



Determination 2011/062

Regarding the refusal to issue a code compliance certificate due to a lack of sill flashings in a house at 15 Hampstead Court, Pyes Pa, 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. The applicants are the owners, C and B Ward (“the applicants”), and the other party is the Tauranga City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.2 This determination arises from the applicants’ wish to receive a code compliance certificate for the house; however the authority has stated that is not satisfied that the house complies with certain clauses² of the Building Code (First Schedule, Building Regulations 1992). I take this to indicate that the authority would refuse to issue a code compliance certificate if a formal application was made. The authority’s concerns about the compliance of the building work relate to weathertightness of the windows (refer paragraph 3.9).

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.

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.

1.3 The matter to be determined³ is therefore whether the authority is correct in the proposed exercise of its powers to refuse to issue a code compliance certificate. In deciding this matter, I must consider:

1.3.1 Matter 1: The external envelope

Whether the configuration of the joinery installed in the walls of the building complies with Building Code Clause B2 Durability and Clause E2 External Moisture. This includes the joinery itself, its junction with the external cladding and the way the components have been installed and work together. I consider this matter in paragraph 6.

1.3.2 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 age of the house. I consider this matter in paragraph 7.

1.4 Matters outside this determination

1.4.1 I understand that the authority has indicated it is satisfied that the building meets all other relevant clauses of the Building Code. This determination is therefore limited to the joinery/cladding configuration as described in paragraph 2.4.

1.4.2 The building was modified under a separate building consent in 2005, when the original internal garage of the building was converted into bedrooms and a bathroom, and a new garage addition was constructed onto the rear of the existing building. I note that a code compliance certificate has been issued by the authority for the building work completed under this second consent. This determination therefore does not consider that work.

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 work

2.1 The building work consists of a single storey house situated on a level, excavated rural lifestyle site in a high wind zone for the purposes of NZS 3604⁴. The building is founded on a combination of concrete slab and timber pile foundations.

2.2 The building has been constructed using lightweight timber framing, and the exterior cladding is face-fixed plywood with timber battens set vertically at approximately 400mm spacings. The battens have weather grooves in the internal face. The roof is a series of mono-pitched structures clad with corrugated metal sheeting, and with an externally fitted gutter system.

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

⁴ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 2.3 The garage addition has been constructed (under a separate building consent) using the same style of cladding, roof configuration and joinery as the original building. The resulting house is somewhat complex in plan and form, and is assessed as having a low-medium weathertightness risk (refer paragraph 6.3).

2.4 The joinery/cladding configuration

- 2.4.1 The exterior joinery of the building is aluminium face-fixed onto a surrounding timber batten that in turn is nail fixed onto the plywood cladding. French doors in the same joinery material provide access to a patio/deck area off the living/dining room.
- 2.4.2 Head flashings consist of an approximately 25mm x 50mm purpose-made wedge-shaped timber batten, rebated over the top edge of the aluminium frames. All timber flashings extend by approximately 60mm beyond the window frames, and a capillary break is provided at the bottom edge. Custom-shaped steel head flashings, with an upstand behind the plywood cladding, form part of the flashing system.
- 2.4.3 Joinery is fitted directly on to the surrounding battens, and overlaps the battens by a minimum of 10mm. Sill flashings have, however, been omitted.
- 2.4.4 It appears that none of the joinery units have weather seal strips installed behind the aluminium facings and the cladding. (The more recently installed windows in the new bedrooms (2008) completed under the second building consent have a foam air seal and flexible flashing tape installed.) The installation of weather seal strips was a recommended building practice at the time the building was constructed; however, their inclusion was typically overlooked.

3. Background

- 3.1 The authority issued a building consent (No. 9186), dated 10 August 2002, to the former owners of the property for the construction of the original house, under the Building Act 1991. It appears that construction halted at the “lock-up” stage some time in 2003.
- 3.2 From the applicant’s submission it would appear that inspections were undertaken by a building certifier for the period from October 2002, to July 2005. The certifier ceased operating as a building certifier in July 2005, but continued operating under a different name as a contractor providing inspection services for the authority. This determination refers to both entities as “the authority’s contractor”.
- 3.3 The inspections included the following, showing ‘pass / fail’ status:
- 11 October 2002, Foundation footings, Passed
 - 21 October 2002, Sub-Floor, Passed
 - 28 October 2005, Pre-line/Building, Passed
 - 28 October 2005, Pre-line/Plumbing, Passed

- 3.4 The applicants purchased the property in December 2005 and undertook to have moisture content testing done prior to continuing with the building work. The results of these tests were not submitted.
- 3.5 Further inspections included the following, showing 'pass / fail' status:
- 9 January 2006, Pre-stopping, Passed
 - 18 January 2008, Final Building, Fail (failed items including handrail, smoke detectors , energy works certificates)
- 3.6 The authority subsequently issued a second building consent (No. 29070) ("the second consent"), dated 30 September 2008, for a garage addition to be added onto the rear of the original house and for the original internal garage to be converted to two bedrooms and a bathroom. A code compliance certificate was issued for the garage addition work on 27 September 2010.
- 3.7 Further inspections included the following, showing 'pass / fail' status:
- 15 October 2010, Final Plumbing, Passed. The inspection record notes:
Owner has stop ended and sealed window head flashings as discussed.
 - 15 October 2010, Final Building, Pass. The inspection record notes:
Building complies with requirements of the 'Final inspections for old jobs' checklist with the exception of the sill flashing requirement. Joinery elements trimmed with battening therefore concealed flashings as recorded and discussed ... unknown.
- 3.8 On 17 October 2010 the applicants subsequently emailed the authority and sought to resolve the matter of the outstanding code compliance certificate. The applicants stated that
- moisture records in 2005 show there was no moisture to be found
 - all appropriate inspections were undertaken and no mention of window sill flashings was made
 - the garage consent included the use of the same window configuration and this work had received a code compliance certificate
 - window head flashings as been installed as per the 2008 final inspection.
- 3.9 The authority responded in an email dated 18 October 2010 stating that because the joinery does not have sill flashings it was considered to be an alternative solution and its performance needed to be verified. The authority also noted that it had introduced a policy around the time of the final inspect of 'not certifying any building that did not comply with the current version of the Acceptable Solution unless there was convincing evidence that it is performing.' The authority reiterated an earlier recommendation to the applicants to have moisture testing undertaken to establish whether the 'building is performing.'

3.10 It appears that no such moisture testing was done and the parties continued to correspond on the matter without resolution. The authority set out its understanding of the problems with the windows, and possible solutions, in an email to the applicants dated 17 November 2010.

3.11 The Department received an application for a determination on 1 March 2011.

4. The submissions

4.1 The applicants forwarded copies of:

- the consent drawings and specification
- photographs of the joinery/cladding configuration
- email correspondence between the authority and the applicants.

4.2 The authority acknowledged the application on 15 December 2010, but did not make a submission in response to it.

4.3 A draft determination was issued to the parties for comment on 9 May 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.

4.4 The authority accepted the draft determination noting the appropriate date for a modification of Clause B2.3.1 would be 1 January 1997 as had been proposed in the draft.

4.5 In a response received by the Department on the 23 May 2011 the owners accepted the draft, noting that the house was still incomplete in 1997 and proposing that the house complied with Clause B2 on January 2007.

4.6 In an email to the authority on 24 May the Department sought further information from the authority to clarify the dates of inspections and of substantial completion of the building work. The draft determination was subsequently amended and a second draft was issued to the parties on 3 June 2011.

4.7 In emails to the Department of 7 June 2011 both parties accepted the draft determination and agreed that compliance with Clause B2 was achieved on January 2006. The authority noted that its concerns regarding window jambs remained, and the applicant sought further information regarding modification of Clause B2.3.1.

4.8 I have amended the determination as I consider appropriate.

5. The expert's report

5.1 As mentioned in paragraph 1.5, I engaged an independent expert, who is a member of the New Zealand Institute of Building Surveyors. The expert inspected the joinery/cladding configuration and the associated elements on 29 March 2011 and provided a report on 14 April 2011.

- 5.2 The expert observed that the overall standard of workmanship of the building is good and that ‘all joinery is in good condition and good working order’. The expert also noted that ‘the exterior cladding is well aligned’.
- 5.3 The expert undertook non-invasive moisture content readings internally around windows and in the bottom plates below the windows, and found no evidence that exterior moisture ingress had occurred.
- 5.4 The expert also undertook thirteen invasive moisture readings at selected locations around each of the building’s windows. These readings ranged between 10% and 14%, with the highest reading recorded in the bottom plate of the laundry on the south elevation of the building.
- 5.5 Commenting specifically on the joinery/cladding configuration of the building, the expert noted that
- Although the joinery is not installed in strict accordance with the industry’s recommended trade standards, I am satisfied the joinery/wall junctions are performing satisfactorily.
- 5.6 A copy of the expert’s report was provided to the parties on 14 April 2011.

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 This building has the following environmental and design features which influence its weathertightness risk profile:

Increasing risk

- it is situated in a high wind zone
- the exterior envelope of the building is moderately complex in shape
- some of the building’s roof-to-wall intersections are exposed
- some of the building’s walls are not protected by eaves.

Decreasing risk

- the majority of the building’s roof-to-wall intersections are not exposed
- the house is a single storey
- the timber deck along one elevation of the building is at ground level
- eaves have been installed on most elevations of the building.

- 6.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2 show that the deck to this house demonstrates a low to medium weathertightness risk rating.

Weathertightness performance

- 6.4 I accept the view of the expert that generally the joinery is in good condition and appears to be in good working order. Although it has not been installed in strict accordance with the industry's recommended trade standards it appears to have been performing to date.

Weathertightness conclusion

- 6.5 I consider the expert's report establishes that the current performance of the joinery/cladding configuration of the building is adequate because it is preventing water penetration through the cladding. Consequently I am satisfied that the external envelope complies with Clause E2 of the Building Code.
- 6.6 In addition, the external envelope of the building 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 building work to remain weathertight.
- 6.7 I have considered the expert's comments regarding the performance of the window installation to date. However, it is my view that the window jambs are vulnerable to moisture ingress in the future and therefore do not comply with Clause B2 of the Building Code. I consider that in order to meet the requirements of Clause B2 the window jambs should have additional protection from wind-blown rain and the like. This could be achieved by installing a small scribe to the jambs, or similar (as suggested by the authority's building officer in an email to the applicant, refer paragraph 3.10).

Matter 2: The durability considerations

7. Discussion

- 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 applicant's 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 the time of substantial completion.
- 7.4 The sequence of events outlined in paragraph 3 does not give me a clear indication of when the work was completed and when durability periods should commence. In addition the construction of the house was undertaken over a number of years with the final inspection not completed until September 2010. However, the completion of the pre-stopping inspection in January 2006 indicates that most of the building's major elements would have been completed at this time. In the absence of any other information it would appear reasonable that the B2 Durability period commence from this date. This date has been agreed to by the parties (refer paragraph 4.7).
- 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 2006.
- 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 decision

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

- the house complies with Clause E2 of the Building Code
- the house does not comply with Clause B2 of the Building Code insofar as it relates to Clause E2, and accordingly I confirm the authority's proposed exercise of its powers to refuse to issue a code compliance certificate for the house.

8.2 I also determine that:

- a) all the building elements installed in the building complied with Clause B2 on 1 January 2006
- 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 January 2006 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 Determination 2011/062.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 20 June 2011.

John Gardiner
Manager Determinations