



R. E. (Ron) Harder, P. Eng.

EDUCATION

B. Sc. Eng. (Civil), University of Calgary 1975
- structural engineering
- included courses in materials, surveying, terrain analysis and transportation

PROFESSIONAL EXPERIENCE

SAMAC ENGINEERING LTD 1997 to date

Associate of consulting firm specializing in failure analysis/forensic engineering. Responsible for civil engineering portion of practice including structural and foundation failure analyses, fire damage assessments and rebuilding cost control.

R.E. Harder Consulting Engineers Ltd. 1979 to date

President of consulting firm specializing in structural engineering. Specialties include:

- timber, masonry, steel and concrete building design
- concrete, gabion and timber earth retaining structures
- underpinning and foundations shoring
- oil and gas production facilities foundations and related structures
- fabrication plants and overhead cranes
- foundation design in active permafrost
- commercial and residential log buildings
- evaluation and repair of foundation and slab settlement
- bridges
- technical investigation of structural failures
- structural assessment of fire damage and specifications for repairs

Selected design projects include:

- Winnipeg Free Press Building (design team), Toronto, 1989
- Fort Simpson Arena Complex, Fort Simpson, NWT, 1988
- Sharp Electronics Distribution Centre, Toronto, 1988
- Dome Petroleum Office Building and Fabrication Plant, Empress, 1981

C.H. CAMPBELL CONSULTING ENGINEERS LTD. 1977-1979

Chief Structural Engineer

In charge of three structural engineers, three draftsman and support staff.

- Design of timber and concrete bridges
- Design of post-tensioned and reinforced concrete buildings
- Composite design of steel-concrete structural components

CROSIER, KILGOUR AND PARTNERS – CALGARY

1977

Structural Engineer

- Design team for Calgary Stock Exchange, tower and foundation design
- Design of commercial and industrial buildings
- tilt-up concrete wall design – warehousing

CROSIER, KILGOUR AND PARTNERS – WINNIPEG

1976

Structural Engineer

Consulting firm specializing in large building projects.

- Design team for Seven Oaks Hospital and commercial buildings
- Canada Packers restoration study for severely deteriorated multi-story concrete freezer plant
- deep foundation design using precast concrete piling

TECHNICAL TRAINING

- *Seminar on Effective Moisture Control for Light Frame Walls of Low Rise Buildings*, 6 hours, National Research Council Canada, 2003
- *Course on Designing with Wood*, 30 hours, Canadian Wood Council
- *Course on Code Changes and the Latest Design Tools for Wood Construction*, 1 hrs, Canadian Wood Council, 2000
- *Course on Engineered Wood Systems*, 1 hrs, Canadian Wood Council, 2000
- *Design for Punching Shear in Structural Concrete*, 1 day, University of Calgary, 2000
- *Symposium on High Performance Concrete*, 1 day, University of Calgary, 2000
- *Seminar on Strut-and-Tie Models for the Design and Detailing of Structural Concrete*, 6 hours, University of Calgary, 1998
- *Design in Cold Formed Structural Steel*, 1 day, Canadian Society for Civil Engineering/Canadian Sheet Steel Building Institute, Calgary, 1997
- *Concrete Repair and Protection*, 1 day, Mapei Inc. Canada, Calgary, 1995
- *PCA-FRAME: A General Purpose Structural Analysis Program for Two-Dimensional and Three-Dimensional Structures Subjected to Static Loads*, 1 day, Canadian Portland Cement Association, Calgary, 1995
- *WoodWorks: A Structural Analysis Program for the Design of Wood*, 1 day, Canadian Wood Council, Calgary, 1994
- *Differential Movement in Cavity Walls and Veneer Walls Due to Material and Environmental Effects*, 1 day, Prairie Masonry Research Institute, Calgary 1992
- *Precast Concrete*, 1 day, Con-Force, Calgary, 1990

- *Design of Fire Resistant Structures*, 1 day, Canadian Portland Cement Association, Calgary, 1977
- *Post graduate course in reinforced concrete design*, University of Calgary, 1976
- *Post graduate course in masonry design*, University of Calgary, 1978

SELECTED OTHER TRAINING

- *Primus Consulting-Test Hole Log Training* (geotechnical)
- CSCE/CSSBI Design in Cold Formed Steel;
- *Lightweight Steel Framing Systems*
- *Primus Consulting-Amber Battery Soil Testing Training*
- Strut and Tie Seminar U of C (concrete)
- *Symposium on High Performance Concrete* - University of Calgary
- Commercial Union Building & Structure Fire Losses Policy Information Sessions
- *Punching Shear Seminar* (Concrete slabs)
- Canadian Wood Council Conference
- *Code Changes & Engineered Wood Systems*- Carlton University & Canadian Wood Council "Designing with Wood" course
- *NRC Building Envelope Seminar*
- EPIC Seismic Design & Retrofit of Reinforced Concrete Structures 2 day seminar
- *Product Seminar* – Weyerhaeuser/Trusjoist (wood)
- CISC Presentation S16.01
- *Standard NBC 4-5-6 Code Seminar*
- HAZMAT Code Research for City of Calgary Warehouse
- *CISC Course-Steel Framed Commercial Building Design*
- *CISC Course-Seismic Design of Steel Framed Buildings*
- Research Helical Spoilers (Vortex Shredders)
- Research Shear Deflection of Cantilevered Wood Diaphragms
- *CPCI Design Manual 4 Seminar* Alberta Building Code 2006 Review
- *EDSAP Bridge Modeling Seminar*
- Study Simpson Tie-down System Multi-Story
- *ADAPT online tutorials parts 1, 2 & 3* (post-tensioned concrete)
- *CSI SAP* (structural analysis program) Computers and Structures Inc.
- *Architectural Drafting*, 10 Months, Manitoba Institute of Technology, Winnipeg, 1969