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REV	DESCRIPTION	DATE	BY
1	ISSUED FOR REVIEW	JUNE 2021	HW
2	ISSUED FOR CLASS B COSTING	JULY 16 2021	HW
3	ISSUED FOR TENDER	AUGUST 25 2021	HW
4	ISSUED FOR BUILDING PERMIT	SEPTEMBER 9 2021	HW
5	ISSUED FOR CIVIL ADDENDUM 1	SEPTEMBER 17 2021	HW
6	REVISED FOR BUILDING PERMIT	OCTOBER 07 2021	HW
7	REVISED BP & TENDER SUBMITTAL	JANUARY 20 2022	HW
8			

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NORTH ARROW

SEAL

PROJECT TITLE
**NEW SAYERS FOOD STORE
 BURLEIGH STREET, APSLEY**

DRAWING TITLE
**CONSTRUCTION GRADING &
 SERVICING PLAN**

SCALE
1:200

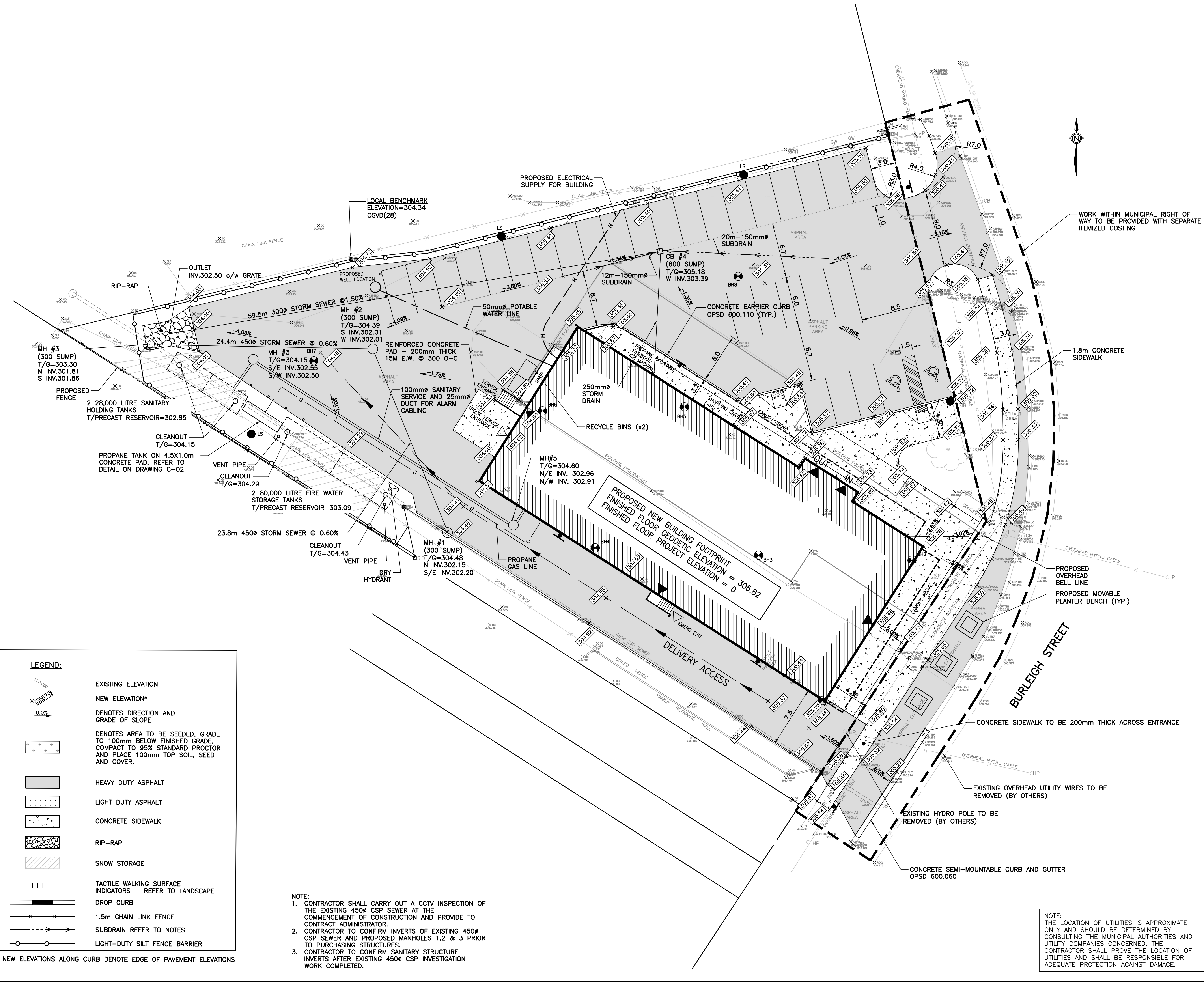
DATE
JUNE 16, 2021

PROFESSIONAL ENGINEER
 T. KRAME
 100224803
 20/01/2021
 PROVINCE OF ONTARIO

PROFESSIONAL ENGINEER
 H.W. WRAY
 20/01/2021
 PROVINCE OF ONTARIO

PROJECT NUMBER
2102

DRAWING NUMBER
C-01



LEGEND:

- x 0.000 EXISTING ELEVATION
- x 0.000* NEW ELEVATION*
- 0.0% DENOTES DIRECTION AND GRADE OF SLOPE
- [Pattern] DENOTES AREA TO BE SEEDED, GRADE TO 100mm BELOW FINISHED GRADE, COMPACT TO 95% STANDARD PROCTOR AND PLACE 100mm TOP SOIL, SEED AND COVER.
- [Pattern] HEAVY DUTY ASPHALT
- [Pattern] LIGHT DUTY ASPHALT
- [Pattern] CONCRETE SIDEWALK
- [Pattern] RIP-RAP
- [Pattern] SNOW STORAGE
- [Pattern] TACTILE WALKING SURFACE INDICATORS - REFER TO LANDSCAPE
- [Pattern] DROP CURB
- [Pattern] 1.5m CHAIN LINK FENCE
- [Pattern] SUBDRAIN REFER TO NOTES
- [Pattern] LIGHT-DUTY SILT FENCE BARRIER

* NEW ELEVATIONS ALONG CURB DENOTE EDGE OF PAVEMENT ELEVATIONS

NOTE:

- CONTRACTOR SHALL CARRY OUT A CCTV INSPECTION OF THE EXISTING 450mm CSP SEWER AT THE COMMENCEMENT OF CONSTRUCTION AND PROVIDE TO CONTRACT ADMINISTRATOR.
- CONTRACTOR TO CONFIRM INVERTS OF EXISTING 450mm CSP SEWER AND PROPOSED MANHOLES 1, 2 & 3 PRIOR TO PURCHASING STRUCTURES.
- CONTRACTOR TO CONFIRM SANITARY STRUCTURE INVERTS AFTER EXISTING 450mm CSP INVESTIGATION WORK COMPLETED.

NOTE:
 THE LOCATION OF UTILITIES IS APPROXIMATE ONLY AND SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION AGAINST DAMAGE.

GENERAL NOTES:

- THE LOCATION OF UTILITIES IS APPROXIMATE ONLY AND SHOULD BE DETERMINED BY CONSULTING THE MUNICIPAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL PROVE THE LOCATION OF UTILITIES AND SHALL BE RESPONSIBLE FOR ADEQUATE PROTECTION AGAINST DAMAGE.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL DIMENSIONS AND INVERTS/OBVERTS FOR STORM (INCLUDING SUBDRAIN), SANITARY AND WATER SERVICE CONNECTIONS. THE CONTRACTOR IS ALSO RESPONSIBLE TO VERIFY ALL EXISTING ROAD AND PROPOSED FINISHED GRADES FOR THE SITE. IF THERE IS ANY DISCREPANCY, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL AND CLEAN ANY MUD AND DEBRIS TRACKED ONTO PUBLIC ROADWAYS. DUST SHALL BE SWEEP AND/OR CONTROLLED BY WATER AS REQUIRED.
- ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE LATEST ONTARIO PROVINCIAL STANDARDS AND SPECIFICATIONS (OPSS).
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION.
- THE CONTRACTOR IS TO PROVIDE A MINIMUM OF 48 HOURS NOTICE TO THE TOWNSHIP OF NORTH KAWARTHA AND COUNTY OF PETERBOROUGH PRIOR TO UNDERTAKING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES IN ACCORDANCE WITH OTM BOOK 7, INCLUDING THE SUPPLY, INSTALLATION AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, AND BARRIERS.
- FOR ANY LANE OR ROAD CLOSURES, THE PERIOD OF CLOSURE SHALL BE AS SHORT AS POSSIBLE TO COMPLETE THE WORK AND THE CONTRACTOR SHALL PREPARE AND SUBMIT A SCHEDULE AND A TRAFFIC CONTROL PLAN TO THE TOWNSHIP OF NORTH KAWARTHA AND COUNTY OF PETERBOROUGH A MINIMUM OF FOUR WEEKS PRIOR TO ANY CLOSURE. CLOSURES ARE SUBJECT TO APPROVAL BY THE TOWNSHIP AND COUNTY.
- ALL CONSTRUCTION WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- EXISTING ELEVATIONS HAVE BEEN PROVIDED.
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL PROVIDE ALL DEWATERING REQUIRED TO INSTALL THE SERVICES SHOWN ON DRAWINGS AS NOTED IN GEOTECHNICAL REPORT. DEWATERING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 517 TO MAINTAIN A STABLE SUBGRADE AND ALLOW COMPACTION OPERATION TO BE COMPLETED AS SPECIFIED. ALL DISTURBED SUPPORTING SUBGRADES RESULTING FROM THE CONTRACTORS OPERATIONS AND/OR INADEQUATE GROUNDWATER CONTROL SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNERS. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE CONSULTANT AND AWAIT APPROVAL BEFORE STARTING ANY WORK. ANY ADDITIONAL EXCAVATION AND BACKFILL REQUIRED DUE TO IMPROPER DEWATERING SHALL BE PAID BY THE CONTRACTOR.
- FOR ALL NEW CONSTRUCTION, EXCAVATE TO SUBGRADE ELEVATION. ALL EXISTING BUILDING FOUNDATIONS ENCOUNTERED BELOW ASPHALT PAVING OR SIDEWALKS SHALL BE REMOVED TO A DEPTH BELOW SUBGRADE. PROOF ROLL TO A CONSISTENT IN-SITU DENSITY BASED ON A MINIMUM OF THREE CONSECUTIVE DENSITY TESTS. THE SUB-GRADE SHALL BE INSPECTED BEFORE PLACING PAVEMENT STRUCTURE.
- FOR ALL LOCATIONS WHERE ASPHALT IS BEING REPLACED BESIDE EXISTING ASPHALT, A 0.5m LAP JOINT SHALL BE MILLED AS SHOWN IN THE DETAIL BELOW. THE ASPHALT TO BE REMOVED SHALL BE SAWCUT ALONG ASPHALT THAT IS TO REMAIN.

SEWER NOTES:

- SEWERS AND STRUCTURES TO BE INSTALLED IN ACCORDANCE WITH OPSS.MUNI 410 AND 407.
- TRENCHING, BACKFILLING AND COMPACTING TO BE IN ACCORDANCE WITH OPSS.MUNI 401 AND 402.
- SANITARY AND STORM SEWER PIPE MATERIAL AND BEDDING TO BE AS SHOWN IN THE PIPE CLASS AND BEDDING CHART.
- ALL BEDDING AND COVER MATERIAL TO BE GRANULAR 'A' COMPACTED TO 95% SPMD.
- SUBDRAINS TO BE PLACED IN ACCORDANCE WITH OPSS.MUNI 405 AND AT A MINIMUM GRADE OF 0.50%.
- CATCHBASINS TO BE OPSS 705.010. (SUMPS FOR ABOVE TO BE AS SHOWN ON SITE SERVICING PLAN).
- MAINTENANCE HOLES AND CATCHBASIN MAINTENANCE HOLES TO BE OPSS 701.010 (SUMPS TO BE AS SHOWN ON SITE SERVICING PLAN). STEPS TO BE OPSS 405.010. ALL MAINTENANCE HOLES TO BE EQUIPPED WITH FROST STRAPS IN ACCORDANCE WITH OPSS 701.100 INSTALLED WITH QUICK ANCHORS.
- CATCHBASIN AND CATCHBASIN MAINTENANCE HOLES TO HAVE FRAME AND GRATES IN ACCORDANCE WITH OPSS 400.020.
- MAINTENANCE HOLE TO HAVE FRAME AND COVER IN ACCORDANCE WITH OPSS 401.010, TYPE A.
- CATCHBASIN AND MANHOLE ADJUSTMENTS TO BE IN ACCORDANCE WITH OPSS 408.
- ALL INSTALLED SANITARY AND STORM SEWERS TO BE INSPECTED BY CCTV EQUIPMENT IN ACCORDANCE WITH OPSS.MUNI 409.
- THE CCTV INSPECTION OF THE EXISTING 450Ø CSP SEWER SHALL BE CARRIED OUT IN ACCORDANCE WITH OPSS. MUNI 409. THE REPORT SHALL BE PROVIDED TO THE CONTRACT ADMINISTRATOR AT THE COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING EXTRA BEDDING AND/OR STRONGER PIPE IF ACTUAL TRENCH WIDTH EXCEEDS DESIGN WIDTH PIPE CLASS BASED ON TRENCH CONDITION.
- RESTORATION BEYOND LIMITS OF SITE GRADING TO BE IN ACCORDANCE WITH OPSS.MUNI 492.
- SEWER BACKFILL TO BE SELECT NATIVE MATERIAL.
- THE CONTRACTOR SHALL CLEAN OUT ALL NEW CATCH BASINS AND MANHOLES FOLLOWING PLACEMENT AND FLUSH ALL STORM SEWER PIPES BETWEEN THESE STRUCTURES.
- INSTALLATION OF THE SANITARY HOLDING TANKS SHALL CONFORM TO MANUFACTURER'S INSTRUCTIONS, INCLUDING BEDDING, BACKFILL, AND APPLYING A MASTIC BAND TO ALL JOINTS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASE.
- SANITARY HOLDING TANKS SHALL BE INSTALLED WITH A SEPTIC SITTER ALARM SYSTEM OR APPROVED EQUIVALENT. THE SYSTEM SHALL INCLUDE THE SENSOR IN THE TANKS, THE PANEL/HUB INSIDE THE BUILDING, AND ALL REQUIRED CABLING AND DUCT. RIGID PVC DUCT FOR CABLING SHALL BE TYPE DB2 (CSA C22.2 No. 211.1).

WATER SERVICE NOTES:

- WATER SERVICE TO BE INSTALLED IN ACCORDANCE WITH OPSS.MUNI 441.
- WATER SERVICE TO BE LAID AT 2.0m MINIMUM COVER BELOW FINISHED GRADE.
- WATER SERVICE PIPE MATERIAL TO BE AS SHOWN IN THE PIPE CLASS AND BEDDING CHART.
- WATER SERVICE MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.50m FROM SEWERS WHEN CROSSING OR IN JOINT TRENCH.
- WATER SERVICE TO BE SWABBED, PRESSURE TESTED, DISINFECTED, AND BACTERIOLOGICALLY TESTED BY A QUALIFIED THIRD PARTY IN ACCORDANCE WITH OPSS, MECP, AND TOWNSHIP OF NORTH KAWARTHA ENGINEERING STANDARDS.
- WATER SERVICE TO BE EQUIPPED WITH WHITE 12 AWG SOLID PLASTIC COVERED TRACER WIRE, TW4 75°C 600V.
- WATER SERVICE BACKFILL TO BE SELECT NATIVE MATERIAL.
- DRY HYDRANT SHALL BE INSTALLED WITH A 150mm NIOSH FEMALE THREADED ADAPTER.
- INSTALLATION OF THE FIRE WATER HOLDING TANKS SHALL CONFORM TO MANUFACTURER'S INSTRUCTIONS, INCLUDING BEDDING, BACKFILL, AND APPLYING A MASTIC BAND TO ALL JOINTS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASE.
- THE WELL DRILLING WORK SHALL INCLUDE THE SUPPLY AND INSTALLATION OF THE WELL, PUMP, 50mm POTABLE WATER SERVICE LINE, AND ELECTRICAL CABLING FOR THE PUMP. REFER TO MECHANICAL DRAWINGS FOR LOCATION OF WORK INSIDE THE BUILDING. FINAL CONNECTION OF ALL ELECTRICAL CABLES SHALL BE COMPLETED BY A CERTIFIED ELECTRICIAN. THE WELL AND EQUIPMENT SHALL BE DRILLED AND SIZED TO PROVIDE 40gpm FLOW.

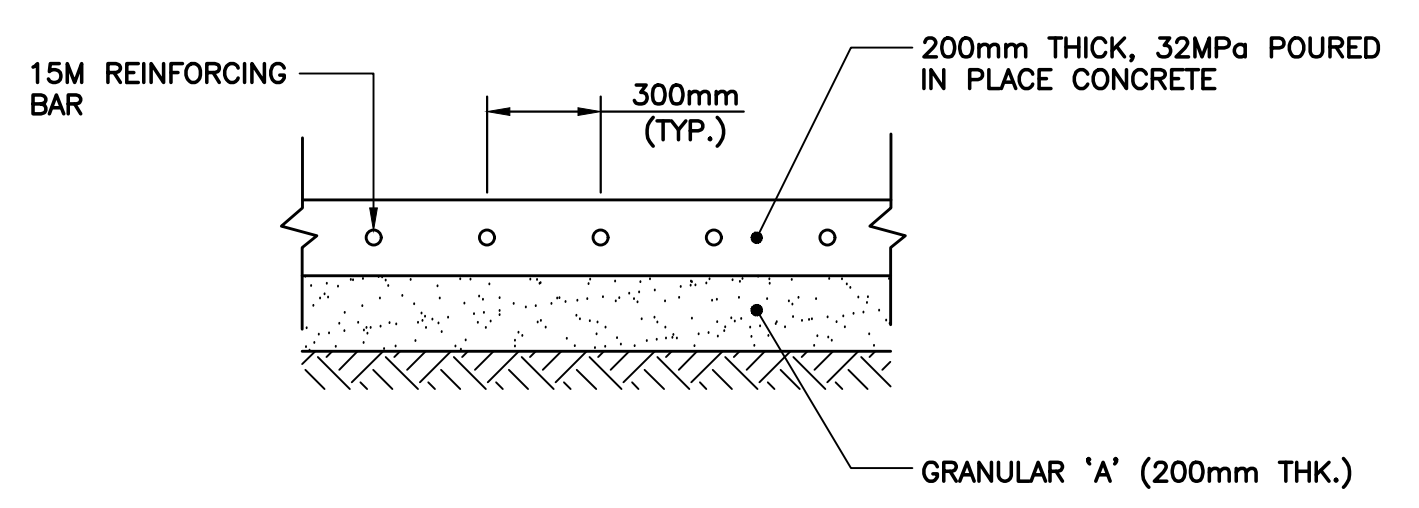
GRADING NOTES:

- CLEARING AND GRUBBING TO BE IN ACCORDANCE WITH OPSS.MUNI 201.
- GRADING TO BE IN ACCORDANCE WITH OPSS.MUNI 206.
- REMOVALS TO BE CARRIED OUT IN ACCORDANCE WITH OPSS.MUNI 510.
- EXCESS MATERIALS TO BE MANAGED IN ACCORDANCE WITH OPSS.MUNI 180.
- SUBGRADE TO BE COMPACTED TO 95% SPMD. IN ACCORDANCE WITH OPSS.MUNI 501.
- GRANULAR 'B' TYPE 1' SUBBASE AND GRANULAR 'A' BASE TO BE IN ACCORDANCE WITH OPSS.MUNI 314 AND OPSS.MUNI 1010, COMPACTED TO 100% SPMD IN ACCORDANCE WITH OPSS.MUNI 501.
- HOT MIX ASPHALT TO BE IN ACCORDANCE WITH OPSS.MUNI 310 AND 1150, COMPACTED TO 92% MAXIMUM RELATIVE DENSITY.
- ASPHALT BINDER TO BE PGAC 58-34 IN ACCORDANCE WITH OPSS.MUNI 1003.
- CONCRETE SIDEWALK TO BE IN ACCORDANCE WITH OPSS.MUNI. 351.
- CONCRETE BARRIER CURB TO BE 32MPa IN ACCORDANCE WITH OPSS.MUNI 353.
- RIP-RAP TO BE IN ACCORDANCE WITH OPSS.MUNI 511.
- PAVEMENT MARKING TO BE WATER-BORNE TRAFFIC PAINT IN ACCORDANCE WITH OPSS 710 AND 1716. ALL PAINT LINES SHALL RECEIVE A DOUBLE APPLICATION.
- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH OPSS.MUNI 805, AND SHALL BE REMOVED FOLLOWING STABILIZATION OF ADJACENT SOILS.

SEDIMENT AND EROSION CONTROL:

- SILT FENCE TO BE ERECTED ALONG THE DOWNSLOPE LIMIT OF CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
- CONSTRUCT AND MAINTAIN SEDIMENT TRAPS UNTIL SITE HAS BEEN STABILIZED.
- CONSTRUCT TEMPORARY INTERCEPTOR SWALES AND GRADE AS REQUIRED TO CONVEY SURFACE RUNOFF TO SEDIMENT TRAPS.
- CONSTRUCT MUD MAT ON CONSTRUCTION ENTRANCE. MAT TO BE 30 m LONG, 8 m WIDE, AND 0.45 m DEEP CONSTRUCTED ON 100-200 mm DIAMETER CLEAR STONE. CONTRACTOR IS RESPONSIBLE FOR CLEANING THE ADJACENT ROAD OF ANY MUD WHICH IS TRACKED OFF-SITE.
- SILT SACKS TO BE INSTALLED UNDER ALL CATCHBASIN GRATES IMMEDIATELY FOLLOWING INSTALLATION. SILT SACKS TO BE CLEANED/REPLACED REGULARLY AS REQUIRED TO MAINTAIN FLOW THROUGH THE GRATE.
- CONTRACTOR IS RESPONSIBLE TO INSPECT, MAINTAIN, REPLACE, AND SUPPLEMENT SEDIMENT AND EROSION CONTROLS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE AND CONTROL ON AND OFF SITE EROSION.
- FOLLOWING COMPLETION OF PARKING AREAS AND ENTRANCE ROADS, DESIGNATED LANDSCAPE AREAS ARE TO BE FINE GRADED, TOPSOILED, AND SEEDED.
- FOLLOWING STABILIZATION OF THE SITE, THE FOLLOWING IS TO BE COMPLETED:
 - THE STORM SEWER SYSTEM IS TO BE FLUSHED AND SEDIMENT REMOVED FROM ALL STRUCTURES.
 - SILT FENCING TO BE REMOVED AND DISTURBED AREAS LANDSCAPED ACCORDINGLY.

LOCATION	HOT MIX ASPHALT		GRANULAR (FULL WIDTH)	
	SURFACE	BINDER	GRANULAR BASE	GRANULAR SUBBASE
HEAVY DUTY ASPHALT	50mm HL 3	50mm HL 8	150mm 'A'	450mm 'B', TYPE I



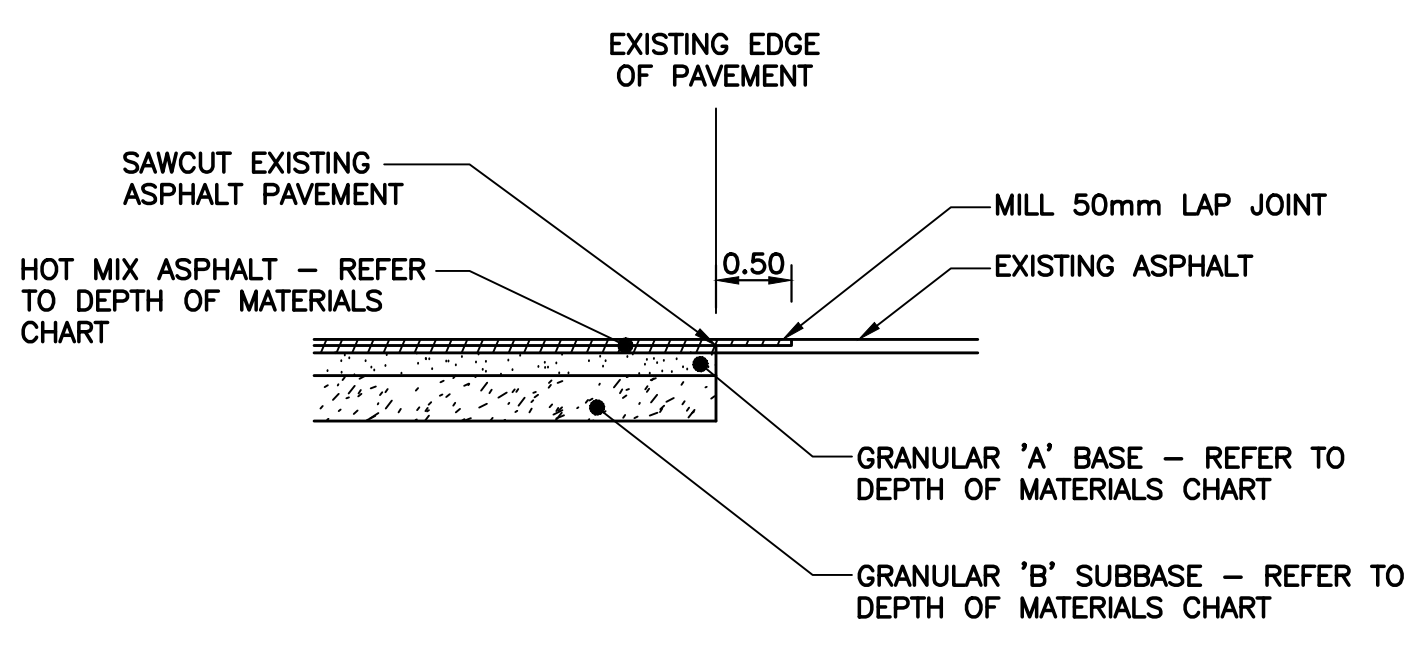
CONCRETE PAD FOR PROPANE TANK
N.T.S.

SIGN LEGEND



PIPE CLASS & BEDDING:

- STORM SEWER**
PVC - CSA - B182.4 - CLASS 320
PE - CSA - B182.6
GRANULAR 'A' BEDDING IN ACCORDANCE WITH OPSS 802.010
- SANITARY SERVICE**
PVC CAN/CSA - B182.2 - SDR 28
GRANULAR 'A' EMBEDMENT IN ACCORDANCE WITH OPSS 802.010
- WATER SERVICE**
CROSS-LINKED POLYETHYLENE TUBING - CSA B137.5
GRANULAR 'A' EMBEDMENT IN ACCORDANCE WITH OPSS 802.010
- SUBDRAIN, TRENCH AND FOOTING DRAINS**
HDPE CORRUGATED, GEOTEXTILE WRAPPED



PAVEMENT CONNECTION DETAIL
N.T.S.

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REVISIONS AND ISSUES

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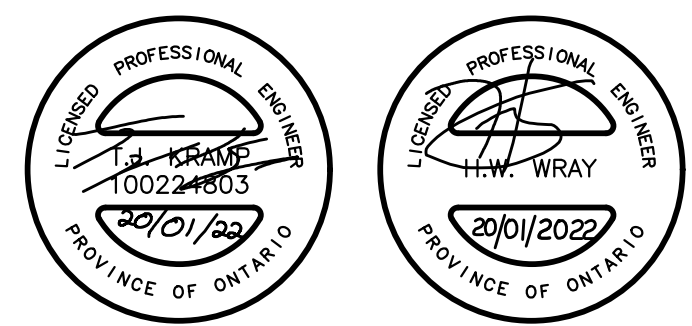
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NORTH ARROW SEAL

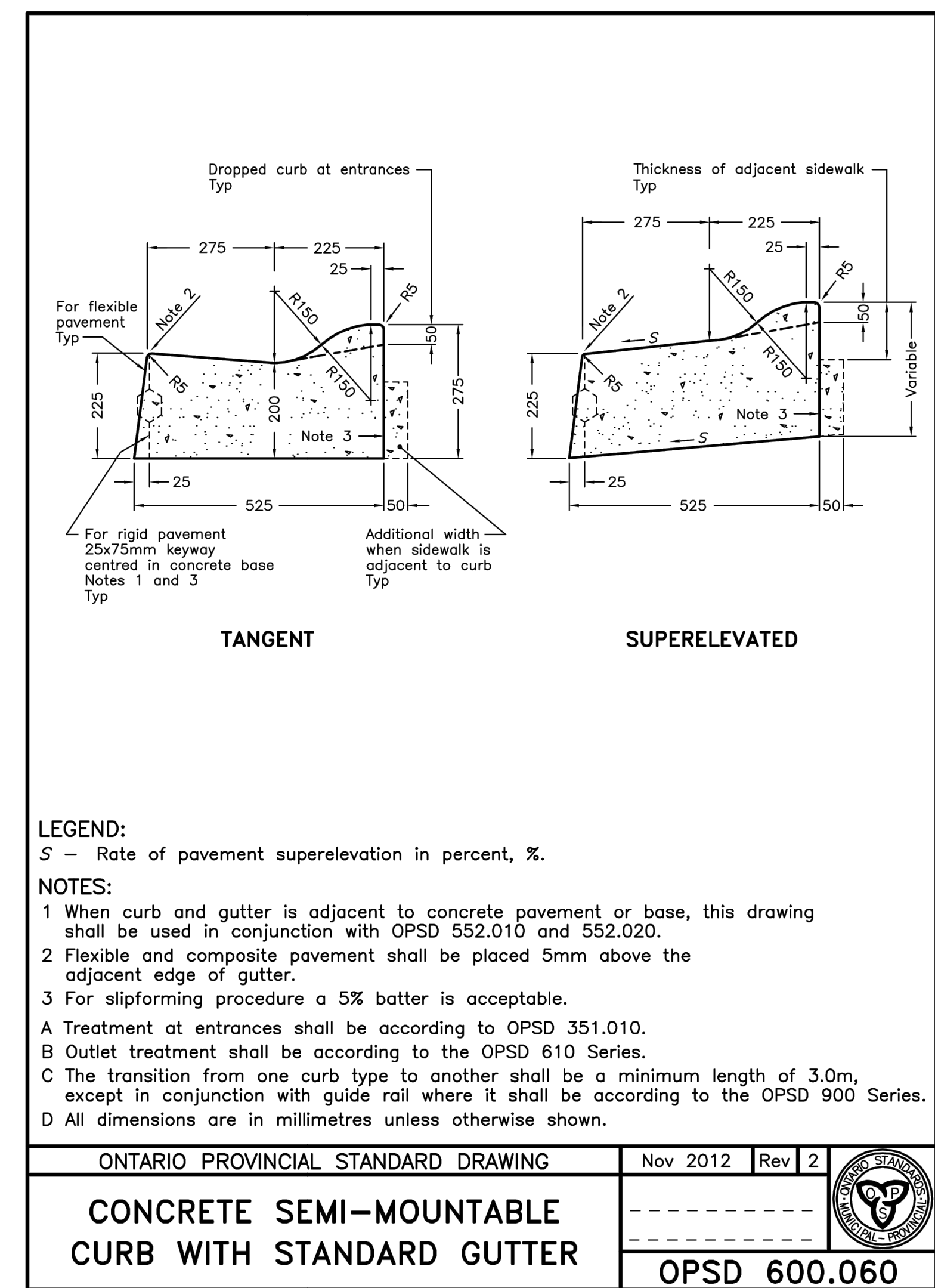
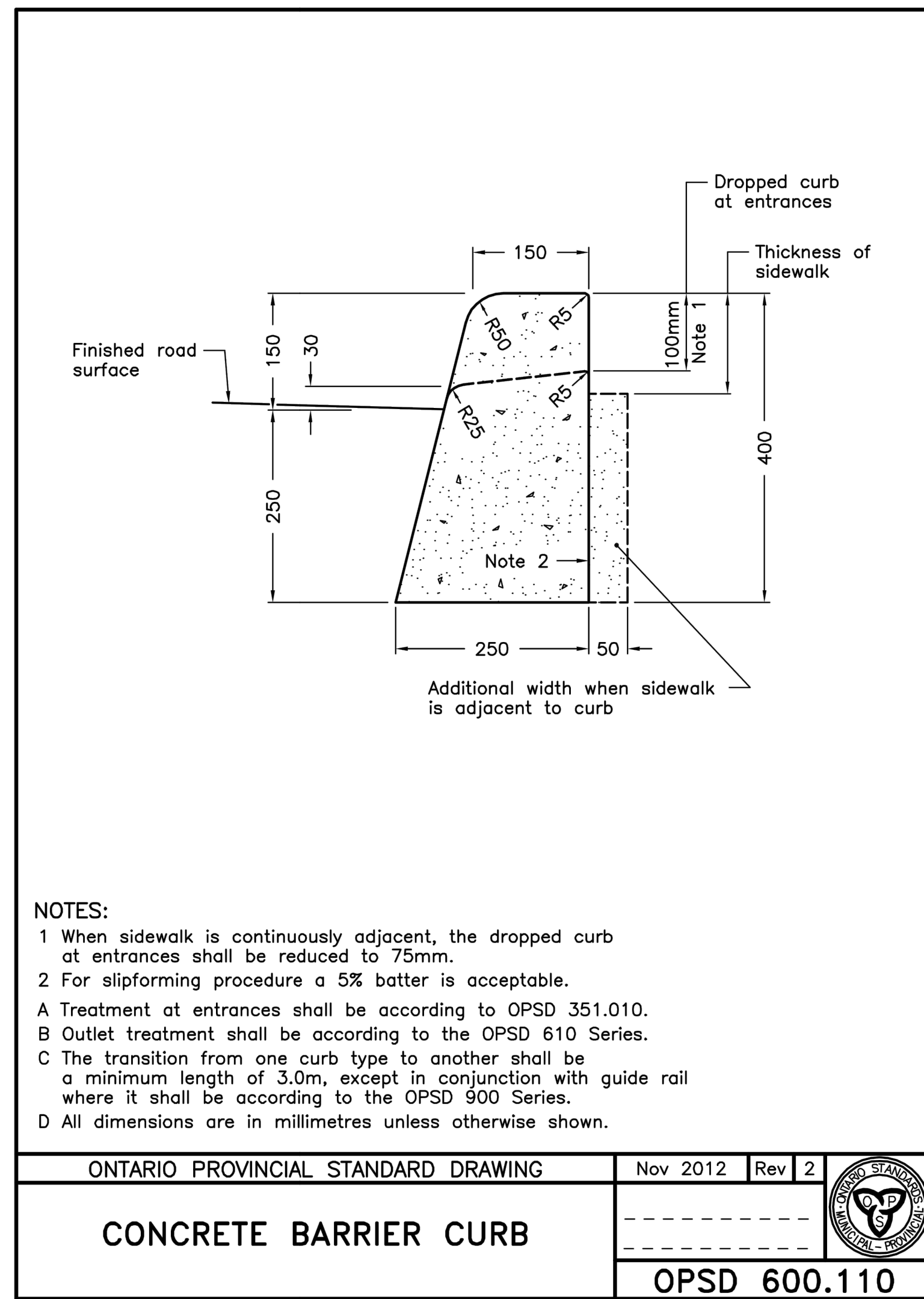
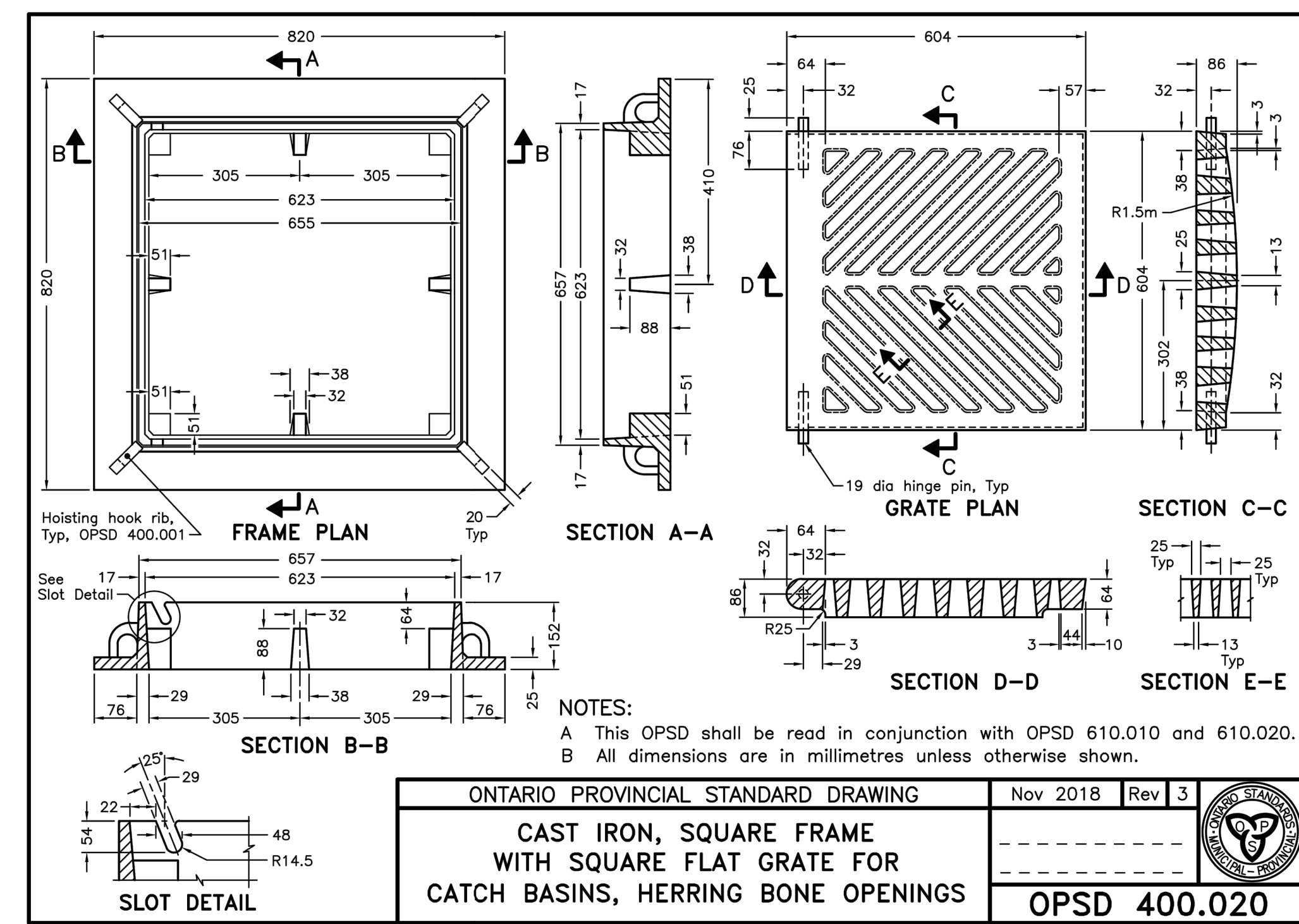
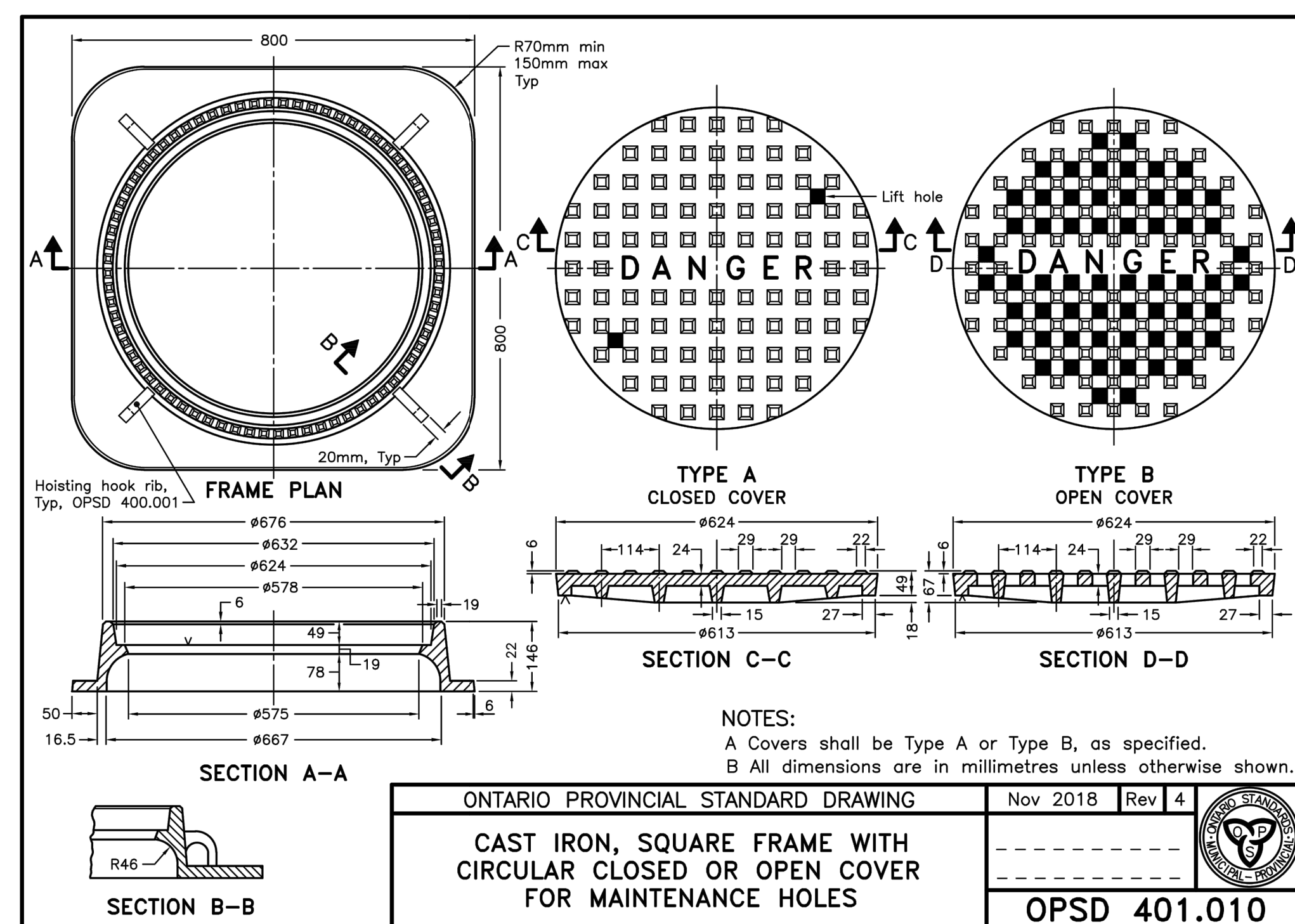
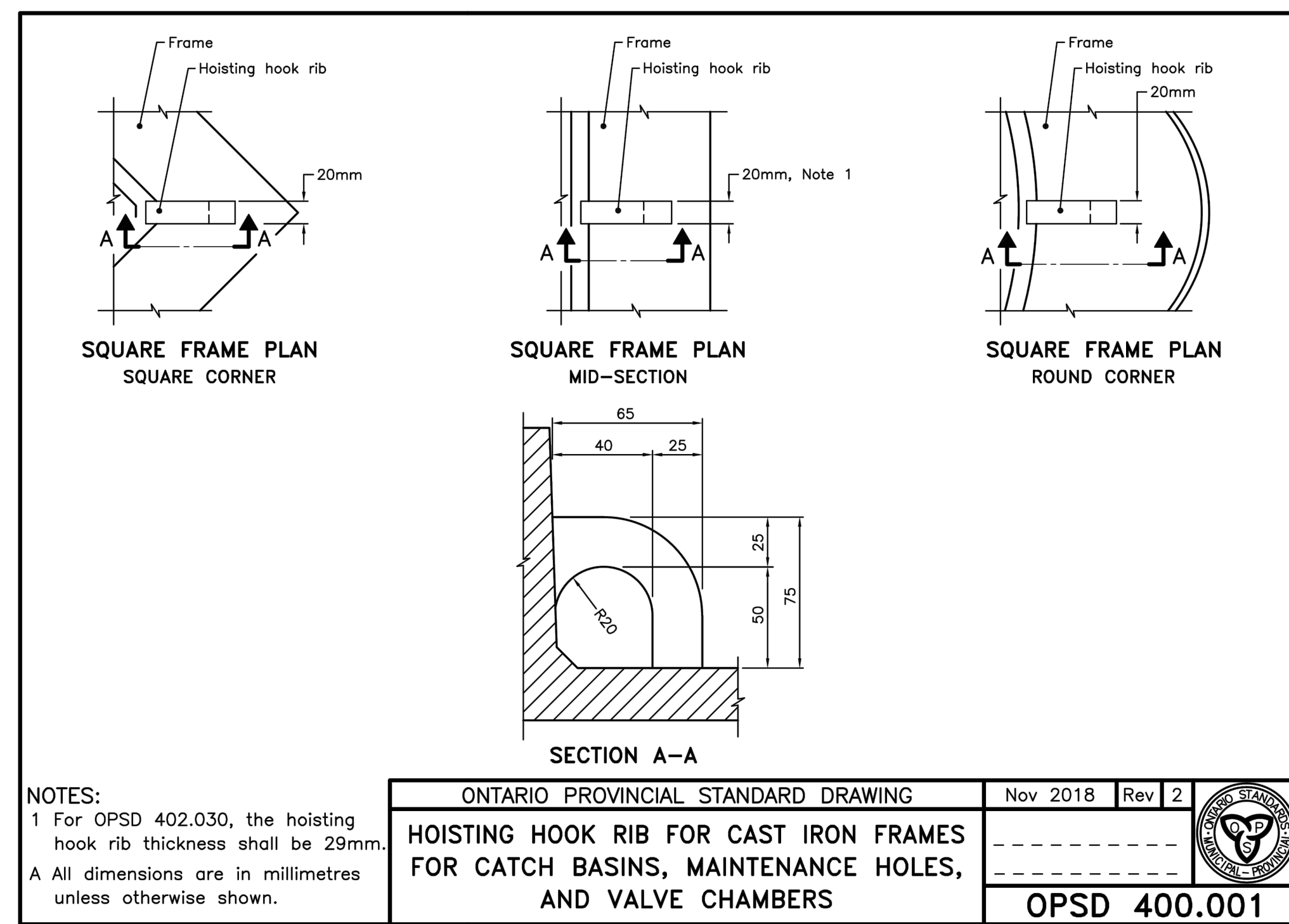
PROJECT TITLE
**NEW SAYERS FOOD STORE
BURLEIGH STREET, APSLEY**

DRAWING TITLE
NOTES AND DETAILS

SCALE
AS SHOWN
DATE
JULY 12, 2021



PROJECT NUMBER
2102
DRAWING NUMBER



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NORTH ARROW	SEAL
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PROJECT TITLE
**NEW SAYERS FOOD STORE
 BURLEIGH STREET, APSLEY**

DRAWING TITLE
STANDARDS

SCALE
AS SHOWN
 DATE
AUGUST 24, 2021

PROFESSIONAL ENGINEER

PROJECT NUMBER
2102
 DRAWING NUMBER

ALTERNATIVES

A PRECAST SLAB BASE

B CAST-IN-PLACE BASE

C PRECAST FLAT CAP

NOTES:

- The sump is measured from the lowest invert.
- Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
- Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
- Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
- Pipe support according to OPSD 708.020.
- For adjustment unit and frame installation, see OPSD 701.021.
- For benching and pipe opening details, see OPSD 704.010.
- All dimensions are nominal.
- All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 5

PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER

OPSD 701.010

NOTES:

- Slopes shall be maintained from the outlet hole opening for top of benching.
- Concrete for benching shall be 30MPa.
- When benching is hand-finished, it shall be given wood float finish, channel shall be given steel trowel finish.
- Benching slope and height shall be as specified.
- When specified, maintenance holes that are 1200mm in diameter with a uniform channel for 200 or 250mm pipe may be prebenched at the manufacturer with standardized benching slope and channel orientation.
- All dimensions are nominal.
- All dimensions are in millimetres unless otherwise shown.

Maintenance Hole Diameter	MAXIMUM SIZE HOLE IN THE WALL IN PRECAST RISER SECTIONS				
	No. 1-4	No. 5 and 6	No. 8	No. 7	
				Inlet Hole	Outlet Hole
1200	700	860	780	700	860
1500	860	1220	960	860	1170
1800	1220	1485	1220	1220	1485
2400	1485	2020	1760	1485	2020
3000	1930	2450	2300	1930	2450
3600	2470	3085	2730	2470	3085

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 4

MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES

OPSD 701.021

NOTES:

- This drawing shall be read in conjunction with OPSD 701.030 and 701.032.
- Centre reinforcing steel in riser ± 20 mm.
- All other reinforcing steel shall have 25mm minimum cover.
- Steps shall be according to OPSD 405.010 or 405.020.
- All dimensions are nominal.
- All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 2

PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS 1200mm DIAMETER RISER AND MONOLITHIC BASE

OPSD 701.031

NOTES:

- This drawing shall be read in conjunction with OPSD 701.031 and 701.032.
- Centre reinforcing steel in riser ± 20 mm.
- All other reinforcing steel shall have 25mm minimum cover.
- Steps shall be according to OPSD 405.010 or 405.020.
- All dimensions are nominal.
- All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 4

PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS 1200mm DIAMETER TAPERED TOP AND FLAT CAP

OPSD 701.030

NOTES:

- Welded splice shall develop minimum 50% yield strength of bar or wire, as applicable.
- This drawing shall be read in conjunction with OPSD 701.030 and 701.031.
- Centre reinforcing steel in riser ± 20 mm.
- All other reinforcing steel shall have 25mm minimum cover.
- All dimensions are nominal.
- All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 2

PRECAST CONCRETE MAINTENANCE HOLE COMPONENTS 1200mm DIAMETER BASE SLAB

OPSD 701.032

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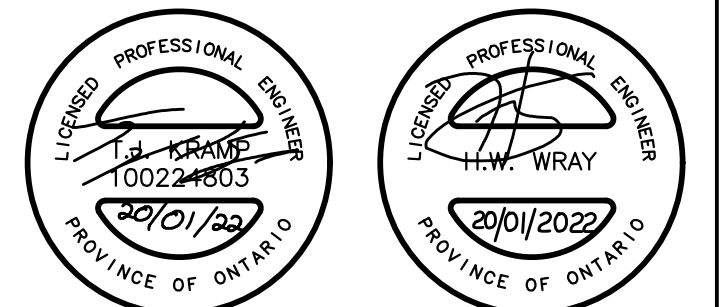
NORTH ARROW SEAL

PROJECT TITLE
**NEW SAYERS FOOD STORE
BURLINGHAM STREET, APSLEY**

DRAWING TITLE
STANDARDS

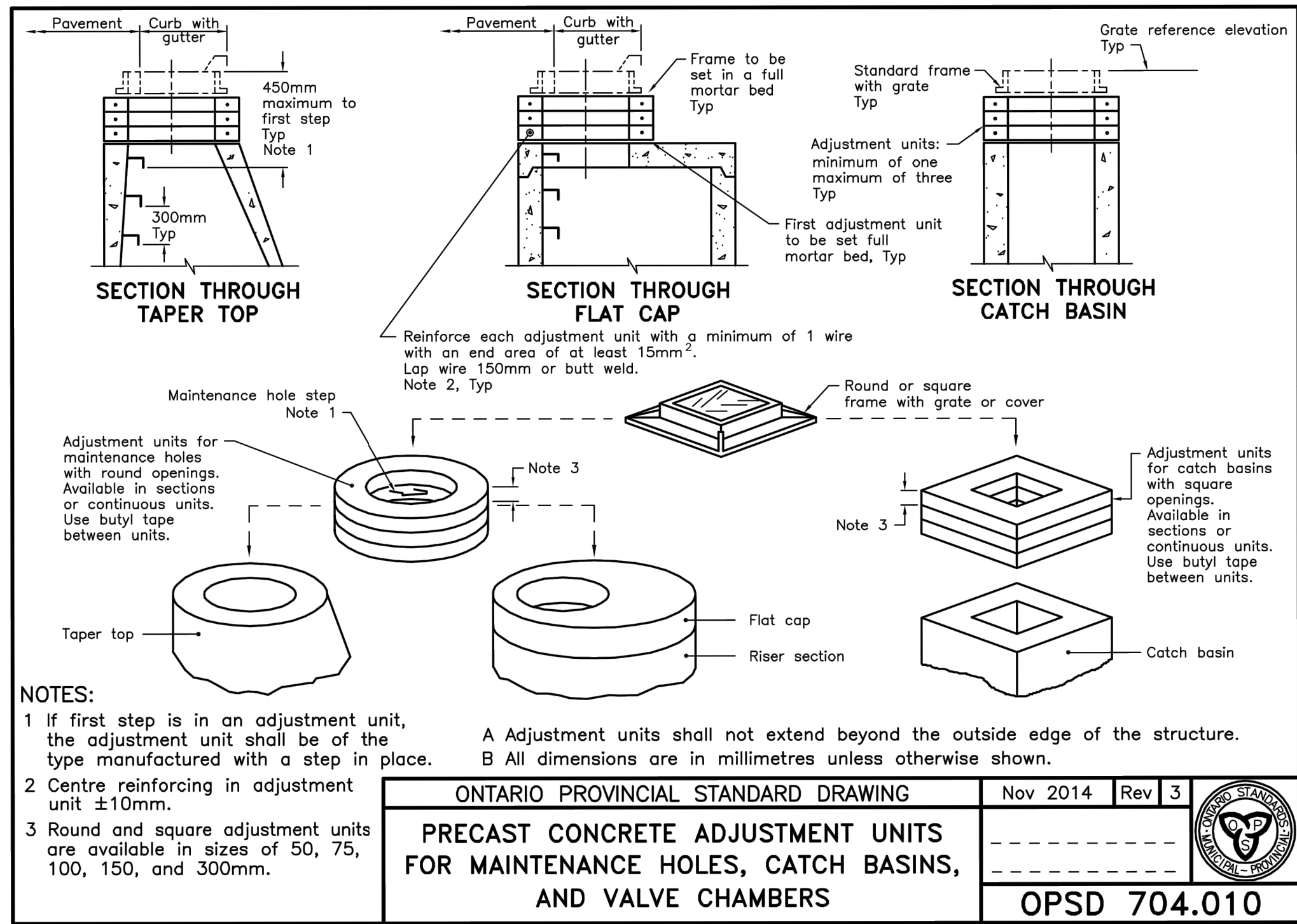
SCALE
AS SHOWN

DATE
AUGUST 24, 2021

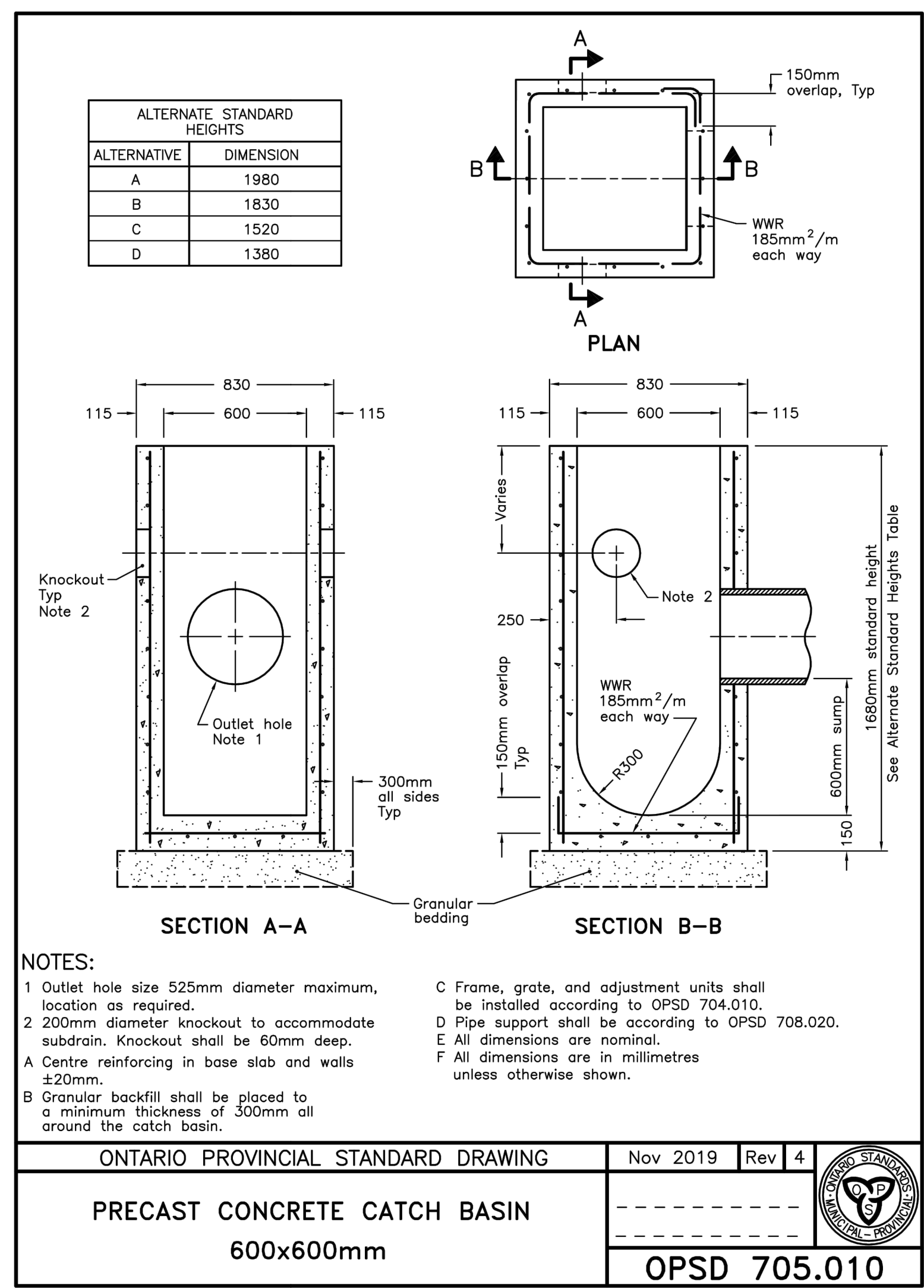


PROJECT NUMBER
2102
DRAWING NUMBER

C-04



ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014	Rev 3	
PRECAST CONCRETE ADJUSTMENT UNITS FOR MAINTENANCE HOLES, CATCH BASINS, AND VALVE CHAMBERS			
			OPSD 704.010

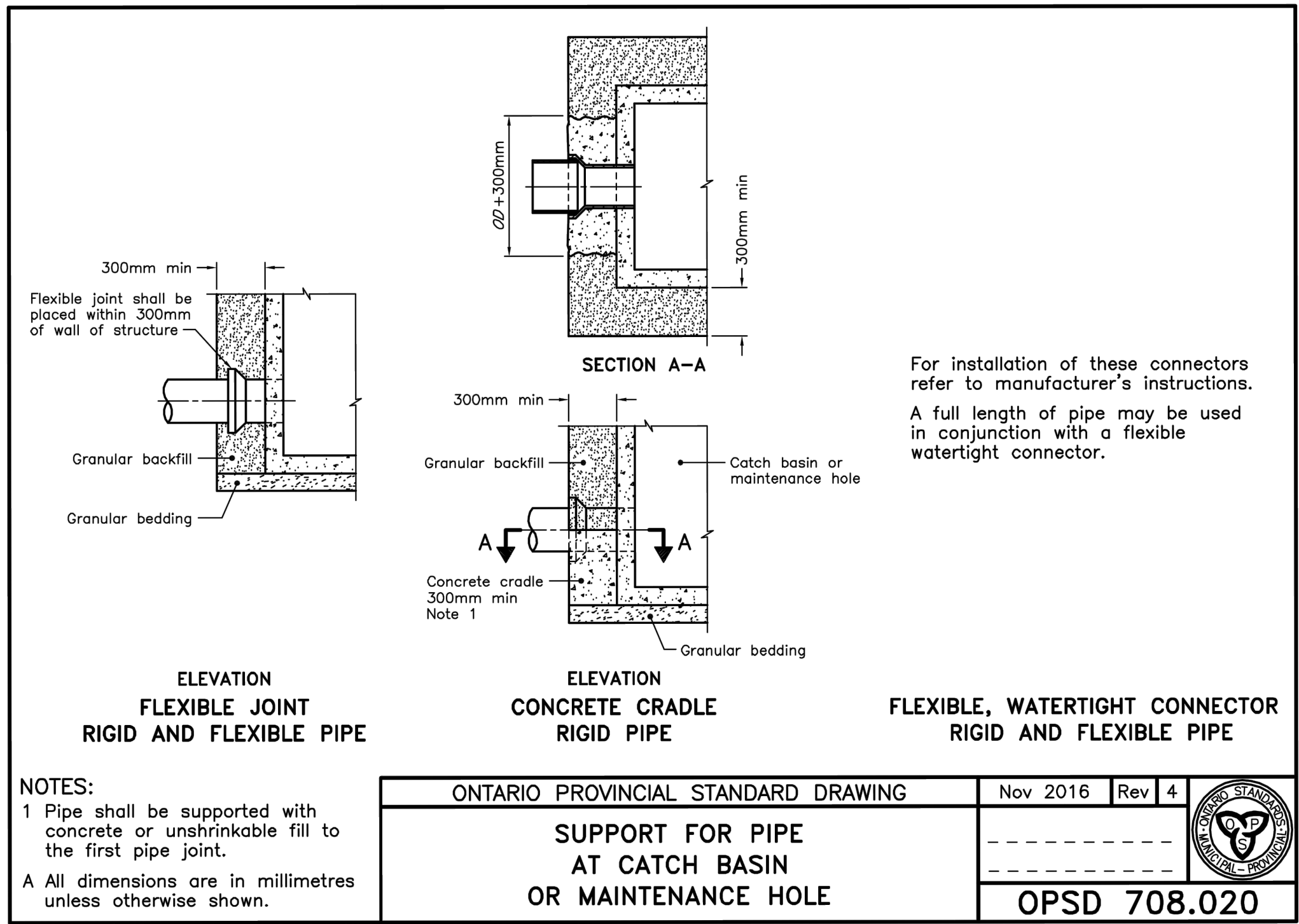


ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019	Rev 4	
PRECAST CONCRETE CATCH BASIN 600x600mm			
			OPSD 705.010

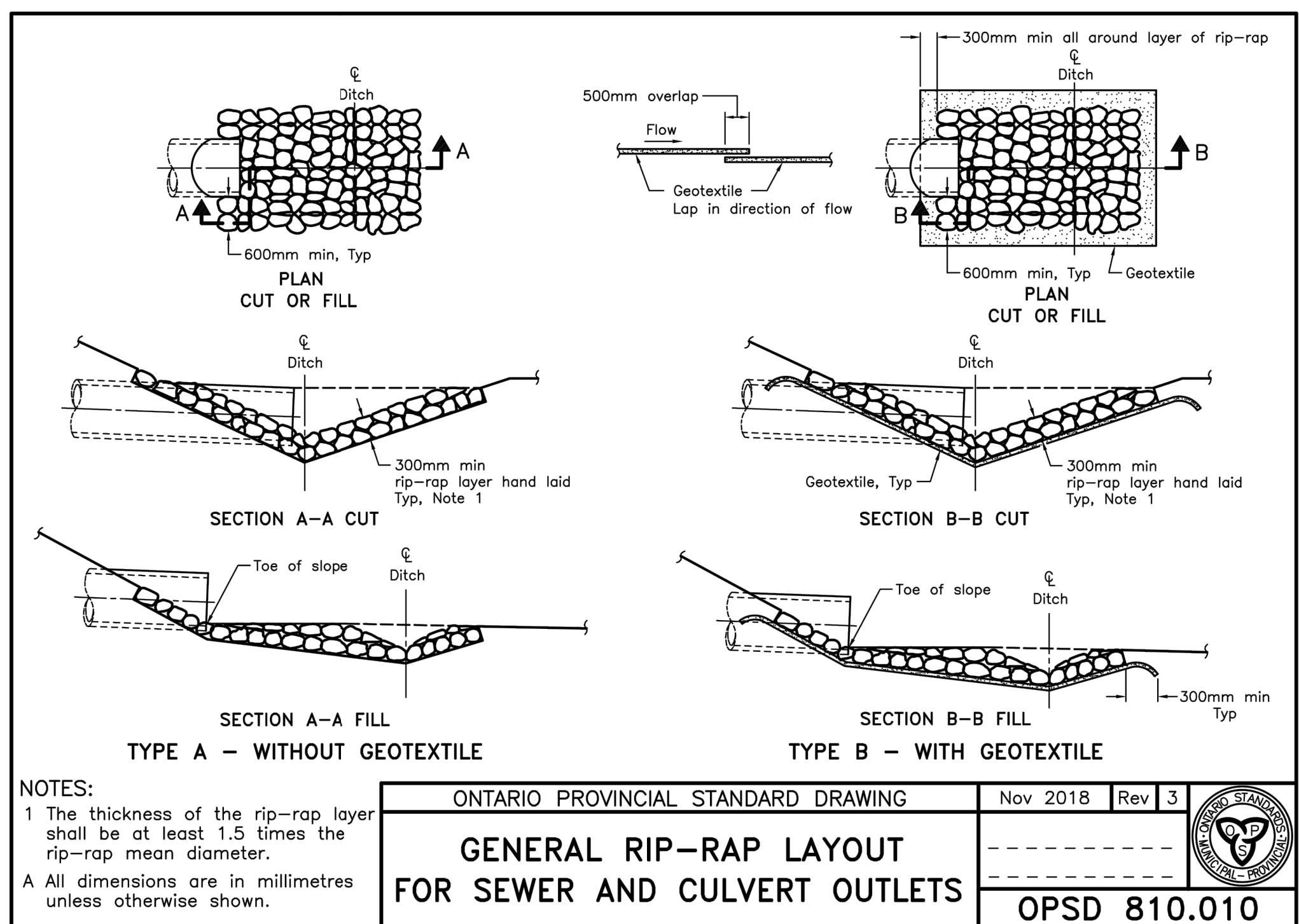
PIPE DIA mm	TRENCH WIDTH	MAXIMUM HEIGHT OF FILL				MINIMUM HEIGHT OF FILL
		320 kPa		RSC 160		All Pipe Classes
		Granular A	Granular B (Type I and II)	Granular A	Granular B (Type I and II)	Granular B (Type I and II)
100	0.5	9.8	6.7	-	-	0.3
150	0.6	9.8	7.6	-	-	0.3
200	0.7	8.5	5.8	-	-	0.3
250	0.7	10.1	6.7	-	-	0.3
300	0.8	11.0	7.3	-	-	0.3
375	0.9	9.8	6.4	-	-	0.3
450	1.0	10.1	6.7	-	-	0.3
525	1.1	9.1	6.1	-	-	0.3
600	1.2	10.7	7.0	-	-	0.3
750	1.4	9.8	6.4	-	-	0.3
900	1.6	8.8	6.1	-	-	0.3
1050	1.8	-	-	6.1	4.3	0.3
1200	2.0	-	-	6.4	4.6	0.3
1500	2.4	-	-	6.4	4.3	0.6

Notes:
 A The table applies to dual wall corrugated polyethylene gravity sewer pipe according to CSA B182.6 and CSA B182.8.
 B Pipe diameters 1050 to 1500mm are listed with a constant RSC 160 value for convenience. Minimum pipe stiffness values are listed in Table 3 of CSA B182.8.
 C Trench width is based on Class I compacted material for Granular A and Class II compacted material to 95% of the maximum dry density for Granular B.
 D The table based on backfill density of 2243 kg/m³.
 E The table presumes groundwater is at or below the springline of the pipe.
 F Minimum height of fill over the pipe is measured from bottom of flexible pavement or top of rigid pavement.
 G Maximum height of fill is measured from the finished surface to top of pipe.
 H This OPSD shall be read in conjunction with OPSD 802.010, 802.013 and 802.014.
 I For height of fill and/or pipe sizes greater than shown, or for other design conditions, the values shall be calculated from first principles.
 J All dimensions are in metres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3	
HEIGHT OF FILL TABLE DUAL WALL CORRUGATED POLYETHYLENE GRAVITY SEWER PIPE - 320 kPa and RSC 160			
			OPSD 806.020



ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2016	Rev 4	
SUPPORT FOR PIPE AT CATCH BASIN OR MAINTENANCE HOLE			
			OPSD 708.020



ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2018	Rev 3	
GENERAL RIP-RAP LAYOUT FOR SEWER AND CULVERT OUTLETS			
			OPSD 810.010

Contractor must check and verify all dimensions on the job, and report any discrepancies to the Architect before proceeding with the work.
 Do not scale this drawing.

REV	DESCRIPTION	DATE	BY
1	ISSUED FOR TENDER	AUGUST 25, 2021	HW
2	ISSUED FOR BUILDING PERMIT	SEPTEMBER 9, 2021	HW
3	ISSUED FOR CIVIL ADDENDUM 1	SEPTEMBER 17, 2021	HW
4	REVISED BP & TENDER SUBMITTAL	JANUARY 20 2022	HW
5			
6			
7			
8			

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NORTH ARROW	SEAL
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PROJECT TITLE
NEW SAYERS FOOD STORE BURLLEIGH STREET, APSLEY

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STANDARDS

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