

Mohammad Z. Afifi, P. Eng.

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Summary

- Vast experience in structural design; from the initial conceptual stage and feasibility study through to the detailed final design of several structures such as bridges, industrial, commercial, and residential buildings.
- Ability to initiative and judgment in resolving engineering problems, obtaining and analyzing data, designing or modifying structures and in determining the intent of a specification or instruction.
- Ability to mentor, develop, inspire and lead people to achieve the objectives set by the organization.
- Well familiar with North American standards, codes and relevant design guidelines (ACI 318, ACI 440, AASHTO, CSA S806, CSA S6, CSA A23.3, CSA S807, NBC).
- Excellent working knowledge of drafting and structural design software (e.g. SAP, SAFE, ETABS, Revit, MicroStation, and AutoCAD 2D and 3D). In addition to MS-Office.
- Excellent communication/inter personal skills to interact with individuals at all levels, diagrammatically, verbally and in written form.
- Languages: English and French (intermediate).

Professional Experience

Structural Engineer, Pultrall Inc. Thetford Mines, QC, Canada | August 2015 – November 2017

Major duties and responsibilities performed:

- Prepare standard engineering computations and designs for concrete structural elements using fiber-reinforced bars (FRP), e.g. bridge deck slabs and poles.
- Participate to quotes, proposals and construction cost estimates preparation.
- Prepare proposal studies, designs, drawings, quantity estimates, plans, technical specifications, and construction estimation of structure projects.
- Provide assistance to the branch manager as required for business planning, sales and marketing.
- Provide technical assistance to members of a multi-disciplined design team.

Some of involved projects:

- Underground electrical chambers, Manitoba, Canada.
- Deck slab of highway Queensway bridge, Toronto, Canada.
- HAS-799-(03.90) (04.52) deck slab bridge, Nottingham township, Harrison country, Ohio, USA.
- Box culvert, Charlotte city, North Carolina, USA.
- Deck slab of highway 407 east phase 2 (highway 407 and 418 (east Durham link).
- Reinforced concrete building, Gairec company, Mexico.
- Precast pedestrian bridge, city of Greater Geelong, Australia.
- Deck slabs of the Peace Bridge, Buffalo, New York joining USA and Canada.
- Several boats ramp, precast slabs panels, concrete poles, two-way slabs parking garages, etc.
- Soft eye piles.

R&D Engineer, Université de Sherbrooke Sherbrooke, QC, Canada | August 2015 – July 2017

- Prepared proposals and present projects to the public in an effective and efficient manner.
- Brainstorm new design ideas to solve engineering and manufacturing problems.
- Generated structural analysis reports for new designs or design modifications.
- Initiative, innovation and commitment to technical excellence and continuous learning and improvement.
- Managed technical staff participating on projects.
- Participated in design meetings and suggest improvements to design engineering practices.
- Contribution to the career development of more junior staff, including technical direction, training recommendations, coaching and mentoring.

Structural Engineer, Urban Development Centre Cairo, Egypt | January 2011 – present

- Independently analyze and design various structural components of small-scale through to large-scale heavy civil infrastructures and superstructures projects such as bridges, industrial, institutional, commercial and residential concrete structures, etc.

- Approve design calculations and drawings and ensure all projects meet guidelines and specifications of building codes and other regulations.
- Coordinate with junior engineers, professionals, technicians, and project managers and various disciplines engineers and ensure consistency in execution of civil design activities to complete project work on time, on budget, and within the quality standards.
- Determine construction costs and quantities in accordance with standard methods and established drawings and specifications.
- Liaise with clients, consultant government, regulatory authorities, contractors, team staff, management, and utilities to address their needs/comments, and guide a project through approvals processes.

Some of involved projects:

- Commercial center includes shops, restaurants, medical center, cinemas and garage, Cairo, Egypt.
- Design several reinforced concrete bridges, Egypt.
- Contribute in work shop drawing of El-Fahahil prestressed bridge, Kuwait.
- Contribute in design of deep foundation of special court, Gezan, KSA.
- Design Islamic youth center, Doha, Qatar.

R&D Engineer and Ph.D. Candidate Sherbrooke, QC, Canada | January 2011 – June 2014

- Created finite element models for use in stress analysis.
- Designed and conduct the experimental tests as required by the research program and study.
- Detail engineering design/analysis for concrete structural including static and dynamic loads in addition to seismic loads for high-rise buildings.
- Participated in proposal meetings to discuss new opportunities and status of assigned proposals.
- Performed technical studies or write technical engineering reports and articles.
- Resolved technical problems needing research and in-depth analysis.

Civil Engineer, Studies and Consultancy Office Cairo, Egypt | July 2004 – December 2010

- Carry out preliminary structural design option analysis and selection.
- Carry out site visits to gather information, carry out construction site reviews and attend project design and construction meetings.
- Establish and maintain contacts with clients to define needs, to present information technology, concepts or study results.
- Prepare conceptual and design calculations, layouts, sketches and specifications technical specifications and approvals for reinforced concrete and steel structures.
- Review of shop drawings;
- Work with engineers and other structural designers on small to large size projects in single discipline or multi-discipline environment.

Some of involved projects:

- Design several reinforced concrete bridges, Egypt.
- Design of lifting precast slab in La Cigale hotel – Qatar.
- Design several residential buildings in Cairo, Egypt.
- Design several reinforced concrete liquid tanks in Cairo, Egypt.
- Design several multi-story residential towers in Cairo, Egypt.

Education Qualification

Ph.D. in Civil Engineering, <i>Université de Sherbrooke, Canada</i>	2013
M.Sc. in Civil Engineering, <i>Egypt</i>	2009
B.Sc. in Civil Engineering, <i>Egypt</i>	2004

Professional Memberships

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- Professional engineers of Ontario (PEO), Canada.
 - The Canadian Society of Civil Engineering (CSCE).
 - The American Society of Civil Engineers (ASCE).
 - The American Concrete Institute (ACI).
 - The Egyptian Engineers Syndicate, Egypt.