORY INSTALLED GALVANIZED OR ALUMINUM MANHOLE
- LADDER RUNGS. 12.3. PROVIDE AND INSTALL ACCESS HATCH FRAME AND COVERS TO OPSD 402.030,
- CAST IN PLACE. ACCESS HATCH SHALL BE LOCKABLE. 13 PETROLATUM TAPE SYSTEMS: TO BE COMPRISED OF THREE COMPONENTS: PASTE MASTIC. AND TAPE THAT MEET AWWA C217-09. SUPPLIED BY DENSO NORTH AMERICA INC. OR PETRO COATING SYSTEMS LTD. OR RUSTROL SYSTEMS (INTERPROVINCIAL CORROSION CONTROL COMPANY LTD.). ONLY MATERIAL FROM SUPPLIERS LISTED SHALL BE USED. AT NO TIME SHALL MATERIALS FROM EITHER
- 13.1. ALL MECHANICAL JOINT RESTRAINTS TO BE WRAPPED WITH APPROVED PETROLEUM TAPE SYSTEM.
- 14. PROVIDE ADEQUATE SUMP BELOW CONNECTION, AND PUMPING IF REQUIRED. TO PREVENT CONTAMINATION OF NEW WATERMAIN WITH TRENCH GROUND WATER OR ANY OTHER FOREIGN MATTER.
- 15. ALL WATERMAIN AND SERVICE COMMISSIONING, PRESSURE/LEAKAGE TESTING, DISINFECTION, BACTERIOLOGICAL ANALYSIS AND FLUSHING TO BE SUCCESSFULLY COMPLETED BY THE CONTRACTOR AND ACCEPTED BY THE CITY OF OTTAWA AND THE CONSULTANT PRIOR TO PERMANENT CONNECTION TO WATER DISTRIBUTION SYSTEM. REFER TO CONTRACT SPECIFICATIONS FOR REQUIREMENTS.
- 15.1. CONTRACTOR TO SUBMIT A WATERMAIN COMMISSIONING PLAN TO THE CITY OF OTTAWA AND CONSULTANT AT LEAST TWO WEEKS PRIOR TO CHLORINE RESIDUAL & BACTERIOLOGICAL TESTING.

PRIOR TO CONSTRUCTION. THE CONTRACTOR MUST:

SYSTEM BE UTILISED WITH ONE AND OTHER.

- 1.1. CHECK AND VERIFY ALL DIMENSIONS AND EXISTING ELEVATIONS WHICH
- INCLUDES, BUT IS NOT LIMITED TO, THE BENCHMARK ELEVATIONS, EXISTING SERVICE CONNECTIONS AND EXISTING INVERTS. 1.2. OBTAIN ALL UTILITY LOCATES AND REQUIRED PERMITS AND LICENSES.
- 1.3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND EXISTING FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.

1.4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT

THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR DAMAGE TO EXISTING WORKS

- 1.5. REPORT DISCREPANCIES IN EXISTING CONDITION INFORMATION IMMEDIATELY TO THE CONSULTANT.
- DAMAGE SHALL BE RECTIFIED TO THE SATISFACTION OF THE CONSULTANT AND THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT AND/OR RELOCATION OF EXISTING UTILITIES DURING CONSTRUCTION. THE CONTRACTOR
- SHALL COORDINATE AND COMPLY WITH THE REQUIREMENTS OF ALL LITH ITY COMPANIES WHEN CROSSING OR WORKING NEAR THEIR PLANT. 4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL
- TEMPORARY BENCHMARKS ESTABLISHED FOR DESIGN PURPOSES, PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE COMMENCING WORK. . THE CONTRACTOR SHALL CONTACT THE CONSULTANT 48 HOURS PRIOR TO
- COMMENCING WORK TO DETERMINE DEGREE OF INSPECTION AND TESTING REQUIRED FOR CERTIFICATION OF UNDERGROUND SERVICE INSTALLATION. . THE RIGHT-OF-WAY (INCLUDING THE BOULEVARD) IS NOT TO BE USED FOR ANY
- CONSTRUCTION ACTIVITY UNTIL A WORK PERMIT HAS BEEN OBTAINED AS PER THE 7. ALL WORK ON THE MUNICIPAL RIGHT-OF-WAY WILL BE INSTALLED BY THE SITE

CONTRACTOR UPON SUCCESSFUL APPLICATION FOR A WORK PERMIT BY THE

- CONTRACTOR. 8. LIMIT CONSTRUCTION TO ACCEPTABLE TIMES WITHIN THE CITY OF OTTAWA NOISE BYLAW. CONSTRUCTION HOURS ARE 6AM TO 10PM MONDAY TO SUNDAY WITHOUT
- 9. IF. FOR UNFORESEEN REASONS. THE OWNER AND/OR THEIR REPRESENTATIVE MUST ENCROACH ONTO PRIVATE LANDS TO UNDERTAKE ANY WORKS, THEY MUST OBTAIN WRITTEN PERMISSION FROM THE ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON THE PRIVATE PROPERTY TO PERFORM ANY WORKS. COPIES OF THESE LETTERS OF CONSENT MUST BE SUBMITTED TO CITY OF OTTAWA ENGINEERING DEVELOPMENT DIVISION. PRIOR TO ANY WORK BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE IS AT THE PROPERTY OWNER'S & CONTRACTOR'S OWN RISK.
- TRAFFIC, ACCESS, SAFETY
- PEDESTRIANS MUST BE ASSURED SAFE PASSAGE ALONG LANCASTER ROAD AT ALL TIMES. ALL PEDESTRIAN WALKWAYS MUST BE MAINTAINED AS LONG AS POSSIBLE AFTER WHICH TIME IT IS TEMPORARILY REPLACED BY A SUITABLE GRANULAR MATERIAL TO THE SATISFACTION OF THE CONSULTANT AND/OR CITY OF OTTAWA.

2. ON STREET PARKING WILL NOT BE PERMITTED FOR ANY CONSTRUCTION VEHICLES

ACCESS FREE AND CLEAR OF DEBRIS. MATERIALS. VEHICLES. AND EQUIPMENT.

OR CONSTRUCTION STAFF. THE CONTRACTOR SHALL PROVIDE ADEQUATE PARKING

- FACILITIES ON SITE TO SUIT THE NATURE AND LOCATION OF THE WORK. . FOR EMERGENCY RESPONSE, CONTRACTOR MUST MAINTAIN CONSTRUCTION
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNALS, DELINEATORS, MARKERS, AND BARRIERS, ALL SIGNS, ETC. SHALL CONFORM TO THE STANDARDS OF THE CITY OF OTTAWA AND THE MTO MANUAL OF UNIFORM TRAFFIC CONTROL
- ALL REMOVALS TO BE IN ACCORDANCE WITH OPSS.MUNI 510.

BEFORE NEW ASPHALT IS PLACED

- ASPHALT MATERIAL TO BE PROVIDED AS PER OPSS 1150 AND INSTALLED AS PER 2. WHERE NEW ASPHALT ABUTS EXISTING ASPHALT. EXISTING ASPHALT SHALL BE SAW CUT AND HAVE TACK COAT APPLIED AS PER OPSS 308 TO A CLEAN DRY FACE
- SUBMIT ONE COPY OF THE PROPOSED ASPHALT MIX DESIGN FOR ANY PAVING MATERIALS DIRECTLY TO THE CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED ASPHALT PAVING.
- EXISTING SIDEWALK ON THE RIGHT OF WAY IS NOT TO BE REMOVED UNTIL THE CONTRACTOR IS READY TO REPLACE SIDEWALKS. 2. CONCRETE SIDEWALK WITHIN THE RIGHT OF WAY SHALL BE AS PER OPSD 310.010
- AND 310.030. 3. CONCRETE BARRIER CURB TO BE AS PER OPSD 600.110 - 32MPa @ 28 DAYS CONCRETE TO OPSS 353, 7±1.5% AIR ENTRAINMENT, 19mm MAX COURSE
- AGGREGATE, 60mm MAX SLUMP. 4. CONCRETE SIDEWALK TO BE AS PER DETAIL ON THIS SHEET - 32MPa @ 28 DAYS CONCRETE TO OPSS 351, 7±1.5% AIR ENTRAINMENT, 19mm MAX COURSE AGGREGATE, 70±20mm SLUMP.
- 5. UNSHRINKABLE FILL: TO OPSS 1359, 28-DAY COMPRESSIVE STRENGTH: 0.4 0.7 MPa, MAXIMUM 25mm COURSE AGGREGATE SIZE. . SUBMIT ONE COPY OF ALL PROPOSED CONCRETE MIX DESIGNS DIRECTLY TO THE
- ALL GRANULAR BASE, SUBBASE, SUBGRADE AND BACKFILL TO BE PROVIDED AS PER

CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED CONCRETE

- OPSS.MUNI 1010 AND INSTALLED AS PER OPSS.MUNI 314. 2. COARSE GRANULAR FILL: MATERIAL AS SPECIFIED BELOW; COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS SPECIFIED OTHERWISE, IN LIFTS NOT EXCEEDING 300mm IN COMPACTED THICKNESS: MOISTURE CONTENT WITHIN PLUS OR MINUS 2% OF THE REQUIREMENTS OF ASTM D698.
- 2.1. GRANULAR 'B', TYPE 2 TO OPSS.MUNI 1010. 3. FINE GRANULAR FILL: MATERIAL AS SPECIFIED BELOW; COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS SPECIFIED OTHERWISE, IN LIFTS NOT EXCEEDING 150mm IN COMPACTED THICKNESS: MOISTURE CONTENT WITHIN PLUS OR MINUS 2% OF THE REQUIREMENTS OF ASTM D698.
- 3.1. GRANULAR 'A' TO OPSS.MUNI 1010. IN ACCORDANCE WITH THE CITY OF OTTAWA SITE ALTERATION BY-LAW; NO FILLING, PRE-GRADING OR TREE REMOVAL SHALL OCCUR, IN ADVANCE OF THE FINAL SITE PLAN ENGINEERING ACCEPTANCE, WITHOUT PERMIT. SHOULD THE DEVELOPER OR CONTRACTOR WISH TO PREPARE THE SITE FOR CONSTRUCTION PRIOR TO ENGINEERING ACCEPTANCE. AN APPLICATION FOR A SITE ALTERATION PERMIT MUST
- DIVISION FOR REVIEW AND APPROVAL. 2. ANY AREAS WHICH REQUIRE FILL IN EXCESS OF 0.30m ARE SUBJECT TO COMPACTION TESTS AND SUCH TESTS MUST SHOW A MINIMUM COMPACTION OF 95%

BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEERING AND CONSTRUCTION

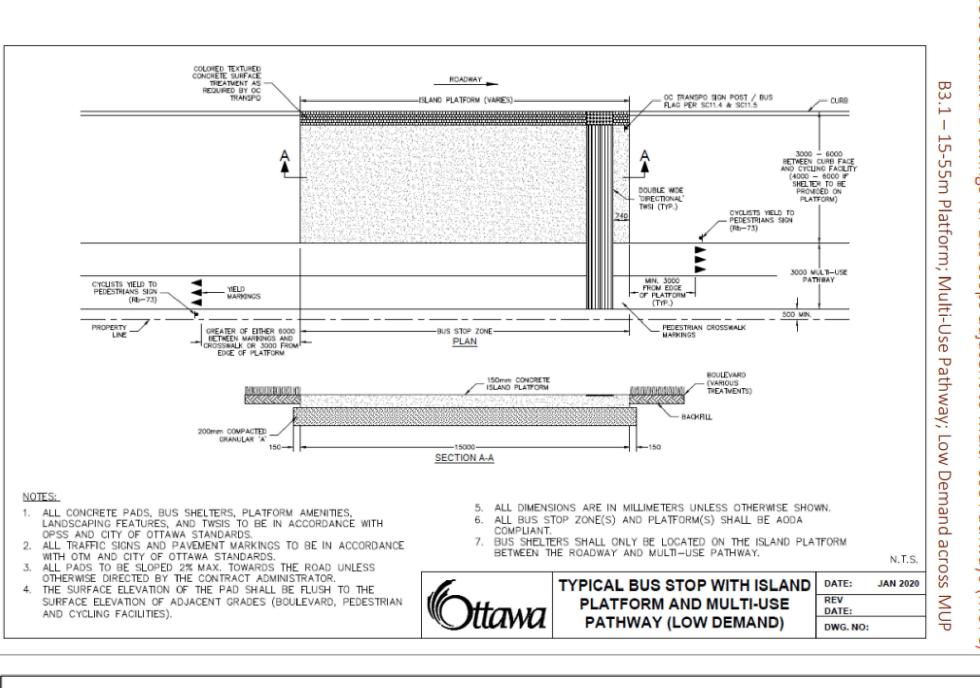
- SPMDD AT ALL DEPTHS. . RETAINING WALLS TO BE DESIGNED BY OTHERS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PROPOSED RETAINING WALLS, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER CERTIFIED IN THE PROVINCE OF ONTARIO TO THE CONSULTANT, PRIOR TO CONSTRUCTION. SHOP DRAWINGS TO BE APPROVED BY CONSULTANT IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A CERTIFICATE OF COMPLETION COMPLETED BY THE RETAINING WALL DESIGN ENGINEER BEFORE ACCEPTANCE OF THE
- TOPSOIL TO BE PROVIDED AND INSTALLED AS PER OPSS 802. SOD TO BE PROVIDED AND INSTALLED AS PER OPSS 803.

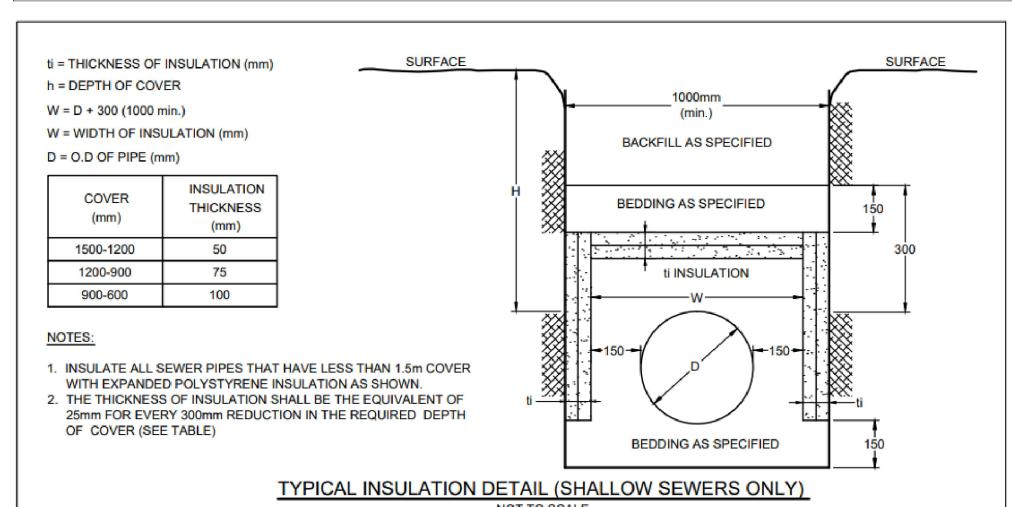
PAVEMENT MARKING & SIGNS 1. PAVEMENT MARKINGS TO BE LAID OUT AS PER THE DRAWINGS AND CONTRACTOR TO CONTACT CONSULTANT TO REVIEW LAYOUT PRIOR TO PAINTING. ALL PAINT LINES TO BE OF UNIFORM COLOR AND DENSITY WITH SHARP EDGES TO THE SATISFACTION

. PAVEMENT MARKINGS TO BE 2.1. THERMOPLASTIC PAVEMENT MARKING MATERIAL TO CONFORM TO OPSS 1713 AND APPLIED AS PER OPSS 710

OF THE CONSULTANT.

- WHITE CGSB 1-GP-12C WHITE 513-301 YELLOW - SHALL MATCH EITHER THE YELLOW COLOUR CHIP OF THE MINISTRY OF TRANSPORTATION ONTARIO OR U.S. FEDERAL 595B, YELLOW
- 3. ALL EXISTING SIGNS, MAIL BOXES, POSTS, ETC., WHICH MUST BE REMOVED TO ACCOMMODATE CONSTRUCTION SHALL BE SALVAGED AND REINSTATED AS DIRECTED BY THE CONTRACT ADMINISTRATOR IN EQUAL OR BETTER CONDITION. THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE CAUSED TO SUCH FACILITIES AT HIS OWN EXPENSE. ALL EXISTING TRAFFIC CONTROL SIGNS MUST BE REINSTATED BY THE END OF EACH WORKING DAY. EXISTING STOP CONTROL SIGNS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION TO THE SATISFACTION OF THE ROAD AUTHORITY AND THE CONTRACT ADMINISTRATOR.





- 6mm DEEP. 6mm WIDE 'U'

PERMANENTLY SECURING THE TWSI IN PLACE ONCE DRY

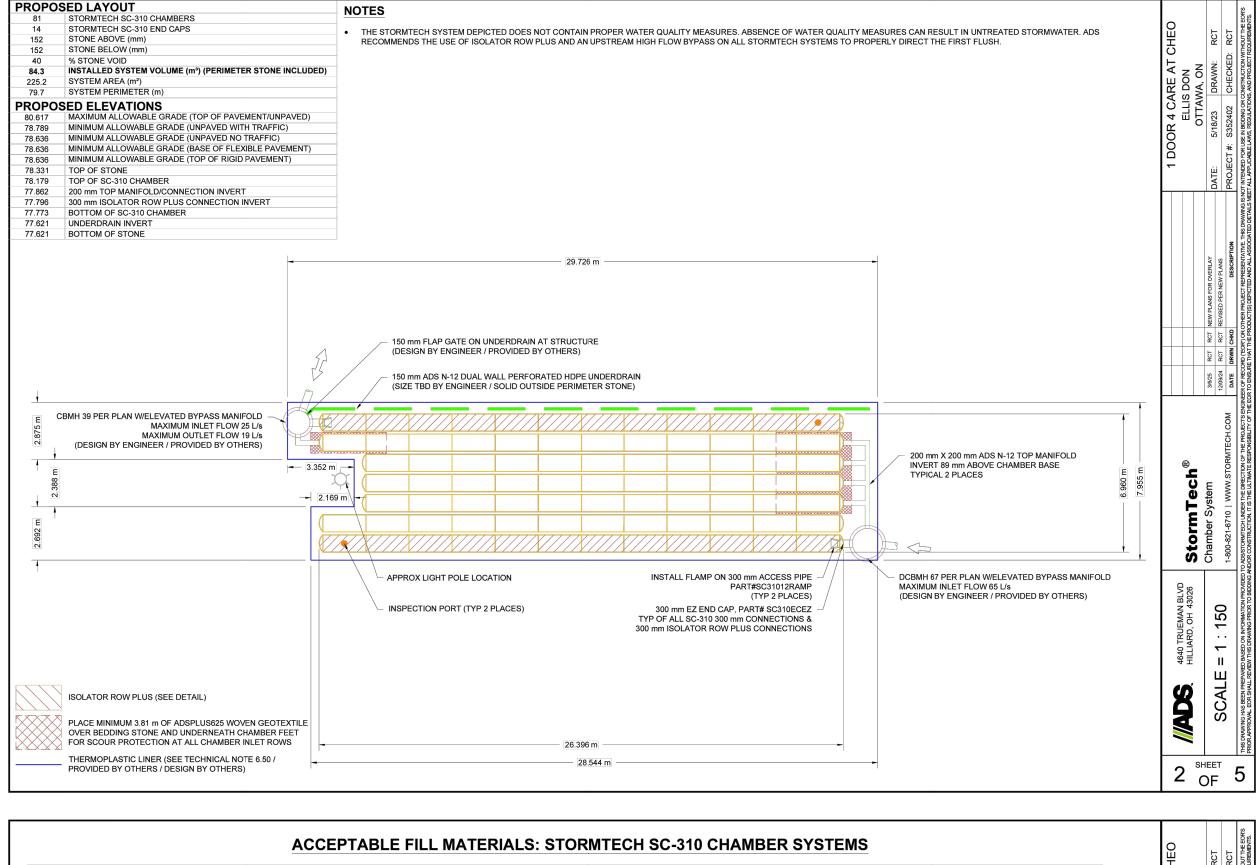
TWSI DETAIL

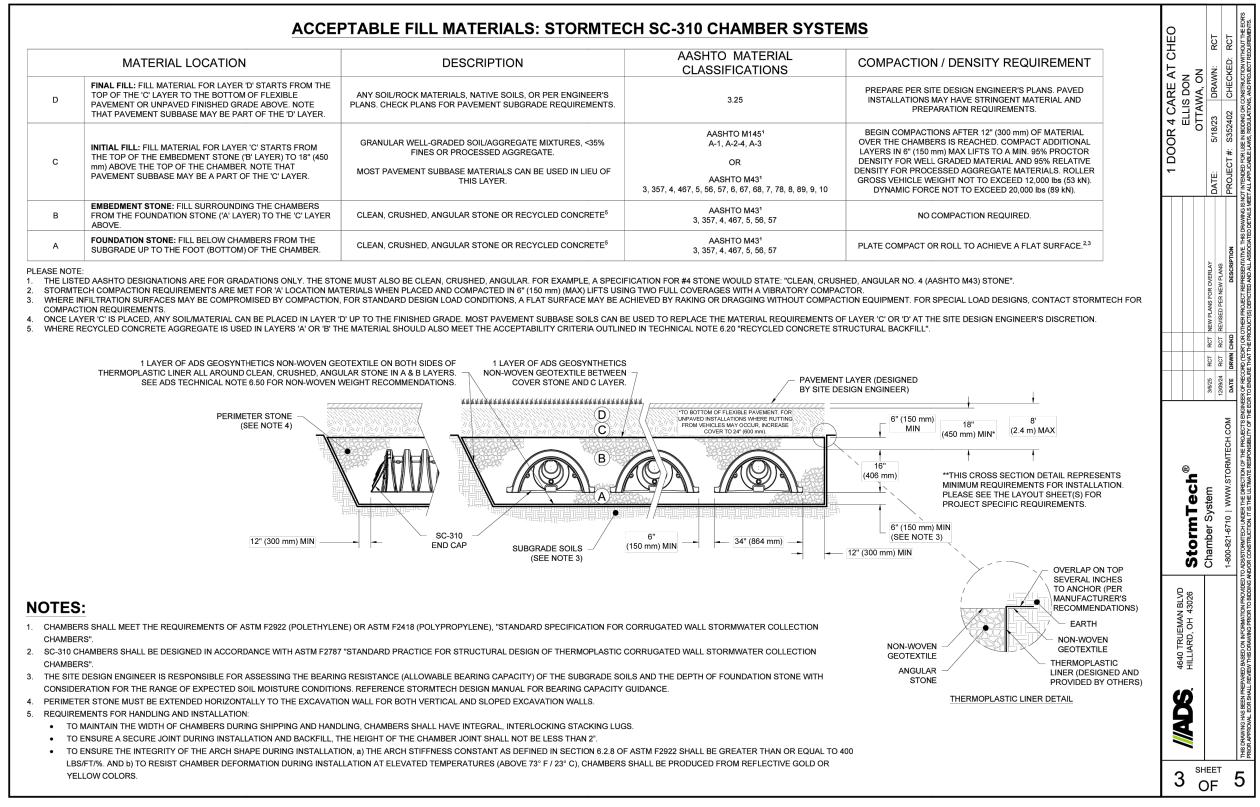
PROFILE

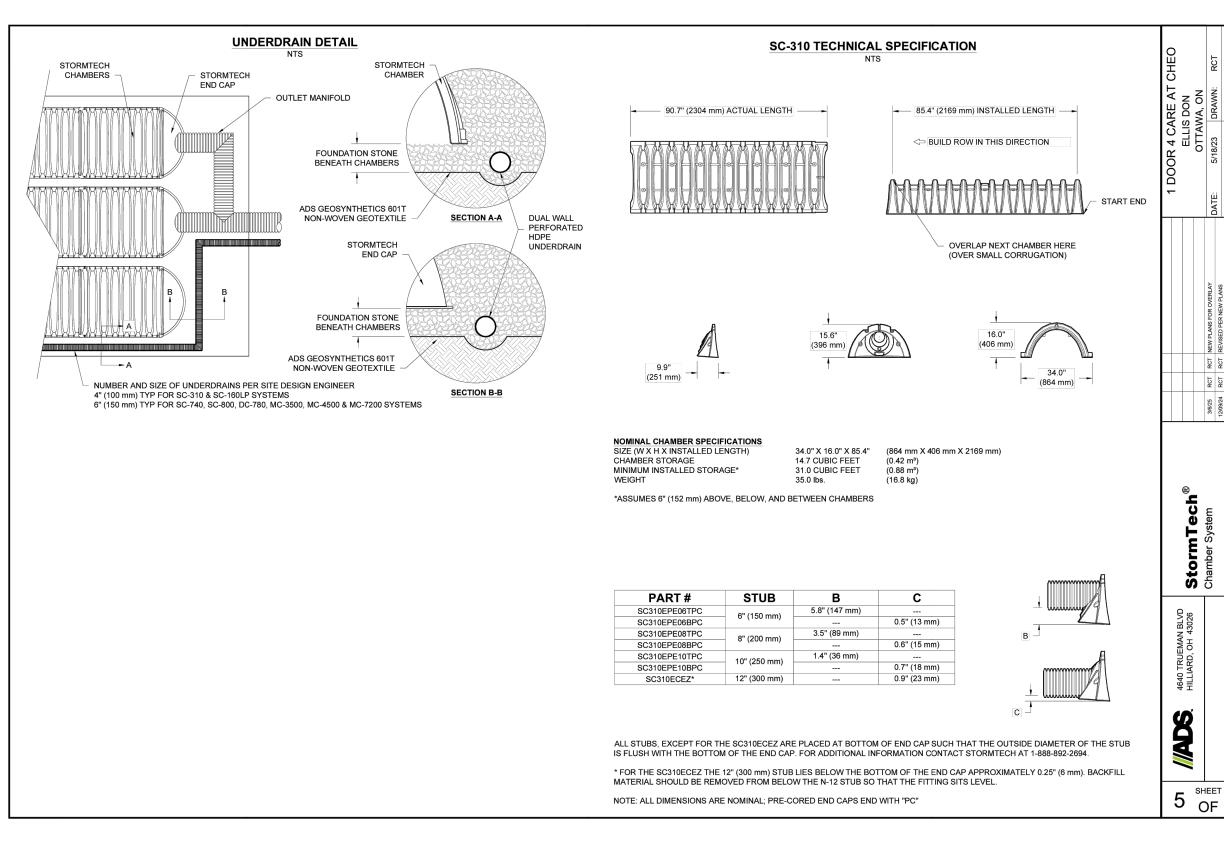
GROOVE FOR DRAINAGE AT

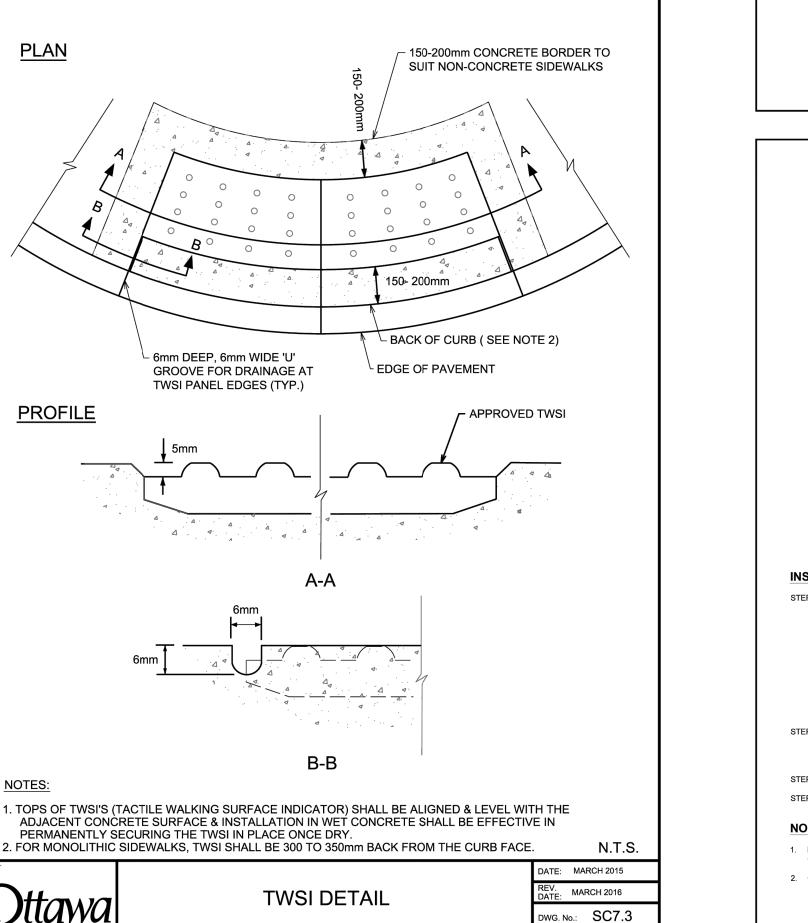
TWSI PANEL EDGES (TYP.)

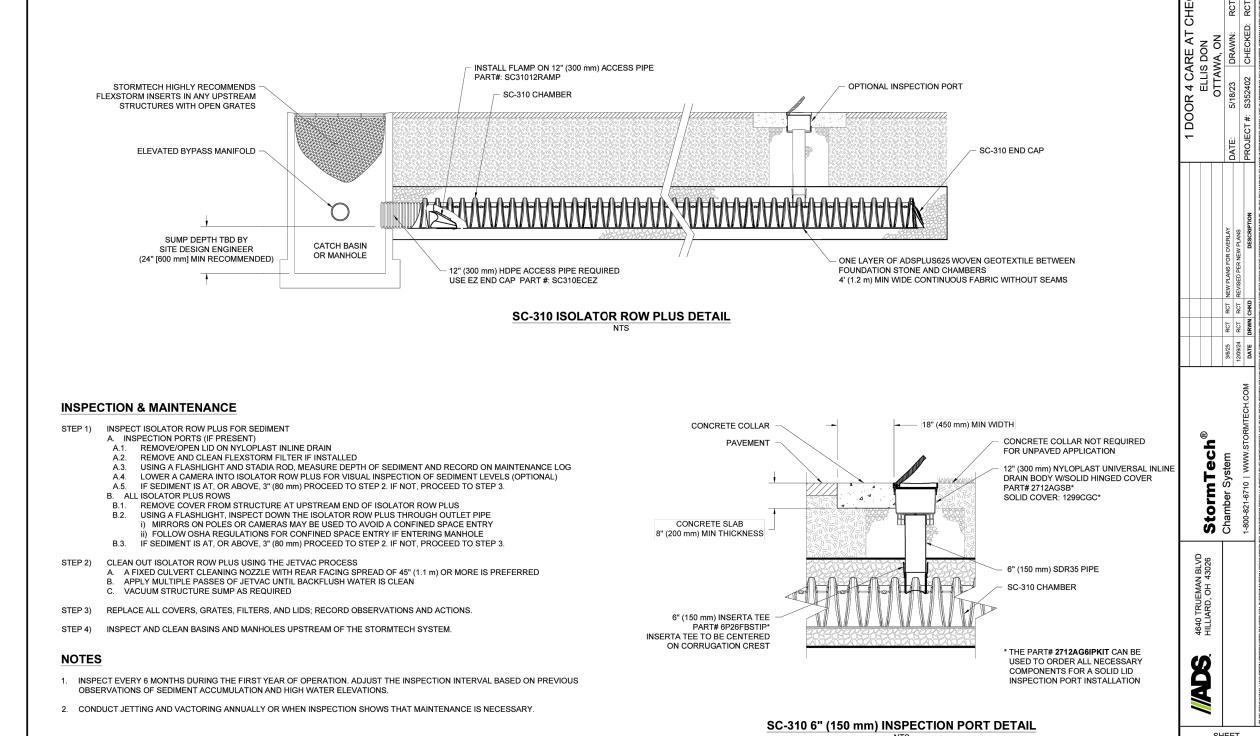
LEDGE OF PAVEMENT









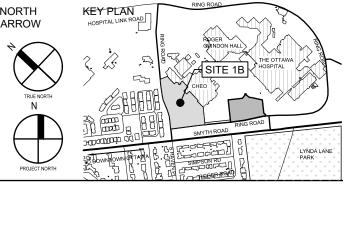








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18 14/05/25 ISSUED FOR CSI-002 7 01/04/25 ISSUED FOR SPC RE-SUBMISSION 16 25/03/24 ISSUED FOR 100% CD SUBMISSION R1 15 25/02/24 ISSUED FOR 100% CD RE-SUBMISSION 14 25/01/10 ISSUED FOR 100% CD RE-SUBMISSION 13 24/12/09 ISSUED FOR SPC RE-SUBMISSION 12 24/11/27 ISSUED FOR 100% CD SUBMISSION 10 24/09/20 ISSUED FOR CSI-001 SITE CURB AT TUNNEL 24/08/23 ISSUED FOR BUILDING PERMIT 3 24/08/23 ISSUED FOR SITE PLAN CONTROL 7 24/08/07 ISSUED FOR 50% CD SUBMISSION 24/06/03 ISSUED FOR 100% DD SUBMISSION R2 24/05/10 ISSUED FOR FOUNDATION PERMIT 24/04/19 ISSUED FOR 100% DD SUBMISSION 24/01/24 RE-ISSUED FOR BUILDING PERMIT (TUNNEL)

23/12/20 ISSUED FOR BUILDING PERMIT (TUNNEL)

_TERFEDY IS FORBIDDEN NTRACTORS SHALL VERII

AND BE RESPONSIBLE FOR

SHOWN ON DRAWINGS TO

ON THE JOB AND REPORT AN

DO NOT SCALE THIS DRAWING.

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ARIATIONS FROM THE MENSIONS AND CONDITIONS

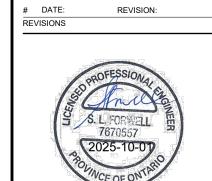
23/12/15 RE-ISSUED FOR 50% DD SUBMISSION

23/12/15 ISSUED FOR 50% DD SUBMISSION

21 01/10/25 ISSUED FOR SPC RESUBMISSION 2

20 10/09/25 ISSUED FOR CSI-004

19 07/08/25 ISSUED FOR CSI-003



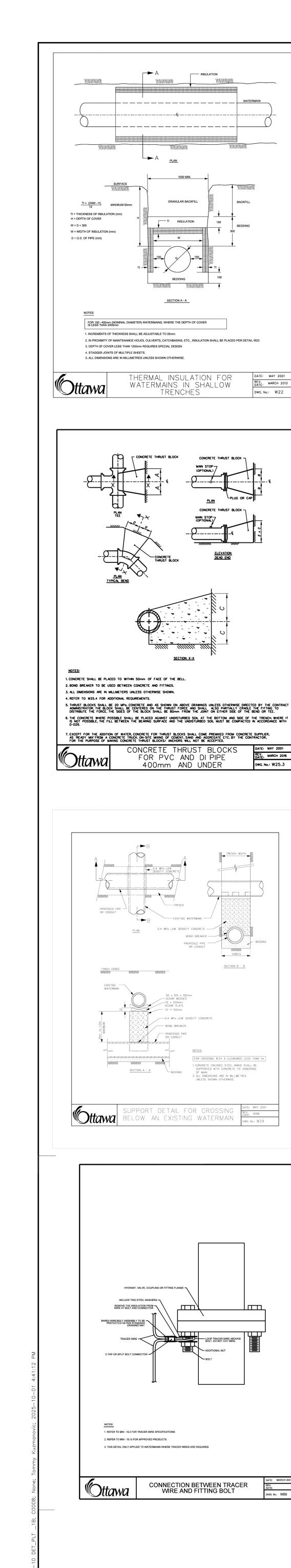
CHEO INTEGRATED TREATMENT CENTRE 401 SMYTH RD. OTTAWA, ON K1H8L1

TYPICAL DETAILS AND NOTES PLAN

AS NOTED DRAWN BY: DL, TK, ZS REVIEWED BY: SF PLOT DATE: 2025.10.01

RAWING NUMBER:

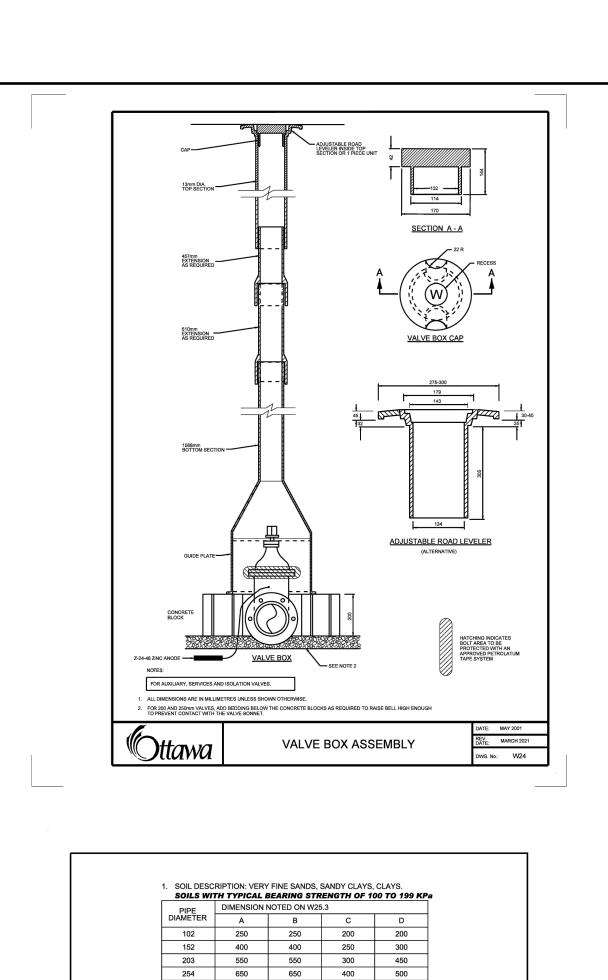
PLAN #: 19223 DEVELOPMENT #: D07-12-24-0121



DATE: MAY 2001

REV.
DATE: MARCH 2013

DWG. No.: W22



2. SOIL DESCRIPTION: SILTY SAND GRAVELS OR CLAYEY SAND GRAVEL MIXTURES. MODERATE AMOUNT OF FINES.

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 KPa

SOILS WITH TYPICAL BEARING STRENGTH OF 300 KPa AND OVER

1. THE ABOVE THRUST BLOCK DIMENSIONS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:

a) MAXIMUM OPERATING PRESSURE OF 100 psi.
b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s
b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s
c) The TABLES APPL 17 b got 117 bp is 170 cm LSC AS 25 bt AND FOR PVC MAX. SURGE is 35 psi)
3. THE TABLES APPL 17 D BOTH DUCTILE IRON AND PVC. WHERE ONE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.
4. DIMENSIONS MAY BE ADJUSTED SO LOWN 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

BEDDING

SUPPORT DETAIL FOR CROSSING

REV. DATE: MAY 2001

REV. DATE: MAY 2005

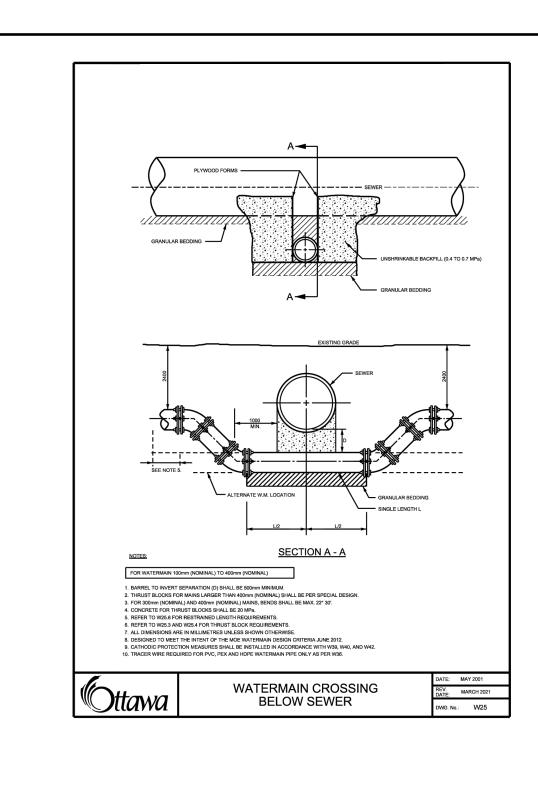
PROPOSED PIPE
OR CONDUIT

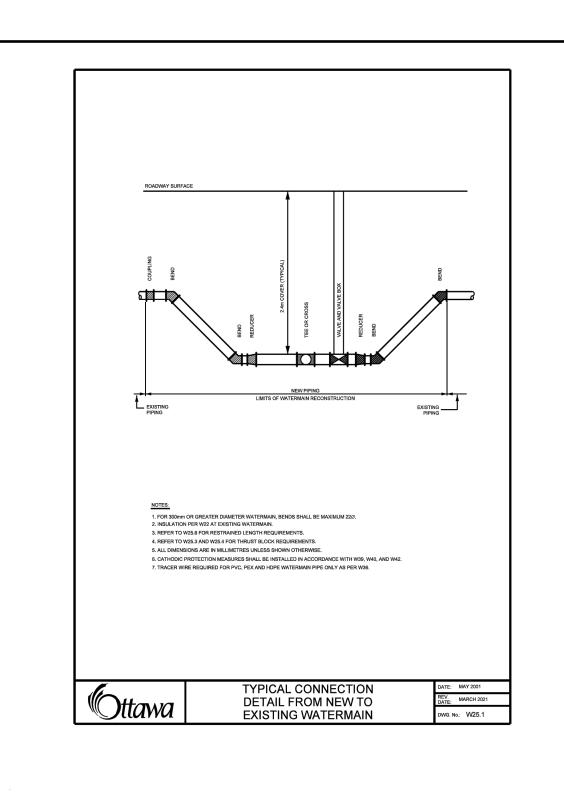
WANTANIA WANTANIA WANTANIA

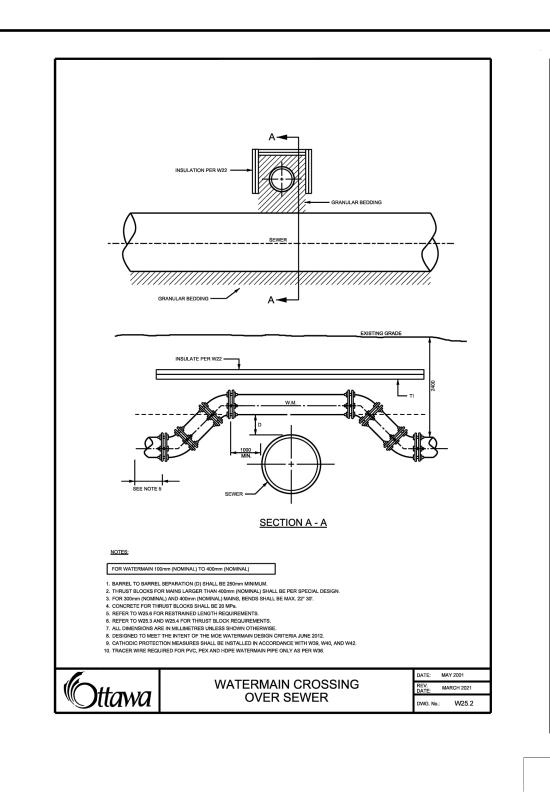
1. IF ACCESSIBILITY PREVENTS SPECIFIED COMPACTION FROM BEING REACHED, SUBSTITUTE 0.4 MPo LOW DENSITY CONCRETE FOR GRANULAR BEDDING IN THE AFFECTED AREA.

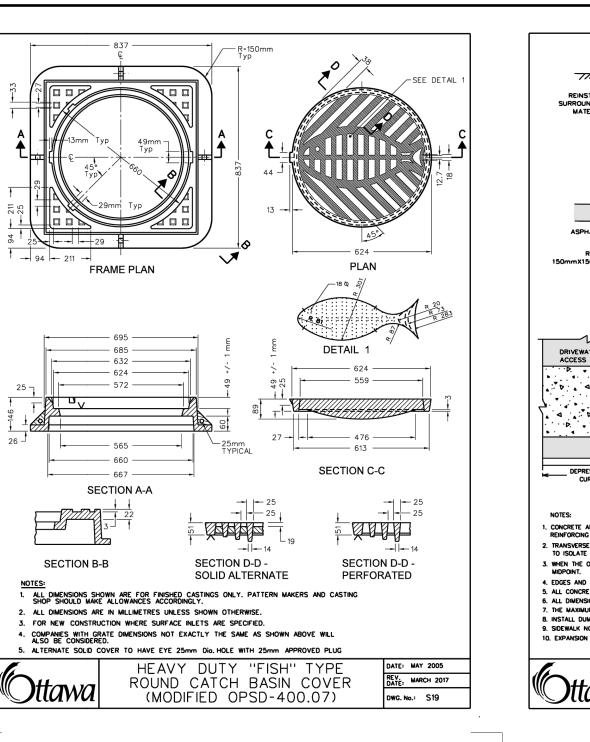
SEE NOTE 1 -

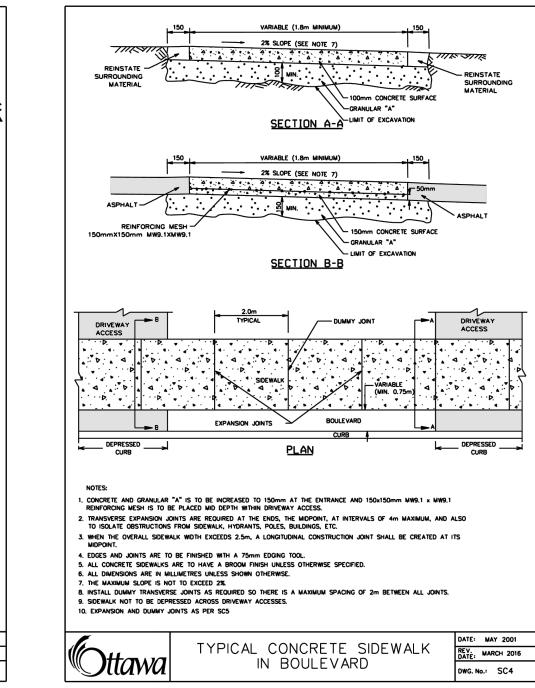
FOR CROSSING A CLEARANCE OF 1m OR MORE.

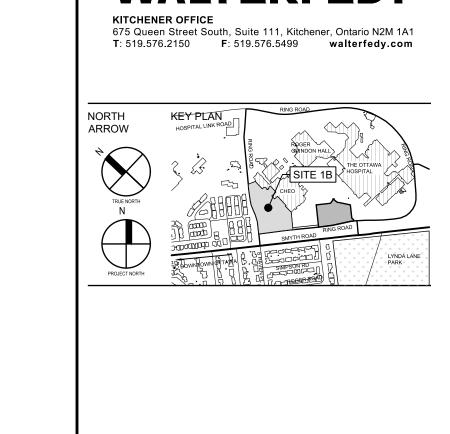






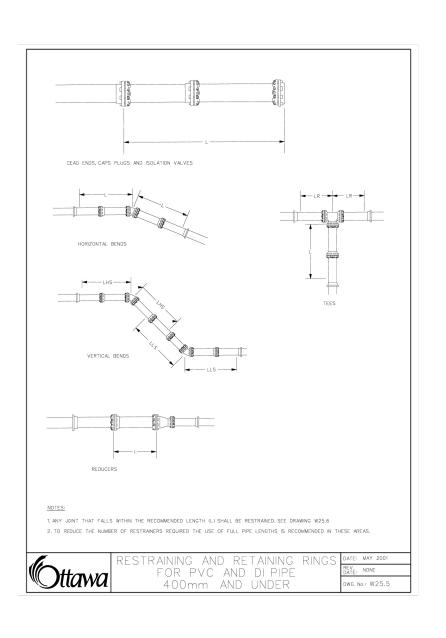


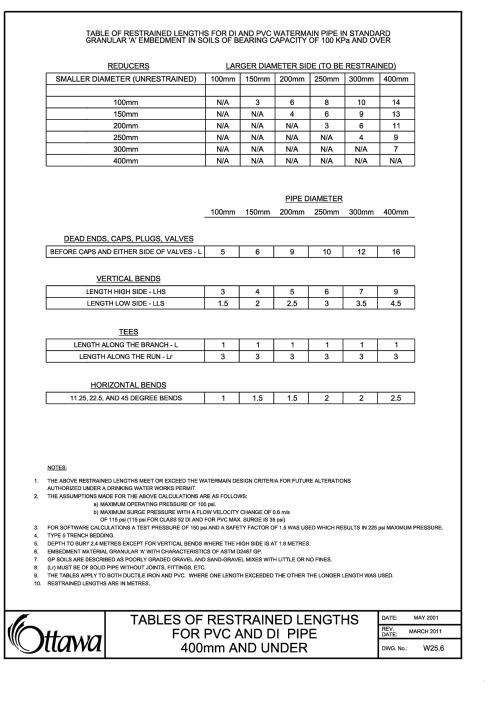


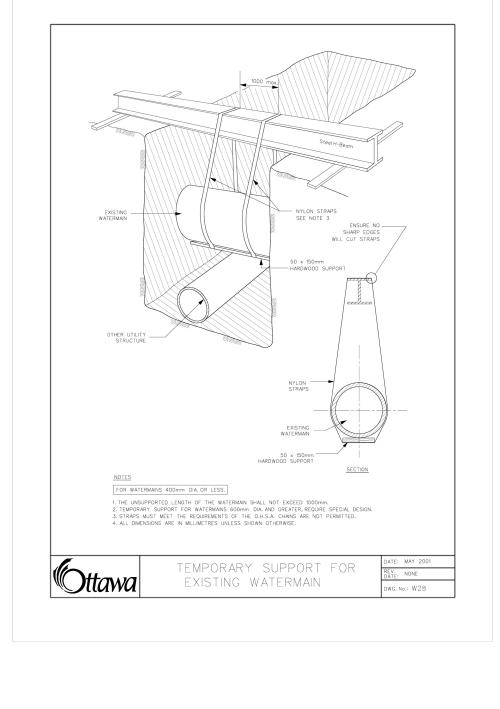


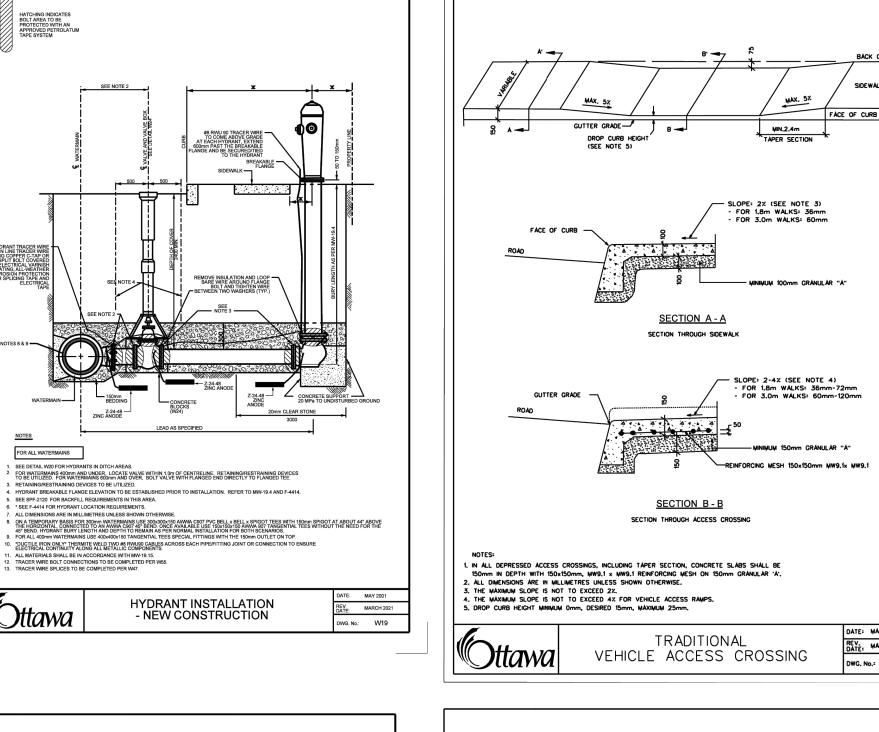
Infrastructure Ontario

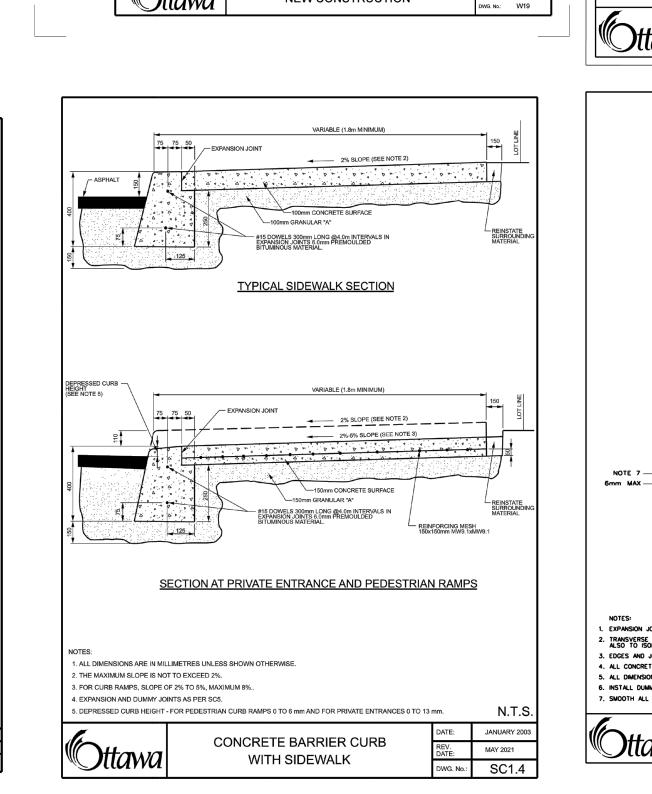
INFRASTRUCTURE Healthcare

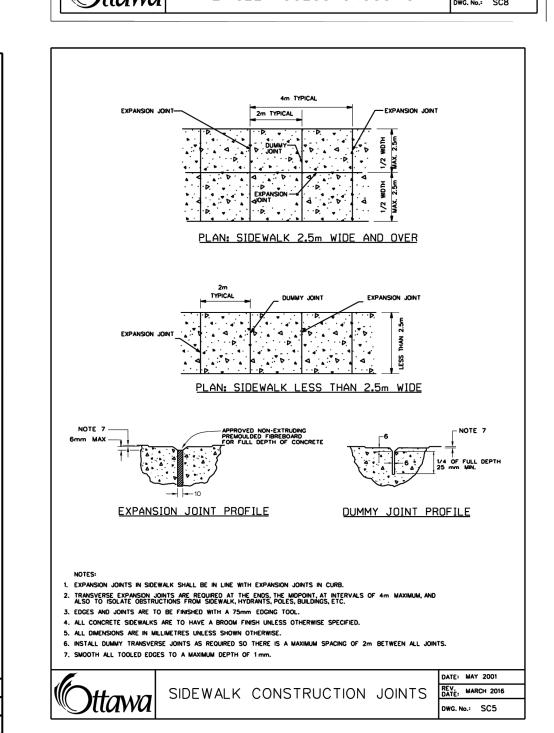


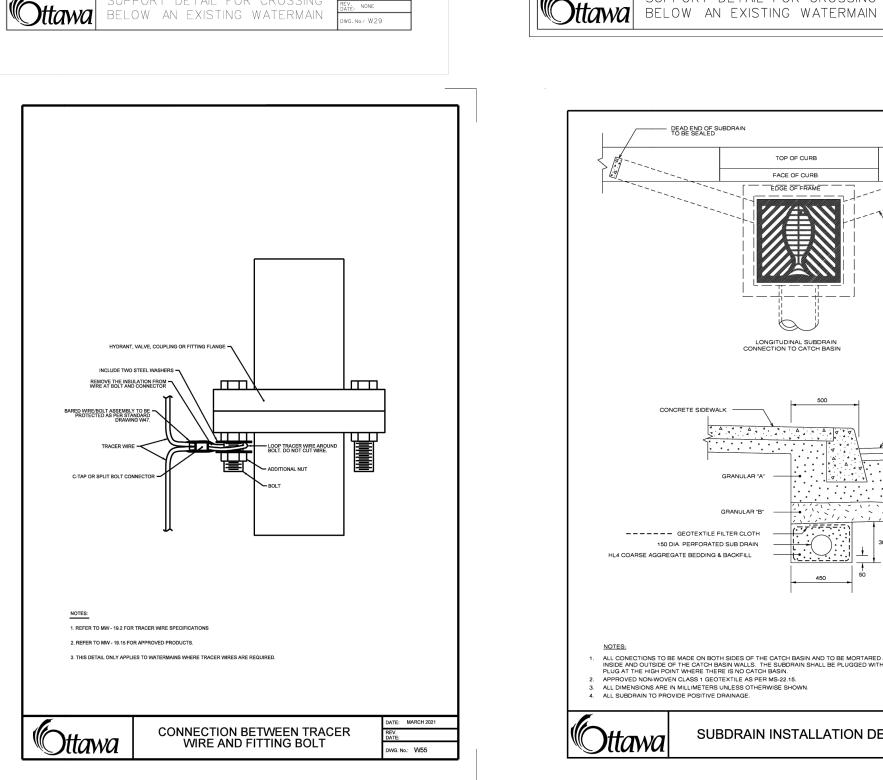


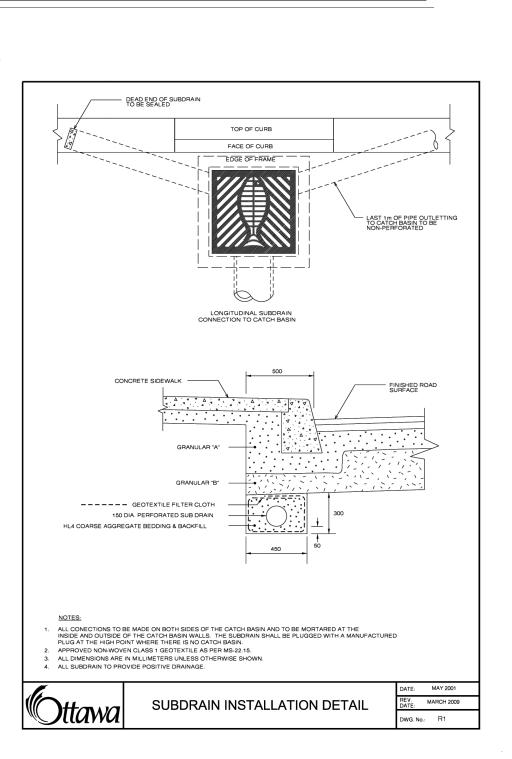


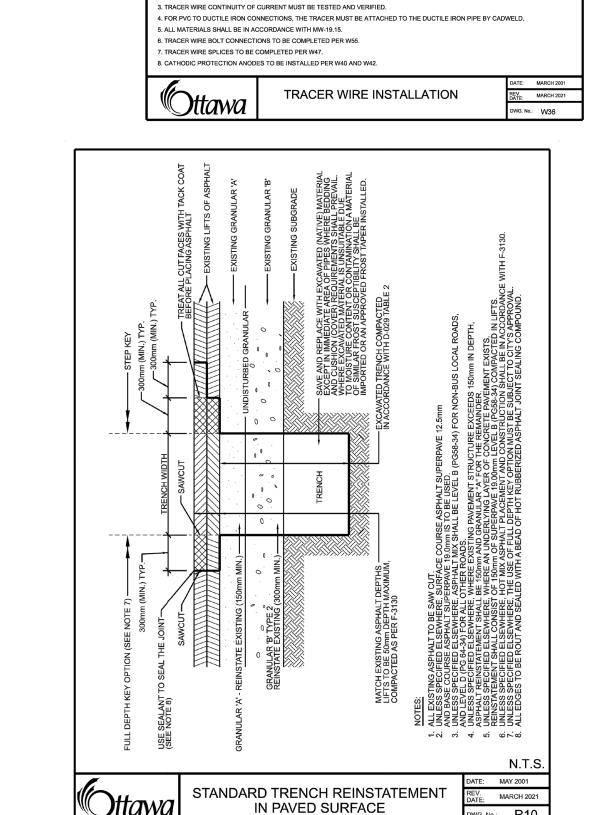










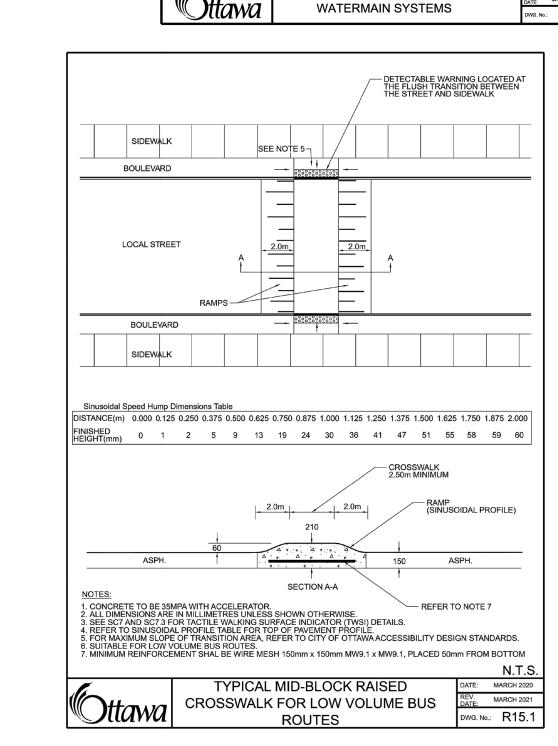


#8 RWU90 — TRACER WIRE —

DIRECT BURIED SPLICE DETAIL

1. ALL CONNECTIONS MUST BE WATERPROOFED.

2. SPLICING OF MAIN TRACER WIRE IS NOT ALLOWED UNLESS SPECIFIED OR APPROVED.



NNECTING WIRE TO BE LOOPED AROUND PIPES / FITTINGS AND KNOTTED. VE COATING TO BE APPLIED TO ALL CADWELDS.

OATING SYSTEM.
ON PEX SERVICES ALSO WAX TAPE CURB STOP UP TO THE BASE OF THE TEE HEAD.
ALL DIMENSIONS ARE IN MILLIMETERS.
TRACER WIRE BOLT CONNECTIONS TO BE COMPLETED PER W55.
TRACER WIRE SPLICES TO BE COMPLETED PER W47.

PE & SPACING AS PER W42

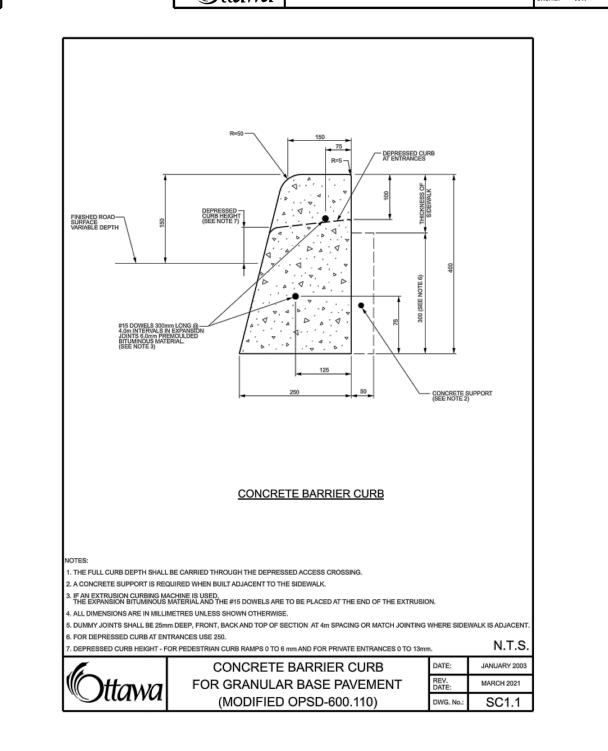
ANODE TO COPPER SERVICES USING A GROUND CLAMP AND FOR PEX SERVICES CONNECT
TRACER WIRE TERMINALS ON BOTH MAIN AND CLIRS STOPS.

AUXILIARY VALVES, ISOLATION VALVES, SADDLES AND

SIFTTIMES WALVES, WITH A PETROLATUM WAX TAPE

VALVES

CATHODIC PROTECTION FOR PVC



BARE WIRE & ABRASE ALL SMOOTH -SURFACES OF INSULATION.

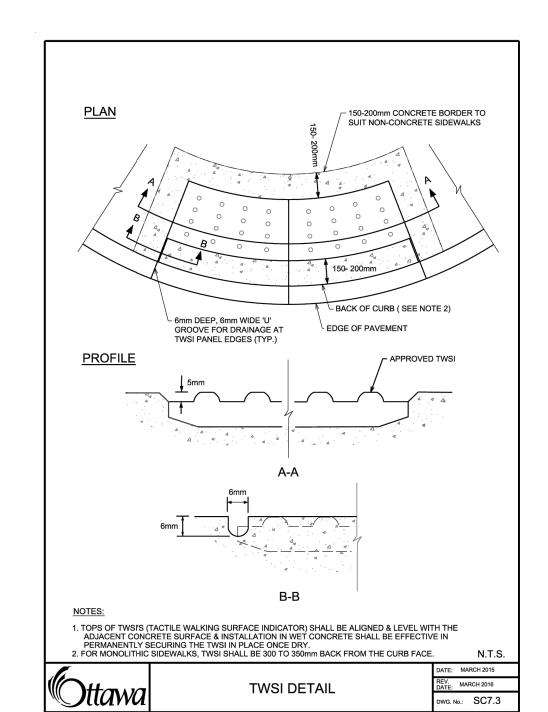
1. SEE MW-19.9 FOR WIRE SPECIFICATIONS.

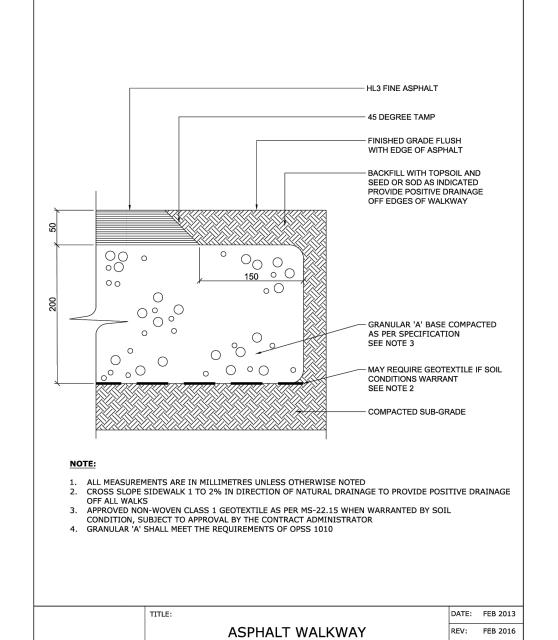
. C-TAP, THERMITE WELD OR COPPER SPLIT BOLT.

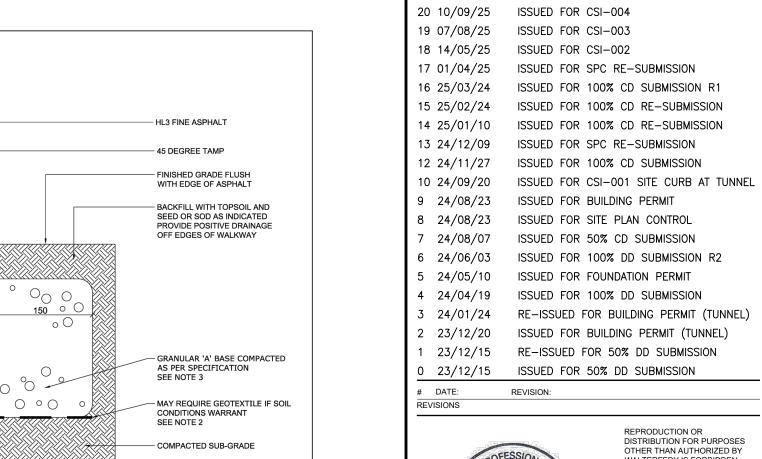
. INSTALL C-TAP OR SPLIT BOLT USING APPROVED TOOL.

WATERPROOFING OF SPLICES

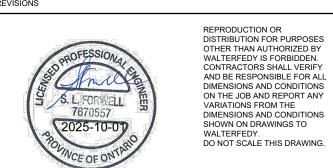
APPLY ALL-WEATHER CORROSION PROTECTION RUBBER SPLICING TAPE







DWG No: SC20



21 01/10/25 ISSUED FOR SPC RESUBMISSION 2

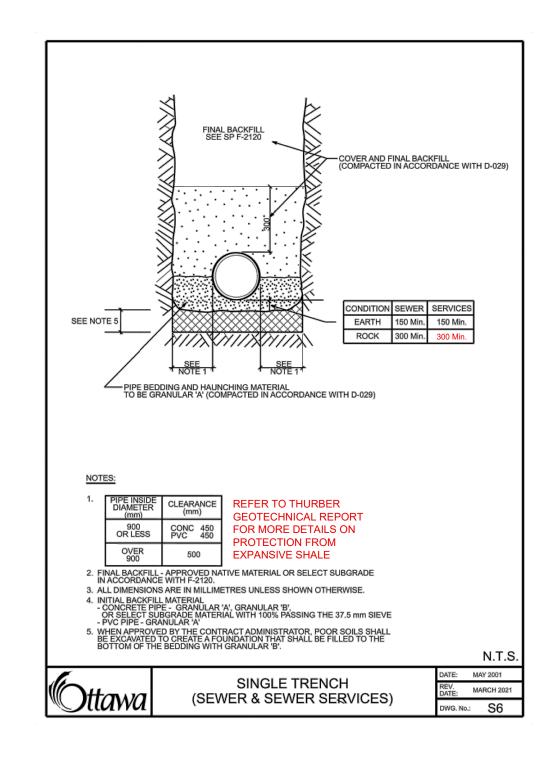


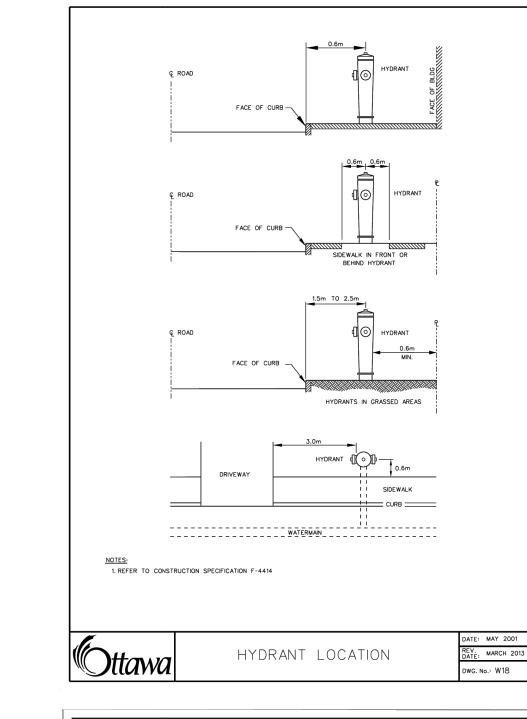
TYPICAL DETAILS AND NOTES PLAN

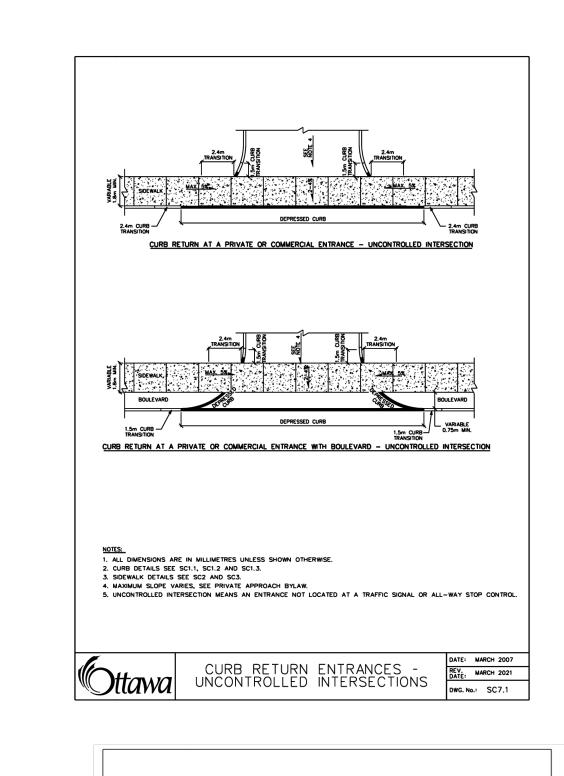
SCALE: AS NOTED DRAWN BY: DL, TK, ZS REVIEWED BY: SF JOB NUMBER: 2021-0821-13 PLOT DATE: 2025.10.01

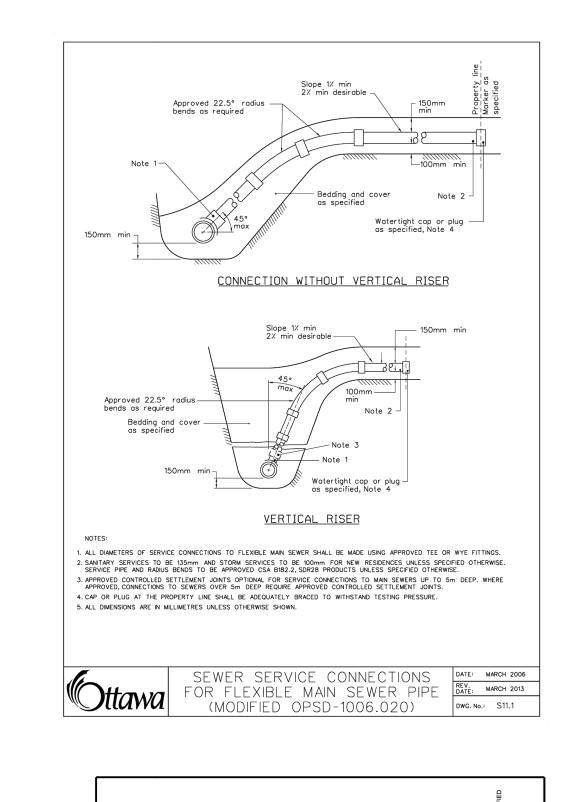
DRAWING NUMBER:

PLAN #: 19223









CONNECTION WITHOUT VERTICAL RISER

VERTICAL RISER

1. ALL DIAMETERES OF SERVICE CONNECTIONS THAT HAVE NOMINAL DIAMETERS NO GREATER THAN 50% OF THE NOMINAL DIAMETER OF THE RIGID SEWER PIPE SHALL BE MADE USING A BELL END INSERT AS PER S11.2 OR AN APPROVED RUBBER GASKETED INSERT, INSTALLED ABOVE THE SPRING LINE.

2. SANITARY SERVICES TO BE 135mm AND STORM SERVICES TO BE 100mm FOR NEW RESIDENCES UNLESS SPECIFIED OTHERWISE. SERVICE PIPE AND RADIUS BENDS TO BE APPROVED CSA B182.2, SDR28 PRODUCTS UNLESS SPECIFIED OTHERWISE.

3. APPROVED CONTROLLED SETTLEMENT JOINTS OPTIONAL FOR SERVICE CONNECTIONS TO MAIN SEWERS UP TO 5m DEEP. WHERE APPROVED, CONNECTIONS TO SEWERS OVER 5m DEEP REQUIRE APPROVED CONTROLLED SETTLEMENT JOINTS.

SEWER SERVICE CONNECTIONS

FOR RIGID MAIN SEWER PIPE

(MODIFIED OPSD-1006.010)

COMPONENTS GENERALLY LOCATED ALONG FRONT SIDE OF HOUSE

RISER AND THREADED CAP CLEANOUT

NORMALLY OPEN FLAP

SANITARY BACKWATER VALVE

2. JOINTS BETWEEN CLEANOUT AND THE BACKWATER VALVE AND THE FLOOR SLAB SHALL BE SEALED.

SANITARY BACKWATER

VALVE INSTALLATION TYPE 2

APPROVED 22.5° RADIUS —— BENDS AS REQUIRED

BEDDING AND COVER — AS SPECIFIED

150mm MIN.

4. VERTICAL RISER SHALL BE SAME AS SERVICE PIPE UNLESS OTHERWISE SPECIFIED.

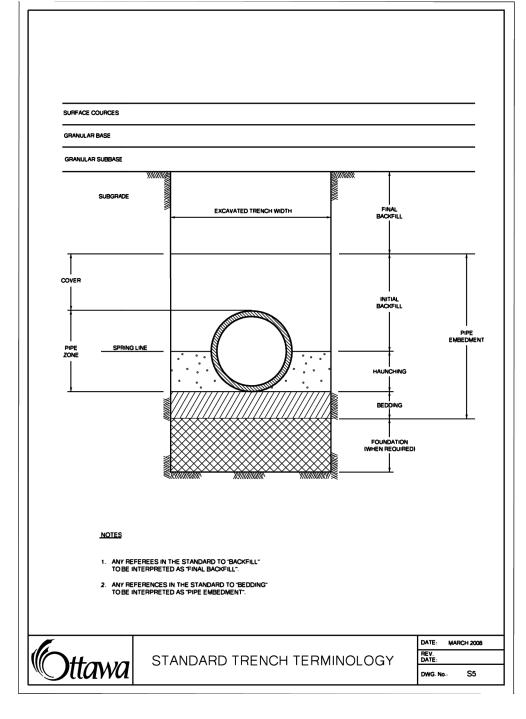
APPROVED CUT-IN TOOL MUST BE USED FOR FIELD MADE CONNECTIONS.

SANITARY DACKWATER VALVE

5. CAP OR PLUG AT THE PROPERTY LINE SHALL BE ADEQUATELY BRACED TO WITHSTAND TESTING PRESSURE. FOR NEW CONSTRUCTION, INSERTS MUST BE INSTALLED ON THE MAIN PIPE BEFORE THAT PIPE IS LAID. FOR SERVICES/BRANCHES 375mm DIA. OR LESS, APPROVED "CORED TEES" MAY BE USED.

CONCRETE FOOTING

CONCRETE FOUNDATION WALL



2.3m max, Typ

Geotextile -

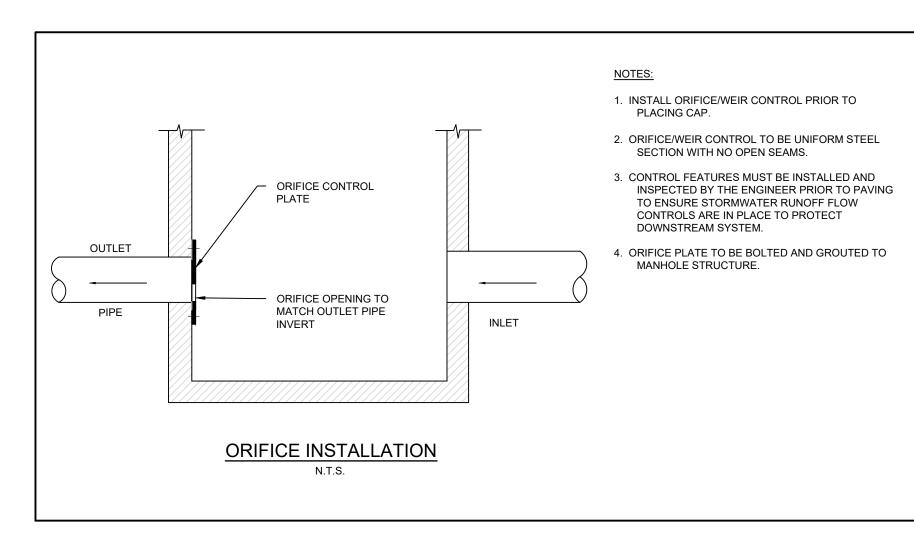
200

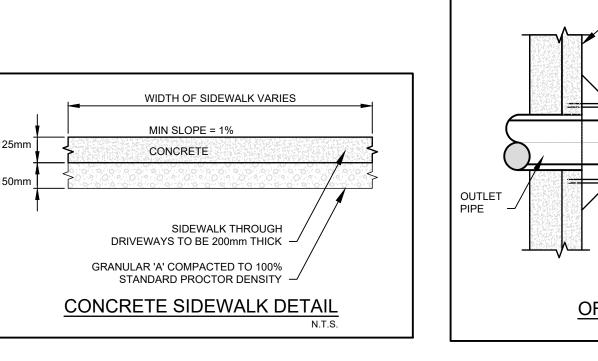
A All dimensions are in millimetres unless otherwise shown.

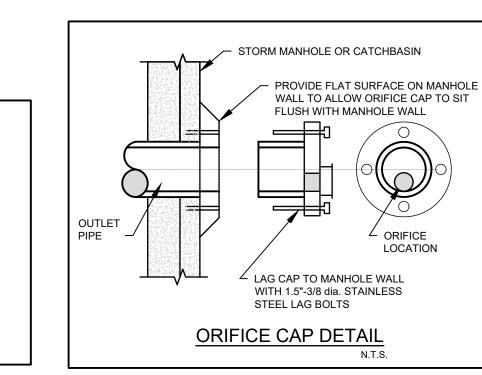
SILT FENCE BARRIER

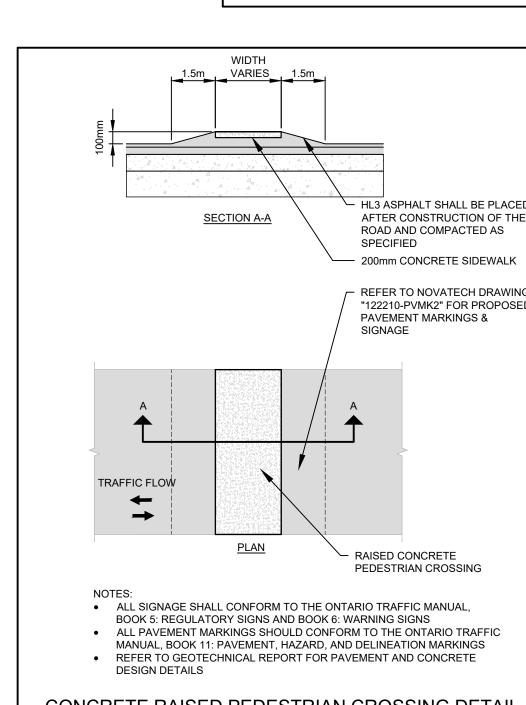
ONTARIO PROVINCIAL STANDARD DRAWING Nov 2021 Rev 3

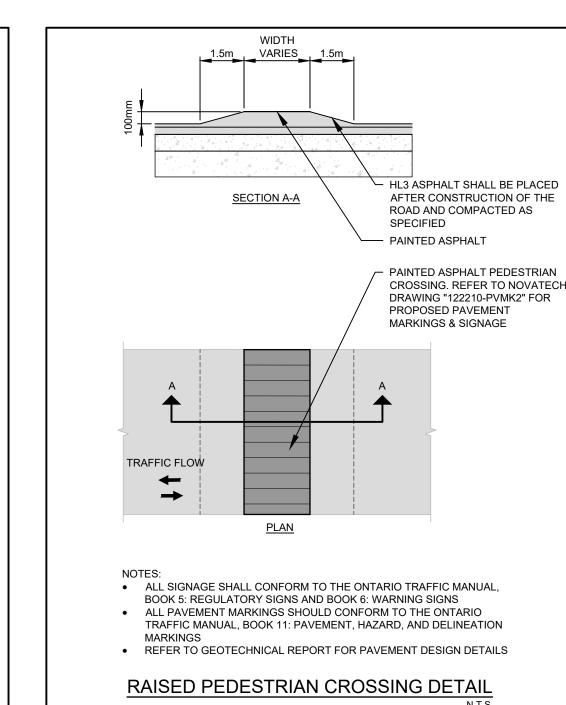
SECTION A-A

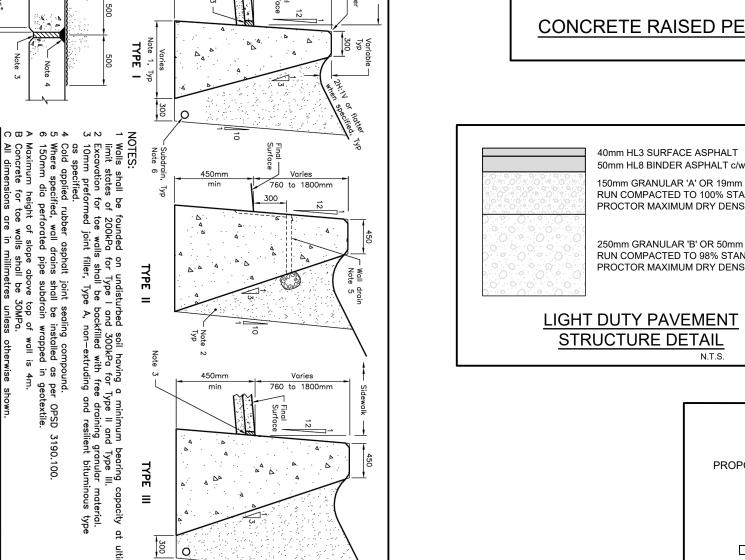






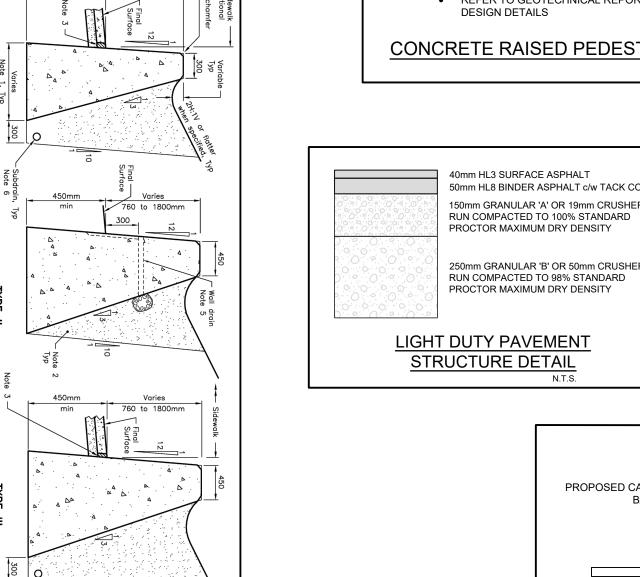


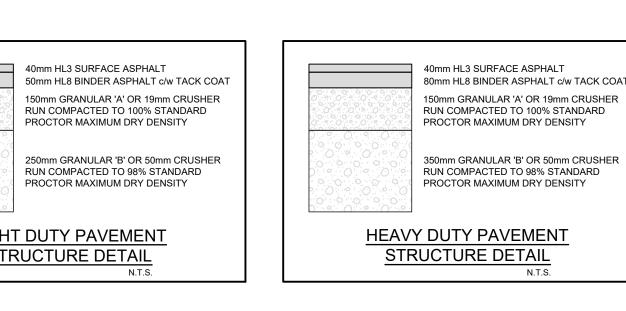


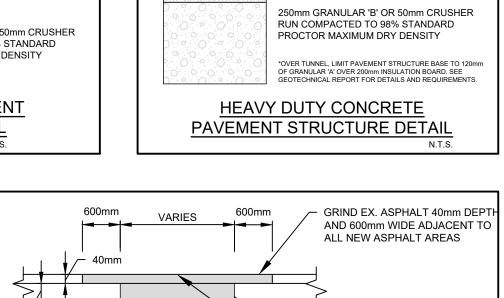


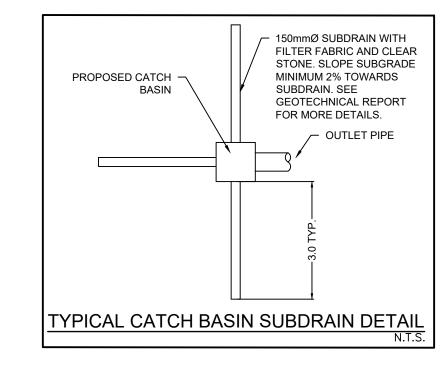
JOINT DETAIL

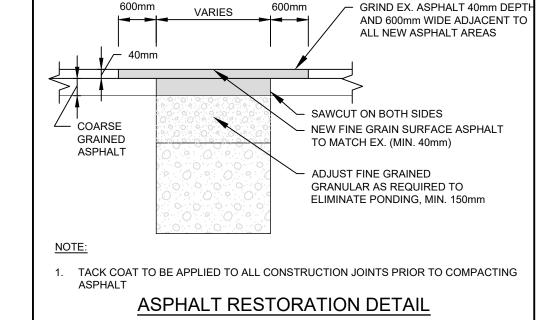
OPSD 219.110

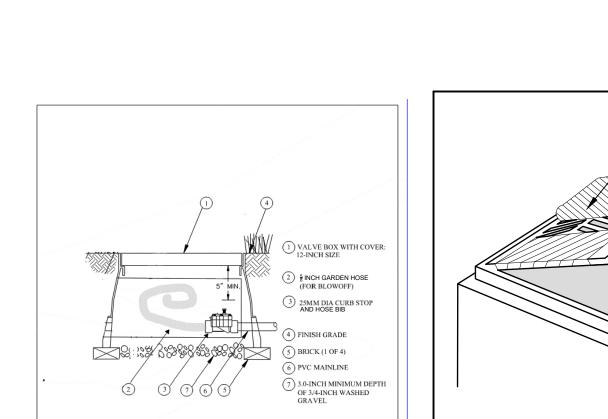




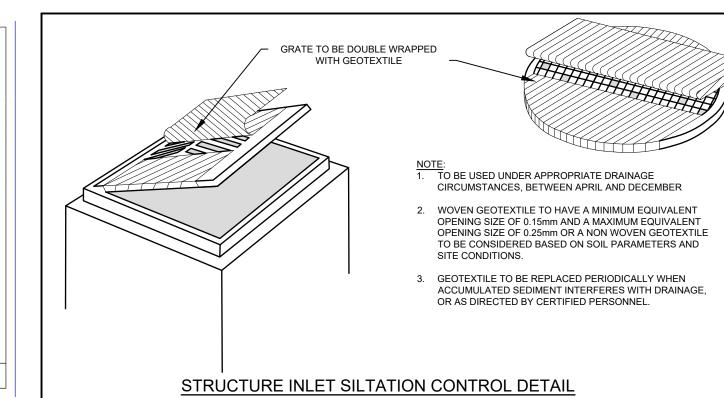


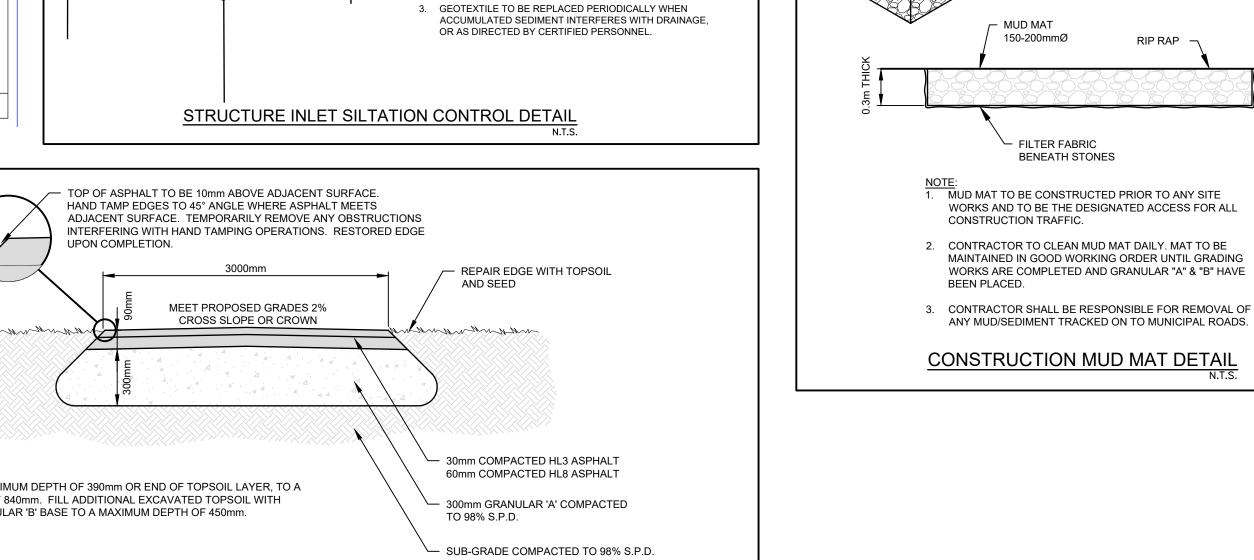


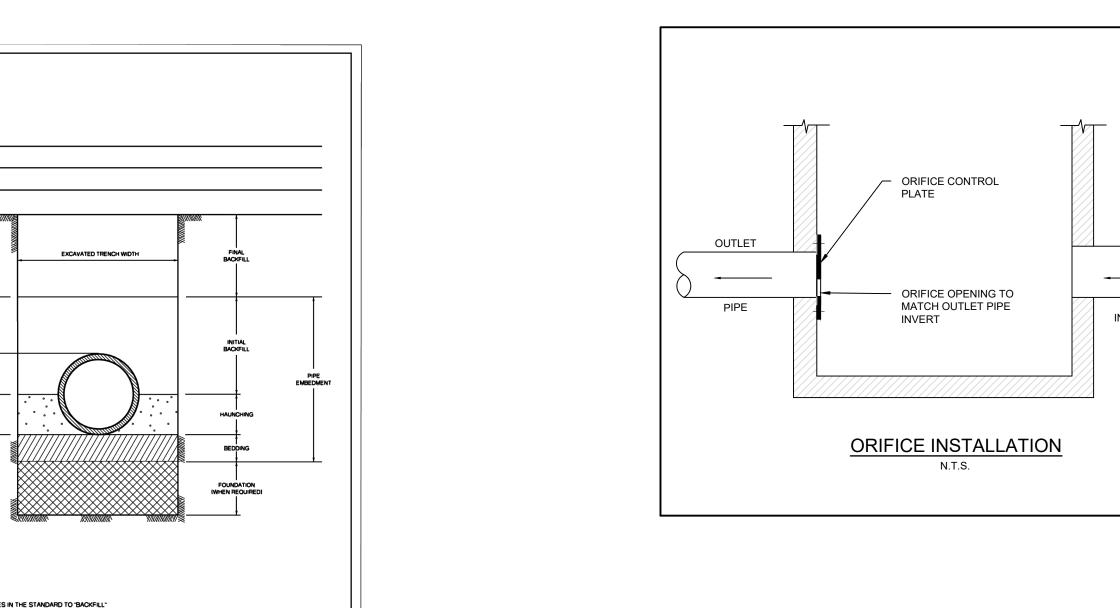


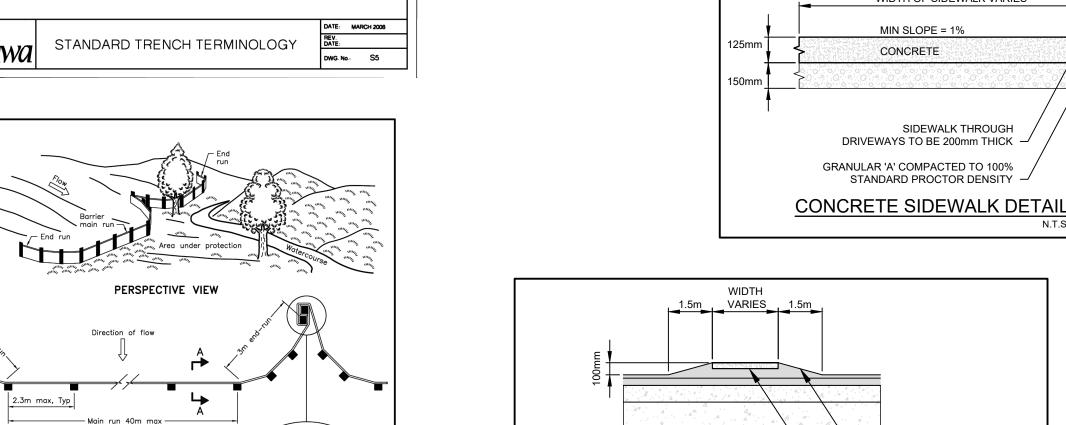


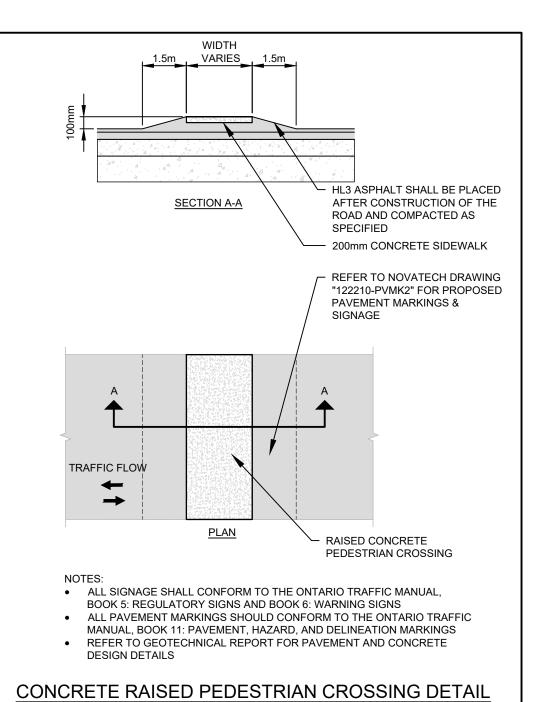
VALVE BOX WITH HOSE BIB AND BLOW OFF

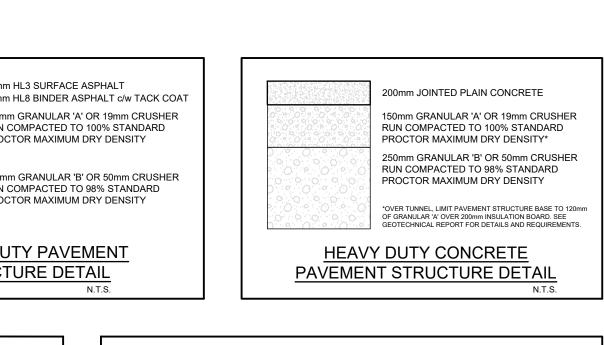


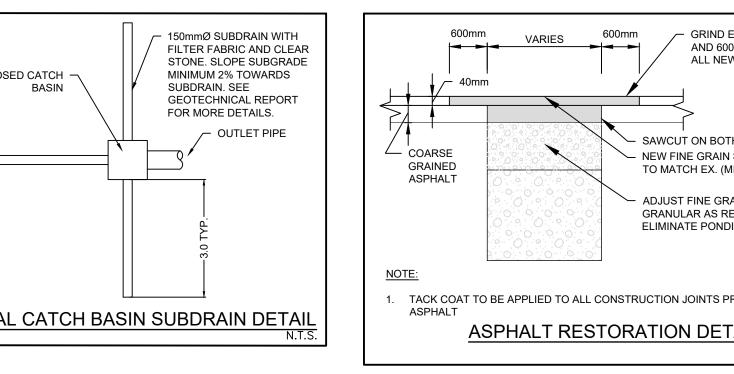


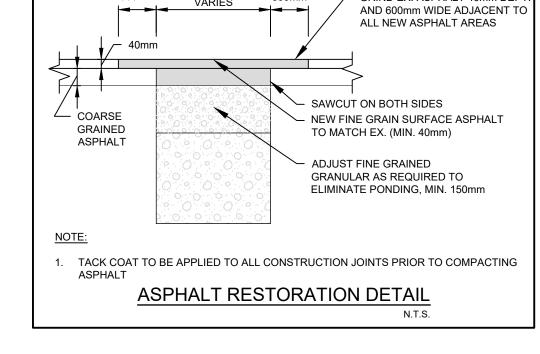


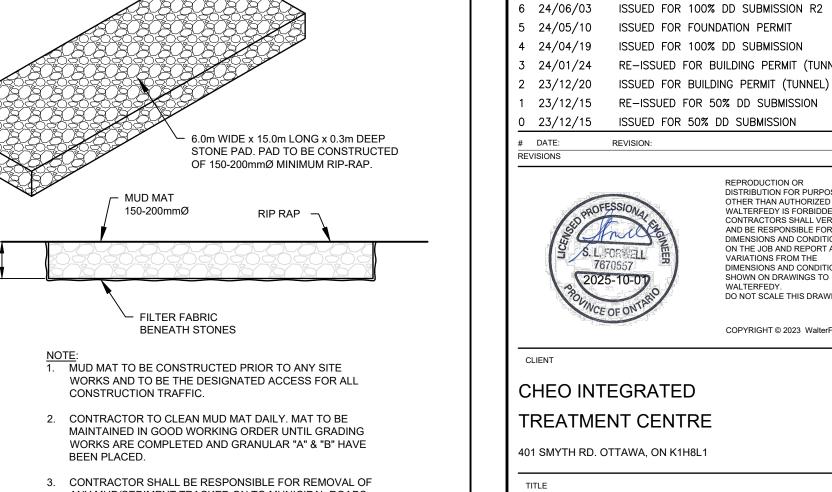














CHEO INTEGRATED TREATMENT CENTRE 401 SMYTH RD. OTTAWA, ON K1H8L1

TYPICAL DETAILS AND NOTES PLAN

21 01/10/25 ISSUED FOR SPC RESUBMISSION 2

17 01/04/25 ISSUED FOR SPC RE-SUBMISSION

16 25/03/24 ISSUED FOR 100% CD SUBMISSION R1

15 25/02/24 ISSUED FOR 100% CD RE-SUBMISSION

14 25/01/10 ISSUED FOR 100% CD RE-SUBMISSION

13 24/12/09 ISSUED FOR SPC RE-SUBMISSION 12 24/11/27 ISSUED FOR 100% CD SUBMISSION

24/08/23 ISSUED FOR BUILDING PERMIT

3 24/08/23 ISSUED FOR SITE PLAN CONTROL

7 24/08/07 ISSUED FOR 50% CD SUBMISSION

24/05/10 ISSUED FOR FOUNDATION PERMIT

4 24/04/19 ISSUED FOR 100% DD SUBMISSION

3 24/01/24 RE-ISSUED FOR BUILDING PERMIT (TUNNEL)

VALTERFEDY IS FORBIDDEN.
CONTRACTORS SHALL VERIF

10 24/09/20 ISSUED FOR CSI-001 SITE CURB AT TUNNEL

20 10/09/25 ISSUED FOR CSI-004 19 07/08/25 ISSUED FOR CSI-003 18 14/05/25 ISSUED FOR CSI-002

Infrastructure

EllisDon

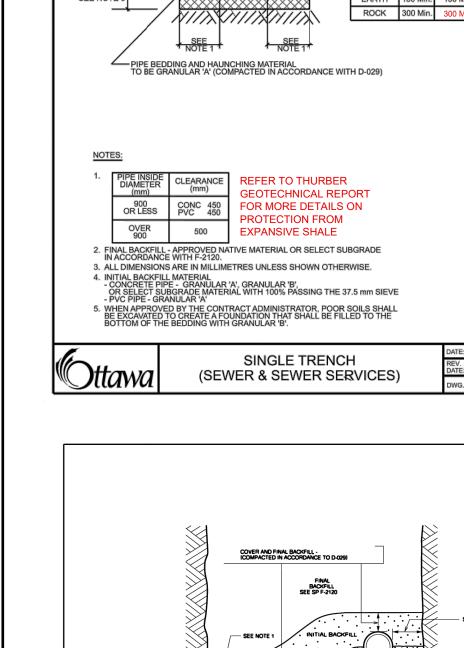
WALTERFEDY

675 Queen Street South, Suite 111, Kitchener, Ontario N2M 1A1 T: 519.576.2150 F: 519.576.5499 walterfedy.com

NORTH ARROW

INFRASTRUCTURE Healthcare

SCALE: AS NOTED DRAWN BY: DL, TK, ZS REVIEWED BY: SF JOB NUMBER: 2021-0821-13 PLOT DATE: 2025.10.01 DRAWING NUMBER:



1. OPENING IN PIPE SHALL BE A ROUND MACHINE CUT HOLE.

5. ALL OTHER NOTES OF S11 APPLY.

6. SEE MS-22.15 FOR APPROVED SEALANT PRODUCTS.

2. INSERT TO CONSIST OF THE BELL END OF AN APPROVED SERVICE PIPE. LENGTH TO BE LIMITED SUCH THAT NO PART OF THE INSERT PROTRUDES INTO THE OPENING OF THE PIPE.

3. WRAP APPROVED WATER-TIGHT SEALANT AROUND THE SPIGOT PORTION OF THE BELL END PRIOR TO INSERTING. USE ENOUGH SEALANT TO ENSURE A TIGHT WATER-TIGHT CONNECTION THAT WILL HOLD THE BELL IN POSITION.

SEWER SERVICE CONNECTIONS

FOR RIGID MAIN SEWER PIPE

USING BELL END INSERT METHOD

CAST IRON GRATE

PIPE DIAMETER (INSIDE)

4. GROUT AROUND THE BELL END TO PROTECT THE SEALANT AND SUPPORT THE BELL.

3. WHEN NON PERFORATED PIPE IS USED MATCH THE 'T'S HORIZONTAL OPENING DIAMETERS TO THE PIPE DIAMETER AND CONNECT WITH MANUFACTURER RECOMMENDED CONNECTION SLEEVE.

NOTES!

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

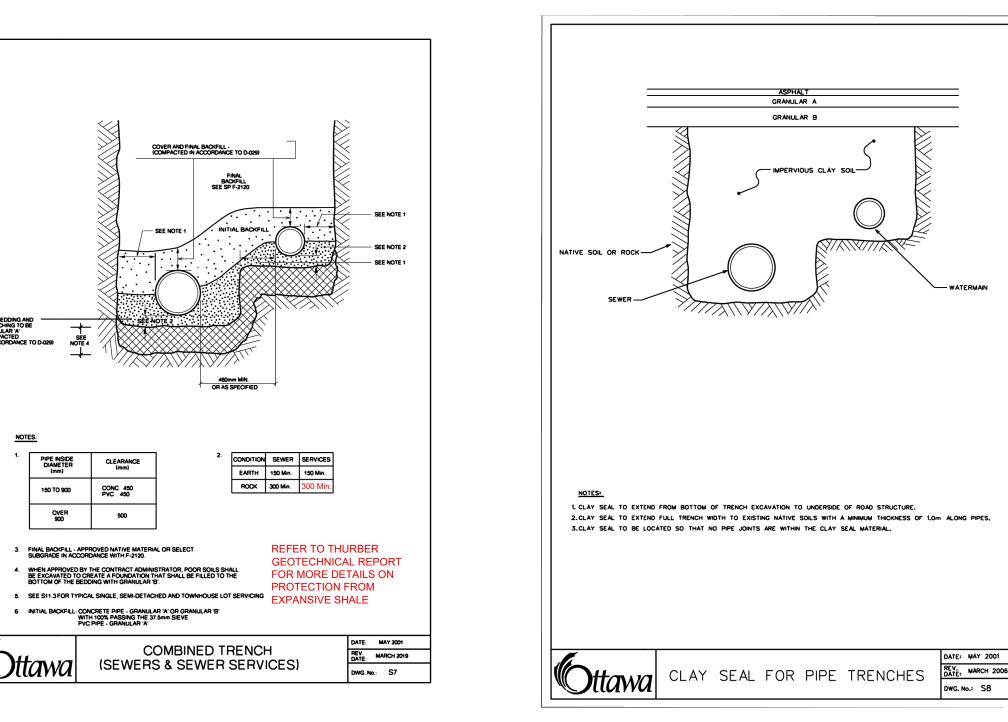
2. FOR DITCHED PIPE APPLICATIONS, TOP OF CB SHALL BE MIN. 5cm ABOVE BOTTOM OF THE DITCH/SWALE AND BE LOCATED MIN. 2m FROM EDGE OF PAVEMENT.

CATCH BASIN = 'T

FOR REAR YARD, DITCHED PIPE DATE: MARCH 2021
AND LANDSCAPING APPLICATIONS DWG. NG.: S30

_____ 1000 MIN. —

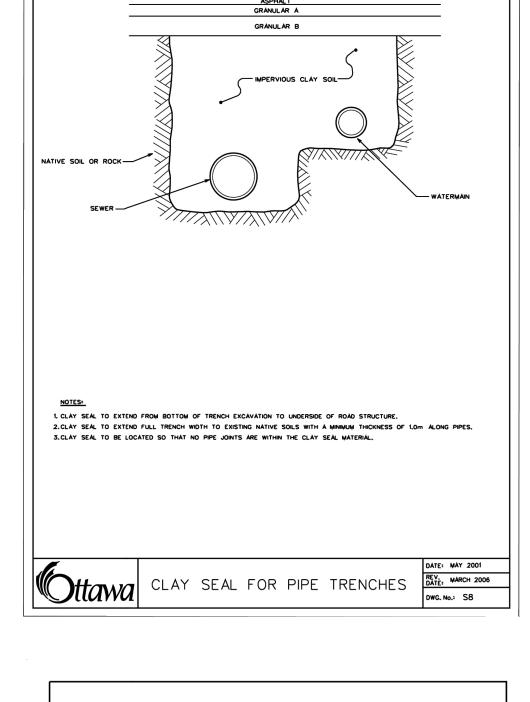
4. CAST IRON FRAME TO BE SECURED TO PIPE WITH 2 LAG BOLTS AS SHOWN.



BEDDING AND COVER
AS SPECIFIED

GROUT AROUND CONNECTION

MAKE HOLE IN SEWER IN ACCORDANCE WITH



CONCRETE FOOTING
CONCRETE FOUNDATION WALL

SEE NOTE 1 STORM CLEANOUT

STORM BACKWATER VALVE

FOUNDATION DRAIN BACKWATER

VALVE INSTALLATION

JOINTS BETWEEN THE SLEEVE AND THE BACKWATER VALVE AND THE FLOOR SHALL BE WATERTIGHT.

€ 600 >

CATCH BASIN - ELBOW

NOTES:
. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

PREFABRICATED
POLYETHYLENE
SMOOTHWALL PIPE
'T' SECTION

CLEANOUT FOR SANITARY SEVENT OF STORM BACKWATER VALVE

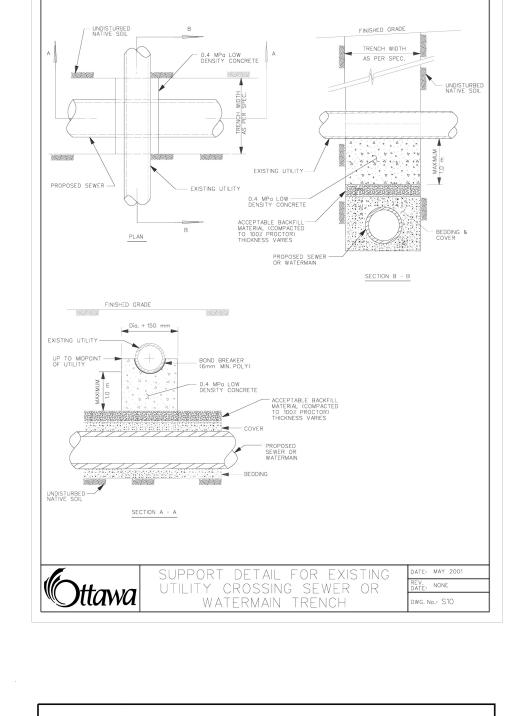
OR SANITARY SEVENT OF THE STORM BACKWATER VALVE

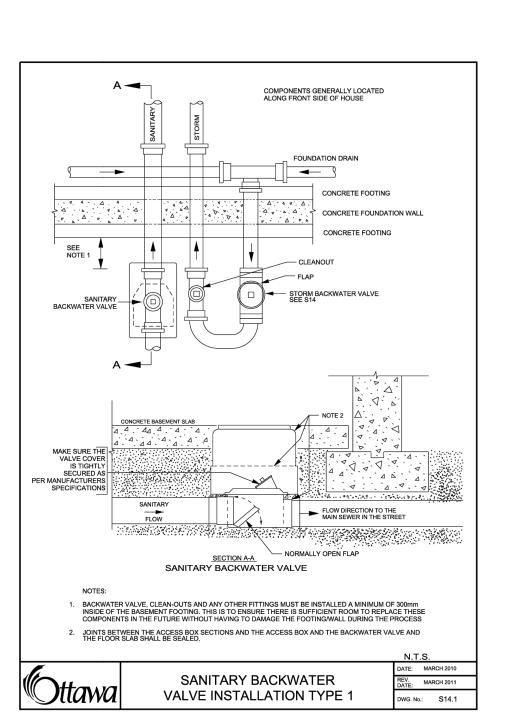
COMPONENTS GENERALLY LC ALONG FRONT SIDE OF HOUSI

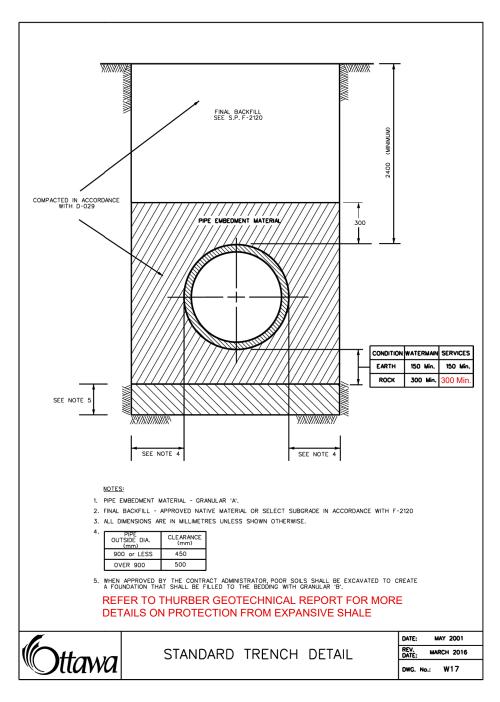
CONCRETE FOOTING

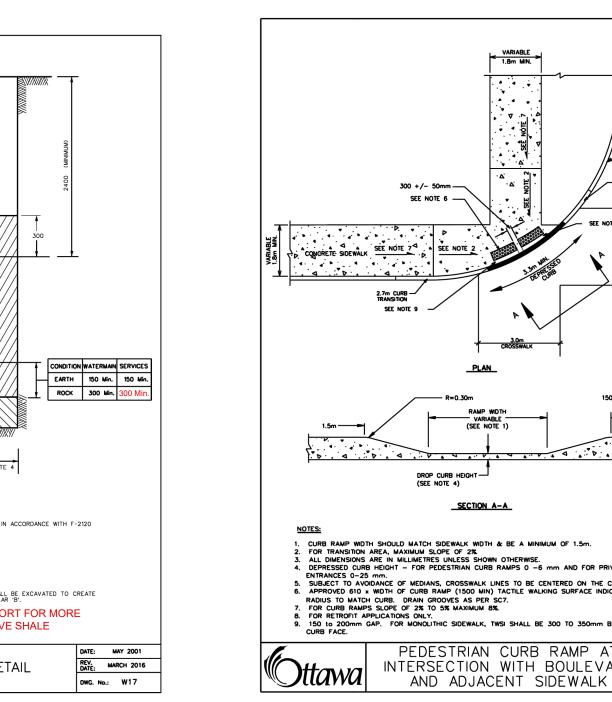
FLOW DIRECTION FROM FOUNDATION DRAIN

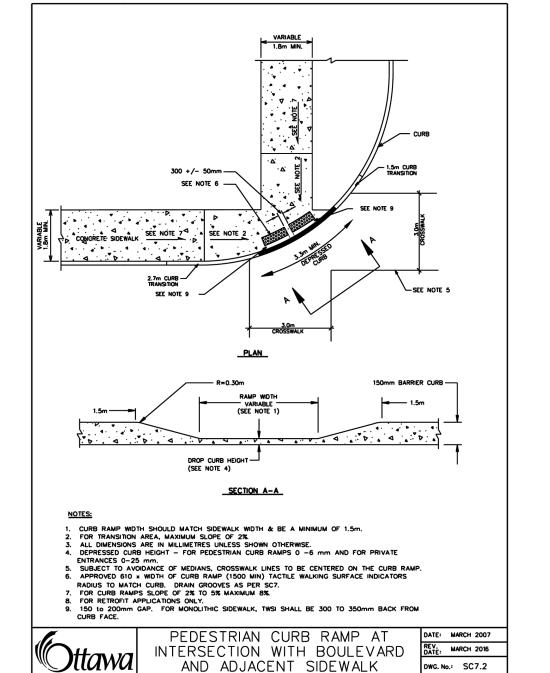
CAST IRON GRATE

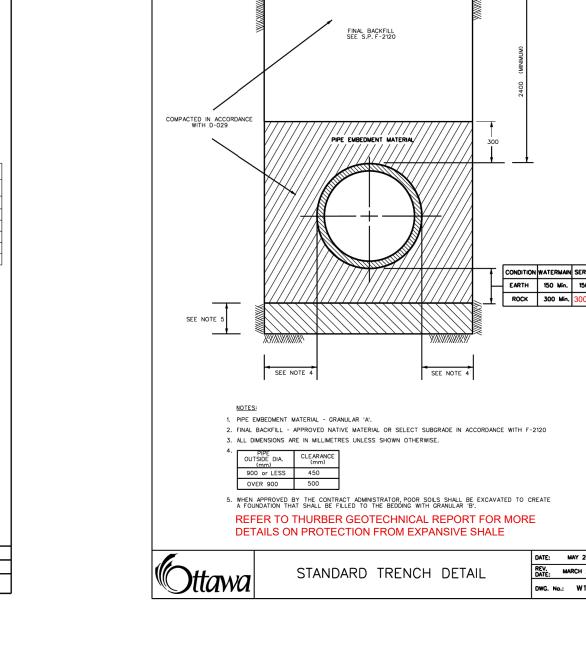


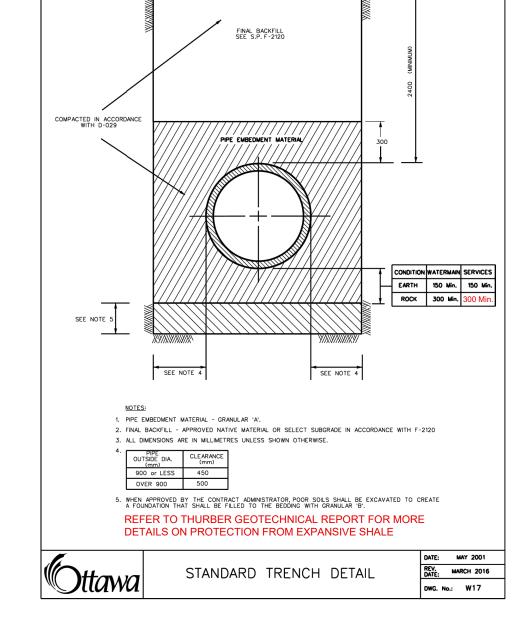


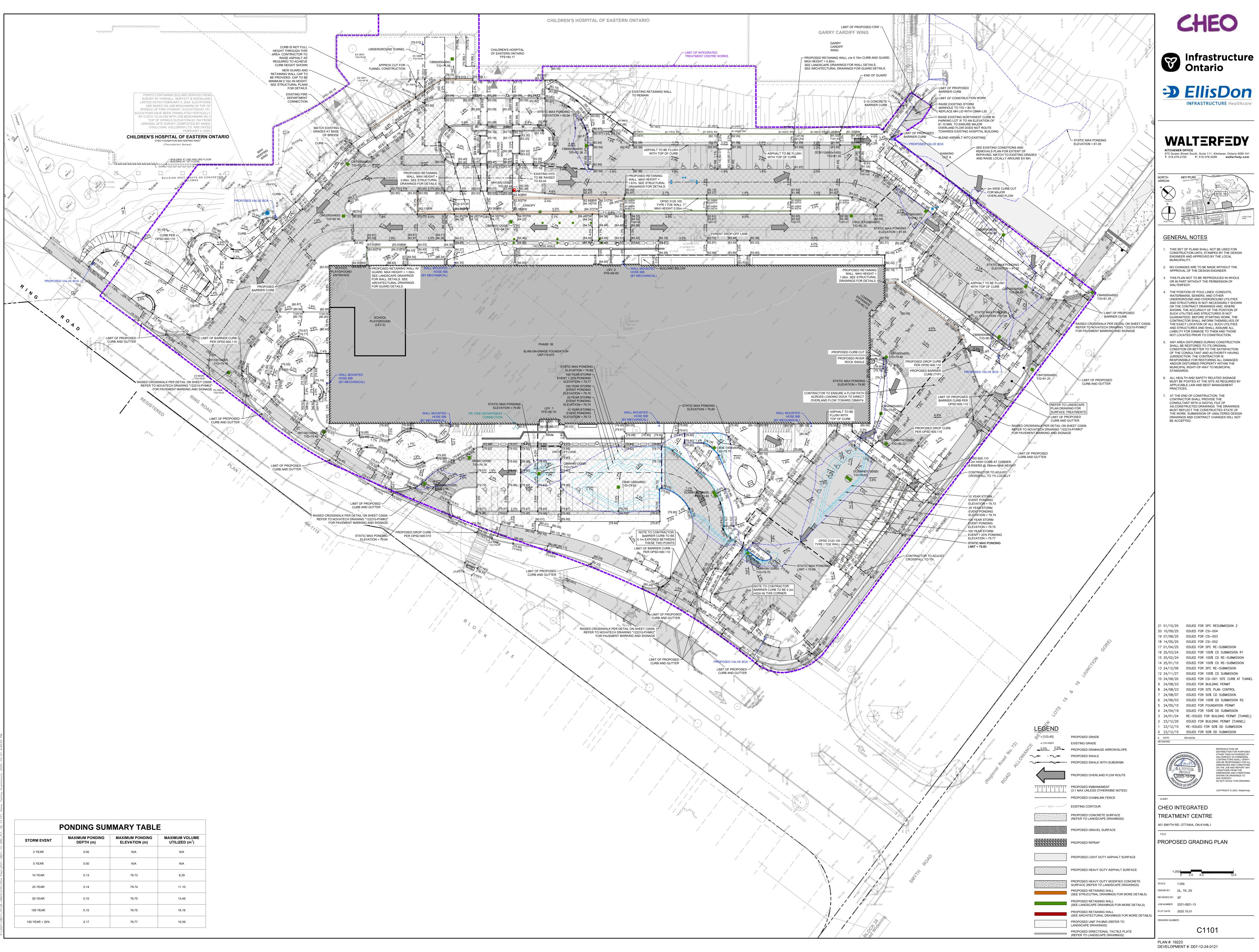






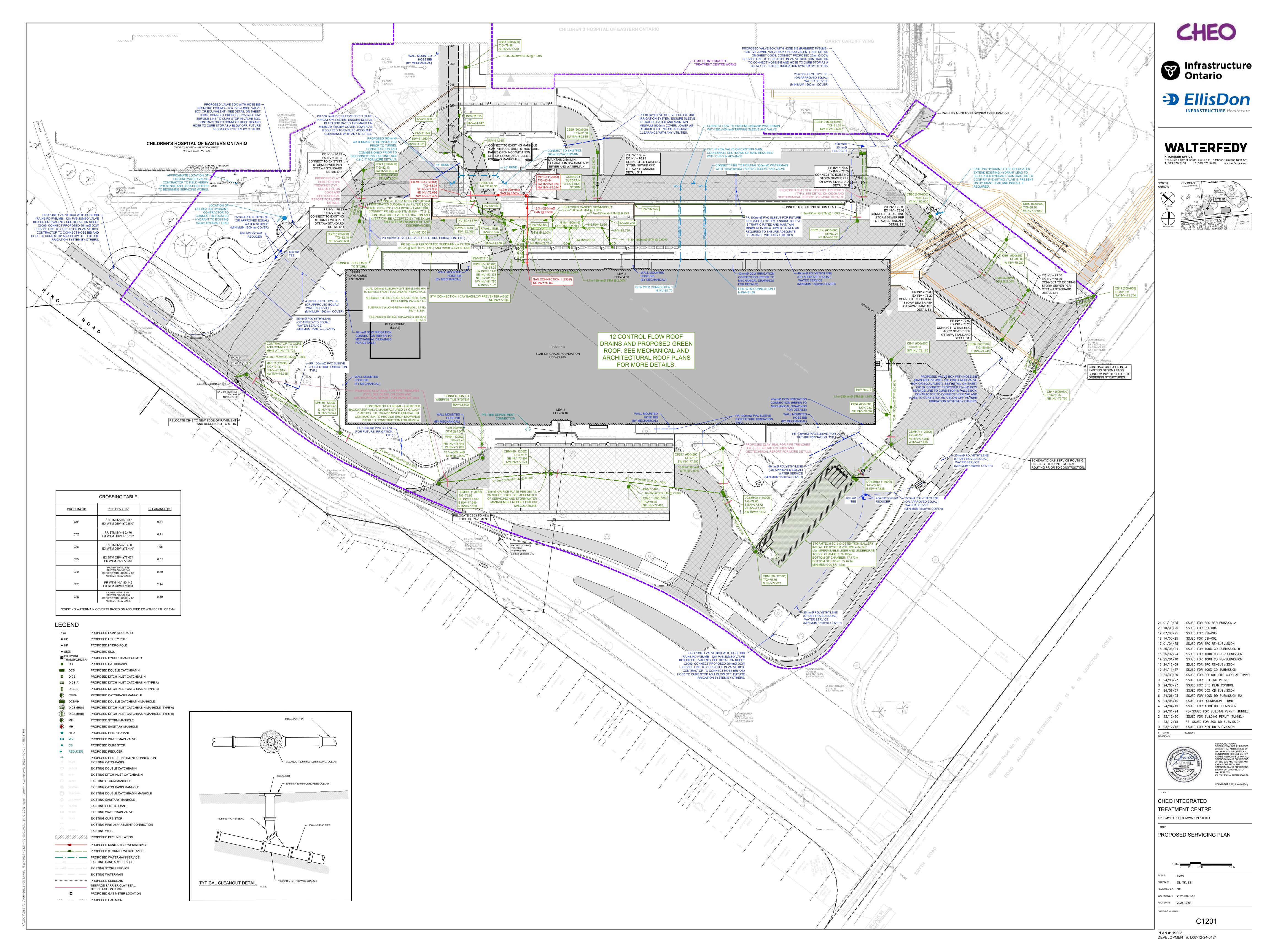
















16 25/03/24 ISSUED FOR 100% CD SUBMISSION R1 15 25/02/24 ISSUED FOR 100% CD RE-SUBMISSION 14 25/01/10 ISSUED FOR 100% CD RE-SUBMISSION 10 24/09/20 ISSUED FOR CSI-001 SITE CURB AT TUNNEL 6 24/06/03 ISSUED FOR 100% DD SUBMISSION R2 3 24/01/24 RE-ISSUED FOR BUILDING PERMIT (TUNNEL) 2 23/12/20 ISSUED FOR BUILDING PERMIT (TUNNEL) 1 23/12/15 RE-ISSUED FOR 50% DD SUBMISSION

