CSI PRODUCTS FAIR

WEDNESDAY MARCH 22, 2017

FOUNDERS HALL | CHARLES TOWNE LANDING
1500 OLDE TOWNE ROAD, CHARLESTON, SC

SEMINAR: 12:00 to 4:30 PM
MID-RISE WOOD CONSTRUCTION
$45 per attendee
4 LEARNING UNITS HSW
More Info and Registration:
http://seminarcsiproductsfair2017.brownpapertickets.com

BEC Building Enclosure Council
CHARLESTON

CSI CHARLESTON CHAPTER

EXHIBIT: 4:30-7:30 PM
FREE ADMISSION
for Architects, Engineers, Contractors, Interior Designers
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Mid-Rise Wood Construction

Worldwide, there's a trend toward the construction of taller wood buildings including the four / five-story wood buildings now common throughout the United States. This growth of timber building is pushing the code allowable height limitations. Advances in engineering, like cross-laminated timber (CLT), is making large wooden skyscrapers possible.

This trend is being driven to a large degree by cost, with a cost saving usually in the range of 15% - 20%. Plus, wood construction is fast, and wood's relative light weight reduces demand on the foundation design. Wood buildings are safe. Wood buildings are versatile and adaptable. Innovative technologies continue to expand the possibilities for taller walls, longer spans and higher wood buildings. It's renewable and sustainable, contributes to a building's energy efficiency, and can be used as a low-carbon alternative to steel, concrete and masonry in many mid-rise applications.

The growing demand for wood construction mid-rise buildings, including apartments and condominiums, senior living, affordable, and mixed-use commercial/residential developments, creates both challenge and opportunity for building professionals as they work to balance value with performance. Wood-frame construction is a cost-effective option for mid-rise structures because it allows high density at relatively low cost, while providing other benefits such as construction speed, structural performance, design versatility and a sustainable, low-carbon footprint.

It is noted that building codes require all building systems to perform to the same level of safety, regardless of material used, and wood meets code for a range of mid-rise building types. Wood-frame buildings are also lighter and have more repetition and ductility than other structures, which means they perform well during earthquakes and high wind events.

More than with other types of construction, the structural detailing of mid-rise wood buildings plays a large role in the ability to manage investment costs per unit and maximize the lot configuration. Several common structural design challenges are also under consideration, including those related to fire safety, shrinkage and constructability.

Objective 1: Attendees will be able to understand the methods specified by the International Building Code for establishing the fire resistance of wood assemblies applying the special provisions for the design of wood structures involving, fire rating, compartmentalization and sprinkler systems.

Presenter: Darbis Briggman, Building Official City of North Charleston

Objective 2: Attendees will better understand specific requirements related to the details and installation of hardware that help meet current code in our high wind and seismic zones. Sophisticated engineered connections now replace once large, complicated, and intrusive details that are hard to construct and even harder to understand in terms of load paths. Pre-fabricated connections with tested performance values help the entire design team, contractor, and inspection personnel readily understand and verify code compliance.

Presenter: Doug Allen, P.E. - Simpson Strong Tie: Design Solutions for Wood-Frame Multi-Story Buildings – Resisting Uplift and Lateral Forces (white paper)

Objective 3: Attendees will be introduced to an interactive, user friendly performance based design software that is utilized during the design process as a tool to model the structural system of the building. The ability to understand the building as a complete structural system helps to alleviate unintended conflicts with other disciplines and simplifies the complicated performance loads imposed on wood framed structures in our high wind and seismic zones.

Presenter: Doug Allen, P.E. - Simpson Strong Tie, Branch Engineer, Southeast US

Objective 4: Attendees will understand the application of best practices for using current technology and the Building Information Modeling with structural domain information, including the utilization of the Revit Structure model exchanges with tools in Autodesk® Building Design Suite and third party applications including materials selection and detailing.

Presenter: Michael "Zee" Zeeveld, Assoc. AIA, ACi, PMI Allied Software, Senior Project Manager