

Robson Forensic

Engineers, Architects, Scientists & Fire Investigators

STEPHEN E. FOURNIER, P.E.

PROFESSIONAL EMPLOYMENT EXPERIENCE

- 1989 to present **Robson Forensic, Inc.**
Associate. Provide technical investigations, analysis, reports, and testimony for failure analysis, and towards the resolution of commercial and personal injury litigation involving: construction in progress, completed construction, time and economic claims, workmanship, code compliance, and personal injury accidents.
- 1991 to present **Fournier, Robson & Associates, LLC**, Construction Engineering
Principal. Provide technical assistance and safety services to the construction industry, industrial clients, homeowners, and insurance companies.
- 1989 to 1990 **Ward Investments**, Land Development & Residential Building
Operations Engineer. Designed and coordinated residential land developments. Worked with reviewing agencies, contractors, utilities, and homeowners on projects involving single family homes, duplex buildings, condominiums, and townhouses.
- 1985 to 1989 **High Concrete Structures, Inc.**, Precast Concrete Supplier
Vice President - Engineering. Directed the design group for all work produced by the company. Duties included planning, scheduling, contracting with outside services, and trouble-shooting. Projects included parking structures, office buildings, apartment buildings, dormitories, condominiums, retail space, warehouses, and special institutional and industrial buildings.
- 1980 to 1985 **C. T. Main Construction**, General Contractor
As Resident Manager, responsible for all work performed by direct-hire work force and by subcontractors for a 130 million dollar expansion of a hydroelectric power plant; responsible for developing bid packages, bidding, scheduling, inspection, start-up and turnover, contract closeout and safety.
- As Project Superintendent* for the same project, supervised the direct-hire work force; coordinated and supervised inspection of work performed by subcontractors for schedule, for compliance to specifications, for compliance to FERC requirements and to OSHA regulations.
- As Division Engineer*, responsible for technical support of field work forces. Provided designs for such items as cofferdams, rigging frames and plans, truck cradles, transmission tower foundations and special scaffolding requirements.
- As Area Superintendent*, estimated, scheduled and supervised the work performed on maintenance projects including: new construction, replacements and renovation to mechanical equipment, piping systems, tanks, buildings, conveyors and operating equipment to insure work was performed safely and in accordance with specifications.

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1971 to **Various Consulting Engineering Companies**

1980 *As Project Engineer through Project Manager*, performed feasibility studies and evaluations; prepared designs for facilities involving water, wastewater, roads, buildings, subdivisions, an industrial park, a recreational complex, and general civil work. Responsibilities included preparation of specifications, bidding assistance, periodic inspection of work in progress, and contract administration.

PROFESSIONAL CREDENTIALS

Professional Engineer: Pennsylvania
Maine (inactive)

Licensed Site Evaluator: Maine (former)

EDUCATION

B.S. Civil Engineering- Northeastern University, Boston, Massachusetts, 1971.

CONTINUED EDUCATION

Certified as Competent Person for Fall Protection, Subpart M, February 1997

Safe Site '97, February 1997

CSP Specialty Preparation Course, March 1996

ALCM 75 Course - Property Protection, Fall 1994 and Spring 1995

Certified by OSHA to teach 10 - Hour and 30 - Hour Construction Safety Training,
March 1994

Certified as Competent Person for OSHA Excavation Rule, Subpart P, October 1993

1992 Code Compliance, Construction, and Fire Safety Conference, Millersville

University, September 1992

Hazardous Waste Operations - 40 Hour training Per OSHA 1910.120, August 1992

Crane Management Awareness, February 1991

PennDOT Workshops on Construction Work Zones and Signing, August 1989

PROFESSIONAL MEMBERSHIPS

American Society of Civil Engineers
Construction Institute

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ATHLETIC EXPERIENCE

- Have performed over 4 forensic investigations of athletic facilities.
- Has designed recreational facilities including football fields, baseball fields, softball fields, general purpose play fields, tracks, and soccer fields.
- Has coached youth athletic teams including basketball, soccer, softball, and baseball.
- Has played football, basketball, and baseball at the secondary school level.
- Has organized and directed many athletic tournaments.
 - Has planned and maintained soccer field facilities for several years.

EXPERT NOT RETAINED

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CONCRETE EXPERIENCE

- Inspected reinforced concrete foundation for a 1.0 million gallon standpipe in Franklin, N.H.....checks slump, strength, and composition for compliance to specifications.
- Inspected reinforced concrete foundation for a 1.0 million gallon elevated water tank located in Quincy, MA.... responsible for cylinders, slump, strength, composition, and compliance with project specifications.
- Inspected 43,000 cubic yards of reinforced concrete for hydroelectric expansion. Responsible for inspectors actually monitoring the concrete pours. Inspectors responsible for proper mix number, slump, air, and strength. In addition, personally inspected the on site batch plant and the central mix trucks for compliance with applicable ACI standards. Worked closely with the design engineering staff to review any out of specification concrete and make recommendations about its acceptability. Placement methods included pumping, crane and bucket, and conveyor.
- Provided input, advice, and consultation to the Safe Harbor Water Power Corporation regarding cracking, placement techniques, and curing for concrete used in the dam restoration project.
- As VP of Engineering at High Concrete Structures, I was responsible for the design engineering review of out-of-specification concrete when it occurred in any one of the pieces poured on a given project. Was also responsible to insure research was conducted on the permeability of various concrete mixes as it applied to corrosion protection on precast parking structures and in comparison to cast-in-place concrete parking structures.
- Have participated in over 20 forensic investigations involving concrete.

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CONSTRUCTION EXPERIENCE

- Have investigated over 800 construction related cases.
- Construction personal injury cases have involved falls from unguarded or improperly guarded floor and roof holes and floor roof and working platform perimeters, crane and rigging incidents, trench collapses, structural failures of partially demolished building components, improper concrete placement procedures, improper use of construction equipment, falls involving ladders, scaffolds, and aerial lifts, and improper training
- Construction defect cases have involved design, control and workmanship issues on residential, commercial, industrial and institutional projects. Cases have involved framing, bracing, drywall, windows and doors, finishes, all types of facades, and roofing.
- Construction claim cases have involved determining the reasonableness of costs, work productivity, interference with other trades, and schedules.
- Experience has been gained through 10 years of consulting engineering dealing with construction from the designers perspective, 5 years of hands-on work on construction sites, 4 years as a supplier/erector of precast concrete products on all types of construction sites, 1 year for a residential contractor, and over 18 years investigating claims and incidents in the forensic field.
- Have conducted safety audits at construction job sites for compliance with site safety programs, OSHA and to train superintendents in their responsibilities for safety.
- Have conducted training sessions for contractor personnel for competent person training for excavations and for safe ladder and scaffold use, industry personnel in fall protection, and technical personnel for OSHA 10-Hour Construction safety.
- Have attended a number of seminars, code training sessions, and talks involving construction and construction-related issues.
- Have been qualified about 90 times as a civil engineer with special knowledge in construction and construction engineering.

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CONSTRUCTION CLAIM EXPERIENCE

- Have performed over 20 forensic investigations involving construction claims.
- As the second in command on a \$130 million hydroelectric plant expansion project, I worked closely with staff, design engineers, owners, and prime contractors to settle several million dollars worth of claims for extras, delays, and interferences.
- As a vice president of a precast concrete manufacturer and erector, I assisted in the settlement of numerous claims and counterclaims for extras, delays, and workmanship issues with owners, general contractors, and construction managers.
- As a consultant to a general contractor, I was able to assist the general contractor to successfully eliminate delay penalties imposed against him by an owner. The responsibility was correctly placed on the design engineer.
- Have successfully completed several forensic assignments for claim issues between owners and general contractors.
- Have construction experience as a design engineer, subcontractor, general contractor, and construction manager.

CRANE AND RIGGING EXPERIENCE

- Have worked over 40 crane and rigging related forensic investigations.
- Have worked with cranes of all sizes and types on construction sites throughout the northeast.
- As a contractor, I have ordered cranes both bare and operated through rental companies.
- Have prepared lifting plans for single and tandem picks using hydraulic and lattice boom cranes as well as overhead cranes.
- Have worked with all different trades lifting a variety of equipment, materials, and types of construction using a multitude of different rigging.
- Familiar with most types of rigging equipment.
- Have been qualified as an expert in crane and rigging cases.

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CONSTRUCTION EQUIPMENT EXPERIENCE

- Have performed over 100 forensic investigations involving the use of construction equipment exclusive of ladders and scaffolds.
- Have investigated over 25 cases involving cranes and crane usage. Investigations have included incidents of crane tip-over, lost loads, inadvertent crane movements, and qualification of crane operators.
- Have investigated over 20 cases involving concrete placement equipment including concrete mixer truck operation, inadvertent movements of concrete pump booms, failure of pump line joints, and operation of concrete saws.
- Have investigated over 15 cases involving aerial and scissor lifts. Issues have included equipment being moved into floor holes and causing tip over incidents, inadvertent movement of the platform/bucket causing crushing injuries to operators, and buckets coming into contact with nearby workers and property.
- Have investigated over 10 cases involving regular and rough terrain forklifts. Issues have included loads being lost, moving equipment contacting workers, equipment being driven into holes and over edges of platforms, and personnel falling from inadequate personnel platforms.
- Have investigated over 15 cases involving backhoes, excavators, pans, and vibratory compactors. Issues have included equipment tip over, buckets and loads striking workers and other equipment, and operator qualification.
- Have investigated over 15 cases involving skid steer loaders, hand trucks, hoists, jack hammers, power washers, torches, and welding equipment.
- Have been qualified over 15 times in four state and two federal jurisdictions.

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FALL PROTECTION EXPERIENCE

- Have participated in over 100 forensic investigation involving fall protection.
- Have been qualified as an expert in eight cases involving fall protection.
- As a superintendent for a general contractor, have had direct responsibility for providing fall protection to employees.
- Have overseen subcontractors to insure that fall protection measures were implemented.
- Have conducted safety audits where fall protection issues have been raised and resolved.
- Have completed Competent Person Training for Fall Protection.
- Have conducted Competent Person Training for Fall Protection.

FAILURE ANALYSIS EXPERIENCE

- Participated in over 90 cases for both defense and plaintiff.
- Cases involved complete structural collapses of buildings and a bridge; damage to various building components including roofs, foundation walls, foundation floors, and stairs; damage to swimming pools; failure of ladders, step ladders, and scaffolds.
- Damage analysis has been performed on completed structures and those in various stages of construction.
- Causes of failure have included excessive loading (snow and construction materials), excessive hydrostatic pressure, lack of proper temporary bracing, improper selection and use of materials, and defective design.

References used to establish standards of care included: BOCA, ANSI, and State Codes of PA, MD and NJ.

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PROPERTY DAMAGE AND WATER INTRUSION EXPERIENCE

- Have performed over 200 forensic investigations involving property damage involving houses, townhouses, hotels, commercial buildings, and other structures including bridges, retaining walls, silos, and swimming pools.
- Investigations have been performed to determine causation of damage from blasting, nearby construction activities, storms, improper installations, and other factors such as improper backfill under buildings.
- Have investigated all aspects of buildings, including foundations, framing walls, floors, roofs, decks, railings, balconies, overhead doors, and awnings.
- Have investigated over 50 cases specifically related to determination of foundation damage. Causes investigated include, improper backfill, excessive hydrostatic pressure, improper construction, and frost.
- Have investigated over 20 cases involving the total or partial collapse of residential, commercial and institutional buildings. Causation issues/determinations have included improper installation, lack of proper bracing, excessive snow loads, and wind loads.
- Have performed over 90 forensic investigations involving water intrusion issues for buildings. Causation determinations have included: hydrostatic pressure on foundations, improper protection on adjacent construction activities, improper installation of doors, windows, facades, and roofing.
- Have been qualified over 10 times in five state and two federal jurisdictions.

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SCAFFOLD EXPERIENCE

- Participated in over 70 cases.
- Cases involved falls from bakers scaffolds, window jack scaffolds, a runway/ramp scaffold, two-point suspension scaffolds, single point suspension scaffolds, masonry scaffolds, system scaffolds, and mast climbing towers.
- Have investigated collapses of several scaffold systems.
- Falls/damage have been caused by: improper construction of scaffolds, lack of suitable warnings, improper use of equipment for the application, and improper rigging.
- Scaffold experience has been gained through 5 years working on construction sites where inspection of equipment being used was a primary duty. I was heavily involved with all types with scaffolding used by our direct-hire personnel as well as our subcontractors.
- Conducted safety audits of job sites for contractors for compliance with OSHA and to help train supervisors of their scaffold safety responsibilities.
- Conducted a special training session for ladders and scaffolds for a general contractor.
- Recognized to conduct 10-hr. and 30-hr. OSHA Construction Safety Training, which includes scaffolds.
- Have been qualified at trial as an expert in seven scaffold cases.

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TRENCH COLLAPSE EXPERIENCE

- Participated in over 25 trench-related cases.
- Have been qualified as an expert in a trench collapse case.
- Cases have involved injuries and fatalities in trenches varying from 5 to over 20 feet deep.
- Perform consulting engineering services where I provided design of shoring systems for pump stations, excavations, and retaining walls.
- Conduct safety audits for contractors engaged in the installation of utilities and performing deep excavations.
- Have designed utilities, inspected the installation of utilities as an Owner's representative, and supervised the construction work of utility installation.
- Certified as Competent Person for OSHA Excavation Rule, Subpart P.
- Have provided training to contractors' personnel to certify them as competent as defined by OSHA requirements.
- References used to establish standards of care included: OSHA, Associated General Contractors Safety Rules, and the State Labor Laws of PA, MD, and NJ.

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LADDER EXPERIENCE

- Participated in over 125 cases.
- Investigated falls from extension ladders, stepladders, metal disappearing stairways (attic ladder), fixed ladders, job-built ladders, adjusters ladders, ships ladders, step stools, articulating ladders, and library ladders.
- Falls have been caused by: improper construction, use of materials that were clearly out of specification, inadequate design, lack of suitable warnings, and improper use.
- Ladder experience has been gained through 5 years working on construction sites where inspection of equipment being used was a responsibility. All types of ladders in all types of environments were evaluated.
- Conducted safety audits at construction job sites for compliance with OSHA and ANSI.
- Conducted a special training session for a general contractor on ladders and scaffolds.
- Have been qualified over 15 times in cases involving ladders, in six states and two federal jurisdictions.

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