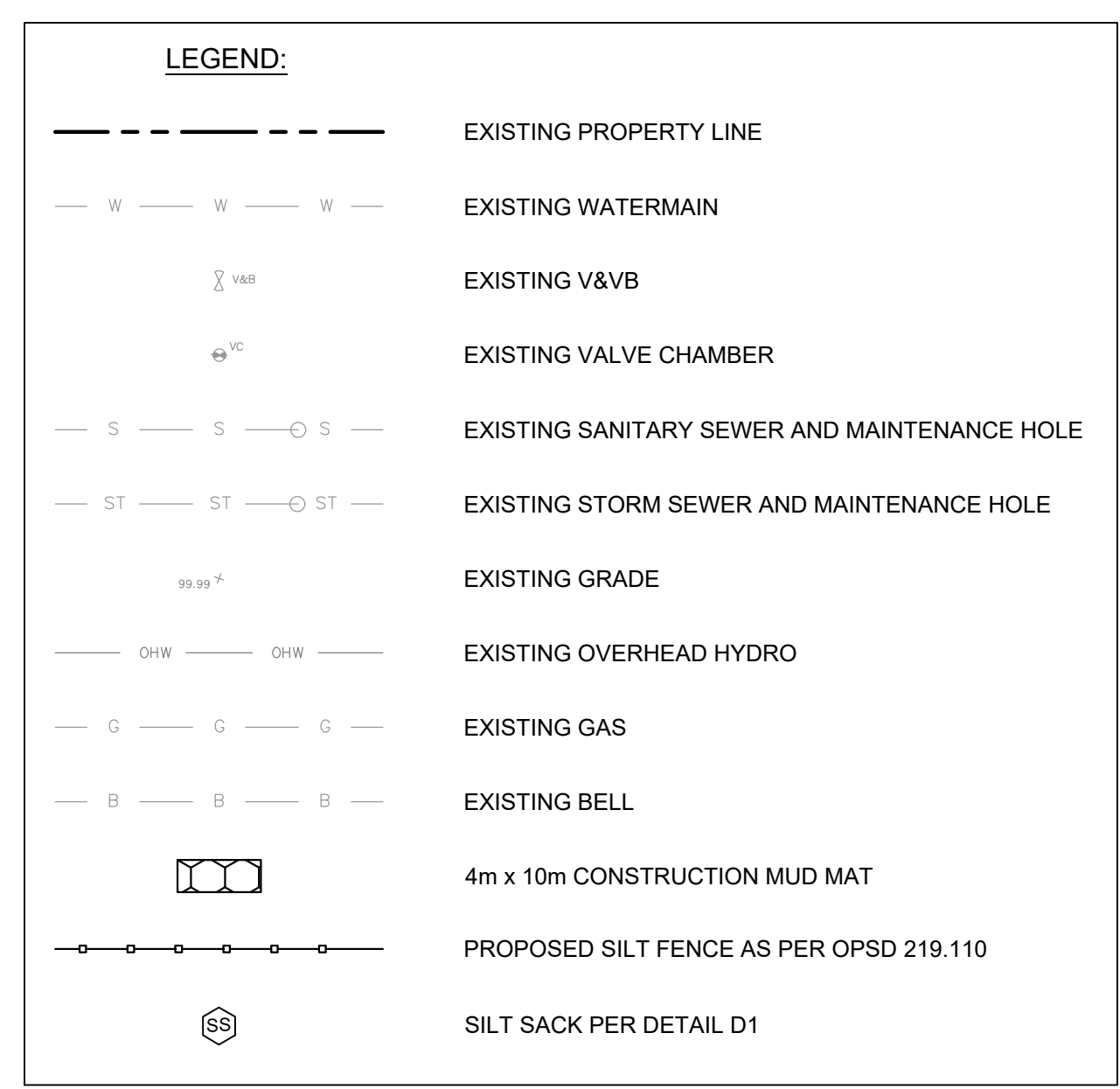


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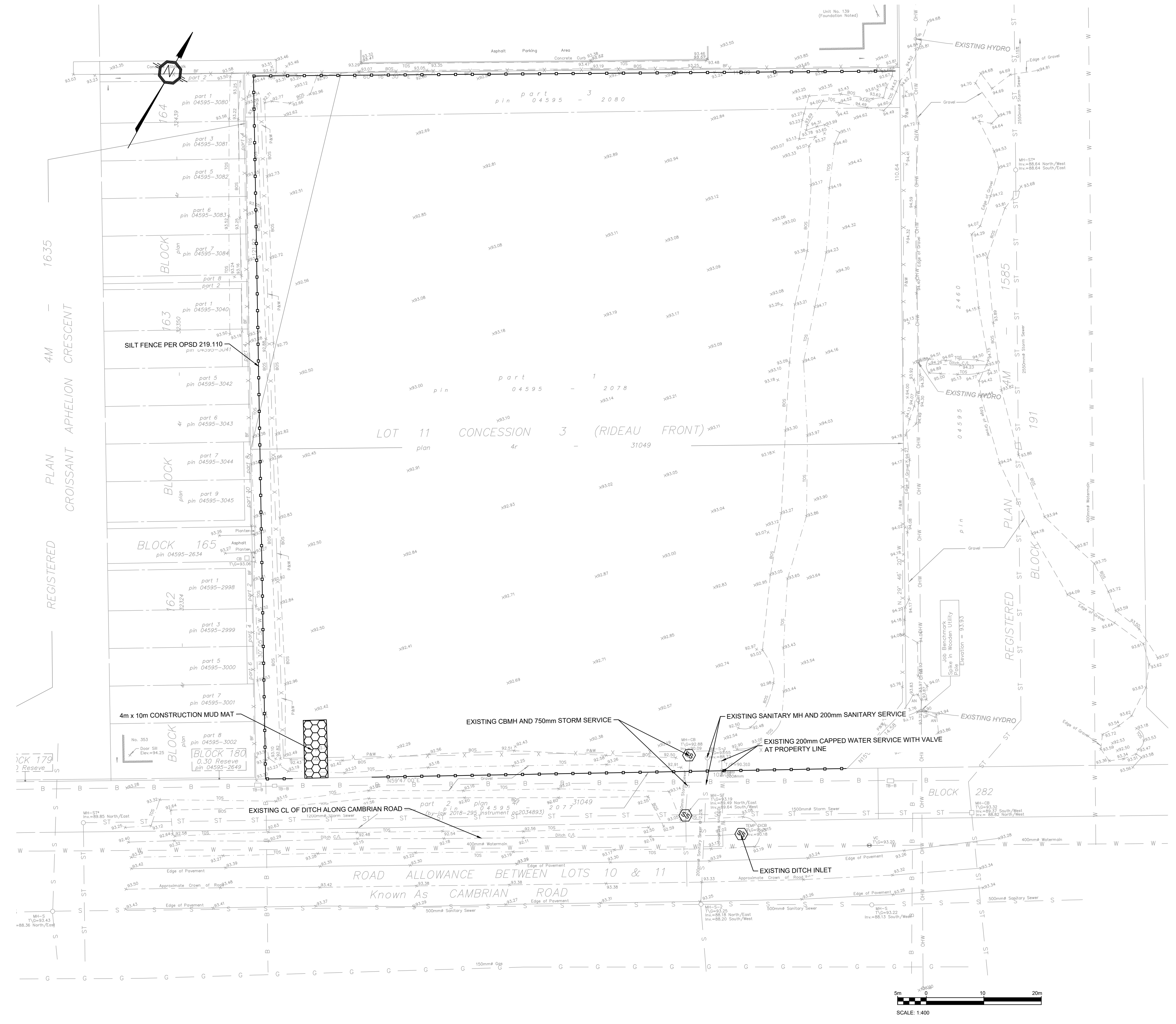
1223 MICHAEL STREET, SUITE 100, OTTAWA, ONTARIO K1J 7T2  
Tel: 613-738-4160 Fax: 613-739-7105

**TOPOGRAPHIC INFORMATION & BENCHMARK**  
SURVEY COMPLETED BY ANNIS, O'SULLIVAN, VOLLEBECK LTD. ON OCTOBER 21, 2022. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE GVD03 GEODETIC DATUM, DERIVED FROM CONTROL MONUMENT NO. 019680071 HAVING AN ELEVATION OF 99.742m.



**EROSION AND SEDIMENT CONTROL MEASURES:**

- CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- SEDIMENT AND EROSION CONTROL PLAN OBJECTIVES:
  - PREVENT SOIL EROSION. THIS CAN RESULT FROM STREAMING RAIN WATER OR WIND EROSION DURING CONSTRUCTION.
  - PREVENT SEDIMENT DEPOSITS IN THE SEWER PIPES AND NEARBY COLLECTING STREAMS (AS APPLICABLE).
  - PREVENT AIR POLLUTION FROM PARTICULATE MATTER AND DUST.
- 1. **PRIOR TO START OF CONSTRUCTION:**
  - PRIOR TO THE REMOVAL OF ANY VEGETATIVE COVER, MOVING OF SOIL, AND CONSTRUCTION:
    - INSTALL SILT FENCE (AS PER OPSS 219.110) ALONG DITCHES IMMEDIATELY DOWNSTREAM FROM AREAS TO BE DISTURBED (SEE PLAN FOR LOCATION).
    - INSTALL FILTER CLOTH ON DOWNSTREAM MANHOLE COVERS.
    - INSTALL SILTSACK FILTERS IN ALL CONCRETE CATCH BASIN STRUCTURES.
    - INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.
    - THE CONTRACTOR MUST SET UP THE MEASURES INDICATED ON THE PLAN. INSPECT THEM FREQUENTLY AND CLEAN AND REPAIR OR REPLACE THE DETERIORATED STRUCTURES AT THE END OF THE CONSTRUCTION PERIOD. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE TEMPORARY STRUCTURES AND RECONDITIONING THE AFFECTED AREAS.
- 2. **DURING CONSTRUCTION:**
  - SEDIMENT AND EROSION CONTROL MEASURES TO BE CONSTRUCTED AS PER OPSS 805
  - WHEN SEDIMENT AND EROSION CONTROL MEASURES MUST BE REMOVED TO COMPLETE A PORTION OF THE WORK, THE SAME MEASURES MUST BE REINSTATED UPON THE WORK'S COMPLETION
  - WORK TO BE DONE IN THE VICINITY OF MAJOR WATERWAYS TO BE CARRIED OUT FROM JULY AND SEPTEMBER ONLY.
  - MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE.
  - PROTECT DISTURBED AREAS FROM RUNOFF.
  - PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED SHORTLY.
  - INSPECT STRAW BALE FLOW CHECK DAMS, SILT FENCES, SILT SACKS, AND CATCH BASIN SUMPS REGULARLY AND AFTER EVERY MAJOR STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
  - PLAN TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
  - EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
  - DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDS IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS). WHEN STORING SOIL ON SITE IN PILES THE CONTRACTOR MUST COVER EACH PILE WITH TARPS, STRAW OR A GEOTEXTILE FABRIC TO AVOID FINE PARTICLE TRANSPORT BY WIND AND/OR STREAMING RAIN WATER.
  - CONTROL WIND-BLOWN DUST OFF SITE TO ACCEPTABLE LEVELS BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED) FOR DUST CONTROL. CONTRACTOR TO APPLY CALCIUM CHLORIDE (TYPE I - OPSS 2901 AND CANCOSB-15-1) AND WATER WITH EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE AT RATE IN ACCORDANCE TO OPSS 506 WHEN DIRECTED BY OWNER'S REPRESENTATIVE.
  - ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER. SEDIMENT CAPTURE SILT SACKS MUST BE MAINTAINED AND CANNOT BE REMOVED UNTIL ALL LANDSCAPING AREAS ARE COMPLETED.
  - NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVES BY THIS CONSULTING ENGINEER AND THE TOWN DEPARTMENT OF PUBLIC WORKS.
  - CONTRACTOR RESPONSIBLE FOR MUNICIPAL ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING ETC. AT THE END OF EACH WORK DAY.
  - DURING WET CONDITIONS, TRAILS OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
  - ANY MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
  - TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ADJUTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.
  - PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PROVIDE MUD TRACKING ONTO PAVED SURFACES. GRAVEL BED SHALL BE A MINIMUM OF 10m LONG, 4m WIDE, AND 0.15m DEEP AND SHALL CONSIST OF COARSE MATERIAL. MAINTAIN GRAVEL ENTRANCE IN CLEAN CONDITION.
- 3. **AFTER CONSTRUCTION:**
  - PROVIDE PERMANENT COVER CONSISTING OF TOPSOIL AND SEED TO DISTURBED AREAS.
  - ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE REMOVED BY THE CONTRACTOR FOLLOWING THE COMPLETION OF WORK AND AFTER DISTURBED AREAS HAVE BEEN REHABILITATED AND STABILIZED. THIS INCLUDES REMOVE STRAW BALE FLOW CHECK DAMS, SILT FENCES AND FILTER CLOTHS ON CATCH BASINS AND MANHOLE COVERS.
  - INSPECT AND CLEAN CATCH BASIN SUMPS AND STORM SEWERS.



#	DATE	ISSUED FOR	DESCRIPTION	BY
1	2023-04-26	ISSUED FOR SPA		BY



**PROJECT**  
3850 CAMBRIAN RD  
BARRHAVEN, ONTARIO

**EROSION/SEDIMENT CONTROL & EXISTING CONDITIONS PLAN**

PROJECT NO. 478356	
PROJECT DATE 2022-08-19	
DRAWN BY BY	
CHECKED BY MT	
SCALE As indicated	

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**TOPOGRAPHIC INFORMATION & BENCHMARK**  
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**LEGEND:**

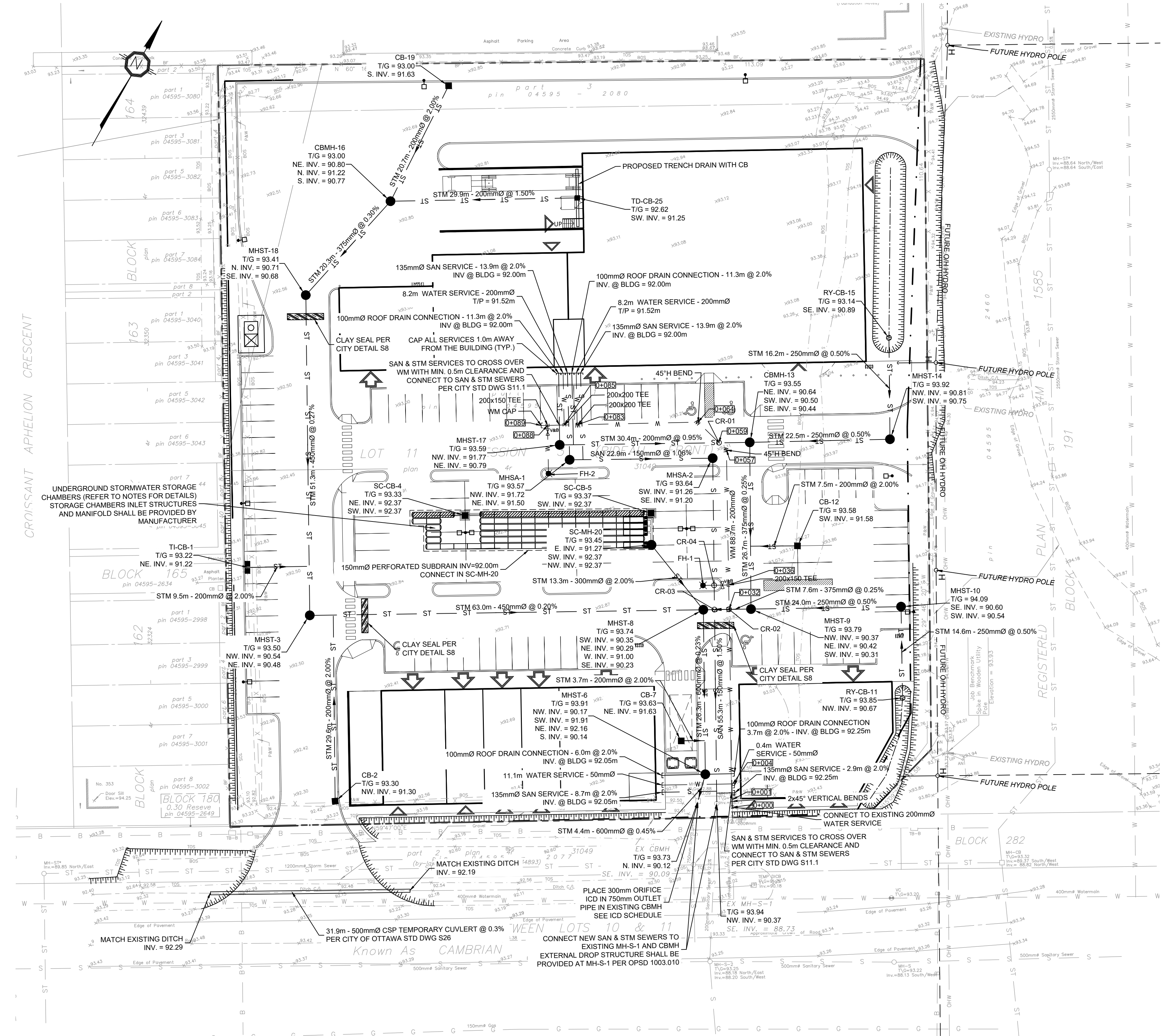
- EXISTING PROPERTY LINE
- - - PROPOSED PROPERTY LINE AS PART OF THE GREENBANK RD REALIGNMENT PROJECT
- EXISTING WATERMAIN
- EXISTING V&B
- EXISTING VALVE CHAMBER
- PROPOSED WATERMAIN
- PROPOSED FIRE HYDRANT PER CITY STD DWG W19
- PROPOSED V&B
- EXISTING SANITARY SEWER AND MAINTENANCE HOLE
- PROPOSED SANITARY SEWER AND MAINTENANCE HOLE
- EXISTING STORM SEWER AND MAINTENANCE HOLE
- PROPOSED STORM SEWER AND MAINTENANCE HOLE
- PROPOSED REAR YARD CATCH BASIN AS PER CITY STD DWG S31
- PROPOSED CATCH BASIN
- PROPOSED TWIN INLET CATCH BASIN AS PER OPSD 705.020
- TERRACE (3:1 MAX)
- PROPOSED CENTERLINE SWALE
- PROPOSED LIGHT STANDARD
- CLAY SEAL PER CITY STD DETAIL S8

**NOTES: WATERMAIN**

- ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE THE MINIMUM COVER OF 2.4m IS NOT REACHED, THERMAL INSULATION IS REQUIRED AS PER CITY OF OTTAWA DETAIL W22.
- WATERMAIN PIPE MATERIALS TO BE CLASS PVC DR-16, OR APPROVED EQUIVALENT, UNLESS INDICATED OTHERWISE.
- WATERMAIN TO BE CONSTRUCTED AS PER OPSD 441 AND OPSD 802.010. WATERMAIN BEDDING AND COVER MATERIAL TO BE OPSD 1010 GRANULAR 'A' CRUSHER-RUN LIMESTONE COMPACTED TO 95% SPMD.
- A CONTINUOUS 12 GAUGE COPPER TRACER WIRE MUST BE INSTALLED OVER ALL WATERMANS. TRACER WIRE SHALL BE TIED TO ALL FIRE HYDRANTS.
- INSTALLATION OF A WATERMAIN PIPE CROSSING A SEWER PIPE SHALL BE AS PER CITY OF OTTAWA DETAILS W23 AND W25.2.
- IF WATERMAIN PIPE MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.
- CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER OPSD 1109.011.
- THRUST BLOCKS AND RESTRAINING AS PER OPSD 1103.010 AND OPSD 1103.020.
- HYDRANT INSTALLATION AS PER OPSD 1105.010 AND OPSD 441. HYDRANT TO COMPLY WITH AWWA C502.
- HYDRANTS MUST HAVE THREE EXITS (TWO 65.5 mm AND ONE 100.0 mm 'STORZ' OF STAINLESS STEEL) WITHOUT DRAIN. FIRE HYDRANTS MUST BE INSTALLED SUCH THAT THE 'STORZ' EXIT POINTS TOWARDS THE BUILDING IT WILL SERVICE. THE CONTRACTOR MUST ENSURE THAT THE BREAKAWAY FLANGE IS LOCATED ABOVE THE FINISHED GROUND (APPROXIMATELY 150 mm).
- FIRE FLOW TESTS FOLLOWED BY COLOUR CODING OF HYDRANTS (AS PER NFPA-291) SHALL BE CARRIED OUT PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK.
- WATERMAIN AND HYDRANT CONTROL VALVES IN THE 100 - 300 mm RANGE WILL BE RESILIENT SEATING GATE VALVES (AWWA C509) WITH MECHANICAL JOINT CONNECTIONS. VALVES WILL OPERATE COUNTER-CLOCKWISE TO OPEN WITH A NON-RISING STEM. VALVES WILL BE COMPLETE WITH THE STANDARD AWWA 50 mm OPERATING NUT. VALVES TO BE INSTALLED AS PER OPSD 441.
- PIPE FITTINGS (BENDS, TEES, CROSSES, REDUCERS, ETC.) WILL BE MECHANICAL JOINT (AWWA C-111) WITH CEMENT MORTAR LINING (AWWA C-104).
- COUPLERS MUST BE COMPRESSION TYPE WITH MINIMUM PRESSURE RATING OF 1035 kPa. COUPLERS MUST BE MUELLER 11-12940.
- VALVE BOXES MUST BE COMPLETE (FULLY METALLIC) 3 PIECE SLIDING TYPE WITH GUIDE PLATES.
- WATERMANS MUST BE THOROUGHLY FLUSHED AND CLEANED TO REMOVE ALL DIRT AND DEBRIS PRIOR TO THE DISINFECTION PROCESS.
- ALL WATERMANS SHALL BE HYDROSTATICALLY AND BACTERIOLOGICALLY TESTED AS PER PROVINCIAL AND MUNICIPAL REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REQUIREMENTS ARE FOLLOWED.
- THE DISINFECTION PROCEDURE WHICH FOLLOWS INITIAL FLUSHING AND CLEANING CONSISTS OF CHLORINATION, FINAL FLUSHING AND BACTERIOLOGICAL TESTING. DISINFECTION MUST BE PERFORMED BY THE CONTRACTOR USING METHODS APPROVED BY THE CITY AND IN ACCORDANCE WITH MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE GUIDELINES. DOSAGE MUST BE 100 ppm WITH A MINIMUM RESIDUAL OF 25 ppm AFTER 24 HOURS. DISINFECTANT MUST BE SUPPLIED BY THE CONTRACTOR AND MUST BE APPROVED. TESTING AND TEST RESULTS MUST BE WITNESSED BY CITY PERSONNEL.
- ALL DISINFECTANT WATER IS TO BE REMOVED FROM THE NEW WATERMANS AND REPLACED WITH DISTRIBUTION SYSTEM WATER PRIOR TO PRESSURE TESTING OF THE WATERMAIN.
- PRESSURE TESTING OF ALL WATERMANS AND APPURTENANCES INSTALLED BY THE CONTRACTOR MUST BE PERFORMED BY THE CONTRACTOR USING METHODS MEETING THE APPROVAL OF THE CITY. TESTING AND RESULTS MUST BE WITNESSED BY CITY PERSONNEL.
- MAINS AND SERVICES MUST BE PRESSURE TESTED AT 1035 kPa (150 psi) IN ACCORDANCE WITH AWWA C-600-82 (MINIMUM REQUIREMENT).
- LEAKAGE TESTS MUST BE CONDUCTED AS PER AWWA C-600-82 (MINIMUM REQUIREMENT).
- ONCE THE DISINFECTION AND PRESSURE TESTING RESULTS HAVE BEEN APPROVED, THE CONTRACTOR MUST ENSURE THAT ALL WATERMAIN PIPES ARE FLUSHED UNTIL THE CHLORINE LEVEL IN THE WATER IS SIMILAR TO THE LEVEL OF CHLORINE IN THE MUNICIPAL WATERMAIN NETWORK IN THE AREA.
- BACTERIOLOGICAL TESTING MUST CONSIST OF TWO SAMPLINGS TWENTY FOUR HOURS APART. IF BACTERIOLOGICAL SAMPLES ARE SATISFACTORY THE WATERMAIN MAY BE PLACED ON LINE.
- ALL WATERMAIN VALVES TO BE OPERATED BY THE CITY OF OTTAWA ONLY.

**NOTES: SEWER**

- CONTRACTOR TO CONFIRM ELEVATION OF EXISTING STORM AND SANITARY SEWERS AT PROPOSED CONNECTION POINTS AND REPORT ANY DISCREPANCIES TO THE ENGINEER BEFORE COMMENCING ANY WORK.
- ALL WORK SHALL BE PERFORMED, AS APPLICABLE IN ACCORDANCE WITH OPSD 407, 408 AND 410.
- ALL STORM AND SANITARY SEWERS INSTALLED BELOW THE GROUNDWATER TABLE ELEVATION (92.20m) SHALL BE WATERTIGHT AND INFILTRATION TESTS SHALL BE CARRIED OUT ACCORDING TO OPSD.MUNI 410.
- CLAY SEALS SHALL BE ACCORDING CITY OF OTTAWA STD DETAIL S8 AND EXTENDED AT LEAST 1.0m ABOVE THE GROUNDWATER TABLE ELEVATION.
- PIPE MATERIAL TO BE PVC DR-35 AND CONFORMING TO OPSD 1841, UNLESS INDICATED OTHERWISE. PVC SEWERS TO BE INSTALLED PER OPSD 802.010 (MODIFIED). BEDDING AND COVER MATERIALS TO BE OPSD 1010 GRANULAR 'A' CRUSHER-RUN LIMESTONE BEDDING COMPACTED TO 95% SPMD.
- ALL SEWERS WITH LESS THAN 1.5 METERS OF COVER ARE SUBJECT TO INSULATION PER CITY OF OTTAWA STD DETAIL S35.
- PIPE BACKFILL MATERIAL TO BE APPROVED NATIVE MATERIAL OR SELECT SUBGRADE MATERIAL IN CONFORMANCE WITH OPSD 212.
- ALL MAINTENANCE HOLES AND CATCH BASIN MAINTENANCE HOLES TO BE 1200mmØ AS PER OPSD 701.010, UNLESS INDICATED OTHERWISE. MAINTENANCE HOLES AND CATCH BASIN MAINTENANCE HOLES TO BE INSTALLED PER OPSD 407.
- ALL CATCH BASINS TO BE 600x600mm AS PER OPSD 705.010, UNLESS INDICATED OTHERWISE. CATCH BASINS TO BE INSTALLED PER OPSD 407.
- EXCAVATING, BACKFILLING, AND COMPACTING REQUIRED FOR MAINTENANCE HOLES, CATCH BASIN MAINTENANCE HOLES, AND CATCH BASINS TO BE COMPLETED AS PER OPSD 402. THEY ARE TO BE BACKFILLED WITH OPSD GRANULAR 'B' COMPACTED TO 95% SPMD. JOINTS BETWEEN SECTIONS TO BE WRAPPED WITH NON-WOVEN GEOTEXTILE.
- FOR SANITARY STRUCTURES: CAST IRON MAINTENANCE HOLE COVER AS PER OPSD 401.010 TYPE 'A'.
- FOR STORM STRUCTURES: CAST IRON CATCH BASIN MAINTENANCE HOLE COVER AS PER OPSD 401.010 TYPE 'B' AND CAST IRON CATCH BASIN COVER AS PER OPSD 400.020.
- SANITARY MAINTENANCE HOLES REQUIRE BENCHING AS PER OPSD 701.021 AND THE CITY FOR APPROVAL. ALL TEST RESULTS PERFORMED ON THE INTERNAL SERVICES.
- ADVISE THE CITY PUBLIC WORKS AT LEAST 72 HOURS IN ADVANCE BEFORE ANY CONNECTION TO THE CITY SERVICES. CO-ORDINATE WITH CITY AS REQUIRED.
- TERMINATE AND PLUG ALL SERVICE CONNECTIONS AT 1.0 m FROM EDGE OF THE BUILDING.
- ALL SEWERS TO BE C.C.T.V. INSPECTED BY THE CONTRACTOR AS PER OPSD 409. TWO COPIES OF THE INSPECTION REPORT MUST BE PROVIDED TO THE CONSULTANT AND THE C.C.T.V. INSPECTION IN DVD FORMAT ONLY.



**ICD SCHEDULE**

ICD ID	LOCATION	ORIFICE INVERT (m)	FLOW 5y/100y (L/s)	HEAD 5y/100y (m)	EQUIVALENT DIAMETER (mm)	MODEL*
1	EX. CBMH	90.09	274.6/306.0	2.05/2.55	300	SEE D2 ON DWG C104

\* ICD SHOP DRAWINGS SHALL BE SUBMITTED TO PARSONS BEFORE COMMENCING ANY WORK

- NOTES: UNDERGROUND STORMWATER STORAGE**
- UNDERGROUND STORMWATER STORAGE SYSTEM CHAMBER TYPE OR EQUIVALENT STORAGE REQUIREMENT: 112.2m<sup>3</sup>.
  - CHAMBER TYPE: STORMTECH SC-310 OR EQUIVALENT
  - BOTTOM GRANULAR PAD ELEVATION & PERFORATED SUBDRAIN INVERT: 92.00m.
  - BOTTOM OF CHAMBER ELEVATION: 92.37
  - TOP OF CHAMBER ELEVATION: 92.78m.
  - TOP OF SYSTEM TO BE A MINIMUM OF 450mm BELOW PARKING LOT PAVEMENT

**WATERMAIN TABLE**

STATION	SURFACE ELEVATION	W/M DEPTH	TOP OF W/M ELEV.	INV. OF W/M ELEV.	NOTES
0+000	94.10	3.79m	90.31	90.11	CONNECTION TO EXISTING WATERMAIN
0+001	94.10	2.40m	91.70	91.50	2 x 45° VERTICAL BENDS
0+004	94.05	2.40m	91.65	91.45	2 x 50mm WATER SERVICE CONNECTIONS
0+032	93.80	2.40m	91.40	91.20	CR-02 REFER TO CROSSING TABLE
0+036	93.70	2.40m	91.30	91.10	200x150 TEE FOR FIRE HYDRANT LATERAL, CR-04 REFER TO CROSSING TABLE
0+057	93.60	2.40m	91.20	91.00	45° HORIZONTAL BEND
0+059	93.60	2.40m	91.20	91.00	CR-01 REFER TO CROSSING TABLE
0+064	93.60	2.40m	91.20	91.00	45° HORIZONTAL BEND
0+083	93.60	2.40m	91.20	91.00	200x200 TEE, 200mm WATER SERVICE CONNECTION
0+085	93.60	2.40m	91.20	91.00	200x200 TEE, 200mm WATER SERVICE CONNECTION
0+088	93.60	2.40m	91.20	91.00	200x150 TEE FOR FIRE HYDRANT LATERAL
0+089	93.60	2.40m	91.20	91.00	WATER CAP WITH CONCRETE THRUST BLOCK

**CROSSING TABLE**

CROSSING No.	PIPE ELEV. AT CROSSING	PIPE ELEV. AT CROSSING	CLEARANCE
CR-01	STM, TOP, 90.75	WM, INV. 91.00	0.25m
CR-02	STM, TOP, 90.68	WM, INV. 91.20	0.52m
CR-03	STM, TOP, 90.68	SAN, INV. 90.84	0.16m
CR-04	SAN, TOP, 91.05	FH LAT., INV. 91.30	0.25m

1 2023-04-26 ISSUED FOR SPA  
# DATE DESCRIPTION BY

**Choice Properties**

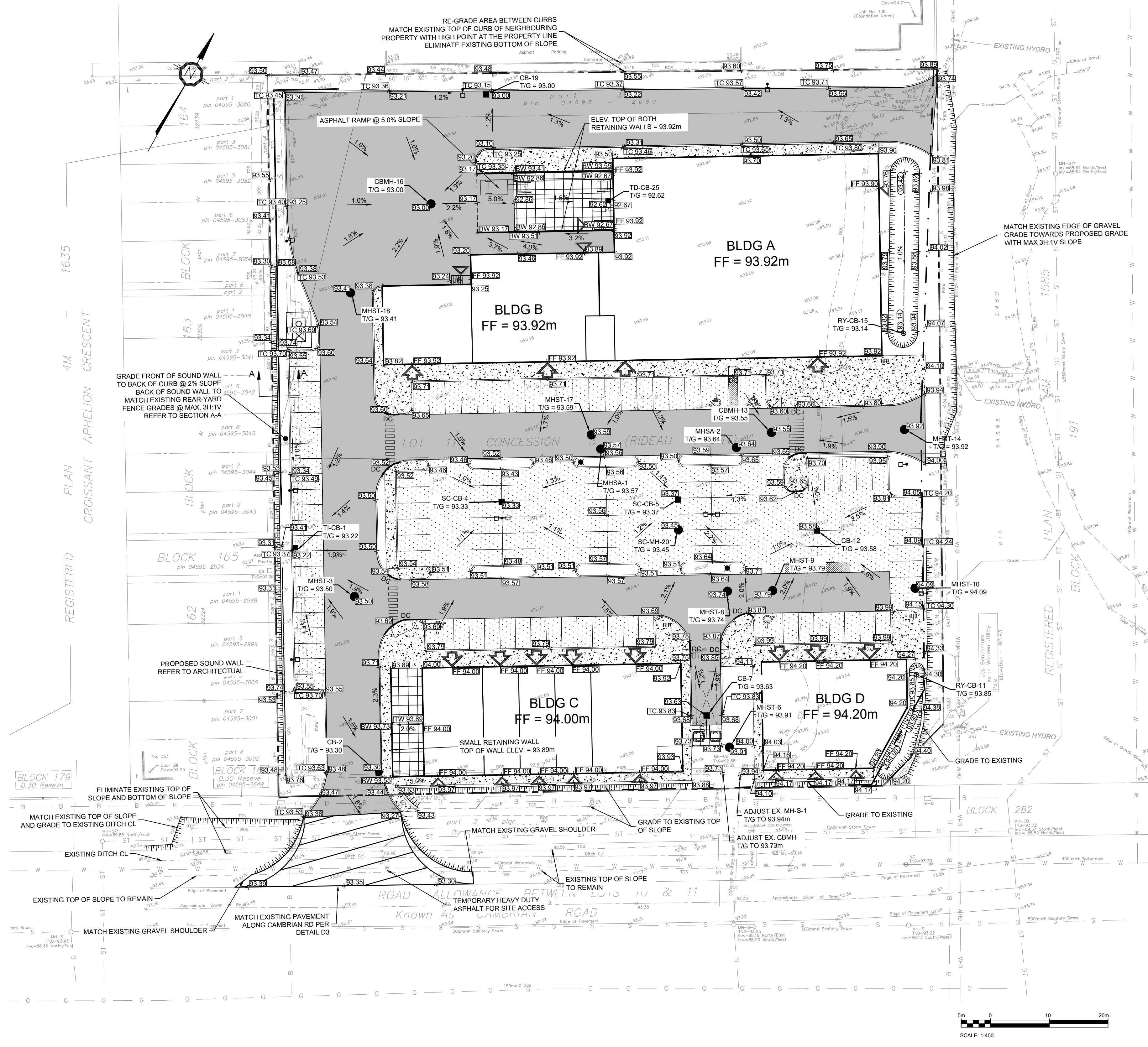
PROJECT: **3850 CAMBRIAN RD**  
BARRHAVEN, ONTARIO

DRAWING: **SITE SERVICING PLAN**

PROJECT NO: 478356  
PROJECT DATE: 2022-08-19  
DRAWN BY: [Signature]  
CHECKED BY: MT  
SCALE: As indicated

PROFESSIONAL ENGINEER  
B. VILLENEUVE  
100553987  
2023-04-26  
PROVINCE OF ONTARIO

DRAWING NO: **C102** REV: **1**



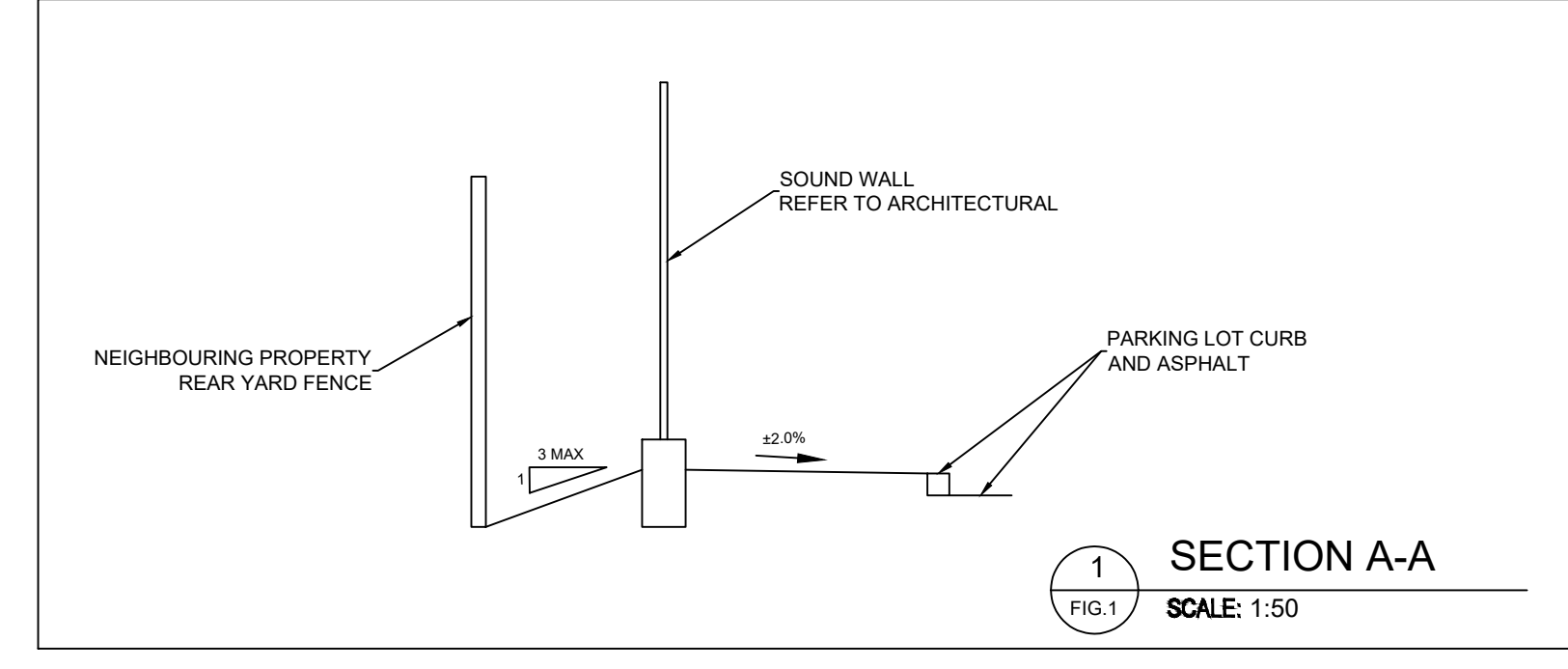
### LEGEND:

---	EXISTING PROPERTY LINE	▨	PROPOSED LIGHT DUTY PAVEMENT
- - -	PROPOSED PROPERTY LINE AS PART OF THE GREENBANK RD RE-ALIGNMENT PROJECT	▩	PROPOSED HEAVY DUTY PAVEMENT
---	PROPOSED DITCH/SWALE CENTERLINE	▧	PROPOSED TEMPORARY HEAVY DUTY PAVEMENT
	TERRACE (3:1 MAX)	▤	PROPOSED CONCRETE SIDEWALK
---	EXISTING GRADE	▥	PROPOSED CONCRETE STRUCTURAL SLAB PER STRUCTURAL
---	PROPOSED GRADE	▦	PROPOSED CONCRETE CURB
---	PROPOSED TOP OF WALL GRADE	DC	PROPOSED DEPRESSED CONCRETE CURB WITH TWSI PER CITY STD DWG SC7.3
---	PROPOSED BOTTOM OF WALL GRADE	□	PROPOSED LIGHT STANDARD
---	PROPOSED FINISHED FLOOR ELEVATION		
---	PROPOSED TOP OF CURB ELEVATION		
---	PROPOSED CENTRELINE OF DITCH/SWALE GRADE		
---	PROPOSED SLOPE DIRECTION AND PERCENTAGE		
●	PROPOSED STORM MAINTENANCE HOLE		
●	PROPOSED SANITARY MAINTENANCE HOLE		
■	PROPOSED CATCH BASIN		
○	PROPOSED REAR YARD CATCH BASIN AS PER CITY STD DWG S31		
■	PROPOSED TWIN INLET CATCH BASIN AS PER OPSD 705.020		

### NOTES: GENERAL

- THE CONTRACTOR MUST CONFORM TO ALL LAWS, CODES, ORDINANCES, AND REGULATIONS ADOPTED BY FEDERAL, PROVINCIAL OR MUNICIPAL GOVERNMENT COUNCILS AND GOVERNMENT AGENCIES, APPLYING TO WORK TO BE CARRIED OUT, WHEREVER STANDARDS, LAWS AND/OR REGULATIONS ARE MENTIONED THEY REFER TO THEIR CURRENT VERSIONS, MODIFICATIONS INCLUDED.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS (OPSS AND OPSD), THE ONTARIO MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE, THE ONTARIO MINISTRY OF NATURAL RESOURCES, APPLICABLE CONSERVATION AUTHORITIES, THE MUNICIPAL STANDARD SPECIFICATIONS AND DRAWINGS, AND ALL OTHER GOVERNING AUTHORITIES AS THEY APPLY, UNLESS OTHERWISE INDICATED.
- ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSD STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSD 206, 310 & 314. MATERIALS TO OPSD 1001, 1003 & 1010.
- THE LOCATION OF EXISTING UNDERGROUND MUNICIPAL SERVICES AND PUBLIC UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES (ON-SITE AND OFF-SITE) PRIOR TO ANY EXCAVATION WORK. DAMAGE TO ANY EXISTING SERVICES AND/OR EXISTING UTILITIES DURING CONSTRUCTION, WHETHER OR NOT SHOWN ON THE DRAWINGS MUST BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL DETERMINE THE EXACT INVERT (GEODETIC ELEVATION), DIAMETER AND CONSTRUCTION MATERIAL OF THE EXISTING CONDUITS AT THE PROPOSED CONNECTIONS. THEY SHALL ALSO CARRY OUT, IF NECESSARY, EXPLORATORY DIGGS IN ORDER TO DETERMINE THE EXACT LOCATION AND INVERTS OF EXISTING DUCT BANKS. THIS INFORMATION SHALL IMMEDIATELY BE PROVIDED TO THE CONSULTANT PRIOR TO START UNDERTAKING ANY MUNICIPAL SERVICES WORK AND A 48 HOUR PERIOD MUST BE ALLOCATED TO THE CONSULTANT FOR DESIGN REVIEW.
- AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK AND ACTIVITIES WITH OTHER TRADES AND CONTRACTORS.
- THE CONTRACTOR IS THE ONLY PERSON IN CHARGE OF SAFETY ON THE BUILDING SITE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE PROTECTION OF THE WORKERS, OTHER PERSONNEL AND THE GENERAL PUBLIC, PROTECTION OF MATERIALS, AS WELL AS MAINTAINING IN GOOD CONDITION THE COMPLETED WORKS AND WORKS TO BE COMPLETED. THE CONTRACTOR MUST PROVIDE AT ANY TIME:
  - A SUFFICIENT NUMBER OF FENCES, BARRIERS, POSTERS, GUARDS AND OTHERS TO ENSURE SAFETY.
  - NECESSARY CONVENIENCES FOR THE COMPLETION OF WORK SUCH AS HEATING, LIGHTING, VENTILATION ETC.
- CONTRACTOR IS RESPONSIBLE TO OBTAIN THE VARIOUS PERMITS/APPROVALS REQUIRED TO COMPLETE ALL THE WORKS AND ACTIVITIES AND BEAR COST OF THE SAME, SUCH AS BUT NOT LIMITED TO: ROAD CUT PERMITS, SEWER PERMITS, WATER PERMIT, ETC. AND THEIR ASSOCIATED COSTS.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
- JOB BENCH MARK - CONFIRM WITH PARSONS PRIOR TO UTILIZATION. THE CONTRACTOR MUST MAINTAIN BENCHMARKS AND LANDMARK REFERENCES AS IS. OTHERWISE THESE REFERENCES WILL BE REPOSITIONED BY A CERTIFIED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCH BASIN OUTLETS ARE PROVIDED.
- IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, DEWATERING OF EXCAVATIONS COULD BE REQUIRED. IT IS ASSUMED THAT GROUNDWATER MAY BE CONTROLLED BY SUMP AND PUMPING METHODS. THE CONTRACTOR SHALL OBTAIN A PERMIT TO TAKE WATER IF SITE CONDITIONS REQUIRE TAKING MORE THAN A TOTAL OF 400,000 L/DAY.
- STRIP AND REMOVE ALL TOPSOIL FROM IMPROVED AREAS. SITE PREPARATION INCLUDES CLEARING, GRUBBING, STRIPPING OF TOPSOIL, DEMOLITION, REMOVAL OF UNSUITABLE MATERIALS, CUT, FILL AND ROUGH GRADING OF ALL AREAS TO RECEIVE FINISHED SURFACES.
- ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 300mm WIDTH MINIMUM.
- CURBS TO BE BARRIER, CONSTRUCTED AS PER OPSD 600.110, EXCEPT WHERE INDICATED OTHERWISE. ELEVATION AT TOP OF CONCRETE CURBS TO BE 150 mm ABOVE THE ASPHALT, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- DEPRESSED CURBS TO BE MOUNTABLE, CONSTRUCTED AS PER OPSD 600.100.
- LIGHT DUTY AND HEAVY DUTY ASPHALT PAVEMENTS TO BE CONSTRUCTED AS PER TABLE ON DRAWING C103.
- TRANSITION BETWEEN EXISTING AND PROPOSED PAVEMENT SHALL BE CONSTRUCTED AS PER DETAIL D3 ON DRAWING C104.
- RESTORE PAVEMENT STRUCTURE AND SURFACES ON EXISTING ROADS TO A CONDITION AT LEAST EQUAL TO ORIGINAL AND TO THE SATISFACTION OF THE MUNICIPAL AUTHORITIES.

- CLEANLINESS ON THE SITE. INCLUDES THE CONTRACTOR SHALL CLEAN ROADWAYS AT HIS OWN COST AS DIRECTED BY THE OWNER'S REPRESENTATIVE. MATERIALS AND EQUIPMENT MUST BE LAID OUT IN AN ORGANIZED AND SAFE MANNER, AND ALL MATERIAL, EQUIPMENT AND TEMPORARY STRUCTURES WHICH ARE NO LONGER NECESSARY FOR THE EXECUTION OF THE CONTRACT MUST BE REMOVED FROM THE SITE.
- CONTRACTOR TO ENSURE MITIGATION MEASURES ARE IMPLEMENTED TO REDUCE THE RISK OF GROUND CONTAMINATION FROM PETROLEUM PRODUCTS.
- THE CONTRACTOR MUST ENSURE THE FOLLOWING MEASURES ARE IMPLEMENTED REGARDING THE HANDLING OF CONCRETE:
  - CONCRETE SHOULD EITHER BE MIXED AWAY FROM THE SITE OR SHOULD BE PREPARED ON PAVED SURFACES IF ONLY SMALL QUANTITIES ARE REQUIRED (I.E. MINOR REPAIRS).
  - EXCESS CONCRETE MUST BE DISPOSED OFF-SITE AT A LOCATION THAT MEETS ALL REGULATORY REQUIREMENTS.
  - THE CONTRACTOR MUST CONTROL SURFACE RUNOFF FROM PRECIPITATION DURING CONSTRUCTION.
  - ALL CONCRETE TRUCKS SHOULD COLLECT THEIR WASH WATER AND RECYCLE IT BACK INTO THEIR TRUCKS FOR DISPOSAL OFF-SITE AT A LOCATION MEETING ALL REGULATORY REQUIREMENTS.
- THE CONTRACTOR SHALL ENSURE THAT ALL EXCAVATED SURPLUS MATERIALS THAT WILL BE REQUIRED TO BE DISPOSED OFFSITE BE STOCKPILED TEMPORARILY FOR SAMPLING PRIOR BEING LOADED OFFSITE.
- MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
- TRENCHING, BACKFILLING AND COMPACTING MUST CONFORM TO OPSD 401.
- DEWATERING OF PIPELINE, UTILITY AND ASSOCIATED STRUCTURE EXCAVATIONS TO BE COMPLETED AS PER OPSD 517.
- CONTRACTOR MUST CONTROL SURFACE RUNOFF FROM PRECIPITATION DURING CONSTRUCTION.
- FOR ALL GEOTECHNICAL WORK, CONTRACTOR TO REFER TO "GEOTECHNICAL INVESTIGATION REPORT, PROPOSED COMMERCIAL DEVELOPMENT, 3850 CAMBRIAN RD, NEPEAN, OTTAWA, ONTARIO, BY GEOTERRE LIMITED, DATED APRIL 6, 2023".
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, BACKFILL AND REINSTATEMENT OFF ALL AREAS DISTURBED DURING CONSTRUCTION TO EXISTING CONDITIONS OR BETTER AND ALL ASSOCIATED WORKS TO THE SATISFACTION OF THE CONSULTANT AND MUNICIPAL AUTHORITIES. ASPHALT REINSTATEMENT MUST BE IN ACCORDANCE WITH OPSD 310. LANDSCAPE AREAS TO BE REINSTATED WITH 150 mm OF TOPSOIL AND SOD IN ACCORDANCE WITH OPSD 802 AND OPSD 803.
- DURING THE CONSTRUCTION PERIOD THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING TEMPORARY TRAFFIC SIGNAGE, INCLUDING TRAFFIC SIGNS, TRAFFIC MARKINGS AND TEMPORARY TRAFFIC LIGHTS, AND FLAGMEN, AS REQUIRED BY THE OWNER, THE CONSULTANT, THE MUNICIPALITY, THE MTO, AND OTHER GOVERNING AUTHORITIES.
- CONSTRUCT SIDEWALK EXPANSION JOINTS & CONTROL JOINTS AS PER OPSD 310.020.
- CONSTRUCT CONCRETE SIDEWALK AS PER OPSD 310.020 AND OPSD 351. TACTILE WALKING SURFACE INDICATORS PER OPSD 351.
- DISPOSE OF CONTAMINATED MATERIALS AT APPROPRIATE OFF-SITE FACILITY THAT MEETS ALL REGULATORY REQUIREMENTS.
- BE PREPARED TO INTERCEPT, CLEAN UP, AND DISPOSE OF SPILLS OR RELEASES THAT MAY OCCUR WHETHER ON LAND OR WATER. MAINTAIN MATERIALS AND EQUIPMENT REQUIRED FOR CLEANUP OF SPILLS OR RELEASES READILY ACCESSIBLE ON SITE.
- PROMPTLY REPORT SPILLS AND RELEASES POTENTIALLY CAUSING DAMAGE TO ENVIRONMENT TO AUTHORITY HAVING JURISDICTION OR INTEREST IN SPILL OR RELEASE INCLUDING CONSERVATION AUTHORITY, WATER SUPPLY AUTHORITIES, DRAINAGE AUTHORITY, ROAD AUTHORITY, AND FIRE DEPARTMENT.
- DECONTAMINATE EQUIPMENT AFTER WORKING IN POTENTIALLY CONTAMINATED WORK AREAS AND PRIOR TO SUBSEQUENT WORK OR TRAVEL ON CLEAN AREAS.
- DO NOT DISCHARGE DECONTAMINATED WATER, OR SURFACE WATER RUNOFF, OR GROUNDWATER WHICH MAY HAVE COME IN CONTACT WITH POTENTIALLY CONTAMINATED MATERIAL, OFF SITE OR TO MUNICIPAL SEWERS.
- CONTRACTOR IS TO SUBMIT A TRAFFIC MANAGEMENT PLAN FOR APPROVAL ONE (1) WEEK PRIOR TO ANY WORK WITHIN THE ROW LIMITS TO MEET THE REQUIREMENTS OF MTO BOOK 7. THE CONTRACTOR WILL BE REQUIRED TO IMPLEMENT ALL REQUIREMENTS OF THE MTO BOOK 7.
- CITY PUBLIC WORKS DEPARTMENT TO BE CONTACTED MINIMUM 7 DAYS PRIOR TO PLANNED DATE FOR CONNECTION TO EXISTING STORM SEWERS, SANITARY SEWERS, AND WATERMAIN. CONNECTION TO EXISTING TO TAKE PLACE IN THE PRESENCE OF APPROPRIATE CITY OF OTTAWA STAFF.



SECTION A-A  
SCALE: 1:50

PAVEMENT STRUCTURES			
MATERIAL	LIGHT DUTY	HEAVY DUTY	COMPACTION
SURFACE LAYER : HL3	40 mm	40 mm	≥ 92%*
BASE LAYER : HL8	40 mm	60 mm	≥ 92%*
GRANULAR BASE : OPSS MUNI 1010 GRANULAR A	200 mm	200 mm	100%**
GRANULAR SUB-BASE : EXISTING GRANULAR BASE PLACED DURING INITIAL SITE GRADING	min. 350 mm	min. 350 mm	100%**

\*MINIMUM PAVEMENT COMPACTION BASED ON MAXIMUM RELATIVE DENSITY, PER OPSD MUNI 310  
 \*\*OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY  
 SOURCE: GEOTECHNICAL INVESTIGATION REPORT, PROPOSED COMMERCIAL DEVELOPMENT, 3850 CAMBRIAN RD, NEPEAN, OTTAWA, ONTARIO, BY GEOTERRE LIMITED, DATED APRIL 6, 2023

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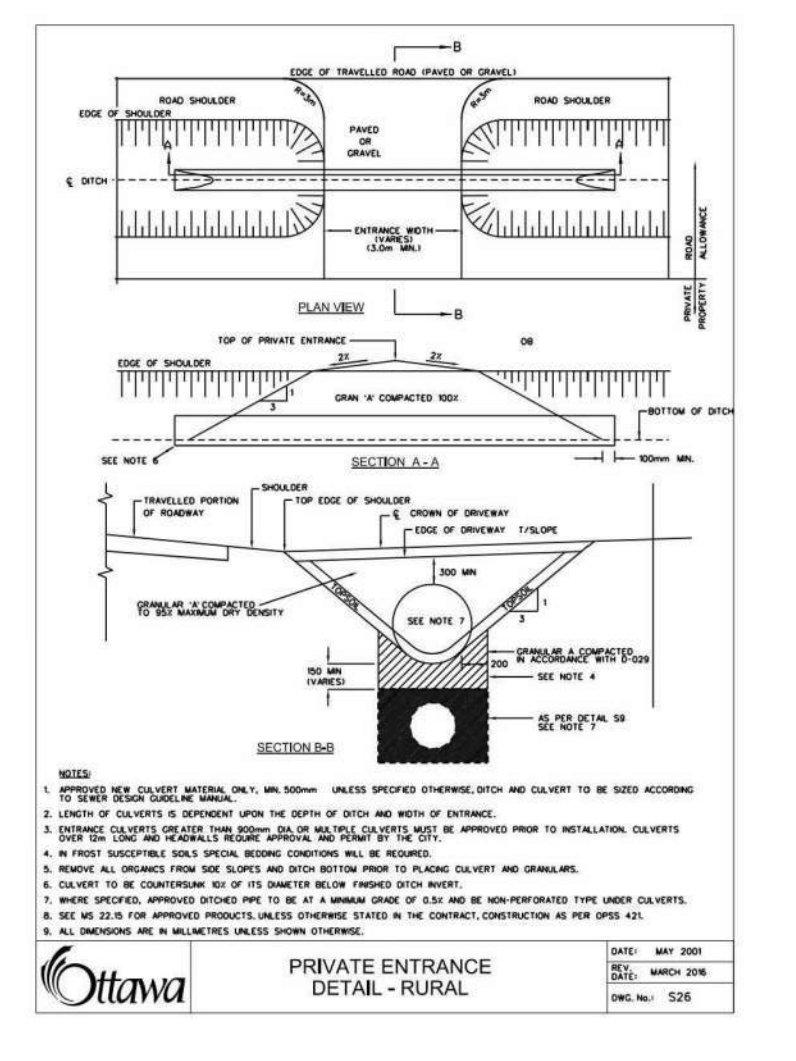
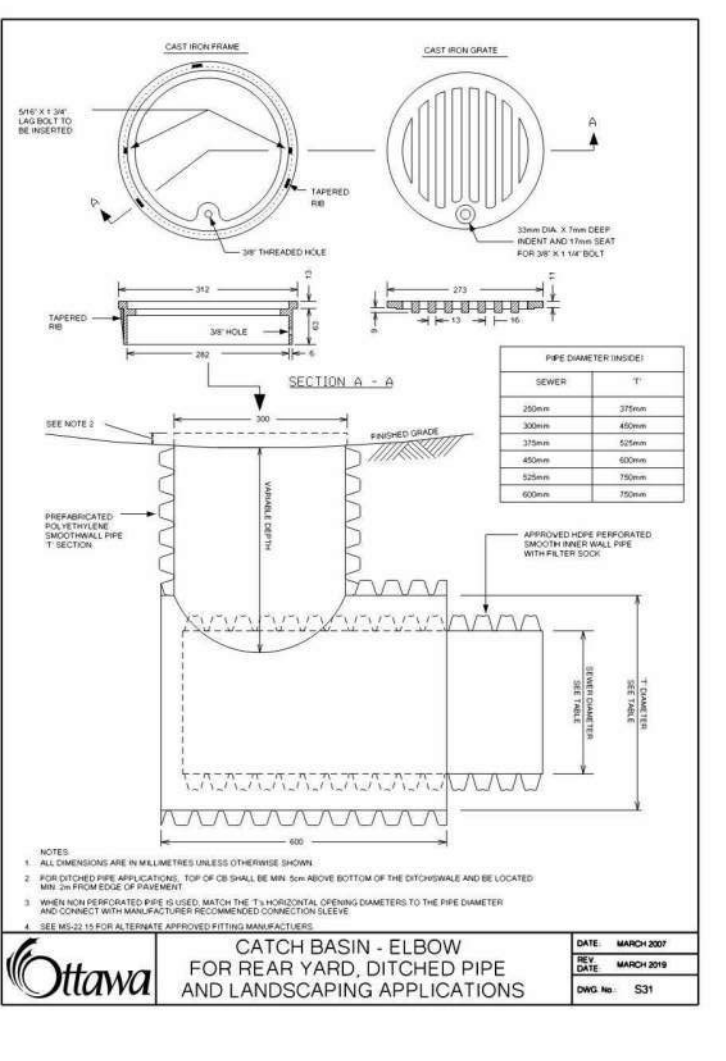
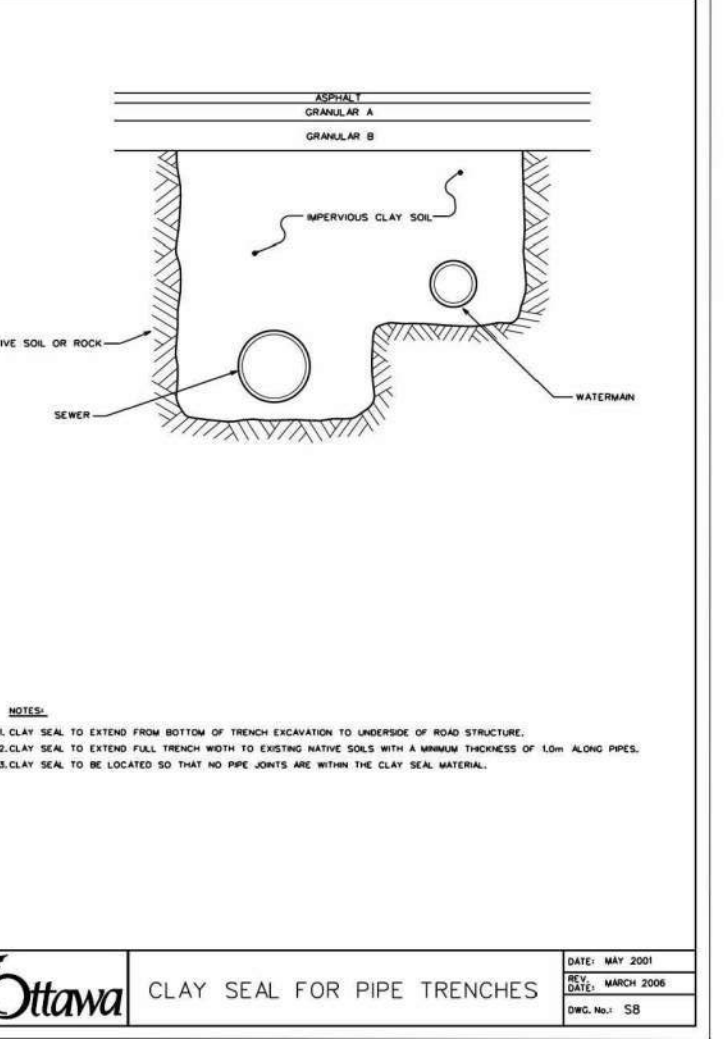
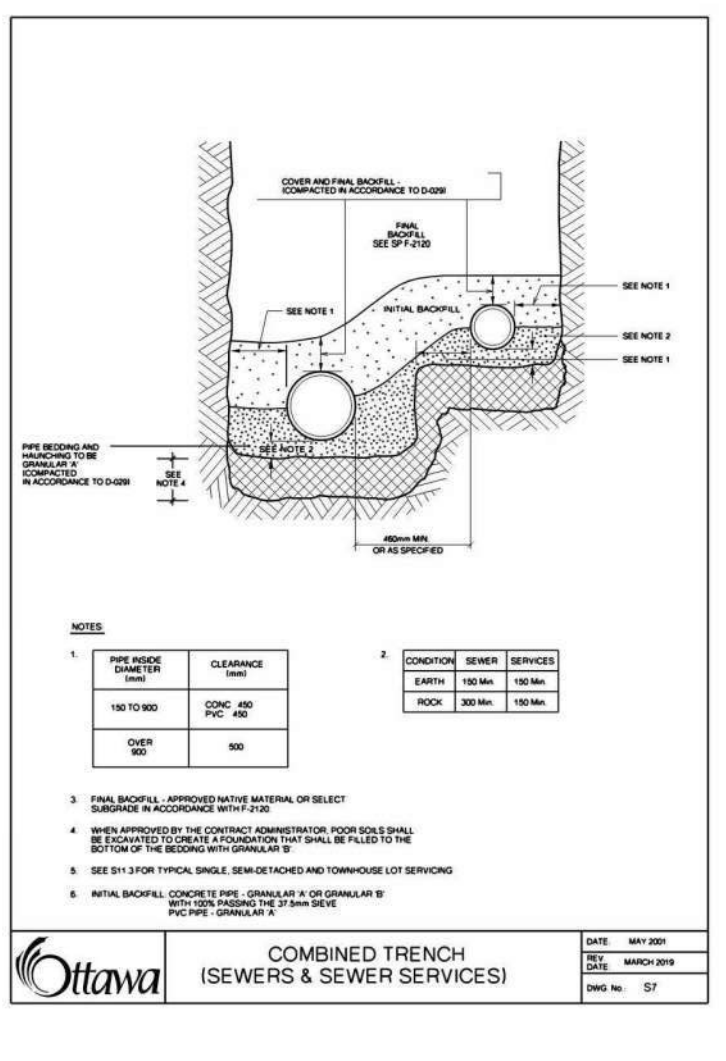
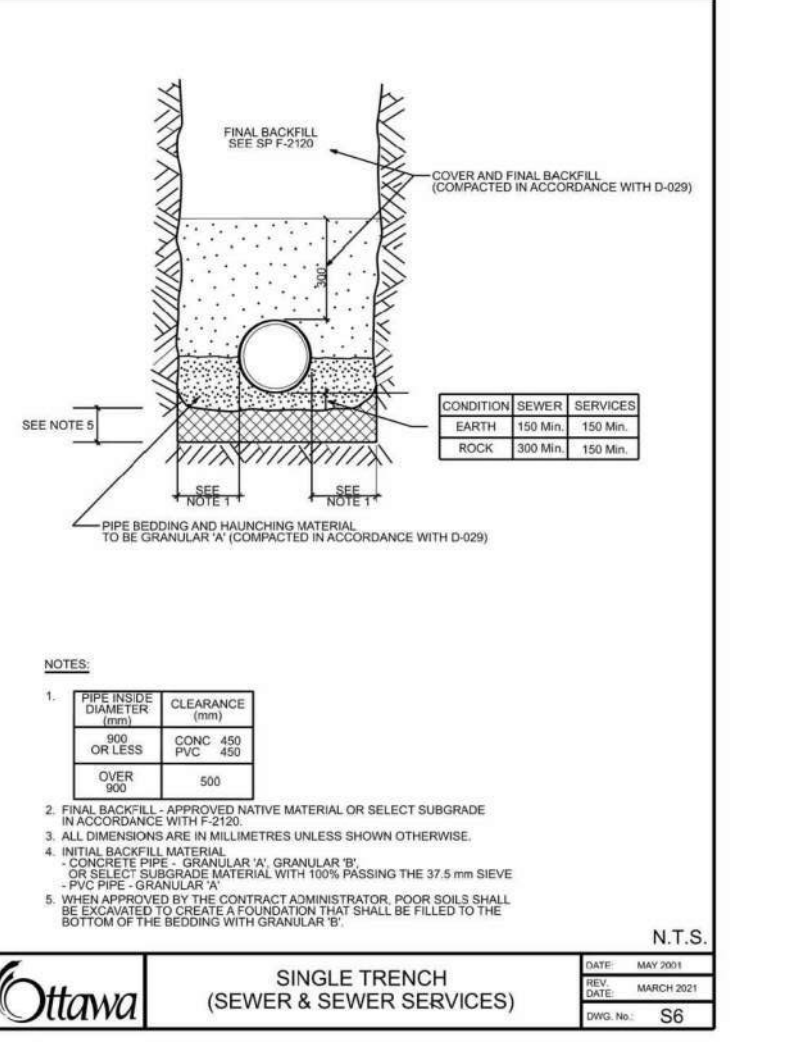
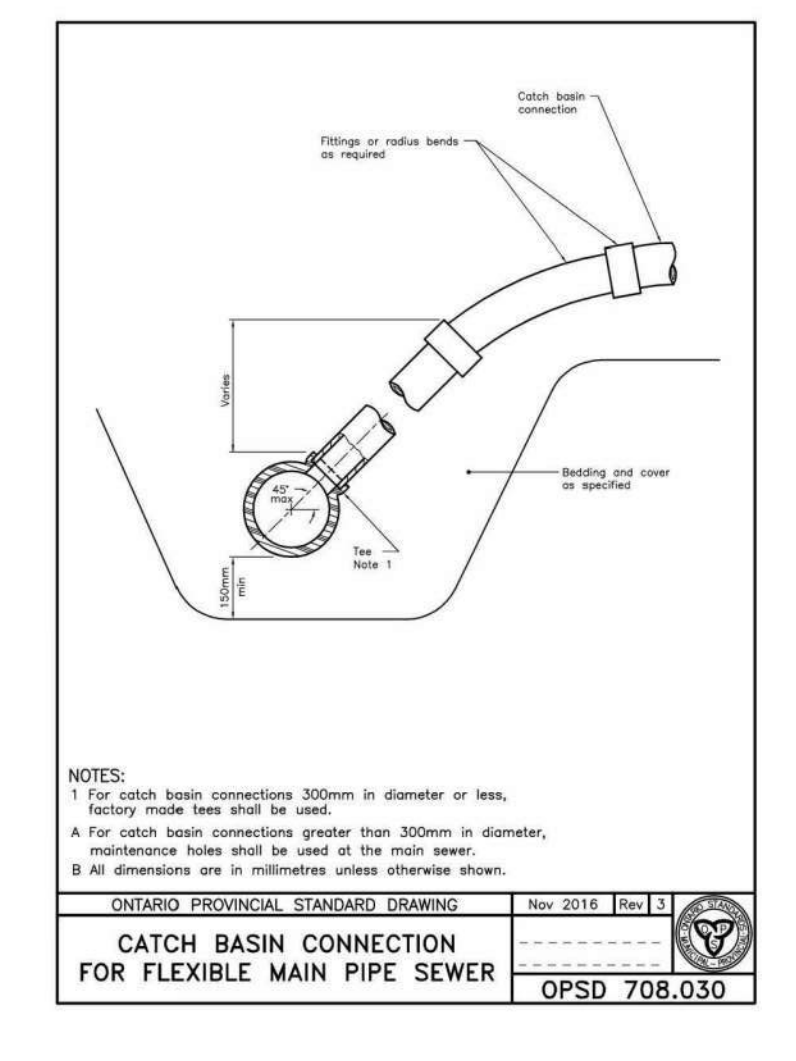
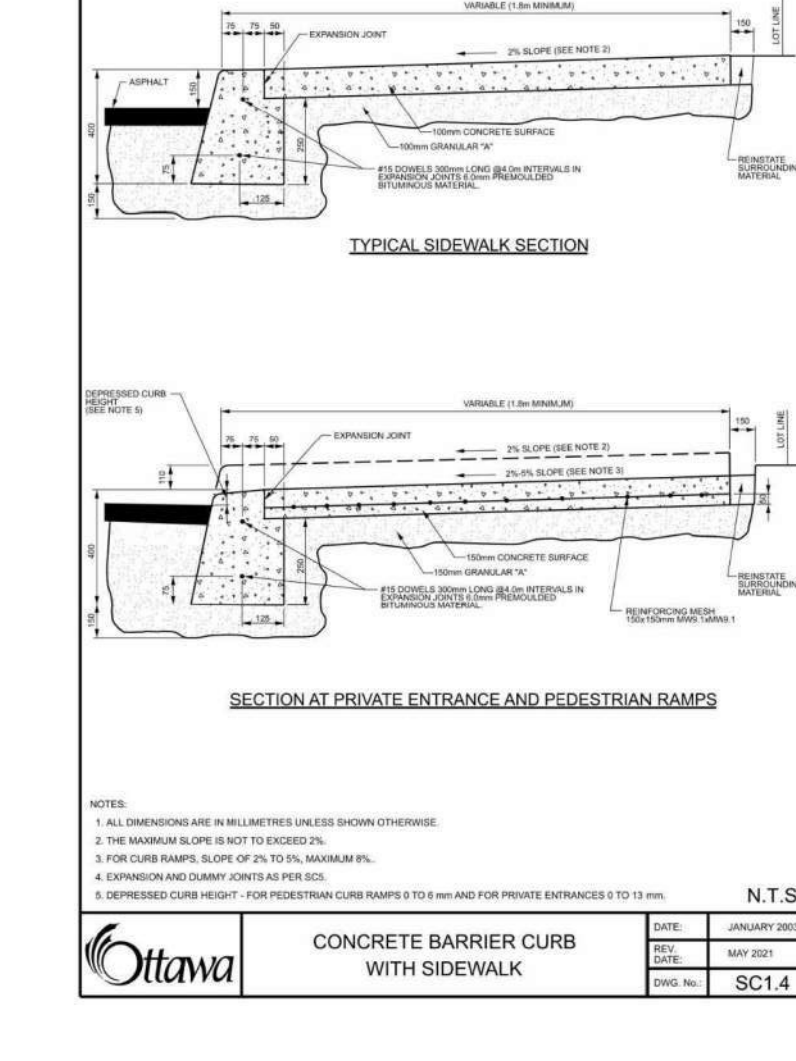
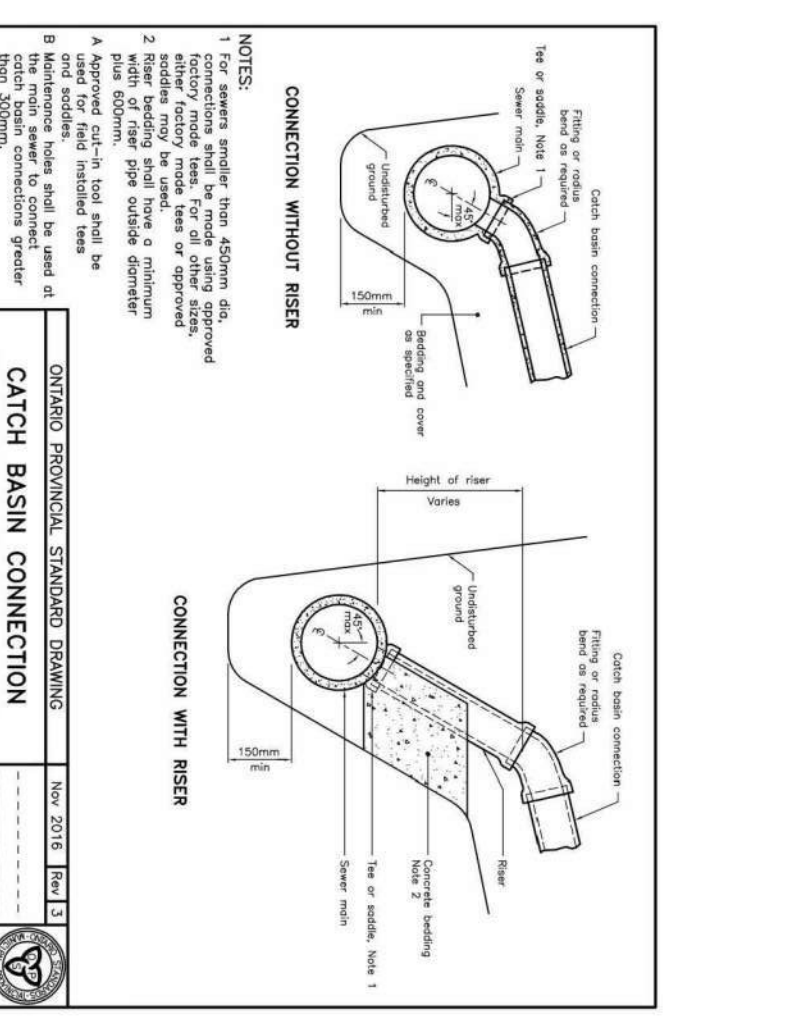
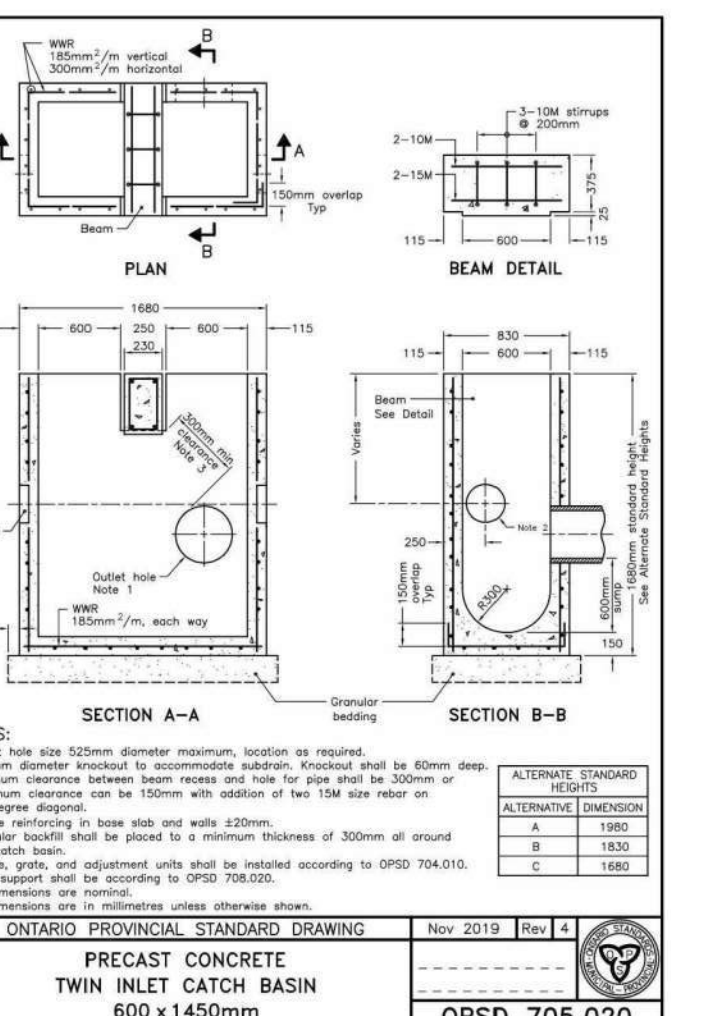
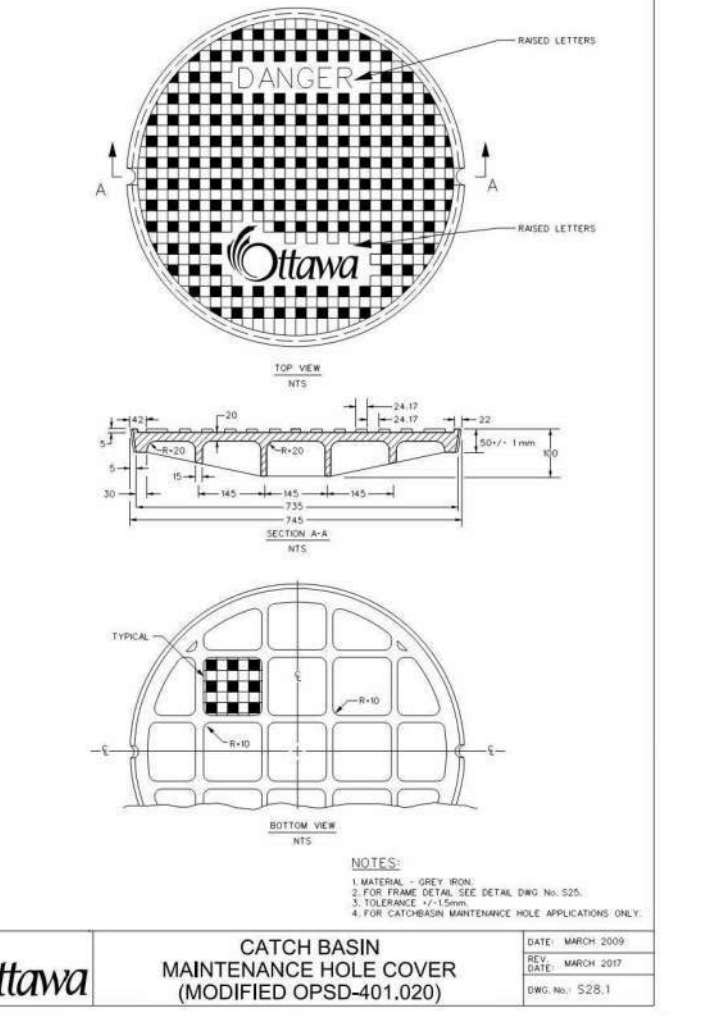
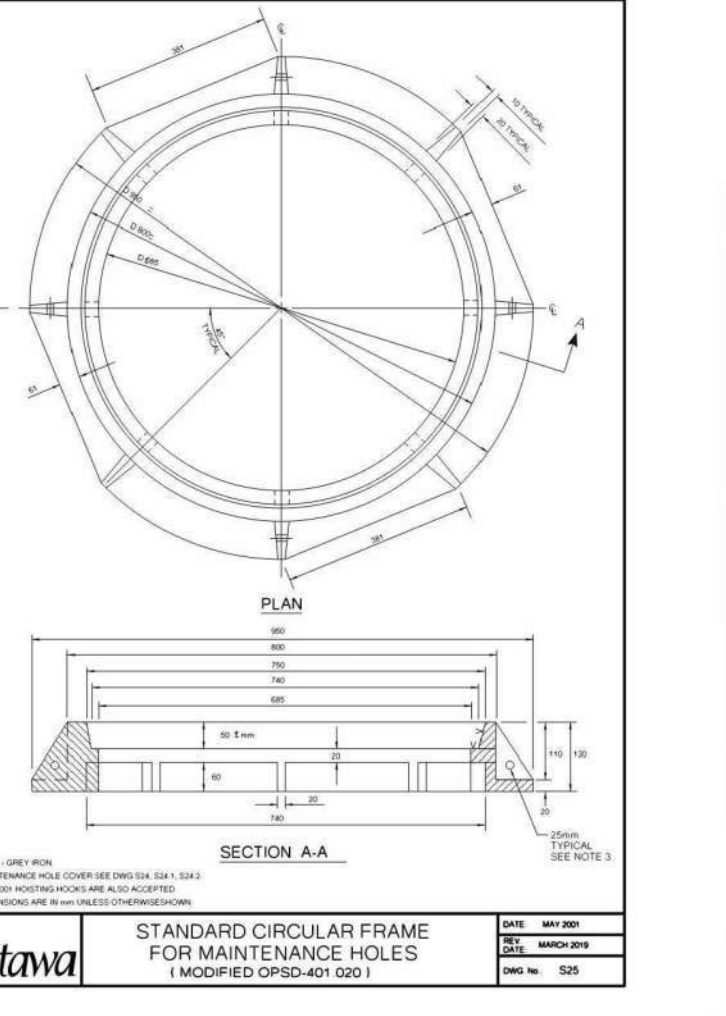
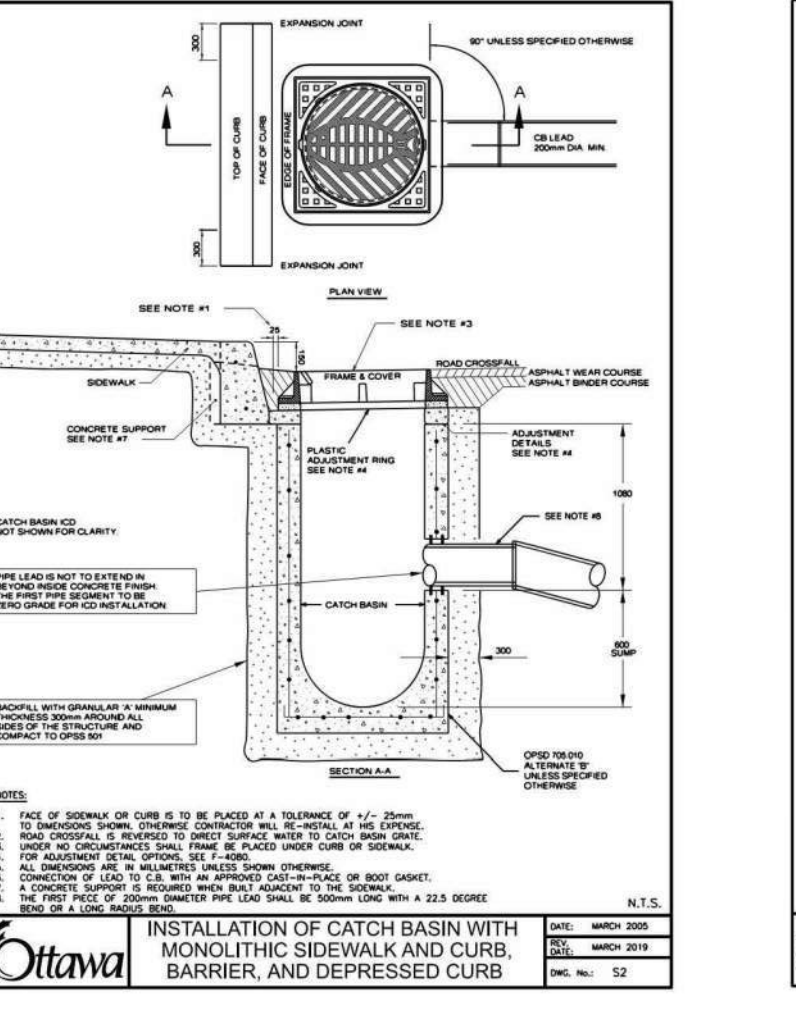
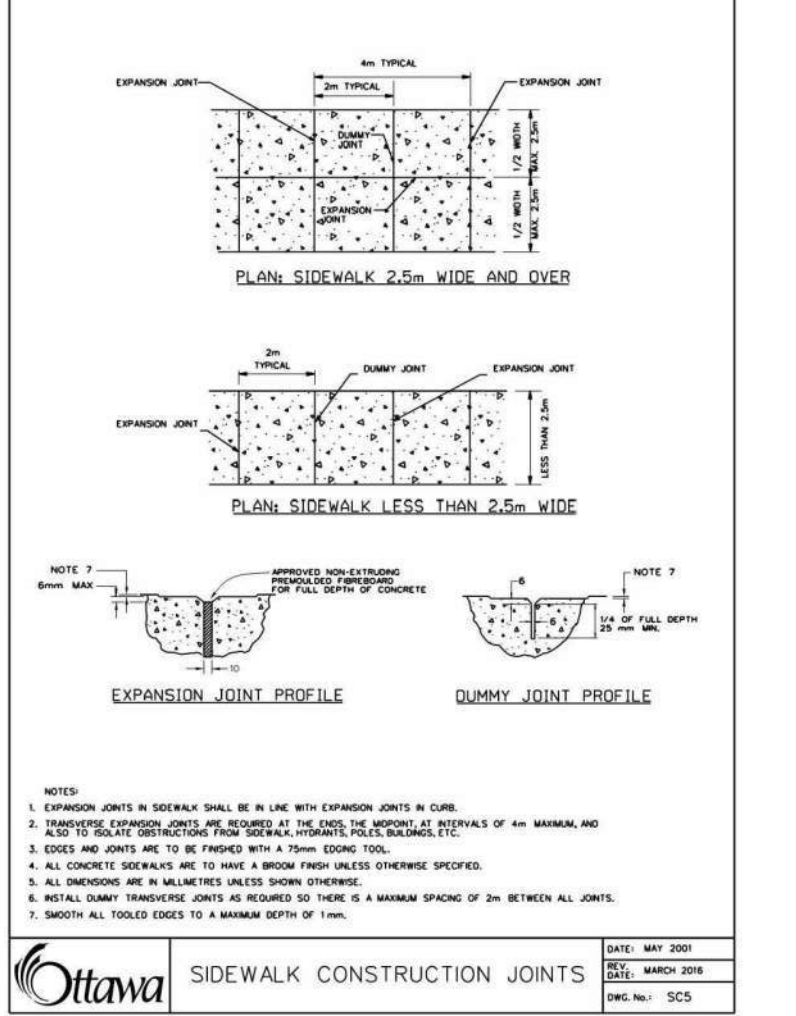
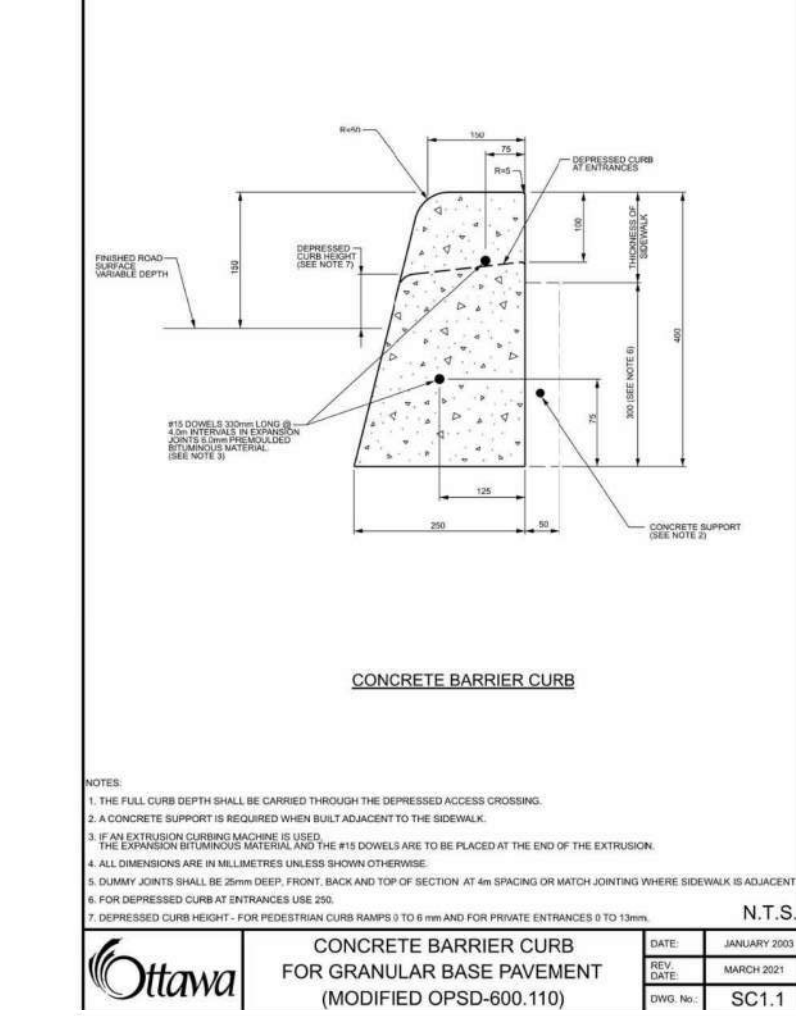
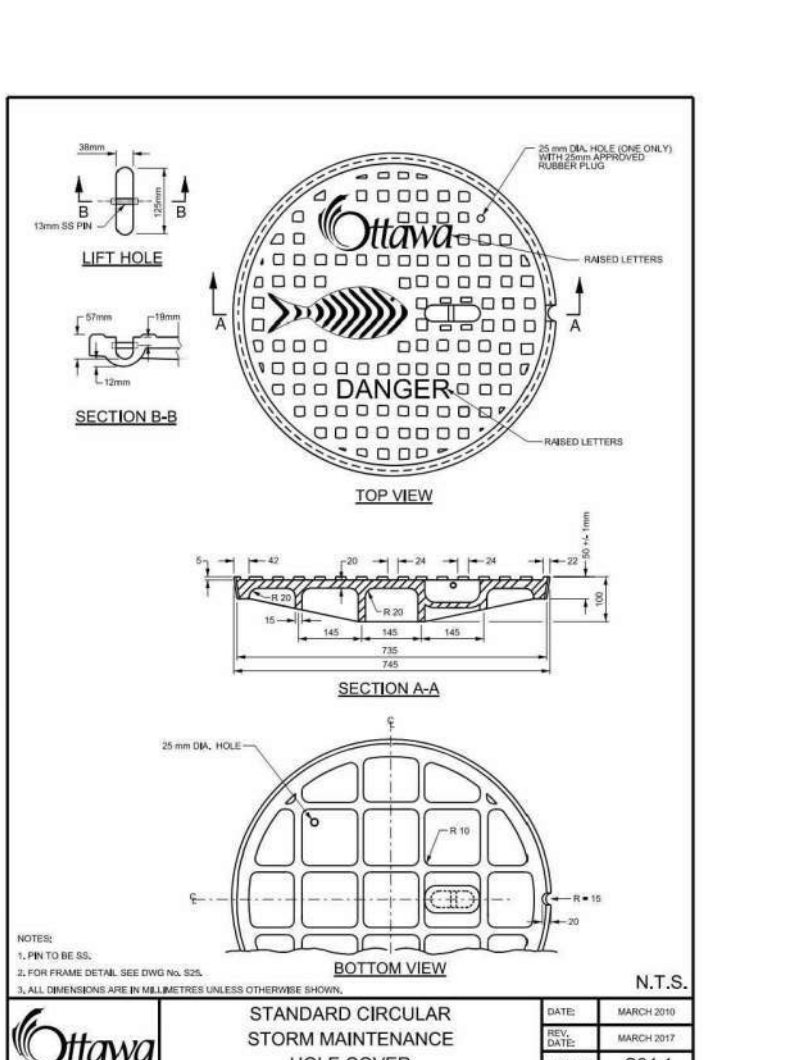
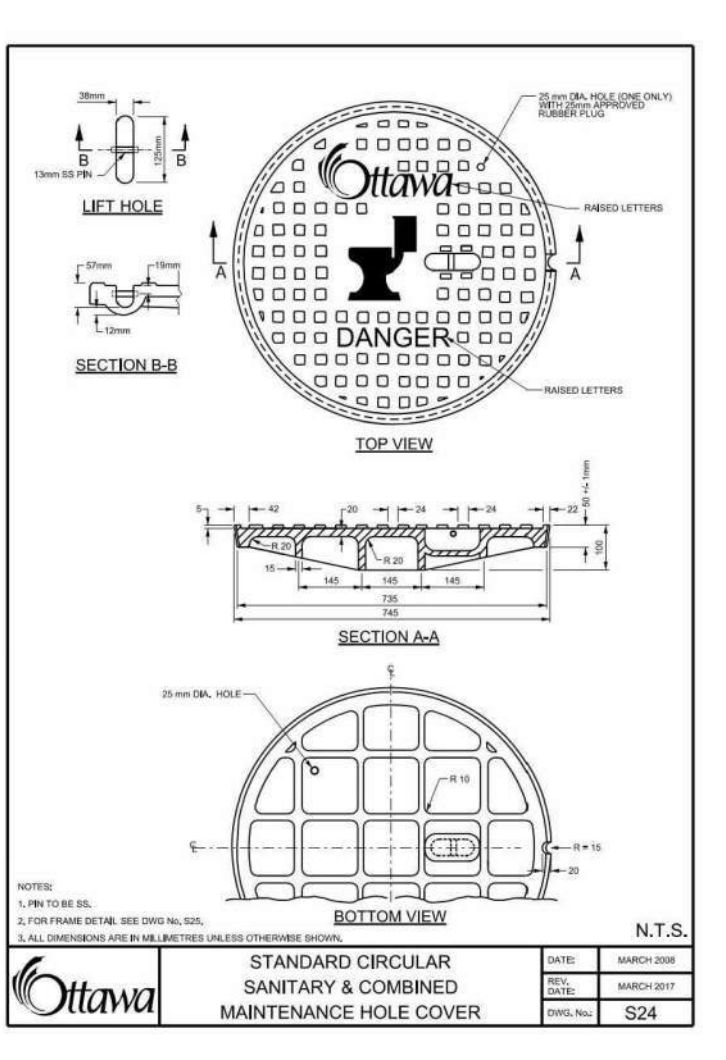
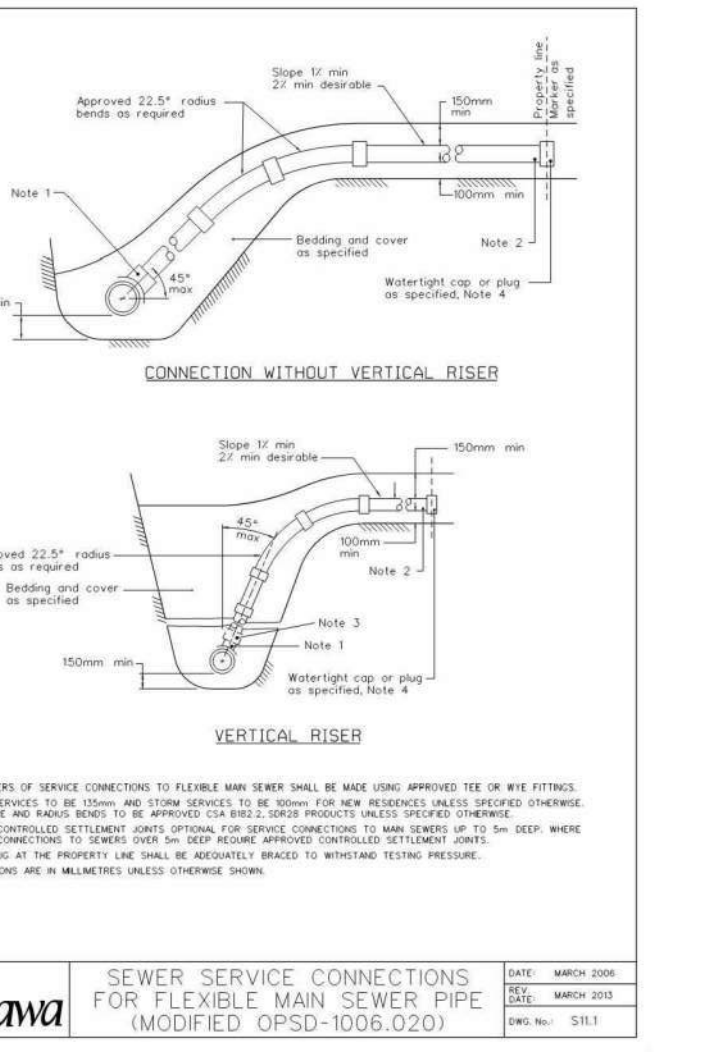
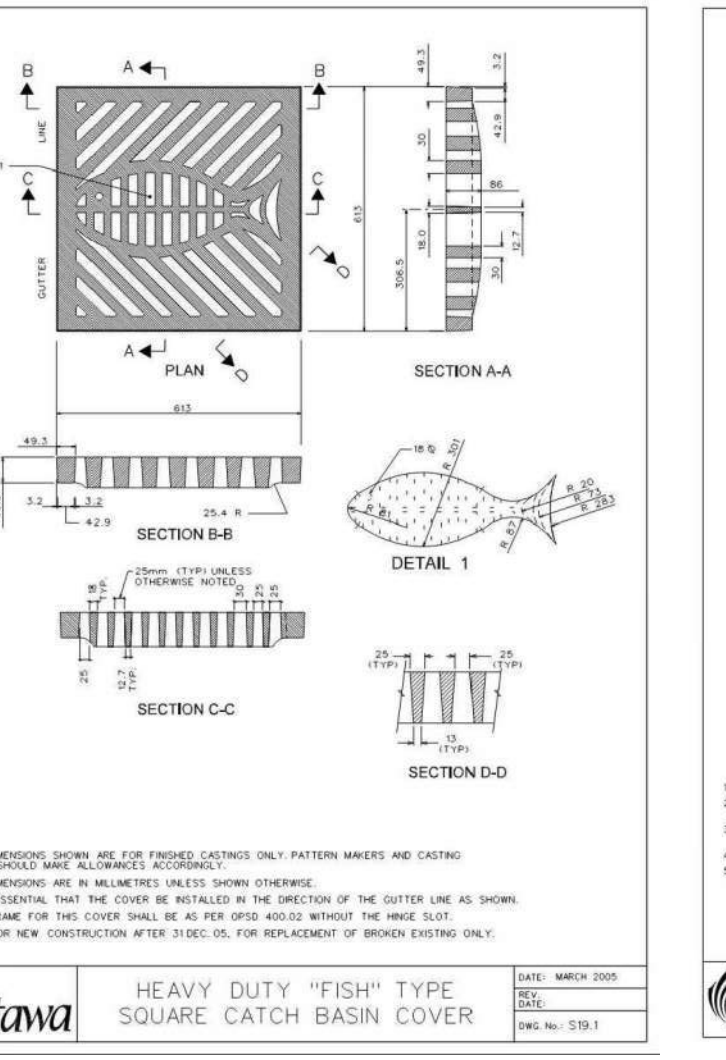
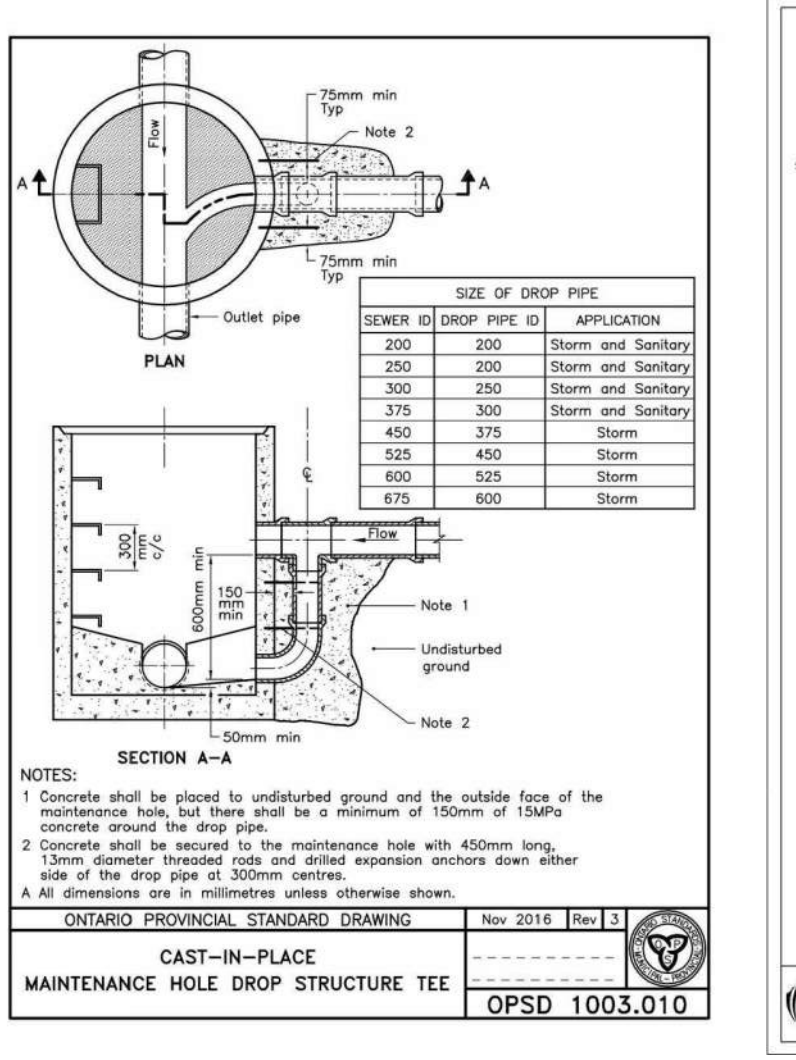
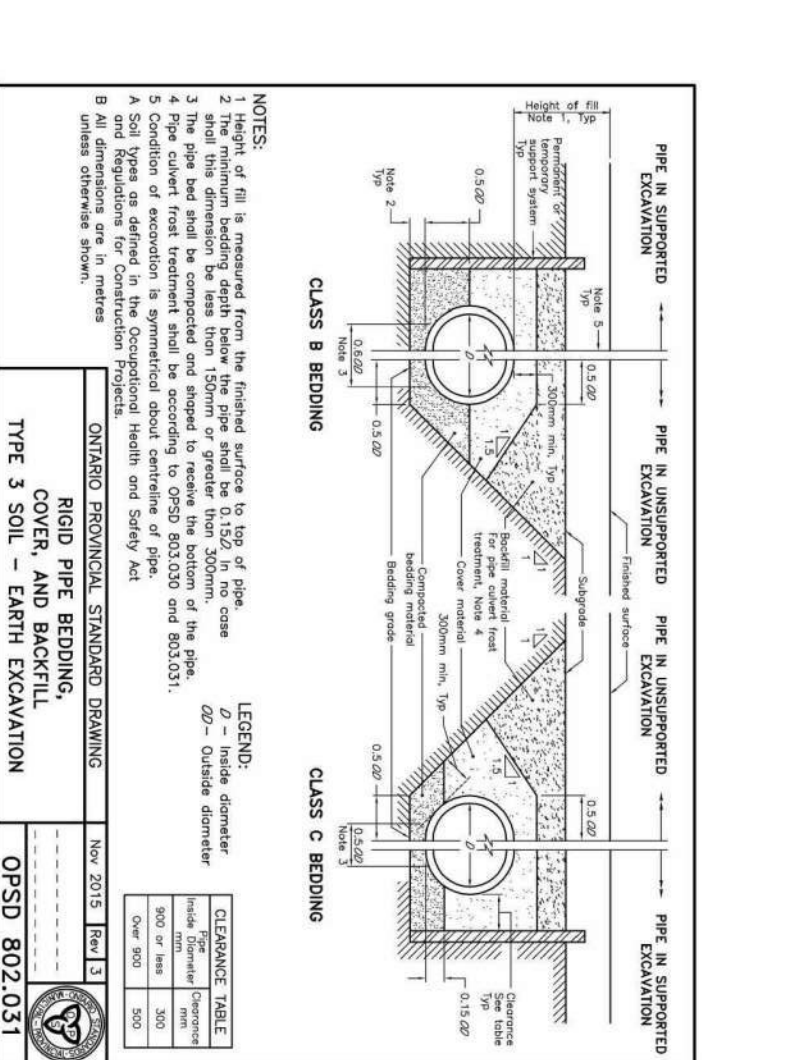
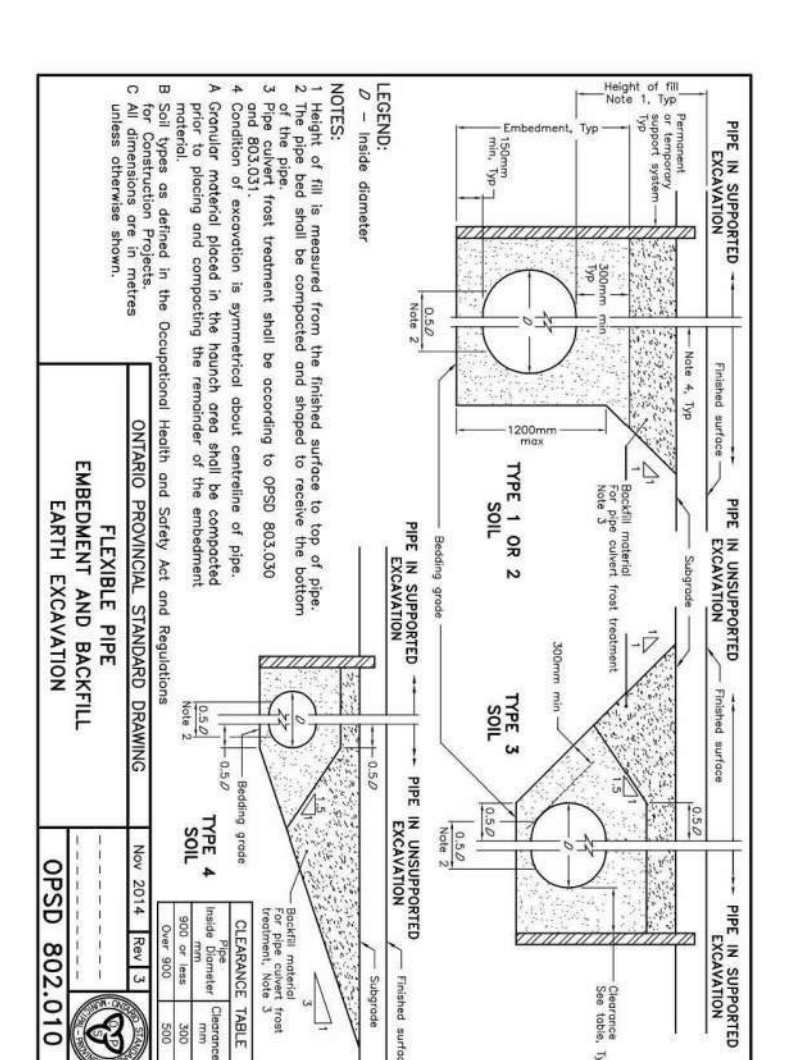
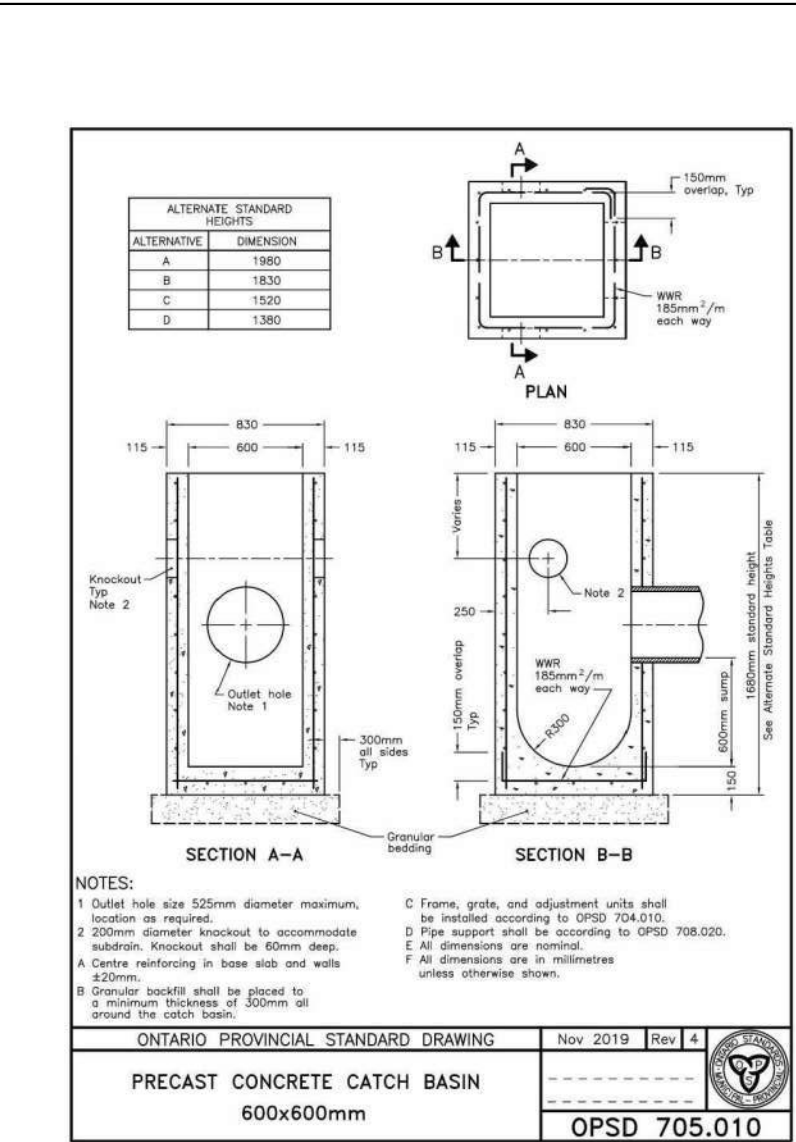
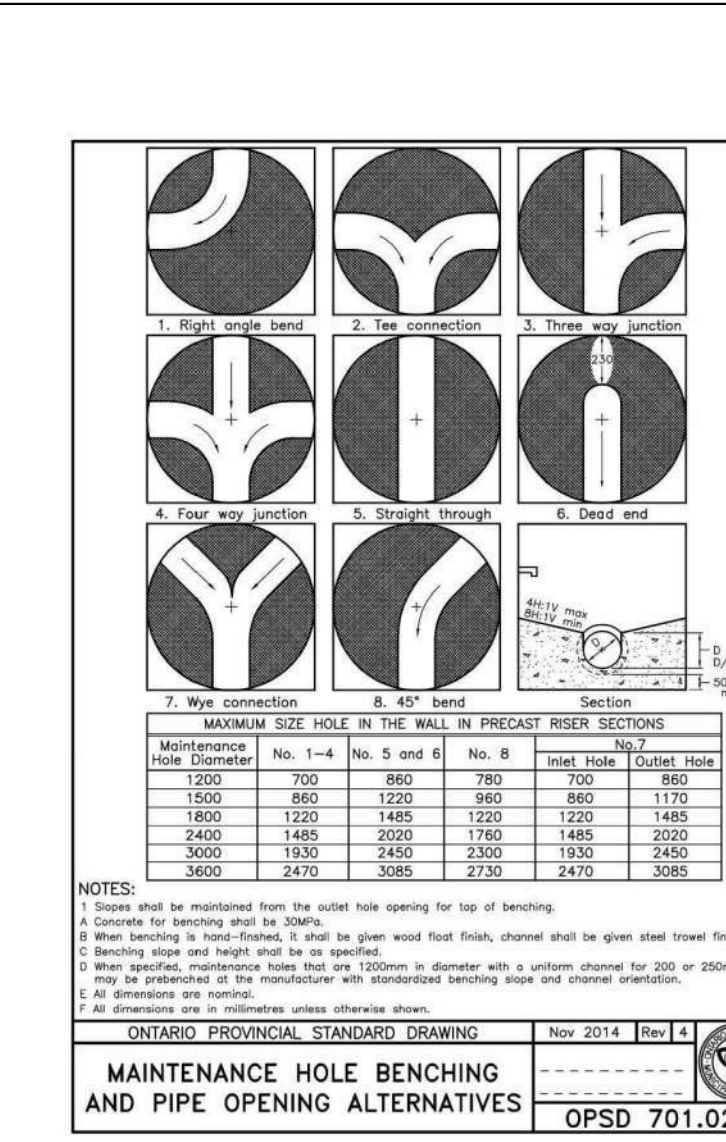
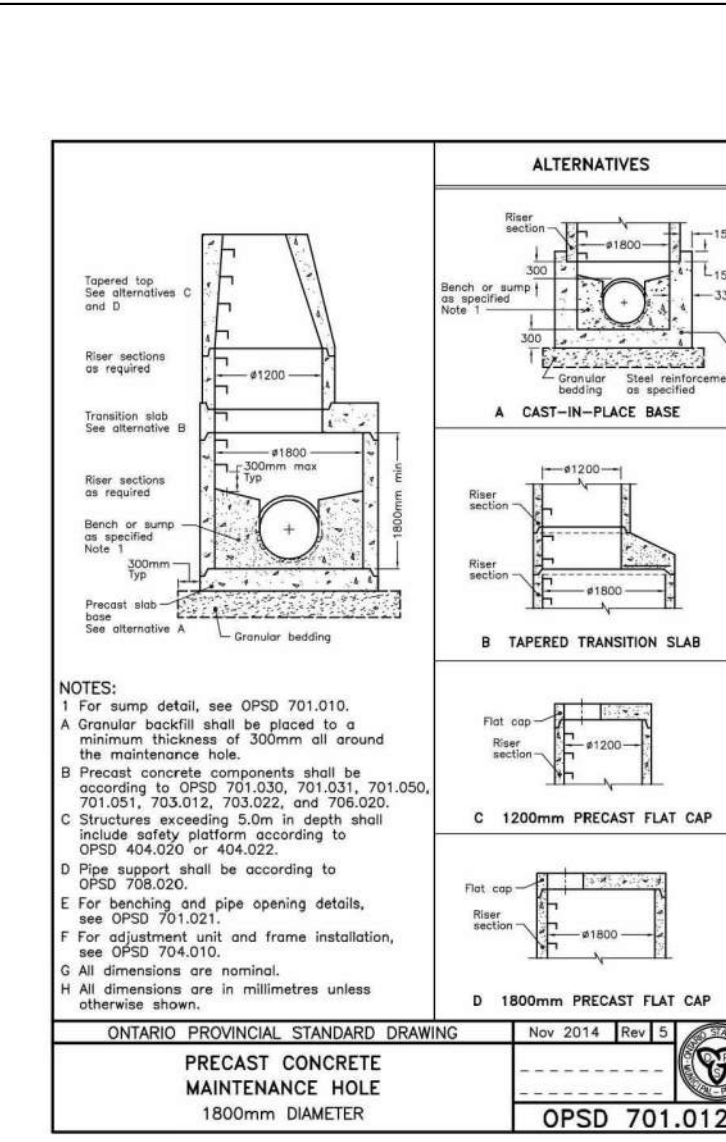
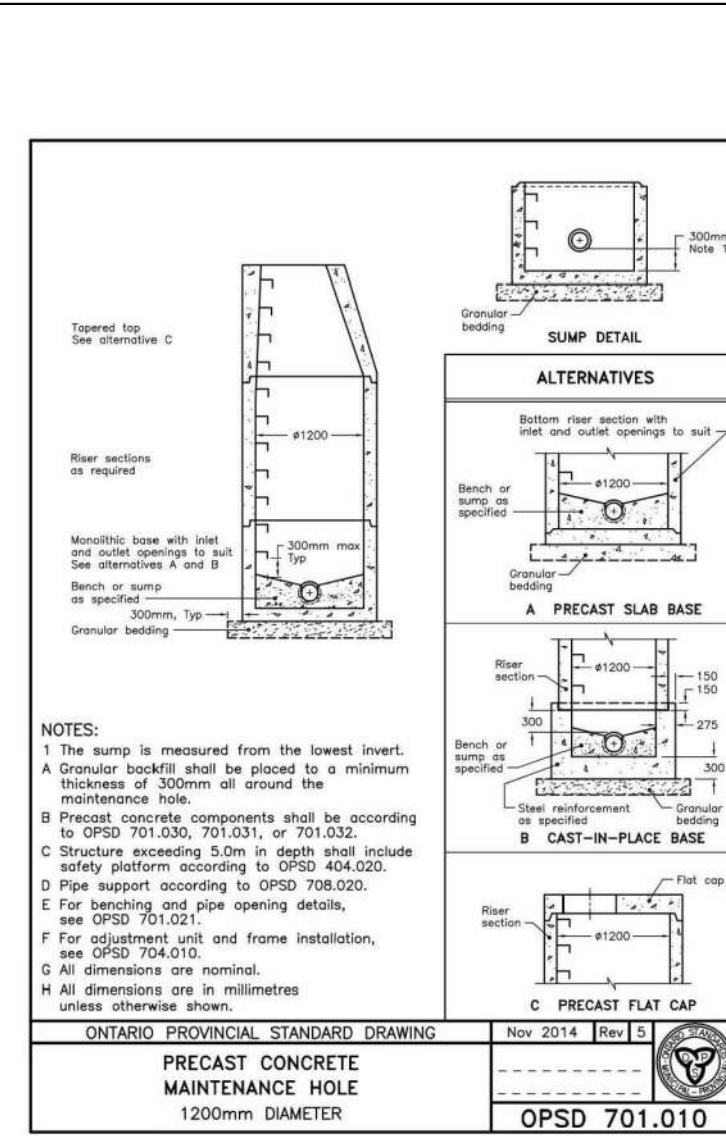
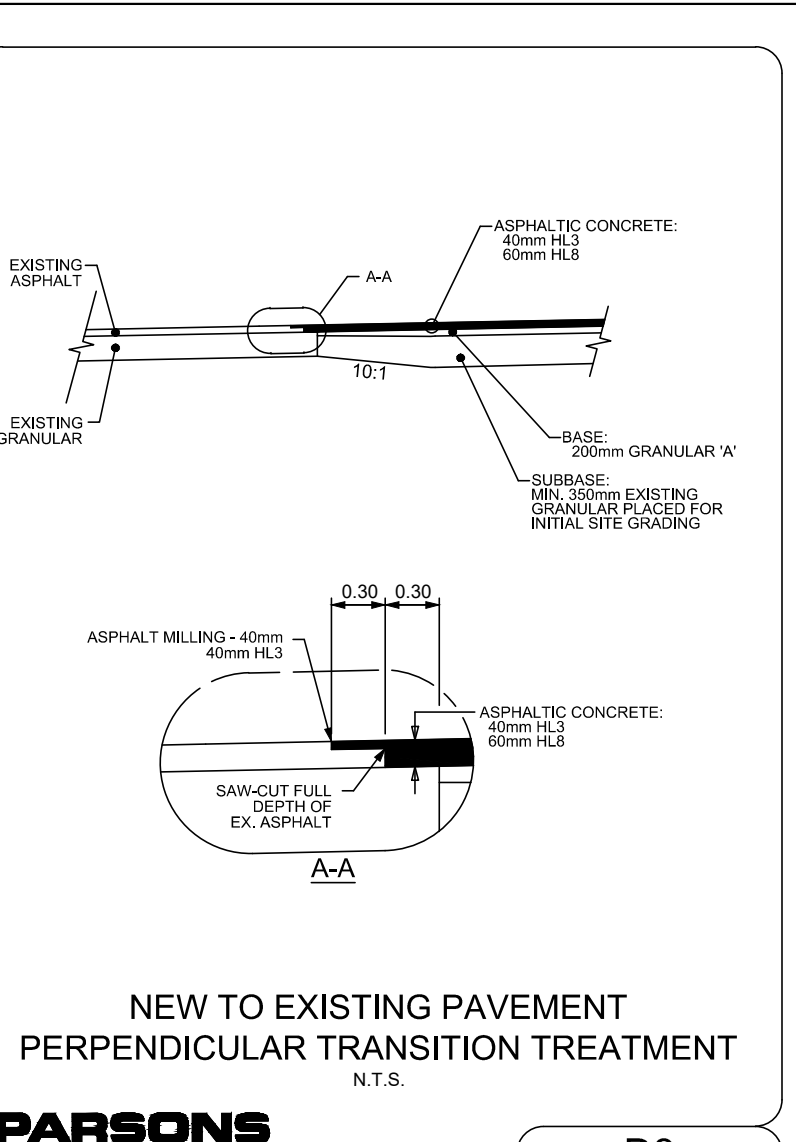
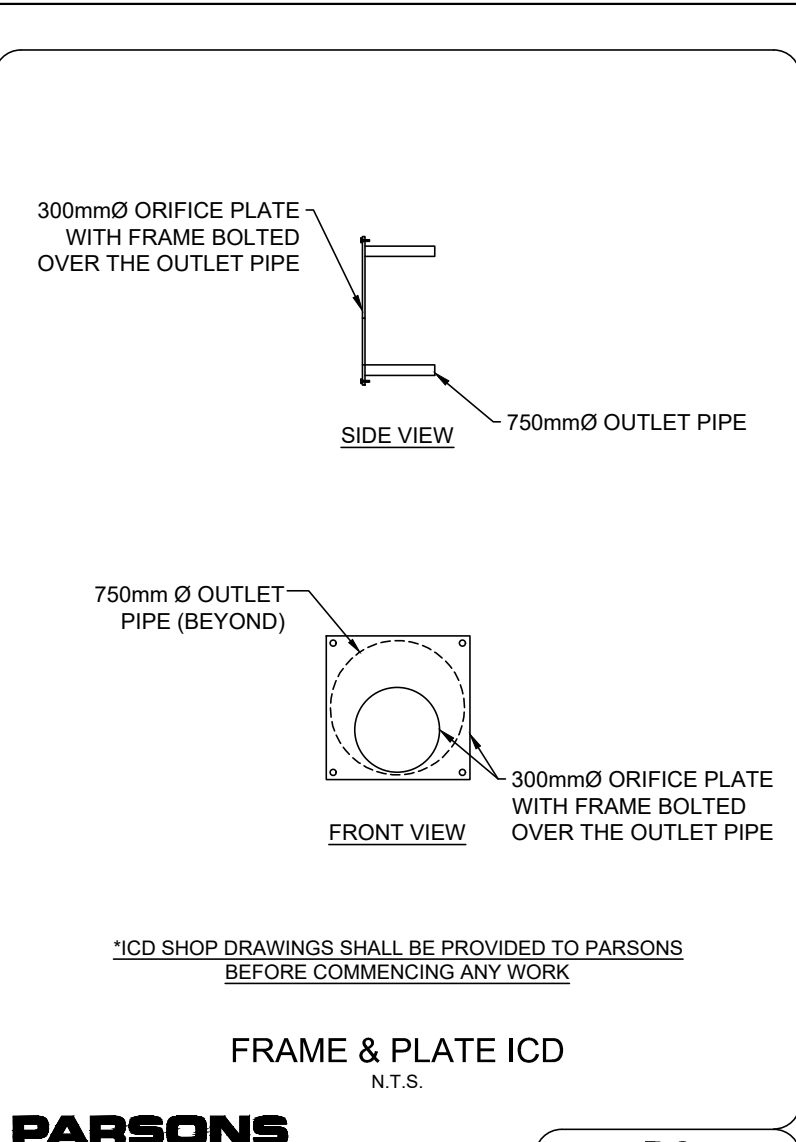
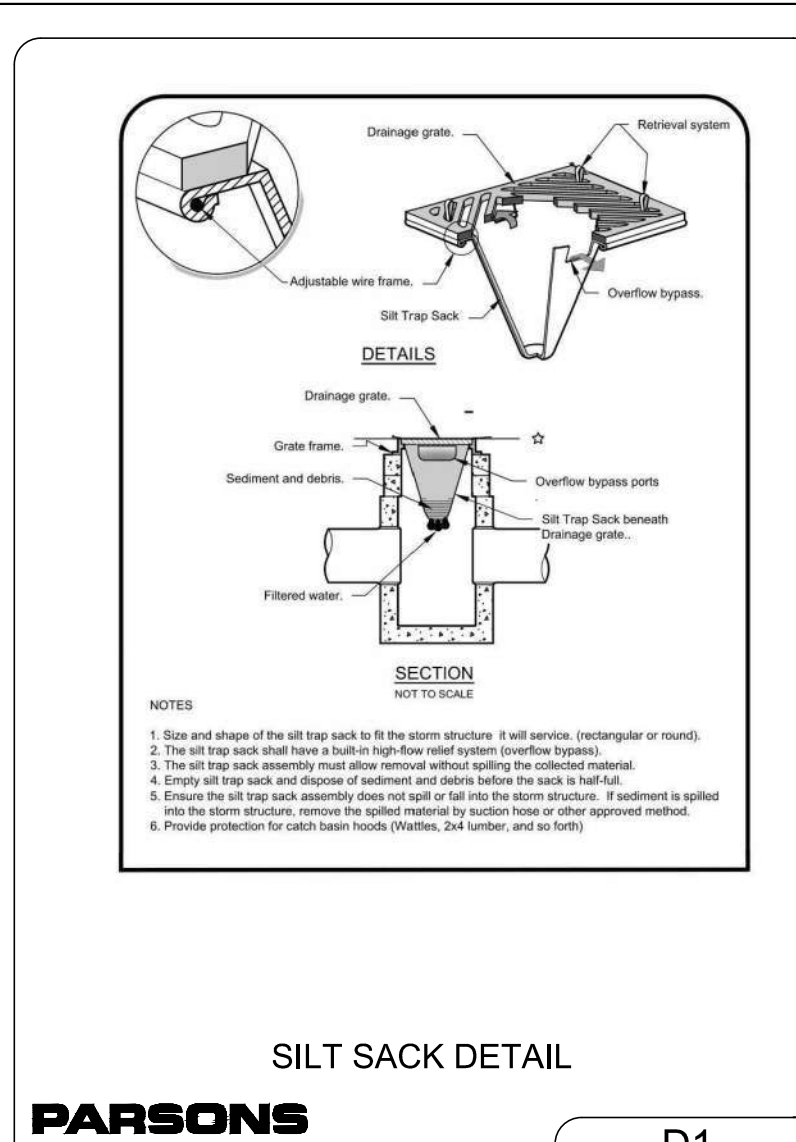
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 SURVEY COMPLETED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD. ON OCTOBER 21, 2022. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE GVD25 GEODETIC DATUM, DERIVED FROM CONTROL MONUMENT NO. 019680071 HAVING AN ELEVATION OF 99.742m.

PROJECT	3850 CAMBRIAN RD	
	BARRHAVEN, ONTARIO	
DRAWING	GRADING PLAN	

PROJECT NO: 478356  
 PROJECT DATE: 2022-08-19  
 DRAWN BY: [Signature]  
 CHECKED BY: MT  
 SCALE: As indicated

DRAWING NO:	REV.
C103	1



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ONTARIO PROVINCIAL STANDARD DRAWING  
 No. 2011 Rev. 1  
 PRECAST CONCRETE CATCH BASIN 600x600mm  
 OPSD 705.010

ONTARIO PROVINCIAL STANDARD DRAWING  
 No. 2011 Rev. 1  
 PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER  
 OPSD 701.010

ONTARIO PROVINCIAL STANDARD DRAWING  
 No. 2011 Rev. 1  
 PRECAST CONCRETE MAINTENANCE HOLE 1800mm DIAMETER  
 OPSD 701.012

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 No. 2011 Rev. 1  
 MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES  
 OPSD 701.021

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 No. 2011 Rev. 1  
 FLEXIBLE PIPE EMBEDMENT AND BACKFILL EARTH EXCAVATION  
 OPSD 802.010

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 No. 2011 Rev. 1  
 CLASS B BEDDING  
 OPSD 802.031

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 CAST-IN-PLACE MAINTENANCE HOLE DROP STRUCTURE TEE  
 OPSD 1003.010

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 HEAVY DUTY "FISH" TYPE SQUARE CATCH BASIN COVER  
 OPSD 1006.020

ONTARIO PROVINCIAL STANDARD DRAWING  
 No. 2011 Rev. 1  
 STANDARD CIRCULAR SANITARY & COMBINED MAINTENANCE HOLE COVER  
 OPSD 1006.020

ONTARIO PROVINCIAL STANDARD DRAWING  
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 STANDARD CIRCULAR STORM MAINTENANCE HOLE COVER  
 OPSD 1006.020

ONTARIO PROVINCIAL STANDARD DRAWING  
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 CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT (MODIFIED OPSD-800.110)  
 SC1.1

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 SIDEWALK CONSTRUCTION JOINTS  
 SC5

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 No. 2011 Rev. 1  
 INSTALLATION OF CATCH BASIN WITH MONOLITHIC SIDEWALK AND CURB, BARRIER AND DEPRESSED CURB  
 SC2

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 STANDARD CIRCULAR FRAME FOR MAINTENANCE HOLES (MODIFIED OPSD-100.020)  
 SC3

ONTARIO PROVINCIAL STANDARD DRAWING  
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 CATCH BASIN MAINTENANCE HOLE COVER (MODIFIED OPSD-101.020)  
 SC3.1

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 PRECAST CONCRETE TWIN INLET CATCH BASIN 600 x 1450mm  
 OPSD 705.020

ONTARIO PROVINCIAL STANDARD DRAWING  
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 CATCH BASIN CONNECTION FOR RIGID MAIN PIPE SEWER  
 OPSD 708.010

ONTARIO PROVINCIAL STANDARD DRAWING  
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 CONCRETE BARRIER CURB WITH SIDEWALK  
 SC1.4

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 CATCH BASIN CONNECTION FOR FLEXIBLE CATCH PIPE SEWER  
 OPSD 708.030

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 COMBINED TRENCH (SEWER & SEWER SERVICES)  
 SC6

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 CLAY SEAL FOR PIPE TRENCHES  
 SC8

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 No. 2011 Rev. 1  
 CATCH BASIN ELBOW FOR RIGID YARD DITCHED PIPE AND LANDSCAPING APPLICATIONS  
 SC9

ONTARIO PROVINCIAL STANDARD DRAWING  
 No. 2011 Rev. 1  
 PRIVATE ENTRANCE DETAIL - RURAL  
 SC9

NO.	DATE	ISSUED FOR	BY
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**Choice Properties**

PROJECT: 3850 CAMBRIAN RD  
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DRAWING: DETAIL PAGE 1

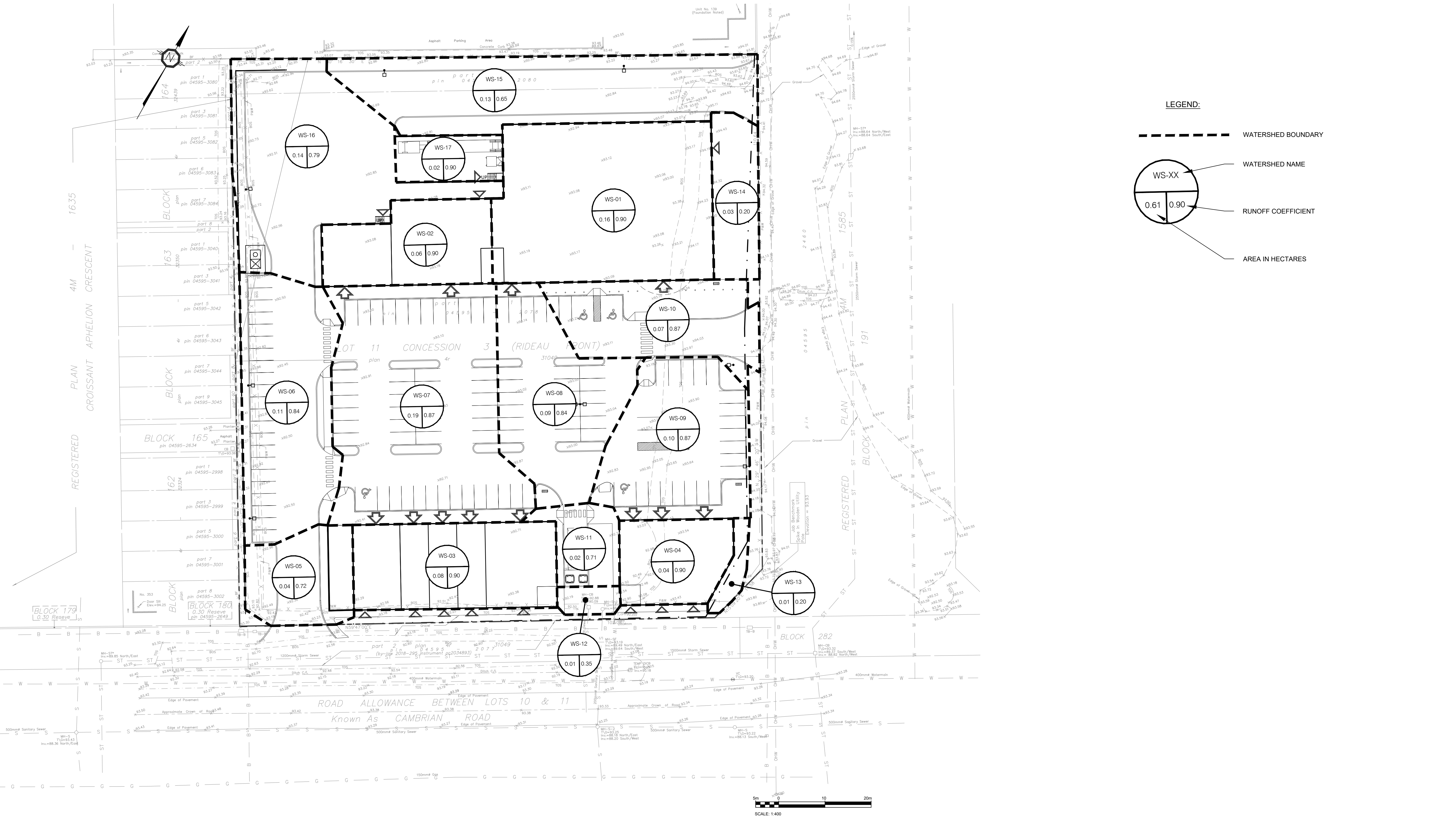
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PROFESSIONAL ENGINEER  
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 100533987  
 2023-04-26  
 PROVINCE OF ONTARIO

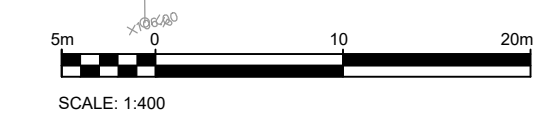
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 REV: 1





**LEGEND:**

- WATERSHED BOUNDARY
- WS-XX WATERSHED NAME
- 0.61 0.90 RUNOFF COEFFICIENT
- AREA IN HECTARES



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**PROJECT**  
 3850 CAMBRIAN RD  
 BARRHAVEN, ONTARIO

**DRAWING**  
 POST-DEVELOPMENT  
 DRAINAGE AREAS

PROJECT NO. 478356	
PROJECT DATE 2022-08-19	
DRAWN BY BV	
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SCALE As indicated	