

## Resume

**Timothy B. Sisson**

**Design Safety and Security Engineer**

### Background

Timothy Sisson has over 3 years of experience in the field of structural engineering with a focus on blast resistant design and analysis of buildings for industrial and government clients. At The George Washington University, Mr. Sisson completed his Bachelor of Science and Master of Science in Civil Engineering, which focused on the theoretical evaluation of steel and reinforced concrete lateral force resisting frames under conventional loading and earthquake excitation. This included creating finite element analysis programs to analyze multi-story, multi-bay frames under static and dynamic loading.

He has conducted both conceptual and detailed design/analysis of building components utilizing linear and non-linear structural dynamics and finite element methods. Past projects include both new and retrofit blast designs for chemical processing plant buildings, U.S. Department of State buildings, U.S. Department of Defense buildings, and Canadian Department of National Defense buildings.

### Representative Work Experience

Mr. Sisson has participated in over 30 projects relating to blast resistant design and analysis for industrial and government facilities. Representative efforts include:

- **Blast Resistant Retrofit Design of a Laboratory Building:** Worked as part of a team to analyze and design retrofits for an existing pre-engineered metal building (PEMB) located at a chemical processing facility in Louisiana following the ASCE guideline *Design of Blast-Resistant Buildings in Petrochemical Facilities*. Coordinated with CAD group and construction contractor to develop For Construction structural drawings.
- **Blast Resistant Design of a Federal Storage Warehouse:** Performed the blast analysis of wall and roof components for a new U.S. Department of State (DoS) warehouse located Northern Virginia in order to conform with Interagency Security Committee (ISC) criteria. Developed generalized SDOF component models for tilt-up panels with multiple window and door openings using commercially available finite element analysis software. Analyzed and developed upgrades for roof and wall component connections in order to resist blast reaction loads.
- **Conceptual Blast Resistant Retrofit Design of a Historic Structure:** Worked as part of a design team to develop conceptual level blast resistant and seismic retrofits for an existing Canadian Government Building originally constructed in the mid-to-late 19<sup>th</sup> century. Worked with an university research team in order to develop SDOF models for the historic stone masonry wall construction. Presented conceptual level in a summary report.

### **Technical Committees and Professional Affiliations**

American Society of Civil Engineers, USA, Member #488470

### **Education**

The George Washington University, School of Engineering and Applied Science, Washington, DC

Master of Science, Civil Engineering (2010)

Bachelor of Science, Civil Engineering (2009)

### **Registrations**

Engineer-In-Training, Maryland (2010)

### **Brief Employment History**

*Blast Consultant/Engineer*, Stone Security Engineering, PC - present

*Project Engineer/Consultant*, Baker Engineering and Risk Consultants, Inc., San Antonio, TX and Washington, DC (2011 - 2014)