## **GENERAL NOTES:**

- 1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- 2. DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION, PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES. WHETHER OR NOT SHOWN ON THIS
- 3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- 4. BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS
- 5. RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
- 6. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY
- 7. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- 8. ALL ELEVATIONS ARE GEODETIC AND ARE REFEREED TO THE CGVD28 GEODETIC DATUM. BEARINGS ARE DERIVED FROM MTM ZONE 9 (NAD-83, ORIGINAL), PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO RETAIN A SURVEYOR TO PROVIDE A LOCAL
- 9. REFER TO GEOTECHNICAL INVESTIGATION REPORT PROPOSED RESIDENTIAL DEVELOPMENT, COPPERWOOD FLATS BLOCK 127, 1075 MARCH ROAD, OTTAWA ONTARIO, PG6613-1, REVISION 4 (DATED AUGUST 1, 2025), PREPARED BY PATERSON GROUP FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE
- 10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND
- 11. REFER TO THE STORMWATER MANAGEMENT REPORT No. R-2025-009, DATED August 19th, 2025 PREPARED BY NOVATECH.
- 12. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10 AND R25).
- 13. PROVIDE LINE/PARKING PAINTING.
- 14. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

#### 15. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.

### SEWER NOTES:

1. SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

### 2. SPECIFICATIONS

SPECIFICATIONS:		
<u>ITEM</u>	SPEC. No.	REFERENCE
SANITARY/STORM/CATCHBASIN MANHOLE (1200Ø)	701.010	OPSD
STORM MANHOLE (1500Ø)	701.011	OPSD
CATCHBASIN (600x600)	705.010	OPSD
CATCHBASIN FRAME AND COVER	400.020	OPSD
STORM/SANITARY MH FRAME	S25	CITY OF OTTAWA
SANITARY COVER	S24	CITY OF OTTAWA
STORM COVER (CLOSED)	S24.1	CITY OF OTTAWA
STORM COVER (OPEN)	S28.1	CITY OF OTTAWA
SEWER TRENCH	S6 & S7	CITY OF OTTAWA
STORM SEWER < 450mmØ	PVC DR 35(UNLESS SPECIFIED OT	HERWISE)
STORM SEWER >= 450mmØ	CONC 65D (UNLESS SPECIFIED OT	HERWISE)
SANITARY SEWER (LESS THAN 2.5M CLEAR TO WTM)	PVC DR 26	
SANITARY SEWER (MORE THAN 2.5M CLEAR TO WTM)	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	
CATCHBASIN COVER	S19	CITY OF OTTAWA
WATERTIGHT FRAME & COVER	401.030	OPSD
(SANMH105 & SANMH110)		

- 2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 2.0m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION (REFER TO DETAIL)
- 3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0% (2.0% PREFERRED)
- 4. ALL STORM AND SANITARY LATERALS SHALL BE EQUIPPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS \$14 AND \$14.1 OR \$14.2.
- 5. THE PIPE BEDDING FOR THE SEWER AND WATER PIPES SHOULD CONSIST OF AT LEAST 150 MM OF OPSS GRANULAR. THE BEDDING SHOULD EXTEND TO THE SPRING LINE OF THE PIPE. COVER MATERIAL, FROM THE SPRING LINE TO AT LEAST 300mm ABOVE OBVERT OF THE PIPE. SHOULD CONSIST OF OPSS GRANULAR A OR GRANULAR B TYPE II WITH MAXIMUM SIZE OF 25mm. THE BEDDING LAYER SHOULD BE INCREASED TO A MINIMUM THICKNESS OF 300mm WHERE SUBGRADE CONSISTS OF GREY SILTY ROCK. THE BEDDING AND COVER MATERIAL SHOULD BE PLACED IN MAXIMUM 225mm THICK LIFTS COMPACTED TO 95% OF THE MATERIALS STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD)
- 6. THE BACKFILL MATERIAL WITHIN THE FROST ZONE (ABOUT 1.8m BELOW FINISHED GRADE) SHOULD MATCH THE SOILS EXPOSED AT THE TRENCH WALLS TO REDUCE POTENTIAL DIFFERENTIAL FROST HEAVING. THE BACKFILL SHOULD BE PLACED IN MAXIMUM 300mm THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS SPMDD.
- 7. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
- 8. ALL STORM MANHOLES WITH PIPE SIZES LESS THAN 900mm ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED. 9. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS 200mm OR GREATER IN DIAMETER PRIOR TO BASE COURSE ASPHALT TO ENSURE THAT THEY ARE CLEAN AND OPERATIONAL. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES AND RE CCTV PRIOR TO ACCEPTANCE. OBTAIN APPROVAL FROM THE CITY'S SEWER OPERATIONS. PROVIDE THE CCTV INSPECTION AND REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL
- 10. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL. SIZES, LENGTHS. SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
- 11. THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
- 12. ALL CATCHBASINS AND CATCHBASIN MANHOLES TO BE PROVIDED WITH MINIMUM 3 METER LONG PERFORATED SUBDRAINS EXTENDING IN TWO DIRECTIONS 300mm BELOW THE SUBGRADE LEVEL. SUBDRAIN IS TO BE PROVIDED AT THE TRANSITIONS BETWEEN DIFFERENT PAVEMENT COMPOSITIONS. THE SUBGRADE SURFACE SHOULD BE SHAPED TO PROMOTE WATER FLOW
- 11. ALL WORKS SHALL BE PERFORMED AS APPLICABLE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SPECIFICATIONS, AND IN PARTICULAR O.P.S.S. 407 AND 410.

# PAVEMENT STRUCTURE:

- ACCESS LANES AND HEAVY-TRUCK PARKING AREAS WEAR COURSE - HL-3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE BINDER COURSE - HL-8 OR SUPERPAVE 19.0 ASPHALTIC CONCRETE BASE - OPSS GRANULAR A CRUSHED STONE 400mm SUBBASE - OPSS GRANULAR B TYPE II

- CAR ONLY PARKING AREAS WEAR COURSE - HL3 OR SUPERPAVE 12.5 ASPHALTIC CONCRETE 150mm BASE - OPSS GRAN "A" CRUSHED STONE 300mm SUBBASE - OPSS GRAN "B" TYPE II

 MINIMUM PERFORMANCE GRADED (PG) 58-34 ASPHALT SUBGRADE - EITHER FILL, IN SITU SOIL OR BEDROCK OR OPSS GRANULAR TYPE I OR II MATERIAL PLACED OVER IN

SITU SOIL. BEDROCK OR FILL REFER TO GEOTECHNICAL REPORT FOR SUBSURFACE CONDITIONS AND CONSTRUCTION RECOMMENDATIONS

### WATERMAIN NOTES

- 1. SUPPLY AND CONSTRUCT ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.

SPECIFICATIONS:		
ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING ABOVE SEWER	W25.2	CITY OF OTTAWA
HYDRANT	WSD-24	CITY OF OTTAWA
VALVE AND VALVE BOX	WSD-19	CITY OF OTTAWA
WATERMAIN	PVC DR 18	

- 3. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD AND SPECIFICATIONS, EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE
- 3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. ANY WATERMAIN WITH LESS THAN 2.4m COVER TO BE INSULATED PER THE SEWER AND WATERMAIN NOTES AND DETAIL
- 4. PROVIDE MINIMUM CLEARANCE. BETWEEN OUTSIDE OF PIPES. AT ALL CROSSINGS AS PER CITY DETAILS W25 AND W25.2. WATERMAIN MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.25m OVER AND 0.50m UNDER SEWERS AND ALL OTHER
- 5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE
- 6. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS CITY OF OTTAWA STANDARD DETAILS WSD-39, 40, 41, 42, 43 AND
- 8. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

### GRADING NOTES:

- 1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED BUILDING AND PAVED AREAS.
- 2. EXPOSED SUB-GRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF GRANULARS.
- 3. NON-SPECIFIED EXISTING FILL ALONG WITH SITE-EXCAVATED SOIL COULD BE PLACED AS GENERAL LANDSCAPING FILL WHERE SETTLEMENT OF THE GROUND SURFACE IS OF MINOR CONCERN. THESE MATERIALS SHOULD BE SPREAD IN LIFTS WITH A MAXIMUM THICKNESS OF 300 mm AND COMPACTED BY THE TRACKS OF THE SPREADING EQUIPMENT TO MINIMIZE VOIDS. IF THIS MATERIAL IS TO BE USED TO BUILD UP THE SUBGRADE LEVEL FOR AREAS TO BE PAVED. IT SHOULD BE COMPACTED IN THIN LIFTS TO AT LEAST 95% OF THE MATERIAL'S SPMDD.
- 4. THE PAVEMENT GRANULAR BASE AND SUBBASE SHOULD BE PLACED IN MAXIMUM 300 mm THICK LIFTS AND COMPACTED TO A MINIMUM OF 100% OF THE MATERIAL'S SPMDD USING SUITABLE COMPACTION FOUIPMENT. IF BEDROCK IS ENCOUNTERED AT THE SUBGRADE LEVEL, THE TOTAL THICKNESS OF THE PAVEMENT GRANULAR MATERIALS (BASE AND SUBBASE) COULD BE REDUCED TO 300 MM FOR THE NOTED PAVEMENT STRUCTURES. THE UPPER 300 mm OF THE BEDROCK SURFACE SHOULD BE REVIEWED AND APPROVED BY PATERSON PRIOR TO PLACING THE BASE AND SUBBASE MATERIALS. CARE SHOULD BE EXERCISED TO ENSURE THAT THE BEDROCK SUBGRADE DOES NOT HAVE DEPRESSIONS THAT WILL TRAP THE WATER.
- BACKFILL MATERIAL BELOW SIDEWALKS AND WALKWAY SUBGRADE AREAS THROUGHOUT THE SUBJECT SITE, INCLUDING ALONG THE BUILDINGS, SHOULD BE PROVIDED WITH A MINIMUM 300 MM THICK LAYER OF OPSS GRANULAR A OR OPSS GRANULAR B TYPE II CRUSHED STONE. THIS MATERIAL SHOULD BE PLACED IN MAXIMUM 300 MM THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE MATERIALS SPMDD.
- 6. IF SOFT SPOTS DEVELOP IN THE SUBGRADE DURING COMPACTION OR DUE TO CONSTRUCTION TRAFFIC, THE AFFECTED AREAS SHOULD BE EXCAVATED AND REPLACED WITH OPSS GRANULAR B TYPE I OR II MATERIAL. THE PAVEMENT GRANULAR BASE AND SUBBASE SHOULD BE PLACED IN MAXIMUM 300 MM THICK LIFTS AND COMPACTED TO A MINIMUM OF 100% OF THE MATERIAL'S SPMDD USING SUITABLE VIBRATORY EQUIPMENT.
- 7. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED. REFER TO CITY OF OTTAWA DETAIL SC1.1.
- 8. GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- 9. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED
- 10. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
- 11. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
- 12. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATION OF EVERY DESIGN GRADE SHOWN ON THIS PLAN.
- 13. ASENSITIVE MARINE CLAY TO BE REMOVED AND REPLACED WITH ENGINEERING FILL AS DIRECTED GEOTECHNICAL

## **EROSION AND SEDIMENT CONTROL NOTES:**

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.

- 1) THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SUCH AS BUT NOT LIMITED TO INSTALLING FILTER CLOTHS ACROSS MANHOLE/CATCHBASIN LIDS TO PREVENT SEDIMENTS FROM ENTERING STRUCTURES AND INSTALL AND MAINTAIN A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.
- 2) THE CONTRACTOR SHALL PLACE FILTER BAGS UNDER THE CATCHBASIN AND MANHOLE GRATES FOR THE DURATION OF CONSTRUCTION AND WILL REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION.
- 3) SILT FENCING FOR ENTIRE PERIMETER OF SITE, SHALL BE UTILIZED TO CONTROL EROSION FROM THE SITE DURING CONSTRUCTION.
- 4) THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- 5) PROVIDE MUD MATS AT ALL CONSTRUCTION ACCESS POINTS TO MINIMIZE SEDIMENT TRANSPORT OFFSITE
- 6) EROSION AND SEDIMENT CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY.

## TYPICAL SERVICING NOTES:

- 1. NO HORIZONTAL BENDS IN RIGHT-OF-WAY UNLESS OTHERWISE APPROVED BY THE CITY. MAXIMUM OF TWO 22.5° HORIZONTAL BENDS FOR SANITARY AND STORM SERVICES.
- 2. 1.0 % MINIMUM SANITARY AND STORM SERVICE GRADIENT WITH 2% PREFERRED.
- 3. SEE S7 FOR PIPE FOUNDATION, EMBEDMENT AND FINAL BACKFILL REQUIREMENTS.
- 4. MULTIPLE TAPS WITH SADDLES IN PVC WATERMAIN SHALL BE STAGGERED AND MINIMUM 600mm APART.
- 5. ELEVATION OF SERVICES VARIABLE DEPENDING ON GRADIENT AND/OR DEPTH OF COVER.
- 6. ALL DIMENSIONS ARE IN MILLIMETERS.
- 7. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON THIS PLAN
- 8. GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE
- 9. REFER TO ELECTRICAL DESIGN FOR UTILITY LOCATIONS.



**SEWER & WATERMAIN INSULATION NOTES:** 

1. INSULATE ALL SEWER PIPES THAT HAVE LESS

THAN 2.0m COVER AND ALL WATERMAIN WITH

LESS THAN 2.4m OF COVER WITH EXPANDED

2. THE THICKNESS OF INSULATION SHALL BE THE

POLYSTYRENE INSULATION AS PER OPSD

EQUIVALENT OF 25mm FOR EVERY 300mm

REDUCTION IN THE REQUIRED DEPTH OF

COVER WITH 50mm MINIMUM (SEE TABLE)

T = THICKNESS OF INSULATION (mm)

W = WIDTH OF INSULATION (mm)

BACKFILL AS SPECIFIED

BEDDING AS SPECIFIED

ti INSULATION

BEDDING AS SPECIFIED

NOTE: BEDDING TO BE 300mm IN PRESENCE

**SEWERS & WATERMAIN** 

SCALE

AS SHOWN

W = D + 300 (1000 min.)

D = O.D OF PIPE (mm)

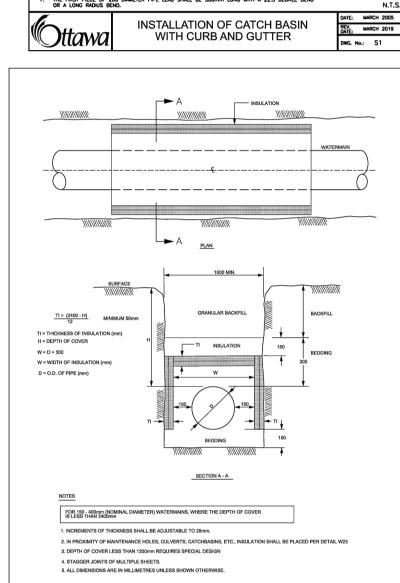
PROPOS	SED 150mm	Ø WATERMAIN (2+000.	0)				
SURFACE ELEVATION	T/WM ELEVATION	COMMENTS					
87.60	85.20	300mmX150mm TEE					
87.72	85.32	DMA PER CITY OF OTTAWA	A DETAIL W3.3				
87.69	85.29	CROSS ABOVE 250mmØ STM (:	±1.25 CLEARANCE)				
87.65	85.25	150mmX150mm <sup>-</sup>	TEE				
87.60	85.20	CROSS ABOVE 135mmØ SAN (:	±1.74CLEARANCE)				
87.59	85.19	CROSS ABOVE100mmØ STM (±0.94) CLEARAN					
87.37	84.97	CROSS BELOW 200mmØ STM (±1.16CLEARA					
87.53	85.13	CROSS ABOVE 135mmØ SAN (±1.51CLEARANCE					
87.38	84.98	150mmØ VALVE AND VALVE BOX					
87.26	84.86	CROSS ABOVE 250mmØ STM (±0.83 CLEARANCE)					
87.23	84.83	CROSS ABOVE 200mmØ SAN (±1.24CLEARANCE)					
87.21	85.21	CROSS ABOVE 750mmØ STM AS PER CITY OF OTTAWA STANDARD W25.2 (±0.25 CLEARANCE)					
87.16	84.76	150mmX150mm TEE					
<u> </u>							
	PIPE CR	OSSING TABLE					
LOWER	PIPE	HIGHER PIPE	CLEARANCE				
	SURFACE ELEVATION 87.60 87.72 87.69 87.65 87.60 87.59 87.37 87.53 87.38 87.26 87.21 87.16	SURFACE ELEVATION         T/WM ELEVATION           87.60         85.20           87.72         85.32           87.69         85.29           87.65         85.25           87.60         85.20           87.59         85.19           87.37         84.97           87.53         85.13           87.26         84.86           87.23         84.83           87.21         85.21           87.16         84.76	ELEVATION         ELEVATION         COMMENTS           87.60         85.20         300mmX150mm           87.72         85.32         DMA PER CITY OF OTTAW/           87.69         85.29         CROSS ABOVE 250mmØ STM (states)           87.65         85.25         150mmX150mm           87.60         85.20         CROSS ABOVE 135mmØ SAN (states)           87.59         85.19         CROSS ABOVE100mmØ STM (states)           87.37         84.97         CROSS BELOW 200mmØ STM (states)           87.53         85.13         CROSS ABOVE 135mmØ SAN (states)           87.26         84.86         CROSS ABOVE 250mmØ STM (states)           87.23         84.83         CROSS ABOVE 200mmØ SAN (states)           87.21         85.21         CROSS ABOVE 750mmØ STM OTTAWA STANDARD W25.2 (±           87.16         84.76         150mmX150mm				

	TOSTILITA TEE						
PIPE CROSSING TABLE							
OSSING	LOWER PIPE		HIGHER PIPE	CLEARANCE			
1			450mmØ STM INV = 83.14*	±1.67m			
2	450mmØ STM OBV = 83	3.79*	300mmØ WTM INV = 84.90	±1.11m			
3 200mmØ SAN OBV = 81.56		.56	300mmØ WTM INV = 84.80	±3.24m			
4	250mmØ STM OBV = 83	.89	150mmØ WTM INV = 85.14	±1.25m			
5	450mmØ STM OBV = 83.	86*	150mmØ WTM INV = 85.12	±1.26m			
6	200mmØ SAN OBV =83	.17	150mmØ WTM INV = 85.30	±2.13m			
7	150mmØ WTM OBV = 84	.97	200mmØ STM INV = 86.13	±1.16m			
8	200mmØ SAN OBV = 83.33		450mmØ STM INV =83.50*	±0.17m			
9	250mmØ STM OBV = 83.88		150mmØ WTM INV = 84.71	±0.83m			
(10)	250mmØ STM OBV = 84.09		200mmØ SAN INV = 84.69	±0.60m			
10	150mmØ WTM OBV = 84	.63	200mmØ SAN OBV = 85.13	±0.50m			
(12)	200mmØ SAN OBV = 8	3.69	250mmØ STM INV = 83.89	±0.20m			
13)	200mmØ SAN OBV = 83.	46	150mmØ WTM INV = 84.68	±1.22m			
14)	200mmØ SAN OBV = 83.	.83	150mmØ WTM INV = 84.08	±0.25m			
<u>(15)</u>	200mmØ SAN OBV = 84.	.32	150mmØ WTM INV = 84.57	±0.25m			
(16)	750mmØ STM OBV = 85	.12*	150mmØ WTM INV = 85.37	±0.25m			
17	750mmØ STM OBV = 84.	81*	150mmØ WTM INV = 85.06	±0.25m			
18			750mmØ STM INV = 84.13	±0.44m			
(19) 200mmØ SAN OBV = 83.56		300mmØ wm INV = 84.41 ±0.85m					
1V/OBV I	NDICATED FOR CONCRETE	PIPES A	ARE OUTER DIAMETER				

F	П		1-		<i>a</i> ——					
One rung at grate level riyp  See Detail A Rungs grate level riyp  OPEN POSITION SIDE VIEW  Support, Typ  Hinge bracket  Mounting bracket  Mounting bracket  Mounting bracket										
SECTION A-A DETAIL A	DEI	AIL B	DETAIL OF GRA		LAN	1-0N 3	SUPPOR		CTION	В-В
NOTES:										
1 All hinge brackets and mounting browning brown	ackets ort angle.	MH Diameter	No of Grates	a	Ь	c	d	е	f	g
A All aluminum in contact with concre	•	1200	2	900	850	850	225	352	65	10
thoroughly coated with asphalt pain	t.	1500	2	1128	1078	1078	311	419	65	12
B Maintenance hole depth between 5.0 10.0m, grate shall be placed at mi		1800	3	1344	1293	1293	308	360	65	12
Maintenance hole depth between 10 and 15.0m, grates shall be placed C All fasteners shall be 304 stainless	2400	4	1774	1724	1724	401	360	65	12	
D All welding shall be according to									1.1	
CSA W47.2 and W59.2.	ONTARI	O PROVINCIA	L STANDARD	DRAV	VING		Nov 201	18 Rev		STAND
E All aluminum components shall be	ALI	JMINUM SA	AFETY PLAT	FORM	l	-			(i)	<b>F</b>

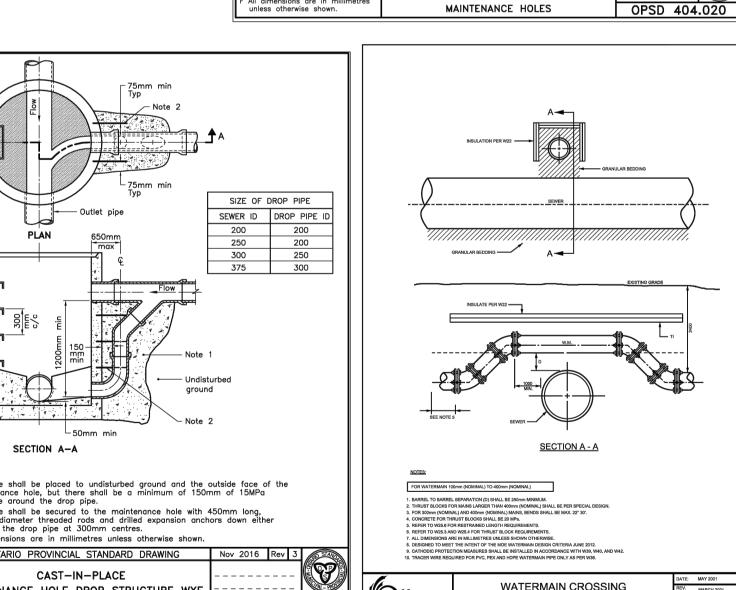
FOR CIRCULAR

MAINTENANCE HOLES



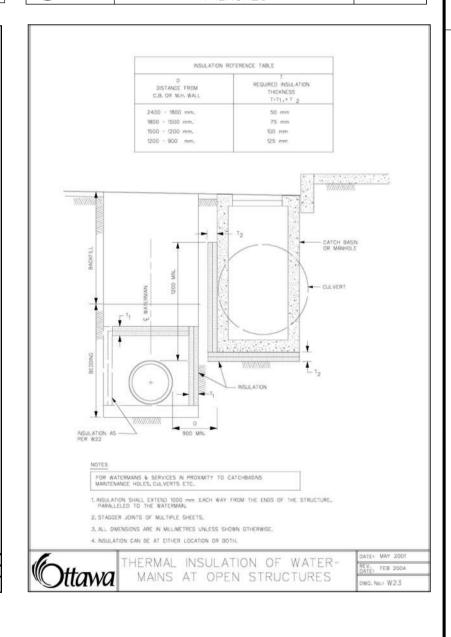
SEE NOTE #1 -

CATCH BASIN ICD NOT SHOWN FOR CLARIT



6000 series structural aluminum

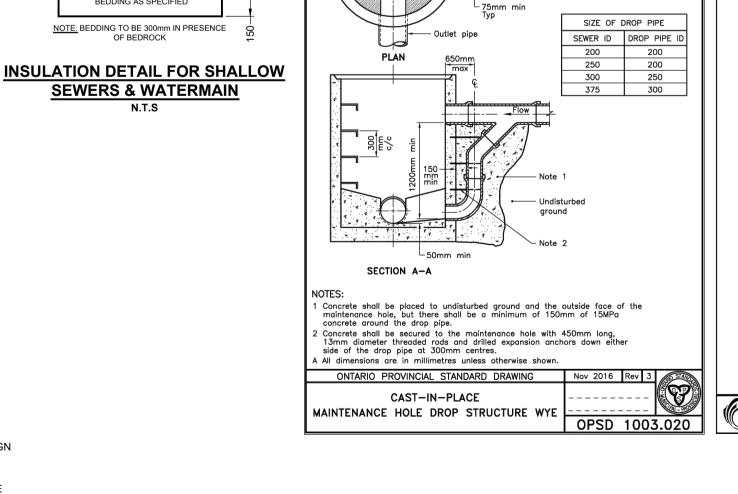
All dimensions are in millimetre unless otherwise shown.



THERMAL INSULATION FOR

WATERMAINS IN SHALLOW

V. MARCH 20



INSULATION

THICKNESS

50

75

100

(mm)

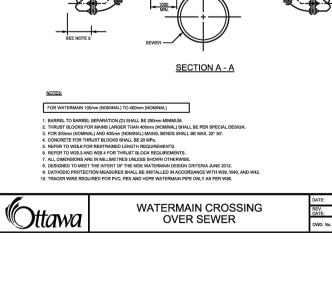
COVER

SEWER / WATER

2000-1700 / 2400-2100

1700-1400 / 2100-1800

1400-1100 / 1800-1500



THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR

DAMAGE TO THEM.

**NOT FOR** CONSTRUCTION REVISED PER RETAINING WALL ALTERATIONS OCT 07/25 ADDITION OF GEOTECHNICAL RECOMMENDATIONS AUG 19/25 REVISED PER CITY COMMENTS AUG 12/25 REVISED PER COMPLETENESS REVIEW COMMENTS MAY 09/25 ISSUED FOR SITE PLAN APPLICATION MARCH 21/25 GJ DATE REVISION

FOR REVIEW ONLY A.R. MESTWAR

ARM/AN

ARM/CJF/AN

ARN

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DRAWING NAME NOTES AND DETAILS

122144 122144-ND

