

Meeting Notes

Building Research Council (BRC)

Tuesday April 9, 2019, 8:30 a.m. to 12:00 p.m.

The Italian Cultural Centre Society

3075 Slocan Street

Vancouver, BC

In Attendance:

Denisa Ionescu, BC Housing (Chair)
Albert Lam, Brantwood Consulting
Antje Wahl, Forestry Innovation Investment
Bill MacKinnon, BC Housing
Fitsum Tariku, BCIT
Jieying Wang, FPIInnovations
Karen Williams, BC Housing
Les Yard, Soprema
Lorne Ricketts, RDH
Omid Tamanna, BCIT
Patrick Shek, BOABC
Remi Charron, BC Housing

Richard Kadulski, Richard Kadulski Architect
Rodrigo Mora, BCIT
Sabina Foofat, City of Vancouver
Terry Rudolph, Cascadia Inspection
Hamid Ghanbari, EduBuild Solutions
Christopher Duffin, SFU
Vicky Zhou, University of Victoria
Adrian Mohareb, BSSB
Helen Goodland, Brantwood Consulting
Cindy Moran, BC Housing (recording)
Malamarie Sinha, BC Housing

1. Approval of Agenda/Additional Items

The meeting was called to order at 8:30 a.m. D. Ionescu welcomed everyone to the meeting on behalf of the BRC followed by a roundtable introduction. The meeting agenda was approved.

2. Approval of November 7, 2018 Meeting Minutes

The minutes from the November 7, 2018 BRC meeting were approved.

3. Design Versus Actual Energy Performance in Green Buildings

Vicki Zhou presented research findings which compared modelled performance versus actual performance of 10 social housing LEED buildings. The presentation discussed the various reasons behind the discrepancies including modelling assumptions.

4. Ventilation and Thermal Comfort Studies in MURBS – From the Ground Up

Rodrigo Mora discussed results from indoor environmental modelling (IEQ) and highlighted some of the challenges in modelling IEQ compared to energy modelling. The presentation included three distinct student projects, the first study examined whole building ventilation, the second monitored ventilation rates in a suite, and the third investigated thermal comfort within a suite. Results showed ventilation for different floors follow different ventilation strategies. The research team is actively looking for buildings with monitoring data to validate their modelling.

5. Feasibility of Mass Timber Rental Housing

Sabina Foofat discussed plans within the City of Vancouver to encourage the use of 8-12 storey mass-timber buildings. These structures can be built faster, have lower embodied carbon and fit well within the City's plans to develop new rental units. To identify opportunities to improve mass-timber construction, the City of Vancouver will conduct two studies, a literature review to identify what costing analysis exists and will perform a comparative study of mass-timber versus concrete construction.

6. Vented Low Slope Roofs – Research Highlights

Lorne Ricketts discussed the preliminary findings of a research carried out by RDH Building Science Inc. and Morrison Hershfield. The project is a continuation of past research that looked at mold growth in ventilated attics in coastal climates. This new study focuses on low-sloped vented roofs. As with the attics, preliminary research is showing that ventilation could be an issue, and that exterior insulation can be part of the solution. Additional testing as well as hygrothermal modelling will form the basis to forthcoming design guidelines.

7. Documenting a LEAN Construction Project – Research Highlights and Planned Monitoring

Albert Lam provided an update on an innovative wood-frame housing project, being developed in collaboration by the Greater Victoria Housing Society and BC Housing. The project is investigating Lean construction as a method to providing affordable, quality, high-performance housing. Research outputs to date include a two-day workshop with stakeholders, including trades people, and a live video feed of the construction. Results from this project will be used to communicate the advantages of the LEAN process versus conventional construction to the residential construction industry and to identify opportunities for further research.

8. Forum Discussion:

Denisa Ionescu opened the forum with a review of upcoming research. Attendees were encouraged to share any projects or research they are currently working on and to provide suggestions for future research.

- Omid Tamanna mentioned the BCIT acoustics lab has completed a project that investigated the sound transmission loss in exterior insulation, in which measurements were conducted on three buildings.
- Jieying Wang is currently conducting R22 wall testing and updating the CLT Handbook. More field monitoring, as well as an update to the tall wood building design guide can be expected in next fiscal year.
- Lorne Ricketts suggested drafting a long-term plan to monitor occupancy assumptions, changes in technology, behavioural changes and building efficiency.
- Antje Wahl mentioned funding has been received from the province to advance wood innovation projects with UBC, UNBC and the University of Prince George.
- Albert Lam mentioned Brantwood consulting is documenting a co-housing project.
- Christopher Duffin described a new sustainable building program starting this fall at the Surrey SFU campus. The program is seeking opportunities to collaborate on capstone projects or research that would enhance student experience.

- Lorne Ricketts mentioned CSA is developing new thermal bridging standards (see document) and is seeking volunteers to form the committee.
- Fitsum mentioned BCIT is testing R-value resistance in a sample chamber, in which thermal bridging measurements will be integrated and are expected to be functional summer 2019.

9. Next BRC Meeting:

Meeting Scheduled for October 24, 2019