

GENERAL NOTES:

- 1. ALL WORK WITHIN THE CITY RIGHT-OF-WAY SHALL BE CONSTRUCTED ACCORDING TO THE LATEST CITY OF TORONTO STANDARD DRAWINGS AND SPECIFICATIONS. ONTARIO PROVINCIAL STANDARD DRAWINGS AND SPECIFICATIONS MAY, SUBJECT TO THE APPROVAL OF THE CITY OF TORONTO, BE USED WHERE NO CITY STANDARD OR SPECIFICATION IS AVAILABLE.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CURRENT OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS. THE GENERAL CONTRACTOR SHALL BE DEEMED TO BE THE CONSTRUCTOR AS DEFINED IN THE ACT.
3. ALL TEMPORARY TRAFFIC CONTROL AND SIGNAGE DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT ONTARIO TRAFFIC MANUAL BOOK 7 TEMPORARY CONDITIONS FIELD EDITION.
4. ALL MATERIALS FOR SEWER, FORCEMAIN, WATERMAIN, HYDRANTS AND APPURTENANCES, SHALL BE ACCORDING TO CITY OF TORONTO MATERIAL/MANUFACTURER SPECIFICATION AS REQUIRED BY CHAPTER 6 OF DESIGN CRITERIA FOR SEWERS AND WATERMANS MANUAL.
5. UTILITY SEPARATION AS PER APPENDIX D OF THE DESIGN CRITERIA FOR SEWERS AND WATERMANS MANUAL.
6. SERVICE CONNECTIONS AND UTILITY CUTS MADE IN ROAD PAVEMENTS SHALL BE BACKFILLED WITH UNSHINKABLE FILL ACCORDING TO TS 4.60.
7. THE CONTRACTOR SHALL RECTIFY ALL DISTURBED AREAS TO THE ORIGINAL CONDITION OR BETTER AND TO THE SATISFACTION OF THE CONTRACT ADMINISTRATOR. GRASS AREAS SHALL BE TREATED WITH 100mm OF TOPSOIL AND SHALL BE SOODED ACCORDING TO TS 5.00 AND TS 5.10.
8. ALL EXISTING UTILITIES SHOWN ON DRAWINGS (PLAN AND PROFILE) ARE FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE ACTUAL LOCATION AND DEPTH OF ANY UTILITY AND SHALL BE LIABLE FOR ALL OR ANY DAMAGE.
9. ALL SURVEY STAKE LAYOUT POINTS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
10. AT ALL LOCATIONS WHERE THE PROPOSED WATERMAIN CROSSES UNDER OR ABOVE THE EXISTING SEWERS, OR UTILITIES, GRANULAR A BEDDING MATERIAL IS TO EXTEND FROM THE LOWER PIPE TO THE TOP OF THE UPPER PIPE. GRANULAR A TO BE COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
11. CONTRACTOR TO PROVIDE ADEQUATE SUPPORT DURING CONSTRUCTION BETWEEN THE NEW WATERMAIN AND EXISTING GAS MAINS. MAINTAIN 300mm MINIMUM VERTICAL CLEARANCES BETWEEN NEW WATERMAIN AND EXISTING GAS MAINS LESS THAN 300mm IN DIAMETER. MAINTAIN 600mm MINIMUM VERTICAL CLEARANCE BETWEEN THE NEW WATERMAIN AND EXISTING GAS MAINS EQUAL TO OR GREATER THAN 300mm IN DIAMETER.
12. ALL EXISTING WATERMANS AND SEWER PIPES LARGER THAN 300mm DIAMETER SHALL BE SUPPORTED ACCORDING TO DRAWING T-1007.01-4.

WATERMANS:

- 1. PVC WATERMANS SHALL BE MINIMUM DR 18 CLASS 235 (AWWA) C900-17
2. BEDDING FOR FLEXIBLE PIPE SHALL BE AS PER OPSD 802.010, AND USING GRANULAR A ACCORDING TO TS 1010 AND COMPACTED NO MINIMUM 98% OF MAXIMUM DRY DENSITY
3. COVER REQUIRED ON WATERMAIN IS 1.8M MINIMUM.
4. ALL WATERMAIN SERVICE CONNECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH T-1104.01, T-1104.02-1, T-1104.02-3, T-1105.02-1, AND T-1105.02-2.
5. ALL CURB AND VALVE BOXES TO BE LOCATED AT STREET LINE.
6. MECHANICAL RESTRAINTS SHALL BE INSTALLED AT ALL FITTINGS, BENDS, TEES, CROSSES, REDUCERS, AND VALVES FOR ALL WATERMAIN SIZES. MECHANICAL RESTRAINT AT JOINTS SHALL BE INSTALLED AT EVERY PIPE JOINT 6.1m OF EITHER SIDE OF THE VALVE FOR WATERMANS 100mm DIAMETER OR LARGER.
7. ALL TEES, PLUGS, HORIZONTAL AND VERTICAL BENDS, REDUCERS AND HYDRANTS TO HAVE CONCRETE THRUST BLOCKS AS PER CITY OF TORONTO STANDARD T-1103.01, T-1103.020.
8. WATERMANS MUST FOLLOW THE MINISTRY OF THE ENVIRONMENT PROCEDURES THAT GOVERN THE SEPARATION OF SEWERS AND WATERMANS F-6-1. A MINIMUM VERTICAL CLEARANCE 0.30M OVER, 0.5M UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING. MUST ALSO MAINTAIN 2.5M HORIZONTAL SEPARATION.
9. ALL VALVES LESS THAN 400MM TO BE IN A VALVE AND BOX AS PER CITY OF TORONTO STANDARD T-1101.02-2. ALL VALVES 400MM AND LARGER SHOULD BE IN A CHAMBER.
10. SACRIFICIAL ANODES TO BE INSTALLED FOR ALL METAL PIPES AND APPURTENANCES, WATER SERVICES AND FITTINGS AS PER CITY OF TORONTO STANDARD T-1106.04, T-1106.05 AND T-1106.06 CONSTRUCTION SPECIFICATION T.S. 7.22.
11. TRACER WIRE INSTALLATION AS PER CITY OF TORONTO CONSTRUCTION SPECIFICATION T.S. 7.40
12. HYDROSTATIC PRESSURE TESTING AND LEAKAGE TESTING OF THE WATERMAIN SHALL BE ACCORDING TO TS 441.
13. THE NEW WATERMAIN SHALL BE ISOLATED ACCORDING TO T-1104.03-3 OR T-1104.03-4 UNTIL BACTERIOLOGICAL TESTS ARE SATISFACTORILY COMPLETED.
14. PROVISIONS FOR FLUSHING THE WATER LINE PRIOR TO TESTING ETC. MUST BE PROVIDED WITH AT LEAST A 50MM OUTLET ON 100MM AND LARGER LINES AS PER T-1104.03-1. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE LINE. ON FIRE LINES, FLUSHING OUTLET TO BE 50MM DIAMETER MINIMUM OR A HYDRANT.
15. DISINFECTION OF THE WATERMAIN SHALL BE ACCORDING TO TS 7.30 AND SHALL INCLUDE ALL NEW WATER SERVICES 100mm DIA AND LARGER.
16. TORONTO WATER REQUIRES THAT THE NEW DISTRIBUTION SYSTEM REMAIN ISOLATED UNTIL SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE RECEIVED. ECS CONTRACT ADMINISTRATOR SHALL NOTIFY TORONTO WATER WHEN SAMPLE RESULTS HAVE PASSED IN ORDER TO PROCEED WITH REMOVAL OF THE BLOW-OFF AND BACKFILLING OF THE ACCESS PIT.
17. AFTER SATISFACTORY DISINFECTION OF THE NEW WATERMAIN IS ACHIEVED, PERMANENT CONNECTIONS TO THE EXISTING WATERMANS WITH A FILLER PIECE SHALL BE MADE ACCORDING TO TS 7.10.
18. CITY IN-SERVICE WATER VALVES, CURB STOPS, FIRE HYDRANTS CAN ONLY BE OPERATED BY TORONTO WATER STAFF.
19. ALL NEW WATERMANS SHALL BE INSULATED WHERE THE COVER IS LESS THAN 1.65m ACCORDING TO T-708.01-4.
20. THE CONTRACTOR SHALL CONNECT OR RECONNECT ALL STRAY CURRENT DRAINAGE CABLES CONNECTED TO THE T/O ELECTRIFIED RAIL SYSTEM ENCOUNTERED DURING WATERMAIN CONSTRUCTION.

SANITARY & STORM SEWERS:

- 1. MAINLINE PVC PIPE SHALL BE DR 35.
2. SANITARY SERVICE CONNECTIONS SHALL BE SINGLE, 150mm MINIMUM, PVC CLASS DR 28 INSTALLED AT 2% AND THE COLOUR SHALL BE GREEN, FOR SINGLE RESIDENTIAL DWELLINGS.
3. EMBEDMENT MATERIAL FOR FLEXIBLE PIPE SHALL BE ACCORDING TO OPSD 802.010 AND USING GRANULAR A ACCORDING TO TS 1010 AND COMPACTED TO MINIMUM 98% OF MAXIMUM DRY DENSITY.
4. ULTRA-RIB PIPE IS NOT PERMITTED WITHIN THE MUNICIPAL RIGHT-OF-WAY.
5. MAINTENANCE HOLES AS PER CITY OF TORONTO STANDARD, T-701.010 (1200MM), T-701.011 (1500MM), T-701.012-1 (1800MM) OR T-701.013 (2400MM). FRAME AND COVER AS PER OPSD 401.010 TYPE A CLOSED (SANITARY) TYPE B OPEN (STORM)
6. MANHOLE CHAMBER OPENINGS MUST BE LOCATED ON THE UPSTREAM SIDE OF THE MANHOLE
7. BENCHING SHALL BE AS PER CITY OF TORONTO STANDARD T-701.021.
8. SANITARY MAINTENANCE HOLE SHALL HAVE WATERTIGHT FRAME AND COVER IN PONDING AREAS AS PER OPSD 401.030
9. NON-REINFORCED CONCRETE PIPE 150mm TO 250mm SHALL BE AS PER CSA A257.1-03 CLASS 3. HEIGHT OF FILL TO BE VERIFIED USING OPSD TABLES 807.040.
10. SINGLE CATCHBASINS SHALL BE AS PER CITY OF TORONTO STANDARD T-705.010 COMPLETE WITH GOSS TRAP. FRAME AND COVER AS PER OPSD 400.070. (NOTE OPSD 400.070 FRAME AND COVER IS REQUIRED WITHIN THE MUNICIPAL RIGHT OF WAY. ON SITE FRAME AND COVERS MAY BE DIFFERENT. THE PROPER OPSD SHOULD BE LISTED)
11. CONNECTION DETAIL FOR SEWER PIPE AT CATCHBASINS AND MAINTENANCE HOLES SHALL BE ACCORDING TO T-708.020.
12. CATCHBASIN LEADS TO BE 250mm PVC DR-35 FOR SINGLE CATCHBASINS AND 300MM PVC DR-35 FOR DOUBLE CATCHBASINS UNLESS OTHERWISE NOTED.

WATERMAIN - FILL AREAS:

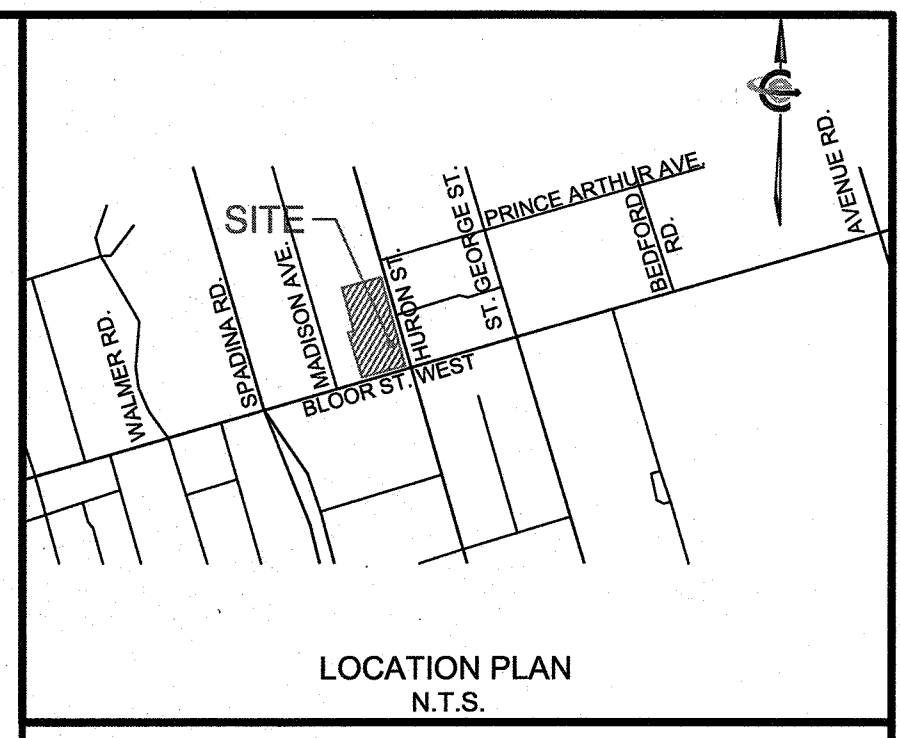
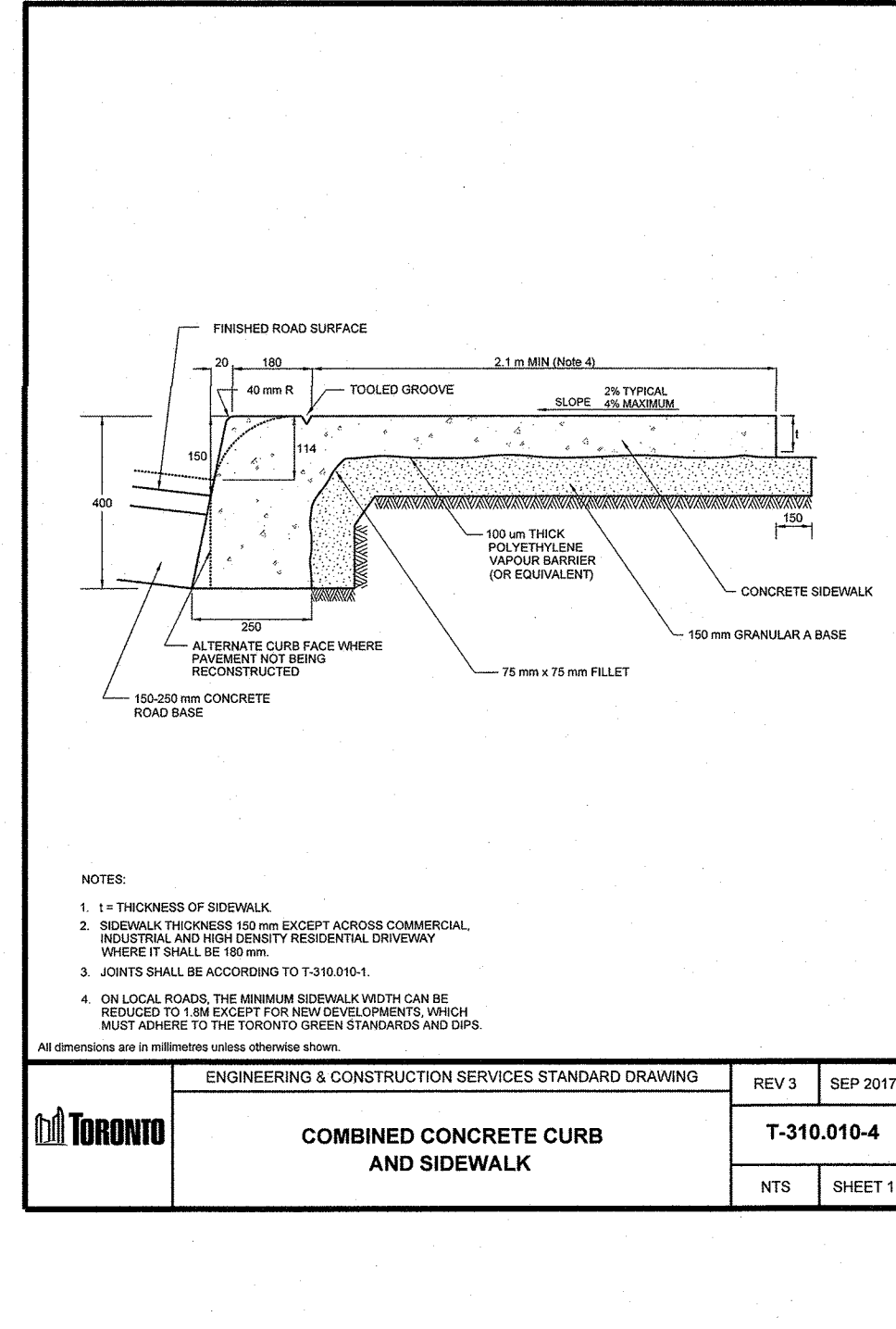
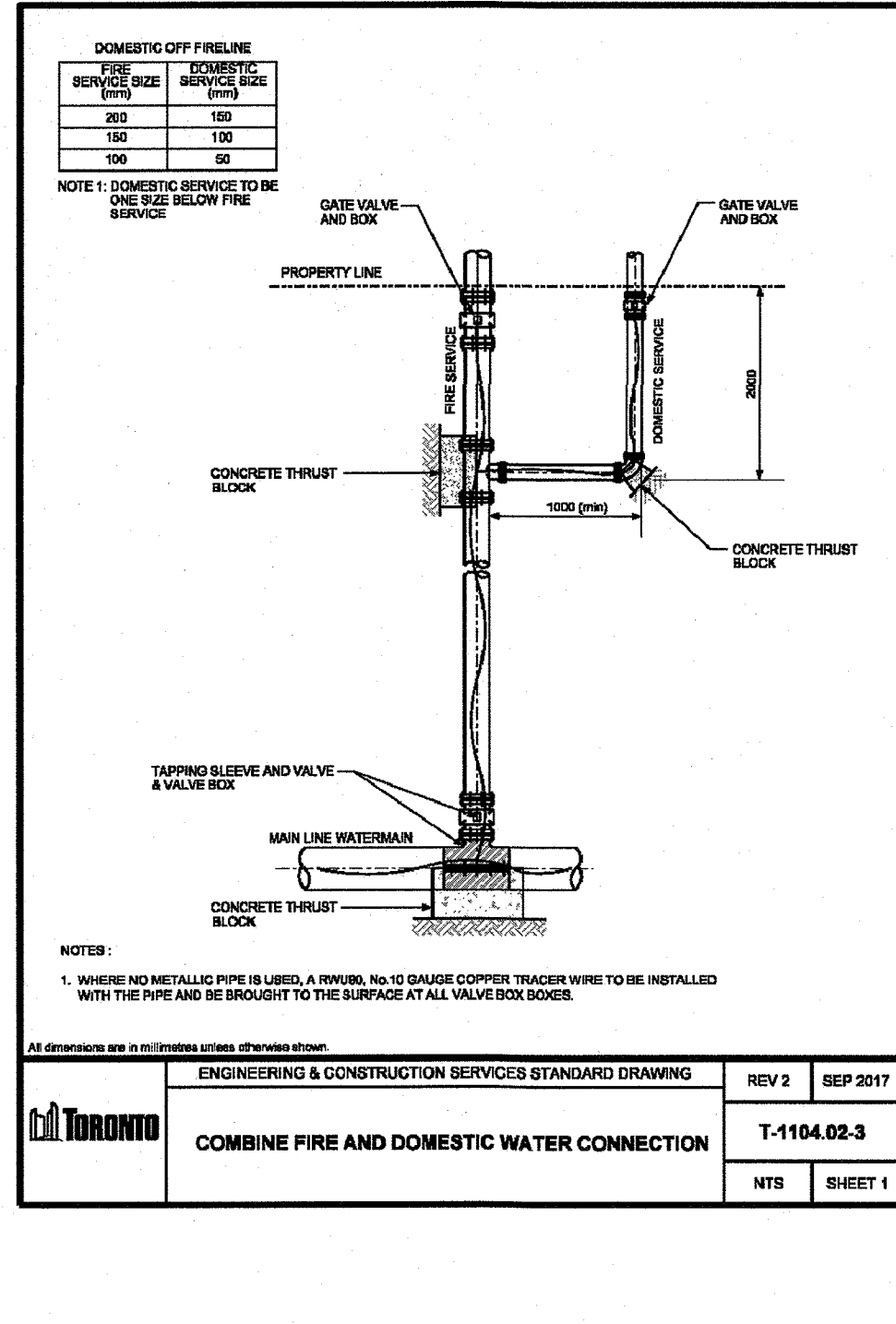
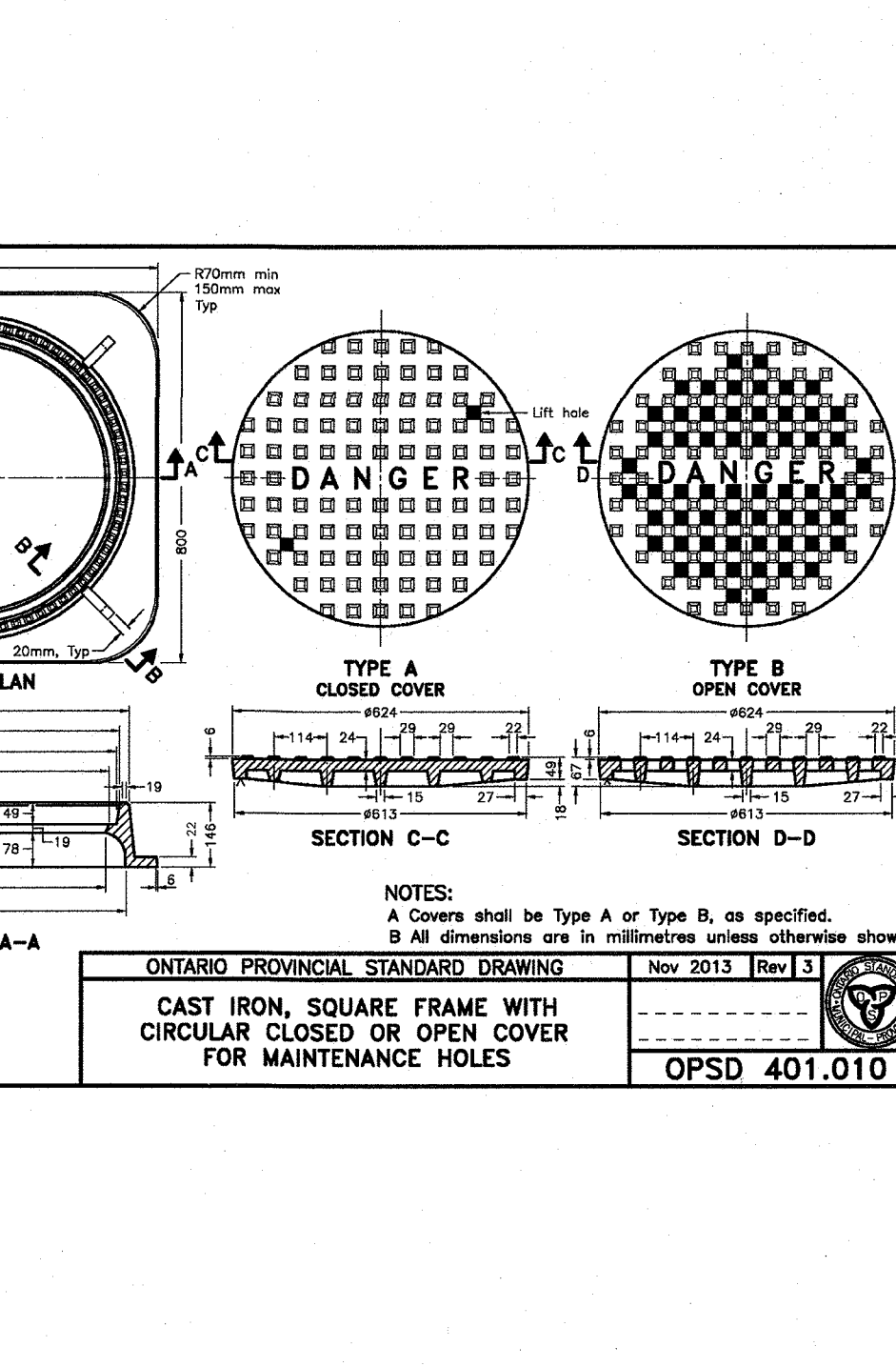
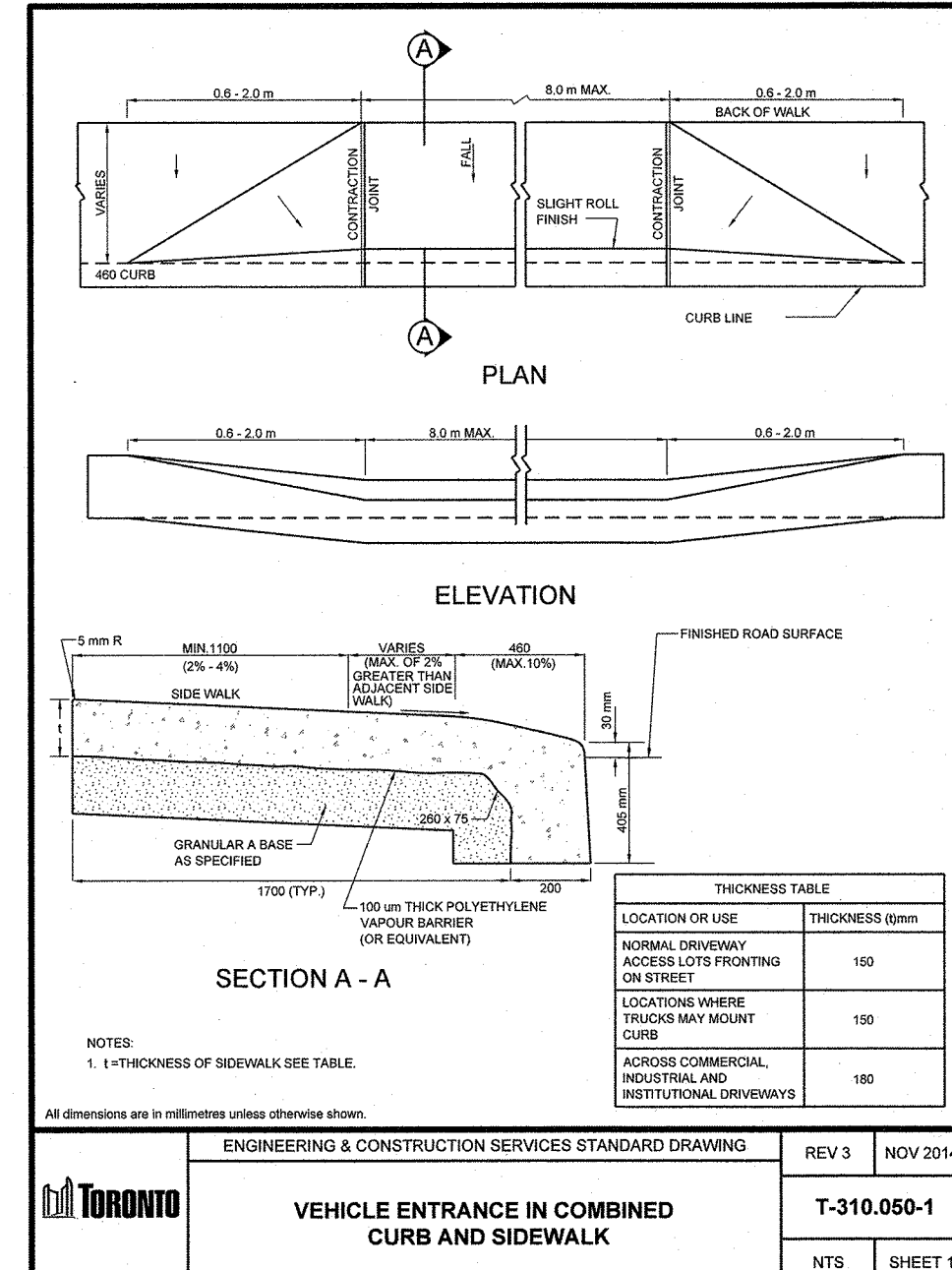
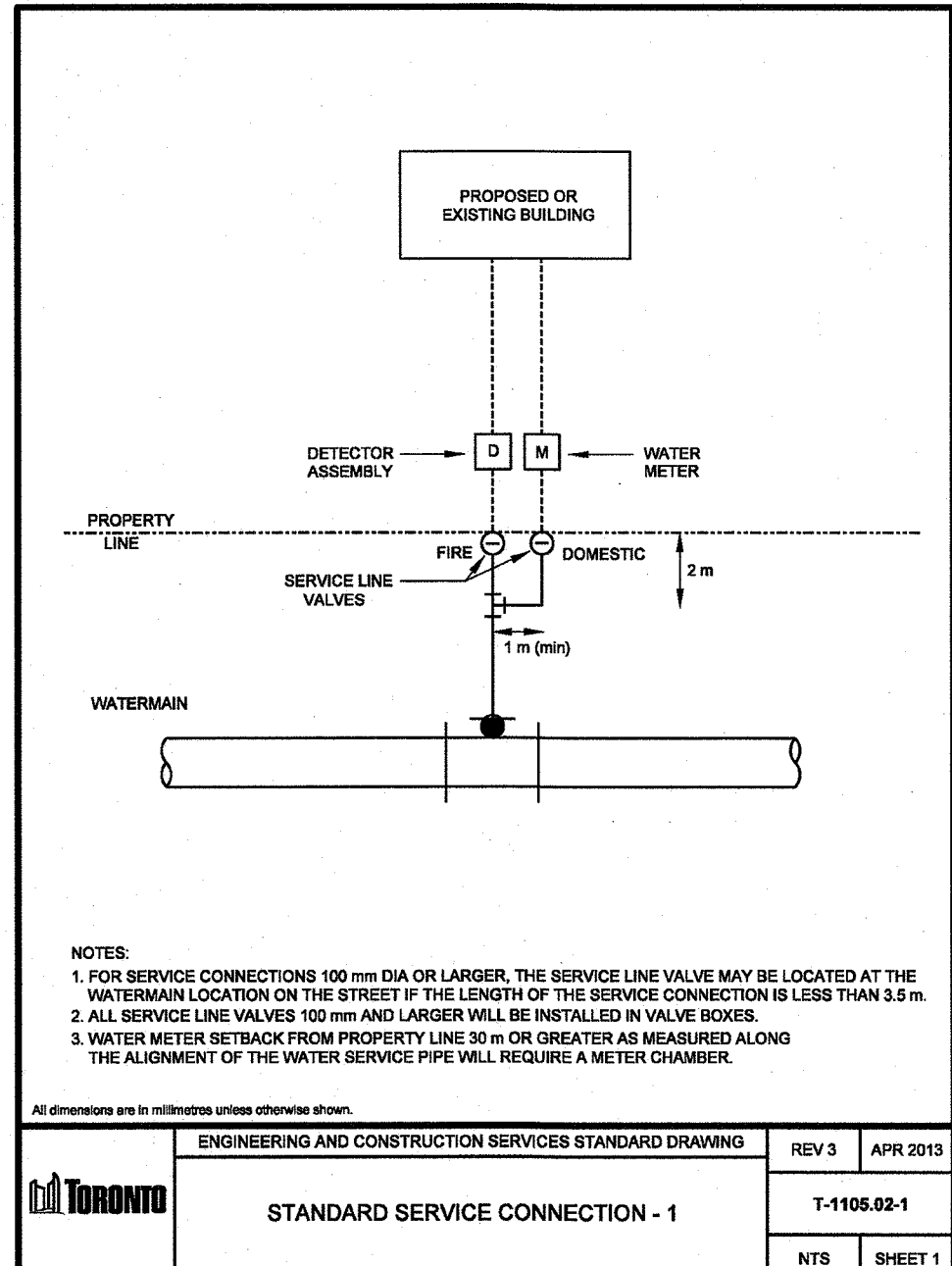
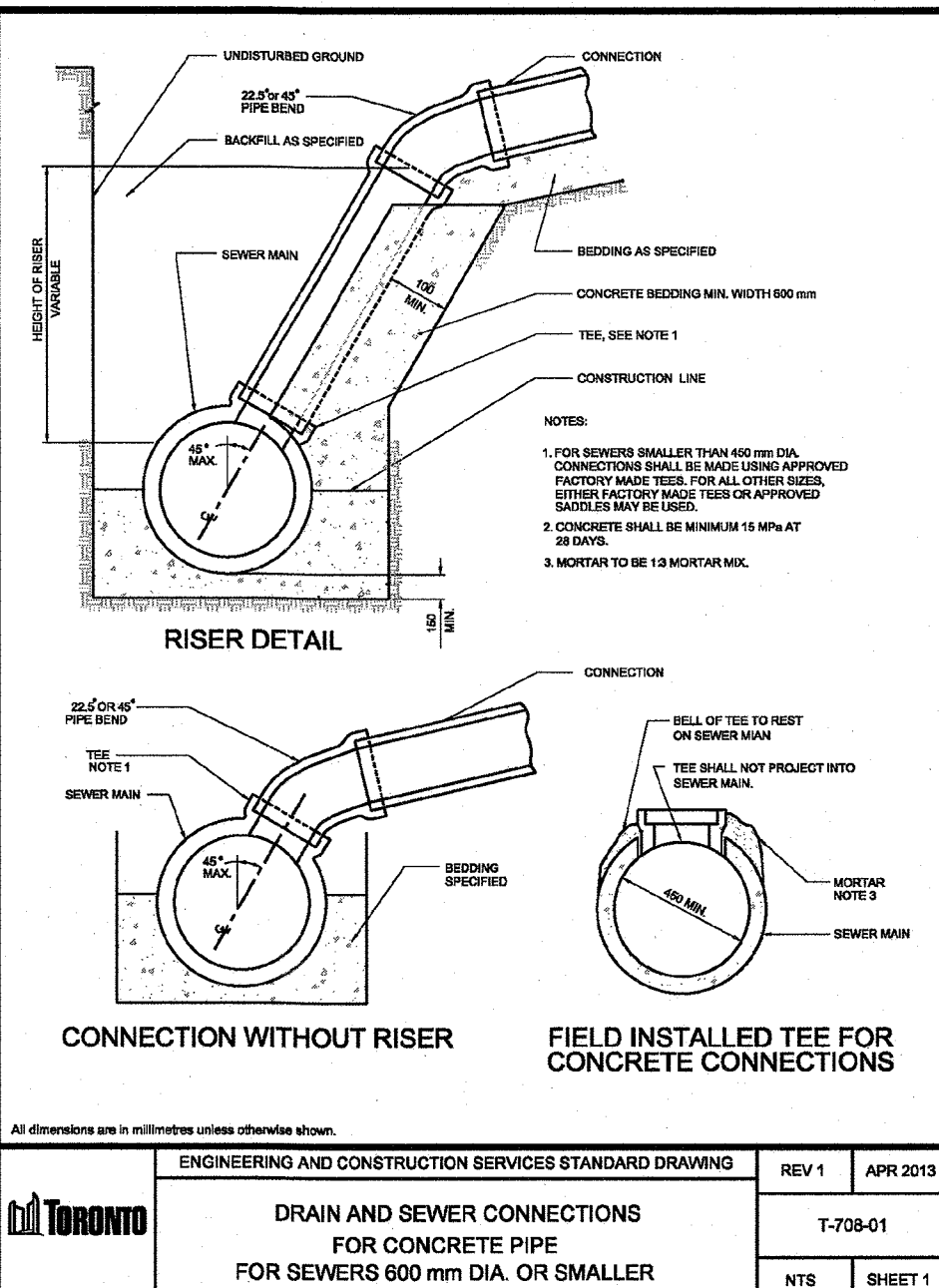
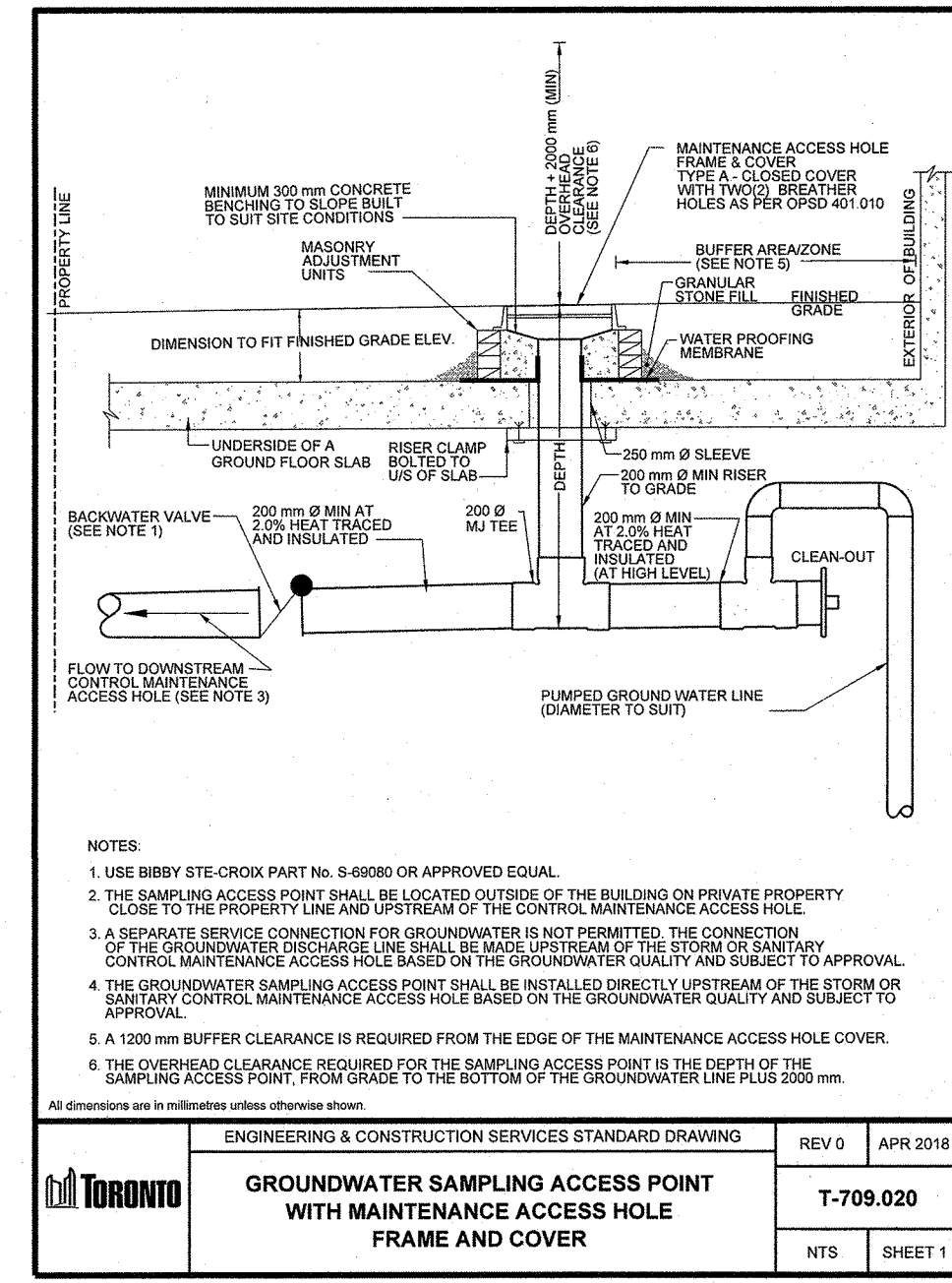
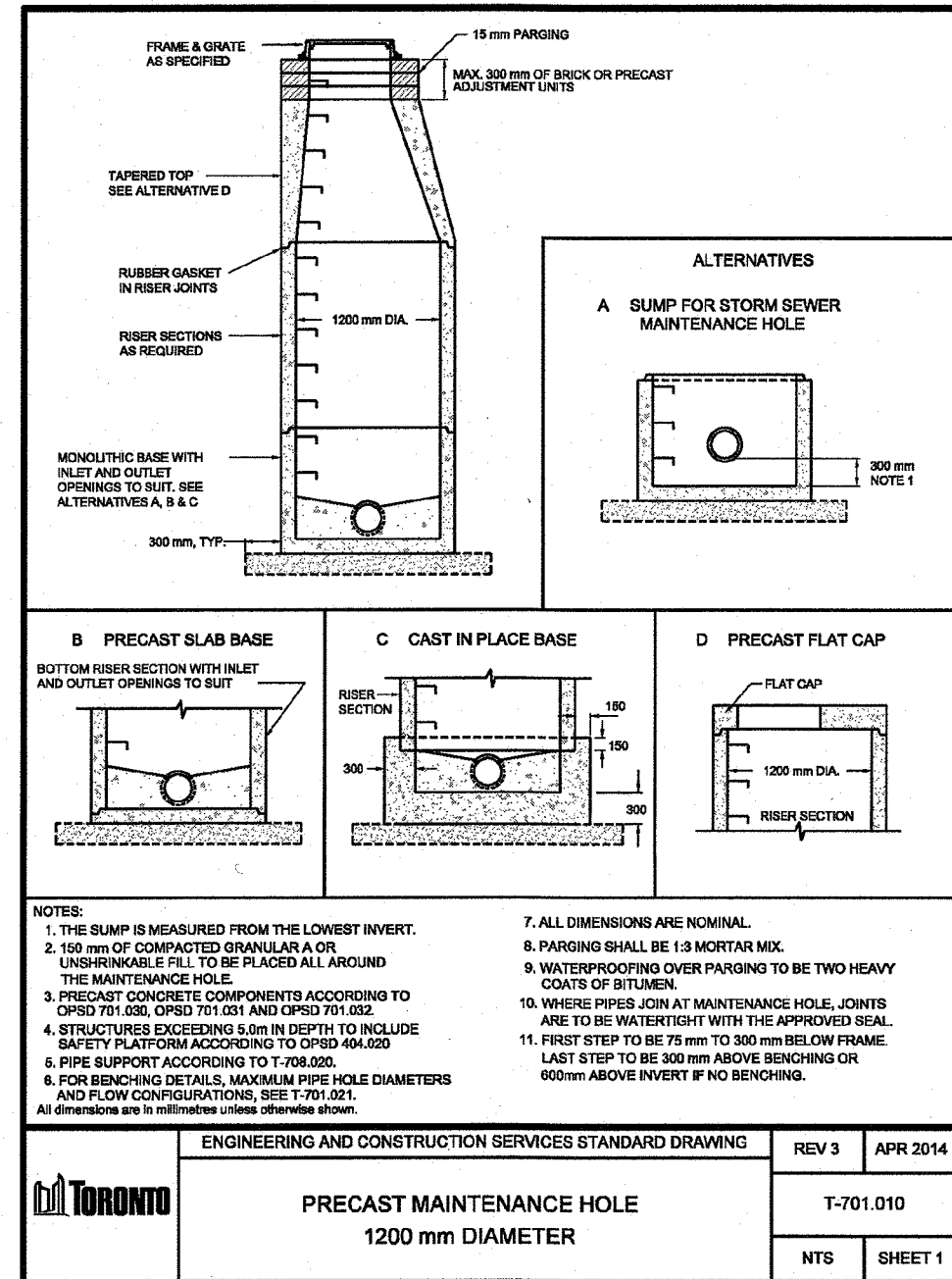
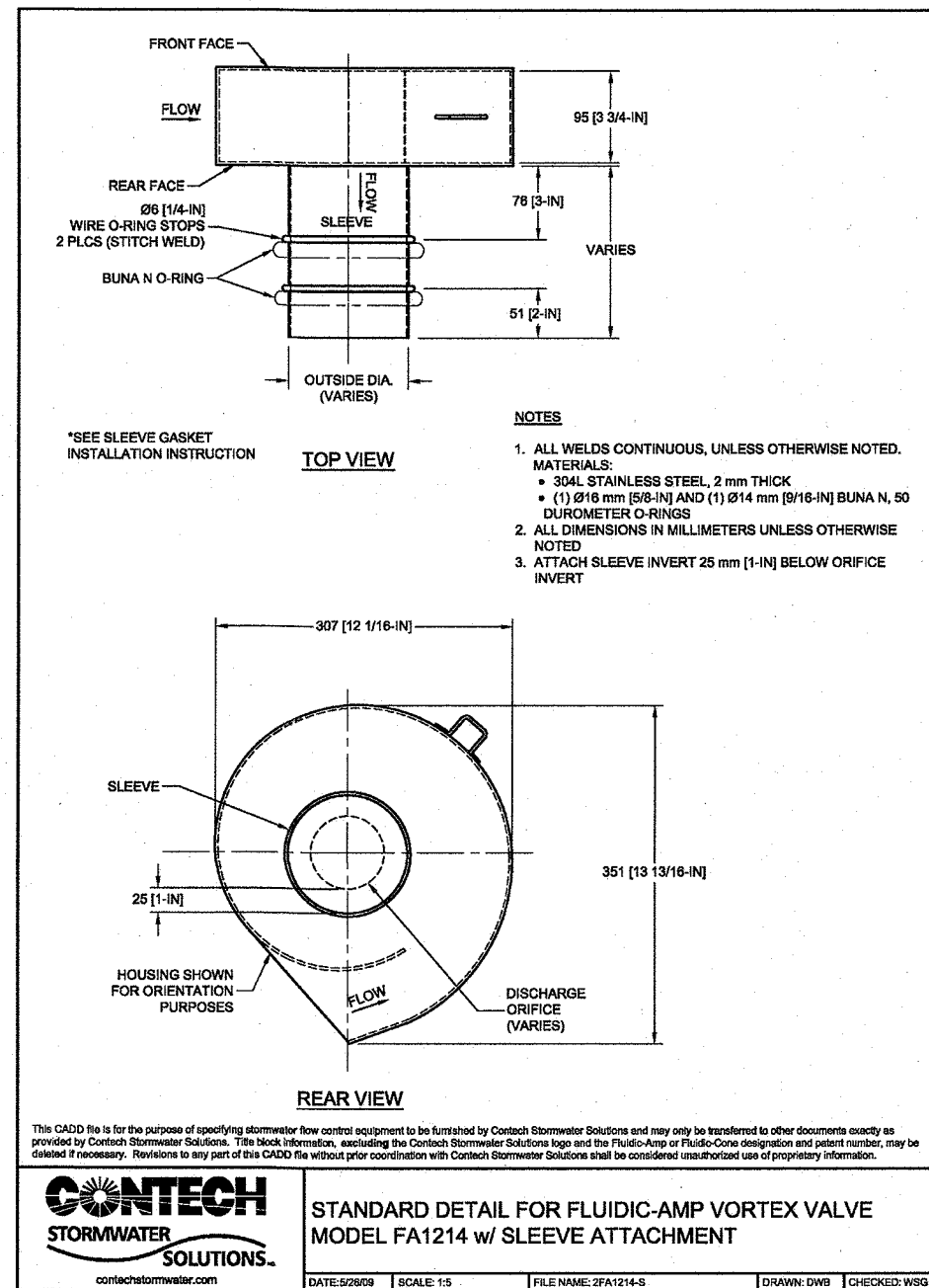
- 1. PIPES ARE NOT TO BE LAID ON FILL UNTIL THE FIELD DENSITY TEST REPORTS HAVE BEEN SUBMITTED AND APPROVED BY THE ENGINEER.
2. FILL TO BE PLACED TO A MINIMUM OF 600MM ABOVE THE WATERMAIN GRADES AND TO 3.0M MINIMUM ON EACH SIDE PRIOR TO WATERMAIN LAYING COMPACTED TO A MINIMUM OF 100% STANDARD PROCTOR DENSITY IN 300MM LIFTS.
3. TESTS SHALL BE TAKEN ALONG CENTRELINE OF THE WATERMAIN AND ON LINES 1.50M ON EITHER SIDE OF SAME AT A MAXIMUM INTERVAL OF 30.0M. TESTS TO BE TAKEN AT EACH 600MM LIFT.
4. ALL HYDRANTS, TEES, VALVES, BENDS, PLUGS AND EACH PIPE JOINT ARE TO BE MECHANICALLY RESTRAINED.
5. PIPE JOINT DEFLECTIONS ARE NOT ALLOWED.

ADDITIONAL ROAD IMPROVEMENT NOTES:

- 1. UNLESS INDICATED OTHERWISE, ALL WORK WITHIN THE CITY RIGHT-OF-WAY SHALL BE UNDERTAKEN IN ACCORDANCE WITH CITY OF TORONTO DESIGN STANDARDS AND SPECIFICATION AND THE UNDERLYING ONTARIO PROVINCIAL STANDARDS MAY, SUBJECT TO THE APPROVAL OF THE CITY OF TORONTO, BE USED WHERE NO STANDARD OR SPECIFICATION IS NOTED.
2. ANY DISCREPANCIES BETWEEN SITE CONDITIONS AND THE DRAWINGS MUST BE REPORTED TO THE CONSULTANT PRIOR TO COMMENCEMENT OF CONSTRUCTION AND APPROPRIATE ACTION TAKEN TO THE SATISFACTION OF THE CITY OF TORONTO.
3. ALL SURVEY POINTS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE LAYOUT SHALL BE REPORTED TO THE CONSULTANT AND THE CONSULTANT SHALL NOTIFY THE CITY OF THE NECESSARY CHANGES.
4. NO PORTION OF THE WORK SHALL BE CARRIED OUT WITHOUT FIRST HAVING OBTAINED APPROVED CONSTRUCTION DRAWINGS, APPROVED PROJECT SCHEDULE(S), APPROVED TRAFFIC STAGING PLANS AND PERMITS FOR SUCH PORTION OF THE INFRASTRUCTURE WORK IN ACCORDANCE WITH THE PROVISIONS HEREOF AND GIVING 10 WORKING DAYS PRIOR WRITTEN NOTICE TO THE EXECUTIVE DIRECTOR OF TECHNICAL SERVICES THAT SUCH WORK IS TO BE CARRIED OUT WITH SUCH NOTICE TO SPECIFY THE ANTICIPATED DATE OF COMMENCEMENT OF THE WORK, A PRE-CONSTRUCTION COORDINATION MEETING WITH CITY STAFF IS TO BE HELD A MINIMUM OF 5 WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY OF THE WORK.
5. ALL AREAS DISTURBED DURING CONSTRUCTION WITHIN THE CITY'S RIGHT-OF-WAY SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION. GRASS AREAS SHALL BE PROVIDED WITH 100MM OF TOPSOIL AND SHALL BE SOODED AS PER T.S. 5.00 & T.S. 5.10.
6. THE CONTRACTOR SHALL REFER TO THE ONTARIO TRAFFIC MANUAL BOOK 7, TEMPORARY CONDITIONS FOR TEMPORARY CONSTRUCTION SIGNAGE.
7. CONTRACTOR SHALL VERIFY AND MATCH EXISTING PAVEMENT STRUCTURE IN DEPTH AND MATERIAL. ANY DISCREPANCIES SHALL BE REPORTED TO THE CONSULTANT PRIOR TO COMMENCEMENT OF CONSTRUCTION AND APPROPRIATE ACTION TAKEN TO THE SATISFACTION OF THE CITY OF TORONTO.
8. ANY DAMAGE TO PROPERTY ADJACENT TO THE CONSTRUCTION SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. CONCRETE SIDEWALK TO BE COMPLETE WITH 150MM GRANULAR BASE AS OUTLINE IN CITY OF TORONTO SPECIFICATION T.S. 3.70 OR AS DIRECTED BY THE CITY INSPECTOR.

ROAD RECONSTRUCTION:

- 1. RECONSTRUCTION OF DRIVEWAY ENTRANCES SHALL BE ACCORDING TO T-310.050-8.
2. LIMITS OF SIDEWALK/CURB RECONSTRUCTION ARE APPROXIMATE. ACTUAL LIMITS ARE TO BE CONFIRMED IN THE FIELD BY THE CONTRACT ADMINISTRATOR.
3. CHAINAGE IS ESTABLISHED FROM THE CENTRELINE OF CONSTRUCTION AND GUTTER GRADERS ARE CALCULATED ALONG THE GUTTER LINE.
4. HEIGHT OF CURB FACES MAY VARY ALONG LENGTH OF GUTTER, AS SHOWN ON PROFILE, OR TO BE CONFIRMED IN THE FIELD.
5. ADJUST ALL STRUCTURES (MAINTENANCE HOLES, CATCH BASINS, ETC) TO SUIT NEW DESIGN ELEVATIONS INCLUDING BREAKING DOWN AND REPAIR OF PORTION OF TOP OF STRUCTURES TO ALLOW FOR MINIMUM 150mm ADJUSTMENTS.
6. ALL CURB SHALL BE CONSTRUCTED WITH A LEDGE AT THE BACK OF THE CURB TO FACILITATE FUTURE SIDEWALK CONSTRUCTION.
7. FULL DEPTH SAW-CUTS ARE REQUIRED AT CONSTRUCTION LIMITS OF EXISTING CURB, SIDEWALK, AND PAVEMENT UNLESS OTHERWISE SHOWN.
8. SAW CUT EXISTING PAVEMENT, SIDEWALK, CURB, GUTTER, DRIVEWAYS, WALKWAYS, ETC. AT CONSTRUCTION LIMITS TO PROVIDE A CLEAN JOINT FOR THE PROPOSED WORK.
9. CONSTRUCT PEDESTRIAN SIDEWALK RAMPS WITH TACTILE WALKING SURFACE INDICATORS ACCORDING TO T-310.030-7, T-310.030-8, T-310.030-9, T-310.030-10 AND T-310.030-11.
10. EXISTING ENTRANCE RAMPS TO BE RE-INSTATED. VEHICULAR SIDEWALK RAMP SHALL BE ACCORDING TO T-310.050-1.
11. EXISTING ASPHALT THICKNESS MAY VARY, TAPER TO MATCH EXISTING AT CONSTRUCTION LIMITS (MINIMUM 2.0 m).
12. FILTER FABRIC TO BE PLACED UNDER GRATES ON ALL CATCHBASINS TO TRAP SEDIMENT. SILT TRAPS ARE TO BE CLEANED REGULARLY AND ARE NOT TO BE REMOVED UNTIL SUCH TIME AS THE CURBS ARE CONSTRUCTED AND THE BOULEVARDS ARE SOODED OR BACKYARDS GRADED AND SOODED. FILTER FABRIC FOR SILT CONTROL TO BE TERRA FIX 2708 OR APPROVED EQUIVALENT.



LEGEND

Table with 2 columns: Description and Drawing Reference. Includes items like 'SURVEY INFORMATION', 'BENCHMARK', 'SITE PLAN INFORMATION', and 'LIST OF DRAWINGS'.

Table with 2 columns: Description and Drawing Reference. Includes 'SURVEY INFORMATION', 'BENCHMARK', 'SITE PLAN INFORMATION', and 'LIST OF DRAWINGS'.

Table with 2 columns: Description and Drawing Reference. Includes 'SURVEY INFORMATION', 'BENCHMARK', 'SITE PLAN INFORMATION', and 'LIST OF DRAWINGS'.

Table with 4 columns: NO., DATE, REVISION, and INITIALS. Includes revision history for the drawing.

Professional Engineer signature block for S. K. LEE, License No. 100212679, Province of Ontario.

ENGINEERING & CONSTRUCTION SERVICES DIVISION
ACCEPTED TO BE IN ACCORDANCE WITH THE CITY OF TORONTO STANDARDS.
THIS ACCEPTANCE IS NOT TO BE CONSTRUED AS VERIFICATION OF ENGINEERING CONTENT.

Table with 2 columns: Description and Drawing Reference. Includes 'GENERAL NOTES AND DETAILS', 'DESIGN', 'SCALE', and 'DATE'.

Vertical text on the far left edge of the page, likely a page number or reference code.