

30 Forensic Engineering



Civil and Structural Failure

EXPERIENCED. THOROUGH. OBJECTIVE.

Our Civil/Structural Failure Investigation team is comprised of engineers and specialists with extensive technical expertise and hands-on experience in the commercial, residential and industrial sectors. We provide a full-range of services relating to structural integrity, building science, code and standards assessments, and professional consultation during remediation.

- Emergency Response
- On-Site Investigations
- Building Permit Application and Submittals
- Engineering Design Drawings
- Structural Integrity and Damage Assessment
- Expert Litigation Services
- Detailed Analysis and Actionable Reporting
- Residential and Commercial Construction Oversight and Administration
- Expertise in concrete, steel and wooden structures
- Hands-on experience in design, building construction and inspection

Building Failure Analysis

- Building envelope investigation
 - Origin and cause of moisture and water infiltration
 - Review building enclosure failures including roofs, perimeter and basement walls
- Structural integrity failure
- Damage to foundation
- Finite element modelling
- Seismic analysis and vibration damage assessments
- Solar array damage assessment
- 3D laser-scan (FARO) of existing conditions

Remediation

- Rehabilitation consulting
- Construction specifications
- Fire-rated assembly specification
- Steel, wood, and concrete structures and foundations
- Retrofitting existing buildings
- Construction inspections
- 2D and 3D construction Drawings

Building & Fire Code

- Building and Fire Code Consulting
- Fire and Life Safety Audits
- Code Compliance Design and Construction Reviews
- Barrier-Free Audits
- Analysis of Building and Fire Department Records
- Personal Injury Construction Assessments

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40 University Avenue
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Ottawa Office:
116 Albert Street
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www.30fe.com



Meet Our Team



Terrence Holder, B.Eng., M.A.Sc., BSSO, CFEI, P.Eng.

tholder@30fe.com

Practice Lead | Structural and Building Science Failure | Code Assessment

20 years experience in new construction, rehabilitation of concrete structures, and forensic engineering. Extensive experience in construction project management and investigation of structural and non-structural losses, as well as building science and building code compliance, specializing in concrete structures, membrane failures and specification writing. Court qualified as an expert in matters related to concrete.



Thomas Pepper, B.Eng., CFEI, P.Eng.

tpepper@30fe.com

Practice Lead | Building and Fire Code Assessment | Structural Failure

Over 15 years of experience in building science and building and fire code compliance. Extensive experience in construction project management, building inspections, code consulting and forensic engineering. Court qualified as an expert in civil/structural engineering and building codes.



Matthew Hartog, B.Eng., WRT, P.Eng.

mhartog@30fe.com

Senior Associate | Structural and Building Science Failure | Code Assessment

Over 10 years of experience in structural steel design for heavy industrial, energy sector, commercial, institutional and recreational projects. Extensive investigative experience in structural and building science failure and building code compliance. Court qualified as an expert in civil/structural engineering.



Pablo Robalino, B.Sc., M.Sc., P.Eng., PMP

probalino@30fe.com

Senior Associate | Structural and Building Science Failure | Code Assessment

20 years consulting engineering experience related to structural design and construction of reinforced concrete and steel structures within the mining, nuclear, oil and gas, cement, and institutional industries. 9 years of experience on heavy industrial projects, detailed engineering, structural assessments. 3 years of forensic investigative experience in structural failure and code compliance.



Derek Gibson, B.Eng., P.Eng.

dgibson@30fe.com

Senior Associate | Structural and Building Science Failure | Code Assessment

Over 20 years of consulting engineering experience in building sciences, building enclosure systems, and the evaluation of building structures. Expertise in establishing the condition of building envelopes, interior finishes and structural and exterior architectural building features.



Mohamed El Semelawy, B.Sc., M.Sc., Ph.D., P.Eng.

msemelawy@30fe.com

Senior Associate | Structural and Building Science Failure

17 years of experience in commercial and residential projects, industrial oil and gas, and code and standards development, in addition to 5 years of academic research related to industrial application. Published several academic papers and served as peer reviewer for multiple journals.

Meet Our Team



Emily Saleh, B.Eng., P.Eng.

esaleh@30fe.com

Intermediate Associate | Structural and Building Science Failure

9 years of experience in the building restoration and forensic engineering industries investigating water infiltration, fire damage, membrane failures, poor construction and structural damage, including design defects/damage related to building envelopes.



Abrar Khan, B.Sc., M.E.Sc., P.Eng.

akhan@30fe.com

Intermediate Associate | Structural and Building Science Failure

Specialized expertise in wind engineering, roof failures, and wind-induced structural responses for high-rise residential and commercial buildings, airports and stadia. Additional expertise with structural dynamics, engineering statistics and reliability, and construction materials testing.



Claire Miller, B.Eng., P.Eng.

cmiller@30fe.com

Associate | Structural and Building Science Failure

Expertise in building forensics and rehabilitation industry. Additional experience in field investigations, failure analyses and repair specifications for existing buildings.



Joel Bott, C.E.T., B.C.Q

jbott@30fe.com

AutoCAD, Revit and 3DS Max | Forensic Visualization | Building Assessment Assistance

Specialist in forensic visualization using AutoCAD, and AutoCAD Civil 3D, including unique visual representations for client presentations and court trials, and structural/building permit drawings. Experience in detailed site data collection and analysis through use of FARO Focus 3D Laser Scanning Unit.



Derek Fisher, Dipl T

dfisher@30fe.com

Forensic Visualization | Municipal Road/Infrastructure Design

Specialist in developing and preparing engineering designs and drawings from field measurements, sketches and engineering calculations. Expertise in municipal infrastructure design and layout. Familiarity with OPSS and OPSD standards.



Ricardo Toma, B.Sc, A.A.S

rtoma@30fe.com

Forensic Visualization | Building Assessment Assistance

Specialist in forensic visualization, and developing and preparing engineering designs and drawings from field measurements, sketches and engineering calculations.

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