



Determination 2011/005

Refusal to issue a code compliance certificate for a 14 year old house at 703 Selwyn Lake Rd, Irwell



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.

1.2 The parties to the determination are:

- the applicants, J and A Hind (“the owners”) represented by their agent, and
- the Selwyn District Council (“the authority”), carrying out its duties and functions as a territorial authority or building consent authority.

1.3 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for the 15-year-old townhouse because it was not satisfied that the building work complied with certain clauses² of the Building Code (First Schedule, Building Regulations 1992). The authority’s primary concerns (refer

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 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

paragraphs 3.6 and 4.2) relate to the weathertightness of the building envelope and also whether the building elements comply with Clause B2 Durability of the Building Code, taking into account the age of the building work.

1.4 The matter for determination³ is whether the authority was correct in its decision to refuse to issue a code compliance certificate. In deciding this matter, I must consider:

1.4.1 Matter 1: The external envelope

Whether the external envelope complies with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The external envelope includes the components of the cladding systems as well as the way the components have been installed and work together. I consider this in paragraph 6.

1.4.2 Matter 2: Other clause requirements

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

1.4.3 Matter 3: The durability considerations

Whether the building elements comply with Clause B2 Durability of the Building Code, taking into account the age of the building work. I consider this in paragraph 8.

1.5 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. The building

2.1 The house is sited on open, flat rural land and is oriented north south with the garage doors located on the south elevation of the building. The house is located in a high wind zone for the purposes of NZS 3604⁴.

2.2 The house is two storeys with most of the first floor located in the steep pitched skillion roof and formed dormers. Most of the ground floor perimeter is protected by 250mm eaves with minimal verges to the south and north of the first floor.

2.3 The construction is conventional light timber framing constructed on concrete foundation and timber-framed floors. According to the specifications the wall framing timber was to be ‘Rad. Pine H1’. Joinery is aluminium, the roof is longrun prepainted iron and the cladding is rusticated, stained weatherboard.

3. Background

3.1 A building consent for construction of the house was issued by the authority in March 1996 under the Building Act 1991, and the building work was substantially completed by December 1996.

3.2 Inspections were undertaken during construction with the last inspection in this period carried out on 13 June 1997 for installation of the solid fuel heater.

3.3 On 3 September 1998 the authority sent a “CCC reminder letter” and on 22 May 2000 issued an interim code compliance certificate for work completed to that date. The interim code compliance certificate included the statement that ‘Further building work is required to be completed as detailed in the most recent building inspection

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

⁴ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

sheet'. It is unclear from the records provided to me which building inspection sheet this refers to or what work was required.

- 3.4 On 26 February 2010 the authority undertook a final inspection. This inspection was failed and a list of 19 items requiring attention was included on the inspection notice, the majority of which concerned the weathertightness of the building envelope.
- 3.5 On 28 July 2010 the authority undertook another final inspection. The inspection record noted that all items listed in the February 2010 inspection notice had been completed, but that amended plans to reflect changes to the bathrooms were required. In August 2010 the owners applied to the authority for a Code Compliance Certificate.
- 3.6 On 26 August 2010, the authority wrote to the owners advising them that their application for a Code Compliance Certificate had been unsuccessful. The reasons for refusing the issue of a code compliance certificate were due to concerns that the durability periods (refer paragraph 8) would commence from the date the code compliance certificate was to be issued and that the building work was already 14 years old. The letter also stated that
- ... the interim Code Compliance Certificate was issued after the building was substantially completed and that the outstanding work from a previous inspection has now been completed. It is suggested, that the interim Code Compliance Certificate together with this letter be accepted as confirmation from the BCA that the building is authorized building work and all necessary inspections were carried out satisfactorily at the time."
- 3.7 I note that on the code compliance certificate application summary the authority has recorded its concerns as 'age of consent, the weathertightness issues, areas of soffits not completed, not vermin proofed since built'.
- 3.8 It appears that no further correspondence occurred between the owner and the authority and an application for a determination was received on 27 September 2010.

4. Submissions

- 4.1 The applicant forwarded copies of:
- building consent documentation, including specifications and plans
 - relevant producer statements
 - copies of building inspection reports
 - correspondence between the parties.
- 4.2 In a letter to the Department dated 4 October 2010, the authority acknowledged the application for a determination and provided a summary of events relating to the building work. In conclusion the authority noted:
-we have concerns regarding the fact that damage may have occurred due to the fact that the building was not weathertight for more than 13 years and has only recently been made weathertight"
- 4.3 The applicant forwarded a further submission dated 8 October 2010 including copies of two 'earthquake damage assessment' reports which noted that previously existing minor cracks in walls and ceilings had moved but that there was no other earthquake related damage.

4.4 A draft determination was issued to the parties on 20 January 2011. The draft was issued for comment and for the parties to agree a date when the house complied with Building Code Clause B2 Durability. The applicant accepted the draft without comment.

4.5 The authority accepted the draft but with the following comments:

- the building was in a high wind zone
- the specifications described the wall framing timber as 'Rad. Pine H1'
- the determination should refer to the degradation of the sealant to the joins in the weatherboards referred to by the expert.

I have considered the authority's comments and amended the determination accordingly.

4.6 The parties agreed that compliance with Clause B2 was achieved on 1 April 1997.

5. The expert's report

5.1 As mentioned in paragraph 1.5, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors. He visited the building on 2 November, and furnished a report dated 8 November 2010. The expert undertook a further site visit and provided an addendum to his report. Copies of these reports were provided to the parties.

5.2 General

5.2.1 The expert noted that there were no significant changes to the consented plans. He concluded that little or no maintenance had been undertaken over recent years. In his view the paint and stained surfaces showed signs of sealant deterioration that were consistent with the age of the building. Junctions between the roof cladding and fascia/soffits were not vermin proof.

5.2.2 The expert considered that the installation of the cladding was generally of a reasonable standard, and that the quality of workmanship was average. However he noted that the east wall of the garage showed lines of not being true and was well outside the tolerances given in NZS3604.

5.3 Moisture levels

5.3.1 The expert assessed the moisture content of the exterior walls by undertaking invasive moisture testing internally and externally. The expert noted visible evidence of water damage in the west wall of the garage and moisture staining in the west window of the garage.

5.3.2 Internal moisture readings ranged between 9 to 12%, with the following elevated readings:

- 44% in plaster board linings at the side entry door of the ground floor east elevation
- 34% recorded in timber reveals to the ranch slider door on the ground floor east elevation with decay evident.

5.3.3 External moisture testing was carried out on the south and west elevations where cladding had been removed. All readings on the south elevation were between 9-11% and there was no sign of mould or decay. On the west elevation a moisture level of 40% was recorded below the roof and wall junction.

5.3.4 I note that moisture levels above 18% generally indicate that external moisture is entering the structure and further investigation is required, and that readings over 40% indicate that the timber is saturated and decay will be inevitable over time.

5.4 Weathertightness

5.4.1 The expert inspected the external envelope and the interior of the building and found the following matters of concern.

5.4.2 Ground clearances between cladding and finished ground were generally compliant with NZS3604 and the specifications of the cladding manufacturer. The expert noted that along the east elevation to the side of the garage door and on the south elevation, the gravel drive had been filled to provide easy access into the garage and clearances therefore did not comply. The expert noted that sealant joints between weatherboards were showing signs of degradation.

5.4.3 The expert noted that the cladding manufacturer's specifications at the time of construction had not been followed with respect to the window installation. Head flashings did not extend the full 60mm over openings nor have the ends been sealed where the slots have been cut in the weatherboard to receive the flashing. Many of the windows are located directly under the soffit, which offers some protection. However, it is possible for water to enter at the jamb junctions from where it will be channeled behind the cladding. The presence of cant strips and the bottom plate line and the sealed flashing (above the garage door) pose a risk for water to be trapped behind the cladding.

5.4.4 The expert noted a number of defects associated with the roof.

- Roof apron flashings had not been installed with the required water diverter.
- A join in the ridge capping had separated.
- Barge flashings were poorly formed.

5.5 Other building code clauses

5.5.1 From his investigations the expert concluded the following:

| Code clause | Assessment | Action required |
|------------------------|---|---------------------------|
| C fire safety | Boundary pegs not sited but unlikely any specific design requirements | n/a |
| E1 surface moisture | No obvious signs of ponding or ground settlement Complies | n/a |
| E3 internal moisture | Junction between the wall and laundry is not sealed | Junction requires sealing |
| F4 safety from falling | Metal balustrade not installed but stored in building | Re-install balustrade |

| | | |
|---------------------|---|-----|
| | Safety glass stickers indicate safety glass has been used | |
| G1 personal hygiene | Complies | n/a |
| G2 laundering | Complies | n/a |
| G3 food preparation | Complies | n/a |
| G4 ventilation | Complies | n/a |
| G7 & G8 lighting | Complies | n/a |
| G12 water supply | Complies | n/a |
| G13 foul water | Complies | n/a |

5.6 Summary

5.6.1 In the expert's view the following work is required to ensure that the building work complies with the Building Code.

- Provide durable and weathertight seals around windows and doors. The sealant joints to weatherboards required maintenance.
- Install a robust and durable roof/wall junction flashing that will direct water into the spouting. Further investigation will be required to determine the extent of damage that has resulted from this defect.
- Lower the finished level of the path that runs along the east elevation to the side garage door so that it finishes below the bottom plate of the wall framing.
- Carry out remedial work to poorly fitted scribes installed to the garage doors; fit mechanical head flashings.
- Fit vermin proofing between fascia and soffit junctions.
- Install spouting and downpipes to dormer roof(s) and to the north and south elevation of the building.
- Wall and laundry tub sealing.
- Re-installation of the metal balustrade.

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).

Weathertightness risk

6.2 The house has the following environmental and design features which influence its weathertightness risk profile:

Increasing risk

- the house is sited in a high wind zone
- the house is two storey

- the upper level does not have eaves
- the roof/wall junctions are exposed

Decreasing risk

- the ground floor is protected by 250mm eaves
- the envelope has low complexity
- there are no decks.

6.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2 show the house has 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 on this building 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.

Weathertightness performance

6.4 Generally the house is well constructed. However, taking into account the expert's comments in paragraphs 5.6.1 I conclude the remedial work is required as follows:

- ground clearances
- window and door seals
- roof/wall junction flashing
- scribes and window flashings
- bird proofing
- downpipes and spouting.

6.5 I also consider that further investigation is necessary, including the systematic survey of all risk locations, to determine causes and full extent of moisture penetration, timber damage and the repairs required. The extent of any damage to the structural framing needs investigation to determine the building's continuing compliance with Clause B1.

Weathertightness conclusion

6.6 I consider the expert's report establishes that the current performance of the building envelope is not adequate because it is allowing water penetration through the cladding in at least one area at present. Consequently, I am satisfied that the house does not comply with Clause E2 of the Building Code.

6.7 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 is currently allowing the ingress of moisture, the building work does not comply with the durability requirements of Clause B2.

6.8 The faults identified in the cladding are widespread in extent but discrete in nature and in my view have not led to a systemic failure of the cladding. I am therefore of the view that satisfactory rectification of the relevant items outlined in paragraph

5.6.1 will result in the cladding being brought into compliance with Clauses E2 and B2 (insofar as Clause B2 relates to Clause E2).

- 6.9 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: Other clause requirements

7. Discussion

- 7.1 Taking into account the comments of the expert outlined in paragraph 5.5, I am satisfied that the following remedial work is required to address areas of non-compliance in respect of the remaining clauses of the Building Code:
- Wall and laundry tub sealing.
 - Metal balustrade.
- 7.2 The expert did not include an assessment of H1 Energy Efficiency nor have I been provided with any information on the matter. The applicant should provide the necessary information and evidence of compliance to the authority so the authority can satisfy itself as to the compliance of the house with Clause H1.
- 7.3 The expert's consideration of compliance with Clause B1 was limited to a visual inspection and no signs of non-compliance were noted. The building consent documentation included a Producer Statement Design (PS1) for structure, the house was constructed by an established company and the structural integrity of the house was assessed following the September 2010 earthquake, by an established engineering consultancy. The report prepared by this company concluded that:
- overall no structural damage was noted, and
 - no structural items required immediate attention.
- 7.4 I am of the opinion that there are reasonable grounds to conclude the house currently complies with Clause B1 Structure. However, further investigation is required to establish the building's continuing compliance with Clause B1 (refer to paragraph 6.5), and therefore there are not sufficient grounds at this time to conclude the building complies with Clause B2 insofar as it relates to Clause B1.

Matter 3: The durability considerations

8. Discussion

- 8.1 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).
- 8.2 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.

8.3 In this case the delay between the completion of the building work in 1996 and the applicants' request for a code compliance certificate has raised concerns that various elements of the building 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. I have not been provided with any evidence that the authority did not accept that those elements complied with Clause B2 at a date in 1996.

8.4 It is not disputed, and I am therefore satisfied, that all the building elements complied with Clause B2 on 1 April 1997. This date has been agreed between the parties, refer paragraph 4.6.

8.5 In order to address these durability issues when they were raised in previous determinations, I sought and received 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.

8.6 I continue to hold the view, and therefore conclude that:

- The authority has the power to grant an appropriate modification of Clause B2, if requested by the owner, in respect of the building elements.
- It is reasonable to grant such a modification because in practical terms, the building is no different from what it would have been if a code compliance certificate had been issued when the building work was completed in 1996.

8.7 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.

9. What is to be done?

9.1 The authority should issue a notice to fix requiring the owners to bring the building into compliance with the Building Code. The notice should identify the defects listed in paragraphs 6.4, 6.5, 7.1 and 7.2, and refer to any further defects that might be discovered in the course of investigation and rectification. The notice should not specify how those defects are to be fixed and the building brought into compliance with the Building Code, as that is a matter for the owners to propose and the authority to accept or reject.

- 9.2 In response to the notice to fix, the owners should engage a suitably qualified person to undertake a thorough investigation of the external envelope to determine the extent of the defects and produce a detailed proposal describing how the defects are to be remedied. The proposal should be submitted to the authority for approval. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.
- 9.3 Once the agreed matters have been rectified to both parties' satisfaction, the authority may issue a code compliance certificate in respect of the building consent.

10. The decision

10.1 In accordance with section 188 of the Building Act 2004, I determine that:

- the external envelope does not comply with the Building Code
- the house does not comply with Clauses E3 and F4 of the Building Code

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

10.2 I also determine that:

- a) all the building elements installed in the house, apart from the items that are to be rectified as described in Determination 2011/005, complied with Clause B2 on 1 April 1997.
- b) the building consent is 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 1 April 1997 instead of from the time of issue of the code compliance certificate for all of the building elements, except for the items to be rectified as set out in Determination 2011/005.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 10 February 2011.

John Gardiner
Manager Determinations