

Determination 2024/034

How the provisions of the Building Act apply to the structural performance of an existing building where additional floors are being added.

69 – 71 Boulcott Street, Te Aro, Wellington

Summary

This determination considers the purported refusal of a building consent for alterations to a commercial building. The determination considers how the provisions of the Act apply to the assessment of the proposed additional floors for the purpose of clause B1 Structure of the Building Code. The determination explores the difference in the tests set out in section 17 and s112 of the Act.



Cover Image: Artist's impression of the building after the addition is constructed.

In this determination, unless otherwise stated, references to “sections” are to sections of the Building Act 2004 (“the Act”) and references to “clauses” are to clauses in Schedule 1 (“the Building Code”) of the Building Regulations 1992.

The Act and the Building Code are available at www.legislation.govt.nz. Information about the legislation, as well as past determinations, compliance documents (eg, Acceptable Solutions) and guidance issued by the Ministry, is available at www.building.govt.nz.

1. The matter to be determined

- 1.1. This is a determination made under due authorisation by me, Andrew Eames, Principal Advisor Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.¹
- 1.2. The parties to the determination are:
 - 1.2.1. 69 Boulcott Limited, which is the owner of the property (‘the owner’)
 - 1.2.2. Wellington City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3. I also consider B Lodge, who is the structural design engineer involved with the building work (‘the engineer’) was invited to be a person with an interest in the matter.²
- 1.4. The owner has a building consent to carry out earthquake-strengthening work to an existing commercial building and convert its upper floors to residential apartments. This determination arises from an application to amend that building consent to add three residential floors to the building. The authority formed the view that the proposed building work was not compliant with clause B1 Structure, because the structural upgrade of the existing building was not going to achieve 100% compliance with the New Building Standard (NBS).³
- 1.5. The authority has not issued written notice to the owners under section 50 of the Act refusing to grant the amendment. Rather, the authority issued requests for information that required an explanation of ‘how the new floors will have 100% for their structure including the supporting structure for the building’. The owner disputes the requirement for the upgrade of the existing building, including the new

¹ The Building Act 2004, section 185(1)(a) provides the Chief Executive of the Ministry with the power to make determinations.

² It is sometimes appropriate in the interests of natural justice to include in the determinations process persons whose rights or interests might be seriously affected by the outcome of the determination. Where those persons do not meet the test of a party under section 176, they can, at my discretion, be included as a person with an interest.

³ The New Building Standard or NBS is intended to reflect the expected seismic performance of a building relative to the minimum life safety standard required for a similar new building on the same site by Clause B1 of the New Zealand Building Code (The Seismic Assessment of Existing Buildings – Technical Guidelines for Engineering Assessments – July 2017 – Part A, 1.6 – Definitions and Acronyms).

floors, to achieve 100% NBS on the grounds that they are alterations to an existing building.

- 1.6. The matter to be determined, under section 177(1)(b) and (2)(a), is therefore the authority's purported decision to refuse to grant the amendment to building consent number SR49453-1 ('the amendment').
- 1.7. In deciding this matter, I have considered how the provisions of the Act apply to the assessment of the proposed additional floors for the purpose of clause B1 Structure of the Building Code.
- 1.8. I have not considered any other aspects of the Act or of the Building Code, or any other building work than that related to elements contributing to the structural performance of the building.

2. Definitions

- 2.1. **The Building** - is the existing nine storey building, to which structural strengthening works are proposed.
- 2.2. **The Addition** - is the proposed addition of three new floors atop the building.
- 2.3. **The Alterations** - is the proposed building work including to the building and the addition.

3. The proposed building work and background

- 3.1. The building is a nine-storey commercial building of concrete construction that is located in central Wellington. The building previously housed offices on the upper floors and retail units on the ground floor.
- 3.2. The authority granted building consent number SR49453 (the building consent) on 12 February 2021 for the conversion of the office spaces into residential apartments and for structural strengthening work that will bring the structural performance of the existing building from its existing 65% NBS up to 80% NBS.
- 3.3. On 7 March 2022, the owner applied for the amendment to add three additional floors to the top of the building ("the addition").
- 3.4. The authority formed the view that it was not satisfied the addition would comply with Clause B1 Structure. The building consent for the alterations to the building relied on section 112 of the Act to achieve compliance with clause B1. However, Section 17 of the Act requires all building work to comply with the building code to the extent required by the Act, and for the addition this was 100% compliance with Clause B1.
- 3.5. The authority noted that the engineer's design features report stated that the building work to structurally upgrade the building would only achieve 80% NBS. In

the authority's view, the addition could not achieve full compliance with clause B1, as required by section 17, when it was sitting on an existing building that was only 80% NBS.

- 3.6. In a request for information (RFI) dated 24 May 2022, the authority asked the owners to 'provide a design that will achieve the requirements of the current building code for structure for the new building work proposed. 100% of building code requirements'.
- 3.7. The owner responded confirming that the amendment to the building consent would maintain the 80% NBS rating for the existing building. The addition was designed to be fully code compliant and achieve 100% NBS. The 'overall rating' of the building, once completed would therefore be 80% NBS. A later response then confirmed that the engineering for the project had been peer reviewed, and it 'is not feasible to strengthen the building to 100% NBS'. Compliance with clause B1 would therefore be achieved "as nearly as reasonably practicable" (ANARP), as provided for under section 112 of the Act.
- 3.8. The authority responded in a further RFI dated 28 June 2022, in which it stated that:

[ANARP] will not show how section 17 [of the Act] is complied with in this new work proposal.

The performance criteria has not been shown to comply with the building code. The rating of the building indicates foundations that will not be complying with the building code.

The strengthening scheme is related to the alterations and change of use and was previously consent (sic) for this purpose using ANARP. ANARP will not apply to the new work proposed. ANARP is not available in section 17 [of the Act]...

The authority requested the owner to provide a compliant design.

- 3.9. The engineer responded to this RFI, noting that:
 - 3.9.1. a change of use triggers a requirement to strengthen the existing building to as close to 100% NBS as is reasonably practicable, but that it is not feasible to strengthen beyond 80% NBS due to limitations in the existing foundations of the building.
 - 3.9.2. the new structure forming the three storey addition 'has been designed to current code loadings', and the additional seismic demand from the extension is allowed for in the strengthening design of the existing structure
 - 3.9.3. the building as a whole would achieve a rating of 80% NBS, with the extension achieving 100% NBS. The three-storey addition is effectively a structural 'part' which is appended to the existing building.
- 3.10. The authority maintained the view that compliance of the addition had not been established, as 'section 17 prevails with new work' meaning that it had to comply fully with all code clauses. It stated that the issue 'is less about only reaching 80% NBS and more about what is the consequence of the remaining 20% and its effect

on the proposed new work especially as it relates to life safety and protection of other property’.

- 3.11. The matter remained unresolved between the parties, and an application was made for a determination.

4. Submissions

The owner

- 4.1. The owner submits that the authority has not correctly applied the provisions of the Act, and that the building’s structure is only required to be upgraded to the extent required under sections 112 and 115, being ANARP.

- 4.2. The owner disagrees that the foundation to the addition, being the building, is required to achieve 100% NBS before the new floors can be constructed. The structural upgrade work on the building under the building consent would achieve 80% NBS for the building as a whole, and the owner believes ‘this is as near as reasonably practicable given the building only achieves 65% NBS in its current state’.

- 4.3. The owner states that the addition complies 100% with the building code in terms of its seismic loadings, and the additional seismic demand created by the addition has been allowed for in the strengthening work on the building, which still achieves 80% NBS. It is not ‘feasible’ to strengthen the NBS rating of the building as a whole above this level ‘due to [the] extensive works that would be required, particularly at foundation level where strengths of some of the existing concrete factors are a limiting factor.’

- 4.4. The owner concluded that:

we believe our amendment for the additional floors should be granted on the basis that the structural and fire upgrades comply as near as reasonably practicable and make use of an existing structure while providing much needed housing in the CBD.

- 4.5. The owner also stated that the determination would have important ramifications for other heritage buildings in Wellington that required earthquake strengthening. Often these buildings were incapable of being strengthened to achieve more than 80% NBS. Adding additional floors to these buildings was a means of funding the structural strengthening works required and making them economically viable. If the additional floors were required to achieve 100% NBS, there was risk the strengthening work would not go ahead and valuable heritage stock would be lost.

The authority

- 4.6. The authority has not made a submission in response to the application for determination. Accordingly, I have taken the authority's building consent correspondence and requests for information to represent its view in this matter.

The Engineer

- 4.7. The engineer has not made a submission in response to the application for determination.

5. Discussion

- 5.1. The matter for determination is the authority's purported decision to refuse to grant the amendment based on the request for information which brought the building consent process to a halt. The refusal is purported because the authority has not yet issued a notification formally refusing to grant the application for an amendment under section 50.
- 5.2. The parties are at an impasse as to whether the building work covered by the amendment, namely the construction of the addition, complies with clause B1 to the extent required by the Act.
- 5.3. The authority is of the view that full compliance is required under section 17.
- 5.4. The owner's view is that section 115 of the Act applies, and that the authority can accept the 80% NBS rating of the existing building as achieving 'as nearly as is reasonably practicable' compliance with clause B1.

The relevant legislation

- 5.5. The parties do not dispute that an application to amend a building consent is subject to the same test under Section 49 of the Act, as an application for a building consent is.

49 Grant of building consent

A building consent authority must grant a building consent if it is satisfied on reasonable grounds that the provisions of the building code would be met if the building work were properly completed in accordance with the plans and specifications that accompanied the application.

- 5.6. Section 17 sets out the degree of compliance required for building work.

17 All building work must comply with building code

All building work must comply with the building code to the extent required by this Act, whether or not a building consent is required in respect of that building work.

- 5.7. In addition, the requirements in section 112 apply when an existing building is altered.

112 Alterations to existing buildings

(1) A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration,—

(a) the building will comply, as nearly as is reasonably practicable, with the provisions of the building code that relate to—

(i) means of escape from fire; and

(ii) access and facilities for persons with disabilities (if this is a requirement in terms of section 118); and

(b) the building will,—

(i) if it complied with the other provisions of the building code immediately before the building work began, continue to comply with those provisions; or

(ii) if it did not comply with the other provisions of the building code immediately before the building work began, continue to comply at least to the same extent as it did then comply.

- 5.8. The owner raised section 115, and stated in submissions that the authority should apply the ‘as near as reasonably practicable’ test in section 115 (b)(ii)(B) to ‘the foundations supporting the additional new floors’.

- 5.9. However, section 115 relates to the code compliance requirements where there has been a change of use of an existing building and does not apply to the scope of the building work covered by the proposed amendment to the consent, which is new building work and does not involve a change of use.

- 5.10. The authority would certainly have needed to consider section 115 in relation to the building consent, which included an application to change the use of the existing building. That change of use was approved as part of the building consent. This dispute centres on the new work, the addition, not a change of use⁴.

⁴ The appropriate test for the addition is explored in more detail from paragraph 5.15.

5.11. The relevant building code clauses are as follows:

Clause B1—Structure

Objective

B1.1 The objective of this provision is to:

- (a) safeguard people from injury caused by structural failure,
- (b) safeguard people from loss of *amenity* caused by structural behaviour, and
- (c) protect *other property* from physical damage caused by structural failure.

Functional requirement

B1.2 *Buildings, building elements* and *sitework* shall withstand the combination of loads that they are likely to experience during *construction* or *alteration* and throughout their lives.

Performance

B1.3.1 *Buildings, building elements* and *sitework* shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during *construction* or *alteration* and throughout their lives.

B1.3.2 *Buildings, building elements* and *sitework* shall have a low probability of causing loss of *amenity* through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during *construction* or *alteration* when the *building* is in use.

B1.3.2 *Buildings, building elements* and *sitework* shall have a low probability of causing loss of *amenity* through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during *construction* or *alteration* when the *building* is in use.

B1.3.3

Account shall be taken of all physical conditions likely to affect the stability of *buildings, building elements* and *sitework*, including:

- (a) ...
- (f) earthquake, ...
- (r) removal of support.

5.12. The functional requirement in clause B1 is that the addition must be able to withstand the combination of loads it is likely to experience during its life.

- 5.13. In terms of performance, clause B1.3.1 requires the addition to have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing throughout its life, while clause B1.3.2 requires the addition to have a low probability of causing loss of amenity through deformation, vibratory response or degradation.
- 5.14. All of the clauses require consideration of the potential impact of earthquake and removal of support to be taken into account, as detailed in clauses B1.3.3(f) and B1.3.3(r), respectively.

The level of compliance required

- 5.15. As stated above, the dispute revolves around the parties differing views on whether the building, having been upgraded to 80% NBS, can be considered to provide adequate support to the addition and therefore enable the addition to comply with clause B1. The parties' arguments hinge on the level of compliance with the building code required by the Act.
- 5.16. I have dismissed the section 115 test being used in relation to the addition above at 5.10.
- 5.17. The owner submits that after the building work the building as a whole will comply, as nearly as reasonably practicable (ANARP), with the provisions of the building code, specifically clause B1, as allowed under section 112 of the Act. In the owner's view this is sufficient to enable compliance with clauses B1.3.1. and B1.3.3.
- 5.18. The authority, on the other hand, is pointing to section 17 as the basis for requiring the addition to comply fully with the building code, including clause B1, not just ANARP.
- 5.19. The relationship between these two sections – section 17 and section 112 – has previously been considered by the High Court. In *Fitzgerald v IAG New Zealand Ltd*⁵ the court noted:

[47] Section 17 of the BA [Building Act] requires that all building work must comply with the Building Code to the extent required by the BA. Sections 112 and 42A of the BA specify that, after repair, the building as a whole must continue to comply with the Building Code to the extent that it did before the repair or alteration. The BA does not require the repaired building to comply as if it were a new building.

[48] The requirements of s 17 have been summarised as:

Any new work must comply completely with the Building Code subject to any waiver or modification granted by the territorial authority (for example, if a shower compartment made of ordinary glass is being replaced, then the

⁵ *Fitzgerald v IAG New Zealand Ltd* [2018] NZHC 3447.

replacement must be made of safety glass as required to comply with the Building Code); and

- After the alteration, the whole building must comply with the Building Code to the extent specified by s 112.

5.20. Similarly, in the case of *Wheeldon v Body Corporate 342525*⁶, the court referred to the same summarised authority⁷ and further noted that:

[160] ... Section 112 does not detract from the s 17 Building Act requirement that all building work must comply with the Building Code ...

5.21. Put simply, the court is saying that after the building work, the building as a whole must comply with the building code to the extent required by section 112, and the building work on the alteration must comply fully with the code under section 17.

5.22. Applying this approach to the owner's building, following the proposed building work:

- the building as a whole must comply with clause B1 to the extent required by section 112
- the addition must comply fully with clause B1 of the building code under section 17.

The dispute over new building standard as a measure

5.23. In the building consent documents and correspondence, both parties have referred to the NBS as the means of establishing the proposed building work's compliance with clause B1. The parties focus on this, in part, led to the dispute, and much of the info provided in this determination focused on NBS rather than explanations of any means of compliance or load paths related. Therefore, I will provide some comment.

5.24. The NBS is a nationally standardised engineering tool for carrying out a seismic assessment of a building. A definition of the NBS is given in *The Seismic Assessment of Existing Buildings – Technical Guidelines for Engineering Assessments – July 2017*, as:⁸

⁶ *Wheeldon v Body Corporate 342525* [2015] NZHC 884

⁷ *Building Law in New Zealand* (online looseleaf ed, Thomson Reuters) at [BL112.02].

⁸ *The Seismic Assessment of Existing Buildings – Technical Guidelines for Engineering Assessments*, also referred to as the 'Red Book' are jointly managed by the Ministry of Business, Innovation and Employment, the Earthquake Commission, the New Zealand Society for Earthquake Engineering, the Structural Engineering Society and the New Zealand Geotechnical Society. More information and the technical guidelines can be accessed on the Ministry's website at: <https://www.building.govt.nz/building-code-compliance/b-stability/b1-structure/seismic-assessment-existing-buildings>

New Building Standard (NBS) - Intended to reflect the expected seismic performance of a building relative to the minimum life safety standard required for a similar new building on the same site by Clause B1 of the New Zealand Building Code.

- 5.25. The result of a seismic assessment carried out using the NBS is a % NBS rating (or earthquake score⁹). The score measures a building's seismic performance when compared to the seismic performance of a similar new building constructed on the same site meeting compliance with the current building code.
- 5.26. It is important to note that the measurement of NBS is only a metric to put a quantum on how an existing building will achieve compliance with the seismic performance requirements of Clause B1, it is not an acceptable solution for that clause. A 100% NBS rating for a building does not a guarantee that all code requirements are fulfilled.
- 5.27. In its submissions, the owner has referred to the ANARP test as applying to building work on both the building and the addition, and as determining the extent to which they must comply with clause B1.
- 5.28. However, the ANARP test, as found in section 112(1)(a), only applies to those provisions of the building code that relate to (i) means of escape from fire; and (ii) access and facilities for persons with disabilities. The test in this subsection does not apply to clause B1.
- 5.29. The correct test for the degree of compliance that the owner's building must achieve with respect to clause B1 is that found in section 112(1)(b), which states:
- (1) A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration,—
 - (a) ...
 - (b) the building will,—
 - (i) if it complied with the other provisions of the building code immediately before the building work began, continue to comply with those provisions; or
 - (ii) if it did not comply with the other provisions of the building code immediately before the building work began, continue to comply at least to the same extent as it did then comply.

⁹ *Earthquake Score* - the score given to an individual aspect of the building (member/element/non-structural element/foundation soils) to indicate the seismic standard achieved in regard to human life safety compared with the minimum seismic standard required for the same aspect in a similar new building on the same site. Expressed in terms of percentage of new building standard achieved (%NBS). - (The Seismic Assessment of Existing Buildings – Technical Guidelines for Engineering Assessments – July 2017 – Part A, 1.6 – Definitions and Acronyms).

- 5.30. The building has been assessed as being at 65% NBS. The building consent approved structural upgrades to improve that rating from 65% NBS to 80% NBS.
- 5.31. From this I consider the owner is confirming the existing building itself does not comply with clause B1 of the building code. This means it is section 112(b)(ii), rather than 112(b)(i), that applies.
- 5.32. Under section 112(b)(ii), the authority must be satisfied that, after the alterations, including the work to construct the addition, the building will continue to comply at least to the same extent as it complied prior to the alterations. In other words, the building's level of compliance with clause B1 must not be made worse.
- 5.33. The parties seem to accept that the building code compliance of the building itself will not be reduced, and that section 112(1)(b)(ii) is met, but dispute the compliance of the addition.

Compliance of the addition under section 17

- 5.34. It is not enough that the building as a whole will comply to the extent required by section 112(1)(b)(ii). Under section 17, the addition, must also comply to the extent required by the act, and being new building work, that requires full compliance with Clause B1.
- 5.35. From the parties' correspondence, and the owner's submissions, it would seem that the addition has been designed, in isolation, to meet the requirements of the building code. As such, I do not need to consider the design or compliance of the addition's superstructure. It would appear that this has been accepted by the authority as, in itself, complying with clause B1.
- 5.36. It is the levels of the building below the addition (i.e. the existing building) that are at issue, as these levels effectively act as the foundation to the addition.
- 5.37. The assessment under section 17 must therefore take into account the building and whether the structural strength of the levels below the addition are sufficient to meet the performance requirements of clause B1 as a foundation.
- 5.38. The proposed addition is to be constructed on top of the building – the building is, in essence, the foundations upon which the addition is built. The addition's ability to achieve compliance with clause B1 therefore depends on the building's ability to remain stable (including having a low probability of rupturing, becoming unstable, losing equilibrium, collapsing, deforming and being damaged by vibration) and support the addition throughout the addition's life.
- 5.39. The engineering design for the building proposes to remediate the building to achieve 80% NBS. The engineer stated in his design features report, submitted in relation to the original building consent, that:

This design is to strengthen the building to 80%NBS; achieving a rating above this is not considered feasible due to extensive works that would be required, particularly at foundation level where strengths of some of the existing concrete elements are a limiting factor.

- 5.40. The owner has not presented any other information beyond the NBS assertions, that indicates that the addition, will meet the requirements of Clause B1. Instead, in its submissions, the owner has relied on an ANARP test with respect to the existing building to demonstrate the compliance of the addition with B1.3.1. and B1.3.3.
- 5.41. I have already outlined, the ANARP test does not apply to the addition. This is new building work, s17 applies, and it must comply fully with the Clause B1, including with respect to any element functioning in a way that carries or transmits loads to ensure the building code compliance of the addition.
- 5.42. When placing additional floors on the building, there are a number of code clauses, B1 Structure, C1-6 Fire, D1 Access, to name just a few, that will require assessment of the building below and potential work on those parts of the building to be done to ensure building code compliance of the new floors.
- 5.43. I am of the view that inadequate information has been presented to confirm that the building work, will comply with clauses B1.3.1 and B1.3.3 to the extent required by section 17.

6. Conclusion

- 6.1. There is inadequate information to confirm for the purpose of section 49 that the proposed addition will comply with the building code to the extent required by section 17 of the Act, as it relates to clause B1.

7. Decision

- 7.1. In accordance with section 188 of the Building Act 2004, I confirm the authority's purported decision to refuse to grant the amendment to the building consent number SR49453-1.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 15 July 2024.

Andrew Eames

Principal Advisor Determinations