



Determination 2011/047

Regarding the refusal to issue a code compliance Certificate for 12-year-old additions and alterations to a house at 22 Ngaio Lane, Chateris Bay.



1. The matter 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.

The parties to the determination are:

- the owners, T V Scott and S Odey (“the applicants”)
- the Christchurch City Council (“the authority”)², carrying out its duties and functions as a territorial authority or building consent authority.

1.2 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for additions and alterations to the house, because it was not satisfied that the additions complied with clauses³ B1 Structure, B2 Durability, E2 External Moisture, and because it was not built in accordance with the building consent.

¹ The Building Act 2004, the Building Code the Compliance Documents, past determinations, and guidance documents issued by the Department are available from the Department’s website at www.dbh.govt.nz or by contacting the Department on 0888 242 243.

² On 6 March 2006, the Banks Peninsular District Council merged with the Christchurch City Council. Both entities are referred to herein as “the authority”.

³ 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

1.3 The matter for determination⁴ is whether the decision of the authority to refuse to issue the code compliance certificate was correct. In making this decision, I must consider:

1.3.1 **Matter 1: The external envelope**

Whether the external envelope of the addition complies with the Building Code Clauses B2 Durability and E2 External Moisture. The “external envelope” includes the components of the systems (such as the plaster and fibre-cement claddings, the windows, the roof tiles and the flashings), as well as the way the components have been installed and work together. I consider this matter in paragraph 6.

1.3.2 **Matter 2: The remaining code requirements**

Whether the building work complies with the other relevant clauses of the Building Code. I consider this matter in paragraph 7.

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

2. The building work

2.1 The house is located on a steeply sloping site, in a high wind zone and sea spray zone for the purposes of NZS3604⁵. The original dwelling is double storied with a cantilevered timber slatted deck to the west elevation. The building work that is the subject of this determination is a single storey addition to the south side of the existing dwelling and internal alterations.

2.2 The alterations to the upper level of the existing dwelling comprises:

- the removal of two internal walls to create a living room
- installation of aluminium bi-fold doors to upper level, west elevation
- replacement of an existing window with a new window to the upper level, north elevation
- replacement of an existing window with new french doors to upper level, west elevation
- relocation of shower from the upper floor to the existing bathroom on the lower floor
- installation of a laundry where the shower had been removed.

2.3 The addition comprises two bedrooms and a cantilevered timber slatted deck on the north elevation of the addition that can be accessed from one of the bedrooms. The exterior cladding to the addition is face fixed 6mm fibre-cement board that is close butt jointed over 50mm x 1.5mm proprietary tape. The joinery is face fixed aluminium. The 15° pitch roof is timber framed, clad with painted corrugated iron and a skylight has been installed. The spouting is fixed to the timber fascia.

2.4 The floors to the addition are 20mm particleboard fixed over radiata joists and ground treated poles set in concrete support the sub-floor. There is no under floor

⁴ In terms of sections 177(1)(b) and 177(2)(d) of the Act.

⁵ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

insulation to the addition. The external framing timber of the addition is untreated Radiata and the sub-floor framing to the deck is treated to H3.2.

3. Background

- 3.1 On 27 August 1999 the authority issued a building consent (99603676) for the additions and alterations under the Building Act 1991.
- 3.2 Two inspections were undertaken by the authority:
- Foundation inspection, 3 September 1999.
 - Insulation and cladding inspection, 28 March 2000.
- 3.3 On 31 October 2008, in response to a requirement by the authority regarding encroachment, an amendment was made to the consent to replace internal linings in bedrooms with fire rated plasterboard, and remove the southeast roof corner.
- 3.4 On 3 December 2009 the authority undertook a fire resistant lining inspection, which was passed.
- 3.5 On 2 August 2010 the authority undertook a final inspection. The site inspection report notes:
1. Building does not comply with building code B1, B2, E2
 2. Building is not constructed to the [building consent] issued
 3. Cladding shows multiple cracks and needs an expert assessment in weathertightness – to include penetrations flashings etc
 4. Access required to inside the building
 5. Engineer to do a structural assessment in compliance with the building consent & building code
 6. Consent plans need amendment

The report also noted that an electrical compliance certificate was required and concluded with the recommendation that the authority refuse to issue a code compliance certificate.

- 3.6 As a result of this failed inspection the authority issued a notice to fix dated 6 August 2010. The notice described the areas of non-compliance as ‘non-compliance with Building Code clauses B1, B2 and E2. The building has not been built in compliance with the building consent issued or the New Zealand building code.’ The notice to fix also referred to the lack of inspections undertaken.
- 3.7 The Department received an application from the owner on 4 February 2011.

4. Submissions

- 4.1 The applicant forwarded copies of:
- building consent documentation relating to the original building consent and subsequent amendment
 - correspondence from the authority
 - inspection records
 - the notice to fix

- photographs of the building.

4.2 The authority did not acknowledge the application or make a submission in response to the application.

4.3 A draft determination was issued to the parties on 5 May 2011. Both parties accepted the draft without further comment.

5. The expert's report

5.1 As mentioned in paragraph 1.4, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors. The expert visited the site on 10 March 2011 and furnished a report on 17 March 2011. A copy of this report was provided to the parties on 18 March 2011.

5.2 Variations from consent

5.2.1 The expert noted a number of differences between the consented plans and the as built building work, for example plans specified 9mm fibre-cement board while 6mm fibre-cement board has been used. The thinner boards have been installed over a sealing strip as per the manufacturer's recommendations. However documentation from the authority was not available to the expert due to the authority operating under a civil defence emergency.

5.3 General

5.3.1 The expert noted that the building has been well maintained but that some minor repairs are required. The expert noted a number of risk factors present but concluded that providing regular, normal maintenance is carried out the building work should continue to meet the relevant requirements of the Building Code.

5.3.2 In particular the expert noted that the:

- exterior cladding was straight and well aligned, and the texture finish was in good condition and had been well maintained
- aluminium joinery had been installed to a good standard with the exception of jamb seals and flashings (as noted in paragraph 5.5)
- deck and balustrade construction is of a good standard
- the roof had been constructed in accordance with the building consent and appears well maintained, although some minor repairs are now required to ensure ongoing weathertightness.

5.4 Moisture Levels

5.4.1 The expert assessed the moisture content of the exterior walls by undertaking a number of external, invasive moisture content readings at locations considered prone to leaking. Areas included the skylight, window corners and deck balustrade to wall junctions. The expert found no evidence of elevated moisture content readings or of water ingress.

5.5 The expert commented on the external envelope as follows:

- hairline cracking was evident at most of the sheet joins in the cladding
- deck beam penetrations were inadequately flashed or sealed
- joinery has been installed without jamb flashings or seals
- fibre-cement sheeting placement not in accordance with the manufacturer specifications but this has not resulted in any moisture ingress.
- there was exposed timber framing visible above the eave outriggers on the south elevation

Roof

- part of the cladding between the roof and a window in the south elevation apron had dropped away, perhaps as a result of the recent earthquakes, and whilst this is not allowing water to ingress it requires repair
- the apron to wall junction does not extend under the verge flashing and while the expert did not observe high moisture content readings, he noted that this is a high risk junction and if not repaired could leak in the future.
- the downpipe servicing the main roof is not fitted with a spreader and thus discharges directly onto the extension roof apron. This is a high risk practice and a spreader should be fitted.
- though the roof skylight over the stairwell had been well flashed, the repairs to the double glazed panel need to be replaced with a more appropriate method of sealing.

5.6 The expert also commented that (relevant code clauses in brackets):

- The floor joists, as constructed do not comply with NZS3604:1990, however there does not appear to be any deflection. (B1 Structure)
- The internal stairway will require handrails to be fitted (F4 Safety from falling)
- The external steps on the northern elevation will also require a handrail. (F4)
- The smaller run of steps providing access to the lower deck should also have a handrail fitted. (F4)
- No sub-floor insulation had been installed to the addition. (H1 Energy Efficiency)

Matter 1: The external envelope

6. Weathertightness

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

6.2 Weathertightness risk

6.2.1 The section of the house affected by the addition has the following environmental and design features which influence its weathertightness risk profile:

Increasing risk

- the house is sited in a high wind zone and sea spray zone
- there is a timber slat deck

Decreasing risk

- the addition is single storey
- there are 600mm eaves that provide some shelter to the cladding
- the envelope is simple in form and the roof to wall intersection is sheltered

6.2.2 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2.1 show the addition has a medium 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 at the time of construction.

6.3 Weathertightness performance

6.3.1 Generally the claddings appear to have been installed in accordance with good trade practice. However, taking into account the expert's comments in paragraph 5, I conclude that remedial work is required in respect of the:

- lack of jamb seals or flashings
- roof apron to wall flashing
- cladding that has fallen away
- hairline cracks to the cladding
- lack of spreader to the downpipe discharging to the addition roof
- repairs to the skylight double glazing panel
- inadequately sealed deck beam penetrations, and
- exposed timber framing above the eave outriggers on the south elevation

6.4 Weathertightness conclusion

6.4.1 I consider the expert's report establishes that the current performance of the building envelope is adequate. Consequently, I am satisfied that the house complies with Clause E2 of the Building Code.

6.4.2 However, the building work is also 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. Because the cladding faults on the addition are likely to allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.

6.4.3 Because the faults identified with the cladding occur in discrete areas, I am able to conclude that satisfactory rectification of the minor items outlined in paragraph 6.3.1 will result in the building envelope being brought into compliance with Clause B2 of the Building Code.

- 6.4.4 Effective maintenance of claddings is important to ensure ongoing compliance with Clauses B2 and E2 of the Building Code and is the responsibility of the building owner. The Department has previously described these maintenance requirements, including examples where the external wall framing of the building may not be treated to a level that will resist the onset of decay if it gets wet (for example, Determination 2007/60)

Matter 2: The remaining code requirements

7. Discussion

- 7.1 Taking into account the comments of the expert outlined in paragraph 5.6, I conclude that remedial work is necessary in respect of the lack of handrails and lack of sub-floor insulation.
- 7.2 Again the faults identified occur in discrete areas and therefore I am able to conclude that the satisfactory rectification of the minor work outlined in paragraph 7.1 will result in the building work being brought into compliance with all remaining clauses of the building code.

8. What is to be done?

- 8.1 The authority should now issue a notice to fix that requires the owners to bring the alterations into compliance with the Building Code. The notice to fix should identify the items listed in paragraphs 6.3.1 and 7.1 and refer to any further defects that might be discovered in the course of investigation and rectification, but should not specify how those defects are to be fixed. It is not for the notice to fix to specify how the defects are to be remedied and the building brought to compliance with the Building Code. That is a matter for the owners to propose and for the authority to accept or reject.
- 8.2 The applicants 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.
- 8.3 The applicants should also provide the necessary information and evidence of compliance to the authority so that the authority can satisfy itself as to the compliance of the floor joists with Clause B1.

9. The decision

9.1 In accordance with section 188 of the Building Act 2004, I hereby determine that

- there is insufficient evidence to establish on reasonable grounds that the addition complies with Clause B1
- the building work does not comply with Clauses F4 and H1 of the Building Code, and Clause B2 insofar as it relates to Clause E2

and accordingly I confirm the authority's decision to refuse to issue a code compliance certificate for the addition.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing
on 23 May 2011.

John Gardiner
Manager Determinations