

William (Bill) Pay | Senior Structural Engineer,
P.Eng.

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Professional Summary:



William (Bill) Pay, P.Eng. joined the Forensic Engineering team at EFI Global Canada in September 2021, as a Senior Structural Engineer. Prior to joining EFI Global Canada, Bill worked as a Senior Structural Engineer and project manager, on many structural and infrastructure projects in the Atlantic Canada.

Bill has been a registered engineer in Nova Scotia since 2005. Working in the Dartmouth, Nova Scotia office his experience includes structural design, project management, construction inspection, environmental and geotechnical evaluation on a variety of projects in the military, commercial and industrial sectors. He has valuable experience in working in a multidisciplinary team environment and has been responsible for project management, systematic inspections, client liaison, cost estimating, evaluations with reports, tender documents,

assistance during tendering, carrying out site inspections, staff supervision, drawing reviews, and measuring quantities. Prior to starting an engineering career, he taught high school physics for eight years in Canada and the United States, where he developed strong communication, leadership, analytical and problem-solving skills.

Licenses and Certification:

- Engineers Nova Scotia (ENS)
- Professional Engineers and Geoscientists of New Brunswick (PEGNB)
- Association of Professional Engineers of the Province of Prince Edward Island (Engineers PEI)
- Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL)
- Professional Engineers Ontario (PEO)

Project Experience:

Direct Engineering Team: Manage and direct professional team members in aspects of professional activities including quality control, technical approach, and inspection and business development including budgeting, proposal development, marketing, project closure, and client support.

Building Condition Assessments: I have conducted inspections and evaluations of the condition of numerous facilities for due diligence, risk management, asset management, renewal planning and to support building re-financing.

Post Event Inspections: I have completed structure inspections after vehicle impacts and major storm events such as hurricanes, blizzards, major rainfall events.

Building Condition Assessments: I have conducted inspections and evaluations of the condition of numerous facilities for due diligence, risk management, asset management, renewal planning and to support building re-financing.

Restoration and Repair Planning: I have provided restoration, shoring, repair, rehabilitation, and strengthening designs for damaged structures and infrastructure. This has included work associated with residential, commercial, industrial and military facilities.

Blast and Explosion Analysis: Design of structures for the protection of personnel, public and infrastructure from explosions and blasts from explosive environments due to dust and munitions.

Concrete Infrastructure: Inspection and condition assessment of concrete structures such as bridges, culverts, water tanks and sewer systems, foundations, etc..

Bridge Design & Inspections: Design, Inspection and condition assessments for various bridge structures which have included pedestrian timber structures, steel truss bridges, concrete culverts, precast ridged frame and bolted plate structures.

Building Demolition: supported contractors by providing engineering survey to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during demolition operations.

Projects:

- **Jetty NC, CFB Halifax, NS:** Inspection and condition assessment of a 255 x 100m concrete caisson jetty. This was a multidisciplinary project that required the evaluation of existing structural, mechanical and electrical systems. As lead structural engineer and PM I was responsible for coordination of above and underwater inspections with subcontractors and DCC/DND during Covid 19 Pandemic. *2020-2021*
- **NS Provincial Court House Renovations, Halifax, NS:** Sr. Structural Engineer responsible for the design of an addition to provide a secure facility for prisoner transfer on a 160-year-old heritage building. *2019-2021*
- **Cyber Park, Fredericton, NB:** I was the senior structural engineer on this two-tower building, intended to be occupied by high technology users. The building has four storey's, consisting of ground floor, containing the central core and common support area, totaling approximately 3410 square meters in gross building area with three floors, of approximately 1150 square meters each. Unique challenges for this project were post disaster building importance and incorporate seismic requirements. *2019*
- **Royal Canadian Mounted Police, New Minas, NS:** Responsible for developing structural designs in collaboration with architectural and other disciplines. The facility includes administrative office space, specialized support space, detention areas, district management offices, storage, service rooms, and garage bays. *2019*
- **Halifax International Airport Authority, Halifax, NS:** Various renovation and expansions projects, which included Maintenance facility expansion, Baggage Claim Area renovation and installation of Anti Ramming Bollards. *2015-2020*

- **Stratford Wastewater Treatment Facility, Stratford PE:** Structural design of the wastewater treatment building and design of the supports for 2-450mm diameter pipes on the Hillsborough Bridge. *2018-2020*
- **Neqotkuk (Tobique) First Nations Emergency Services Facility, Tobique First Nation, NB:** The scope of work included design and project management services for the development of a 1,150m² fire station, RCMP detachment, and one bay paramedic base for the New Brunswick Emergency Medical Services. *2018-2019*
- **DND Munitions Storage Facility, Aldershot, NS:** As Project Manager I worked with my team to produce detailed civil, structural, mechanical and electrical construction drawings and specifications for a New Munitions Storage Facility to be constructed at 5 Cdn Div TC Detachment Aldershot. The complex required a new Munitions Storage facility, transfer building, and forklift shed. The storage and transfer buildings were design as a blast resistant structures with explosion proof mechanical and electrical systems. This project required team members to become familiar with DND Ammunition and Explosive Safety Manuals which included Storage, Facility, Transportation and Operations. The Storage building was required to be light wall construction and the Transit facility was required to be heavy wall construction. In order to minimize site construction time, the Storage building was designed as a Precast concrete structure and the transit building was designed as a cast-in-place concrete. The proximity of the transfer and storage building required the design of a barrier wall which incorporated large mass precast concrete blocks. *2015-2018*
- **Nova Scotia Power C3 Culvert Replacement, Wreck Cove, NS:** As lead structural engineer Bill was responsible for to conduct an options analysis for the replacement of three (3) corrugated steel plate culverts that were undersized to meet the 1/100-year design rain event. This design was completed using 15.2m span precast concrete rigid frame units with locally available large bolder wing walls. Challenges included maintaining single lane vehicular traffic for maintenance and public use. *2015-2016*
- **Parks Canada WWII Gun Battery Rehabilitation, Cape Spear, NL:** Bill worked with the structural team on developing designs for the rehabilitation of the existing cast-in-place concrete battery and tunnel structures in collaboration with other disciplines. Key structural design challenges were designing in accordance with the standards and guidelines for conservation of historic places in Canada and a short construction period requirement. *2015-2017*
- **Roof Snow Removal Plans Maritime Paper Products, Dartmouth, NS:** Bill prepared roof snow removal procedures and plans for a 172 000 sq.ft. facility. *2014*
- **Utility Pole Failure Assessment, Emera Utility Services Ltd, NS:** Bill provided an independent engineering review, on behalf of Emera General Counsel, of a utility pole that had failed during installation. *2015*

Professional Experience:

- **Stantec Consultants Ltd., Dartmouth, NS**
2012-2021
Senior Structural Engineer / Project Manager
- **Allnorth Consultants Ltd., Dartmouth, NS**
2010-2012
Design Engineer / Project Manager

- **SNC-Lavalin O&M, Halifax, NS**
2009-2010
Program Manager – RCMP, Atlantic Canada
- **O'Halloran Campbell Consultants / ADI Ltd.**
2007-2009
Project Engineer
- **Praetorian Construction Management, Diavik Diamond Mine, NWT**
2006 (May-Dec)
Construction Manager
- **Nova Scotia Department of Transportation & Infrastructure Renewal, Halifax, NS**
2006 (Jan – May)
Project Engineer
- **SNC Lavalin, Halifax, NS**
2005
Project Engineer
- **Jacques Whitford Ltd., Dartmouth, NS**
2004
Environmental Technician (Summer Student)
- **Halifax Regional School Board, Halifax, NS**
1997-2003
Physics Instructor
- **Forman School, CT, USA**
1995-1997
Physics Instructor

Specialized Training:

- Work at Height and Fall Arrest
- Confined Space Training
- Erosion and Sedimentation Control

Education:

- Bachelor of Engineering, 2005, Dalhousie University, Halifax, NS (Civil Engineering)
- Bachelor of Education, 1995, Dalhousie University, Halifax, NS
- Bachelor of Science, 1994, Dalhousie University, Halifax, NS (Physics)
- Diploma in Electronics, 1987, Nova Scotia Community College, I.W. Akerly Campus, Dartmouth, NS