

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



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November 1, 2017**

# 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. Generally supportive of the change
- B. Some detached home builders request additional floor space relaxations to compensate for other regulatory changes beyond Council's original direction



# 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 drafted for heritage and character buildings 3 storeys and under
- Heritage buildings can maintain use of single pane windows, original 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



# 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 original 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

