

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

- 1. INSULATE ALL SEWER PIPES THAT ARE LESS THAN 600mmØ AND HAVE LESS THAN 1.8m COVER WITH EXPANDED POLYSTYRENE INSULATION AS SHOWN
- 2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN

THE REQUIRED DEPTH OF COVER (SEE TABLE)

INSULATION DETAIL FOR SHALLOW SEWERS ONLY

N.T.S.

LEGEND

STORAGE VOLUMES

REQUIRED PROVIDED

>30 m³

 $5.7 \, \text{m}^3$

9.1 m³

23.0 m³

29.5 m³

PROPOSED SANITARY SEWER PROPOSED STORM SEWER PROPOSED THERMAL INSULATION PROPOSED CATCHBASIN MANHOLE AREA DRAIN AD-1 □ ROOF DRAIN PROPOSED WATER METER AND REMOTE METER PROPOSED BARRIER CURB DC PROPOSED DEPRESSED CURB PROPOSED WATER SERVICE AND DIAMETER PROPOSED STAND POST / VALVE & VALVE BOX PROPOSED TEE C/W THRUST BLOCK

PROPERTY LINE



EXISTING SANITARY SEWER

PROPOSED SIMESE CONNECTION PROPOSED CAP PROPOSED BUILDING ENTRANCE UNDERGROUND PARKING LIMIT RETAINING WALL REMOVALS FINISHED FLOOR ELEVATION TOP OF FOUNDATION WALL ELEVATION UNDERSIDE OF FOOTING ELEVATION



CATCHBASIN LEAD EXISTING WATERMAIN AND WATER KEY EXISTING UTILITY POLE C/W ANCHOR WIRES EXISTING RETAINING WALL

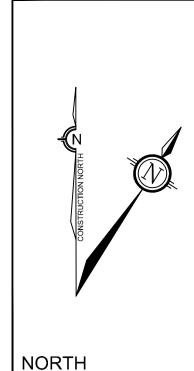
ROPOSED 150mmØ WATER SERVICE TABLE	
TOP OF VATERMAIN	DESCRIPTION
68.93 *	ROLL 150mmØ WM CONNECTION TO EX. 300mmØ DI WM

68.84 * VALVE AND VALVE BOX (SP) 0.5m OFF OF CAP (AT PROPERTY LINE)

★ CONNECTION TO EXISTING 300mmØ DUCTILE IRON WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED. ** PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W22 IN SHALLOW TRENCHES AND/OR CITY OF OTTAWA W23 ADJACENT TO OPEN STRUCTURES.

68.85★★ CAP AT 1.0m FROM FOUNDATION WALL

- 1. ELEVATIONS ARE GEODETIC AND ARE REFERRED TO CITY OF OTTAWA CONTROL POINT 2011-0007 HAVING A PUBLISHED ELEVATION OF 80.55 METRES.
- 2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE SITE BENCHMARKS HAVE NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.
- BENCHMARK WAS PROVIDED ON SURVEYOR'S REAL PROPERTY REPORT WITH TOPOGRAPHIC DETAILS PART 1 - PLAN SHOWING LOT 47 (SOUTH SIDE OF LISGAR STREET), REGISTERED PLAN NO. 12281, CITY OF OTTAWA, SURVEYED BY J.D. BARNES LIMITED (REF. # 21-10-108-00).





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 CO-INSURED
- 5. COMPLETE ALL WORKS IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS USING THE CURRENT GUIDELINES, BYLAWS AND STANDARDS INCLUDING MATERIALS OF CONSTRUCTION, DISINFECTION AND ALL RELEVANT REFERENCES TO OPSS, OPSD & AWWA GUIDELINES - ALL CURRENT VERSIONS AND 'AS AMENDED.
- 6. 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 MUNICIPAL AUTHORITIES.
- . 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.
- 8. ALL ELEVATIONS ARE GEODETIC.
- 9. REFER TO GEOTECHNICAL INVESTIGATION REPORT (PG6401-1, DATED OCTOBER 26, 2022), PREPARED BY PATERSON GROUP INC., CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
- 10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
- 11. REFER TO THE 'DEVELOPMENT SERVICING STUDY AND STORMWATER MANAGEMENT REPORT' (R-2022-151) PREPARED BY
- 12. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).

SEWER NOTES:

1. SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'.

2. SPECIFICATIONS:

REFERENCE OPSD STORM / SANITARY MANHOLE (1200Ø) SANITARY MANHOLE FRAME AND COVER OPSD 401.010 - TYPE 'A' STORM/CATCHBASIN MANHOLE (1800Ø) 701 012 OPSD STORM/CBMH FRAME AND COVER 401.010 - TYPE 'B OPSD WATERTIGHT MANHOLE FRAME AND COVER 401.030 OPSD CATCHBASIN (600x600) 705.010 CATCHBASIN FRAME & COVER CITY OF OTTAWA SEWER TRENCH CITY OF OTTAWA PVC DR 35 (450mmØ PIPE AND SMALLER) STORM SEWER CONCRETE 65-D (600mmØ PIPE AND LARGER) SANITARY SEWER

- 3. THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS \$14.1 OR \$14.2. REFER TO MECHANICAL PLANS FOR DETAILS.
- 4. THE STORM SERVICE LATERAL SHALL BE EQUIPPED WITH A BACKFLOW PREVENTER WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14. REFER TO MECHANICAL PLANS FOR DETAILS.
- 5. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
- 6. PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
- 7. INSULATE ALL PIPES (SAN / STM) THAT HAVE LESS THAN 1.8m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- 8. CONCRETE MANHOLES ARE TO BE 1200mmØ STRUCTURES UNLESS OTHERWISE NOTED ON THE DRAWING. 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.
- 9. TYPICAL STORM MANHOLES AND CATCHBASIN MANHOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED. 10. THE CONTRACTOR IS 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. PROVIDE A COPY OF ALL CCTV INSPECTION REPORTS TO THE ENGINEER FOR REVIEW. 11. 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. 12. 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.

WATERMAIN NOTES:

1. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND 'AS AMENDED'.

2. SPECIFICATIONS: REFERENCE CITY OF OTTAWA WATERMAIN TRENCHING HYDRANT INSTALLATION CITY OF OTTAWA THERMAL INSULATION IN SHALLOW TRENCHES CITY OF OTTAWA CITY OF OTTAWA THERMAL INSULATION BY OPEN STRUCTURES CITY OF OTTAWA VALVE BOX ASSEMBLY CITY OF OTTAWA WATERMAIN CROSSING BELOW SEWERS CATHODIC PROTECTION FOR PVC WATERMAINS

WATERMAIN MATERIAL PVC DR 18 (100mm AND LARGER) 3. 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.

4. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.

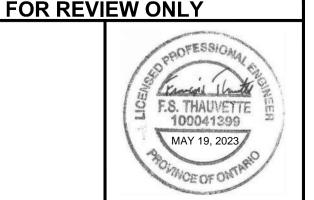
5. PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.

6. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

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.

FS ISSUED FOR SPC APPLICATION NOV 11/22 REVISION DATE



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GENERAL PLAN OF SERVICES REV # 2

CITY OF OTTAWA

PLAN #18902

122160-GP