

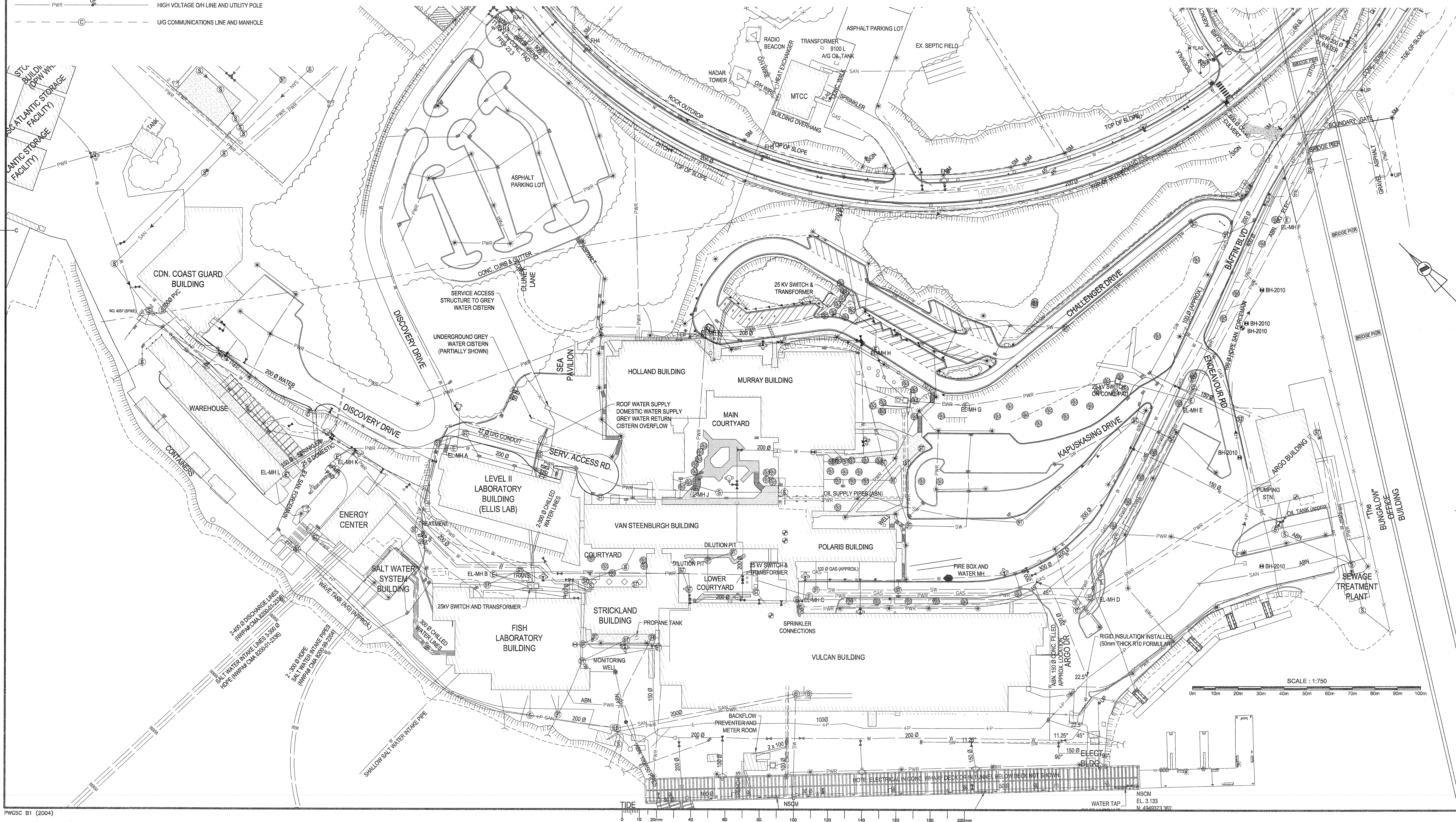
GENERAL NOTES:

- ALL ELEVATIONS GIVEN AND NOTED ARE IN METRES AND ARE REFERENCED TO THE PUBLISHED VALUES (1979 ADJUSTMENT) FOR NSCM 205526. GRID COORDINATES ARE BASED ON A 3° MTM PROJECTION, ON THE ATS77 ELLIPSOID.
NORTHING: 4949814.462
EASTING: 5570776.489
ELEVATION: 30.227
- ALL DIMENSIONS GIVEN AND NOTED ARE IN METRES EXCEPT PIPE DIAMETERS WHICH ARE IN MILLIMETRES.
- EXISTING INFORMATION FOR THE DESIGN WAS OBTAINED FROM FIELD SURVEYS AND RECORD PLANS. LOCATION OF UNDERGROUND SERVICES IS APPROXIMATE ONLY. CONFIRM EXISTING SERVICE INFORMATION PRIOR TO CONSTRUCTION. EXCAVATE TO CONFIRM ELEVATION OF EXISTING SERVICES PRIOR TO INSTALLATION OF PROPOSED SERVICES. ALL EXISTING SERVICES SHALL BE PROTECTED DURING CONSTRUCTION. ADEQUATE SUPPORT SHALL BE PROVIDED WHERE NEW PIPE IS CONSTRUCTED BENEATH EXISTING SERVICES.
- CONFIRMATION OF LOCATIONS OF BURIED UTILITIES TO REMAIN SHALL BE BY WAY OF CAREFUL SOIL EXCAVATION METHODS, INCLUDING, BUT NOT LIMITED TO HYDRO-EXCAVATION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH NSRBANSCEA STANDARD SPECIFICATION FOR MUNICIPAL SERVICES, HALIFAX STANDARDS, HALIFAX WATER STANDARDS, AND THE PROJECT SPECIFICATIONS. IN THE CASE OF DISCREPANCIES, THE MORE STRINGENT SHALL APPLY.
- PROVIDE ALL ENVIRONMENTAL PROTECTION MEASURES WHICH ARE TO BE IN ACCORDANCE WITH REQUIREMENTS OF NSDEL FOR CONSTRUCTION SITES AND THE SPECIFICATIONS.
- THE LOCATIONS OF PROPOSED SERVICE ALIGNMENTS AND STRUCTURES IS APPROXIMATE ONLY AND SHALL BE CONFIRMED ON SITE BY DEPT. REPRESENTATIVE.
- OBTAIN ANY NECESSARY PERMITS REQUIRED TO PERFORM THE WORK AND COMPLY WITH THE PERMIT REQUIREMENTS AND CONDITIONS.
- PROVIDE TRAFFIC CONTROL SERVICES AS REQUIRED. MAINTAIN ACCESS AT ALL TIMES AND PROVIDE FOR SAFE VEHICLE AND PEDESTRIAN ACCESS TO BIO AND THE ADJACENT PROPERTIES.

- DEWATERING IN AREAS ADJACENT THE HARBOR WILL REQUIRE ADDITIONAL CONSIDERATION. THE RATE OF INFILTRATION INTO DEEP EXCAVATIONS WILL BE HIGH AND WILL REQUIRE, BUT NOT BE LIMITED TO, THE PROVISION OF SEVERAL LARGE DIAMETER PUMPS AND STAGING EARTHWORKS TO COINCIDE WITH LOW TIDE LEVELS.
- WHERE TRENCHING FOR NEW SERVICES EXPOSES AND CROSSES BENEATH EXISTING SERVICES TO REMAIN, EXCAVATION FROM EXISTING PIPE MID-HEIGHT AND BELOW, SHALL BE BACKFILLED WITH UNSHRINKABLE FILL WITH THE FOLLOWING PROPERTIES:
- MAINTAIN 450 mm VERTICAL CLEARANCE BETWEEN OUTSIDE FACES OF NEW AND EXISTING BURIED UTILITIES UNLESS OTHERWISE INDICATED.
- STORM SEWER
- MAINTAIN EXISTING SERVICES AT ALL TIMES UNLESS WRITTEN PERMISSION IS GIVEN BY DEPT. REPRESENTATIVE.
- SANITARY SEWER
- MAINTAIN EXISTING SERVICES AT ALL TIMES UNLESS WRITTEN PERMISSION IS GIVEN BY DEPT. REPRESENTATIVE.
- ALL GRAVITY PIPES SHALL BE PVC DR35 FOR PIPE SIZES GREATER THAN OR EQUAL TO 200 mm DIAMETER, AND PVC DR28 FOR SMALLER PIPE SIZES.
- INSTALL MANHOLES IN ACCORDANCE WITH HALIFAX WATER STANDARDS. HWSD 1450. MANHOLE FRAMES AND GRATES IN ACCORDANCE WITH HALIFAX WATER STANDARD DETAIL - HWSD 1460.
- ALL BURIED PRESSURE PIPE SHALL BE DR11 HDPE FOR PIPE SIZES LESS THAN OR EQUAL TO 100 mm DIAMETER
- WATERMAIN
- MAINTAIN EXISTING SERVICES AT ALL TIMES UNLESS WRITTEN PERMISSION IS GIVEN BY DEPT. REPRESENTATIVE.
- ALL WATERMANS SHALL BE DUCTILE IRON, AWWA C151, SPECIAL CLASS S2. SERVICE LATERALS SHALL BE CONSTRUCTED OF MATERIALS AS INDICATED.
- WATERMANS SHALL BE INSTALLED AT GRADES AS SHOWN ON THE PROFILES WITH CONTINUOUS SLOPES AT A MINIMUM OF 0.2 %.
- IN-LINE CONNECTIONS TO EXISTING WATER MAINS (I.E. NOT BY WAY OF TEES) SHALL BE MADE AT EXISTING PIPE JOINTS WHEREVER POSSIBLE. AT CONNECTIONS REQUIRING BEND FITTING, ANY PIPE JOINTS WITHIN 6 m LENGTH EITHER SIDE OF CONNECTION SHALL BE MECHANICALLY RESTRAINED.
- FOR TRENCH EXCAVATION, UNLESS OTHERWISE AUTHORIZED BY DEPARTMENTAL REPRESENTATIVE IN WRITING, DO NOT EXCAVATE MORE THAN 30 m OF TRENCH IN ADVANCE OF INSTALLATION OPERATIONS AND DO NOT LEAVE OPEN MORE THAN 3 m AT END OF DAYS OPERATION. TRENCHES UNABLE TO BACKFILL TO THESE REQUIREMENTS SHALL BE SPANNED AND PROTECTED BY WAY OF STEEL PLATES AS PROVIDED BY THE CONTRACTOR.
- REMOVE AND DISPOSE OF ALL ASPHALT PAVEMENTS BY FULL DEPTH REMOVAL OR MILLING AS INDICATED WITHIN THE LIMITS OF GRADING. CLEAR, GRUB AND STRIP TOPSOIL WITHIN THE LIMITS OF GRADING.
- TRENCH SIDE SLOPES AS INDICATED ON THE DETAIL DRAWING ARE TYPICAL ONLY. SLOPES SHALL BE CONSTRUCTED ACCORDING TO SOILS CONDITIONS ENCOUNTERED ON SITE AND IN ACCORDANCE WITH REGULATORY AGENCIES. ALTERNATIVELY, TRENCHES MAY BE SUPPORTED BY APPROVED STRUCTURAL SHORING.
- SURPLUS EXCAVATION TO BE REMOVED OFF-SITE OR TO BE PLACED IN LOCATION AS DIRECTED BY DEPT. REPRESENTATIVE.
- ALL EXISTING TREES TO BE LEFT UNDISTURBED UNLESS OTHERWISE NOTED OR DIRECTED BY DEPT. REPRESENTATIVE.
- PROVIDE CONCRETE CURB IN ACCORDANCE WITH HALIFAX STANDARD DETAIL HRM 53.
- PROVIDE SIDEWALK IN ACCORDANCE WITH HALIFAX STANDARD DETAILS:
 - URBAN SIDEWALK - HRM 44
 - CONCRETE SIDEWALK REINFORCING - HRM 48
- SIDEWALK FINISH TO MATCH EXISTING, INCLUDING FOR EXPOSED AGGREGATE SECTIONS, AS INDICATED.
- REINSTATE EXISTING GRAVEL DRIVEWAYS WITH 300 mm MINIMUM DEPTH OF TYPE 1 GRAVEL. EXISTING PAVED DRIVEWAYS TO BE REINSTATED WITH 150 mm TYPE 1 GRAVEL AND 50 mm OF TYPE C ASPHALT AND TO MATCH EXISTING AS REQUIRED.
- ALL ASPHALT EXCAVATION TO HAVE A SAW CUT EDGE.

- WHERE TRENCHING FOR NEW SERVICES EXPOSES AND CROSSES BENEATH EXISTING SERVICES TO REMAIN, EXCAVATION FROM EXISTING PIPE MID-HEIGHT AND BELOW, SHALL BE BACKFILLED WITH UNSHRINKABLE FILL WITH THE FOLLOWING PROPERTIES:
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- THE WATERMAIN SHALL HAVE A MINIMUM COVER OF 1.8 m AND A MAXIMUM COVER OF 2.5 m. FOR WATERMANS WITH LESS THAN REQUIRED COVER, PROVIDE H-40 INSULATION IN ACCORDANCE WITH THE DETAILS.
- THRUST RESTRAINT:
- ALL BURIED FITTINGS FOR PIPE INCLUDING TEES, BENDS, CAPS AND REDUCERS TO BE MJ COMPLETE WITH RESTRAINED JOINTS.
- 20 MPa CONCRETE THRUST BLOCKS ARE REQUIRED AT ALL TEES, BENDS AND CAPS. BLOCKS SHALL NOT BE FORMED UNTIL THE BEARING FOUNDATION HAS BEEN OBSERVED BY DEPT. REPRESENTATIVE.
- THRUST RESTRAINT IN ACCORDANCE WITH HALIFAX WATER STANDARD DRAWINGS 1070, 1080 AND 1090.
- HYDRANTS TO BE PROVIDED IN ACCORDANCE WITH HALIFAX WATER STANDARD DETAIL HWSD-1110
- PAINT HYDRANTS IN ACCORDANCE WITH HALIFAX WATER STANDARDS.
- PROVIDE VALVES IN ACCORDANCE WITH HALIFAX WATER CRITERIA AS FOLLOWS:
 - GATE VALVES: 300 mm DIA. AND SMALLER
 - BUTTERFLY VALVES: 350 mm DIA. AND LARGER
 - INSTALLED IN ACCORDANCE WITH HALIFAX WATER STANDARD DETAIL HWSD-1032
- LOCATIONS OF HYDRANTS AND VALVES ARE APPROXIMATE ONLY AND SHALL BE CONFIRMED ON-SITE.
- REINSTATEMENT AND PAVEMENT MARKINGS
- LANDSCAPING: PROVIDE 135 mm TOPSOIL AND SOD AS INDICATED.
- ASPHALT PAVEMENT: AS INDICATED
- PAVEMENT MARKINGS TO BE REINSTATED SHALL BE CONFIRMED ON SITE WITH DEPT. REPRESENTATIVE. COLOUR, WIDTH AND REFLECTIVITY SHALL BE APPROVED BY THE DEPT. REPRESENTATIVE.
- MARKINGS IN PEDESTRIAN AREAS SHALL BE COMPRISED OF ANTI-SLIP, TEXTURED TRAFFIC PAINT.



Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

LOCATION

SCALE: NTS

SNC • LAVALIN

SNC • LAVALIN Inc.
Halifax, Nova Scotia, Canada

Member of the SNC • LAVALIN Group

PROFESSIONAL ENGINEER
JULY 27, 2017
M. W. Gaudin
9719
PROVINCE OF NOVA SCOTIA

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