Alex Barnes

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Education:

Masters of Applied Science in Earthquake Engineering, In Progress
University of British Columbia, Vancouver, B.C. Canada
Overall Standing: 80% (Canadian); GPA: 3.3 (USA)

Bachelor of Sciences in Architectural Engineering, 2009
California Polytechnic State University, San Luis Obispo, CA USA
Cumulative GPA: 3.3; **Major GPA: 3.47**

Research:

Supervisor: Dr. Kenneth Elwood – Associate Professor
University of British Columbia – Vancouver, B.C. Canada *April 2011 – Present*

- Using a performance-based earthquake engineering approach
- Analyzing existing reinforced concrete frame structures (non-ductile)
- Performing incremental dynamic analysis with OpenSees to assess probability of collapse
- Reviewing the effects of torsion on the probability of collapse of reinforced concrete structures

Structural Engineering Experience:

Entry Level Engineer
Hinman Consulting Engineers, Inc – San Francisco, CA *March 2010 – July 2010*

- Performed blast – mitigation and non-structural seismic design
- Assessed perimeter security and structural damage vulnerabilities
- Produced extensive reports for clients
- Reviewed construction drawings and calculation submittals

Structural Engineering Co-op
General Services Administration- Design and Construction Division - San Francisco, CA *Summer 2009*

- Surveyed progressive collapse, seismic retrofit and blast design research
- Reviewed construction drawings and calculation submittals
- Collaborated with the entire design team, through meetings, site visits and conference calls

Senior Project:
California Polytechnic State University – San Luis Obispo *Fall 2008 – Spring 2009*

- Worked with a self directed team of five students resolving problems through ingenuity and hard work
- Constructed a two story structure made of 8 foot hollow tube steel sections and metal deck diaphragms with moment frames, diagonal braces, shear walls (metal deck) and tie rods used for lateral force resisting elements
- Retrofitted existing pier foundations
- Performed excitation tests on actual structure using linear mass shaker in order to obtain actual deformations and compare with theoretical deformations from computer modeling (ETABS/RISA)
- Interacted with industry to acquire 18,000 dollars in donations
- Awarded 1,000 dollar scholarship for best advance in the state of the art of structural engineering

Involvement and Honors:

Engineer-in-Training Certified: # 134089
Earthquake Engineering Research Institute (EERI) - UBC Student Chapter *Fall 2010 – Present*
College Based Fee Student Committee President
Department of Architectural Engineering – San Luis Obispo *Fall 2006- Spring 2009*

- Responsible for a 220,000 dollar budget
- Advised student committee and delegated projects
- Improved the quality of education in the architectural engineering department
- Managed and evaluated department tutors

Member of:
Structural Engineers Association of British Columbia (SEABC), American Concrete Institute (ACI), the Institution of Structural Engineers

Design and Analysis Software Experience:

AutoCAD, Autodesk Revit Structure, RISA- 3D, ETABS, SAP2000, OpenSees, MATLAB, Mathcad, Oasys GSA, EZ – FRISK, Proshake, Response2000

*References available on request