

## MEETING NOTES

### Building Research Committee Meeting

Wednesday, November 26, 2008, 9:00am to 12:00am  
Plaza 500 Hotel & Convention Centre – Granville Boardroom  
500 West 12<sup>th</sup> Avenue, Vancouver

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#### In Attendance:

|                    |   |                |                                   |
|--------------------|---|----------------|-----------------------------------|
| Bob Sloat          | (Chair)   | John Ruddick   | UBC Department of Wood Science    |
| Andrew Pape-Salmon | Ministry of Energy, Mines and Petroleum Resources | Sukh Hohanl    | Canadian Wood Council             |
| Bob Thompson       | BC Building and Safety Policy Branch              | Jieying Wang   | FPInnovations - Forintek Division |
| John Nicol         | BC Building and Safety Policy Branch              | Les Yard       | Dow Chemical Canada Inc.          |
| Denisa Ionescu     | HPO   | Bill McEwen    | Masonry Institute of BC           |
| Hamid Ghanbari     | HPO   | Jason Teetaert | SMT Research Ltd.                 |
| Liliana Dominguez  | HPO (recording)                                   | David Bruce    | WDMA - BC                         |
| Warren Knowles     | RDH Building Engineering                          | Gary Brown     | WDMA - BC                         |
| Graham Finch       | RDH Building Engineering                          | Fitsum Tariku  | BCIT                              |
| Douglas Watts      | Read Jones Christoffersen Ltd.                    | Murray Frank   | Constructive Home Solutions       |
| George Humphrey    | BOABC   | Fred Tai       | Simpson Strong-Tie                |
| Richard Kadulski   | AIBC  | Ron Rapp       | Morning Star Homes Ltd.           |
| Mark Gauvin        | GVHBA   | Rick Alexander | National Home Warranty            |
| Dana Vanier        | National Research Council                         | Dave McBeath   | National Home Warranty            |
| Thomas Froese      | UBC Civil Engineering Department                  | Bernie Hoing   | Travelers Guarantee               |

#### Regrets:

|                   |                            |                   |                                    |
|-------------------|----------------------------|-------------------|------------------------------------|
| Silvio Plescia    | CMHC                       | Innes Hood        | The Sheltair Group                 |
| Bob Mailing       | HPO                        | Karen Liu         | Xero International                 |
| Brian Simpson     | BC Housing                 | Brian Delbrueck   | Canadian Institute of Treated Wood |
| Patrick Shek      | BOABC                      | Paul Morris       | FPInnovations - Forintek Division  |
| Tony Gioventu     | CHOA                       | JP LeBerg         | Masonry Institute of BC            |
| Jeff Fisher       | UDI                        | Kimberly Tompkins | Tec-Agencies Ltd                   |
| Martin Gevers     | Levelton Consultants Ltd.  | Darren Van Wart   | Pacific Home Warranty Insurance    |
| Don Hazleden      | Morrison Hershfield Ltd    | Jan Rasilainen    | Travelers Guarantee                |
| Brennan Vollering | Halsall Associates Limited |                   |                                    |

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#### 1. Approval of the Agenda/Additional Items

The meeting was called to order at 9:11 a.m. B. Sloat welcomed everyone to the meeting on behalf of BCBEAC. The July 23, 2008 BRC meeting agenda was approved.

#### 2. Approval of November 27, 2007 Meeting Minutes

The minutes from the July 23, 2008 BRC meeting were approved.

### **3. Code Changes**

#### Six-storey Wood-frame Construction Initiative

B. Thompson provided an update on the status of the proposed changes to the BC Building Code and informed BRC members that the proposed changes are posted on the Building and Safety Policy Branch website for public review. A Ministry committee will review all comments and then make recommendations. He noted that the actual code changes are relatively simple and straightforward – essentially providing the authority for practitioners and regulators to design and approve wood frame construction up to six stories. It was agreed, during discussion, that the issues that will constrain building six storey wood frame buildings are related to insurability as well as ensuring that the approaches implemented are practical, economical and durable.

In further discussion, reference was made to the production of a best practices guide. As well, in response to a question J. Nicol said that BC Housing is looking into building a pilot project in the City of Kelowna. The advantage of using a BC Housing project is that it does not need to be insured under a warranty.

#### Seismic Requirements

B. Thompson spoke to the proposed changes looking at dictating shear resistance. The proposal is posted on the website and BSPB is seeking public input. He noted that the CHBA has just completed a field study on the proposed seismic requirements for houses in the 2010 National Building Code.

### **4. Energy Consumption in High-rise Rehabilitated Buildings**

W. Knowles and G. Finch provided findings of a recent research study on energy consumption in mid-to high-rise rehabilitated buildings. The objective of the study is to review and assess the actual-energy related performance of the building and to identify potential ways to improve energy consumption when rehabilitating buildings. Results will be presented at the Nov 2009 NBEC Conference.

Phase II of this project is expected to commence in the next couple months. Partners include CMHC, BC Hydro, Terasen Gas, City of Vancouver, HPO and RDH Engineering. Additional research partners are welcome.

### **5. Shrinkage of Wood Frame Buildings**

B. McEwen noted again that apparently the actual shrinkage of wood frame buildings has not been measured in the field. Shrinkage can affect many building assemblies and materials – brick veneer movement joints as an example. He wanted to know what action could be taken to address this matter. After some discussion, it was suggested that the pilot project in Kelowna could include in its scope the monitoring of shrinkage in materials.

BRC members recommend that all possible areas and solutions be explored for shrinkage of floor assemblies and that the demo project would be beneficial to the industry.

FPInnovations - Forintek Division has two research proposals that include performing tests in a Quebec laboratory on differential shrinkage in hybrid buildings.

BRC members recommended looking at engineered wood and non-engineered wood and how they interact.

Also, it was suggested to look at how the movement and settlement of buildings, particularly in the case of six storey wood-frame construction, would impact durability.

#### **6. Potential for Blistering of Polyurethane Waterproofing Membranes**

G. Finch spoke to a research report on the potential for blistering of cold applied bituminous polyurethane waterproofing membranes. Research is continuing with the objectives to assess factors for blistering and to identify ways to improve membrane assemblies. Three manufacturers are involved in this study. A research paper will be submitted to the 2009 NBEC Conference.

#### **7. Investigation of Causes and Methods to Minimize Corrosion of Fasteners in Copper Amine Treated Wood**

J. Ruddick provided preliminary findings from a study at the University of Toronto on the causes and the methods to minimize premature corrosion of metal fasteners and connectors in contact with copper amine treated wood. He noted that while there are some preliminary findings that are interesting, the sample sizes are very small – and that more work is needed. A British Columbia research project is planned for 2009 with funding partners from B.C. and national industry stakeholders. The objectives are to identify conditions that impact on long term performance of fasteners and connectors in contact with alkaline copper treated wood. Contact the HPO or Prof. J. Ruddick (UBC) for research details.

#### **8. Areas of Research Activity at UBC Civil Engineering**

T. Froese gave the group an overview of UBC's current efforts and priorities in the Civil Engineering Department. The list of current research initiatives include Construction Management, Information Technology, Infrastructure Management, Digital Environments, and Construction Research Inventory. D. Vanier then spoke in a bit more detail about the NRC-funded national infrastructure technology and management research, which he said could cost \$32 million dollars over five years.

#### **9. Update on Recently Completed or Current Research Projects**

D. Ionescu provided an update of current HPO research projects, including:

- Field Test of the Proposed Seismic Requirements for Houses in the 2010 National Building Code
- Radon Testing in New BC Homes
- In-slab Ventilation Ducts in Residential High-Rise Construction
- Building Envelope Guide for Houses – Part 9 Residential Construction

J. Wang provided a presentation on a research project on cross-laminated timber construction, an initiative launched by FPInnovations “Next Generation Building and Living Solutions”.

#### **10. BC Energy Efficiency Act – Standards of Windows, Skylights, Sliding Glass Doors, Swinging doors, Sidelites and Transoms**

A. Pape-Salmon provided highlights of the proposed regulatory amendments under the BC Energy Efficiency Act with respects to windows, sliding glass doors, skylights, door slabs and lites. A summary of the proposed regulatory changes can be found on the Ministry of Energy, Mines and Petroleum Resources website. Industry feedback is being sought.

A project on exterior door manufacturing, including a life cycle analysis, is looking at how far wooden doors can be improved. The research is being conducted by the Ministry of Energy, Mines and

Petroleum Resources, the Window and Door Manufacturers Association-BC and FPIInnovations-Forintek Division.

#### **11. Open Forum & Discussion**

D. Bruce expressed concerns regarding the performance of new exterior doors and the need for improvement of regulations within the industry.

R. Alexander expressed concerns regarding the application of engineered lumber vs. conventional lumber. Discussion ensued as to the availability and cost of engineered lumber.

BRC members noted that shrinkage amounts in four-storey wood-frame construction are anecdotal (1/2" per floor and occurring in the first two years after installation). There is a need for a study that quantifies it. FPIInnovations suggested a survey be done to determine how to address the issue.

#### **12. BRC Chair; Next BRC Meeting**

R. Sloat noted that this may be the last meeting that he attends as the Chair – and asked members to think about whether they would like to volunteer for this interesting assignment. He further noted that someone like Bill McEwen would make an ideal chair, as he and his organization have been very involved in the BEREC (BRC's predecessor) and the BRC since the beginning, and thus could bring continuity and some 'corporate memory' to the task.

D. Ionescu noted that the next meeting is scheduled for May 20, 2008, and that the HPO would confirm and promulgate a meeting notice and materials closer to the date of the meeting.

R. Sloat thanked everyone for attending.