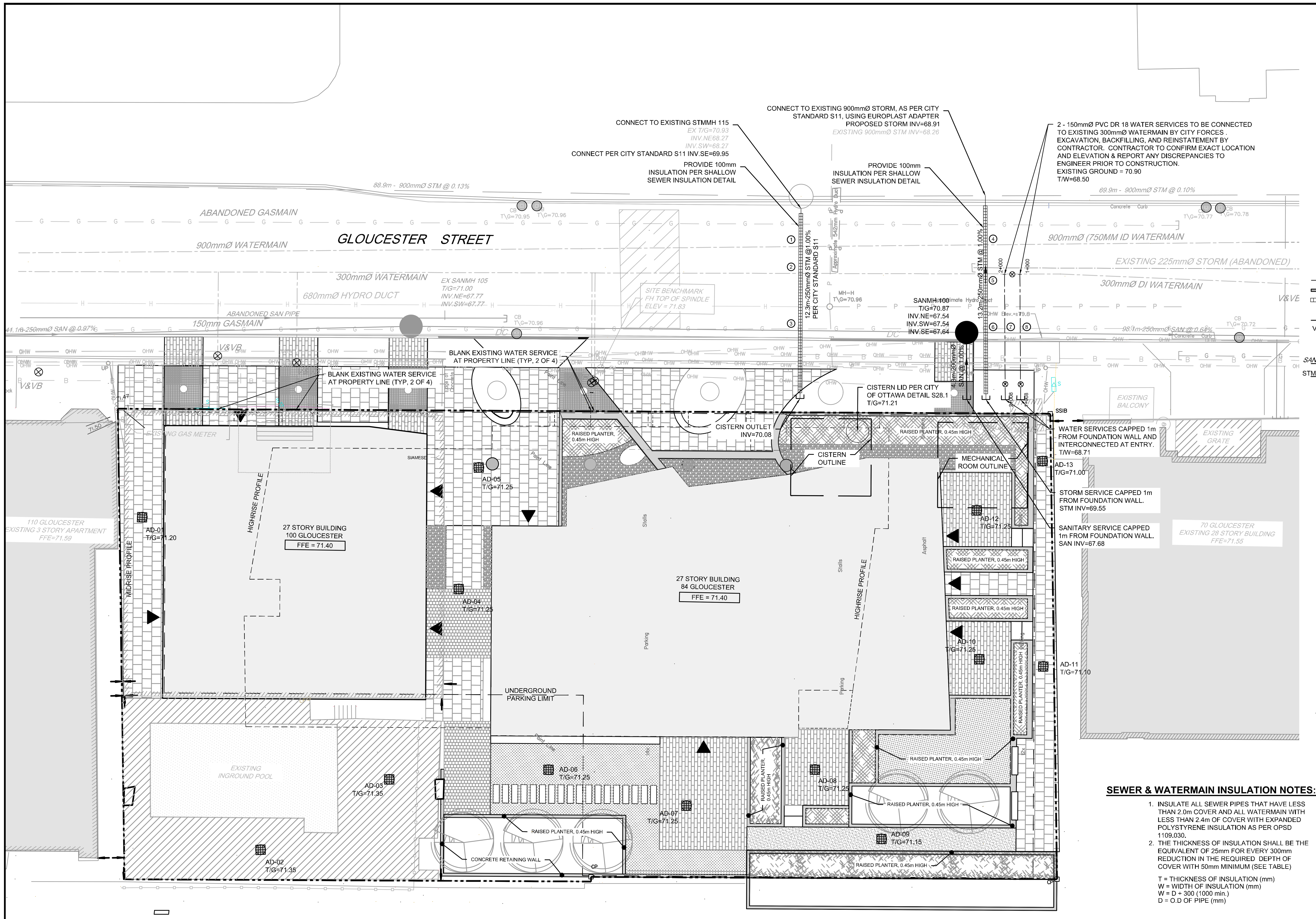
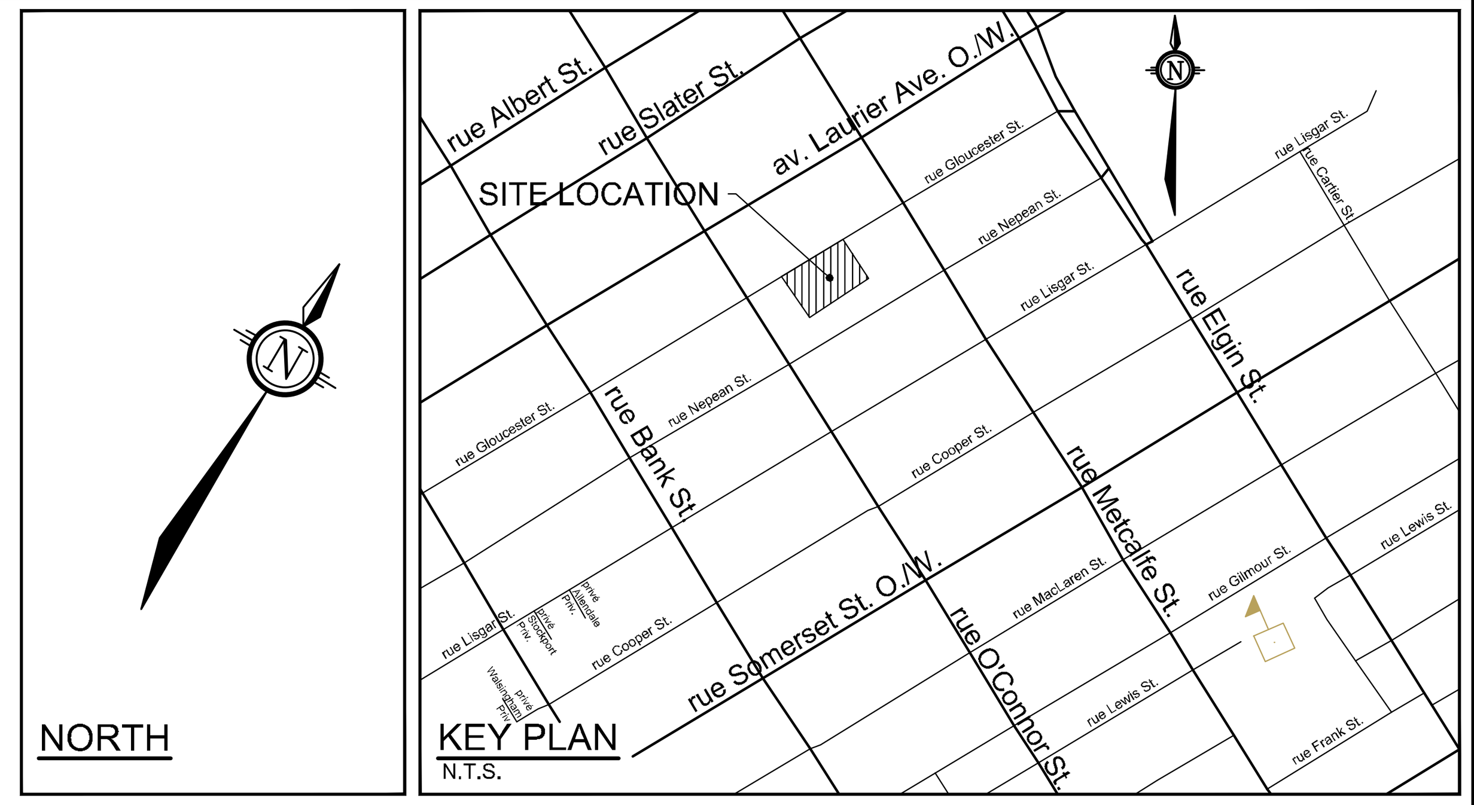




PROPERTY LINE	
PROPOSED RETAINING WALL	
PROPOSED SEWER INSULATION	
PROPOSED SIAMESE CONNECTION	
PROPOSED WATER MAIN	
V&VB	PROPOSED VALVE AND VALVE BOX
	PROPOSED REMOTE WATER METER
	PROPOSED WATER METER
SAN MH	PROPOSED SANITARY MANHOLE & SEWER
STM MH	PROPOSED STORM MANHOLE & SEWER
	DIRECTION OF FLOW
	PROPOSED AREA DRAIN
	PROPOSED BUILDING ENTRANCE
	PIPE CROSSING (REFER TO CROSSING TABLE)
	EXISTING UNDERGROUND BELL LINE
	EXISTING UNDERGROUND TELECOMMUNICATIONS LINE
	EXISTING UNDERGROUND HYDRO LINE
	EXISTING STREETLIGHT
WV	EXISTING WATERMAIN C/W WATER VALVE
	EXISTING HYDRANT C/W VALVE & LEAD
SAN MH	EXISTING SANITARY MANHOLE & SEWER
STM MH	EXISTING STORM MANHOLE & SEWER
CB 1	EXISTING CATCHBASIN
G	EXISTING GAS MAIN

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 DRAWING.
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 CO-INSURED. (amount of liability insurance to be verified on a project by project basis)
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 ELEVATIONS ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
8. REFER TO GEOTECHNICAL REPORT (No. PG6351-1, DATED SEPTEMBER 06, 2022), 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 GRANULAR MATERIAL.
9. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
10. REFER TO SERVICING AND STORMWATER MANAGEMENT BRIEF (R-2022-197) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
11. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
12. PROVIDE LINE/PARKING PAINTING.
13. 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.

SEWER NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANHOLE (1200Ø)	701.010	OPSD
CB, FRAME & COVER	400.020	OPSD
STORM / SANITARY MH FRAME & COVER	401.010	OPSD
SEWER TRENCH - BEDDING (GRANULAR A) COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)		
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	

2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
4. WHEN PLACED ON A SOIL SUB-GRADE, PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
5. WHERE HARD SURFACE AREAS ARE TO BE CONSIDERED ABOVE THE TRENCH BACKFILL, THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (ABOUT 1.8m BELOW FINISHED GRADE) AND ABOVE THE COVER MATERIAL SHOULD MATCH THE SOILS EXPOSED AT THE TRENCH WALLS TO MINIMIZE DIFFERENTIAL FROST HEAVING. THE TRENCH BACKFILL SHOULD BE PLACED IN MAXIMUM 225mm THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. ALL COBBLES LARGER THEN 200mm IN THEIR LONGEST DIRECTION SHOULD BE SEGREGATED FROM RE-USE AS TRENCH BACKFILL.
6. 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.
7. 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.
8. STORM MANHOLES AND CBMHS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
9. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

WATERMAIN NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN	PVC DR 18	

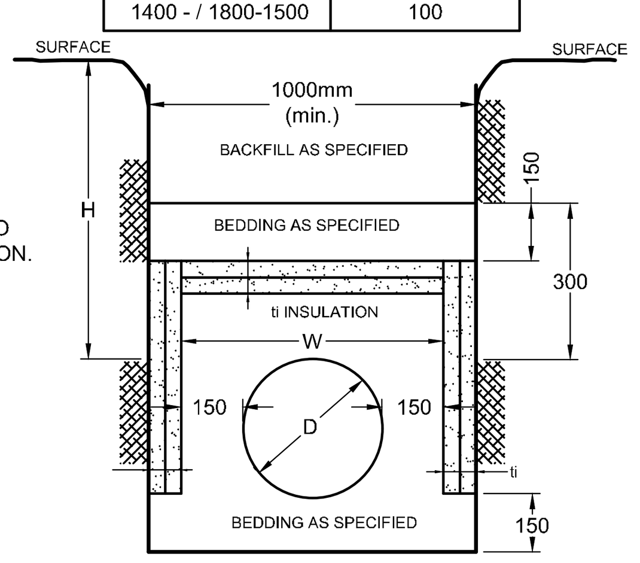
2. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
4. PROVIDE MINIMUM 0.25m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
6. WATER DEMAND = TBD

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 POLYSTYRENE INSULATION AS PER OPSD 1109.030.
2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER WITH 50mm MINIMUM (SEE TABLE)

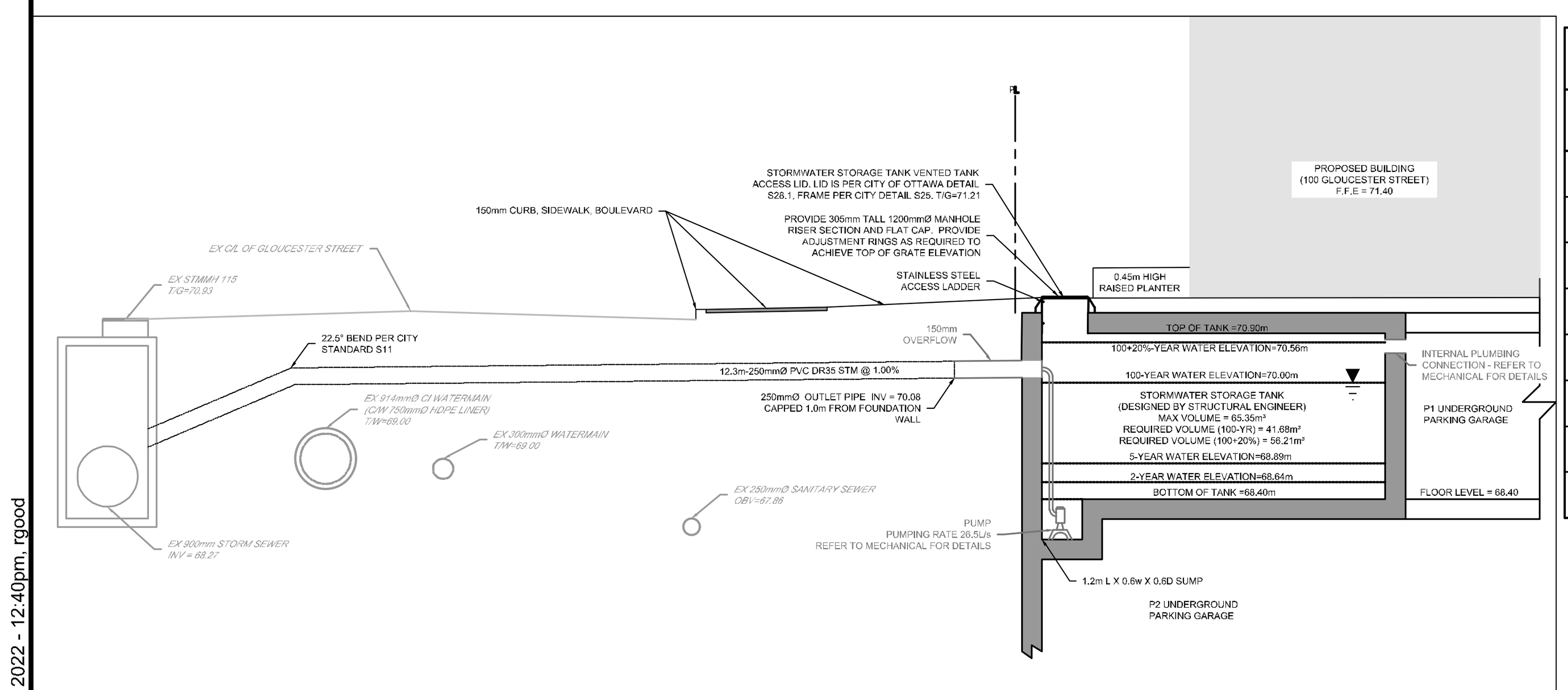
T = THICKNESS OF INSULATION (mm)
W = WIDTH OF INSULATION (mm)
W = D + 300 (1000 min.)
D = O.D OF PIPE (mm)

COVER SEWER / WATER (mm)	INSULATION THICKNESS (mm)
2000-1700 / 2400-2100	50
1700-1400 / 2100-1800	75
1400 - / 1800-1500	100



INSULATION DETAIL FOR SHALLOW SEWERS & WATERMAIN

N.T.S.



100 GLOUCESTER - CISTERN DETAIL

SCALE - 1:100

PIPE CROSSING TABLE			
CROSSING	LOWER PIPE	HIGHER PIPE	CLEARANCE
1	900mmØ CI WM OBV = 69.45	250mmØ STM INV = 69.95	0.50m
2	300mmØ WM OBV = 69.00	250mmØ STM INV = 69.97	0.97m
3	250mmØ SAN OBV = 67.86	250mmØ STM INV =70.00	2.14m
4	900mmØ CI WM OBV = 69.45	250mmØ STM INV = 69.95	0.50m
5	300mmØ WM OBV = 69.00	250mmØ STM INV = 69.97	0.97m
6	250mmØ SAN OBV = 67.78	250mmØ STM INV = 70.00	2.22m
7	250mmØ SAN OBV = 67.77	150mmØ WM INV = 68.30	0.53m
8	250mmØ SAN OBV = 67.76	150mmØ WM INV = 68.28	0.52m

PROPOSED WATERMAIN (150mmØ DOMESTIC SERVICE TABLE)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
1+000.0	96.09	*93.69	CONNECTION TO EXISTING 200mmØ WM
1+003.8	70.83	68.43	CROSS ABOVE 300mmØ SAN (0.52m CLEARANCE)
1+007.1	71.04	68.64	150mmØ VALVE AND VALVE BOX
1+008.1	71.06	68.66	CAP

*TOP OF EXISTING WATERMAIN ASSUMED 2.4m BELOW EXISTING GROUND. CONTRACTOR TO VERIFY AND REPORT ANY DISCREPANCIES TO PROJECT ENGINEER PRIOR TO CONSTRUCTION.

PROPOSED WATERMAIN (150mmØ DOMESTIC SERVICE TABLE)			
STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
2+000.0	96.08	*93.68	CONNECTION TO EXISTING 200mmØ WM
2+003.8	70.84	68.45	CROSS ABOVE 300mmØ SAN (0.53m CLEARANCE)
2+007.1	71.05	68.65	150mmØ VALVE AND VALVE BOX
2+008.1	71.07	68.67	CAP

*TOP OF EXISTING WATERMAIN ASSUMED 2.4m BELOW EXISTING GROUND. CONTRACTOR TO VERIFY AND REPORT ANY DISCREPANCIES TO PROJECT ENGINEER PRIOR TO CONSTRUCTION.

NOTE:
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.

CLARIDGE HOMES

CLARIDGE HOMES
SUITE 2001,
210 GLADSTONE AVENUE,
OTTAWA , ONTARIO
K2P 0Y6.

No.	REVISION	DATE	BY
1.	ISSUED IN SUPPORT OF SITE PLAN	NOV 30/22	GJM

SCALE 1:150

DESIGN RJG
CHECKED GJM
DRAWN RJG/MF
CHECKED ARM
APPROVED GJM

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER G.J. MacDONALD Nov. 30, 2022 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
84 & 100 GLOUCESTER STREET

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 122173-00
REV REV # 1
DRAWING No. 122173-GP

PLANA1.DWG - 841mmx594mm

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