

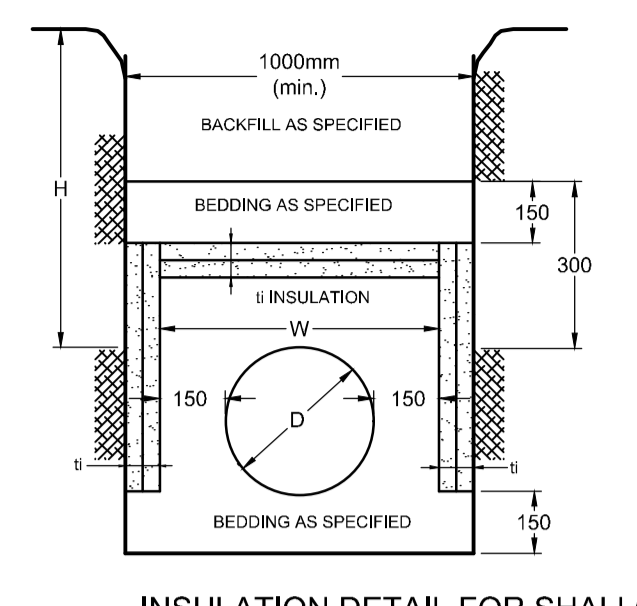
SAN MANHOLE TABLE		
MANHOLE ID	T/G ELEV	INVERT
99	96.58	NE=94.50 NW=93.50 SE=93.80
101	96.68	NE=94.76 SW=94.73
103	96.75	SW=95.03 NE=95.06

STM MANHOLE TABLE		
MANHOLE ID	T/G ELEV	INVERT
100	96.55	NE=94.01 NW=93.50 SE=93.80
102	96.63	NE=94.14 SW=94.14
104	96.69	SW=94.40 NE=94.49 SE=94.53 NW=94.55

CATCHBASIN MANHOLE TABLE						
CBMH ID	SIZE (mm)	T/G ELEV (m)	INVERT (m)	ICD DIA (mm)	2yr CAPTURE RATE (L/s)	
CBMH 02	1200mm Ø	96.50	NW=95.29 SE=95.26	-	-	
CBMH 03	1200mm Ø	96.50	NW=95.13 SW=95.07	-	-	
CBMH 04	1200mm Ø	96.50	NE=94.90 W=94.87	-	-	
CBMH 05	1200mm Ø	96.45	E=94.72 NW=94.66	LMF-78	6.95	
CBMH 06	1200mm Ø	96.45	SE=94.77	-	-	
CBMH 07	1200mm Ø	96.45	NW=94.64 SE=94.63	83mm	16.57	

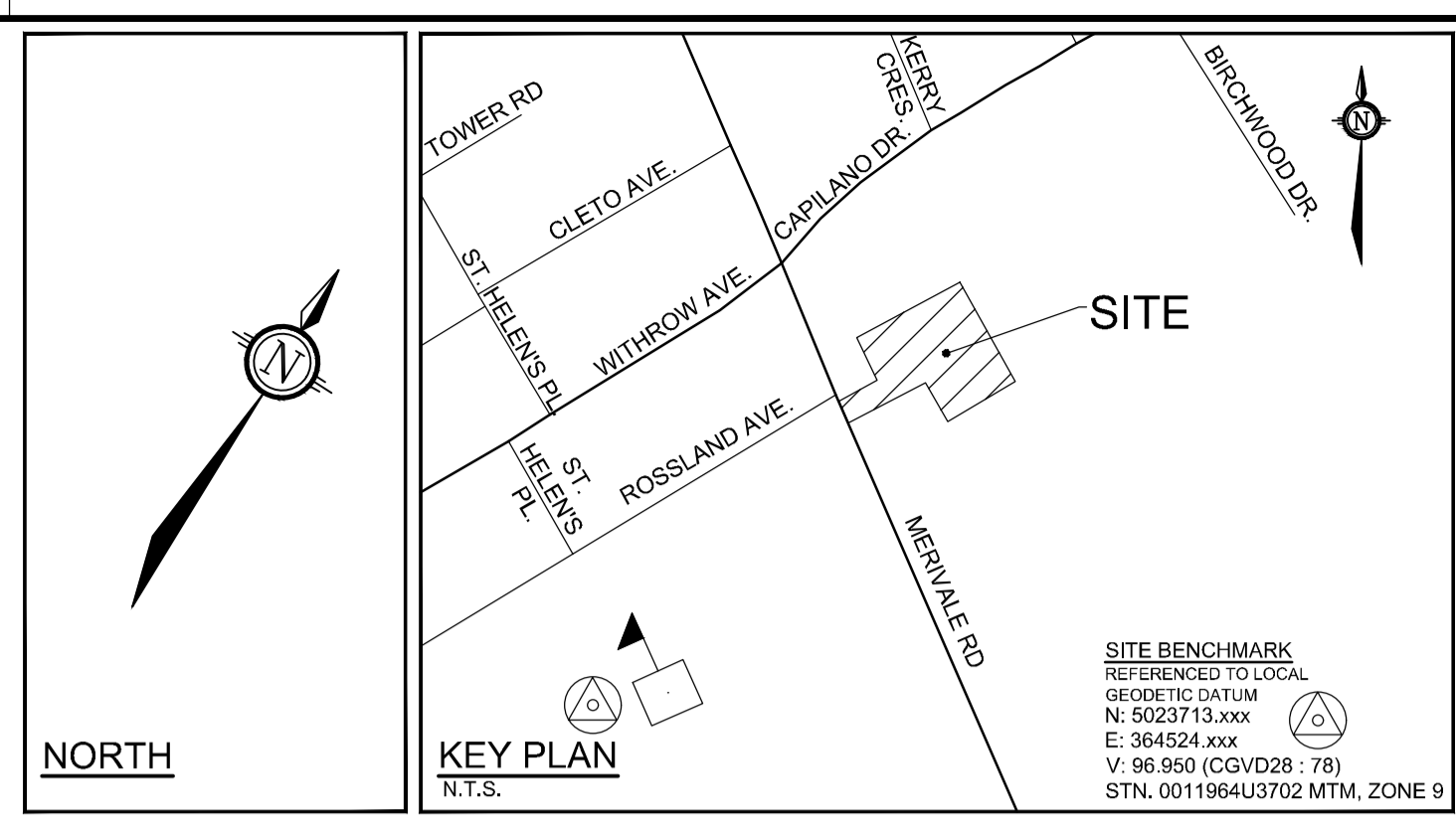
CATCHBASIN TABLE				
CB ID	T/G ELEV (m)	INVERT (m)	ICD DIA (mm)	2yr CAPTURE RATE (L/s)
CB 08	96.55	95.50	LMF-94	7.85
CB 09	96.55	95.50	LMF-86	6.81
CICB-OS1	96.54	95.49	-	-
LCB 01	96.80	95.60	-	-

WATERMAIN TABLE				
Station	F/G ELEVATION	TOP OF WATERMAIN	DESCRIPTION	
0+007.19	96.59	±95.15	250 x 300 TEE	
0+009.76	96.56	94.56	45° VERTICAL BEND	
0+010.26	96.56	94.14	45° VERTICAL BEND	
0+019.30	96.54	94.14	45° VERTICAL BEND	
0+020.20	96.54	95.04	45° VERTICAL BEND	
0+022.92	96.53	95.04	45° VERTICAL BEND	
0+023.82	96.53	94.13	45° VERTICAL BEND	
0+028.97	96.70	94.29	V&VB	
0+030.14	96.71	94.29	11.25° HORIZONTAL BEND	
0+091.41	96.67	94.27	250 x 150 CROSS	
0+094.29	96.71	94.31	250 x 150 REDUCER	
0+095.35	96.72	94.32	V&VB	
0+105.24	97.00	94.50	CAP	

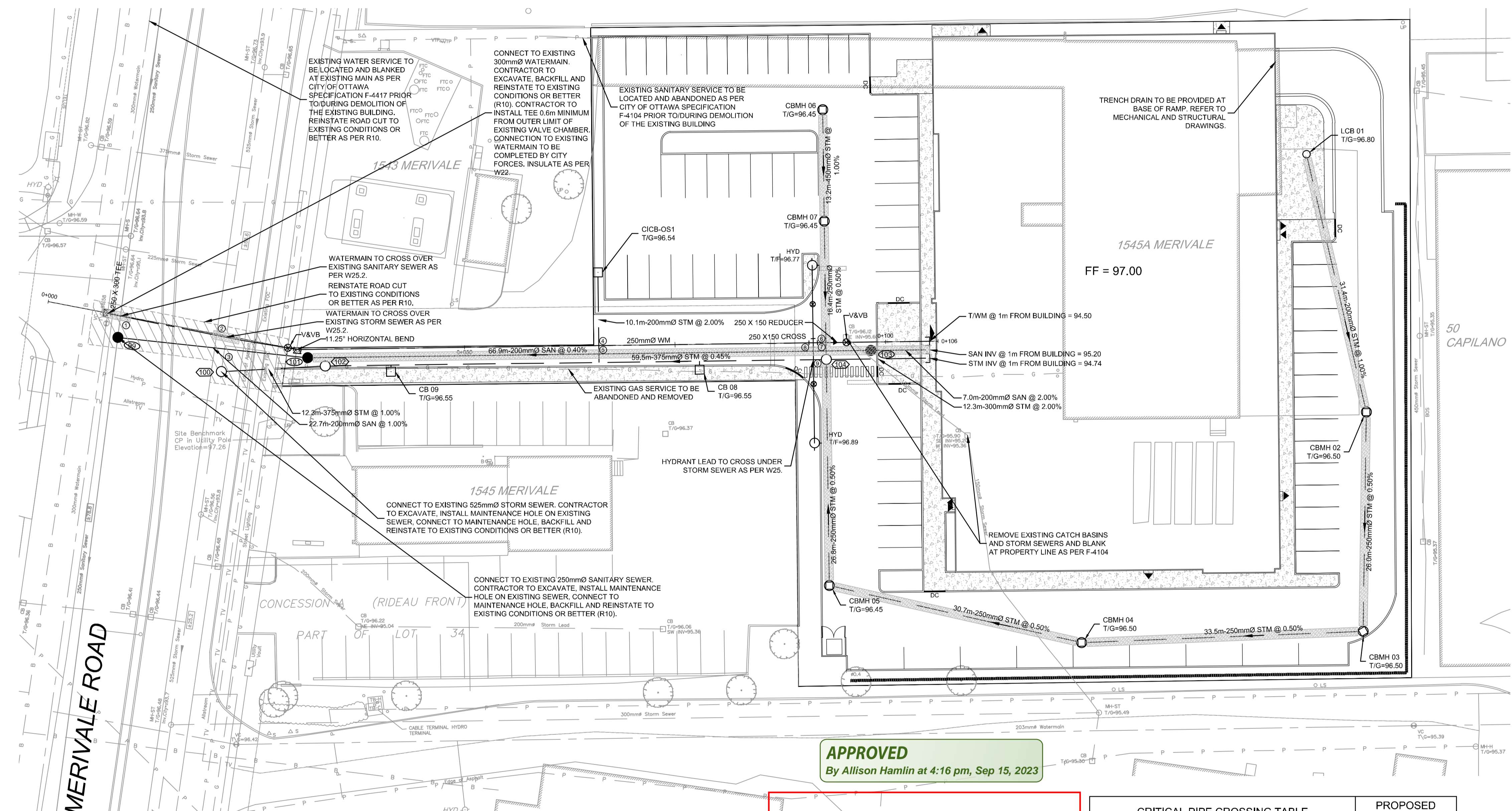


COVER (mm)	INSULATION THICKNESS (mm)
1800-1500	50
1500-1200	75
1200-900	100
900-600	125

- NOTES:
- INSULATE ALL SEWER PIPES THAT ARE LESS THAN 600mmØ AND HAVE LESS THAN 1.8m COVER WITH EXPANDED POLYSTYRENE INSULATION AS SHOWN.
 - THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER (SEE TABLE).



SOURCE REFERENCE:
 TOPOGRAPHIC PLAN OF SURVEY OF PART OF LOT 16 REGISTERED PLAN 353 AND PART OF LOT 34 CONCESSION A (RIDEAU FRONT), PREPARED BY FARLEY, SMITH & DENIS SURVEYING LTD. 2021 ON OCTOBER 1st, 2021
TOPOGRAPHIC INFORMATION:
 HORIZONTAL DATUM: NAD 83 (ORIGINAL, MTM - ZONE 9)
 VERTICAL DATUM: CGVD 1928-1978
 1. CITY OF OTTAWA 1:1000 MAPPING
 2. FARLEY, SMITH & DENIS SURVEYING LTD'S TOPOGRAPHIC PLAN OF SURVEY



- GENERAL NOTES:**
- DIMENSIONS AND LAYOUT INFORMATION SHALL BE CONFIRMED PRIOR TO START OF CONSTRUCTION.
 - THE ORIGINAL TOPOGRAPHY AND GROUND ELEVATIONS, SERVICING AND SURVEY INFORMATION SHOWN ON THIS PLAN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL INFORMATION OBTAINED FROM THIS PLAN. PRIOR TO COMMENCING ANY ON SITE SERVICING THE CONTRACTOR SHALL VERIFY THE ELEVATIONS OF THE EXISTING SEWERS, WATERMANS AND UTILITIES IN THE MERIVALE ROAD RIGHT OF WAY.
 - CO-ORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
 - BEFORE COMMENCING CONSTRUCTION, PROVIDE PROOF OF COMPREHENSIVE ALL RISK AND OPERATIONAL LIABILITY INSURANCE INCLUDING BLASTING. INSURANCE POLICY TO NAME THE OWNER, ENGINEER AND THE CITY AS CO-INSURED.
 - CONNECT TO EXISTING SYSTEMS AS DETAILED, INCLUDING ALL RESTORATION WORK NECESSARY TO REINSTATE SURFACES TO EXISTING CONDITIONS OR BETTER.
 - 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 THESE DRAWINGS.
 - OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS BEFORE COMMENCING CONSTRUCTION.
 - RESTORE ALL TRENCHES AND SURFACE FEATURES TO EXISTING CONDITIONS OR BETTER AND TO THE SATISFACTION OF MUNICIPAL AUTHORITIES.
 - REMOVE FROM SITE ALL DEBRIS AND EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
 - ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
 - REFER TO STRUCTURAL PLANS FOR UNDERSIDE OF FOOTING AND TOP OF FOUNDATION INFORMATION.
 - REFER TO GEOTECHNICAL INVESTIGATION PGE288-1 (DATED AUGUST 3, 2022), PREPARED BY PATERSON GROUP INC. FOR SUBSURFACE CONDITIONS AND CONSTRUCTION RECOMMENDATIONS.
 - PERFORATED PIPE SUB-DRAINS TO BE PROVIDED 300mm BELOW SUBGRADE LEVEL EXTENDING FROM THE ROADSIDE CATCH-BASIN FOR A DISTANCE OF 3.0m, PARALLEL TO THE CURB IN TWO DIRECTIONS AS PER CITY OF OTTAWA DETAIL R1.
 - PERFORATED PIPE SUB-DRAINS TO BE PROVIDED 300mm BELOW SUBGRADE LEVEL EXTENDING FROM ALL PARKING LOT CATCHBASIN AND CATCHBASIN MAINTENANCE HOLES FOR A DISTANCE OF 3.0m, PARALLEL AND PERPENDICULAR TO THE CURB IN FOUR DIRECTIONS. CLEAR STONE PIPE SURROUND AND GEOTEXTILE WRAP TO BE PROVIDED AS PER CITY OF OTTAWA DETAIL R1.
 - CONTRACTOR TO PROVIDE ALL LINE PAINTING AND PARKING LOT MARKINGS.
 - 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, TWM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
 - ALL WORK TO BE CONSTRUCTED TO CITY OF OTTAWA AND ONTARIO PROVINCIAL STANDARDS.

- SEWER NOTES:**
- ITEM SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
CATCHBASIN MAINTENANCE HOLE (12000)	701.010	OPSD
STORM / SANITARY MAINTENANCE HOLE (12000)	701.010	OPSD
CURB INLET CB, COVER & COVER	S3 & S22	CITY OF OTTAWA
CBMH FRAME & COVER	S2 & S28.1	CITY OF OTTAWA
STORM / SANITARY MH FRAME & COVER	S24.1 / S24 & S25	CITY OF OTTAWA
STORM SEWER	PVC DR 35 OR 100-D CONC.	CITY OF OTTAWA
SANITARY SEWER	PVC DR 35	CITY OF OTTAWA
CATCHBASIN LEAD	S31	CITY OF OTTAWA
LANDSCAPE CB SEWER TRENCH	S6	CITY OF OTTAWA
 - ALL CATCHBASIN LEADS ARE TO BE 200mm DIA. PVC SDR 35 AT 2% SLOPE UNLESS OTHERWISE SPECIFIED ON THE DRAWING.
 - INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.8m COVER AS PER THE INSULATION DETAIL FOR SHALLOW SEWERS.
 - SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM BUILDING FACE AT 2.0% SLOPE (1.0% MINIMUM). SERVICES TO BE CONNECTED TO MAINLINE SEWER AS PER CITY OF OTTAWA S11.1.
 - PIPE BEDDING AND COVER ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. WHERE THE BEDDING IS LOCATED WITHIN FIRM TO SOFT GREY SILTY CLAY, THE THICKNESS OF THE BEDDING MATERIAL SHOULD BE INCREASED TO A MINIMUM OF 300mm. THE COVER MATERIAL SHALL CONSIST OF OPS GRANULAR 'A' AND SHOULD EXTEND FROM THE SPRING LINE OF THE PIPE TO AT LEAST 300mm ABOVE THE OVERTOP OF THE PIPE.
 - THE SITE SERVICING CONTRACTOR SHALL PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPS S410.07.16 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 THE ENGINEER.
 - STORM MAINTENANCE HOLES AND CBMH'S SHALL HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
 - CONTRACTOR TO TELEWISE (CCTV) ALL PROPOSED SEWERS, 200mm Ø OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

- WATERMAIN NOTES:**
- GENERAL:

ITEM	DETAIL No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER / OVER SEWER	W25 / W25.2	CITY OF OTTAWA
HYDRANT INSTALLATION	W19	CITY OF OTTAWA
 - THE WATERMAIN SHALL BE PVC DR 18 IN ACCORDANCE WITH MATERIAL SPECIFICATION MW-18.1, UNLESS OTHERWISE INDICATED.
 - SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN SHALL BE PERFORMED BY CITY OFFICIALS.
 - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED. CONTRACTOR TO SUPPLY AND INSTALL INSULATION AS PER W22 FOR ALL WATERMAIN LESS THAN 2.4m BELOW GRADE.
 - PROVIDE MINIMUM CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS PER W25 (0.50m) AND W25.2 (0.25m).
 - WATER SERVICES ARE TO BE CAPPED 1.0m FROM BUILDING FACE.
 - UPON COMPLETION, CONTRACTOR TO PERFORM TESTING AND PROVIDE PRIVATE FIRE HYDRANT FLOW AND PRESSURE TEST REPORTS TO THE CONSULTANT. ALL PRIVATE HYDRANTS (ON-SITE) ARE TO BE RED. ALL PAINT SHALL BE ALKO ENAMEL AND MEET THE MANUFACTURERS REQUIREMENTS. THE BONNET, PUMPER AND HOSE OUTLET CAPS SHALL ALL BE PAINTED ACCORDING TO THE FOLLOWING TABLE:
 CAP COLOUR - MEASURED FLOW
 BLUE - 1500 GPM (5700L/min)
 GREEN - 1000-1499 GPM (3800-5699L/min)
 ORANGE - 500-999 GPM (1800-3799L/min)

APPROVED
 By Allison Hamlin at 4:16 pm, Sep 15, 2023

Allison Hamlin
ALLISON HAMLIN
 MANAGER (A), DEVELOPMENT REVIEW WEST
 PLANNING, REAL ESTATE & ECONOMIC DEVELOPMENT
 DEPARTMENT, CITY OF OTTAWA

CRITICAL PIPE CROSSING TABLE	PROPOSED SEPARATION
① 250mmØ WM INV=94.36	250mmØ SAN OBV=94.06 WM-SAN=0.30m
② 250mmØ WM INV=94.79	525mmØ STM OBV=94.54 WM-STM=0.25m
③ 200mmØ SAN INV=94.63	525mmØ STM OBV=94.54 SAN-STM=0.09m
④ 200mmØ STM INV=95.33	250mmØ WM OBV=94.28 STM-WM=1.05m
⑤ 200mmØ STM INV=95.31	200mmØ SAN OBV=95.10 STM-SAN=0.21m
⑥ 250mmØ STM INV=94.56	250mmØ WM OBV=94.29 STM-WM=0.27m
⑦ 200mmØ SAN INV=95.01	250mmØ STM OBV=94.81 SAN-STM=0.20m
⑧ 200mmØ SAN INV=95.00	150mmØ WM OBV=94.21 SAN-WM=0.79m
⑨ 375mmØ STM INV=94.39	150mmØ WM OBV=93.89 STM-WM=0.50m

- LEGEND**
- DC DEPRESSED CURB
 - PROPOSED RETAINING WALL
 - PROPOSED ROAD CUT LIMITS
 - PROPOSED THERMAL INSULATION
 - PROPOSED SANITARY MAINTENANCE HOLE, SEWER DIRECTION OF FLOW
 - PROPOSED STORM MAINTENANCE HOLE, SEWER DIRECTION OF FLOW
 - PROPOSED CATCHBASIN
 - CBMH PROPOSED CATCHBASIN MAINTENANCE HOLE
 - LCB PROPOSED LANDSCAPE TYPE CATCHBASIN
 - 150mmØ WM PROPOSED WATERMAIN AND DIAMETER
 - V&VB PROPOSED VALVE & VALVE BOX
 - 250 x 150 REDUCER PROPOSED REDUCER
 - 11.25° PROPOSED BEND AND THRUST BLOCK
 - PROPOSED CAP
 - PROPOSED HYDRANT C/W VALVE & 150mm DIA. LEAD (T/F= TOP OF FLANGE ELEVATION)
 - EXISTING SANITARY MANHOLE, SEWER & DIRECTION OF FLOW WITH TOP OF GRATE AND INVERT ELEVATIONS
 - EXISTING STORM MANHOLE, SEWER & DIRECTION OF FLOW WITH TOP OF GRATE AND INVERT ELEVATIONS
 - EXISTING CATCHBASIN WITH TOP OF GRATE ELEVATION
 - EXISTING WATERMAIN AND DIAMETER
 - EXISTING VALVE CHAMBER WITH TOP OF GRATE ELEVATION
 - EXISTING HYDRANT C/W VALVE & LEAD

NOTE:
 THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUNDS 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.



No.	REVISION	DATE	BY
5.	RE-ISSUED FOR SITE PLAN APPROVAL	AUG 14/23	TJM
4.	REVISED CITY PROJECT NUMBER	JUL 14/23	TJM
3.	ISSUED FOR SITE PLAN APPROVAL - REVISED	MAY 12/23	TJM
2.	ISSUED FOR SITE PLAN APPROVAL	DEC 23/22	TJM
1.	ISSUED FOR COORDINATION	NOV 16/22	TJM

SCALE
 1:300

DESIGN
 JMR

CHECKED
 SAB

DRAWN
 JMR

CHECKED
 SAB

APPROVED
 TJM

LICENSED PROFESSIONAL ENGINEER
 T. J. MCKAY
 100195434
 AUGUST 14, 2023
 PROVINCE OF ONTARIO

NOVATECH
 Engineers, Planners & Landscape Architects
 Suite 200, 240 Michael Cowpland Drive
 Ottawa, Ontario, Canada K2M 1P6
 Telephone: (613) 254-9643
 Facsimile: (613) 254-5867
 Website: www.novatech-eng.com

LOCATION
 CITY OF OTTAWA
 1545A MERIVALE ROAD

DRAWING NAME
 GENERAL PLAN OF SERVICES

PROJECT No.
 122098

REV #
 REV # 5

DRAWING No.
 122098-GP

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D07-12-22-0190