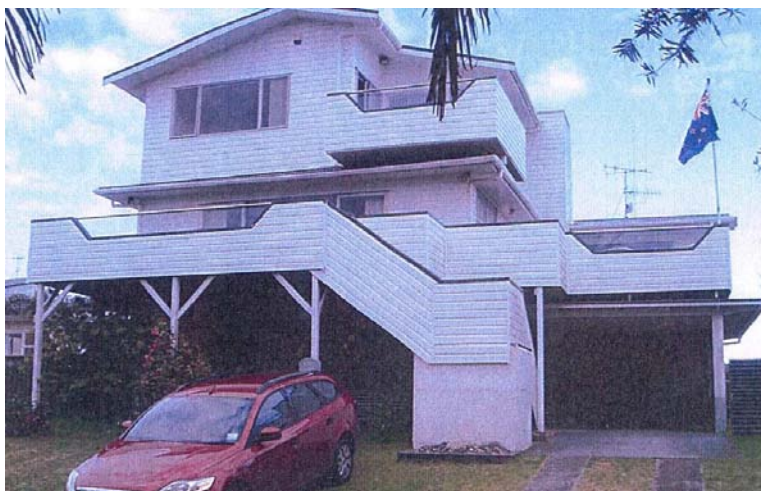


Determination 2011/097

Regarding the refusal to issue code compliance certificates for a 9-year-old addition and an 8-year-old lift installation to a house at 1038 Papamoa Beach Road, Tauranga



1. The matters to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department.
- 1.2 The parties to the determination are:
 - the applicants who are the owners, M and J Sayers (“the applicants”)
 - Tauranga City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3 This determination arises from the decision of the authority to refuse to issue code compliance certificates for a 9-year-old addition (“the addition”) and an 8-year-old lift installation (“the lift installation”) to an existing house because it is not satisfied

¹ The Building Act, Building Code, Compliance documents, past determinations and guidance documents issued by the Department are all available at www.dbh.govt.nz or by contacting the Department on 0800 242 243.

that the building work complies with the requirements of certain clauses² of the Building Code (First Schedule, Building Regulations 1992). The authority's concerns relate to the weathertightness of the exterior building envelope (refer paragraph 3.10).

1.4 The matter to be determined³ is therefore whether the authority's decisions to refuse to issue the code compliance certificates were correct. In deciding this matter, I must consider:

1.4.1 Matter 1: The external envelope

Whether the external envelopes of the addition and the lift installation comply with Building Code Clause B2 Durability and Clause E2 External Moisture. These "external envelopes" include the cladding, its configuration and components, junctions with other building elements, formed openings and penetrations, as well as the way the components have been installed and work together.

1.4.2 Matter 2: The durability considerations

Whether the elements that make up the building work comply with Clause B2 Durability of the Building Code taking into account the ages of the building work.

1.5 Matters outside this determination

1.5.1 The building was modified under a separate building consent (No. 18412) in 2005, when the basement garage of the dwelling was re-clad with a plywood cladding material. I have seen no evidence that a code compliance certificate has been issued by the authority for the building work completed under that consent. However, neither the authority nor the expert has expressed any concerns in regard to this building work, and therefore this determination does not consider that work further.

1.5.2 The parties have not raised any matters relating to other clauses of the Building Code and this determination is therefore restricted to considering compliance with Clauses B2 Durability and E2 External moisture as described in paragraph 1.4.

1.6 I note the building work had been undertaken under the supervision of Bay Building Certifiers Limited ("the building certifier"). The building certifier was duly registered under the Building Act 1991 ("the former Act") but ceased to operate as a building certifier before it had issued a code compliance certificate for the building work.

1.7 In making my decision, I have considered the submissions of the parties, the report of the expert commissioned by the Department to advise on this dispute ("the expert"), and other evidence in this matter.

² In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

³ Under section 177(1)(b) and 177(2)(d) of the Act.

2. The building

2.1 General

- 2.1.1 The original dwelling was a 1960s two-storey house sited on an exposed residential section that has been classified as a high-wind sea spray zone for the purposes of NZS 3604⁴.
- 2.1.2 The building is constructed with timber framing and clad with PVC weatherboard, with aluminium joinery throughout.
- 2.1.3 The modified dwelling has several roof sections, including part of the original hip-style roof at second floor level (now functioning as eaves), an original gable-style roof over that part of the original dwelling which does not have a third level above it, and the roofs of the addition and the lift installation. All of the dwelling's roofs, apart from the roof of the lift installation, have been clad with corrugated steel roofing material.
- 2.1.4 The resulting house is complex in plan and form. It is assessed as having a high weathertightness risk (see paragraph 6.2.2).

2.2 The addition

- 2.2.1 The addition consists of a new third floor level along the east wing of the building with an enclosed outdoor deck to the northwest corner.
- 2.2.2 The enclosed deck has been constructed from timber framing overlaid with plywood, with a waterproofing membrane. The membrane extends 150mm up the walls of the deck.
- 2.2.3 The addition has a simple, truss-based, 15° gable-style roof clad with corrugated steel roofing material. The roof of the addition has a 600mm perimeter soffit overhang on all four elevations, and externally-fitted PVC gutters.

2.3 The lift installation

- 2.3.1 The lift installation consists of the construction of a new timber-framed lift shaft to house an internal proprietary lift carriage located on the west elevation.
- 2.3.2 The lift installation has a near-flat roof without eaves or guttering, and has been clad with a fibreglass mat and waterproof membrane roofing material.
- 2.4 The expert was unable to confirm whether or not the timber framing used in the addition and lift installation was treated. Given the age of the original house and the earlier additions, the majority of the existing wall framing is likely to use native timber or boracic-treated framing. Given the date of construction of the addition in 2002 and the lift in 2003, I consider the wall framing of the additions to be untreated.

⁴ New Zealand Standard NZS 3604:1999 Timber Framed Buildings.

3. Background

The addition

- 3.1 On 18 March 2002 the authority issued the first building consent No. 7267 under the former Act for the construction of the third level addition. This consent was supported by a building certificate issued by the building certifier.
- 3.2 The building certifier carried out nine inspections during construction between July 2002 and June 2005, the last inspection being a preline inspection that passed.

The lift installation

- 3.3 On 15 August 2003 the authority issued building consent No. 11933 under the former Act for the installation of a timber-framed lift shaft and associated lift on the west elevation of the dwelling. This second consent was also supported by a building certificate issued by the building certifier.
- 3.4 The building certifier carried out one inspection (footing) on September 2003 that passed.

The building certifier

- 3.5 The building certifier ceased operating as a building certifier in 2005, but continued operating under a different name to provide regulatory services for the authority, acting as a contractor to the authority (“the authority’s contractor”).
- 3.6 The authority’s contractor completed the following subsequent inspections of the addition
- pre-stopping inspection July 2007
 - final inspection on 11 December 2009 (failed).
- 3.7 In failing the building work following the 11 December 2009 inspection, the authority’s contractor noted:

Deck handrail does not comply with F4 clauses of the New Zealand building code.

Slope on balustrade to be a minimum of 5 degrees.

Smoke alarms to go in.

Final plumbing inspection passed.

Producer statement required for: Roof fixing and durability, Electrical certificate,

Engineer’s confirmation of foundation as asked for on 7 Feb 03.

Deck membrane.

(I note here that the installation of smoke alarms was not a requirement of the code at the time the building consent was issued for the addition.)

- 3.8 On 18 February 2010 the authority carried out a further final inspection of the addition which failed because the authority was not satisfied on reasonable grounds

that the building work complies with Clauses B2 Durability and E2 External Moisture of the Building Code.

- 3.9 On 17 January 2011 another final inspection of the addition was carried out by the authority, and in a letter to the applicants dated 10 March 2011 the authority explained the reasons it was not willing to issue a code compliance certificate for the work completed under the first consent. It was however noted that the issues raised by the building inspection company in the final inspection in 2009 had been addressed. I have seen no reference to the building work conducted under the second consent in the authority's refusal.
- 3.10 Though the authority did not issue a notice to fix, it listed concerns about some of the weathertightness detailing including (in summary):
- The deck has had metal balustrade caps fitted but these have no fall and [the inspector] could not determine if saddle flashings are present to protect the balustrade to cladding junction.
 - The area completed pursuant to this consent is clad with direct fixed vinyl weatherboards. While these are not catered for in E2/AS1 we commonly accept Alternative Solutions submitted on the basis that they are similar to timber or fibre cement weatherboards. In the case of this building that would require the cladding to be on a cavity system.
 - The windows have no sill flashings fitted. This is a requirement for direct fixed weatherboard cladding systems.
 - The deck membrane [is not recognised] and there is no current BRANZ Appraisal for it. ... from experience I have found liquid applied membranes to be less reliable than appraised Butyl or EPDM sheet membranes.
- 3.11 The Department received an application for a determination on 1 July 2011.

4. The submissions

- 4.1 The applicants forwarded copies of:
- the consent drawings and specifications
 - correspondence between the parties, including the 10 March 2011 letter from the authority to the applicants
 - producer statements
 - inspection records from the building certifier
 - other information relating to the building work.
- 4.2 The authority acknowledged the application on 20 July 2011, but did not make a submission to it.
- 4.3 A draft determination was issued to the parties on 23 September 2011. The draft was issued for comment and for the parties to agree dates when the addition and the lift complied with Building Code Clause B2 Durability.
- 4.4 The authority accepted the draft without comment. The applicants responded in a letter dated 3 October 2011. The applicants agreed that some remedial work was

required (refer paragraph 5.4.2), but did not accept the draft and reiterated views put forward in response to the expert's report (refer paragraph 5.4.1) in regard to the lift and shaft wall/roof junctions.

4.5 The parties agreed that compliance with B2, for both consents, was achieved on 17 June 2005.

5. The expert's report

5.1 General

5.1.1 As mentioned in paragraph 1.6, I engaged an independent expert to provide an assessment of the condition of the building work relating to both the third storey addition and the lift installation. The expert is a member of the New Zealand Institute of Building Surveyors. The expert inspected the building work on 2 July 2011 and provided a report on 22 August 2011.

5.1.2 The expert noted that 'the shape and form of the addition is largely in accordance with the architectural design concept and consent documentation'. The expert also noted that 'generally the vinyl cladding appears to be well aligned and is in good condition, in keeping with age'.

5.2 The finding

5.2.1 The expert undertook non-invasive and invasive moisture content readings at locations throughout the interior of the dwelling, and found no evidence that exterior moisture ingress had occurred.

5.2.2 The expert also undertook thirteen invasive moisture readings at selected locations around the exterior of the addition and lift installation. These readings ranged between 8% and 14%, with the two highest readings (both 14%) recorded in the bottom plate of the bedroom window on the south elevation of the addition, and in the bottom plate of the family room window on the east elevation of the addition.

5.2.3 Commenting specifically on the exterior envelope, the expert noted that:

The cladding

- sill and jamb flashings are not installed.
- some of the overlaps of the joinery jambs over the cladding is insufficient, in some locations there is no overlap at all
- some jointers are missing [from the cladding system] and may allow wind driven rain to enter the structural cavity
- the lift shaft wall/roof junctions and apron flashings are inadequate, with a flexible tape and liquid membrane applied over the corrugated iron instead of underneath

The deck

- there is no provision for overflow
- apron flashings have been fitted poorly and rely on silicone sealant for weathertightness
- cap flashings joints and an internal corner are not well finished and rely on silicone sealant for weathertightness.

5.2.4 With regard to the third floor deck addition, the expert observed that '[t]he balcony is water proofed' and stated that although 'it does not meet the current [Acceptable Solution], the clearance can be considered sufficient'. The expert also noted that '[t]he deck has sufficient fall to the perimeter gutter and water outlet'.

5.3 A copy of the expert's report was provided to the parties in late August 2011.

5.4 Applicants' response

5.4.1 The applicants responded to the expert's report in an email to the Department on 31 August 2011. In regard to the flashings the applicants stated that they had been done 'in the correct manner' and 'according to the regulations' by the builder, but that the applicants had applied adhesive waterproof flexible tape and liquid membrane over the top as an extra layer of weatherproofing. The applicants also noted that the retrospective fitting of the apron flashings to the balustrade was also the applicants' work and was done to allow for the change to having an angled rather than flat cap.

5.4.2 The applicants responded to the draft determination in a letter dated 3 October 2011; agreeing that the following items required remediation:

- Insufficient or no overlaps of joinery jambs over the cladding at some locations.
- Missing jointers in the cladding.
- Provision for overflow from the deck.
- Poorly fitted apron flashings that rely on silicone sealant for weathertightness.
- Poorly finished cap flashing joints and an internal corner that rely on silicone sealant for weathertightness.

The applicants also expressed concern about removing the windows to retrofit sill and jamb flashings. I have considered that matter in paragraph 6.4.

6. Matter 1: The external envelope

6.1 The evaluation of building work for compliance with the Building Code and the risk factors considered in regard to weathertightness have been described in numerous previous determinations (for example, Determination 2004/1).

6.2 Weathertightness risk

6.2.1 The addition and lift installation building work has the following environmental and design features which influence its weathertightness risk profile:

Increasing risk

- the building is situated in a high wind zone
- the exterior envelope of the building is moderately complex
- some of the building's walls, notably around the lift installation, are not protected by eaves
- the building has three storeys
- the deck is enclosed and is situated above an internal room

Decreasing risk

- there are eaves of 600mm on most elevations.

6.2.2 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2.1 show that this house demonstrates a high weathertightness risk rating. I note that if the details shown in the current E2/AS1 were adopted to show code compliance, the cladding would require a drained cavity. However, I also note that a drained cavity was not a requirement of E2/AS1 at the time of construction.

6.3 Weathertightness conclusion

6.3.1 I consider the expert's report establishes that the current performance of the external envelope of the addition and lift installation is adequate because it is preventing water from penetrating through the cladding of the building work. Consequently I am satisfied that the addition and lift installation comply with Clause E2 of the Building Code.

6.3.2 However, the building envelope to the addition and lift installation is required to comply with the durability requirements of Clause B2. Clause B2 requires that a building continues to satisfy all the objectives of the Building Code throughout its effective life, and that includes the requirement for the house to remain weathertight.

6.3.3 Because the faults in the addition and lift installation are likely to allow ingress of moisture in the future, the addition and lift installation do not comply with the durability requirements of Clause B2 insofar as it relates to Clause E2. I accept the expert's opinion and that work is required in respect of the following:

- insufficient or no overlap of joinery jambs to the PVC weatherboard cladding
- missing jointers to the PVC weatherboard cladding
- inadequate lift shaft wall/roof junctions and inadequate apron flashings
- no provision for overflow to the deck
- reliance on sealant to poorly fitted apron flashings, cap flashings joints, and the like.

6.3.4 The faults identified in the external envelope are discrete in nature and have not led to a systemic failure of the cladding in either the addition or the lift installation. The building has met the weathertightness performance requirements of the Code for eight years. I am therefore of the view that satisfactory rectification of the items

outlined in paragraph 6.3.3 will result in the external envelope being brought into compliance with Clause B2 insofar as it relates to Clause E2.

- 6.4 With respect to the retrofitting of sill and jamb flashings as noted in paragraph 9.1, and in response to the applicants' submissions in paragraph 5.4, it is not for the Determination or the notice to fix to specify how these defects should be made good. It is accepted that the joinery installation is currently performing adequately with respect to Clause E2; however, the wall framing is not treated to a level that would resist decay should these junctions fail in future.
- 6.5 I consider any remedial proposal could include additional protection to the window jamb-to-cladding junctions to achieve the durability performance required by the Building Code. It is noted that the PVC weatherboard cladding is a system that with details applicable to this situation. Account should be taken of these details when considering the remedial work.

7. Matter 2: The durability considerations

- 7.1 The relevant provision of Clause B2 of the Building Code requires that building elements must, with only normal maintenance, continue to satisfy the performance requirements of the Building Code for certain periods ("durability periods") from the time of issue of the applicable code compliance certificate (Clause B2.3.1).
- 7.2 These durability periods are:
- 5 years if the building elements are easy to access and replace, and failure of those elements would be easily detected during the normal use of the building
 - 15 years if building elements are moderately difficult to access or replace, or failure of those elements would go undetected during normal use of the building, but would be easily detected during normal maintenance
 - the life of the building, being not less than 50 years, if the building elements provide structural stability to the building, or are difficult to access or replace, or failure of those elements would go undetected during both normal use and maintenance.
- 7.3 In this case the delay between the completion of the building work and the applicants' request for a code compliance certificate in 2011 has raised concerns that various elements of the buildings are now well through or beyond their required durability periods, and would consequently no longer comply with Clause B2 if a code compliance certificate were to be issued effective from today's date.
- 7.4 It is not disputed, and I am therefore satisfied, that all the building elements in respect of consent No. 7267 and 11933, excluding those items that are to be rectified as described in paragraph 6.3.3 of this determination, complied with Clause B2 on 17 June 2005 (refer paragraph 4.5).
- 7.5 In order to address these durability issues when they were raised in previous determinations, I sought clarification of general legal advice about waivers and modifications. That clarification, and the legal framework and procedures based on the clarification, is described in previous determinations (for example, Determination

2006/85). I have used that advice to evaluate the durability issues raised in this determination.

7.6 I continue to hold the views expressed in the previous relevant determinations, and therefore conclude that:

- a) the authority has the power to grant an appropriate modification of clause B2 in respect of all of the elements of the building if requested by an owner
- b) it is reasonable to grant such a modification, with appropriate notification, because in practical terms the building is no different from what it would have been if code compliance certificate had been issued in 2005.

7.7 I strongly suggest that the authority record this determination, and any modification resulting from it, on the property file and also on any LIM issued concerning this property.

8. The appropriate certificate to be issued

8.1 Having found that the building work can be brought into compliance with the Building Code, I must now determine whether the authority can issue either certificates of acceptance or code compliance certificates for the two building consents.

8.2 Section 437 of the Act provides for the issue of a certificate of acceptance where a building certifier is unable or refuses to issue either a building certificate under section 56 of the former Act, or a code compliance certificate under section 95 of the current Act. In such a situation, a building consent authority may, on application, issue a certificate of acceptance. In the case of the building work completed under these two consents, the owner is seeking code compliance certificates.

8.3 In this situation, where I have reasonable grounds to conclude that the building work can be brought into compliance with the Building Code, I take the view that code compliance certificates are the appropriate certificate to be issued in due course.

9. What is to be done now?

9.1 The authority should issue a notice to fix that requires the owner to bring the building work relevant to consents No. 7267 and No. 11933 into compliance with the Building Code, identifying the items listed in paragraphs 6.3.3 and referring to any further defects that might be discovered in the course of investigation and rectification.

9.2 The notice to fix should not specify how those defects are to be fixed. The applicant should then produce a response to this in the form of a detailed proposal, produced in conjunction with a competent and suitably qualified person, as to the rectification or otherwise of the specified matters. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

9.3 Once the matters set out in paragraphs 6.3.3 have been rectified to its satisfaction, the authority may issue code compliance certificates in respect of the building consents No. 7267 and No. 11933 amended as described in paragraph 7.

10. The decision

10.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the building work completed in respect of building consents No. 7267 and No. 11933 does not comply with the Building Code Clause B2 Durability, and accordingly I confirm the authority's decision to refuse to issue the respective code compliance certificates.

10.2 I also determine that:

- a) all the building elements installed in the addition in respect of consents No. 7267 and 11933, apart from the items that are to be rectified as described in this determination, complied with Clause B2 on 17 June 2005
- b) Building consents No. 7267 and 11933 are hereby modified as follows:

The building consent is subject to a modification to the Building Code to the effect that Clause B2.3.1 applies from 17 June 2005 instead of from the time of issue of the code compliance certificate for all the building elements, except the items to be rectified as set out in paragraph 6.3.3 of Determination 2011/097.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 18 November 2011.

John Gardiner
Manager Determinations