

Meeting Notes
Building Research Committee (BRC)
Wednesday, April 19, 2017, 8:30 a.m. to 12:00 p.m.
The Italian Cultural Centre Society
3075 Slocan Street
Vancouver, BC

Denisa Ionescu, BRC Chair, BC Housing
Aiden Kiani, BCIT
Andy Chase, Building and safety Standards
Branch
Arash Azadeh, BC Housing
Christopher Black, LDR
Cindy Moran, BC Housing
Daniel Haaland, RDH Building Science
Danny Kahler, Kahler Engineering
David Girard, Peak Ventures General
Contracting
Derek Townson, BOABC
Douglas Bennion, Quad-Lock
Douglas Watts, RJC Engineering
Efi Khayyam
Einar Halbig, E3 Eco Group Inc.
Ernest Kortschak, Dupont
Fred Tai, Simpson Strong-Tie
Graham Finch, RDH Building Science
Jack Christopher, Aviva Canada

Jacky Wong, BCIT
Julio Reynel, JRG Building Engineering
Lien Tran, BCIT
Lorne Ricketts, RDH Building Science Inc
Mark Gauvin, Gauvin 2000 Construction Ltd.
Martin Austin, BC Housing
Michelle Lee, BC Housing
Mercedes Lopez, BC Housing
Opreet Kang, Forestry Innovation Investment
Patrick Roppel, Morrison Hershfield
Patrick Shek, City of Burnaby
Ralph Moore, Aviva Canada
Remi Charron, NYIT
Richard Kadulski, Richard Kadulski Architect
Ryan McCuaig, Office of Ryan McCuaig
Rodrigo Mora, BCIT
Terry Rudolph, Cascadia Inspection
Wei Chen, Tri-Can Consulting Ltd.
Wilma Leung, BC Housing
Zofia Rybkowski, Texas A&M University

1. Approval of the Agenda / Additional Items

The minutes from the November 3, 2016 meeting were approved.

2. Developing Innovation and Lean Processes in the Building Industry

Guest speaker Zofia Rykowski, Texas A & M University, presented on how Lean Process principles can be used to reduce construction waste and effectively accomplish more with less, by allocating cost of would be waste to fund items of value. The Lean-integrated Project Delivery focuses on four key concepts reducing waste, adding value, continuous improvement and culture of respect and uses three key tools, Last Planner System of Production Control, Target Value Design and Collective Kaizen and Standardization, to achieve its mandate.

3. In-Slab Dryer Duct Performance Study

Lorne presented preliminary research findings on a study related to in-slab ventilation ducts, and the key factors that lead to moisture accumulation, in order to develop an investigative process to detect issues and to identify potential solutions. The study included the installation of sensors in the in-slab ducts of three buildings to monitor air temperature, relative humidity, liquid water, flow rate, and duct surface temperature, to determine duct performance under varying conditions. The results of the study provided best practices for remediation and solutions to avoiding moisture accumulation in ducts.

4. Getting Feedback from Inside the House

a) Housing Quality Life-Cycle Platform

Lien presented on a first of its kind communication platform for local building industry, consumers and regulators to distribute information regarding the life-cycle and quality of housing. The two-way communication web-based platform will provide meta-knowledge regarding recent building code or by-law amendments, HVAC, and thermal comfort among others.

b) Monitoring Indoor Environmental Systems in Houses

Jacky presented the findings of a study in an Energy Star certified high performance duplex in Vancouver. The study which monitored the construction process highlighted the need for a housing commission to conduct continuous monitoring, in order to increase standard building practices. Additionally, Jacky addressed the importance of Monitoring Indoor Environmental Systems in Houses (MONIES), in order to provide an integrated assessment of environmental performance of a house.

5. Web-Based App & Building Envelope Thermal Bridging Guide

Presentation: Ryan McCuaig Architect, and Patrick Roppel Morrison Hershfield

Patrick provided an overview of the updated Building Envelope Thermal Bridging Guide, which includes more wood-frame construction and Passive House or Net Zero details. The guide that is set to be released late 2017 will also be available as a web-based application, which allows users to compare various design details and encourage sharing of data, by providing each detail with a unique URL. Ryan provided a walkthrough of the web-based application wireframe, which will include how to videos, searchable data, thermal calculator, efficient utilization and will focus on key metrics.

6. Development of a Reference Procedure for Simulating Spandrel Panel U-factors

Daniel presented on a proposed methodology that provides additional guidance for determining spandrel panel U-factors, using 2-D thermal simulation. Current Energy Code and NFRC guidelines have created confusion on how to address spandrel panels, in particular when identifying appropriate placement. The proposed procedure supplements and extends existing NFRC-100 methodology and provides a consistent and comparable method, and calculates a more realistic thermal performance.

7. Airtightness in Buildings

Presentation Lorne Ricketts, RDH Building Science

Lorne updated BRC members on the Illustrated Guide to Achieving Airtight Buildings, which will provide guidance to achieving the new step code path requirements in the BCBC and the City of Vancouver rezoning policy. The guide is scheduled to be released in fall 2017 and will include a companion bulletin, which will outline current requirements of relevant codes and voluntary accreditations, requiring only the bulletin to be updated as codes change.

8. Forum Discussion

- Richard brought up an issue with high energy performance envelopes, when they rely heavily on radiant heating. Radiant heating can cause over heating in new buildings. Homeowners sometimes will request radiant heating as they had previous experience with it. Education and knowledge sharing is required.
- Committee members agreed that research on heating and ventilation is needed and that information should be disseminated to industry representatives, homeowners, heating and electrical trades.
- Andy noted that the Step Code changes were recently signed. These changes will allow local governments to not be restricted by the energy code, but rather have a base to build-on and be able to require more than the minimum code.
- Wilma provided a quick overview of the Energy Step Code.