



Thunder Bay Wood Design Workshop

Innovative Applications, Structural Solutions, and Design Advantages of Wood Systems

Wednesday, October 4, 2023 (8:30 am – 4:00 pm)

Valhalla Hotel and Conference Centre - 1 Valhalla Inn Rd, Thunder Bay, ON P7E 6J1

Join us at the Thunder Bay Wood Design Workshop for a deep dive into the world of innovative wood applications and structural solutions. Explore the considerable advantages that wood systems offer, as industry experts share their insights, strategies, and case studies. Discover how wood is revolutionizing the way we approach construction for buildings of every size and type.

AGENDA:

08:30 Coffee & Registration (.5 hr)

09:00 Welcome, Introduction, Industry Overview (.25 hr)
Steven Street, Executive Director, Ontario Wood *WORKS!*

09:15 Sustainable Wood Building Solutions – Going Beyond Timber (.25 hr)
Chris Walton, CEO, Centre for Research & Innovation in the Bio-Economy (CRIBE)

09:30 Harvesting Innovation: Advancing Sustainable Mass Timber Solutions through R&D and Industry Integration (1.25 hr)
Veronica Madonna, Director & Principal, Studio VMA

10:45 Break (.25 hr)

11:00 Mass Timber Designs for Rapid Housing Projects (1.25 hr)
Matt Bolen, Principal, Architect, EDGE Architects

12:15 Lunch (.75 hr)

13:00 Material and System Solutions for Low-Rise, Mid-Rise, and Tall Wood Buildings, Part 1 (1.25 hr)
Paul Paquet, Associate, Aspect Structural Engineers &
Jamie Connolly, Project Engineer, Aspect Structural Engineers

14:15 Break (.25 hr)

14:30 Material and System Solutions for Low-Rise, Mid-Rise, and Tall Wood Buildings, Part 2 (1.25 hr)
Paul Paquet, Associate, Aspect Structural Engineers
Jamie Connolly, Project Engineer, Aspect Structural Engineers

15:45 Closing Remarks

Harvesting Innovation: Advancing Sustainable Mass Timber Solutions through R&D and Industry Integration

Abstract: This presentation will discuss off-site prefabrication, looking at a modular approach to housing supply for mining camps, and a feasibility study for mass timber schools recently completed for the Toronto District School Board. Using these two different projects, the presenter will discuss the impact of research and development (R&D) on enhanced sustainability and mass timber innovation. The presenter will also discuss the approach, design strategy, carbon and health benefits, and other outcomes for these projects.

Veronica Madonna, OAA, MAA, FRAIC, M.Arch, B.E.D.S., B.Arch.Sc., Director & Principal, Studio VMA

Bio: Veronica is an award-winning Canadian Architect with nearly 20 years of experience working with leading architectural firms. She is licensed with the Ontario Association of Architects and, in 2020, was honoured as a Fellow of the Royal Architectural Institute of Canada, acknowledged for her outstanding contributions to the architectural profession.

Veronica obtained a Master of Architecture from Dalhousie University after receiving both a Bachelor of Environmental Design and Bachelor of Architectural Science. Upon graduation, she returned to Toronto and worked on a variety of projects ranging in complexity. Her experiences include large-scale developments to small rural buildings. Knowledgeable in both new construction and adaptive reuse of existing buildings, she is involved in all stages of a project - from programming and feasibility through to design development, construction documents and contract administration. Her work has been published in various journals and has won multiple awards, both locally and internationally.

Mass Timber Designs for Rapid Housing Projects

Abstract: In 2021, YW of Kitchener-Waterloo (YWKW) obtained funding from the federal Rapid Housing Initiative (RHI) to construct supportive housing for homeless women in the community. The 41 compact yet accessible 1-bedroom transitional housing units on a narrow parcel of surplus land were designed, constructed, and occupied within 1-year of contract award.

The optimized mass timber design resulted in time and cost savings during construction. These savings helped meet the financial constraints of project while maximizing the climate action response through mass timber's reduced carbon footprint. Exposed mass timber elements also impart a sense of warmth and well-being rarely seen in austere supportive/affordable housing projects.

This presentation shares best practices and lessons learned from this and other recently completed projects along with several other similar projects in various stages of design and construction.

Matt Bolen, BAS, M.Arch, OAA, CPHD, Principal, Architect, EDGE Architects

Bio: Matt Bolen is a Principal at Edge Architects in Waterloo, Ontario. In addition to providing professional consulting services, the firm has been involved in several innovative research/development initiatives.

Matt's area of expertise is multi-res building design ranging from mid-rise supportive housing to high-rise market rate. His professional interests include mass timber, modular/ prefabrication, and high-performance design.

Matt is a licenced Architect with the OAA and a certified Passive House Designer. He is a graduate of the University of Waterloo School of Architecture program & has worked as an adjunct professor at the school since completing his master's degree in 2009.

Material and System Solutions for Low-Rise, Mid-Rise, and Tall Wood Buildings

Abstract: The purpose of this presentation is to provide an overview of wood construction in Canada and discuss the three main typologies: Low-Rise, Mid-Rise, and Tall-Wood Buildings. The presentation will touch on the different types of wood products applicable to these typologies. It will also address codes and fire safety, highlighting economic and environmental benefits, and exploring design strategies for efficiency and procurement in each typology while underscoring wood's versatility and sustainability in modern architecture.

Paul Paquet, P.Eng., M.A.Sc., Associate, Aspect Structural Engineers

Bio: Paul has extensive experience across North America, Asia, and Europe, in a variety of sectors including multi-family residential, education, transportation, infrastructure, cultural and sport facilities. He strives to create avenues that promote innovation, and through his leadership role he drives streamlined communications between disciplines, ensuring a cohesive approach. He has a passion for sophisticated methods of working, and with advanced skills gained in parametric design and the implementation of digital workflows on a range of iconic and award-winning projects, he delivers high quality, tailored design solutions that add value to projects and communities. He values positive and transparent communication with clients and project teams in order to achieve strong relationships and design excellence. Paul is recognized as a key player in shaping the businesses he has been a part of.

Paul obtained both his Bachelor's of Science in Civil Engineering and Master's of Applied Science, Structural Engineering from the University of Waterloo

Jamie Connolly, M.Eng., EIT, Project Engineer, Aspect Structural Engineers

Bio: Having grown up in the woods of Quebec, Jamie's passion lies in consideration of natural materials while minimizing environmental impact. While he is experienced in all materials, he is continuing to expand his skillset in timber design, and is focused on maximizing pre-fabrication for simple installation, enabling fast and easy on-site construction. Jamie has worked on a variety of timber projects ranging from custom homes to large architecturally expressive structures.

Jamie obtained his Bachelor's in Civil Engineering from Concordia University, and his Master's of Engineering in Integrated Wood Design from the University of Northern British Columbia.

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