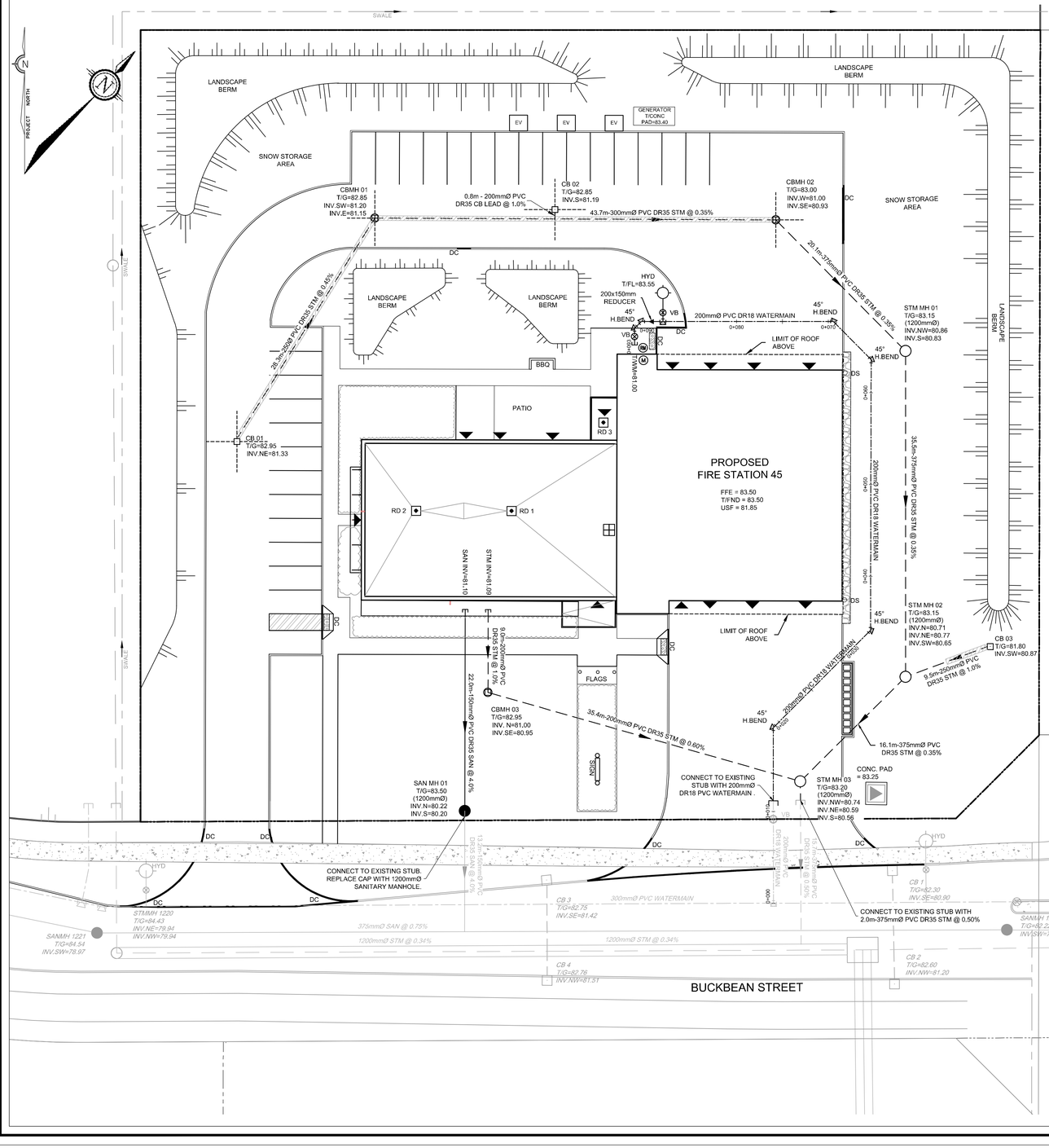
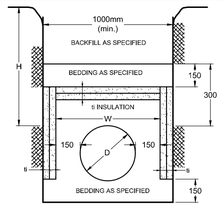
LEGEND

- PROPERTY LINE
- SANMH 01 — PROPOSED SANITARY MH & SEWER
- CBMH 01 — PROPOSED CATCHBASIN MH & SEWER c/w 3.0m RADIAL SUBDRAIN (PER GEOTECH)
- STMMH 01 — PROPOSED STORM MH & SEWER
- CB 02 — PROPOSED CATCHBASIN & LEAD c/w 3.0m RADIAL SUBDRAIN (PER GEOTECH)
- HYD — VB — PROPOSED HYDRANT c/w VALVE & VALVE BOX
- ICD — PROPOSED INLET CONTROL DEVICE
- RD — CONTROLLED FLOW ROOF DRAIN
- (M) (IW) — PROPOSED WATER METER AND REMOTE METER
- DC — PROPOSED BARRIER CURB
- PROPOSED DEPRESSED CURB
- 150mmØ — PROPOSED WATER SERVICE AND DIAMETER
- VB — PROPOSED VALVE & VALVE BOX
- BEND — PROPOSED BEND AND THRUSTBLOCK 11.25°, 22.5°, 45° or TEE
- PROPOSED CAP
- PROPOSED BUILDING ENTRANCE
- THERMAL INSULATION FOR SHALLOW SEWERS
- PROPOSED HYDRO TRANSFORMER
- DS — DOWNSPOUT
- FFE — FINISHED FLOOR ELEVATION
- T/FND — TOP OF FOUNDATION WALL ELEVATION
- USF — UNDERSIDE OF FOOTING ELEVATION
- EXISTING CONCRETE CURB
- SANMH — EXISTING SANITARY MANHOLE & SEWER
- CBMH — EXISTING CATCHBASIN MANHOLE
- STMMH — EXISTING STORM MANHOLE & SEWER
- CB — EXISTING CATCHBASIN C/W CATCHBASIN LEAD
- HYD — VALVE — EXISTING HYDRANT & VALVE
- 300mmØ WM — EXISTING WATERMAIN
- HYD — EXISTING HYDRANT C/W VALVE & LEAD
- EX UP — EXISTING TREES / VEGETATION
- EXISTING UTILITY POLE





1800-1500	50
1500-1200	75
1200-900	100
900-600	125

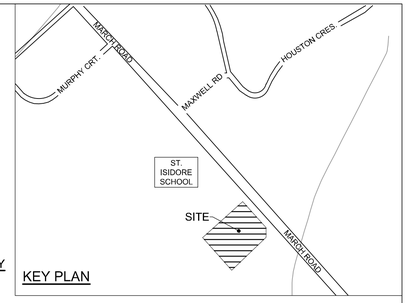
ti = THICKNESS OF INSULATION (mm)
h = DEPTH OF COVER
W = D + 300 (1000 min.)
W = WIDTH OF INSULATION (mm)
D = O.D OF PIPE (mm)

NOTES:

1. INSULATE ALL SEWER PIPES THAT ARE LESS THAN 600mmØ AND HAVE LESS THAN 1.6m 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

NOT TO SCALE



KEY PLAN

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.
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.
7. 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 (Ref.No.: PG5321-1, DATED JAN 20, 2021) PREPARED BY PATERSON GROUP INC., 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.
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-2022-090) 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).

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:

ITEM	SPEC. No.	REFERENCE
STORM/SANITARY MANHOLE (1200Ø)	701.010	OPSD
STORM/CATCHBASIN MANHOLE (1500Ø)	701.011	OPSD
STORM/CBMH FRAME AND COVER	401.010 - TYPE 'B'	OPSD
SANITARY MANHOLE FRAME AND COVER	401.010 - TYPE 'A'	OPSD
WATERTIGHT MANHOLE FRAME AND COVER	401.030	OPSD
CATCHBASIN MH FRAME & COVER	401.010 Type 'B'	OPSD
CATCHBASIN (600x600)	705.010	OPSD
CATCHBASIN FRAME & COVER	S19	CITY OF OTTAWA
SEWER TRENCH	S6	CITY OF OTTAWA
STORM SEWER	PVC DR 35 (450mmØ PIPE AND SMALLER)	
STORM SEWER	HDPE BOSS 2000 (600mmØ PIPE AND LARGER)	
SANITARY SEWER	PVC DR 35	

3. THE SANITARY SERVICE LATERAL SHALL BE EQUIPPED WITH BACKFLOW PREVENTERS WITHIN THE BUILDING FOOTPRINT AS PER CITY OF OTTAWA STANDARD DETAILS S14.1 OR S14.2. 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 1.5m 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:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	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
CATHODIC PROTECTION FOR PVC WATERMAINS	W40	CITY OF OTTAWA
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.

PROPOSED 200mmØ / 150mmØ WATER SERVICE TABLE

STATION	SURFACE ELEVATION	T/WM ELEVATION	COMMENTS
0+000.0	82.92±	80.52± ●	200mmØ WM CONNECTION TO EX. 300mmØ PVC WM
0+009.1	82.95	80.55	VALVE AND VALVE BOX AT PROPERTY LINE
0+011.1	83.03	80.63	CONNECT TO EXISTING WATERMAIN STUB
0+011.8	83.17	80.60	22.5° VERTICAL BEND AS PER CITY DETAIL W25
0+012.9	83.18	80.14	22.5° VERTICAL BEND AS PER CITY DETAIL W25
0+014.1	83.20	80.14	CROSSING BELOW PROPOSED STORM SEWER. CLEARANCE = 0.62m
0+015.3	83.22	80.14	22.5° VERTICAL BEND AS PER CITY DETAIL W25
0+016.4	83.23	80.60	22.5° VERTICAL BEND AS PER CITY DETAIL W25
0+019.1	83.28	80.70	45° HORIZONTAL BEND
0+034.1	83.06	80.66	45° HORIZONTAL BEND
0+063.6	83.24	80.84	45° HORIZONTAL BEND
0+069.4	83.40	81.00	45° HORIZONTAL BEND
0+088.0	83.30	80.90	HYDRANT LEAD (200x150x200 TEE)
0+089.0	83.30	80.90	200x150mm REDUCER
0+090.4	83.35	80.95	45° HORIZONTAL BEND
0+091.4	83.35	80.95	45° HORIZONTAL BEND
0+092.1	83.38	80.98	VALVE AND VALVE BOX
0+093.0	83.38	81.00	CAP 1.0m FROM FOUNDATION WALL

● CONNECTION TO EXISTING 300mmØ PVC WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.

MARCH ROAD

PLANNING AND INFRASTRUCTURE PORTFOLIO
INFRASTRUCTURE SERVICES DEPARTMENT
DESIGN AND CONSTRUCTION - BUILDINGS & PARKS BRANCH

PORTEFEUILLE DE L'URBANISME ET DE L'INFRASTRUCTURE
DÉPARTEMENT DES SERVICES D'INFRASTRUCTURE
DIRECTION DE CONCEPTION ET DE CONSTRUCTION - IMMEUBLES ET DES PARCS

FOR / POUR

INFRASTRUCTURE SERVICES & COMMUNITY SUSTAINABILITY

INFRASTRUCTURE SERVICES
DESIGN & CONST. - BUILDINGS & PARKS

1:250
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NUMBER/ NUMÉRO	MILESTONE / ÉTAPE SAILLANT	DATE: (YY/MO/D) (AA/MJ)	INITIALS INITIALES
6			
5	REVISED PER CITY COMMENTS	22/08/03	FST
4	ISSUED FOR 60% REVIEW	22/07/27	FST
3	ISSUED FOR BUILDING PERMIT	22/07/15	FST
2	ISSUED FOR 30% REVIEW	22/06/20	FST
1	ISSUED FOR SPC APPROVAL	22/05/20	FST

DESIGNED BY / CONÇU PAR	CHECKED BY / VÉRIFIÉ PAR
FST/DMM	FST
DRAWN BY / DESSINÉ PAR	SCALE / ÉCHELLE
DMM	1:250

DETAIL NUMBER 1 / A1.1 SHEET NUMBER — DRAWING TITLE — SCALE

ARCHITECT / ARCHITECTE	CONSULTANT / EXPERT-CONSEIL
	LICENSED PROFESSIONAL ENGINEER — Daniel Thauvette — F.S. THAUVETTE — 100041399 — AUG. 3, 2022 — PROVINCE OF ONTARIO
CONSULTANT / EXPERT-CONSEIL	CONSULTANT / EXPERT-CONSEIL

PROJECT / LOCATION / PROJET / ENDROIT

FIRE STATION 45

1075-A MARCH ROAD
OTTAWA, ONTARIO

DRAWING / DESSIN

GENERAL PLAN OF SERVICES

BUSINESS ENTITY / NUMÉRO DE L'ENTITÉ BUILDING NUMBER / NUMÉRO DU BÂTIMENT

SHEET NO. / FEUILLE No.

C1.0

CITY PROJECT NO. / NUMÉRO DE PROJET: 122089

CONS_PROJECT NO. / NUMÉRO DE PROJET

D07-12-22-0090

PLAN #18766