

1Door4Care - CHEO Integrated Treatment Centre: Parking Garage

ISSUED FOR SPC RE-SUBMISSION
2023-09-18

VOLUME 2 - CIVIL





1Door4Care



WALTERFEDY
RITCHENER OFFICE
875 Queen Street South, Suite 111, Kitchener, Ontario N2M 1A1
T: 519.578.2100 F: 519.578.5499 walterfeddy.com



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#	DATE	REVISION
REVISIONS		



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CLIENT
1DOOR4CARE: CHEO INTEGRATED
TREATMENT CENTRE: PARKING GARAGE

401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE
SHEET LIST

SCALE:
DRAWN BY: DR,RS
CHECKED BY: RK
JOB NUMBER: 2021-0821-10
PLOT DATE: 2023-09-20
DRAWING NUMBER:

C0001

PLAN # 18912
DEVELOPMENT # D07-12-22-0170

GENERAL NOTES

- 1. PARKING GARAGE LEGAL BOUNDARY AND TOPOGRAPHICAL INFORMATION FROM SURVEY BY FINNIS, OSULIVAN, VOLLEBECK LTD DATED MAY 7, 2021.
2. IADC LEGAL BOUNDARY AND TOPOGRAPHICAL INFORMATION FROM SURVEY BY FARMALL MOTTAFI & WOODLAND LIMITED DATED SEPTEMBER 17, 2016.
3. PARKING GARAGE GEOTECHNICAL DESIGN REPORT BY THURBER ENGINEERING LTD. DATED AUGUST 27, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR GROUNDWATER SULPHATE ATTACK.
4. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL STAMPED BY THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
5. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.
6. THIS PLAN NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF WALTERFEDY.
7. THE POSITION OF 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, THE CONTRACTOR SHALL INFORM THEMSELVES OF THE EXACT LOCATION AND STRIKES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM AND OTHERS NOT LOCATED PRIOR TO CONSTRUCTION.
8. ANY AREA DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS 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.
9. ALL HEALTH AND SAFETY RELATED SIGNS MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICE.
10. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CONSULTANT WITH A DIGITAL FILE OF AS-CONSTRUCTED DRAWINGS. THE DRAWINGS MUST REFLECT THE CORRECT SUBMISSION OF THE CONTRACTOR. UNLATERED DESIGN DRAWINGS AND CONTRACT CHANGES WILL NOT BE ACCEPTED.

EROSION CONTROL NOTES

- 1. ALL EROSION CONTROL, FENCING, TEMPORARY FILTRATION, AND MUD MATS MUST BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE CONSULTANT PRIOR TO COMMENCEMENT OF ANY AREA GRADING, LOCATING, OR CONSTRUCTION. CONTRACTOR TO NOTIFY CONSULTANT FOR INSPECTION.
2. ATTACH EROSION CONTROL, FENCING TO EXISTING CHAINLINK FENCE WITHIN THE LIMITS OF THE SITE WHERE POSSIBLE.
3. EROSION CONTROL FENCING TO BE PLACED AROUND THE BASE OF ALL STOCKPILES. ALL STOCKPILES TO BE TERRAZED A MINIMUM OF 2.5m FROM PROPERTY LINES.
4. FILTER FABRIC TO BE TERRAZED 2'00" OVER APPROVED ELEVATION.
5. MUD MATS TO BE PROVIDED ON SITE AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES EXIT THE SITE. MATS MUST BE SUPPLIED AS INSTALLED AS PER THE DETAIL ON SHEET C004. CONTRACTOR TO ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MAT AND THAT THE MAT IS MAINTAINED IN A MANNER TO MAINTAIN ITS EFFECTIVENESS AT ALL TIMES.
6. ALL DITCH NEST CATCHBASINS, CATCHBASINS AND CATCHBAIN MANHOLES TO HAVE TEMPORARY FILTRATION INSTALLED AND MAINTAINED AS PER THE DETAIL ON SHEET C004.
7. NO A TERMINATE METHOD OF EROSION CONTROL AND PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY CONSULTANT AND THE AUTHORITY HAVING JURISDICTION.
8. ALL EROSION CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN REHABILITATED EITHER BY PAVING OR RESTORATION WITH VEGETATIVE GROUND COVER.
9. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SEDIMENTS FROM THE PUBLIC ROADWAY AND SIDEWALKS AT THE END OF EACH WORK DAY OR AS DIRECTED BY THE CONSULTANT.
10. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSPECTED BY THE CONTRACTOR AFTER EACH RAINFALL EVENT AND IMMEDIATELY AFTER EACH RAINFALL EVENT AS REQUIRED TO MEET THEIR INTENDED FUNCTION. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MINIMUM OF 10% TO 15% OF THE STRUCTURE CAPACITY.
11. THE CONSULTANT SHALL MONITOR SITE DEVELOPMENT TO ENSURE ALL EROSION CONTROLS ARE INSTALLED AND MAINTAINED TO CITY OF OTTAWA REQUIREMENTS. CONTRACTOR TO COMPLY WITH ALL CITY OF OTTAWA INSTRUCTIONS TO INSTALL, MODIFY, OR MAINTAIN EROSION CONTROL WORKS.
12. THIS PLAN TO BE READ IN CONJUNCTION WITH THE EXISTING CONDITIONS PLAN, SITE SERVICES PLAN, STORM WATER MANAGEMENT PLAN, LANDSCAPING PLAN AND THE STORM WATER MANAGEMENT REPORT DATED AUGUST 2021.

GRADING NOTES

- 1. MATCH EXISTING GRADES AT ALL PROPERTY LINES AND/OR LIMITS OF CONSTRUCTION EXCEPT WHERE PROPOSED GRADES ARE NOTED.
2. MANAGEMENT OF EXCESS MATERIALS SHALL BE IN ACCORDANCE WITH OPSS 186 ENVIRONMENTALLY PROTECTED SOILS, WHERE APPROPRIATE. THE EXCESS MATERIALS ON SITE AS REQUIRED UNTIL SUCH THAT LABORATORY TESTING RESULTS TO HAVE CONFIRMED THE NATURE OF THE EXCESS MATERIALS AND A SUITABLE DISPOSAL METHOD.
3. SURF USE 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 REMOVAL AND DISPOSAL SHALL BE BORNE BY THE CONTRACTOR UNLESS A SPECIFIC PROVISION IS MADE IN THE CONTRACT DOCUMENTS FOR PAYMENT FOR DISPOSAL OF A SPECIFIC SURF USE MATERIAL.
4. MATERIALS TO BE REMOVED SHALL BE NEATLY SAWCUT 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 REQUESTED BY THE CONSULTANT. AS SUCH, THE CONSULTANT SHALL BE RESPONSIBLE FOR 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.
5. ALL FILL PLACED ON SITE SHALL BE COMPACTED TO A MINIMUM 95% SPREAD 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.
6. MAXIMUM SLOPE IN GRASSES ARE TO BE 3:1. SLOPES GREATER THAN 3:1 TO BE LANDSCAPED WITH LOW MAINTENANCE GROUND COVER. MINIMUM SLOPE IN GRASSES ARE TO BE 1:6. SLOPES GREATER THAN 1:6 TO BE LANDSCAPED WITH A FRENCH DRAIN.
7. FINER GRADE AT FOUNDATION WALLS TO BE MINIMUM 150mm BELOW THE TOP OF FOUNDATION WALL BRICK LINE UNLESS SPECIFIED OTHERWISE ON THE CONTRACT DRAWINGS.
8. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE ON ALL SURFACES TO THE APPROPRIATE OUTLET STRUCTURE. AREAS OF PONING CAUSED BY THE CONSTRUCTION ERROR WILL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE.
9. SHOULD THE NATURE OF THE SOIL AT THE DEPTH INDICATED PROVE UNSATISFACTORY AND 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 IS REACHED.
10. THIS CONTRACTOR SHALL BE PAID THE COST OF SUCH EXTRA EXCAVATION AT THE UNIT PRICE ESTIMES SHOWN ON THE CONTRACT DRAWINGS.
11. ALL EXTRA DEPTHS OF EXCAVATION AND FILLING MUST HAVE THEIR AREA AND VOLUME DOCUMENTED BY AN INDEPENDENT INSPECTION AND TESTING COMPANY OR THE CONSULTANT FOR THE CONTRACT PAYMENT.
12. QUANTITIES USED FOR PAYMENT OF EXCAVATION AND FILLING AT EXTRA DEPTHS TO BE DETERMINED BY THE CONSULTANT.

GENERAL SERVICES

- 1. ALL WORK TO BE COMPLETED IN ACCORDANCE WITH THE REGULATIONS SET OUT BY THE MUNICIPALITY HAVING JURISDICTION.
2. RIGID PIPE BEDDING: CLASS 'B' AS PER OPSD 802.030 (EARTH EXCAVATION, TYPE 1 OR 2) OR OPSD 802.031 (EARTH EXCAVATION, TYPE 1, SLOTT), OPSD 802.032 (BIRTH EXCAVATION, TYPE 1 & 2), OPSD 802.033 (EARTH EXCAVATION, TYPE 1 & 2).
3. FLEXIBLE PIPE BEDDING: AS PER OPSD 802.010 (EARTH).
4. GRANULAR FILL: SHALL BE DEPOSITED IN THE TRENCH, FOR THE FULL WIDTH OF THE TRENCH CONTRACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY IN LAYERS NOT OVER 300mm DEPTH EXCEPT WHERE UNDER PAVING, AND WALKS WHEN LAYERS SHALL BE 150mm MAX.
5. SITE SERVICES CONTRACTOR TO TERMINATE ALL SERVICES 1.0m FROM FOUNDATION WALL AND COORDINATE WITH THE GENERAL OR MECHANICAL CONTRACTOR AS REQUIRED TO FACILITATE THE CONNECTION.
6. WHEN BELL AND SPIGOT PIPE IS LAID, THE BELL END OF THE PIPE SHALL BE LAID UPGRADE.
7. PIPE SHALL BE KEPT CLEAN AND DRY AS WORK PROGRESSES. THE TRENCH SHALL BE KEPT DRY.
8. A REMOVABLE WATERIGHT BULKHEAD SHALL BE INSTALLED ONLY 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 BIDDING AND SECURED TO THE SURFACE.
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 LOCATOR MARKER 50x25mm SHALL BE PLACED AT THE END OF ALL CAPPED SERVICE CONNECTIONS. THE MARKER SHALL BE PLACED 200mm ABOVE THE PLUGGED END OF THE SERVICE PIPE, CUT AT LEAST 100mm ABOVE THE FINISHED GRADE AND MARKED WITH BRIGHT PAINT.
12. ALL MANHOLES, BASINS, CHAMBERS ETC. TO BE INSTALLED LEVEL AND PLUM TO THE SATISFACTION OF THE CONSULTANT.

STORM AND SANITARY SEWER

- 1. ALL SEWER MATERIALS TO COMPLY WITH CITY OF OTTAWA MS-215 REQUIREMENTS.
2. THE SITE SERVICES CONTRACTOR SHALL PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. SPECIFICALLY, THE LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 404 AND 407.25 AND IN ACCORDANCE WITH THE PLUMBING CODE. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER. THE CONTRACTOR SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS TO THE CITY OF OTTAWA. CONTRACTOR TO PROVIDE CONSULTANT MANUAL LEAKAGE TEST RESULTS OF SCHEDULING PRIOR TO COMPLETING TESTING ON SITE.
3. POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS: SMOOTH PROFILE, TO OPSD 1841 AND CSA B137.3, WITH SEPARATE GASKETS AND INTEGRAL BELL SYSTEM, 8 INCH NOMINAL LENGTHS AS FOLLOWS:
3.1. 200mm OD AND LARGER: SDR35 PVC WITH 202 kPa STIFFNESS.
3.2. SUBSURFACE DRAINAGE PIPE AND FITTINGS: TO OPSD 400, REFORCED PVC PIPE TO OPSD 1841 OR OPSD 1842 OR POLYPROPYLENE (PP) TO CANADA B137.1, COMPLETE WITH KNOTTED SOCK GEOTEXTILE AS REQUIRED (TERMAFIX 270R OR EQUIVALENT).
3.3. MANHOLES AND CATCHBASIN MANHOLES TO BE PRECAST 1200mm DIAMETER WITH ALUMINUM STEEL AT 300mm SPACING AS PER OPSD 1010 UNLESS SPECIFIED OTHERWISE.
3.4. CATCHBASINS TO BE 800mm SQUARE PRECAST AS PER OPSD 1010.10. DOUBLE CATCHBASINS TO BE 800x1450mm SQUARE PRECAST AS PER OPSD 705.020.
3.5. CATCHBASIN MANHOLES, CATCHBASINS, AND DOUBLE CATCHBASINS TO HAVE A MINIMUM 100mm DEEP SLUMP.
3.6. STORM MANHOLES TO HAVE MINIMUM 200mm DEEP SLUMP.
3.7. MANHOLE AND CATCHBAIN FRAMES, GRATES, CASTINGS, LIDS TO BE AS PER OPSD 1850.
4. CAST IRON FRAMES AND COVERS OR GRATES: STORM SEWERS: TO OPSD 1850 AND OPSD 401.00, OPSD 401.01 (B, OPEN).
4.1. CAST IRON FRAMES AND COVERS OR GRATES - SANITARY SEWERS: TO OPSD 1850, OPSD 401.01 (A, CLOSED).
5. STORM SEWERS AND SERVICES TO HAVE MINIMUM 2.0% COVER TO TOP OF PIPE WHERE COVER TO TOP OF PIPE IS DEFICIENT. CONTRACTOR SHALL INSTALL SHALLOW BURIED SEWER IN ACCORDANCE WITH APPLICABLE SEWER PIPE INSULATION DETAIL INDICATED IN DRAWING DETAILS.
6. SANITARY SEWERS AND SERVICES TO HAVE A MINIMUM 2.0% 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.
7. ALL SANITARY MANHOLES TO BE FINISH BENDED OR BENDED WITH 100% CONCRETE AS PER OPSD 701.02. BENCHING SHALL EXTEND TO THE SPRING LINE OF LARGER PIPE IN THE MANHOLE AND SHALL HAVE A SLOPE OF 1:8.
8. CONTRACTOR TO SUPPLY AND PAY FOR CCTV INSPECTION OF ALL SEWER LINES AND HAVE INSPECTION REPORTS AND VIDEO RECORDINGS.
9. 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 ACCEPTABLE.
10. CCTV INSPECTIONS SHOW ADDITIONAL CLEANING IS REQUIRED, CLEAN AND RE-INSPECT THE SEWER LINES, ACCEPTED BY THE CONSULTANT.
11. A MINIMUM OF ONE (1) AND MAXIMUM OF THREE (3) ADJUSTMENT UNITS TO BE INSTALLED ON EACH STRUCTURE TO A MINIMUM HEIGHT OF 75mm AND MAXIMUM OF 200mm. 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 DERISIL WILL NOT BE PERMITTED FOR USE AS ADJUSTMENT UNITS.
12. ALL SANITARY MANHOLES TO BE FINISH BENDED OR BENDED WITH 100% CONCRETE AS PER OPSD 701.02. BENCHING SHALL EXTEND TO THE SPRING LINE OF LARGER PIPE IN THE MANHOLE AND SHALL HAVE A SLOPE OF 1:8.
13. CONTRACTOR TO SUPPLY AND PAY FOR CCTV INSPECTION OF ALL SEWER LINES AND HAVE INSPECTION REPORTS AND VIDEO RECORDINGS.
14. 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 ACCEPTABLE.
15. CCTV INSPECTIONS SHOW ADDITIONAL CLEANING IS REQUIRED, CLEAN AND RE-INSPECT THE SEWER LINES, ACCEPTED BY THE CONSULTANT.
16. A MINIMUM OF ONE (1) AND MAXIMUM OF THREE (3) ADJUSTMENT UNITS TO BE INSTALLED ON EACH STRUCTURE TO A MINIMUM HEIGHT OF 75mm AND MAXIMUM OF 200mm. 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 DERISIL WILL NOT BE PERMITTED FOR USE AS ADJUSTMENT UNITS.

WATERMANS

- 1. ALL WATERMANS MATERIALS TO COMPLY WITH CITY OF OTTAWA MS-19 IS REQUIREMENTS.
2. POLYVINYL CHLORIDE (PVC) PIPE: MANUFACTURED TO CAST IRON Ø (C/O); COLOUR CODED BLUE, WITH INTEGRAL WALL THICKENED BELL DESIGNED FOR JOINT ASSEMBLY USING AN ELASTOMERIC GASKET CONFORMING TO ASTM D1318 AND CSA B137.3. COMPLETE WITH TRACER WIRE.
2.1. 100 TO 300mm: TO AWMA C900, DR 18, BPEX OR APPROVED EQUAL.
3. MOLECULARLY ORIENTED POLYETHYLENE (PE) PIPE: MANUFACTURED TO CAST IRON Ø (C/O); COLOUR CODED BLUE, BAXIALLY ORIENTED, WITH INTEGRAL WALL THICKENED BELL DESIGNED FOR JOINT ASSEMBLY USING AN ELASTOMERIC GASKET CONFORMING TO ASTM D1318 AND CSA B137.3. COMPLETE WITH TRACER WIRE.
3.1. 100 TO 300mm: TO AWMA C909, PC 1600 kPa, BIONAX OR APPROVED EQUAL.
4. ALL WATER SERVICING TO HAVE MINIMUM 2.0% COVER.
5. ALL WATER SERVICING PROVIDING FIRE FLOWS MUST BE PRESSURE TESTED TO 200 PSI AS PER THE OPC PLUMBING CODE.
6. FITTINGS FOR POLYVINYL CHLORIDE (PVC) AND MOLECULARLY ORIENTED POLYETHYLENE (PE) PIPE SHALL BE EITHER:
6.1. GRAY IRON ACCORDING TO AWMA C110421.10.
6.2. DUCTILE IRON ACCORDING TO C110421.10 OR AWMA C153 AND SHALL BE COMPACTED LINEED ACCORDING TO AWMA C110421.10.
6.3. INJECTION MOLDED POLYVINYL CHLORIDE, BLUE IN COLOUR AND ACCORDING TO AWMA C907 AND CSA B137.2.
6.4. PREFABRICATED POLYVINYL CHLORIDE, BLUE IN COLOUR AND ACCORDING TO AWMA C909 AND CSA B137.3.
7. JOINT RESTRAINTS:
7.1. FOR PVC PIPE AND FITTINGS TO ASTM F1074 AND AWMA C111. SERRATED RING TYPE FOR PUSH ON JOINTS UNIFLANGE (SERIES 1300, 1350 & 1400), EBAA (SERIES 2000), OR UNIFLANGE (SERIES 2000PV), OR UNIFLANGE (SERIES 2000PV), OR UNIFLANGE (SERIES 2000PV), OR UNIFLANGE (SERIES 2000PV).
7.2. FOR PVC PIPE (AWMA C909) AND FITTINGS: SERRATED RING TYPE FOR PUSH ON JOINTS UNIFLANGE (SERIES 1300, EBAA (SERIES 2000), WEDGE ACTION TYPE AS MANUFACTURED BY CLOW (SERIES 2100, 2100P, 2100S, 2100S, 2100S, 2100S).
7.3. ALL MECHANICAL JOINTS IN TEMPORARY AND PERMANENT CONNECTIONS TO INCLUDE MECHANICAL JOINT RESTRAINTS.
7.4. WATERMAN FITTINGS WHICH CHANGE DIRECTION VERTICALLY OR HORIZONTALLY TO BE FULLY RESTRAINED BY MECHANICAL JOINT RESTRAINT OR THRUST BLOCK (OPSD 1103.01 AND 1103.02). THREADED ROD WILL NOT BE PERMITTED.
7.5. WATERMAN FITTINGS TO BE SUPPLIED WITH MECHANICAL JOINT RESTRAINTS FOR WATERMAN PIPE SIZES 150mm OR LESS. ALL PIPE JOINTS TO BE RESTRAINED WITH 50mm FROM ALL FITTINGS IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. FOR WATERMAN PIPE SIZES GREATER THAN 150mm FROM ALL FITTINGS TO BE RESTRAINED WITHIN 10.0m FROM ALL FITTING IN EACH DIRECTION, UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS. ALL TESTS TO HAVE MINIMUM 2.0m SOLID PIPE LENGTH ON EACH END OF THE TEE, OR PROVIDE A THRUST BLOCK PER OPSD 1103.01 AND 1103.02.
8. TRACER WIRE:
8.1. T.W. OR R.W. Ø 10 GAUGE, MIN. 3 STRANDS COPPER WIRE, MIN 60°C OR HIGHER, 600v OR APPROVED EQUIVALENT.
8.2. PVC WATERMAN SHALL HAVE TRACER WIRE STRAPPED TO TOP AT 1.5m INTERVALS. TRACER WIRE SHALL BE BROUGHT TO THE SURFACE AT ALL HYDRAULICS AND CONNECTED TO THE LOWER FLOOR OF THE 5.0m.
8.3. DO NOT CONNECT THE TRACER WIRE ON NON-METALLIC SYSTEMS TO NEW OR EXISTING METALLIC WATERMAN PIPING AND/OR ASSOCIATED FITTINGS.
9. WATERMAN VALVES, 100mm AND LARGER, SHALL BE AS PER AWMA C909-MUELLER (2002) OR APPROVED EQUIVALENT (OPEN LEFT) INCLUDING VALVE BOX AND CATHODIC PROTECTION.
10. HYDRANTS, CONFORM TO AWMA C602 FOR DRY-BARREL HYDRANTS, WITH TWO 25.0mm HOSE NIPPLES (2 IN 1) (SERIES) AND A 1.4 25.0mm FLAMPROOF NOZZLE WITH A 100mm UCL APPROVED STORTZ CONNECTION, 320mm 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.
11. ANCHORS TO BE PROVIDED AS REQUIRED BY THE CITY OF OTTAWA MS-19 IS REQUIREMENTS.
12. CHAMBERS FOR VALVES AND METERS TO BE PROVIDED IN ACCORDANCE WITH OPSD 807 AND 408.
13. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CHAMBER AND METER ASSEMBLY TO THE CONSULTANT FOR REVIEW.
14. COMPLETE WITH FACTORY INSTALLED GALVANIZED OR ALUMINUM MANHOLE LADDER RINGS.
15. PROVIDE AND INSTALL ACCESS HATCH FRAME AND COVERS TO OPSD 402.030, CAST IN PLACE. ACCESS HATCH SHALL BE LOCKABLE.
16. PETROLEUM TAP SYSTEMS: TO BE COMPOSED OF THREE COMPONENTS: PASTE, MASTIC, AND TAPE THAT MEET AWMA C217.01R, SUPPLY END DRINK NORTH AMERICA INC. OR PETRO COATING SYSTEMS LTD. OR RUSTPROL SYSTEMS. INTERMEDIATE COORDINATION COMPANY (T1) ONLY. MATERIAL FROM OTHER SUPPLIERS MUST BE USED, AT NO TIME SHALL MATERIALS FROM EITHER SYSTEM BE UTILISED WITHIN THE SAME SYSTEM.
17. ALL MECHANICAL JOINT RESTRAINTS TO BE WRAPPED WITH APPROVED PETROLEUM TAP SYSTEM.

CONSTRUCTION NOTES

- 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.
2. OBTAIN ALL UTILITY LOCATIONS AND REQUIRED PERMITS AND LICENSES.
3. VERIFY THAT THE FINISHED FLOOR ELEVATIONS AND EXISTING FLOOR ELEVATIONS (WHICH MAY APPEAR ON THIS PLAN) COMPLY WITH THE FINAL ARCHITECTURAL DRAWINGS.
4. CONFIRM ALL DRAWINGS USED FOR CONSTRUCTION ARE OF THE MOST RECENT REVISION.
5. REPORT DISCREPANCIES IN EXISTING CONDITION INFORMATION IMMEDIATELY TO THE CONSULTANT.
6. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR DAMAGE TO EXISTING WORKS. DAMAGE SHALL BE RECTIFIED TO THE SATISFACTION OF THE CONSULTANT AND OWNER.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY SUPPORT AND/OR PROTECTION OF EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL COORDINATE AND COMPLY WITH THE REQUIREMENTS OF ALL UTILITY COMPANIES WHEN CROSSING OR WORKING NEAR THE UTILITIES.
8. 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.
9. 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.
10. 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 CITY OF OTTAWA REQUIREMENTS.
11. ALL WORK ON THE MUNICIPAL RIGHT-OF-WAY WILL BE INSTALLED BY THE SITE CONTRACTOR UPON SUCCESSFUL APPLICATION FOR A WORK PERMIT BY THE CITY OF OTTAWA REQUIREMENTS.
12. LIMIT CONSTRUCTION TO ACCEPTABLE TIMES WITHIN THE CITY OF OTTAWA NOISE REGULATORY CONSTRUCTION HOURS ARE 6AM TO 10PM MONDAY TO SUNDAY WITHOUT EXCEPTION.
13. FOR UNFORESEEN REASONS, THE OWNER AND THEIR REPRESENTATIVE MUST OBTAIN CONSENT 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 THE CITY OF OTTAWA CONSTRUCTION DIVISION PRIOR TO ANY WORKS BEING PERFORMED. FAILURE TO COMPLY WITH THE ABOVE AT THE PROPERTY OWNER'S & CONTRACTOR'S OWN RISK.
14. PEDESTRIANS MUST BE ASSURED SAFE PASSAGE ALONG LONGEST ROAD AT ALL TIMES. ALL PEDESTRIAN WALKWAYS MUST BE MAINTAINED AS LONG AS POSSIBLE AFTER WHICH THEY ARE TO BE TEMPORARILY REPLACED BY A FULL BED OF MORTAR AND MATERIAL TO THE SATISFACTION OF THE CONSULTANT AND/OR CITY OF OTTAWA.
15. ON STREET PARKING WILL NOT BE PERMITTED FOR ANY CONSTRUCTION VEHICLES OR CONSTRUCTION STAFF. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPPORTING FACILITIES ON SITE TO SUIT THE NATURE AND LOCATION OF THE WORK.
16. FOR EMERGENCY RESPONSE, CONTRACTOR MUST MAINTAIN CONSTRUCTION ACCESS FREE AND CLEAR OF DEBRIS, MATERIALS, VEHICLES, AND EQUIPMENT.
17. 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, MARKERS, AND BARRIERS, ALL SIGNS, ETC., SHALL CONFORM TO THE STANDARDS OF THE CITY OF OTTAWA AND THE MUTUAL MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
18. ALL REMOVALS TO BE IN ACCORDANCE WITH OPSD MUNI 310.
19. APPLICABLE MATERIAL TO BE PROVIDED AS PER OPSD 1150 AND INSTALLED AS PER OPSD 310.
20. WHERE NEW ASPHALT ABUTS EXISTING ASPHALT, EXISTING ASPHALT SHALL BE SAW CUT AND HAVE JACK COAT APPLIED AS PER OPSD 310.3. COMPLETE WITH TRACER WIRE BEFORE NEW ASPHALT IS PLACED.
21. 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.
22. CONCRETE SIDEWALK ON THE RIGHT OF WAY IS NOT TO BE REMOVED UNTIL THE CONTRACTOR IS READY TO REPLACE SIDEWALKS.
23. CONCRETE SIDEWALK WITHIN THE RIGHT OF WAY SHALL BE AS PER OPSD 310.05 AND 310.04.
24. CONCRETE BARRIER CURB TO BE AS PER OPSD 600.110, 300PA Ø 30 DAYS CONCRETE TO OPSD 363.741 5% AIR ENTRAINMENT, 100mm MAXIMUM COURSE AGGREGATE, 150mm SLUMP.
25. CONCRETE SIDEWALK TO BE AS PER DETAIL ON THIS SHEET, 300PA Ø 28 DAYS CONCRETE TO OPSD 361.741 5% AIR ENTRAINMENT, 100mm MAXIMUM COURSE AGGREGATE, 150mm SLUMP.
26. UNSHREINFORCED FILL TO OPSD 1309, 28-DAY COMPRESSIVE STRENGTH 0.4 - 0.7 MPa, MAXIMUM 25mm COURSE AGGREGATE SIZE.
27. SUBMIT ONE COPY OF ALL PROPOSED CONCRETE MIX DESIGNS DIRECTLY TO THE CONSULTANT A MINIMUM OF TWO WEEKS IN ADVANCE OF SCHEDULED CONCRETE POURING.
28. ALL GRANULAR BASE, SUBBASE, SURGRADE AND BACKFILL TO BE PROVIDED AS PER OPSD MUNI 1010 AND INSTALLED AS PER OPSD MUNI 310.
29. 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 D688.
30. 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 D688.
31. GRANULAR FILL TO OPSD MUNI 1010.
32. 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 APPROVAL BY THE CONSULTANT. WITHOUT PERMIT, SHOULD THE DEVELOPER OR CONTRACTOR WISH TO PREPARE, THE SITE FOR CONSTRUCTION PRIOR TO OBTAINING PERMIT, AN ADEQUATE COPY OF THE SITE ALTERATION BY-LAW MUST BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEERING AND CONSTRUCTION DIVISION FOR REVIEW AND APPROVAL.
33. 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% SPREAD AT ALL DEPTHS.
34. RETAINING WALLS TO BE DESIGNED BY OTHERS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL RETAINING WALLS, SECTIONS AND DETAILS 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 WORK.
35. PAVEMENT MARKING & SIGNS:
36. 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 BRIGHT WITH SHARP EDGES TO THE SATISFACTION OF THE CONSULTANT.
37. PAVEMENT MARKINGS TO BE:
2.1. THERMOPLASTIC PAVEMENT MARKING MATERIAL TO CONFORM TO OPSD 1173 AND APPLIED AS PER OPSD 710.
2.1.1. WHITE - C058 - 16V-12C WHITE 513-301.
2.1.2. YELLOW - MATCH SHALL EITHER THE YELLOW COLOUR CHIP OF THE MINISTRY OF TRANSPORTATION ONTARIO OR U.S. FEDERAL 3059, YELLOW 30358.
38. ALL EXISTING SIGNS, MAIL BOXES, POSTS, ETC., WHICH MUST BE REMOVED TO ACCOMMODATE CONSTRUCTION SHALL BE NEATLY WALKED AND REINSTATED AS DIRECTED BY THE CONTRACT ADMINISTRATOR. ALL EXISTING SIGN FACILITIES, THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE SUBJECT TO SUCH FACILITIES. HIS OWN EXPENSE. ALL EXISTING TRAFFIC CONTROL SIGNS MUST BE REINSTATED TO THE ORIGINAL LOCATION AND OPERATIONAL CONDITION. ALL EXISTING TRAFFIC CONTROL SIGNS MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION TO THE SATISFACTION OF THE ROAD AUTHORITY AND THE CONTRACT ADMINISTRATOR.

PAVEMENT MARKING & SIGNS

- 1. THERMOPLASTIC PAVEMENT MARKING MATERIAL TO CONFORM TO OPSD 1173 AND APPLIED AS PER OPSD 710.
2.1. WHITE - C058 - 16V-12C WHITE 513-301.
2.1.2. YELLOW - MATCH SHALL EITHER THE YELLOW COLOUR CHIP OF THE MINISTRY OF TRANSPORTATION ONTARIO OR U.S. FEDERAL 3059, YELLOW 30358.
3. ALL EXISTING SIGNS, MAIL BOXES, POSTS, ETC., WHICH MUST BE REMOVED TO ACCOMMODATE CONSTRUCTION SHALL BE NEATLY WALKED AND REINSTATED AS DIRECTED BY THE CONTRACT ADMINISTRATOR. ALL EXISTING SIGN FACILITIES, THE CONTRACTOR SHALL MAKE GOOD ANY DAMAGE SUBJECT TO SUCH FACILITIES. HIS OWN EXPENSE. ALL EXISTING TRAFFIC CONTROL SIGNS MUST BE REINSTATED TO THE ORIGINAL LOCATION AND OPERATIONAL CONDITION. ALL EXISTING TRAFFIC CONTROL SIGNS MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION TO THE SATISFACTION OF THE ROAD AUTHORITY AND THE CONTRACT ADMINISTRATOR.

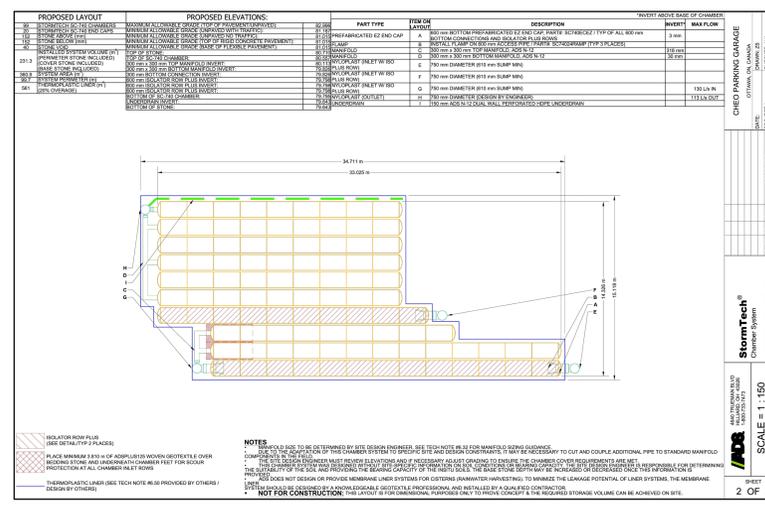
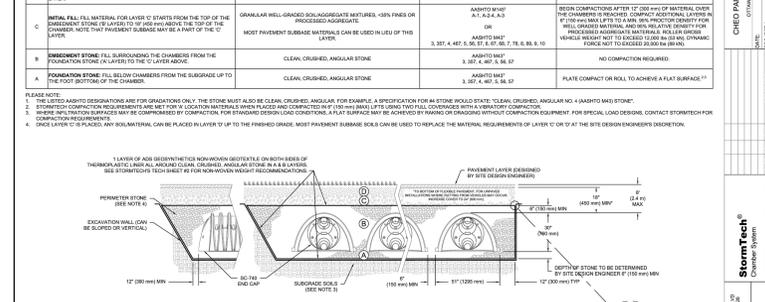


Table with columns: PROPOSED LAYOUT, PROPOSED ELEVATIONS, PART TYPE, and FINISH. Lists various materials and their specifications.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS. Table with columns: MATERIAL LOCATION, DESCRIPTION, ASPH/ST MATERIAL CLASSIFICATION, and COMPACTION / DENSITY REQUIREMENT.



SC-740 TECHNICAL SPECIFICATION

Table with columns: PART #, STUB, A, B, C. Lists technical specifications for different parts of the chamber system.

INSPECTION & MAINTENANCE

- STEP 1: INSPECT ISOLATOR ROW PLUS FOR BEDDING.
A.1. REMOVE OPEN END ON 200mm PILE BENEATH.
A.2. REMOVE OPEN END ON 200mm PILE BENEATH.
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A.100. REMOVE OPEN END ON 200mm PILE BENEATH.

NOTES

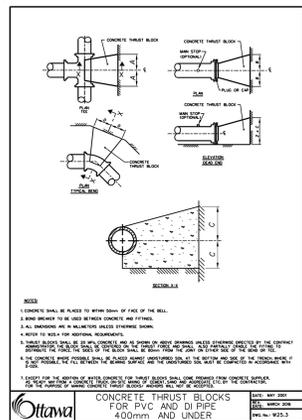
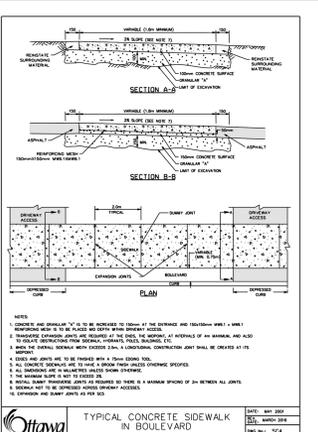
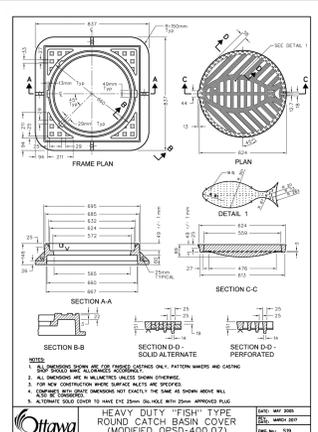
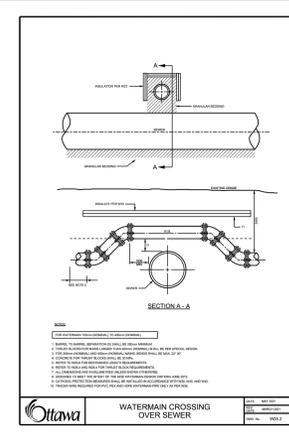
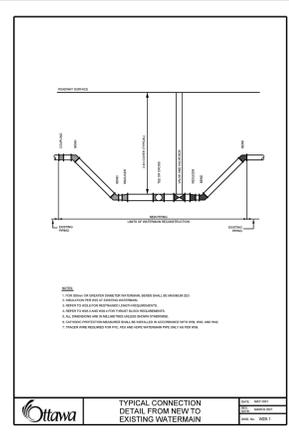
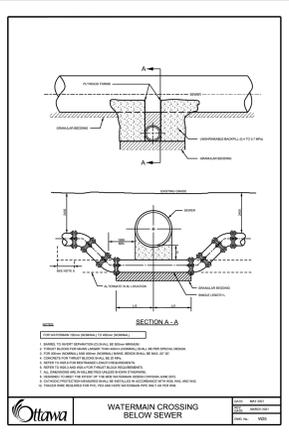
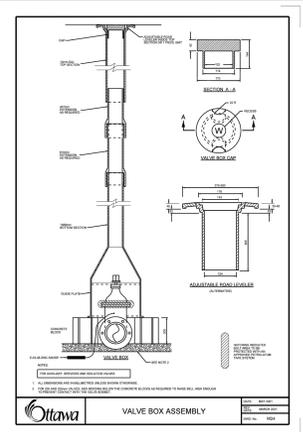
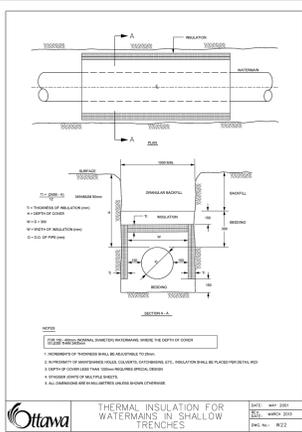
- 1. CHAMBER SHALL MEET THE REQUIREMENTS OF ASTM F1917. STANDARD SPECIFICATION FOR POLYPROPYLENE PIPE COLLECTOR WALL STORMWATER COLLECTION CHAMBER.
2. SC-740 CHAMBER SHALL BE DESIGNED ACCORDANCE WITH ASTM F1917 STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC COLLECTOR WALL STORMWATER COLLECTION CHAMBER.
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ADDRESSING THE BEARING RESISTANCE (INCLUDING BEARING CAPACITY OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF APPLICABLE MOISTURE CONTENTS AND DRY DENSITIES.
4. FINESTRENGTH STONE SHALL BE DEFINED INDICATIVELY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND HORIZONTAL EXCAVATION WALLS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY UNDERDRAIN LAYER.
6. TO INSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 75mm.
7. TO INSURE THE INTEGRITY OF THE JOINT DURING INSTALLATION, ALL THE JOINTS MUST BE PROTECTED BY A 100mm THICK LAYER OF GRANULAR FILL.
8. TO INSURE THE INTEGRITY OF THE JOINT DURING INSTALLATION, ALL THE JOINTS MUST BE PROTECTED BY A 100mm THICK LAYER OF GRANULAR FILL.
9. TO INSURE THE INTEGRITY OF THE JOINT DURING INSTALLATION, ALL THE JOINTS MUST BE PROTECTED BY A 100mm THICK LAYER OF GRANULAR FILL.

UNDERDRAIN DETAIL



SC-740 ISOLATOR ROW PLUS DETAIL





Thrust Block Dimension Tables for PVC and DI Pipe 400mm and Under

1. SOIL DESCRIPTION: VERY FINE SAND, SANDY CLAY, CLAY. SOIL WITH TYPICAL BEARING CAPACITY OF 90 TO 150 kPa (DIMENSIONS NOTED ON TABLE)

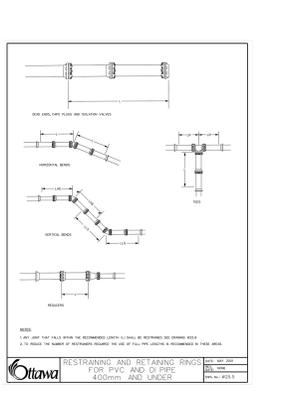
PIPE SIZE (mm)	150	200	250	300	350	400
LENGTH (mm)	150	200	250	300	350	400
WIDTH (mm)	150	200	250	300	350	400

2. SOIL DESCRIPTION: FINE TO MEDIUM SAND, OR CLAY SAND GRAVEL. SOIL WITH TYPICAL BEARING CAPACITY OF 150 TO 250 kPa (DIMENSIONS NOTED ON TABLE)

PIPE SIZE (mm)	150	200	250	300	350	400
LENGTH (mm)	150	200	250	300	350	400
WIDTH (mm)	150	200	250	300	350	400

3. SOIL DESCRIPTION: SAND, GRAVELS AND GRAVEL SAND MATERIALS. SOIL WITH TYPICAL BEARING CAPACITY OF 250 kPa AND OVER (DIMENSIONS NOTED ON TABLE)

PIPE SIZE (mm)	150	200	250	300	350	400
LENGTH (mm)	150	200	250	300	350	400
WIDTH (mm)	150	200	250	300	350	400



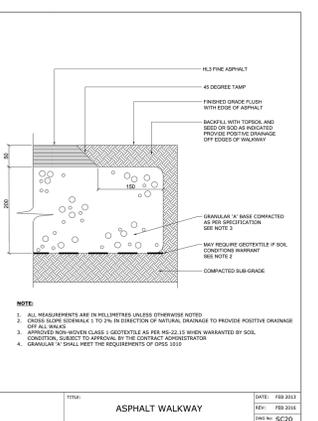
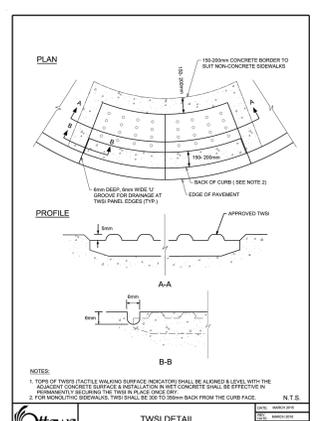
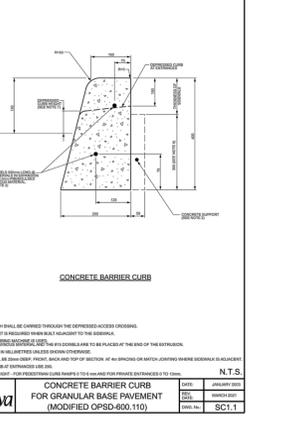
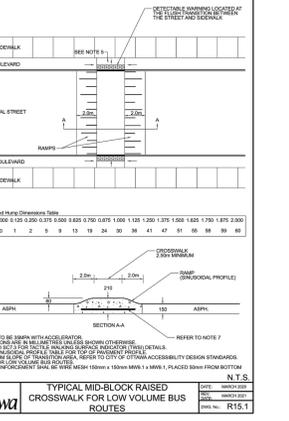
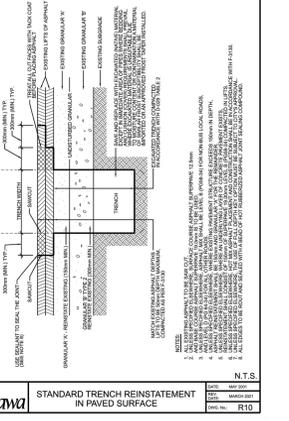
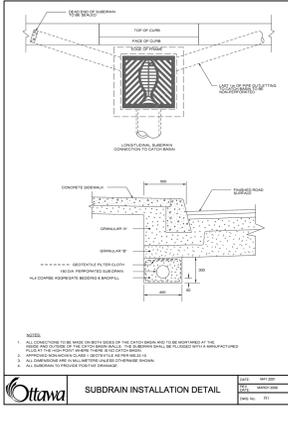
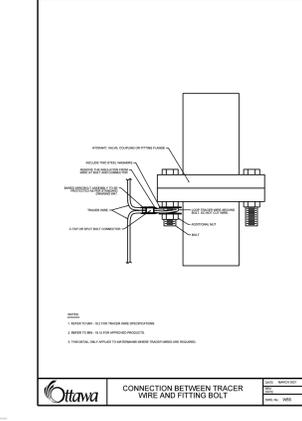
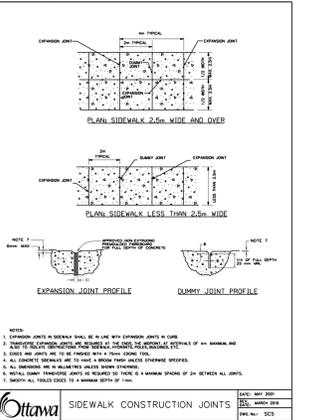
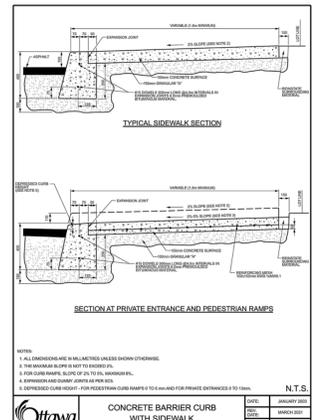
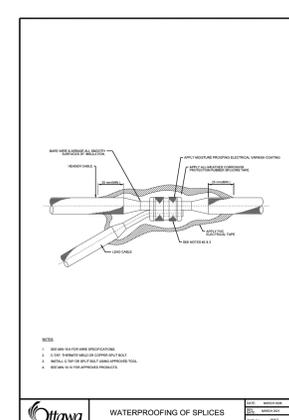
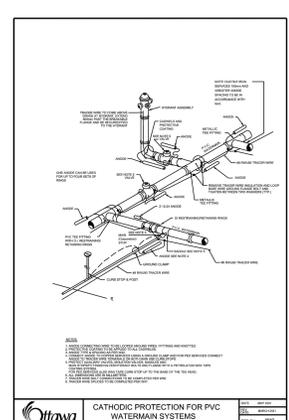
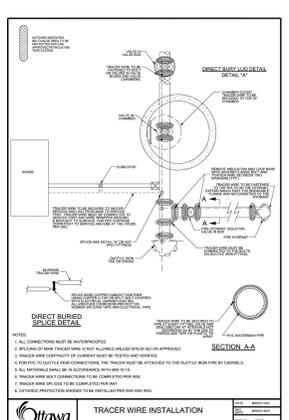
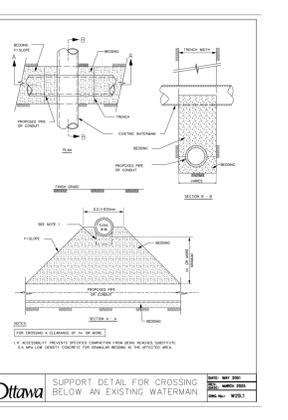
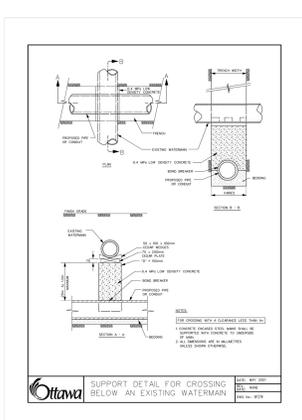
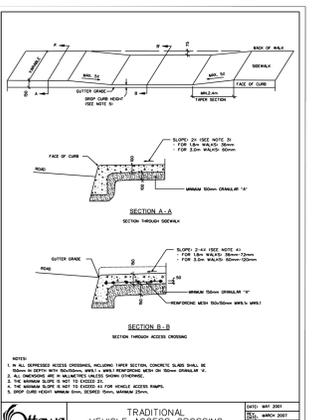
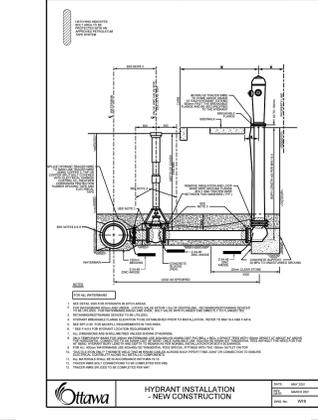
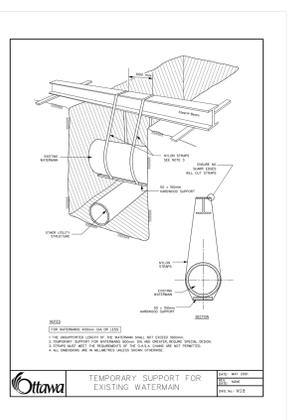
Tables of Restrained Lengths for PVC and DI Pipe 400mm and Under

TABLE OF RESTRAINED LENGTHS FOR PVC AND DI PIPE WATERMAIN ON STANDARD GRANULAR BASEMENT IN SOIL OF BEARING CAPACITY OF 90 kPa AND OVER

PIPE SIZE (mm)	150	200	250	300	350	400
RESTRAINED LENGTH (mm)	150	200	250	300	350	400

TABLE OF RESTRAINED LENGTHS FOR PVC AND DI PIPE WATERMAIN ON STANDARD GRANULAR BASEMENT IN SOIL OF BEARING CAPACITY OF 150 kPa AND OVER

PIPE SIZE (mm)	150	200	250	300	350	400
RESTRAINED LENGTH (mm)	150	200	250	300	350	400

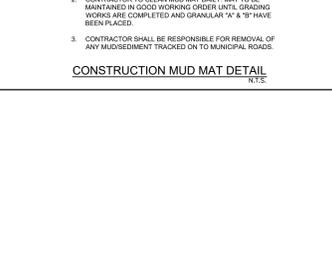
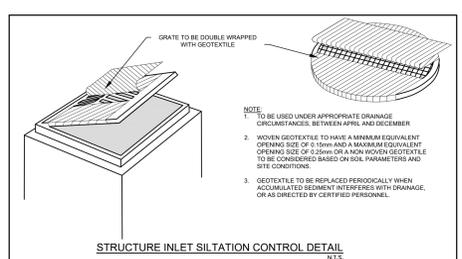
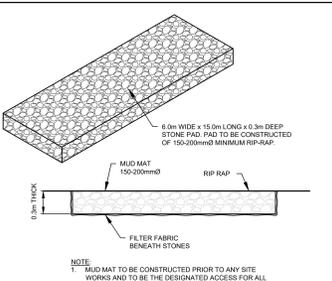
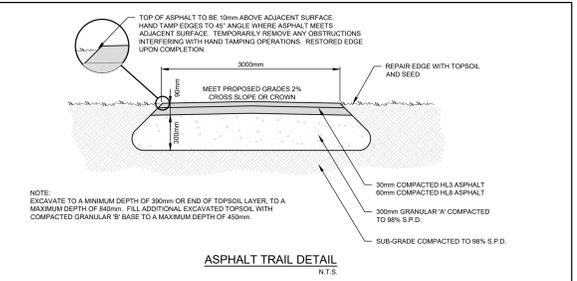
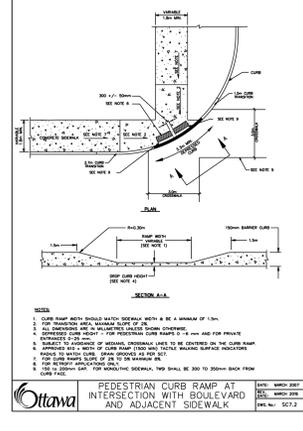
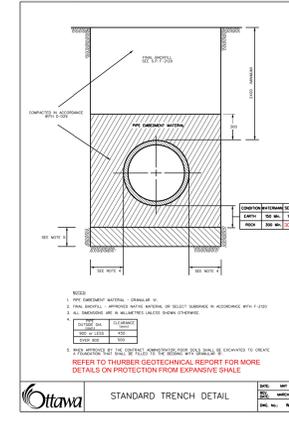
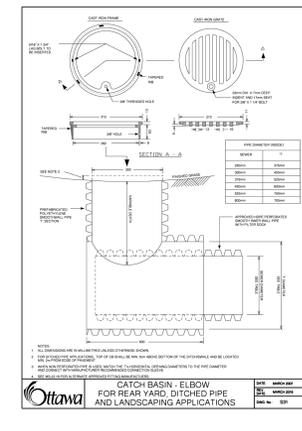
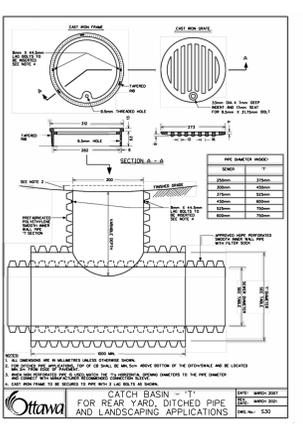
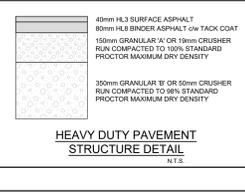
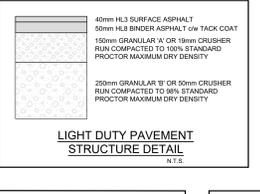
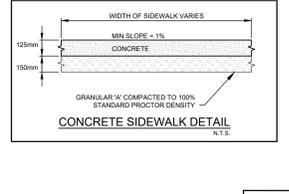
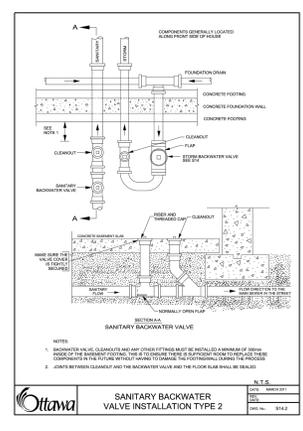
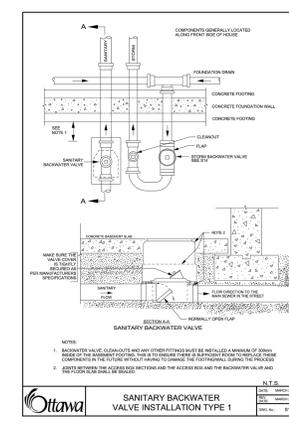
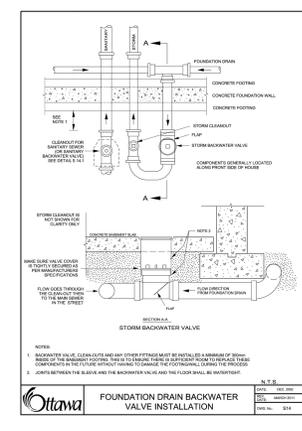
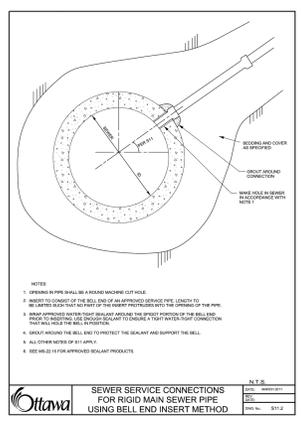
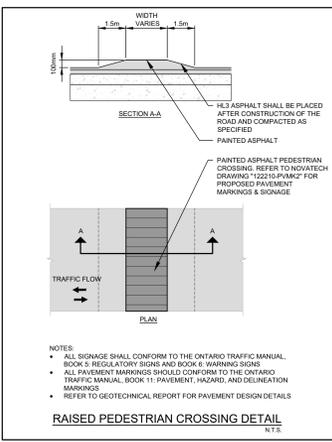
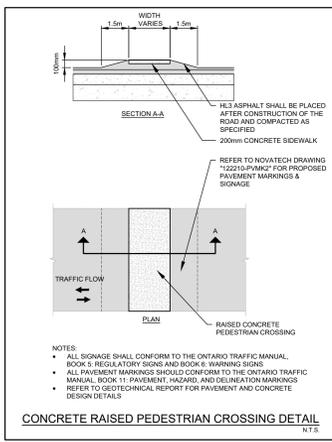
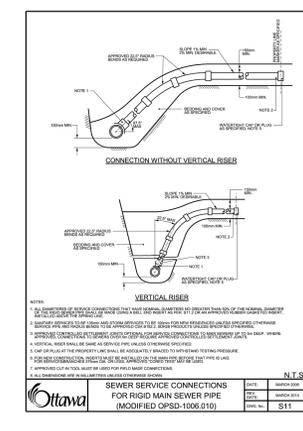
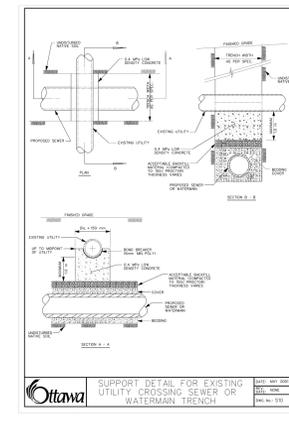
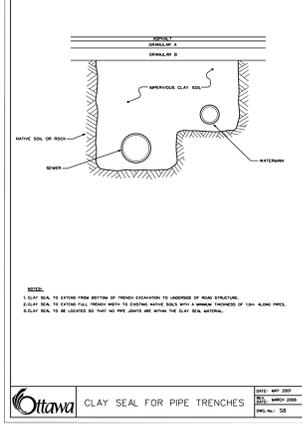
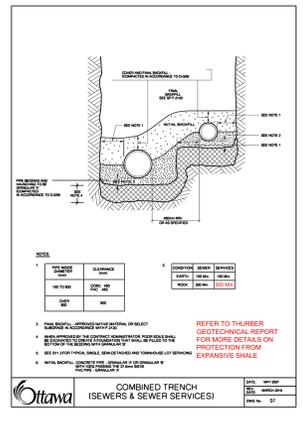
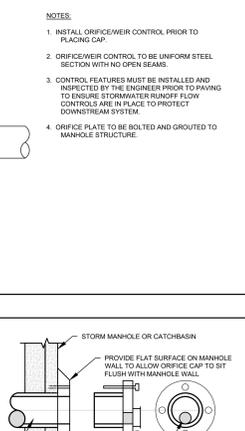
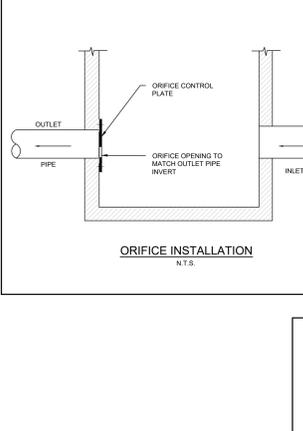
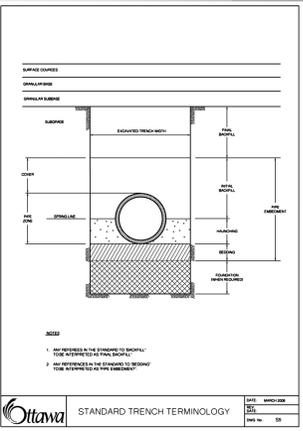
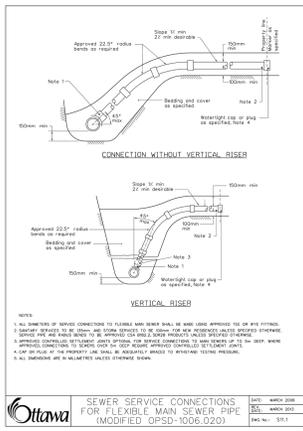
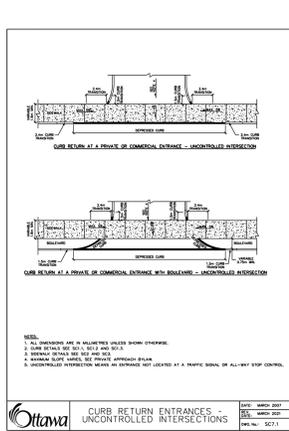
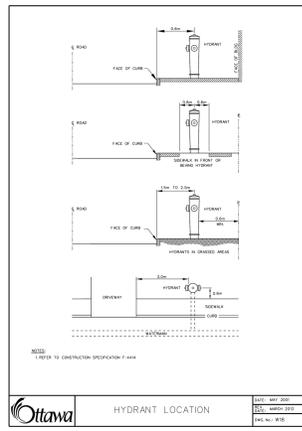
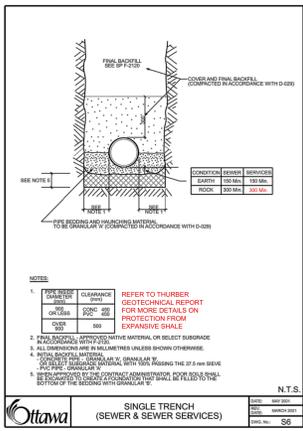


4 2023-09-18 ISSUED FOR SPC RE-SUBMISSION
 3 2023-08-31 ISSUED FOR 100% DD SUBMISSION
 2 2023-08-16 ISSUED FOR SPC SUBMISSION
 1 2023-07-31 ISSUED FOR 50% DD SUBMISSION
 0 2023-04-20 ISSUED FOR TECHNICAL SUBMISSION

DATE: REVISION

APPROVED: [Signature]

DATE: FEB 2023
 DATE: FEB 2023
 DATE: FEB 2023



NO.	DATE	REVISION
4	2023-09-18	ISSUED FOR SPC RE-SUBMISSION
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0	2023-04-20	ISSUED FOR TECHNICAL SUBMISSION

DATE: 2023-09-18
REVISION: 01

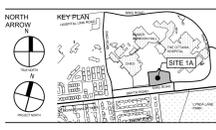
APPROVED: [Signature]
DATE: 2023-09-18
PROFESOR OF ENGINEERING

CLIENT: 1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: PARKING GARAGE
401 SMYTH RD, OTTAWA, ON K1M1R1

TITLE: TYPICAL DETAILS AND NOTES PLAN (SHEET 3 OF 3)

SCALE: AS NOTED
DRAWN BY: DR/RS
REVIEWED BY: RK
JOB NUMBER: 2021-0821-10
PLOT DATE: 2023-09-20
DRAWING NUMBER: C0004

PLAN # 18912
DEVELOPMENT # D07-12-22-0170



GENERAL NOTES

1. PARKING GARAGE GEOTECHNICAL DESIGN REPORT BY THEBRES ENGINEERING LTD. DATED AUGUST 21, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR MODERATE SULPHATE ATTACK.
2. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNLESS STAMPED BY THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
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DATE	REVISION
2023-09-18	ISSUED FOR SPC RE-SUBMISSION
2023-08-31	ISSUED FOR 100% DD SUBMISSION
2023-08-14	ISSUED FOR SPC SUBMISSION
2023-07-31	ISSUED FOR 50% DD SUBMISSION
2023-04-20	ISSUED FOR TECHNICAL SUBMISSION



CLIENT
1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: PARKING GARAGE
401 SMYTH RD, OTTAWA, ON K1M8L1

TITLE
EXISTING CONDITIONS AND REMOVALS PLAN - PARKING GARAGE

SCALE: 1:250
DRAWN BY: DR,RS
REVIEWED BY: RK
JOB NUMBER: 2021-021-10
PLOT DATE: 2023.09.20
DRAWING NUMBER: CP0501



LEGEND

---	PROPERTY LINE	---	EXISTING GASMAIN
---	LOT LINE	---	EXISTING OVERHEAD HYDRO LINE
---	LEGAL EASEMENT	---	EXISTING UNDERGROUND HYDRO LINE
---	BUILDING SETBACK	---	EXISTING BELL LINE
---	IRON BAR	---	EXISTING CABLE LINE
---	IRON PIPE	---	EXISTING COMMUNICATION LINE
---	STANDARD IRON BAR	---	EXISTING FIBER OPTIC LINE
---	ROUND IRON BAR	---	EXISTING SLY FENCE
---	SHORT STANDARD IRON BAR	---	EXISTING DITCH CENTRELINE
---	CUT CROSS	---	EXISTING CHAINLINK FENCE
---	TEMPORARY BENCHMARK	---	EXISTING BOARD FENCE
---	EXISTING LAMP STANDARD	---	EXISTING GUARDRAIL
---	EXISTING UTILITY POLE	---	EXISTING CURB AND GUTTER
---	EXISTING HYDRO POLE	---	EXISTING CURB AND GUTTER WITH DROP CURB
---	EXISTING GUY WIRE	---	EXISTING GRAVEL
---	EXISTING SIGN	---	EXISTING SWAMP SYMBOL
---	EXISTING BELL MANHOLE	---	EXISTING EDGE OF WATER
---	EXISTING BELL PEDESTAL	---	REMOVALS
---	EXISTING HYDRO TRANSFORMER	---	EXISTING BOREHOLE LOCATION
---	EXISTING GAS VALVE	---	EXISTING TEST PIT LOCATION
---	EXISTING CATCHBASIN	---	EXISTING PEG/DIAPHRAGM LOCATION
---	EXISTING DOUBLE CATCHBASIN	---	EXISTING GATE
---	EXISTING DITCH INLET CATCHBASIN	---	EXISTING SPOT ELEVATION
---	EXISTING STORM MANHOLE	---	EXISTING MAJOR CONTOUR
---	EXISTING CATCHBASIN MANHOLE	---	EXISTING MINOR CONTOUR
---	EXISTING DOUBLE CATCHBASIN MANHOLE	---	EXISTING EMBANKMENT
---	EXISTING SANITARY MANHOLE	---	EXISTING VEGETATION
---	EXISTING FIRE HYDRANT	---	EXISTING DECIDUOUS TREE
---	EXISTING WATERMAIN VALVE	---	EXISTING CONIFEROUS TREE
---	EXISTING CURB STOP	---	EXISTING TREE DRIPLENE AND/OR VEGETATION LINE
---	EXISTING FIRE DEPARTMENT CONNECTION	---	
---	EXISTING WELL	---	
---	EXISTING SANITARY SERVICE	---	
---	EXISTING STORM SERVICE	---	
---	EXISTING WATERMAIN	---	



GENERAL NOTES

1. PARKING GARAGE GEOTECHNICAL DESIGN REPORT BY THURBER ENGINEERING LTD. DATED AUGUST 21, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR MODERATE SILL PILE ATTACK.
2. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNLESS STAMPED BY THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
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- 4 2023-09-18 ISSUED FOR SPC RE-SUBMISSION
- 3 2023-08-21 ISSUED FOR 100% DD SUBMISSION
- 2 2023-08-16 ISSUED FOR SPC SUBMISSION
- 1 2023-07-31 ISSUED FOR 50% DD SUBMISSION
- 0 2023-04-20 ISSUED FOR TECHNICAL SUBMISSION

#	DATE	REVISION
1		



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CLIENT: 1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: PARKING GARAGE

401 SMYTH RD, OTTAWA, ON K1H8L1

TITLE: EROSION AND SEDIMENT CONTROL - PARKING GARAGE

SCALE: 1:250

DRAWN BY: DR,RSB
REVIEWED BY: RK
JOB NUMBER: 2021-0821-10
PLOT DATE: 2023.09.21
DRAWING NUMBER: CP0601

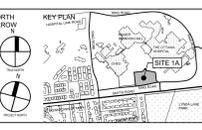
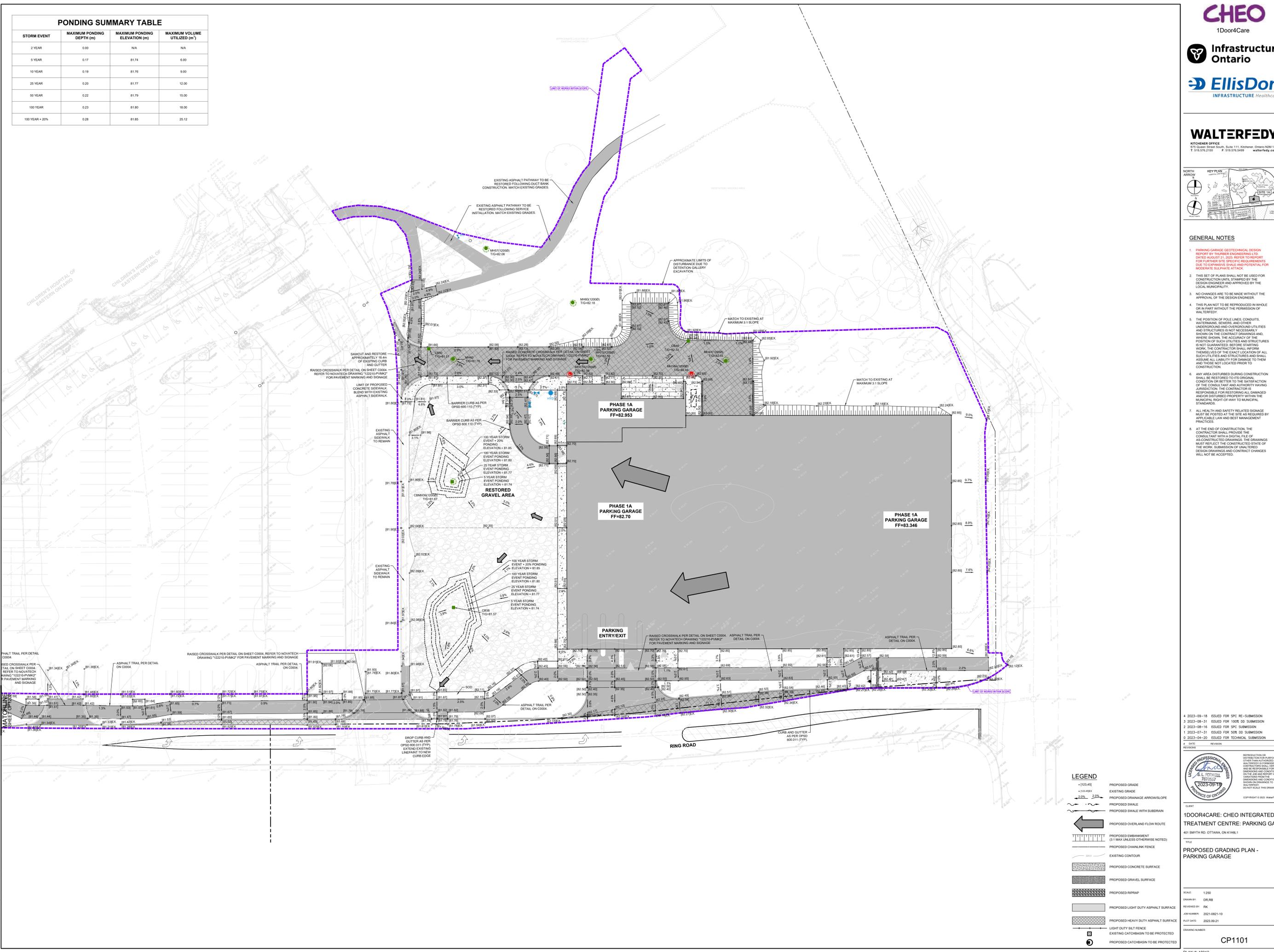
PLAN # 18912 DEVELOPMENT # D07-12-22-0170



LEGEND

- HEAVY DUTY SILT FENCE
- LIGHT DUTY SILT FENCE
- CONSTRUCTION FENCING
- HAY BALES/ CORR LOGS
- TEMPORARY INTERCEPTOR SWALE
- EXISTING CATCHBASIN TO BE PROTECTED
- PROPOSED CATCHBASIN TO BE PROTECTED
- EXISTING CONTOUR
- PROPOSED OVERLAND FLOW ROUTE

PONDING SUMMARY TABLE			
STORM EVENT	MAXIMUM PONDING DEPTH (m)	MAXIMUM PONDING ELEVATION (m)	MAXIMUM VOLUME UTILIZED (m ³)
2 YEAR	0.00	N/A	N/A
5 YEAR	0.17	81.74	6.00
10 YEAR	0.19	81.76	9.00
25 YEAR	0.20	81.77	12.00
50 YEAR	0.22	81.79	15.00
100 YEAR	0.23	81.80	18.00
100 YEAR + 20%	0.28	81.85	25.12



GENERAL NOTES

1. PARKING GARAGE GEOTECHNICAL DESIGN REPORT BY THARDES ENGINEERING LTD. DATED AUGUST 21, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR MODERATE SUE PHASE ATTACK.
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- 3 2023-08-31 ISSUED FOR 100% DD SUBMISSION
- 2 2023-07-04 ISSUED FOR SPC SUBMISSION
- 1 2023-07-31 ISSUED FOR 50% DD SUBMISSION
- 0 2023-04-20 ISSUED FOR TECHNICAL SUBMISSION



CLIENT
1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: PARKING GARAGE
401 SMYTH RD, OTTAWA, ON K1H8L1

TITLE
PROPOSED GRADING PLAN - PARKING GARAGE

SCALE: 1:250
DRAWN BY: DR/RS
REVIEWED BY: RK
JOB NUMBER: 2021-0821-10
PLOT DATE: 2023.09.21
DRAWING NUMBER

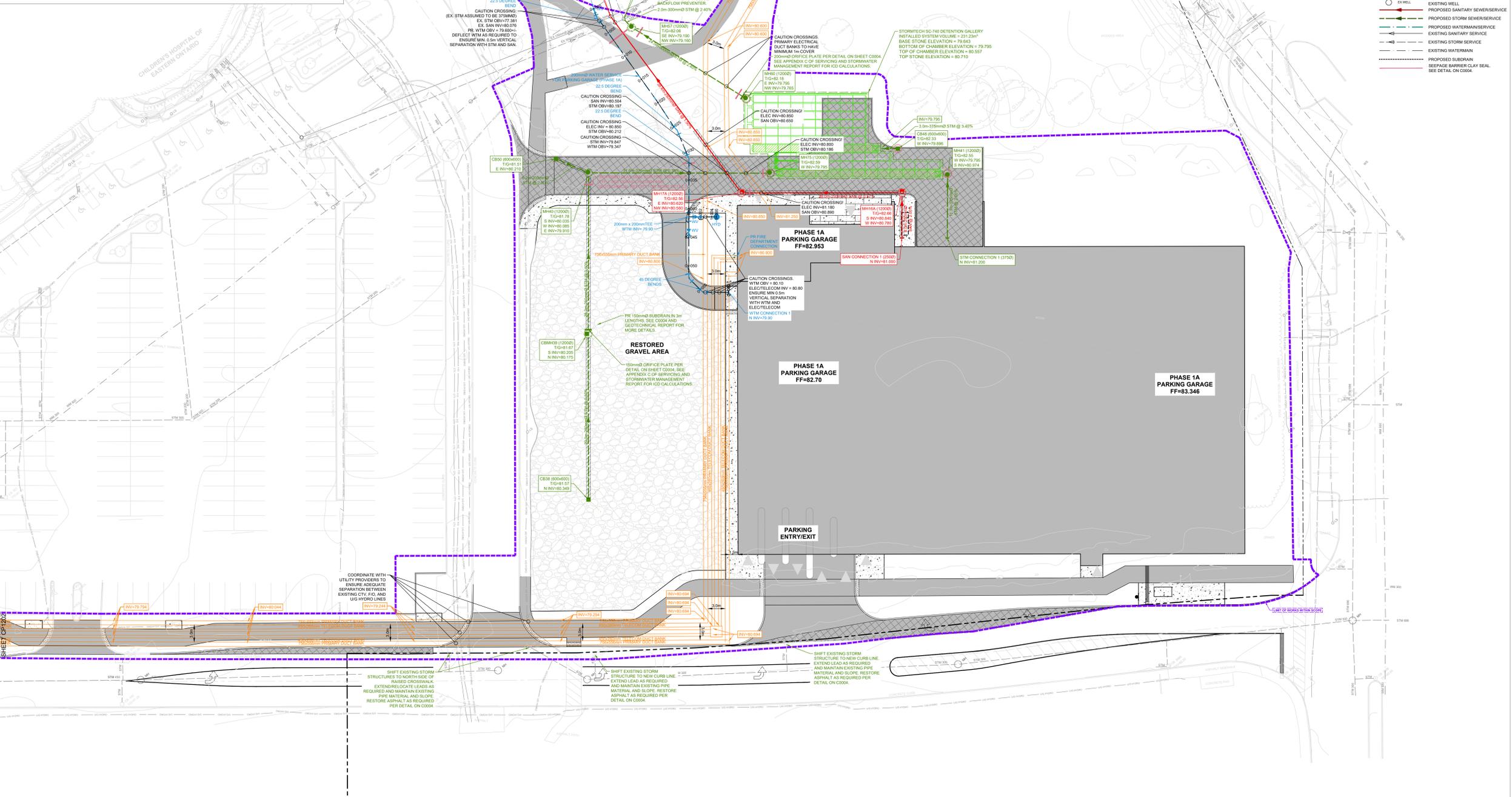
CP1101
PLAN # 18912
DEVELOPMENT # D07-12-22-0170

LEGEND

- +112.48 PROPOSED GRADE
- +102.48EX EXISTING GRADE
- 2.0% PROPOSED DRAINAGE SLOPE
- PROPOSED SWALE
- PROPOSED SWALE WITH SUBDRAIN
- PROPOSED OVERLAND FLOW ROUTE
- PROPOSED EMBANKMENT (5:1 MAX UNLESS OTHERWISE NOTED)
- PROPOSED CHAINLINK FENCE
- 30.0 EXISTING CONTOUR
- PROPOSED CONCRETE SURFACE
- PROPOSED GRAVEL SURFACE
- PROPOSED RIPRAP
- PROPOSED LIGHT DUTY ASPHALT SURFACE
- PROPOSED HEAVY DUTY ASPHALT SURFACE
- LIGHT DUTY SILT FENCE
- EXISTING CATCHBASIN TO BE PROTECTED
- PROPOSED CATCHBASIN TO BE PROTECTED

WATERMAIN SUMMARY TABLE				
DESCRIPTION	CHAINAGE (m)	OBVERT ELEVATION (m)	FINISHED GRADE (m)	DEPTH OF COVER (m)
MAIN SERVICE LINE				
CONNECTION TO EXISTING	0+000.00	MATCH TO EXISTING	82.10	2.40
WATER VALVE #1	0+000.49	79.60	82.09	2.49
22.5 DEGREE BEND #1	0+002.00	79.60	82.07	2.47
22.5 DEGREE BEND #2	0+025.84	79.60	82.62	3.02
22.5 DEGREE BEND #3	0+031.29	79.35	82.22	2.87
200mmx200mm TEE	0+041.441+100.00m	80.10	82.52	2.42
WATER VALVE #2	0+044.19	80.10	82.54	2.44
45 DEGREE BEND #1	0+052.15	80.10	82.50	2.40
45 DEGREE BEND #2	0+055.55	80.10	82.54	2.44
CAP AT PROPOSED BUILDING CONNECTION (1.5m OFF BUILDING FACE)	0+060.06	80.10	82.67	2.57
HYDRANT LEAD				
WATER VALVE #3	1+001.60m	80.10	82.58	2.48
PROPOSED FIRE HYDRANT	1+008.83m	80.10	82.66	2.56

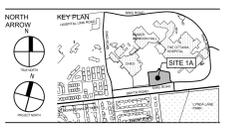
* THERMAL INSULATION SHALL BE INSTALLED WHERE MINIMUM COVER OF 2.4m CANNOT BE ACHIEVED AS PER CITY STANDARDS W1, W2, AND W3



- ### LEGEND
- PROPOSED LAMP STANDARD
 - PROPOSED UTILITY POLE
 - PROPOSED HYDRO POLE
 - PROPOSED SIGN
 - PROPOSED HYDRO TRANSFORMER
 - PROPOSED CATCHBASIN
 - PROPOSED DOUBLE CATCHBASIN
 - PROPOSED DITCH INLET CATCHBASIN
 - PROPOSED DITCH INLET CATCHBASIN (TYPE A)
 - PROPOSED DITCH INLET CATCHBASIN (TYPE B)
 - PROPOSED CATCHBASIN MANHOLE
 - PROPOSED DOUBLE CATCHBASIN MANHOLE
 - PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE A)
 - PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE B)
 - PROPOSED STORM MANHOLE
 - PROPOSED SANITARY MANHOLE
 - PROPOSED FIRE HYDRANT
 - PROPOSED WATERMAIN VALVE
 - PROPOSED CURB STOP
 - PROPOSED REDUCER
 - PROPOSED FIRE DEPARTMENT CONNECTION
 - EXISTING CATCHBASIN
 - EXISTING DOUBLE CATCHBASIN
 - EXISTING DITCH INLET CATCHBASIN
 - EXISTING STORM MANHOLE
 - EXISTING CATCHBASIN MANHOLE
 - EXISTING DOUBLE CATCHBASIN MANHOLE
 - EXISTING SANITARY MANHOLE
 - EXISTING FIRE HYDRANT
 - EXISTING CURB STOP
 - EXISTING WATERMAIN VALVE
 - EXISTING FIRE DEPARTMENT CONNECTION
 - EXISTING WELL
 - PROPOSED SANITARY SEWERSERVICE
 - PROPOSED STORM SEWERSERVICE
 - EXISTING WATERMANSERVICE
 - EXISTING SANITARY SERVICE
 - EXISTING STORM SERVICE
 - EXISTING WATERMAIN
 - PROPOSED SUBSTRAN
 - SEEPAGE BARRIER SEAL CLAY
 - SEE DETAIL ON C004



WALTERFEDY
 875 Queen Street South, Suite 111, Kitchener, Ontario N2M 1A1
 T: 519.578.2100 F: 519.578.5499 walterfeddy.com



- ### GENERAL NOTES
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 - ANY AREA DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS 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.
 - ALL HEALTH AND SAFETY RELATED SIGNAGE MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICES.
 - AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CONSULTANT WITH A DIGITAL FILE OF ALL CONSTRUCTED DRAWINGS. THE DRAWINGS MUST REFLECT THE CONSTRUCTED STATE OF THE WORK. SUBMISSION OF FINAL DESIGN DRAWINGS AND CONTRACT CHANGES WILL NOT BE ACCEPTED.
- PER THE GEOTECHNICAL REPORT: "A MODERATE POTENTIAL FOR SULPHATE ATTACK WAS IDENTIFIED FOR THE WEATHERED SHALE. THEREFORE, DESIGN OF THE FOUNDATION AND GROUND WALLS (INCLUDING PILES AND MANHOLES) OF THE PROPOSED STRUCTURE SHOULD CONSIDER CSA TYPE MS OR MH CEMENTS."

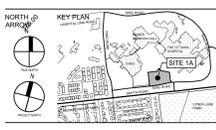
NO.	DATE	REVISION
4	2023-09-18	ISSUED FOR SPC RE-SUBMISSION
3	2023-08-31	ISSUED FOR 100% DD SUBMISSION
2	2023-07-16	ISSUED FOR SPC SUBMISSION
1	2023-07-31	ISSUED FOR 50% DD SUBMISSION
0	2023-04-20	ISSUED FOR TECHNICAL SUBMISSION

CLIENT: 1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: PARKING GARAGE
 401 SMYTH RD, OTTAWA, ON K1M8L1

TITLE: PROPOSED SERVICING PLAN - PARKING GARAGE

SCALE: 1:250
 DRAWN BY: DR, RB
 REVIEWED BY: RK
 JOB NUMBER: 2021-0821-10
 PLOT DATE: 2023-09-21
 DRAWING NUMBER: CP1201

PLAN # 18912
 DEVELOPMENT # D07-12-22-0170



GENERAL NOTES

1. PARKING GARAGE GEOTECHNICAL DESIGN REPORT BY THURBER ENGINEERING LTD. DATED AUGUST 21, 2023. REFER TO REPORT FOR FURTHER SITE SPECIFIC REQUIREMENTS DUE TO EXPANSIVE SHALE AND POTENTIAL FOR MODERATE SULPHATE ATTACK.
2. THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNLESS STAMPED BY THE DESIGN ENGINEER AND APPROVED BY THE LOCAL MUNICIPALITY.
3. NO CHANGES ARE TO BE MADE WITHOUT THE APPROVAL OF THE DESIGN ENGINEER.
4. THIS PLAN NOT TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE PERMISSION OF WALTERFEDY.
5. THE POSITION OF 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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM AND THOSE NOT LOCATED PRIOR TO CONSTRUCTION.
6. ANY AREA DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ITS 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 ORIGINAL STANDARDS.
7. ALL HEALTH AND SAFETY RELATED SIGNAGE MUST BE POSTED AT THE SITE AS REQUIRED BY APPLICABLE LAW AND BEST MANAGEMENT PRACTICES.
8. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE CONSULTANT WITH A DIGITAL FILE OF AS-CONSTRUCTED DRAWINGS. THE DRAWINGS MUST REFLECT THE CONSTRUCTED STATE OF THE WORK. SUBMISSION OF ANALYSES, DESIGN DRAWINGS AND CONTRACT CHANGES WILL NOT BE ACCEPTED.



LEGEND

---	PROPERTY LINE
---	LOT LINE
---	LEGAL EASEMENT
---	BUILDING SETBACK
○	IRON BAR
●	IRON PIPE
●	STANDARD IRON BAR
●	ROUND IRON BAR
●	SHORT STANDARD IRON BAR
●	CUT CROSS
●	TEMPORARY BENCHMARK
●	EXISTING LAMP STANDARD
●	EXISTING UTILITY POLE
●	EXISTING HYDRO POLE
●	EXISTING GUY WIRE
○	EXISTING SIGN
○	EXISTING BELL MANHOLE
○	EXISTING BELL PEDESTAL
○	EXISTING CTV PEDESTAL
○	EXISTING HYDRO TRANSFORMER
○	EXISTING GAS VALVE
○	EXISTING CATCHBASIN
○	EXISTING DITCH INLET CATCHBASIN
○	EXISTING STORM MANHOLE
○	EXISTING CATCHBASIN MANHOLE
○	EXISTING DOUBLE CATCHBASIN MANHOLE
○	EXISTING SANITARY MANHOLE
○	EXISTING FIRE HYDRANT
○	EXISTING WATERMAN VALVE
○	EXISTING CURB STOP
○	EXISTING FIRE DEPARTMENT CONNECTION
○	EXISTING WELL
○	EXISTING SANITARY SERVICE
○	EXISTING WATERMAN
○	EXISTING GASMAIN
○	EXISTING OVERHEAD HYDRO LINE
○	EXISTING UNDERGROUND HYDRO LINE
○	EXISTING HILL LINE
○	EXISTING CABLE LINE
○	EXISTING COMMUNICATION LINE
○	EXISTING FIBER OPTIC LINE
○	EXISTING SILT FENCE
○	EXISTING CHAINLINK FENCE
○	EXISTING BOARD FENCE
○	EXISTING GUARDRAIL
○	EXISTING CURB AND GUTTER
○	EXISTING CURB AND GUTTER WITH DROP CURB
○	EXISTING GRAVEL
○	EXISTING SWAMP SYMBOL
○	EXISTING EDGE OF WATER
○	REMOVALS
○	EXISTING BOREHOLE LOCATION
○	EXISTING TEST PIT LOCATION
○	EXISTING PEZOMETER LOCATION
○	EXISTING GATE
○	EXISTING SPOT ELEVATION
○	EXISTING MANHOLE COVER
○	EXISTING MINOR CONTOUR
○	EXISTING EMBANKMENT
○	EXISTING VEGETATION
○	EXISTING DECIDUOUS TREE
○	EXISTING CONIFEROUS TREE
○	EXISTING TREE OR PLINE AND/OR VEGETATION LINE
○	PROPOSED LAMP STANDARD
○	PROPOSED UTILITY POLE
○	PROPOSED HYDRO POLE
○	PROPOSED SIGN
○	PROPOSED HYDRO TRANSFORMER
○	PROPOSED CATCHBASIN
○	PROPOSED DOUBLE CATCHBASIN
○	PROPOSED DITCH INLET CATCHBASIN
○	PROPOSED DITCH INLET CATCHBASIN (TYPE A)
○	PROPOSED DITCH INLET CATCHBASIN (TYPE B)
○	PROPOSED CATCHBASIN MANHOLE
○	PROPOSED DOUBLE CATCHBASIN MANHOLE
○	PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE A)
○	PROPOSED DITCH INLET CATCHBASIN MANHOLE (TYPE B)
○	PROPOSED STORM MANHOLE
○	PROPOSED SANITARY MANHOLE
○	PROPOSED FIRE HYDRANT
○	PROPOSED WATERMAN VALVE
○	PROPOSED CURB STOP
○	PROPOSED REDUCER
○	PROPOSED FIRE DEPARTMENT CONNECTION
○	EXISTING CATCHBASIN
○	EXISTING DITCH INLET CATCHBASIN
○	EXISTING STORM MANHOLE
○	EXISTING CATCHBASIN MANHOLE
○	EXISTING DOUBLE CATCHBASIN MANHOLE
○	EXISTING SANITARY MANHOLE
○	EXISTING STORM MANHOLE
○	EXISTING WATERMAN VALVE
○	EXISTING CURB STOP
○	EXISTING FIRE DEPARTMENT CONNECTION
○	EXISTING WELL
○	PROPOSED SANITARY SEWERSERVICE
○	PROPOSED STORM SEWERSERVICE
○	PROPOSED WATERMANSERVICE
○	EXISTING SANITARY SERVICE
○	EXISTING STORM SERVICE
○	EXISTING WATERMAN
○	PROPOSED SUBORRAN
○	PROPOSED GRADE
○	EXISTING GRADE
○	PROPOSED DRAINAGE ARROWSLOPE
○	PROPOSED SWALE
○	PROPOSED SWALE WITH SUBDRAIN
○	PROPOSED OVERLAND FLOW ROUTE
○	PROPOSED EMBANKMENT (3:1 MAX UNLESS OTHERWISE NOTED)
○	PROPOSED CHAINLINK FENCE
○	EXISTING CONTOUR
○	PROPOSED CONCRETE SURFACE
○	PROPOSED GRAVEL SURFACE
○	PROPOSED RIPRAP
○	PROPOSED LIGHT DUTY ASPHALT SURFACE
○	PROPOSED HEAVY DUTY ASPHALT SURFACE
○	LIGHT DUTY SILT FENCE
○	PROPOSED CATCHBASIN TO BE PROTECTED

EXISTING CONDITIONS, REMOVALS, ESC

GRADING PLAN

SERVICING PLAN

- 4 2023-09-18 ISSUED FOR SPC RE-SUBMISSION
- 3 2023-08-21 ISSUED FOR 100% DD SUBMISSION
- 2 2023-08-16 ISSUED FOR SPC SUBMISSION
- 1 2023-07-31 ISSUED FOR 50% DD SUBMISSION
- 0 2023-04-20 ISSUED FOR TECHNICAL SUBMISSION



CLIENT
1DOOR4CARE: CHEO INTEGRATED TREATMENT CENTRE: PARKING GARAGE
401 SMYTH RD. OTTAWA, ON K1H8L1

TITLE
WEST MUP AND DUCT BANK CONNECTION - PARKING GARAGE

SCALE: 1:250
DRAWN BY: DR, RB
REVIEWED BY: RK
JOB NUMBER: 2021-0821-10
PLOT DATE: 2023.09.21
DRAWING NUMBER: CP1202