

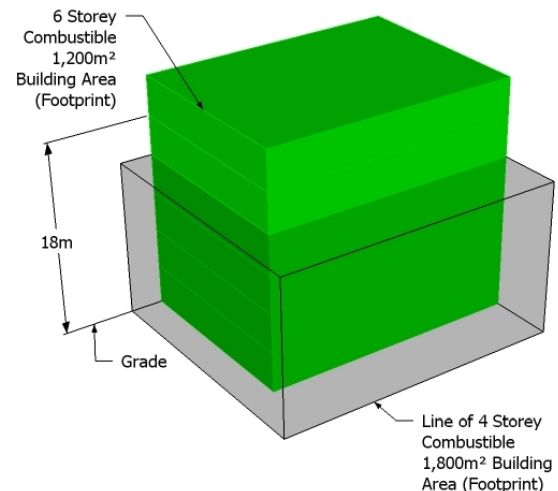
JANUARY 2009 BC CODE CHANGE – 5 AND 6 STOREY WOOD-FRAME BUILDINGS

With expertise in Fire Engineering and Building Code Consulting, **GHL CONSULTANTS LTD**, in conjunction with Structural and Building Envelope Consultant Read Jones Christoffersen Ltd, was selected to be the Province's Advisory Code Consultant to provide expert advice on a proposed change to Division B, Part 3 of the BC Building Code allowing up to 6 storey wood-frame residential buildings (i.e. Group C, combustible construction).

In January, 2009 the Provincial Government plans to introduce a Code amendment to permit construction of 5 and 6 storey wood-frame residential buildings. Starting in March, 2008 the concept underwent extensive literature reviews and public consultation during the short timeframe.

Working with various stakeholders including the Canadian Wood Council, FP Innovations-Forintek, and various local Authorities, GHL provided a comparative risk analysis on a 6 storey wood-frame building. Our analyses suggest that the same level of fire safety as a 4 storey wood-frame building can be achieved in a 6 storey wood-frame building, provided:

- Maximum building area (footprint) of 1200m²;
- Gross floor area (all levels) of 7200m²;
- Grade to 6th storey floor level does not exceed 18m;
- Sprinklered throughout per NFPA 13;
- Exterior cladding of limited combustible material.



Schematic illustration of a 6 storey wood-frame building versus a 4 storey wood-frame building. The use of GWB-based firewalls can be used to limit building area.

As part of our mandate, we identified process risks which relate to constructing mid-rise wood-frame buildings in the field, including construction fire safety, quality of construction, and building shrinkage. Our recommendation to the Province is that process risks can be addressed either in the Building Code or by other means, such as more rigorous reviews by Authorities or peer-review, issuance of best practice guides, and/or better training and education programs for tradespersons.

Related GHL Services

Through our work as the Province's Advisory Code Consultant, GHL understands the Code philosophy in building area and height regulations. Our knowledge and experience in having conducted the risk analysis allows us to fully comprehend the Code objectives, enabling us to offer the following consulting services relative to mid-rise wood-frame projects:

- Alternative Solutions relating to building area, building height, and mixed occupancies.
- Code consulting in application of modern gypsum based firewall technologies used to limit building area.
- Code consulting during the framing and firestopping stage of the project.
- Facilitating building permit application.
- Assistance to Authorities Having Jurisdiction – peer review.

The information in this letter is for guidance only. Refer to applicable Building Codes and Fire Codes for actual requirements. The designer should always check with the AHJ for local policies and interpretations regarding the foregoing. While GHL provides Code change recommendations to the Province, the Province is the sole Authority responsible for adopting and changing the Building Code.