TODAY’S STRUCTURAL ENGINEER AS THE CLASSIC MASTER BUILDER

Abstract: The practice of structural engineering today demands great breadth of knowledge and experience from its practitioners. It is daunting enough to keep abreast of technical engineering mechanics and dynamics including finite element analysis, non-linear pushover studies, and time-history ground motions. It is demanding enough to know how to design and detail conventional structural systems while staying up to date on the research, development and design of high performance systems such as base isolation, passive dampers, unbonded braces and other hybrids and synthetic composites. But all of this is just enough to get you started.

The practicing structural engineer today must have a broad understanding of not just structural engineering, but must be knowledgeable about architecture, M/E/P systems, construction delivery methodologies, and the construction process. All projects come with their own litany of challenges and constraints, and the structural engineer is one of the key players in achieving the optimal solution. The project’s budget, the selected performance and design criteria, the architectural form, and the operating systems all affect the selection of the appropriate structural materials and lateral force resisting system. Then the analysis must get translated into a design, and the design must clearly and carefully be delineated into construction documents including plans, details, sections and technical specifications, with appropriate attention to sequencing, phasing and constructibility. All of this, as one insurance carrier states, while “untangling the web of professional liability.”

This all gives rise to the notion of today’s structural engineer as a “Master Builder”, one who can articulate their way through a complex labyrinth of form finding, criteria setting, risk evaluation, design and documentation, and construction (and hopefully not litigation). Recent Forell/Elsesser Engineers Inc. projects will be used to explore these issues including San Francisco City Hall, Haas Pavilion, SF’s State Office Building, Asian Art Museum, a private residence, a large sculpture and several more.

Short Biography: David Friedman is President of Forell/Elsesser Engineers and is a licensed structural and civil engineer in California, Nevada and British Columbia. He has over 28 years of structural engineering experience, and has served as Project Principal on a variety of new design and retrofit projects including community and civic facilities, university complexes, research laboratories and transportation facilities. His experience includes numerous seismic rehabilitation and evaluation projects such as the San Francisco City Hall seismic upgrade and seismic isolation project, as well as several landmark buildings including the Asian Art Museum, and more than $250 million in new construction projects at the San Francisco International Airport.

DATE: MONDAY, FEBRUARY 23rd, 2004
TIME: 3:30 – 5:00 PM (EST)
LOCATION: 140 KETTER HALL, NORTH CAMPUS, UB

FACULTY, STUDENTS & ALL OTHERS ARE INVITED TO ATTEND. Mr. Friedman’s presentation will be followed by a free discussion session from 5:00 to 6:00 pm providing a unique opportunity for students to ask question and participated in an open discussion. For further information please see the UB-EERI webpage: http://civil.eng.buffalo.edu/UBEERI/

Refreshments will be served