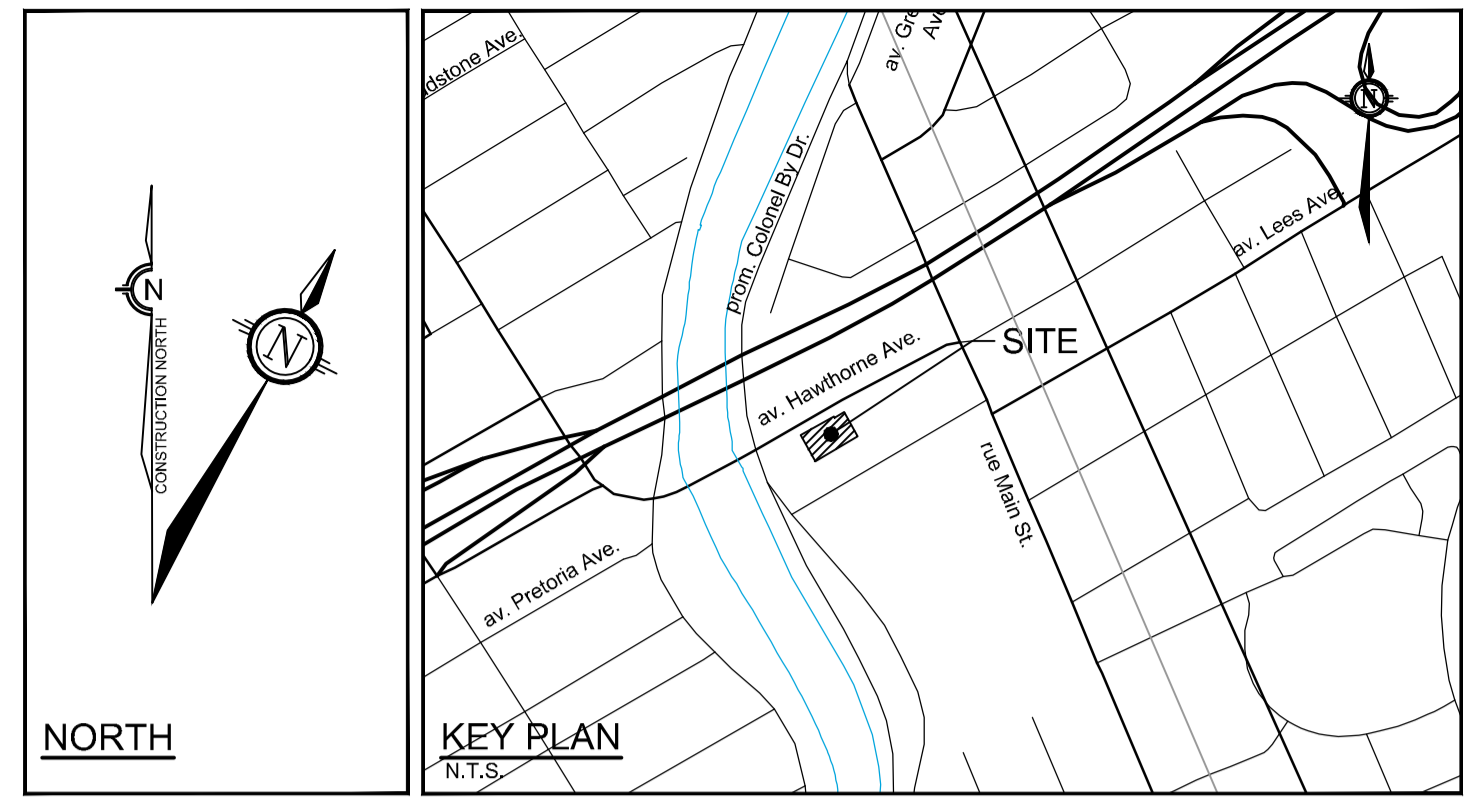
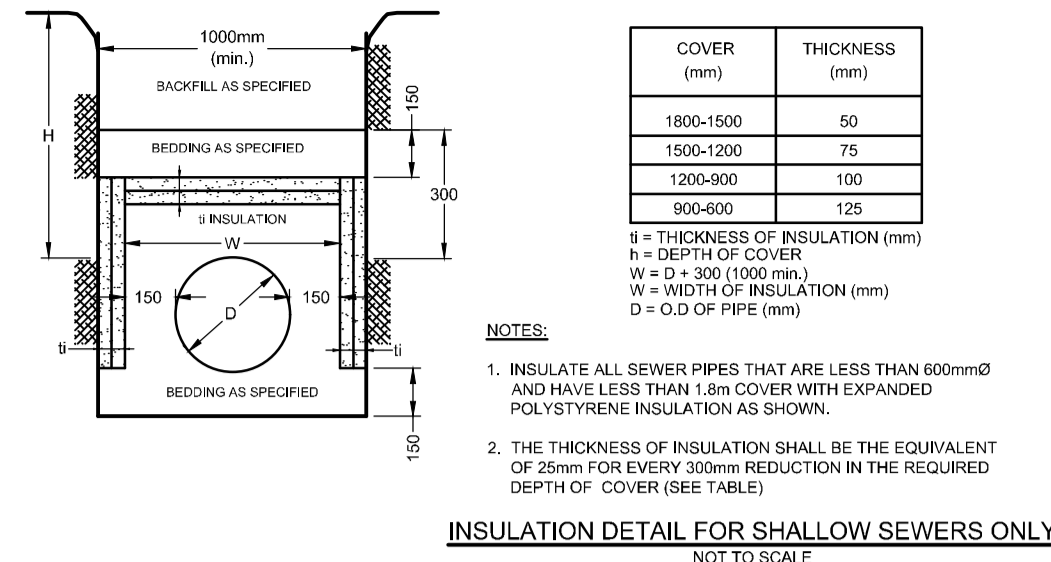


LEGEND

150mm Ø	PROPOSED WATER SERVICE AND DIAMETER	FFE	FINISHED FLOOR ELEVATION
200mm Ø SAN @ 1.00%	PROPOSED SANITARY SERVICE	USF	UNDERSIDE OF FOOTING ELEVATION
200mm Ø STM @ 1.00%	PROPOSED STORM SERVICE		
DD □	MECHANICAL DECK DRAIN ABOVE U/G PARKING		
AD □	AREA DRAIN OUTSIDE OF U/G PARKING LIMITS		
⊕ ⊖	PROPOSED WATER METER AND REMOTE METER		
DC	PROPOSED DEPRESSED CURB		
FUTURE 103.9m-150mm Ø PVC SAN @ 0.30%	PROPOSED SANITARY SEWER (PER HAWTHORNE RECONSTRUCTION PROJECT)		
CICB	PROPOSED CATCHBASIN C/W LEAD (PER HAWTHORNE RECONSTRUCTION PROJECT)		
FUTURE 103.2m-450mm Ø CONC. STM @ 0.30%	PROPOSED STORM SEWER (PER HAWTHORNE RECONSTRUCTION PROJECT)		
HYD	PROPOSED HYDRANT C/W LEAD & VALVE & VALVE BOX (PER HAWTHORNE RECONSTRUCTION PROJECT)		
FUTURE 203mm Ø PVC WM	PROPOSED WATERMAIN (PER HAWTHORNE RECONSTRUCTION PROJECT)		
---	PROPOSED HYDRO DUCTS (PER HAWTHORNE RECONSTRUCTION PROJECT)		



INTERNAL SWM STORAGE TANK

DESIGN EVENT	STORAGE SYSTEM CONTROLLED FLOW	STORAGE VOLUMES REQUIRED	PROVIDED
1:2 YR	PUMPED FLOW RATE = 11.0 L/s	8.1 m³	> 51 m³
1:5 YR		14.1 m³	
1:100 YR		38.9 m³	
1:100+20%		50.8 m³	

NOTES:
 1. ALL DRAINAGE FROM AREA A-2 (PROPOSED AMENITY AREA DECK DRAINS/AREA DRAINS AND ALL ROOF DRAINS) TO BE DIRECTED TO THE INTERNAL STORMWATER STORAGE SYSTEM. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS.
 2. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR EXACT SIZE AND DETAILS OF INTERNAL STORMWATER STORAGE SYSTEM.
 3. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR LOCATION AND CONNECTIONS AND DETAILS OF THE INTERNAL STORMWATER STORAGE SYSTEM.

- GENERAL NOTES:**
- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
 - 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.
 - OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
 - 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.
 - 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, CPSSD & AWWA GUIDELINES - ALL CURRENT VERSIONS AND AS AMENDED.
 - 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.
 - ALL ELEVATIONS ARE GEODETIC.
 - REFER TO GEOTECHNICAL INVESTIGATION REPORT (56-18P-04), DATED AUGUST 04, 2022, PREPARED BY YURI MENDEZ ENGINEERING, CONSTRUCTION RECOMMENDATIONS AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
 - REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACED AREAS AND DIMENSIONS.
 - REFER TO THE DEVELOPMENT SERVICES STUDY AND STORMWATER MANAGEMENT REPORT (R-2022-143) PREPARED BY NOVATECH.
 - SAW CUT AND KEYHOLE ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE-IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
- SEWER NOTES:**
- 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.
 - SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
STORM / SANITARY MANHOLE (12000)	701.010	OPSSD
SANITARY MANHOLE FRAME AND COVER	401.010 - TYPE 'A'	OPSSD
STORM/CATCHBASIN MANHOLE (18000)	701.012	OPSSD
STORM/CATCHBASIN FRAME AND COVER	401.010 - TYPE 'B'	OPSSD
WATERTIGHT MANHOLE FRAME AND COVER	401.030	OPSSD
CATCHBASIN (600/600)	705.010	OPSSD
SEWER TRENCH	S19	CITY OF OTTAWA
STORM SEWER	56	CITY OF OTTAWA
STORM SEWER CONCRETE 65-0 (600mm Ø PIPE AND LARGER)	PVC DR 35 (450mm Ø PIPE AND SMALLER)	CITY OF OTTAWA
SANITARY SEWER	PVC DR 35	CITY OF OTTAWA
 - THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR REFER TO MECHANICAL PLANS FOR DETAILS.
 - 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.
 - SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
 - 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.
 - INSULATE ALL PIPES (SAN / STM) THAT HAVE LESS THAN 1.8m COVER WITH H-10 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
 - CONCRETE MANHOLES ARE TO BE 200mm Ø STRUCTURES UNLESS OTHERWISE NOTED ON THE DRAWING. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES FOR EXAMPLE KORAN-SEAL, PSX, POSITIVE SEAL AND DURASEAL. THE CONCRETE GRADE FOR THE PIPE CAN BE ELIMINATED.
 - TYPICAL STORM MANHOLES AND CATCH-BASIN MANHOLES ARE TO HAVE 300mm BUMPS UNLESS OTHERWISE INDICATED.
 - THE CONTRACTOR IS TO TELEPHONE (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. PROVIDE A COPY OF ALL CCTV INSPECTION REPORTS TO THE ENGINEER FOR REVIEW.
 - 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/O ELEVATIONS, STRUCTURE LOCATIONS AND ANY ALIGNMENT CHANGES, ETC.
 - THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR 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:**
- SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS - ALL CURRENT VERSIONS AND AS AMENDED.
 - SPECIFICATIONS:

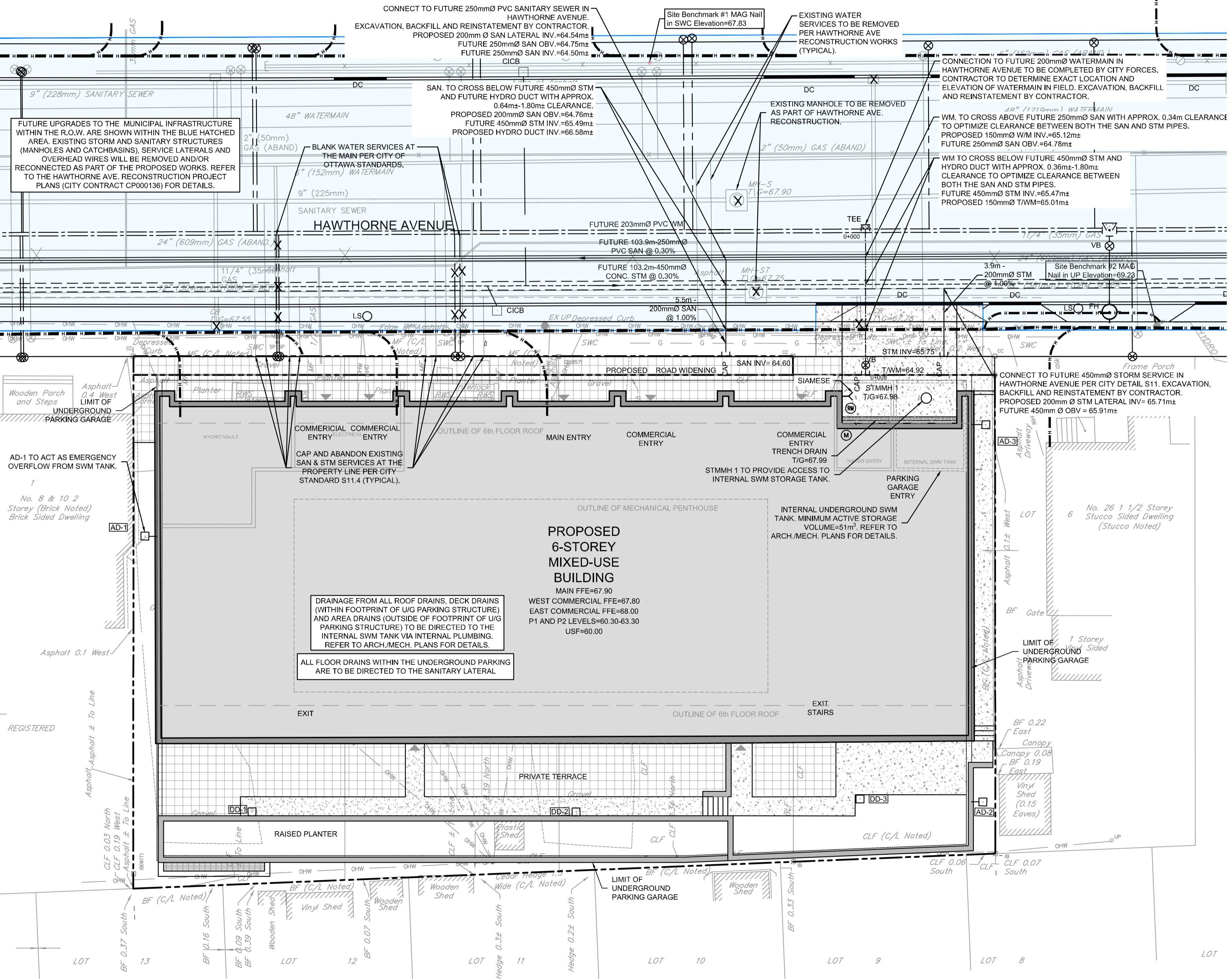
ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W177	CITY OF OTTAWA
HYDRANT INSTALLATION	W19	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
VALVE BOX ASSEMBLY	W24	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWERS	W25	CITY OF OTTAWA
WATERMAIN CROSSING ABOVE SEWERS	W25.2	CITY OF OTTAWA
CATHODIC PROTECTION FOR PVC WATERMANS	W40	CITY OF OTTAWA
WATERMAIN MATERIAL	PVC DR 18 (100mm AND LARGER)	CITY OF OTTAWA
 - EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
 - WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
 - PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS, UNLESS OTHERWISE INDICATED.
 - WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

PROPOSED 150mm Ø WATER SERVICE TABLE

Station	I.G. ELEVATION	TOP OF WATERMAIN	DESCRIPTION
1+000.00	67.91	65.51 *	CONNECTION TO FUTURE 200mm Ø WM
1+001.40	67.86	65.27	WATERMAIN CROSSING ABOVE SAN (0.34m CLEARANCE)
1+002.88	67.81	65.01	WATERMAIN CROSSING UNDER STORM (0.36m CLEARANCE)
1+004.53	67.84	64.77	11.25' VERTICAL BEND
1+005.56	67.87	64.81	WATERMAIN CROSSING UNDER HYDRO DUCT (1.8m CLEARANCE)
1+007.60	67.83	64.89	VALVE BOX (-3.0m DEPTH)
1+008.17	67.85	64.92	CAP

* CONNECTION TO FUTURE 200mm Ø PVC WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.

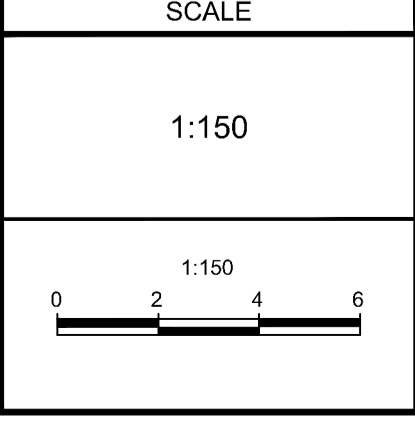
- BENCHMARK NOTES:**
- ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE COVD28 GEODETIC DATUM. AND ARE REFERRED TO CITY OF OTTAWA BENCHMARK OTT 25, HAVING AN ELEVATION OF 66.613.
 - IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.
 - TEMPORARY JOB BENCHMARK #1 DESCRIPTION IS LOCATED ON MAG NAIL IN CONCRETE SIDEWALK LOCATED APPROXIMATELY 18m NORTH OF THE NORTH PROPERTY BOUNDARY ALONG HAWTHORNE AVE. TEMPORARY BENCHMARK #2 DESCRIPTION IS MAG NAIL IN UTILITY POLE LOCATED ON BOULEVARD AND APPROXIMATELY 15m EAST FROM EAST PROPERTY BOUNDARY ALONG HAWTHORNE AVE. SEE TOPOGRAPHICAL PLAN OF SURVEY OF LOTS 2, 3, 4, 5 AND PART OF LOT 6, REGISTERED PLAN #2, CITY OF OTTAWA, SURVEYED BY ANNIS, O'SULLIVAN, VOLLEBECK LTD.
 - A NEW TEMPORARY BENCHMARK MAY BE REQUIRED IF EXISTING BENCHMARKS ARE DISTURBED DURING THE HAWTHORNE AVE. RECONSTRUCTION PROJECT. ALTERNATIVELY, CONTRACTOR MAY NEED TO USE HAWTHORNE AVENUE RECONSTRUCTION PROJECT BENCHMARK.



NOTE: THE POSITION OF ALL POLE LINES, CONDUITS, WATERMANS, 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.

OWNER INFORMATION
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 EMAIL: kfagan@jbpa.ca



DESIGN FOR REVIEW ONLY

DESIGN	CV/ZA
CHECKED	FST
DRAWN	ZA
CHECKED	FST
APPROVED	FST



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LOCATION
 CITY OF OTTAWA
 12-24 HAWTHORNE AVENUE

DRAWING NAME
 GENERAL PLAN OF SERVICES

PROJECT No. 122152
 REV # 1
 DRAWING No. 122152-GP
 PLAN #

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