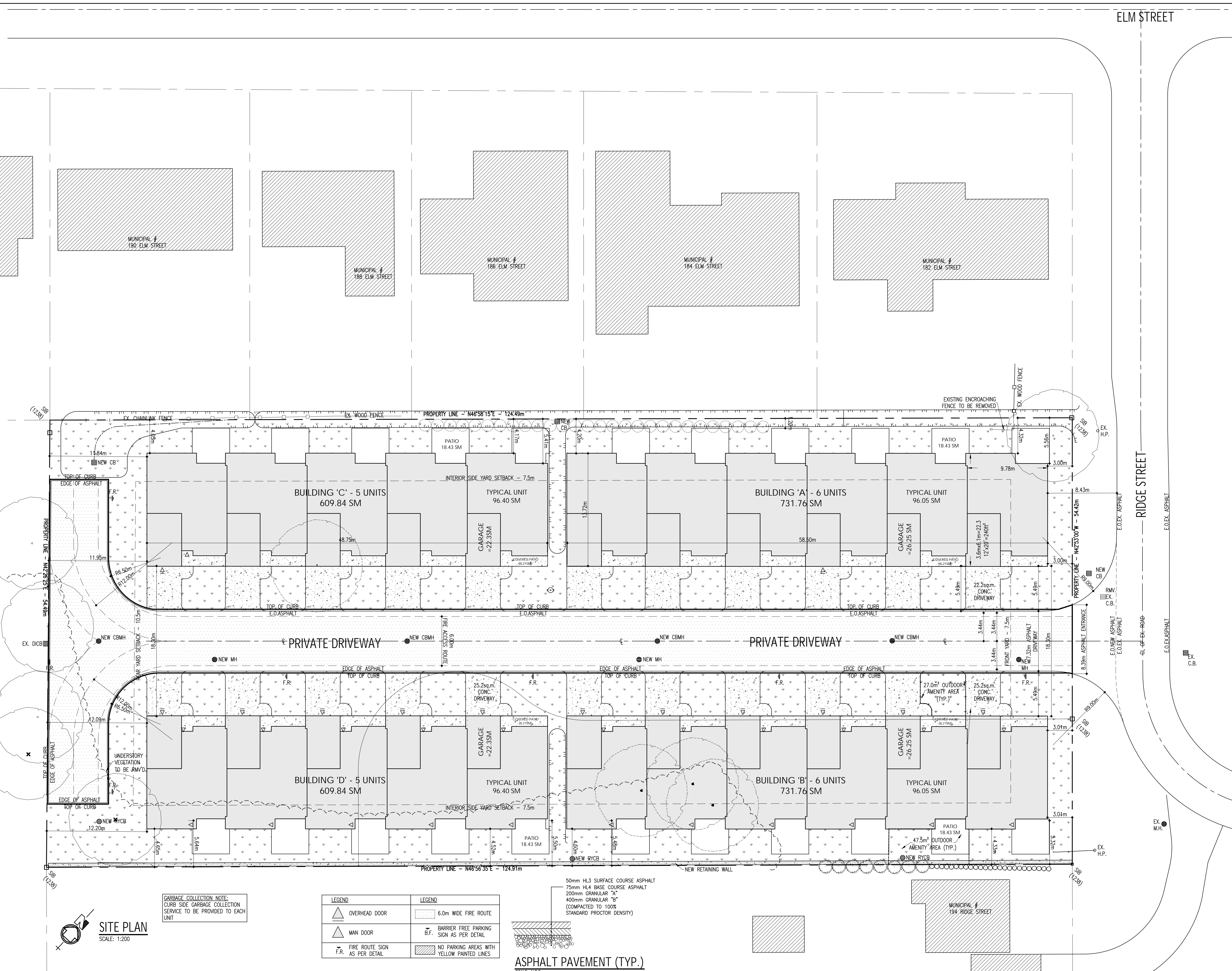


ZONING STANDARDS - TOWNHOUSES		
PROPOSED ZONING - RESIDENTIAL THIRD DENSITY (R3)		
REQUIREMENTS	PROPOSED	
LOT AREA (min.)	230sq.m./UNIT	6788.32m ² (MAX. 29 UNITS)
LOT FRONTAGE (min.)	25m	54.42m
LOT COVERAGE (max.)	35%	1656.32m ² /6788.32m ² = 24.4%
FRONT YARD DEPTH (min.)	7.5m	3.00m
INTERIOR SIDYARD (min.)	7.5m	4.05m
EXTERIOR SIDYARD (min.)	10.5m	n/a
REAR YARD (min.)	10.5m	11.84m
MAX. BUILDING HEIGHT	3 STOREYS	1 STOREY
MINIMUM OUTDOOR AMENITY	45sq.m./UNIT	74.5 sq.m./UNIT
MAX. DENSITY	60 DWELLING/Ha.	22 DWELLING/0.6788Ha. (= 32.4 UNITS/Ha.)

BUILDING DATA	
BUILDING 'A' (SUITE 1 - 6)	IRREGULAR SHAPE = 731.76sq.m. UNIT SIZE = 96.05sq.m.
BUILDING 'B' (SUITE 7 - 12)	IRREGULAR SHAPE = 731.76sq.m. UNIT SIZE = 96.05sq.m.
BUILDING 'C' (SUITE 13 - 17)	IRREGULAR SHAPE = 609.84sq.m. UNIT SIZE = 96.40sq.m.
TOWNHOUSE 4 (SUITE 18 - 22)	IRREGULAR SHAPE = 609.84sq.m. UNIT SIZE = 96.40sq.m.
TOTAL BUILDING AREA = 1656.32sq.m.	

PARKING CALCULATION	
BUILDING USE	REQUIREMENTS:
TOWNHOUSE	1.5 SPACES PER UNIT = 22 UNITS x 1.5 = 33 SPACES
TOTAL SPACES REQUIRED = 33 SPACES	
TOTAL SPACE PROVIDED = 1 DRIVEWAY + 1 GARAGE = 2 SPACES PER UNIT = 44 SPACES	



GARBAGE COLLECTION NOTE:
CURB SIDE GARBAGE COLLECTION
SERVICE TO BE PROVIDED TO EACH
UNIT

LEGEND	LEGEND

50mm HL3 SURFACE COURSE ASPHALT
75mm HL4 BASE COURSE ASPHALT
200mm GRANULAR "A"
400mm GRANULAR "B"
(COMPACTED TO 100%
STANDARD PROCTOR DENSITY)

ASPHALT PAVEMENT (TYP.)
SCALE: N.T.S.

REVISIONS	ISSUED FOR	DATE
	PRELIMINARY	JAN. 21/2019
	PRELIMINARY/MUNICIPAL STORM MAIN REVIEW	JUN. 12/2019
	OWNER REVIEW	SEPT. 14/2021
	ZONING BYLAW AMENDMENT/SITE PLAN APPROVAL	APRIL 1/2021

CONTRACTOR:

PROJECT: "THE RIDGE" TOWNHOUSE DEVELOPMENT FOR ARVAI DEVELOPMENTS INC.

136 RIDGE STREET WEST LORNE, ONTARIO

SHEET TITLE: SITE PLAN

Y.C. LIU ENGINEERING
28 BALDWIN AVE. WEST
CENTRAL ONTARIO P.O. BOX
TEL: (519) 951-9612
FAX: (519) 951-9628

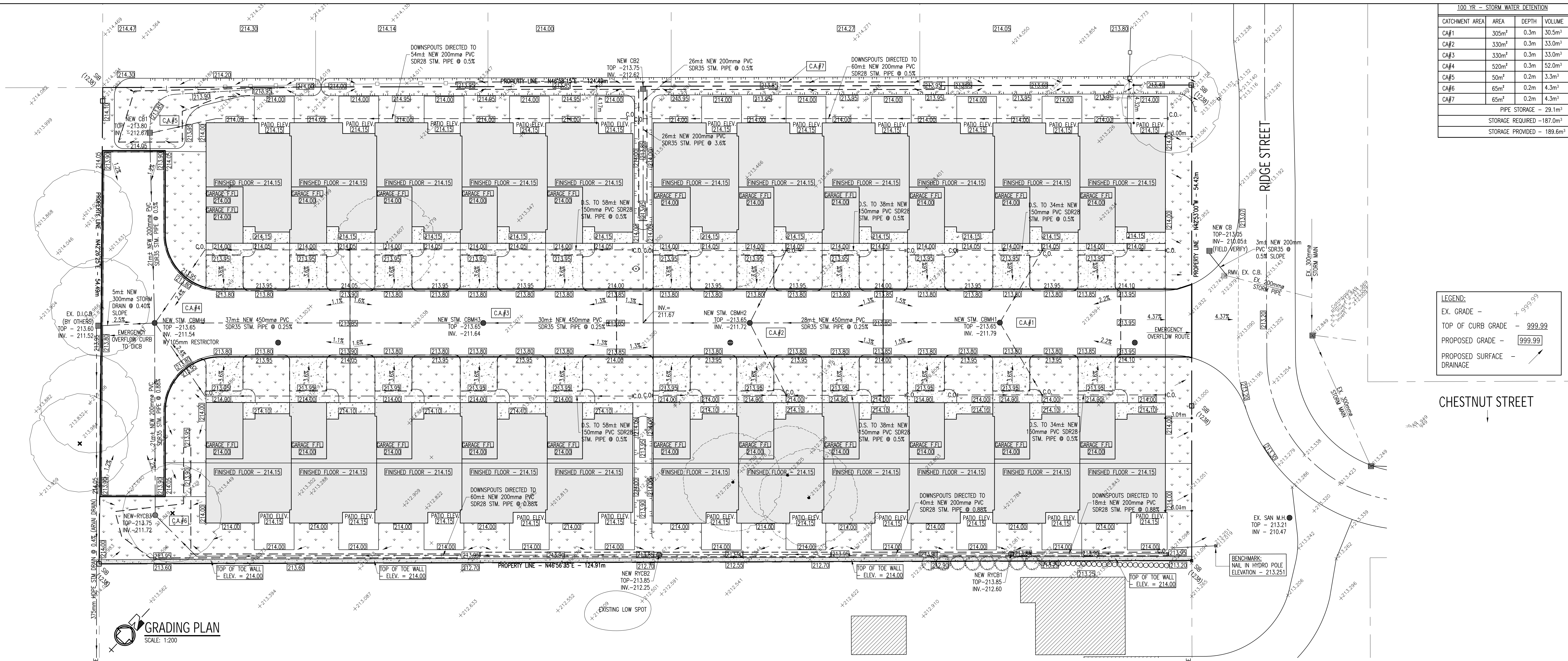
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C.W.	C.L.	18-222	1
BCIN	FIRM BCIN	DATE	SHEET NO.
20529	29635	JAN./2019	SP-1 of 5

SITE PLAN
SCALE: 1:200

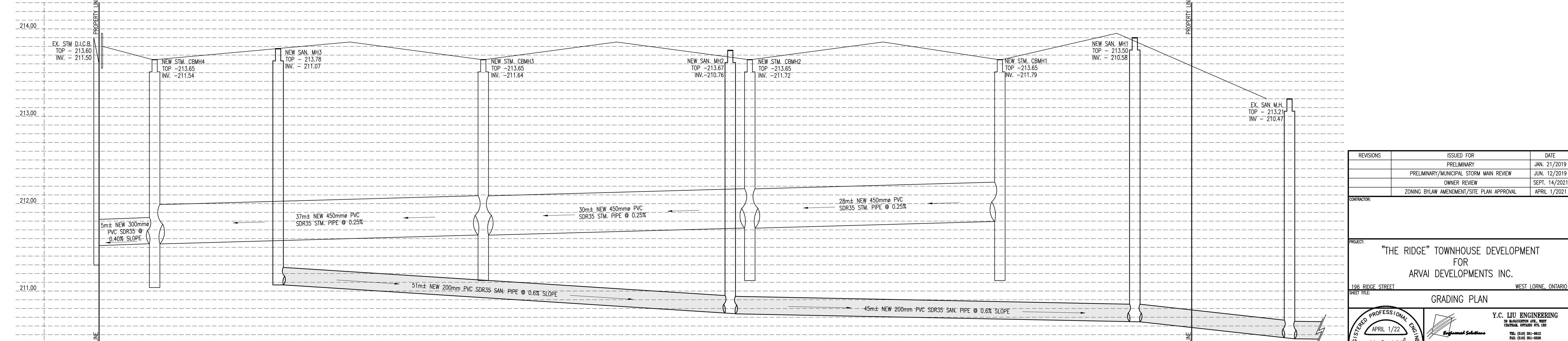
100 YR - STORM WATER DETENTION			
CATCHMENT AREA	AREA	DEPTH	VOLUME
CA#1	305m ²	0.3m	30.5m ³
CA#2	330m ²	0.3m	33.0m ³
CA#3	330m ²	0.3m	33.0m ³
CA#4	520m ²	0.3m	52.0m ³
CA#5	50m ²	0.2m	3.3m ³
CA#6	65m ²	0.2m	4.3m ³
CA#7	65m ²	0.2m	4.3m ³
PIPE STORAGE - 29.1m ³			
STORAGE REQUIRED - 187.0m ³			
STORAGE PROVIDED - 189.6m ³			

LEGEND:

- EX. GRADE -
- TOP OF CURB GRADE - 999.99
- PROPOSED GRADE - 999.99
- PROPOSED SURFACE -
- DRAINAGE -



GRADING PLAN
SCALE: 1:200



PRIVATE ROAD PROFILE
SCALE: 1:200 (10:1 VERTICAL EXAGGERATION)

REVISIONS	ISSUED FOR	DATE
	PRELIMINARY	JAN. 21/2019
	PRELIMINARY/MUNICIPAL STORM MAIN REVIEW	JUN. 12/2019
	OWNER REVIEW	SEPT. 14/2021
	ZONING BYLAW AMENDMENT/SITE PLAN APPROVAL	APRIL 1/2021

CONTRACTOR:
PROJECT: "THE RIDGE" TOWNHOUSE DEVELOPMENT FOR ARVAI DEVELOPMENTS INC.
136 RIDGE STREET WEST LORNE, ONTARIO

SHEET TITLE: GRADING PLAN

REG. PROFESSIONAL ENGINEER
APRIL 1/22
Y-C. LIU
PROVINCE OF ONTARIO

DRAWN	CHECKED	FILE NO.	DWG. NO.
C.W.	C.L.	18-222	2
BCIN	FIRM BCIN	DATE	SHEET NO.
20529	29635	JAN./2019SP-2	of 5

Y.C. LIU ENGINEERING
28 MANICORP AVE. WEST
CENTRAL ONTARIO P.O. BOX
TEL: (519) 951-9612
FAX: (519) 951-9628

ELM STREET

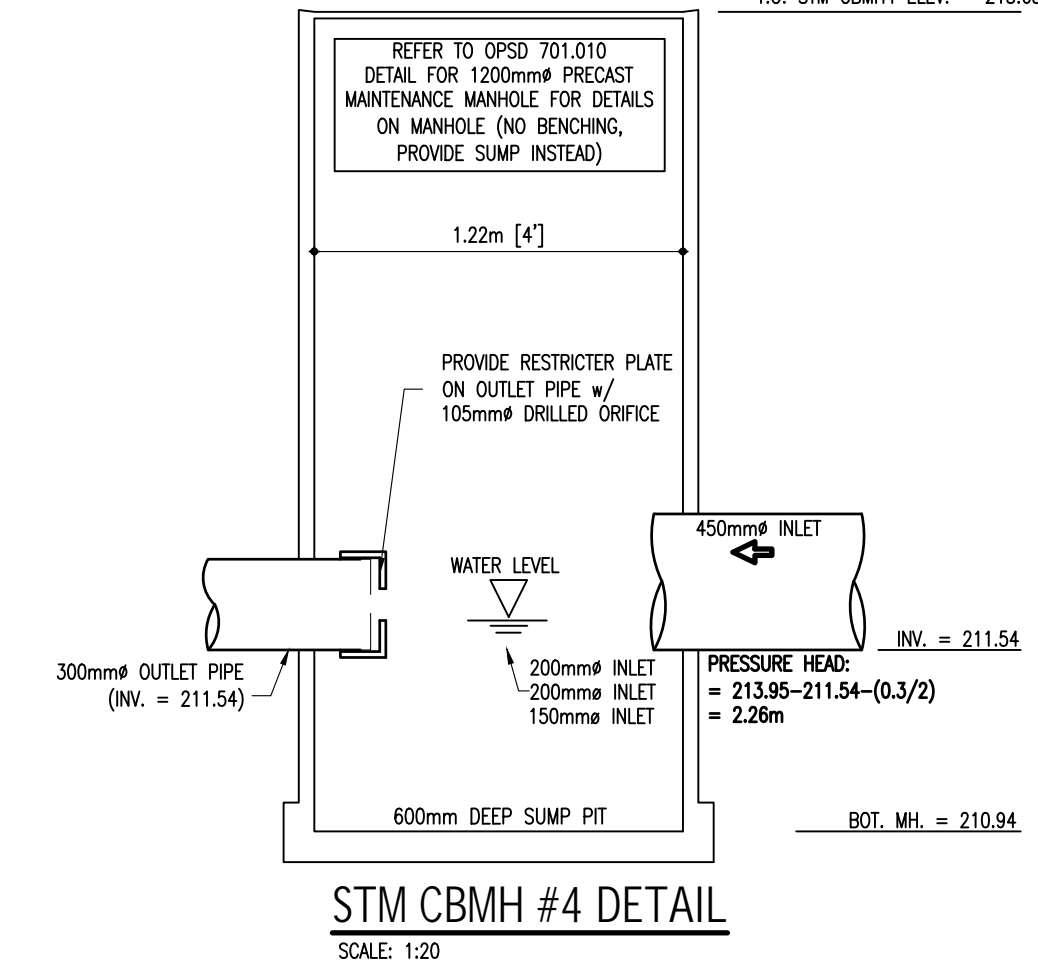
NEW CUT-IN T 150x150x150 WATERMAIN CONNECTION APPROVED BY THE MUNICIPALITY OF WEST ELGIN PUBLIC WORKS

EXISTING 150mm WATERMAIN (VERIFY DEPTH, MATERIAL & LOCATION)

RIDGE STREET

100-YR. PONDING ELEV. = 213.95

T.O. STM CBMH4 ELEV. = 213.65



CHESTNUT STREET

REVISIONS	ISSUED FOR	DATE
	PRELIMINARY	JAN. 21/2019
	PRELIMINARY/MUNICIPAL STORM MAIN REVIEW	JUN. 12/2019
	OWNER REVIEW	SEPT. 14/2021
	ZONING BYLAW AMENDMENT/SITE PLAN APPROVAL	APRIL 1/2021

CONTRACTOR:

PROJECT: "THE RIDGE" TOWNHOUSE DEVELOPMENT FOR ARVAI DEVELOPMENTS INC.

196 RIDGE STREET WEST LORNE, ONTARIO

SHEET TITLE: SERVICING PLAN

REGISTERED PROFESSIONAL ENGINEER

APRIL 1, 2022

Y-C. LIU

PROVINCE OF ONTARIO

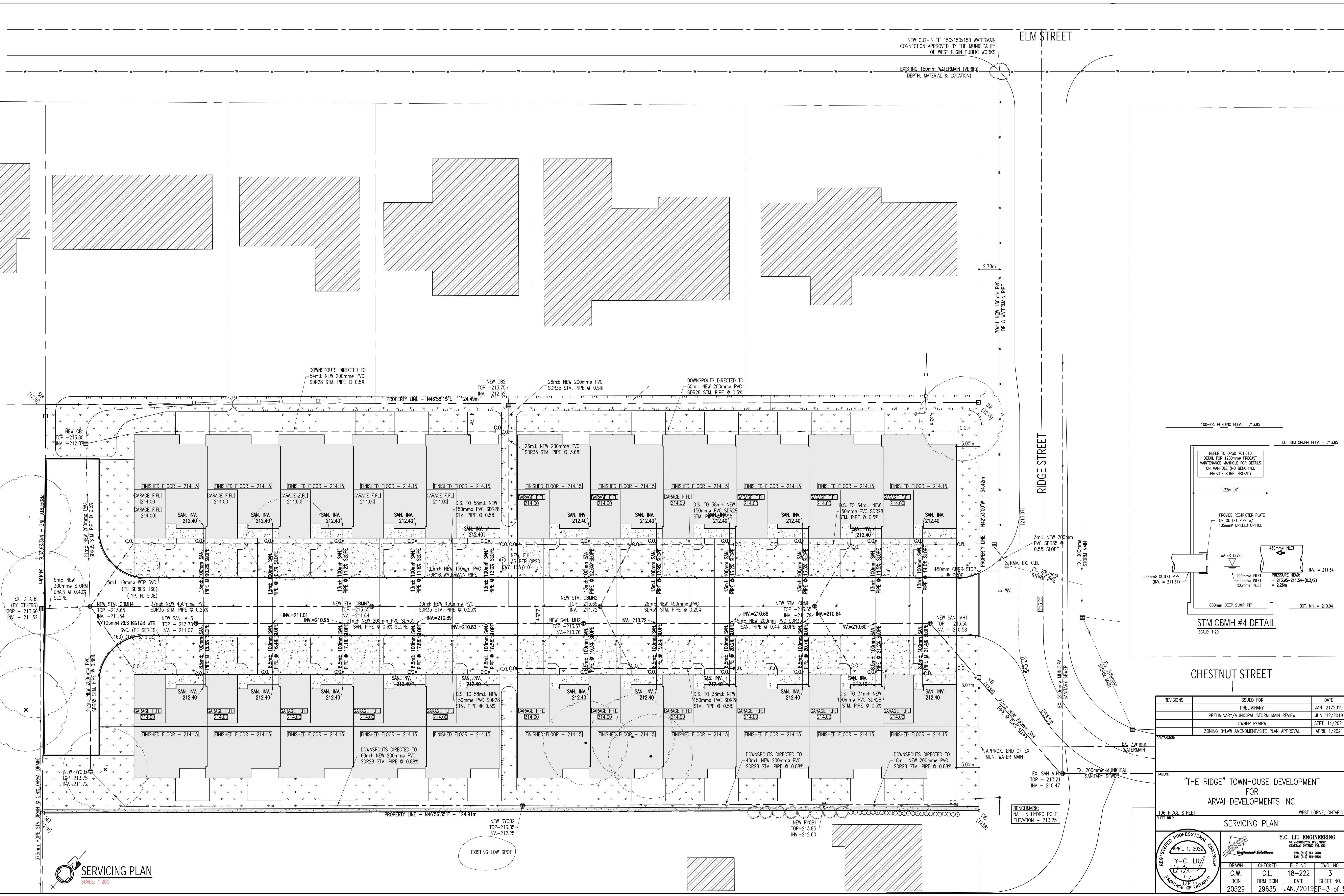
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C.W.	C.L.	18-222	3
BOIN	FIRM BOIN	DATE	SHEET NO.
20529	29635	JAN./2019SP-3	of 5

Y.C. LIU ENGINEERING
28 MANACORVILLE AVE. WEST
CENTRAL ONTARIO P.O. BOX
TEL: (519) 951-9612
FAX: (519) 951-6028

SERVICING PLAN

SCALE: 1:200

EXISTING LOW SPOT



CONSTRUCTION NOTES:

- GENERAL**
 - SITE PLAN PROVIDED BY Y.C. LIU ENGINEERING
 - LEGAL SURVEY PROVIDED BY OTHERS.
 - TOPOGRAPHIC SURVEY PROVIDED BY Y.C. LIU ENGINEERING
 - ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS, AND THE MINISTRY OF THE ENVIRONMENT AND ENERGY GUIDELINES (LATEST EDITION)
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO AND DURING CONSTRUCTION
 - CONTRACTOR RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO THE START OF CONSTRUCTION
- FIRE ROUTES (O.B.C SUBSECTION 3.2.5.)**
 - LOCATED NOT LESS THAN 3m (9'-10") AND NOT MORE THAN 15m (49'-3") FROM THE BUILDING
 - FIRE HYDRANT TO BE MAX. 45m (147'-8") TO THE FIRE DEPARTMENT CONNECTION AND 90m (295'-3") TO PRINCIPLE ENTRANCE WHEN NO FIRE CONNECTIONS ARE REQUIRED
 - OVERHEAD CLEARANCE NOT LESS THAN 5m (16'-5")
 - CHANGE IN GRADIENT NOT MORE THAN 1 IN 12.5m OVER A MINIMUM DISTANCE OF 15m
 - MUST BE DESIGNED TO SUPPORT THE EXPECTED LOADS IMPOSED BY FIRE FIGHTING EQUIPMENT AND BE SURFACED WITH CONCRETE, ASPHALT, OR OTHER MATERIAL DESIGNED TO PERMIT ACCESSIBILITY UNDER ALL CLIMATIC CONDITIONS
 - HAVE TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF THE ACCESS ROUTE MORE THAN 90m (295'-3") LONG
 - HAVE ACCESS OPENINGS EVERY 15m (49'-3") ON WALLS REQUIRED TO FACE A FIRE ROUTE UNLESS BUILDING IS SPRINKLERED
 - FIRE ROUTE SIGNS TO BE MOUNTED 3m IN HEIGHT MEASURED FROM THE TOP LIMIT OF THE SIGN TO THE GRADE OF THE FIRE ROUTE ADJACENT TO THE FIRE ROUTE SIGN
 - SIGNS TO BE SPACED NOT MORE THAN 30m (100ft.) BETWEEN SIGNS LOCATED ON THE SAME SIDE OF THE FIRE ROUTE AND SPACED SUCH THAT AT LEAST TWO SIGNS ARE CLEARLY VISIBLE AND LETTERING IS LEGIBLE FROM ALL LOCATIONS WITHIN THE FIRE ROUTE
 - THE PROPERTY OWNER IS RESPONSIBLE TO ENSURE THAT PHYSICAL OBSTRUCTIONS ARE NOT PLACED OR CONSTRUCTED IN LOCATIONS THAT INTERFERE WITH THE VISIBILITY AND/OR LEGIBILITY OF ANY FIRE ROUTE SIGN AND TO ENSURE SUFFICIENT MAINTENANCE OF VEGETATION SUCH THAT UNOBSTRUCTED VIEWS FROM ALL FIRE ROUTE SIGNS ARE MAINTAINED AT ALL TIMES AND UNDER ALL CIRCUMSTANCES

3. RECOMMENDED MINIMUM PAVEMENT STRUCTURE FOR ASPHALT SURFACES:

- ROAD CONSTRUCTION:**
- 200mm GRANULAR 'A' COMPACTED TO 100% S.P.M.D.D.
 - 400mm GRANULAR 'B' COMPACTED TO 100% S.P.M.D.D.
 - 50mm HL3 SURFACE ASPHALT COMPACTED TO 92-97% M.R.D.
 - 75mm HL8 BINDER ASPHALT COMPACTED TO 92-97% M.R.D.

SERVICING NOTES:

- GENERAL NOTES**
 - ALL WORK WITHIN RIGHT OF WAY TO BE COMPLETED TO SATISFACTION OF MUNICIPALITY OF WEST ELGIN
 - COMPLETED WORKS MUST BE APPROVED BY CONSULTING ENGINEER
- SEWERS**
 - BACKFILL AND SEWER BEDDING AS PER OPSD 802.010, 802.013, 802.014
 - ALL BEDDING AND COVER MATERIAL TO BE GRANULAR 'A' OR 19mm CRLS COMPACTED TO 95% SPMD
 - STORM SEWER PIPE TO BE PVC SDR 35, OR SDR 28 AS SPECIFIED
 - SANITARY SEWER PIPE TO BE PVC SDR 28
 - ALL CLEAN-OUTS TO BE WYE FITTINGS WITH 150mm VERTICAL PIPES

3. EROSION CONTROL MEASURE NOTES:

- PROTECT ALL EXPOSED SURFACES AND CONTROL ALL RUNOFF DURING CONSTRUCTION
- ALL EROSION CONTROL MEASURES ARE TO BE IN PLACE BEFORE STARTING CONSTRUCTION AND REMAIN UNTIL RESTORATION IS COMPLETE
- ALL COLLECTED SEDIMENT MUST BE DISPOSED OF AT AN APPROVED LOCATION
- PROTECT ALL CB'S, MANHOLES AND PIPE ENDS FROM SEDIMENT INTRUSION WITH GEOTEXTILE (TERRAFIX 270R)
- KEEP ALL SUMPS CLEAN DURING CONSTRUCTION
- STRAW BALES TO BE USED IN LOCALIZED AREAS AS SHOWN AND AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION FOR THE WORKS WHICH ARE IN OR ADJACENT TO FLOODLINES, FILL LINES, AND HAZARDOUS SLOPES
- STRAW BALES TO BE TERMINATED BY ROUNDING BALES TO CONTAIN AND FILTER RUNOFF
- OBTAIN APPROVAL FROM CONSERVATION AUTHORITY PRIOR TO CONSTRUCTION FOR WORKS WHICH ARE IN, OR ADJACENT TO FLOODLINES, FILL LINES, AND HAZARDOUS SLOPES
- PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PREVENT MUD TRACKING ONTO PAVED SURFACES. GRAVEL BED SHOULD BE A MINIMUM OF 15m LONG, 6m WIDE AND 300mm DEEP AND SHALL CONSIST OF COARSE (2" CRUSHER-RUN LIMESTONE) MATERIAL. MAINTAIN GRAVEL ENTRANCE THROUGHOUT CONSTRUCTION
- 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 TO BE SEEDED IF THEY ARE TO REMAIN ON-SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 1 MONTH)
- CONTROL WIND-BLOWN DUST OFF-SITE TO ACCEPTABLE LEVELS, BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY, AND/OR WATERING AS REQUIRED
- ALL OF THE ABOVE NOTES AND ANY SEDIMENT AND EROSION CONTROL MEASURES ARE AT THE MINIMUM TO BE IN ACCORDANCE WITH THE MINISTRY OF NATURAL RESOURCES GUIDELINES ON EROSION AND SEDIMENT CONTROL FOR URBAN CONSTRUCTION SITES

4. MANHOLES/CATCHBASINS

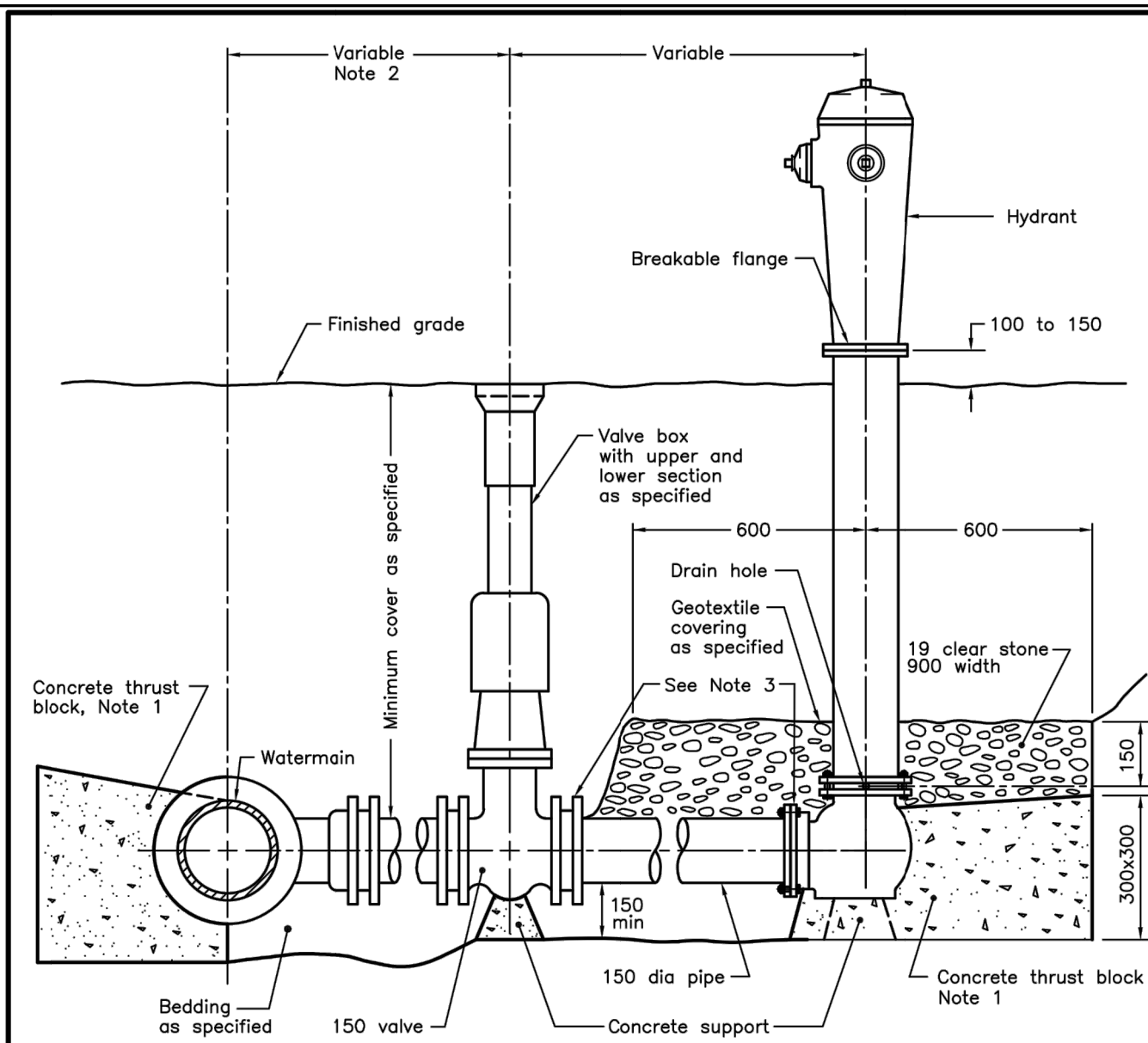
- STORM MANHOLES AS OPSD 701.010 WITH FRAME AND COVER
- PRECAST CATCHBASINS AS PER OPSD 705.010 & 702.050 WITH FRAME AND CAST IRON GRATE AS SPECIFIED
- MINIMUM HORIZONTAL CLEARANCE BETWEEN SEWER AND WATER SERVICE IS 2.5m. WHERE THE WATERMAIN PASSES OVER THE SEWER, MINIMUM VERTICAL CLEARANCE IS 0.5m AND 0.50m WHERE THE WATERMAIN PASSES UNDER THE SEWER
- MANHOLES ARE TO HAVE RAINSHIELDS
- FRAME/COVER RISER RINGS ARE TO BE WRAPPED IN BLUE SLICK

5. WATERMANS

- CONTRACTOR TO PERFORM ALL WORKS IN ACCORDANCE WITH THE LATEST VERSION OF THE MUNICIPALITY OF DUTTON DUNWICH WATER STANDARDS.
- SERVICING PIPING MUST BE MUNICIPEX OR AQUA PURE
- 90 DEGREE BENDS IN WATER SERVICES PRIOR TO ENTERING BUILDINGS SHOULD BE COMPLETED BY USE OF 2 45 DEGREE BENDS.
- ALL PROPOSED WATERMAIN/SERVICE CONNECTION MATERIALS TO BE IN ACCORDANCE WITH THE LATEST VERSION OF THE MUNICIPALITY OF DUTTON DUNWICH WATER STANDARDS.
- A LICENSED WATER OPERATOR FROM THE MUNICIPALITY OF WEST ELGIN MUST BE ONSITE AT ALL TIMES WHEN WATERMAIN/SERVICE CONNECTION WORK IS PERFORMED.
- ALL FLUSHING /BACTERIA/PRESSURE TESTING TO BE COMPLETED BY MUNICIPALITY OF WEST ELGIN.
- PROVIDE A MINIMUM OF 2 BUSINESS DAYS NOTICE TO THE WATER DIVISION BEFORE ANY WATER WORK BEGINS.
- A WATER PERMIT IS REQUIRED WITH FINAL WATER DRAWINGS (THAT HAVE BEEN APPROVED BY THE WATER DIVISION).
- WATERMANS/SERVICES MIN. COVER 1.7m BELOW FINISHED GRADE
- WATER SERVICE TO BE INSTALLED AS PER MUNICIPAL STANDARDS WITH GRANULAR 'A' BEDDING AND COVER
- PVC WATERMAIN IN SIZES 100mm THROUGH TO 300mm SHALL BE CLASS 150 DR18 CONFORMING TO AWWA C900. TRACER WIRE (10AWG min.) SHALL BE INSTALLED ON PVC WATERMAIN WITHIN THE ROAD ALLOWANCE
- CORROSION PROTECTION MEASURES FOR METAL WATER MAIN COMPONENTS TO INCLUDE DENSO MASTIC/TAPE AND SAC CAPS

6. GRADING NOTES

- EXISTING GROUND ELEVATIONS TO BE MAINTAINED ALONG PERIMETER OF SITE UNLESS SPECIFIED OTHERWISE
- ALL DISTURBED AREAS TO BE REINSTATED TO EXISTING CONDITIONS OR BETTER. LANDSCAPE AREAS TO BE RESTORED WITH 100mm TOPSOIL AND No. 1 NURSERY SOD OR SEED
- EMBANKMENTS MAXIMUM SLOPE OF 3:1
- TOPSOIL TO BE STRIPPED FROM ALL PROPOSED HARD SURFACE AREAS PRIOR TO PROCEEDING WITH GRADING AND FILLING OPERATIONS
- GRASS SURFACE MINIMUM SLOPE 1.5% UNLESS OTHERWISE SPECIFIED
- ASPHALT PAVEMENT/CONCRETE SURFACES MINIMUM SLOPE 1.0%
- ALL SURFACE DRAINAGE SHALL BE SELF-CONTAINED, COLLECTED, AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT
- DRAINAGE OF ADJUTING PROPERTIES SHALL NOT BE NEGATIVELY AFFECTED



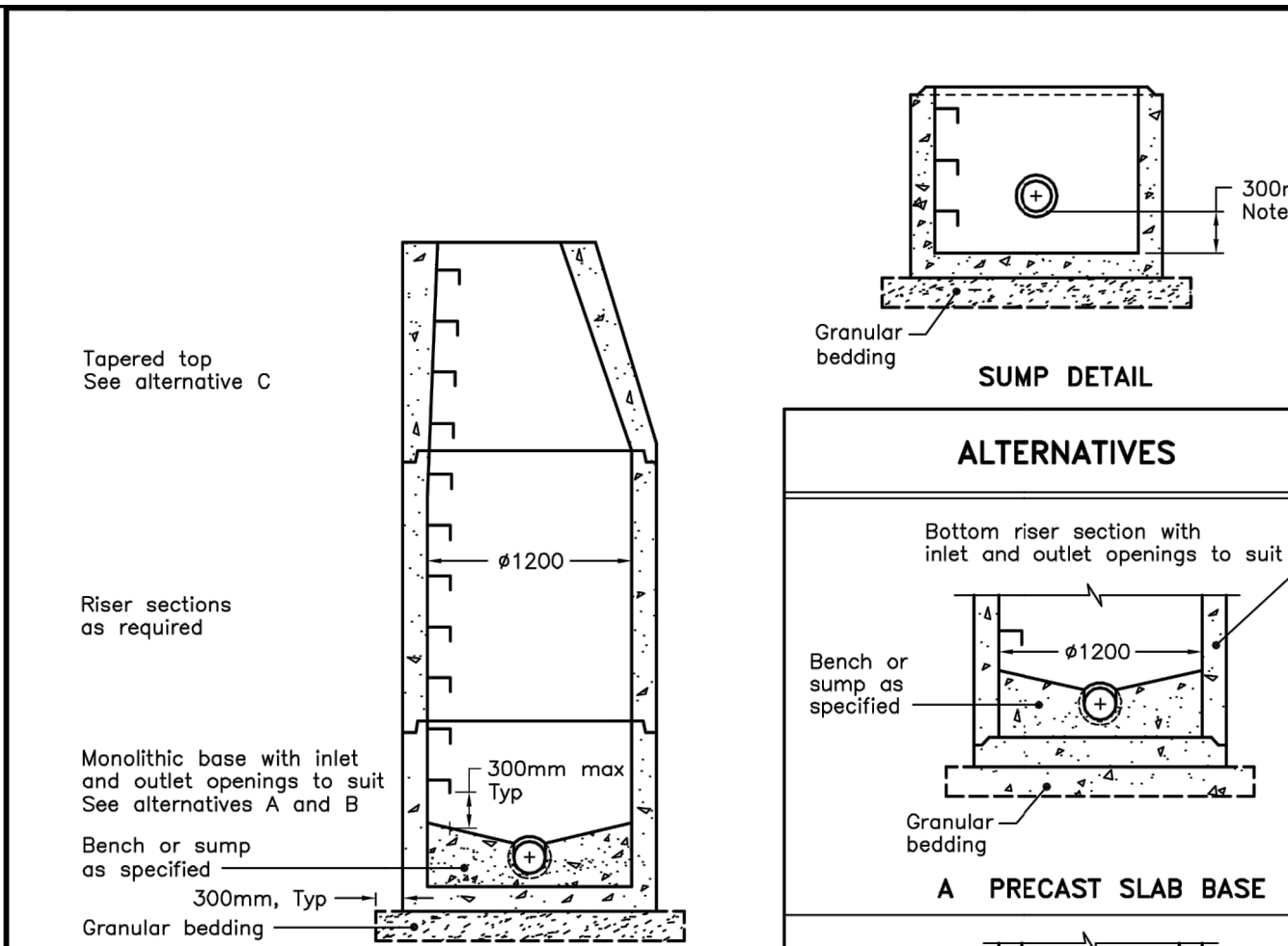
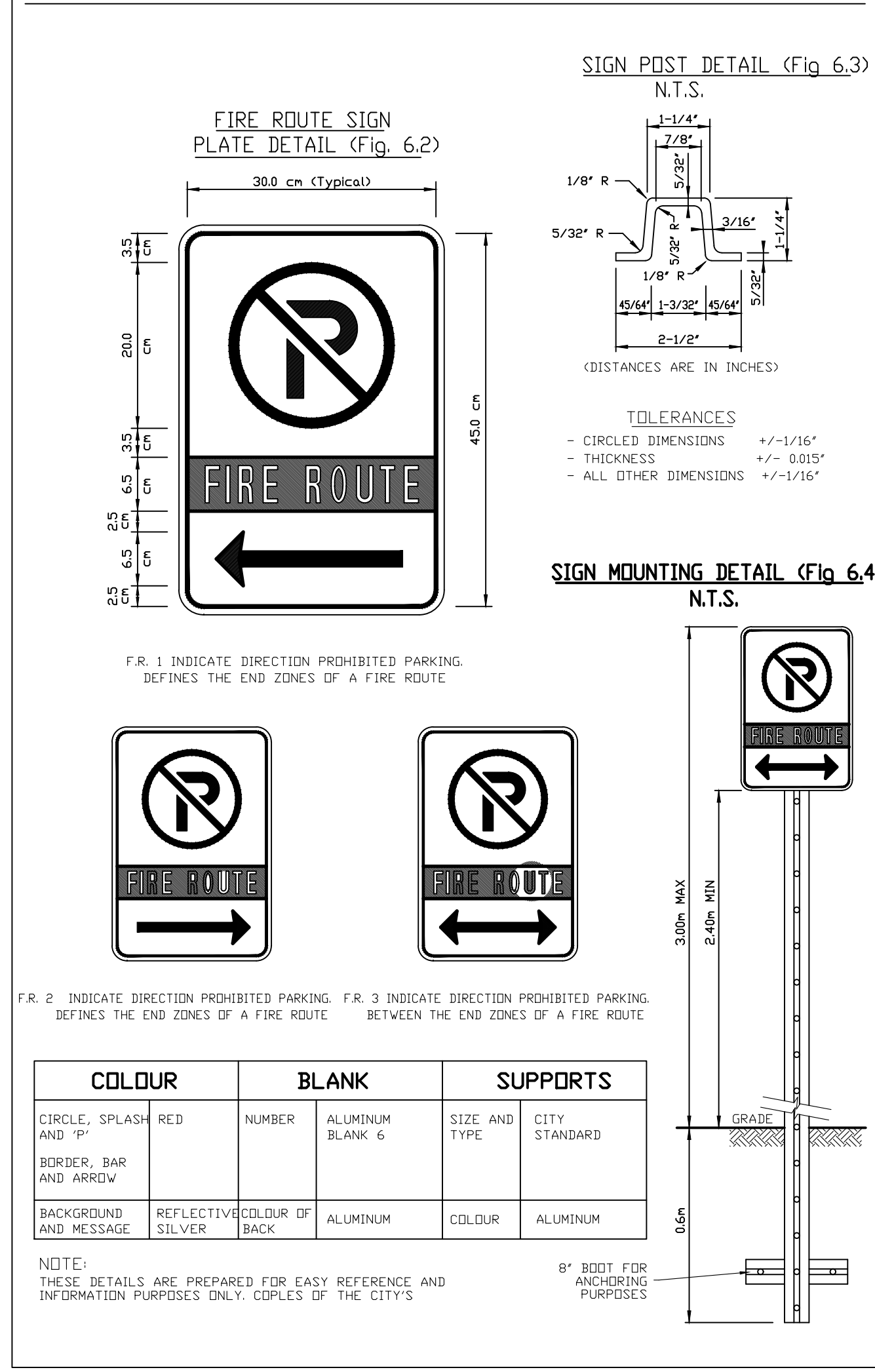
- NOTES:**
- All concrete thrust blocks shall be poured against undisturbed ground.
 - When specified, for watermains 400mm and less, locate valve within 1.0m of centreline of watermain. Retaining and restraining devices shall be utilized. For watermains 600mm and over, bolt valve with flanged end directly to flanged tee.
 - Retaining and restraining devices shall be as specified.
- A** Bond breaker shall be used between the concrete and the fittings and appurtenances.
- B** Bolts and nuts for buried flange to flange connections shall be stainless steel.
- C** When required, flange of standpipe extensions shall not be in frost zone.
- D** This OPSD shall be read in conjunction with OPSD 1103.010 and 1103.020.
- E** Backfill material within 500mm of service box shall be native or imported, as specified. F Tracer wire shall be installed as specified.
- G** All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 3

HYDRANT INSTALLATION

OPSD 1105.010

FIRE ROUTE SIGN DETAILS (FR)



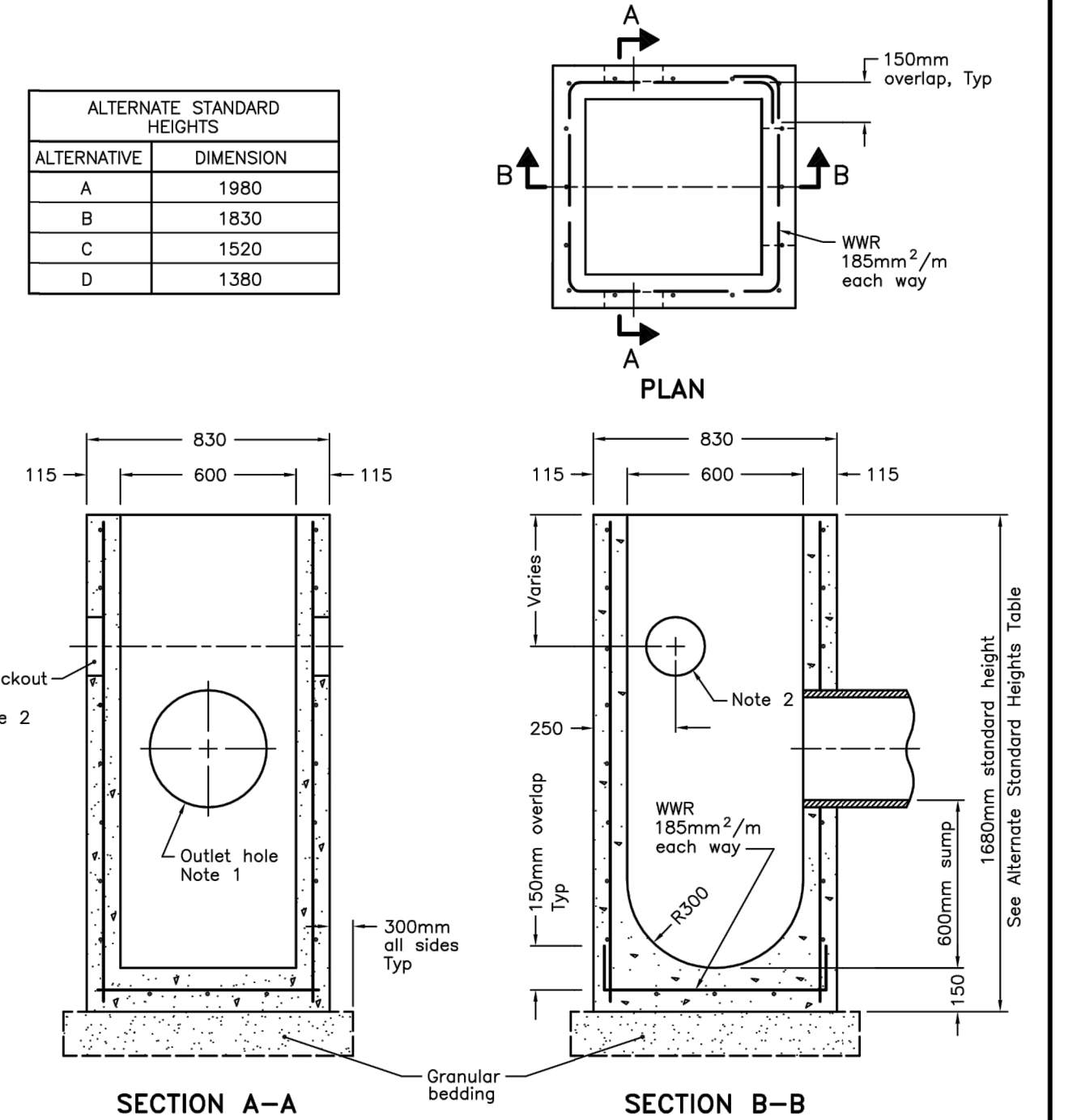
- NOTES:**
- The sump is measured from the lowest invert.
 - A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
 - Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
 - Structure exceeding 5.0m in depth shall include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



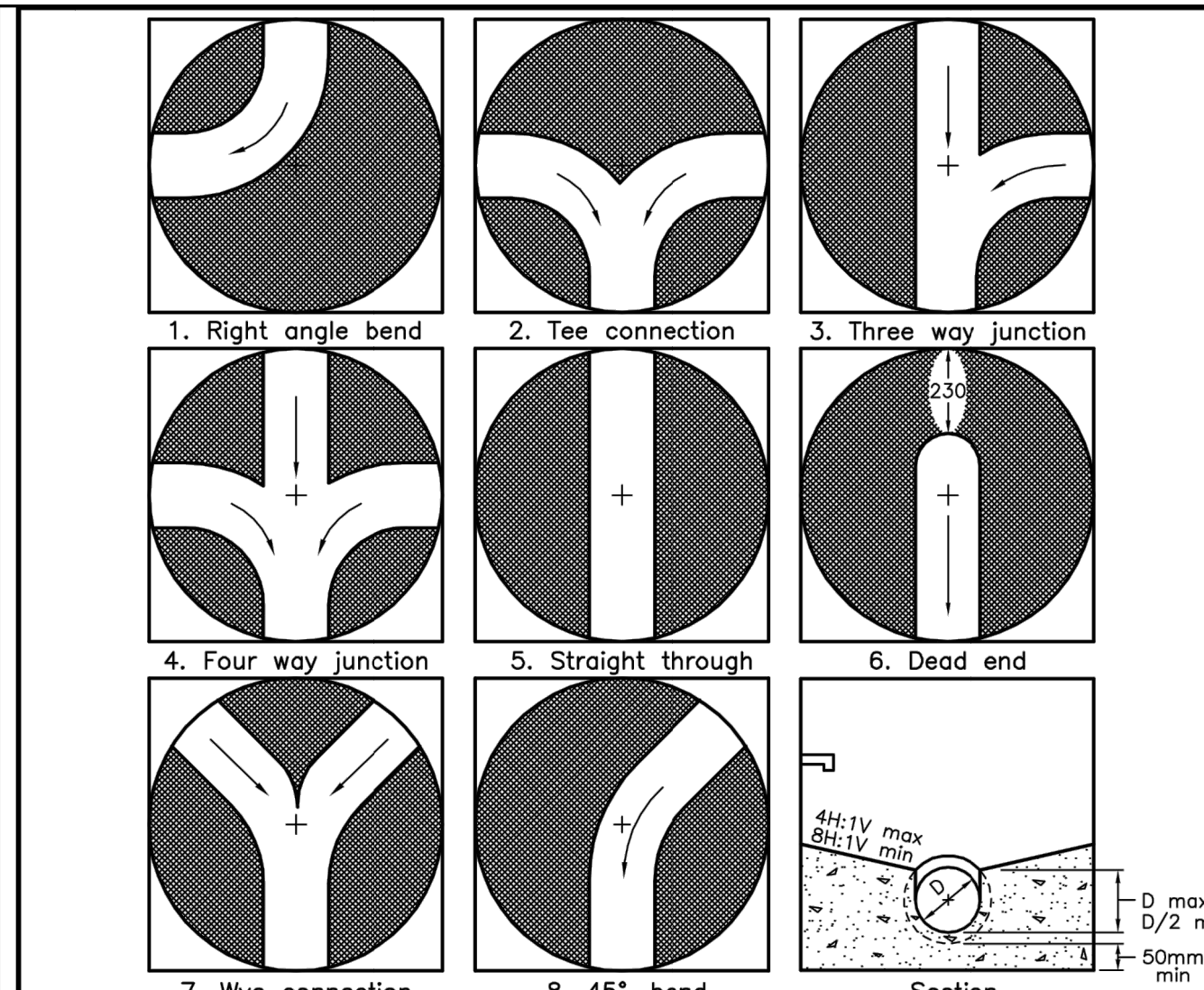
- ES:**
- let hole size 525mm diameter maximum, allow as required.
 - 0mm diameter knockout to accommodate drain. Knockout shall be 60mm deep.
 - nre reinforcing in base slab and walls 0mm.
 - smular backfill shall be placed to minimum thickness of 300mm all und the catch basin.
 - C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
 - D Pipe support shall be according to OPSD 708.020.
 - E All dimensions are nominal.
 - F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2019 Rev 4

PRECAST CONCRETE CATCH BASIN

600x600mm

OPSD 705.010

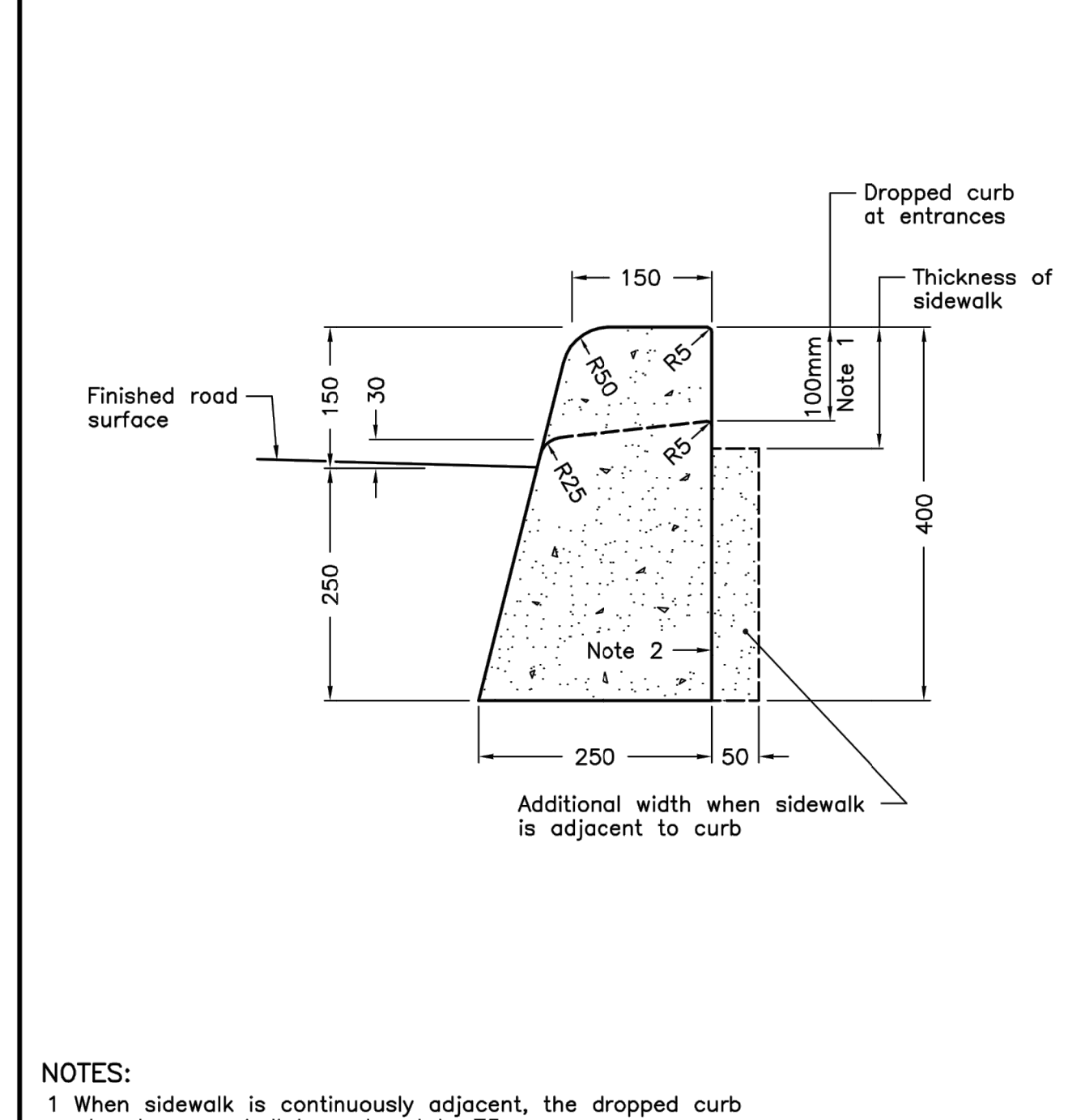


- NOTES:**
- Slopes shall be maintained from the outlet hole opening for top of benching.
 - Concrete for benching shall be 30Mpa.
 - When benching is hand-finished, it shall be given wood float finish, channel shall be given steel trowel finish.
 - Benching slope and height shall be as specified.
 -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

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2014 Rev 4

MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES

OPSD 701.021



- NOTES:**
- When sidewalk is continuously adjacent, the dropped curb at entrances shall be reduced to 75mm.
 - For slipforming procedure a 5% batter is acceptable.
 - A Treatment at entrances shall be according to OPSD 351.010.
 - B Outlet treatment shall be according to the OPSD 610 Series.
 - C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSD 900 Series.
 - D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2012 Rev 2

CONCRETE BARRIER CURB

OPSD 600.110

REVISIONS	ISSUED FOR	DATE
	PRELIMINARY	JAN. 21/2019
	PRELIMINARY/MUNICIPAL STORM MAIN REVIEW	JUN. 12/2019
	OWNER REVIEW	SEPT. 14/2021
	ZONING BYLAW AMENDMENT/SITE PLAN APPROVAL	APRIL 1/2021

CONTRACTOR:

PROJECT: "THE RIDGE" TOWNHOUSE DEVELOPMENT FOR ARVAI DEVELOPMENTS INC.

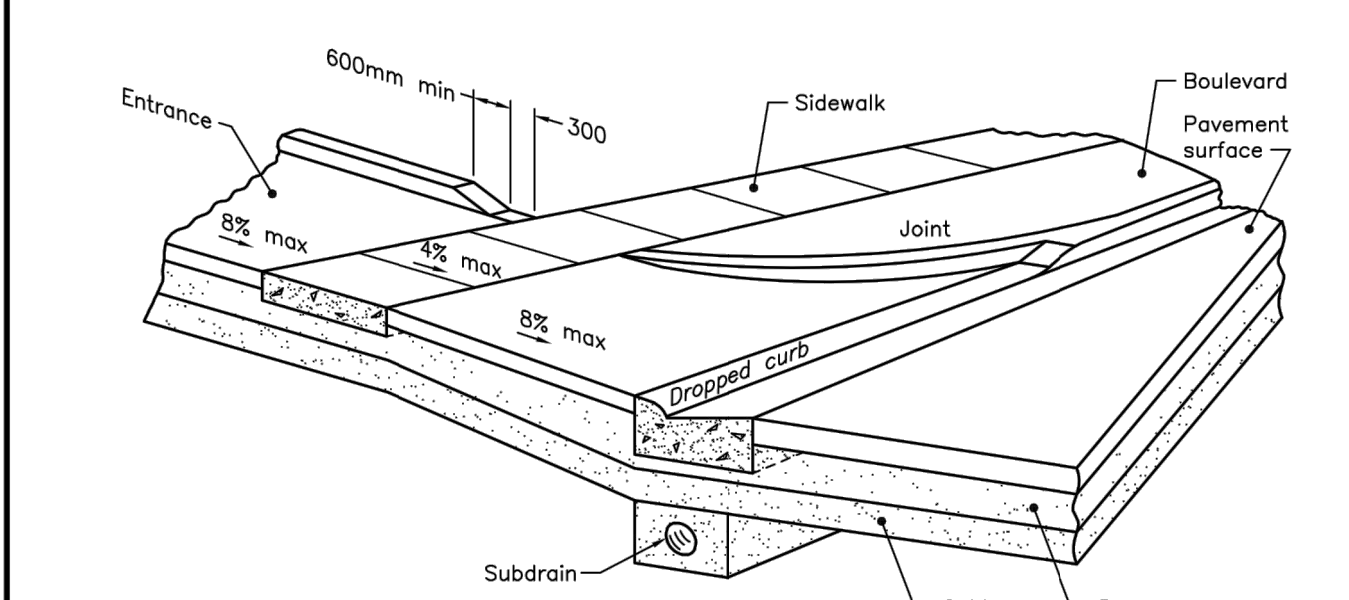
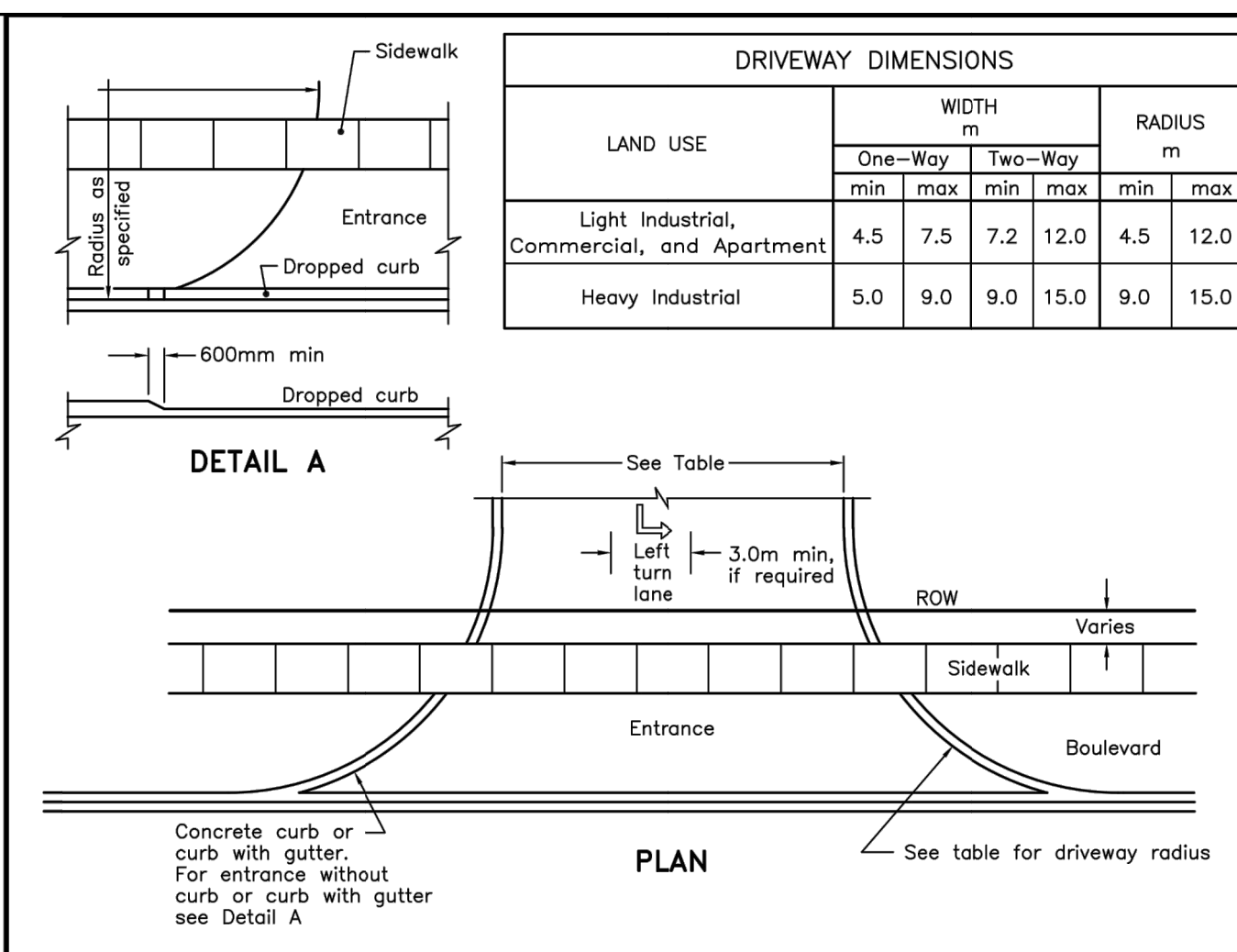
196 RIDGE STREET WEST LORNE, ONTARIO

SHEET TITLE: NOTES & DETAILS

DRAWN	CHECKED	FILE NO.	DWG. NO.
C.W.	C.L.	18-222	4
BCIN	FIRM BCIN	DATE	SHEET NO.
20529	29635	JAN./2019SP-4	4 of 5

REGISTERED PROFESSIONAL ENGINEER APRIL 1/22 Y-C. LIU

Y.C. LIU ENGINEERING 28 MANACORR AVE. WEST CHELSEA, ONTARIO L7R 4R6 TEL: (919) 951-9612 FAX: (919) 951-9228

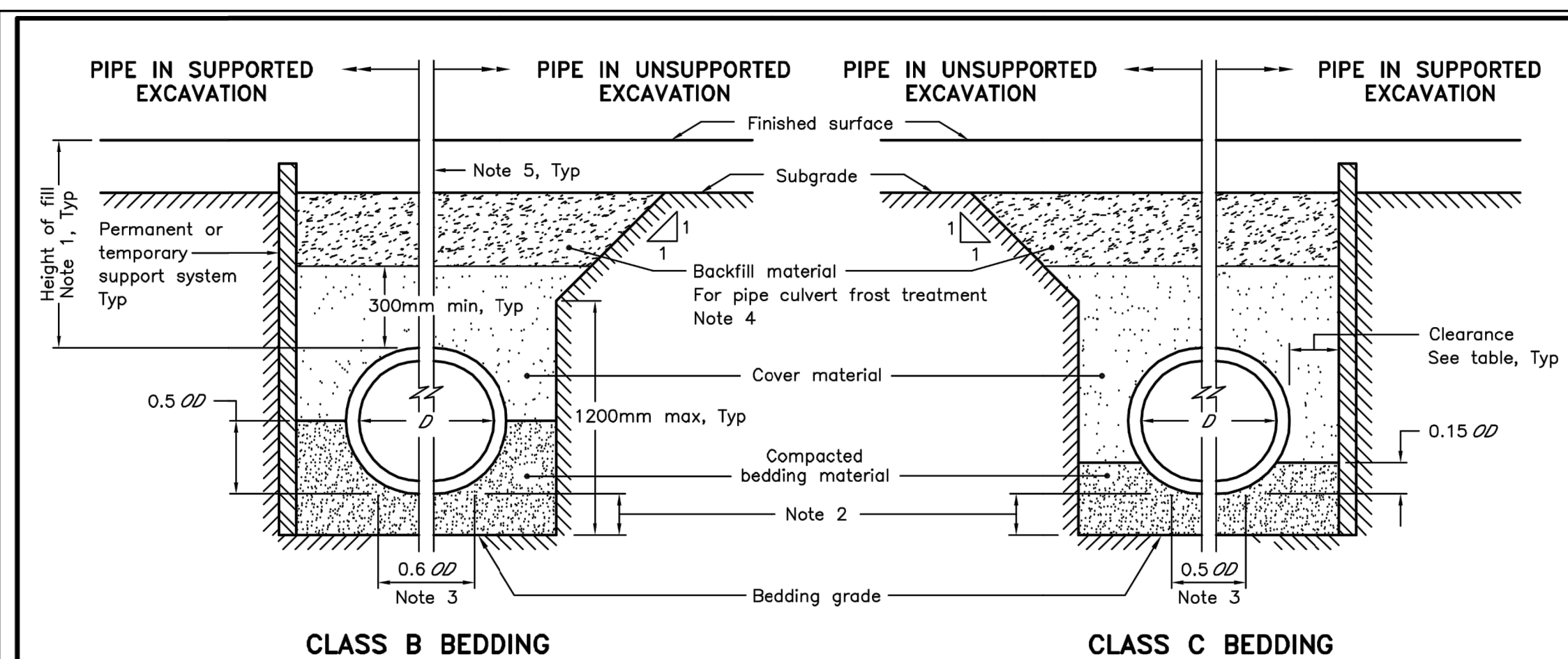


NOTES:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 2

URBAN INDUSTRIAL, COMMERCIAL, AND APARTMENT ENTRANCES

OPSD 350.010



NOTES:
1 Height of fill is measured from the finished surface to top of pipe.
2 The minimum bedding depth below the pipe shall be 0.15D in no case shall this dimension be less than 150mm or greater than 300mm.
3 The pipe bed shall be compacted and shaped to receive the bottom of the pipe.
4 Pipe culvert frost treatment shall be according to OPSD 803.030 and 803.031.
5 Condition of excavation is symmetrical about centreline of pipe.
A Soil types as defined in the Occupational Health and Safety Act and Regulations for Construction Projects.
B All dimensions are in metres unless otherwise shown.

LEGEND:
D - Inside diameter
OD - Outside diameter

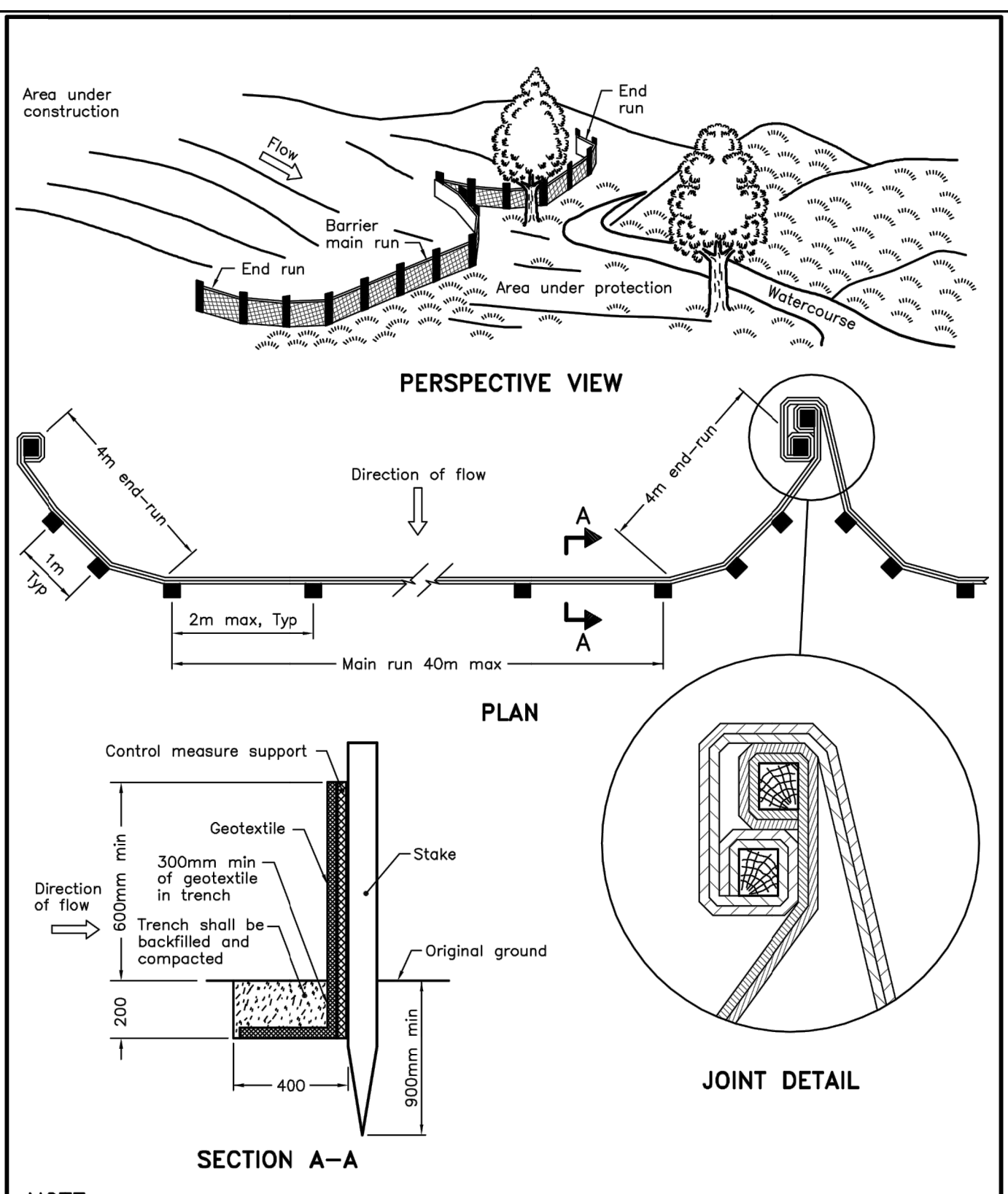
Pipe Inside Diameter mm	Clearance mm
900 or less	300
Over 900	500

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2015 Rev 3

RIGID PIPE BEDDING, COVER, AND BACKFILL

TYPE 1 OR 2 SOIL - EARTH EXCAVATION

OPSD 802.030

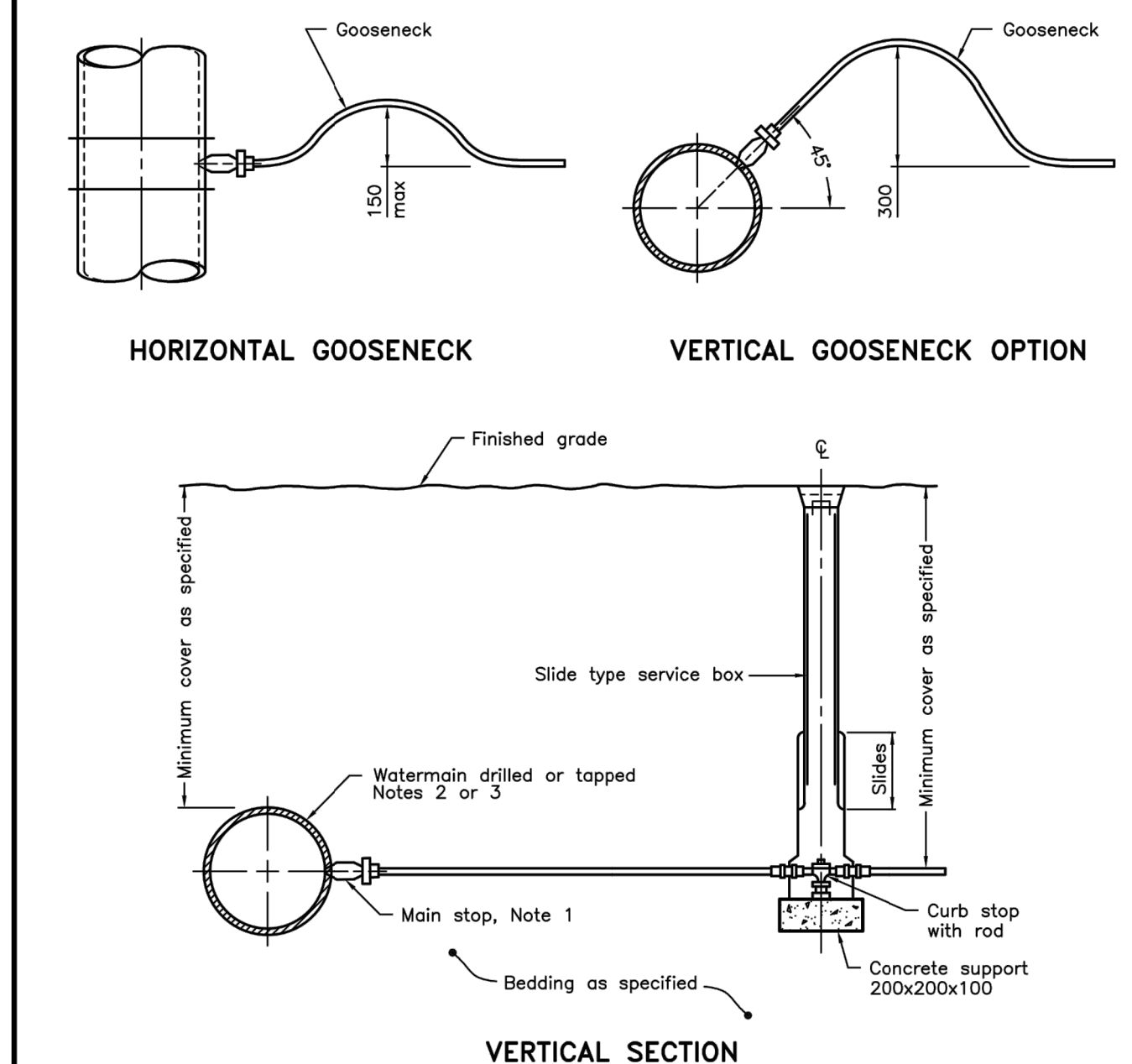


NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2015 Rev 2

HEAVY-DUTY SILT FENCE BARRIER

OPSD 219.130



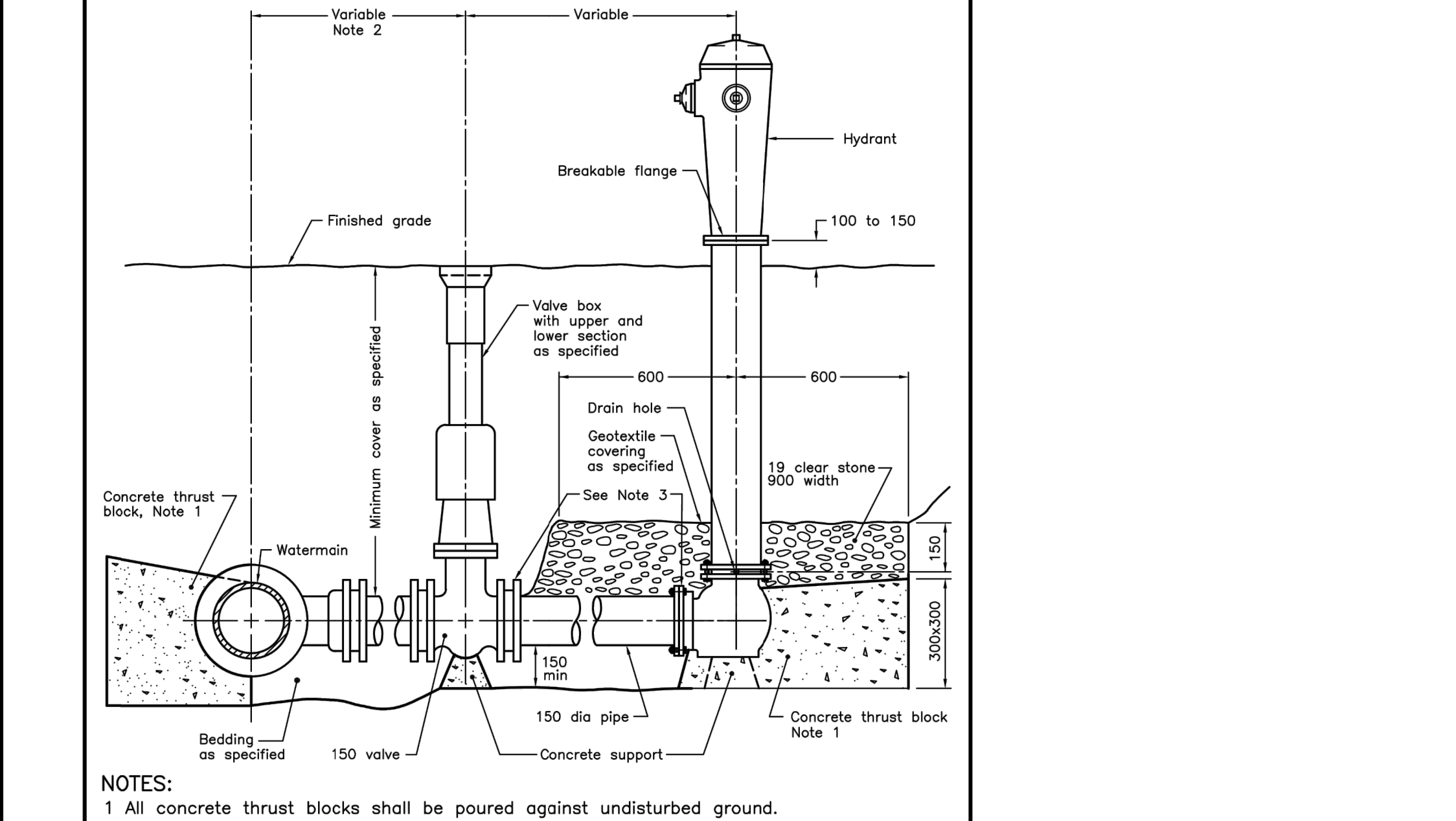
NOTES:
1 For plastic service pipes, install main stop at 15' above horizontal with a minimum 1.2m long gooseneck.
2 Direct tap ductile iron pipe with approved tool with standard AWWA inlet thread.
3 Service connections to plastic watermain shall be made using service saddles or factory made tees.
A When specified, the vertical gooseneck option shall be used.
B Couplings shall not be permitted unless the service length exceeds 20m between the main stop and curb stop.
C All water services shall be installed 90° to the longitudinal axis of the watermain.
D Backfill material within 500mm of service box shall be native or imported, as specified.
E All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 4

WATER SERVICE CONNECTION

19 and 25mm DIAMETER SIZES

OPSD 1104.010



NOTES:
1 All concrete thrust blocks shall be poured against undisturbed ground.
2 When specified, for watermain 400mm and less, locate valve within 1.0m of centreline of watermain. Retaining and restraining devices shall be utilized. For watermain 600mm and over, bolt valve with flanged end directly to flanged tee.
3 Retaining and restraining devices shall be as specified.
A Bond breaker shall be used between the concrete and the fittings and appurtenances.
B Bolts and nuts for buried flange to flange connections shall be stainless steel.
C When required, flange of standpipe extensions shall not be in frost zone.
D This OPSD shall be read in conjunction with OPSD 1103.010 and 1103.020.
E Backfill material within 500mm of service box shall be native or imported, as specified.
F Tracer wire shall be installed as specified.
G All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING Nov 2018 Rev 3

HYDRANT INSTALLATION

OPSD 1105.010

REVISIONS	ISSUED FOR	DATE
	PRELIMINARY	JAN. 21/2019
	PRELIMINARY/MUNICIPAL STORM MAIN REVIEW	JUN. 12/2019
	OWNER REVIEW	SEPT. 14/2021
	ZONING BYLAW AMENDMENT/SITE PLAN APPROVAL	APRIL 1/2021

CONTRACTOR:

PROJECT: "THE RIDGE" TOWNHOUSE DEVELOPMENT FOR ARVAI DEVELOPMENTS INC.

136 RIDGE STREET WEST LORNE, ONTARIO

SHEET TITLE: DETAILS

REGISTERED PROFESSIONAL ENGINEER APRIL 1/22 Y.-C. LIU

Y.C. LIU ENGINEERING 28 MANACORSTOWN AVE. WEST CANTON, ONTARIO L7L 1L2 TEL: (416) 951-9612 FAX: (416) 951-9628

DRAWN	CHECKED	FILE NO.	DWG. NO.
C.W.	C.L.	18-222	5
BCIN	FIRM BCIN	DATE	SHEET NO.
20529	29635	JAN./2019	SP-5 of 5