

Report Back on Building By-law Energy for Low Rise Multi-Family Residential



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Agenda

- Intent of Original Report
- Wall Thickness and Floor Space
- Protection of Character and Heritage

Energy Efficiency Requirements in 4-6 Storey Multi-Family Residential



1. Envelope: Require the same insulation performance as a single family home
2. Mechanical: Require the same heating and hot water efficiency as a single family home
3. Air Tightness: Require evidence of air tightness as we do in single family homes

Building By-law 4-6 Storey

Two Pathways to Real and Reliable GHG Reductions

Prescriptive Path

- Specific requirements for walls, windows, equipment, etc.
- Simple, no energy model required

Performance Path

- Energy model to show GHG and energy efficiency outcomes
- Flexibility in how outcomes are achieved

Wall Thickness and Floor Space



Council Direction: Floor Space

Council asked staff to ensure that useable floor space is not reduced as a result of changes to the Vancouver Building By-law in 2014 (single-family) and 2018 (multi-family) for increased thermal insulation

Proposed Multi-Family Approach

- Insulation in typical walls is expected to increase by 51 mm (2 inches) to meet prescriptive requirements of the Building By-law in 2018 for new multi-unit residential buildings of six storeys or less
- For four to six storey buildings, this added insulation will occupy approximately 1% of floor area
- A new floor space exclusion of 1% is recommended in these cases
- Exclusion is an outright process for speed and simplicity

Proposed Detached Home Approach

- Most builders met the prescriptive requirement in the 2014 Building By-law by increasing the thickness of insulation by 38 mm or 45 mm (1.5 or 1.75 inches)
- The floor area occupied by this increase is approximately 2% of the floor area of a typical house
- A new exclusion of 2% is recommended in these cases
- Exclusion would be an outright process, simple for staff and industry

Stakeholder Consultation



Stakeholder Consultation Process

1. Consulted with existing users of the floor space exemption
2. Consulted with UDI and GVHBA
3. Consulted with 40-50 builders at the Ross Street Temple

Stakeholder Consultation Feedback

- A. Supportive of the change
- B. Request for additional floor space relaxations to compensate for other regulatory or administrative changes in 2014
- C. Request a new calculation method for floor area exclusion for walls performing beyond the Building By-law

Protecting Heritage and Character



Council Direction: Heritage

- Staff ensure heritage and character are protected with the updates to the building by-law

Solutions: 4-6 Storey Multi-Family

- Heritage buildings have existing flexibility. Mechanical upgrade options can be completed in place of envelope upgrades.
- Staff to work with Vancouver Heritage Foundation to publish clear guidance for these multi-family heritage projects

Solutions: 3 Storeys and Under

- A similar approach has been developed for heritage and character buildings 3 storeys and under. This is an expansion of an existing process
- Heritage buildings can maintain use of single pane windows, uninsulated doors and original wall thickness
- Character buildings can use alternative path for any wall requirement after insulating the existing cavity to existing depth

Example

- Heritage Kitchen renovation: no change to existing wall thickness, maintain single glazed windows, and provide a domestic hot water upgrade to lower energy use
- Flexibility puts control and choice on the homeowner side while in the planning stage of the process

Next Steps

- Bring forward BBL updates to enable flexibility for 3 storeys and under (as already exists for 4-6 storey)
- Work with Vancouver Heritage Foundation to publish simple guide for heritage and character
- Work with staff on creation of guides and relaxations for heritage and character projects

Stakeholder Consultation

- Vancouver Heritage Foundation and membership survey
- Heritage Planning staff
- The greater focus on heritage was made clear
- Broad support for the improvements

Outcomes



- Heritage homes can maintain single glazed windows and uninsulated doors
- Heritage homes can use alternatives to wall, window, and door performance with mechanical upgrades
- Character homes can insulate existing wall cavities provide mechanical upgrades in place of thicker insulation

Thank you

