



## 2017 Ottawa Wood Conference Presentation Abstracts

### **Overview of Changes to CSA O86-14- Update No.1: Cross Laminated Timber Provisions**

**Jasmine B. Wang, Ph.D., P.Eng.**, Manager Codes & Standards - Structural Engineering, Canadian Wood Council

The Update No.1 to the 2014 edition of CSA O86 Standard Engineering Design in Wood was published in July 2016. The presentation gives an overview of the design provisions for Cross Laminated Timber (CLT) adopted in this Standard, covering the design of CLT in compression and out-of-plane bending applications, CLT as Lateral Load Resisting System, and connections in CLT and serviceability requirements.

### **A free tool to help comply with the 2017 prescriptive wall provisions of OBC's SB-12**

**Robert J. Jonkman, P.Eng.** - Director Codes and Standards - Structural Engineering, Canadian Wood Council



In January 2017, Ontario's "Energy Efficiency for Housing" supplementary standard, SB-12, changed. While these prescriptive requirements generally increase the thermal insulation needed in wall assemblies and reduce the compliance package options, SB-12 also provides more flexibility by permitting effective insulation alternatives to the nominal insulation provisions. For example, in lieu of a wall with R19 nominal cavity insulation plus R5 exterior continuous insulation, any insulated wall with an effective R-value of 21.12 is permitted. The effective R-value considers all the wall assembly components, including the amount of studs combined with cavity insulation, wall sheathing, air spaces, siding. **The trouble is, calculations are involved. The solution is a free online tool that calculates effective R-values for you.**

The Canadian Wood Council's (CWC) interactive Wall Thermal Design (WTD) calculator is a free tool to help designers comply to the new energy requirements. The calculator enables designers to explore options, compare features, and determine a suitable wall assembly that can perform across a range of Canadian climates. This free online tool ([www.cwc.ca/wtd](http://www.cwc.ca/wtd)) provides effective R-values for wall assemblies and includes a durability assessment that considers computer modeling and field experience.

### **Cross Laminated Structural Timber in Use – CLT buildings 5 years on, how are they performing?**

**Sophie A Campbell RIBA, BA Arch, Dip Arch**, Group Director and Associate Partner at Sheppard Robson Architects, London, England



Sheppard Robson has been building with CLT for over 5 years. This talk challenges why CLT was used on these projects and whether its use was appropriate and justified. Four UK completed exemplar Schools and Higher Education projects which were constructed entirely from CLT will be revisited in this discussion. Talking candidly about the operational performance of this modern construction method and the success of its deployment on built projects.

### **Sound Insulation of Wood-Frame Multi-Storey Buildings**

**Cristian Wallace**, Business Development & Specification, AcoustiTECH

This presentation outlines basic acoustic principles and definitions, specifically the transfer of impact and airborne sounds in wood-frame buildings. Efficient means of acoustic insulation will be discussed using multiple case studies of recent floor-ceiling assemblies.

This presentation will benefit any professional such as architects, designers, acoustic engineers, builders, general contractors interested and/or concerned with acoustic insulation of wood-frame buildings.

## **Brock Commons Tallwood House: Mass Wood for the Masses**

**Russell Acton**, ARCHITECT AIBC AAA SAA OAA FRAIC, Principal. Acton Ostry Architects

When completed in Spring 2017, the 18 storey *Brock Commons Tallwood House* at the *University of British Columbia* will be the tallest contemporary mass wood building in the world. Utilizing a highly collaborative integrated design process, this first of its kind project quickly advanced from concept to construction in just ten months time. To gain approval from authorities without the need to test new mass wood assemblies, the project team employed a strategic “Keep it Simple” design approach that featured encapsulation of the mass timber structure to achieve required fire protection ratings and which also assisted with schedule and cost control. Learn how *Brock Commons Tallwood House* aspires to be a model for a future that features extraordinarily ordinary mass wood buildings.

## **Building Enclosure Design and Best Practices for Mid-Rise Buildings**

**Jamie McKay**, Principal Building Sustainability & Envelope Commissioning Specialist - Morrison Hershfield

This presentation focuses on the design of high-performance mid-rise, wood-framed buildings in Canada. The presenter will focus on best practices for improving air leakage, moisture control, thermal bridging and energy efficiency (Code to Passive House), and discuss newer guidelines, building materials and components introduced to assist designers achieve higher performance.

## **Climate Change and Carbon Benefits**

**Adam Roberston**, MASC, P.Eng. – Manager, Codes and Standards – Structural Engineering & Sustainability

The evolution and linkages between contemporary climate change mitigation strategies at the global, national, provincial and municipal levels will be discussed. The carbon benefits of using wood products will be explored, including, forests as carbon sinks, wood building products as long-term carbon storage devices and emissions reductions through product substitution. Design considerations and decision-making related to both embodied and operational GHG emissions is becoming an increasingly more important requirement in the building sector. Free tools and resources to help understand and quantify GHG reductions in the built environment will be showcased.