

The Higher Density Eight (HD8)

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Biannual Building Code system update

The Building Code is being optimised to support higher density housing solutions. Currently, the majority of Acceptable Solution and Verification Method compliance pathways are generally focused on low density dwellings, and higher density building designs are often outside the scope of these compliance pathways.

The design of higher density housing differs from traditional stand-alone (low density) housing due to the common walls, spaces between household units (lobbies and other common areas), internal rooms and the height of the buildings. This means that more specialists are required for the design and build of these houses, which can make the consenting processes more complex and create uncertainty for building professionals and building consent authorities.

The Building Code clauses being prioritised for change are collectively known as the 'HD8' and are described below. The aim with all of these is to make changes that facilitate higher density housing by either amending the clause or increasing the scope of the Acceptable Solutions and Verification Methods.

B1 Structure and B2 Durability

The Code clause for structural stability requires buildings, building elements and site work to withstand the combination of loads and physical conditions they are likely to experience throughout their lives. Current Acceptable Solutions are limited to three storeys and outside of this require considerable input from a structural engineer. Specific compliance pathways focused on higher density housing need to be considered.

The Code clause for durability ensures that a building will continue to satisfy the performance requirements of the Building Code throughout its life. For higher density buildings, additional challenges for safe maintenance are presented due to height and access difficulties. Clarity on the requirements for durability and safe, economic maintenance is needed.

C1–6 Protection from fire

These clauses are related to protecting people from fire in and around buildings, limiting fire spread and helping firefighting and rescue. Higher density housing typically requires more complex fire solutions. A specialist fire engineer may be required to ensure that escape routes are easy to access, to address fire separation at height and to manage longer escape travel distances. Streamlined compliance pathways for higher density housing need to be considered.

E2 External moisture

Preventing moisture entering the building envelope is critical for building performance. Some parts of current Acceptable Solutions are restricted to three storeys, and beyond this may require a façade engineer to be involved in the design of the building. Extending the scope of Acceptable Solutions needs to be considered.

E3 Internal moisture

This Code clause has specific functional and performance requirements that prevent flooding or overflow between households. It also considers internal moisture control and condensation. The solutions need to be reviewed to provide clarity regarding overflow between units, and account for new construction methods for managing moisture in roof cavities.

G4 Ventilation

This Code clause sets performance requirements for adequate ventilation and air flow in buildings. For higher density housing, the use of natural ventilation such as openable windows to the exterior of the building may not be suitable. Mechanical ventilation systems for the household units or building need to be considered to address situations of shared ventilation.

G6 Airborne and impact sound

This Code clause ensures minimal noise transfer in higher density situations. A review is needed to clarify the scope of current requirements

and also consider whether they should take into consideration environmental factors, for example roads and airports.

G7 Natural light

The Building Code requires habitable spaces like bedrooms to have access to daylight and visual awareness of the outside; this can be an issue for higher density housing where there may only be one or two external walls. Compliance pathways need to reflect more complex situations.

H1 Energy efficiency

The Building Code and cited Standards are currently unclear on the best way to calculate the thermal insulation and efficiency of higher density housing for common building elements (walls and floors) between household units. Reviewing the scope of the Acceptable Solutions and Verification Methods will help to clarify this.



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