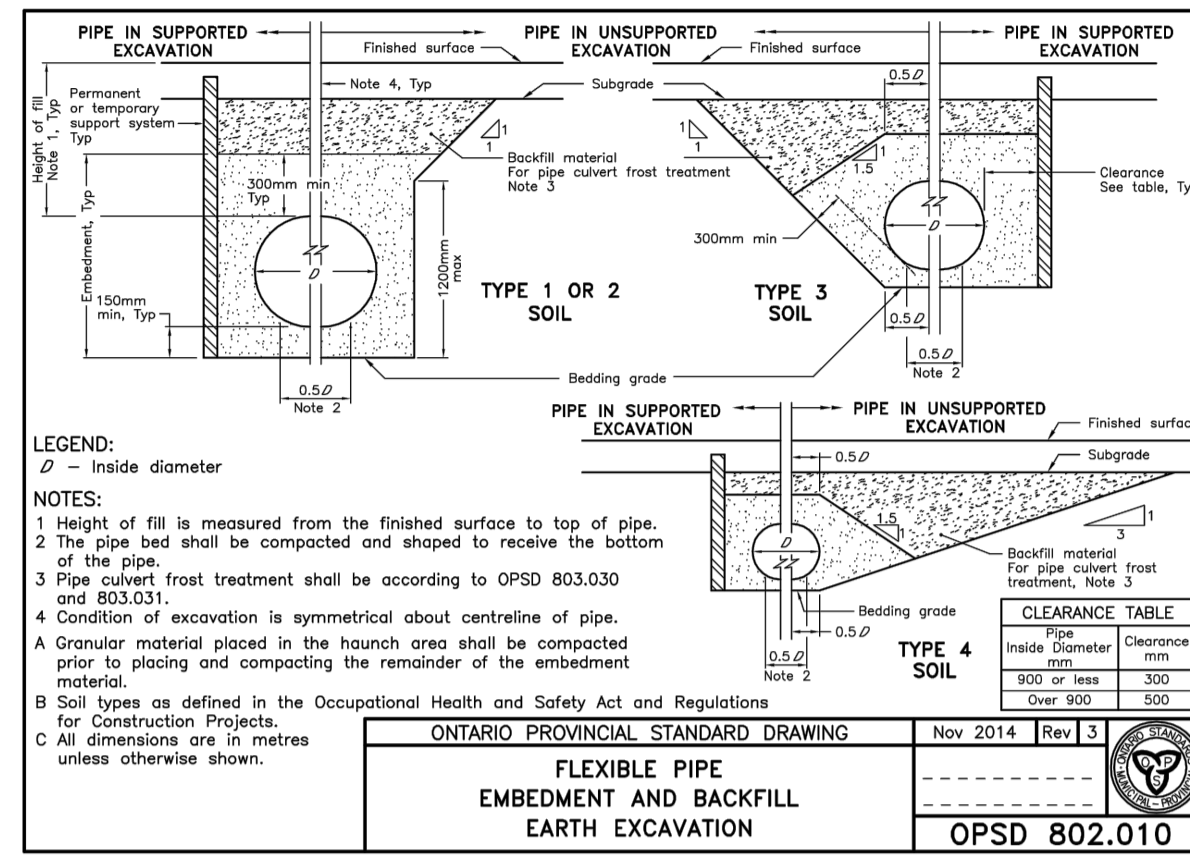


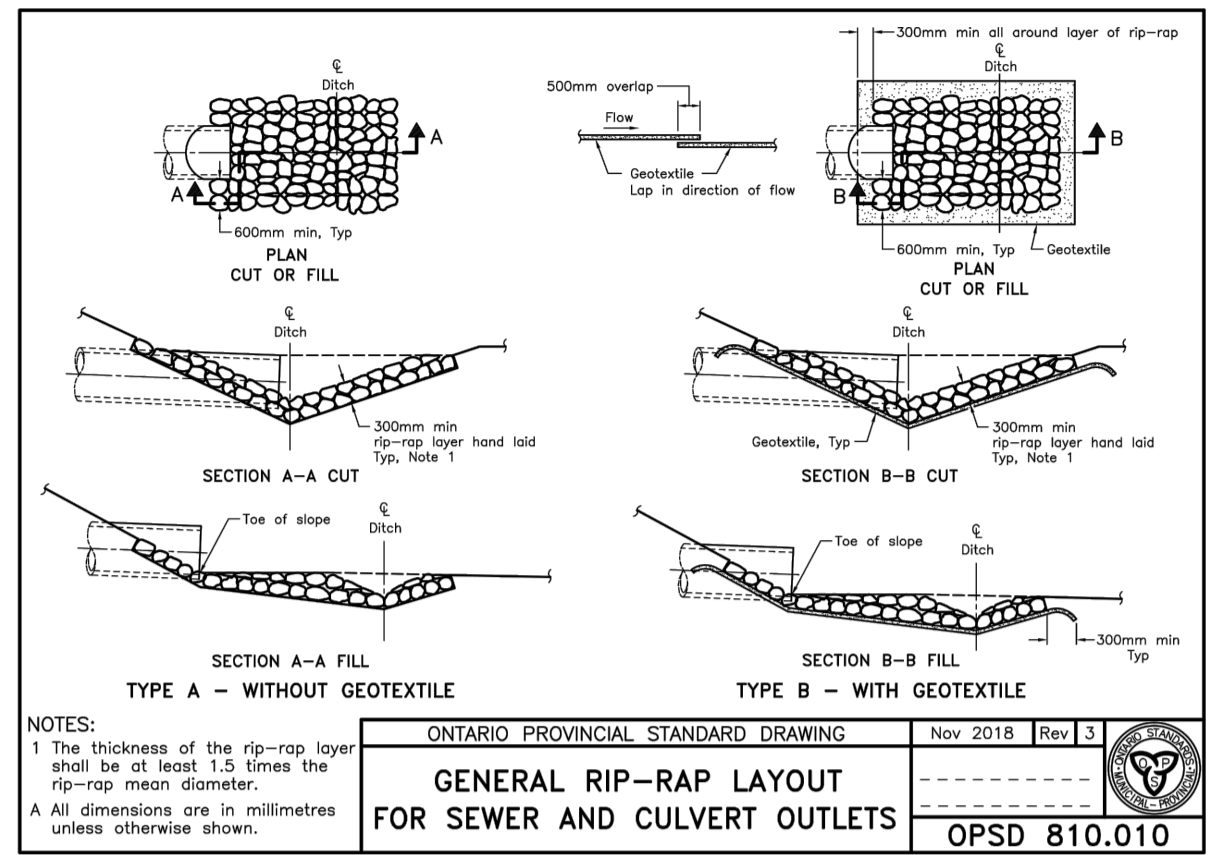
$T = \frac{X \cdot L \cdot 10}{D}$
 T = THICKNESS OF INSULATION (mm)
 L = LENGTH OF PIPE (mm)
 D = DEPTH OF COVER (mm)
 W = WIDTH OF INSULATION (mm)
 D = O.D. OF PIPE (mm)

NOTES:
 1. FOR STORM INSULATION USE AN X VALUE OF 2000 IN THE ABOVE 'T' EQUATION.
 2. FOR SANITARY INSULATION USE AN X VALUE OF 2500 IN THE ABOVE 'T' EQUATION.
 3. FOR WATERMAIN INSULATION USE AN X VALUE OF 2400 IN THE ABOVE 'T' EQUATION.
 4. INCREMENTS OF INSULATION THICKNESS SHALL BE ADJUSTABLE TO 25mm.
 5. STAGGER JOINTS OF MULTIPLE SHEETS.
 6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS SHOWN OTHERWISE.

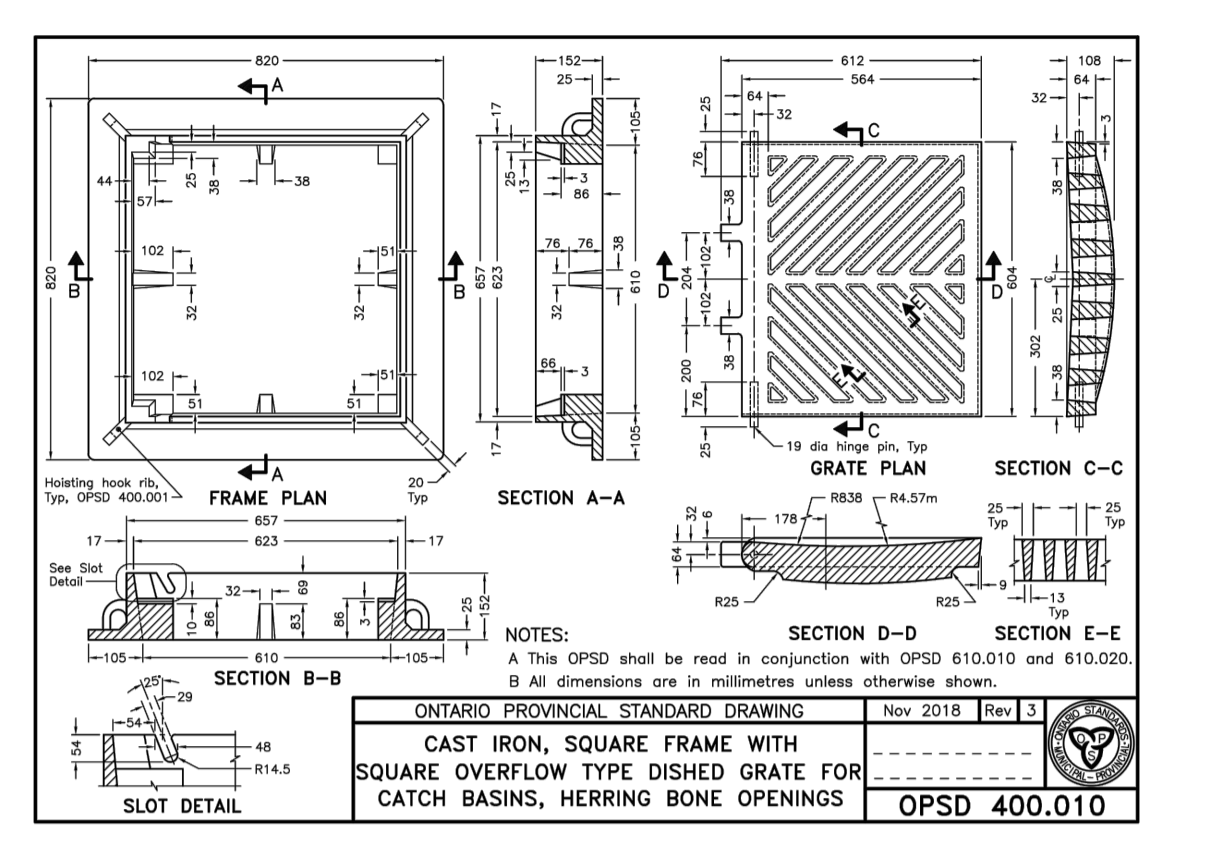
TYPICAL STORM AND SANITARYSEWER AND WATERMAIN INSULATION DETAIL (N.T.S.)



ONTARIO PROVINCIAL STANDARD DRAWING
 FLEXIBLE PIPE EMBEDMENT AND BACKFILL EARTH EXCAVATION
 OPSD 802.010



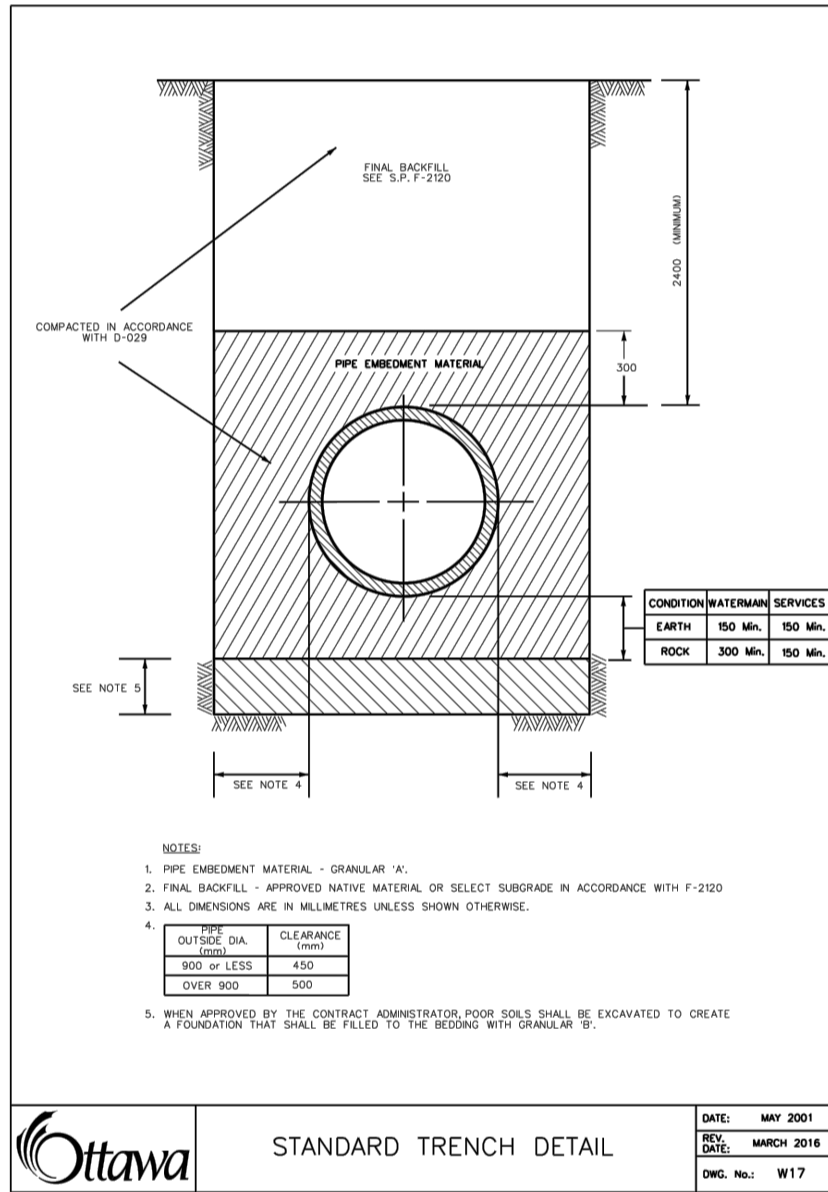
ONTARIO PROVINCIAL STANDARD DRAWING
 GENERAL RIP-RAP LAYOUT FOR SEWER AND CULVERT OUTLETS
 OPSD 810.010



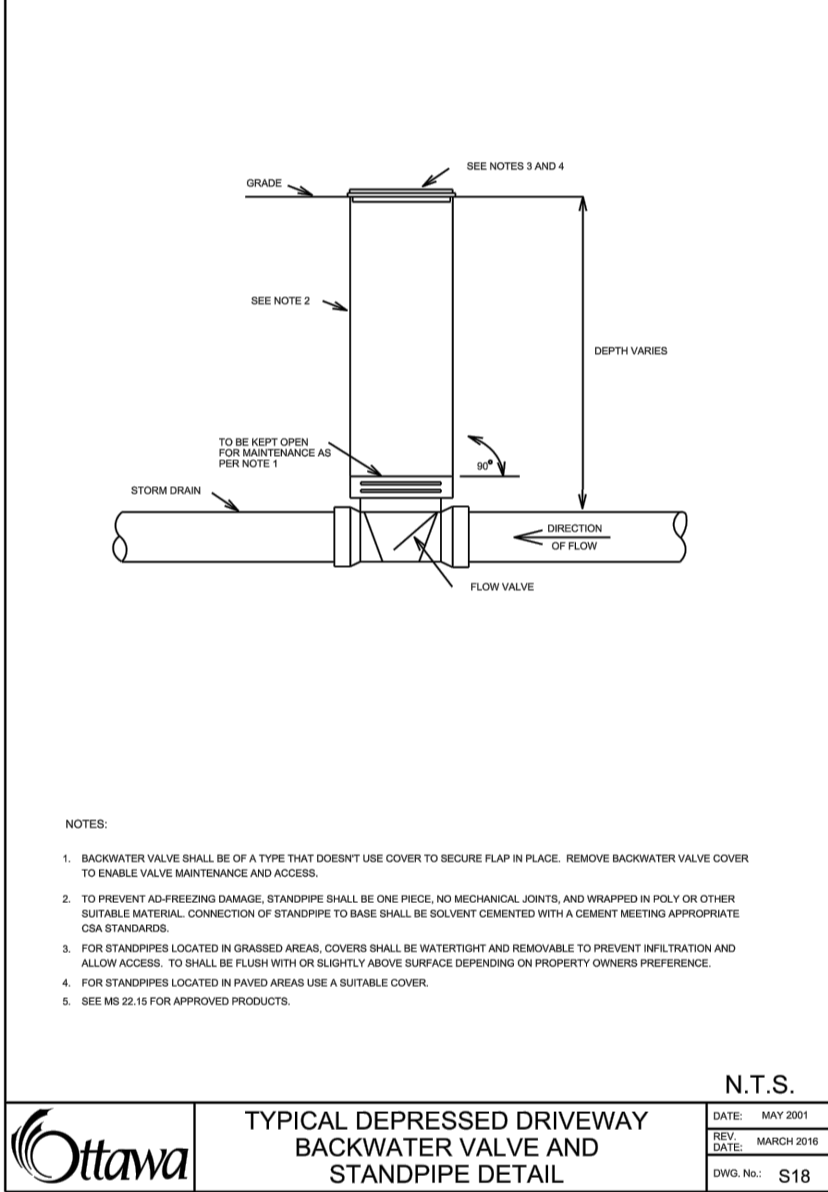
ONTARIO PROVINCIAL STANDARD DRAWING
 CAST IRON, SQUARE FRAME WITH SQUARE OVERFLOW TYPE DISH GRATE FOR CATCH BASINS, HERRING BONE OPENINGS
 OPSD 400.010

JEFF MCEWEN P.ENG.
 MANAGER, DEVELOPMENT REVIEW EAST BRANCH
 PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

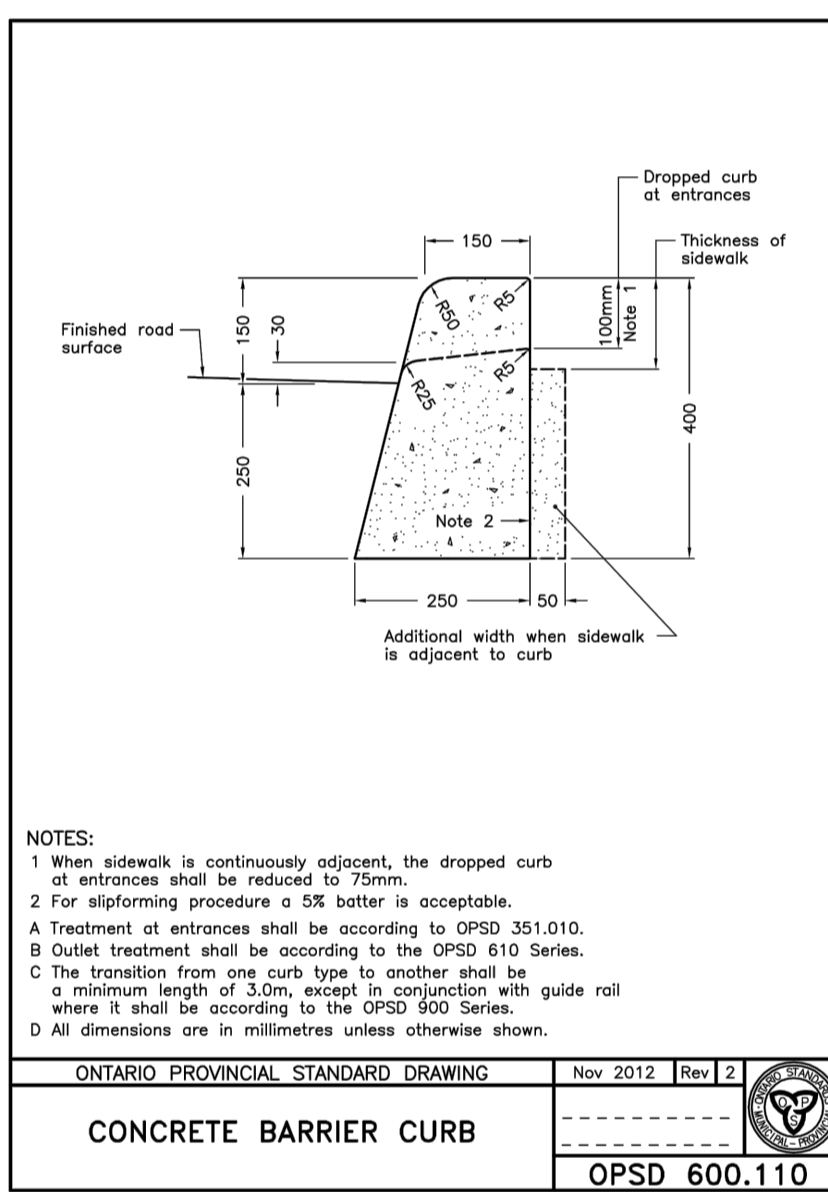
APPROVED
 By Jeff McEwen at 3:49 pm, Jun 17, 2021



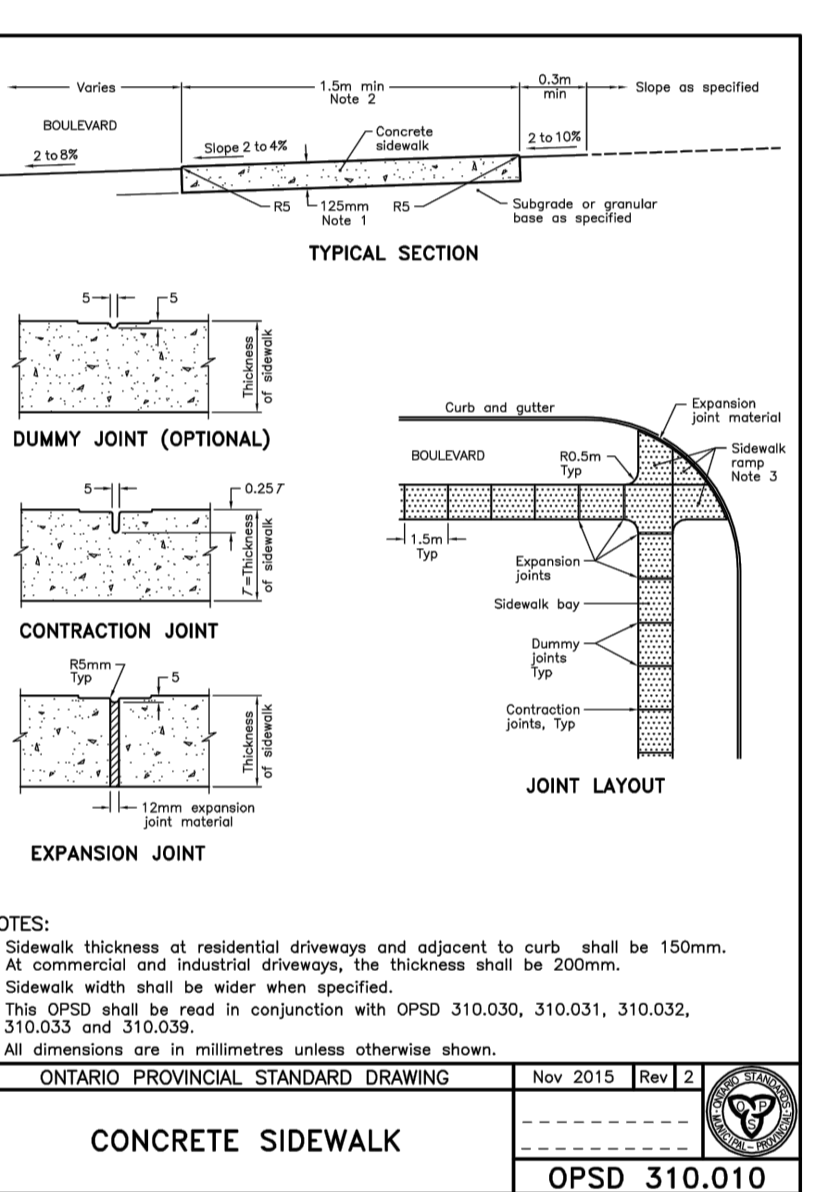
ONTARIO PROVINCIAL STANDARD DRAWING
 PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER
 OPSD 701.010



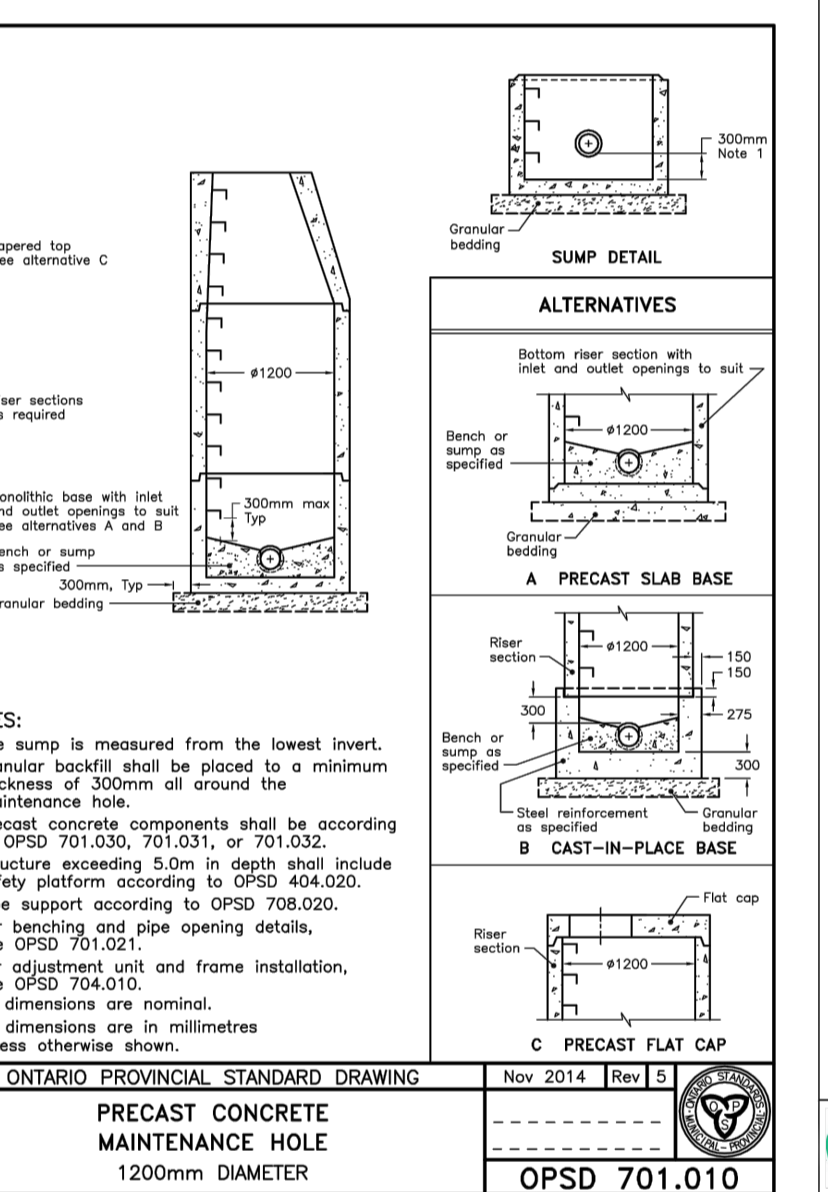
ONTARIO PROVINCIAL STANDARD DRAWING
 CONCRETE BARRIER CURB
 OPSD 600.110



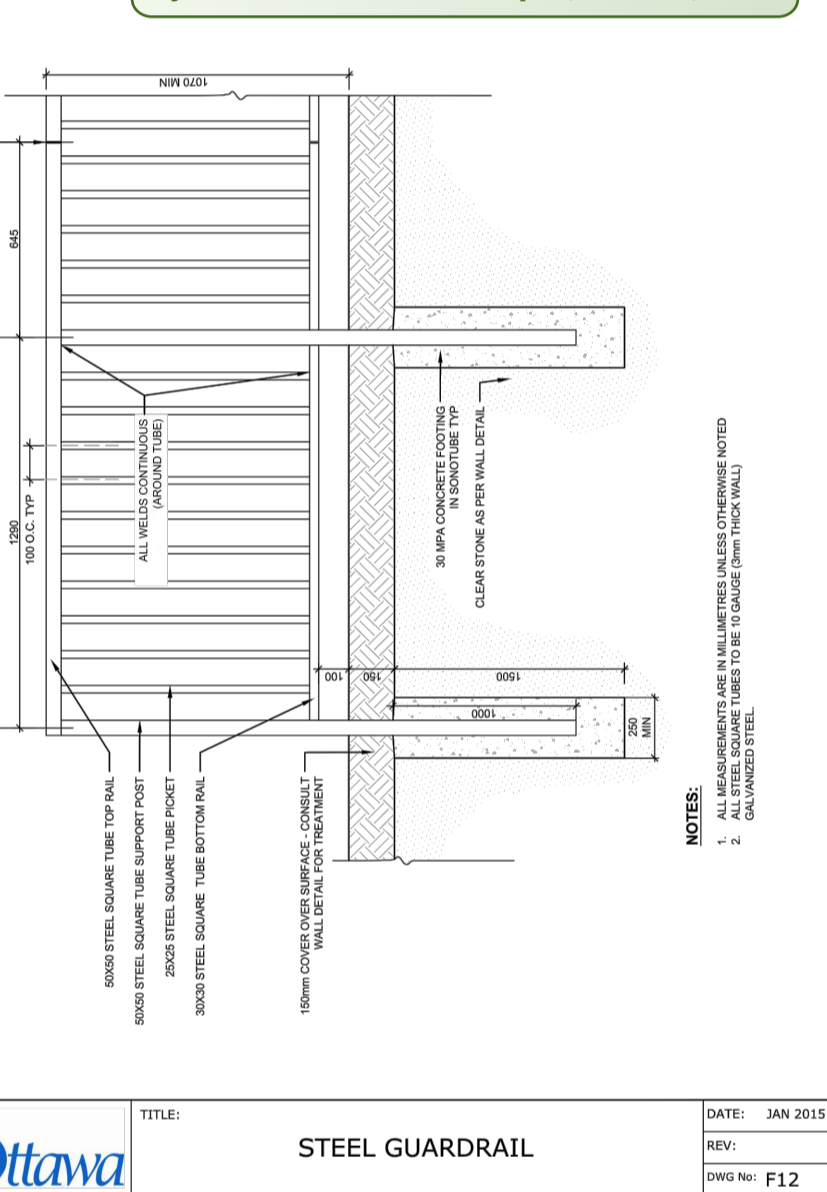
ONTARIO PROVINCIAL STANDARD DRAWING
 CONCRETE SIDEWALK
 OPSD 310.010



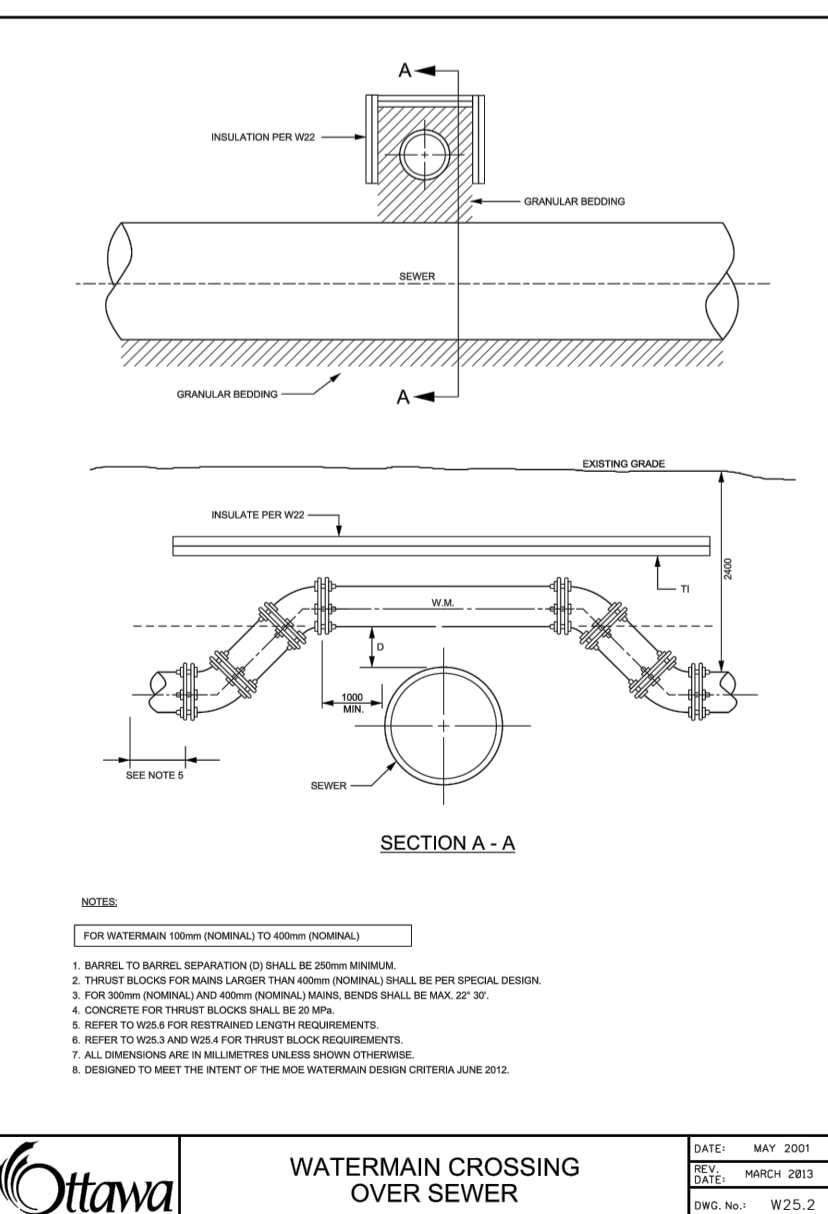
ONTARIO PROVINCIAL STANDARD DRAWING
 TYPICAL DEPRESSED DRIVEWAY BACKWATER VALVE AND STANDPIPE DETAIL
 OPSD 600.110



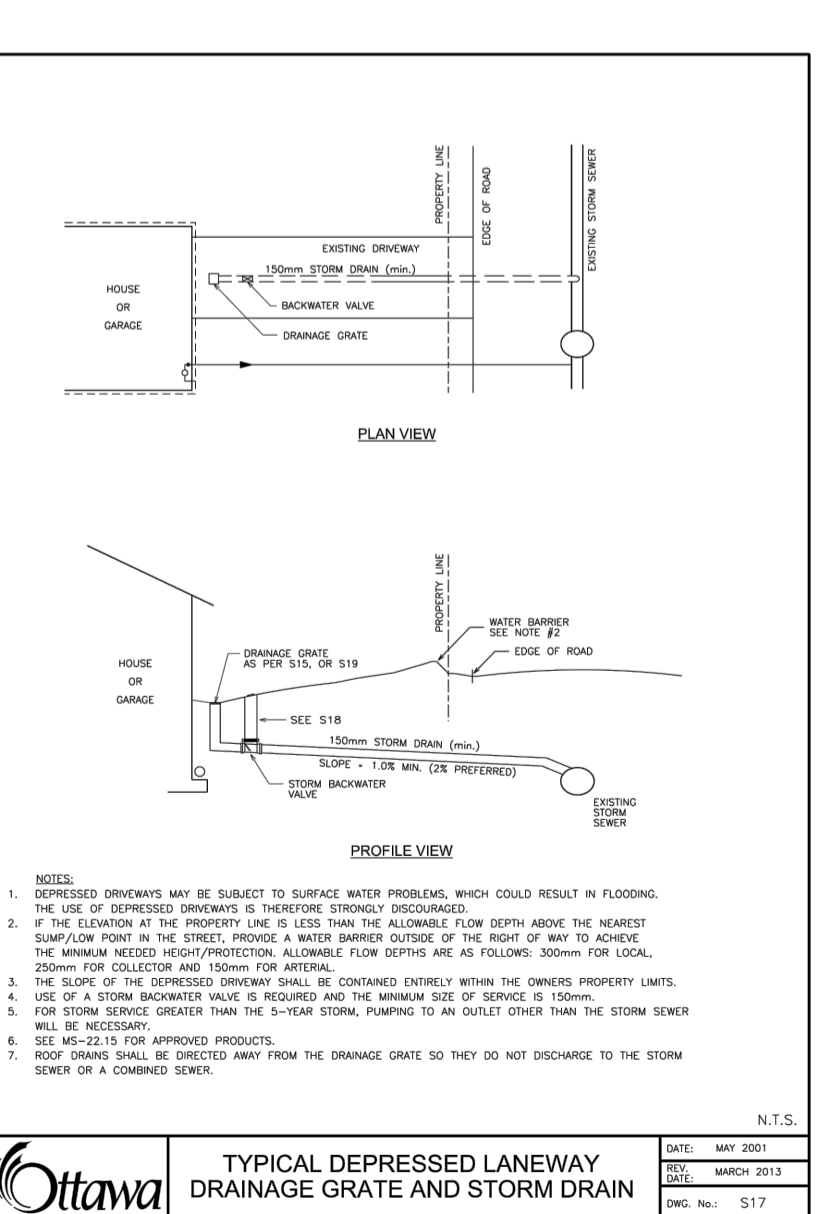
ONTARIO PROVINCIAL STANDARD DRAWING
 TRENCH DRAINS (EXCEPTION BASIS ONLY)
 OPSD 510.010



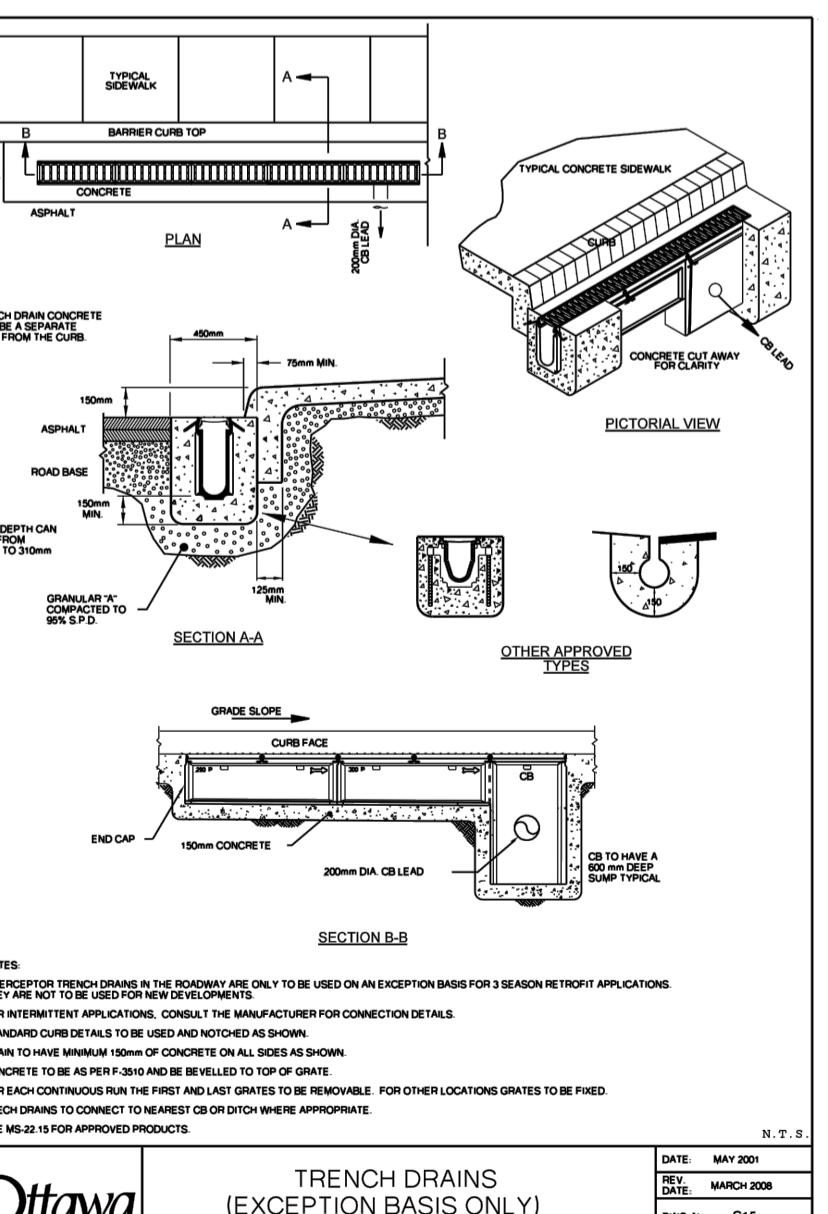
ONTARIO PROVINCIAL STANDARD DRAWING
 FOUNDATION DRAIN BACKWATER VALVE INSTALLATION
 OPSD 510.010



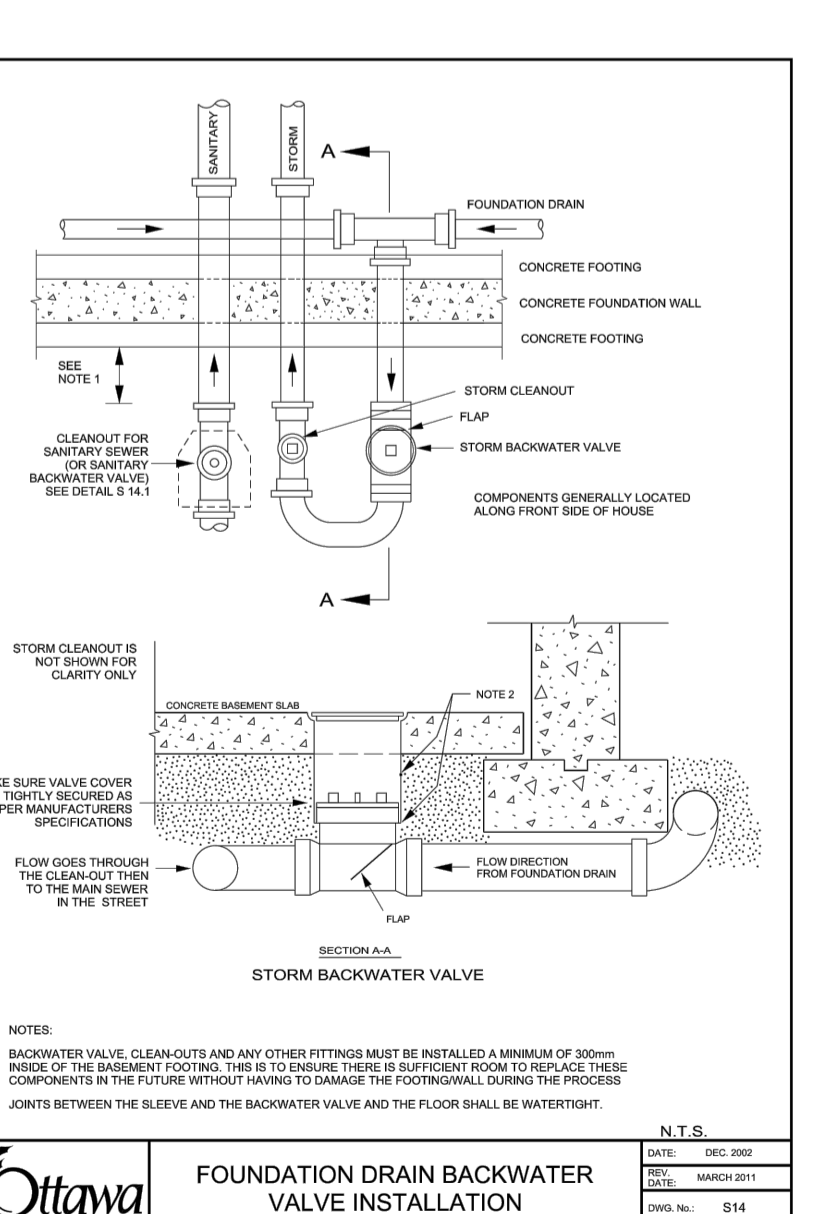
ONTARIO PROVINCIAL STANDARD DRAWING
 WATERMAIN CROSSING OVER SEWER
 OPSD 517



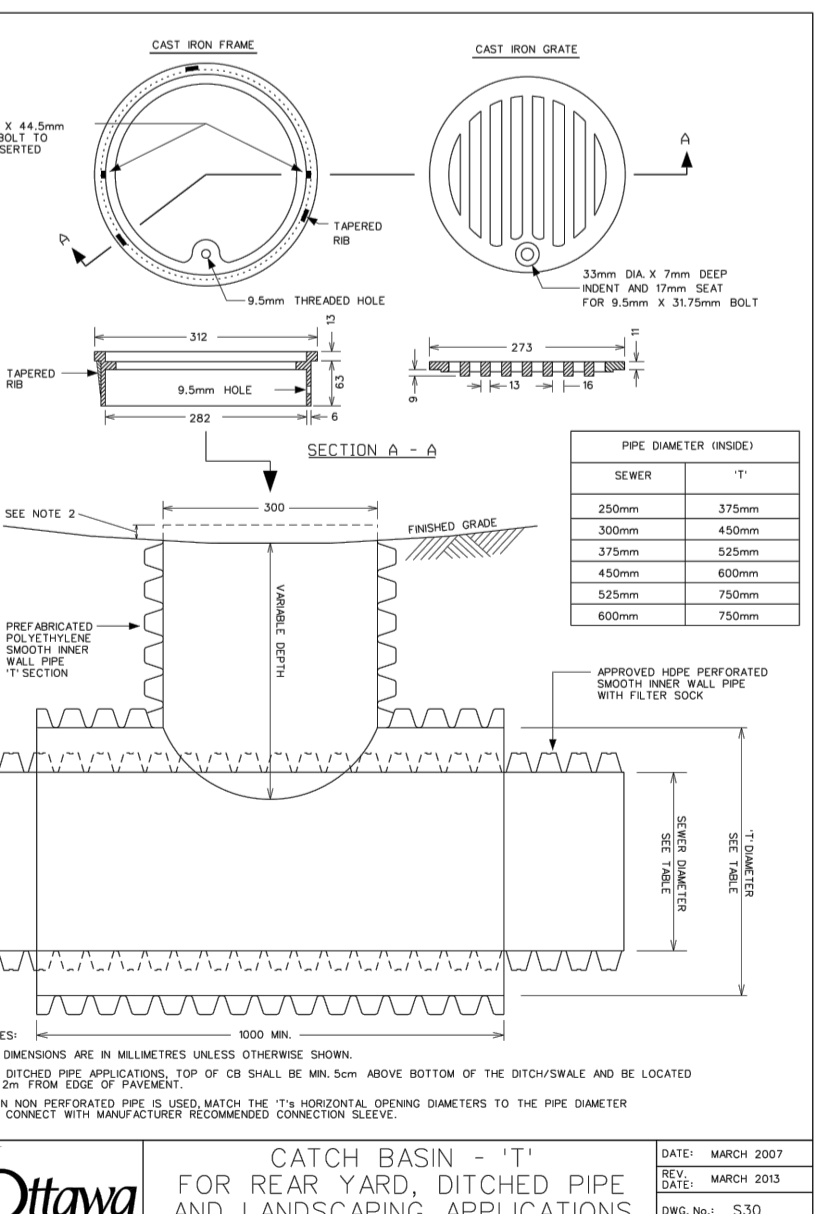
ONTARIO PROVINCIAL STANDARD DRAWING
 TYPICAL DEPRESSED LANEWAY DRAINAGE GRATE AND STORM DRAIN
 OPSD 518



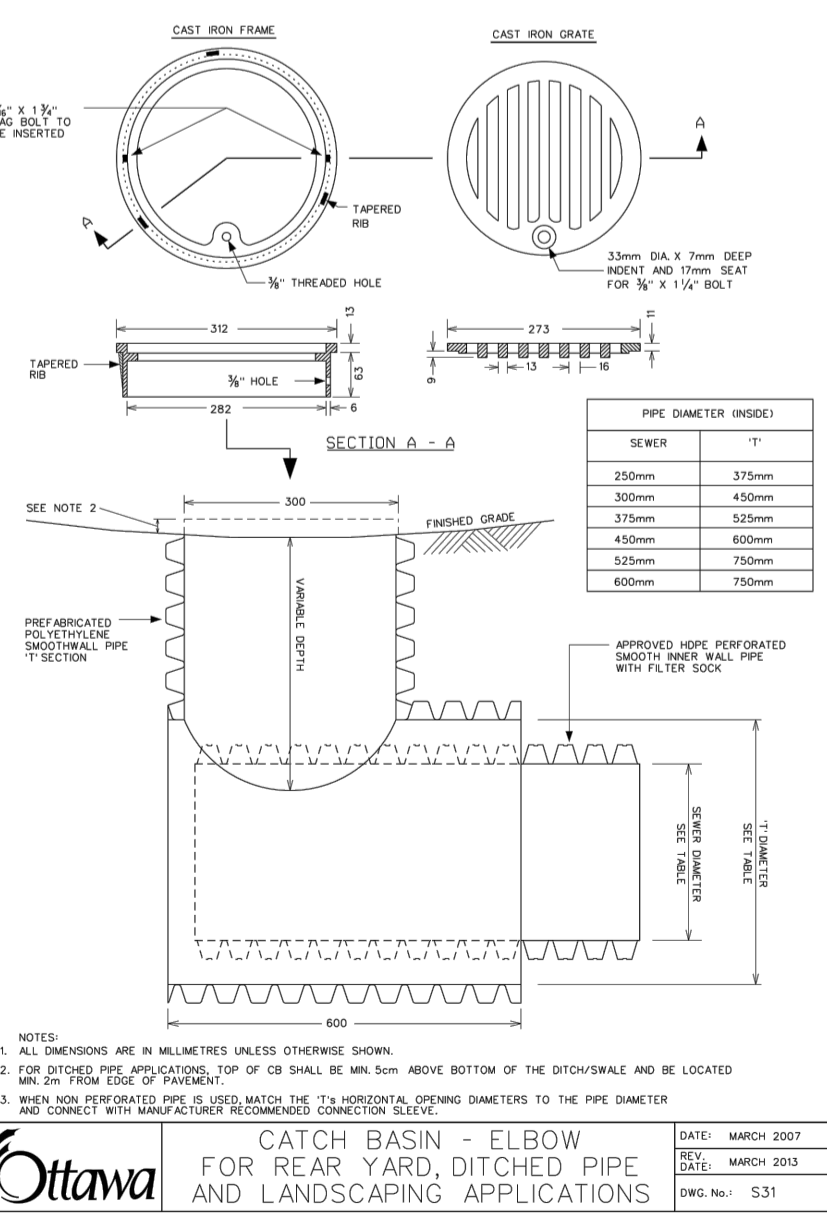
ONTARIO PROVINCIAL STANDARD DRAWING
 CATCH BASIN - 1' FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS
 OPSD 519



ONTARIO PROVINCIAL STANDARD DRAWING
 CATCH BASIN - 1' FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS
 OPSD 520



ONTARIO PROVINCIAL STANDARD DRAWING
 CATCH BASIN - ELBOW FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS
 OPSD 521



ONTARIO PROVINCIAL STANDARD DRAWING
 CATCH BASIN - ELBOW FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS
 OPSD 522

USE AND INTERPRETATION OF DRAWINGS
 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.
 BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS NOTICED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 AS INSTRUMENTS OF SERVICE ALL DRAWINGS, SPECIFICATIONS, CAD FILES OR OTHER ELECTRONIC MEDIA AND COPIES THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.
 UNLESS THE REVISION TITLE IS 'ISSUED FOR CONSTRUCTION', THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.
 THESE DRAWINGS ILLUSTRATE THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTALS OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK AND THE BIDDING. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.
 UNAUTHORIZED CHANGES:
 IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO THESE DRAWINGS, SPECIFICATIONS, OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRI ASSOCIATES LTD. (LRI) WITHOUT OBTAINING LRI'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRI AND TO RELEASE LRI FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.
 IN ADDITION, THE CLIENT AGREES TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRI FROM ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.
 GENERAL NOTES:
 EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING OR PERFORMING WORK.
 CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.
 THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

NOT FOR CONSTRUCTION TENDER OR PERMIT

No.	REVISIONS	BY	DATE
02	ISSUED FOR APPROVAL	A.S.	11 FEB 2021
01	ISSUED FOR APPROVAL	A.S.	17 JUL 2020



LRJ
 ENGINEERING | INGENIERIE
 5430 Canotek Road | Ottawa, ON, K1J 9G2
 www.lri.ca | (613) 842-3434

CLIENT: LANDRIC HOMES INC.
 DESIGNED BY: A.S. DRAWN BY: A.S. APPROVED BY: M.B.
 PROJECT: BLOCK 9 APARTMENT BUILDINGS ERIC CZAPNIK WAY, ORLEANS
 DRAWING TITLE: CONSTRUCTION DETAIL PLAN
 PROJECT NO.: 200041
 DATE: APRIL 2020
C901