



## Determination 2010/120

### Refusal to issue a code compliance certificate for an 11-year old house at 233 Ross Road, Whakamaramara, Tauranga



#### 1. The matters to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“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 property owners Mr L Davies and Mrs E Veldhuyzen (“the applicants”). The other party is the Western Bay of Plenty District Council (“the authority”), carrying out its duties 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 an 11-year-old house because it was not satisfied that the building work complied with certain clauses<sup>2</sup> of the Building Code (First Schedule, Building Regulations 1992).

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<sup>1</sup> The Building Act, Building Code, Compliance documents, past determinations and guidance documents issued by the Department are all available at [www.dbh.govt.nz](http://www.dbh.govt.nz) or by contacting the Department on 0800 242 243.

<sup>2</sup> 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 determined<sup>3</sup> is therefore whether the authority was correct to refuse to issue a code compliance certificate. In deciding this, I must consider:

**1.3.1 Matter 1: The external envelope**

Whether the external envelope of the dwelling complies with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The external envelope includes the components of the systems (such as the wall cladding, the windows, the roof cladding and the flashings), as well as the way the components have been installed and work together.

**1.3.2 Matter 2: The durability considerations**

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

1.4 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 the other evidence in this matter.

## **2. The building work**

2.1 The building consists of a detached single storey house constructed on an exposed rural site in a medium wind zone for the purposes of NZS 3604<sup>4</sup>. Construction is conventional light timber framing, with a concrete slab foundation and perimeter concrete footings. The exterior joinery is face-fitted aluminium throughout.

2.2 The dwelling’s roof is a gable configuration with a simple roof plan. The roof is constructed from 35° pitched roof trusses covered with a conventional ridged profile steel roofing material, and with external steel box guttering. The eaves are generally 600mm with the exception of some gable ends which have no eaves.

2.3 The building’s exterior walls, including the gable ends, are clad with face-fixed 7.5mm textured and painted fibre-cement sheeting.

2.4 The expert was unable to establish whether the timber framing in the walls, roof and flooring of the dwelling had been treated. Given the date of construction in 1998, I consider that the wall framing is most likely to be untreated.

## **3. Background**

3.1 The authority issued a building consent (No. 60836) for the dwelling on 15 October 1998 under the Building Act 1991. A free-standing double garage/workshop was separately consented on 13 March 2001 (Building Consent No. 64526), and a code compliance certificate was issued for the completed garage on 13 April 2004. The garage work does not form part of this determination.

3.2 The authority’s records indicate that five inspections, including a pre-line inspection, were carried out during construction of the building between 15 October 1998 and 26

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<sup>3</sup> Under sections 177(1)(b) and 177(2)(d) of the Act

<sup>4</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings

January 1999 and the building passed each of these inspections. A final inspection was carried out on 5 July 2000 which failed because:

- the bathroom was not vented to the outside, and
- the gully traps and floor levels did not meet the requirements of the Building Code.

3.3 A second final inspection was requested by the applicant and was carried out by the authority on 28 October 2008. However, in a letter to the applicant dated 7 November 2008, the authority stated its decision not to issue a code compliance certificate for the dwelling, and explained that

It is difficult to accept that reasonable progress has been made here given the time between inspections noted above. Accordingly, [the authority] declines to issue a Code Compliance Certificate under Section 43(5) of the Building Act 1991.

However, [the authority] can confirm that the work carried out, as far as it can ascertain, complies with the Building Code requirements that were in effect at the time of approval of your building consent.

3.4 The Department received an application for a determination on 12 July 2010.

## **4. The submissions**

4.1 The applicant forwarded a copy of the letter from the authority to the applicant dated 7 November 2010 in which the authority detailed its refusal to issue a code compliance certificate.

4.2 Further information was sought from the applicant by the Department about the house itself, including the consent documentation, plans and specifications. The Department also requested from the applicant any records of inspections completed by the Council, and any other correspondence relevant to the consented work. The applicant did not respond to the request; however the expert subsequently checked the authority's records to verify which inspections had been carried out. Copies of the relevant papers from the dwelling's building file were subsequently provided to the Department as an appendix to the expert's inspection report, including copies of plans and specifications for the dwelling.

4.3 The draft determination was issued to the parties for comment on 2 November 2010. The authority accepted the draft without comment.

4.4 The applicants responded to the draft in a submission received on 29 November 2010. The applicants did not accept the draft saying in summary that:

- more recent inspections had been carried out 'with new [Building Code] requirements' and that untreated timber was 'compliant at the time of construction'
- Council inspections had 'failed to identify the window installation shortcomings ...'
- they were concerned that repairs could involve removal of windows and considered council should accept responsibility for the rectification as it had previously passed inspections.

## 5. The expert's report

- 5.1 As mentioned in paragraph 1.4, I engaged an independent expert to provide an assessment of the condition of those building elements subject to the determination. The expert is a member of the New Zealand Institute of Building Surveyors. The expert inspected the dwelling on 24 September 2010, and a report dated 29 September 2010 was subsequently prepared.
- 5.2 The expert noted that, in general, the workmanship used in the construction of the dwelling, including the cladding and flashings, was 'satisfactory' and that with the exception of one hairline crack the cladding appears generally in good condition.
- 5.3 In addition, the expert noted that although he was unable to confirm the level of treatment of the timber framing used in the dwelling, appeared to be untreated to a level that would resist decay.
- 5.4 The expert confirmed that the layout and construction of the building appear to be consistent with the design details in the consent drawings with the exception of minor roof and verandah changes to the lounge gable and entrance area.

### Moisture levels

- 5.5 The expert inspected the interior of the house and took non-invasive moisture readings, noting no evidence of moisture penetration.
- 5.6 The expert took fourteen invasive moisture content readings at high risk locations on all four elevations of the building. The expert noted the following readings of concern:
- 80% in the bottom plate LHS of bedroom 1 on the west elevation
  - two readings of 22% and one of 23% below the bedroom windows and in the bottom plate on the west elevation
  - two readings of 22% and one of 20% below the windows and in the bottom plate on the east elevation
  - two readings of 24% and one of 19% below the window and in the bottom plate on the south elevation.

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

### Weathertightness

- 5.7 The expert inspected the external envelope and the interior of the building and found the following matters of concern:
- The ground clearance between the exterior cladding and the ground is generally insufficient.

- There was no evidence of sealant or sealant strip being installed behind the aluminium joinery facings as required by the manufacturer. Instead, minimal sealant beads have been applied as fillets to the edge of the aluminium units.
- No control joints were evident in the two walls exceeding 5.4m in length. The manufacturer's recommendation was that control joints be installed at 5.4m intervals. In the north wall a small crack was observed under the master bedroom window which could have been the result of movement.
- The apron flashing/wall junction along the west elevation of bedroom 2 has no kick-out flashing fitted.
- The cladding behind the gutter has not been adequately protected from the weather.
- There is a hairline crack below the bedroom 1 window on the north elevation.

5.8 The expert also noted there was no evidence that sill flashings had been installed as recommended by the manufacturer although they were not mandated at the time. The expert also noted it appeared that cladding joints had been made to coincide with the window jambs and the cladding should be fitted around window openings as recommended by the cladding manufacturer.

5.9 A copy of the expert's report was provided to the parties on 29 September 2010.

5.10 The applicants provided a submission in response to the expert's report in which they reiterated that items noted as inadequate had passed in the authority's inspections. The applicants also commented that they had not experienced any problems of moisture ingress or dampness over 10 years.

## **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 previous determinations.

#### **6.2 Weathertightness risk**

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

##### **Increasing risk**

- no eaves protection to some gable-end elevations

##### **Reducing risk**

- medium wind zone
- single storey dwelling
- simple exterior envelope

- 600mm eaves on all elevations apart from some gable ends
- no deck, porch or balcony.

6.2.2 When evaluated using the E2/AS1 risk matrix, these features show that all elevations of the dwelling demonstrate a low weathertightness rating.

### **6.3 Weathertightness performance**

6.3.1 It is clear from the expert's report that the external envelope is unsatisfactory in terms of its weathertightness performance, which has resulted in moisture penetration and possible decay to some of the framing. Taking account of the expert's report, I conclude that remedial work to the addition is necessary in respect of the matters identified in paragraph 5.7.

6.3.2 I consider further investigation is necessary to determine the effect the extent of possible damage to the timber framing as a result of water ingress.

### **6.4 Weathertightness conclusion**

6.4.1 I consider the expert's report establishes that the current performance of the external envelope is inadequate because it is allowing moisture to penetrate through the cladding at several locations. Consequently, I consider that the building does not comply with Clause E2 of the Building Code.

6.4.2 In addition, the building elements are also required to comply with the durability requirements of Clause B2. Clause B2 requires that a building continues to satisfy all objectives of the Building Code throughout its effective life, and that includes the requirements for the building to remain weathertight. Because the faults to the exterior envelope identified in paragraph 5.7 are either allowing the ingress of moisture or 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 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 durability considerations**

### **7. Discussion**

7.1 The authority has concerns about the durability, and hence the compliance with the Building Code, of certain elements of the building taking into consideration the substantial completion of the building work during 1998.

7.2 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).

7.3 In previous determinations (for example Determination 2006/85) I have taken the view that a modification of this requirement can be granted if I can be satisfied that the building complied with the durability requirements at a date earlier than the date of issue of the code compliance certificate, the date being one that is agreed between the parties.

7.4 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.

7.5 However, in conjunction with this I also need to consider the nature and extent of the defects, the length of time that they may have been evident, and their consequential impact on the building’s compliance with other Building Code clauses, particularly Clauses B1 Structure and E2 External Moisture.

7.6 Because of the extent of the defects in the external envelope, and the possible consequential impact on the building’s timber framing and therefore its structure, I am not satisfied that there is sufficient information on which to make a decision about this matter at this time.

## **8. What is to be done now?**

8.1 The authority should issue a notice to fix that requires the owners to bring the house into compliance with the Building Code, identifying the defects listed in paragraph 5.7 and referring to any further defects that might be discovered in the course of rectification, but not specifying 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.

## **9. The decision**

- 9.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the external envelope does not comply with Building Code Clauses B2 and E2 and accordingly I confirm the authority's decision to refuse to issue a code compliance certificate.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 7 December 2010.

John Gardiner  
**Manager Determinations**