



## Determination 2010/137

### Refusal to issue a code compliance certificate for a 13-year old house at 30B McColl Street, Vogeltown, Wellington



#### 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.
- 1.2 The applicant is the owner, the Estate of Mr G Williams, represented by the Public Trust acting in its capacity as solicitor (“the applicant”). The other party is the Wellington City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority. I consider the owners of the adjacent unit (30A McColl Street) to be persons with an interest in this determination.

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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.

1.3 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for a 13-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).

1.4 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:

**1.4.1 Matter 1: The external envelope**

Whether the external claddings of the dwelling comply with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The claddings include 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.

**1.4.2 Matter 2: The remaining Building Code clauses**

Whether the elements that make up the building work comply with the Building Code clauses are relevant to this building.

**1.4.3 Matter 3: 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.

1.5 I note that the dwelling is connected by a shared party wall to an adjacent semi-detached unit identified as 30A McColl Street. This determination only considers the dwelling identified as 30B McColl Street and where wall and roof areas form junctions with the adjacent unit, but does not consider the adjacent unit itself.

1.6 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 work consists of a two storey semi-detached dwelling constructed on a steeply sloped section in a high wind zone for the purposes of NZS 3604<sup>4</sup>. The dwelling is one of two units built under a single building consent. A third dwelling, being the original house is also located on the property.

2.2 Cladding on three elevations consists of board and vertical batten which has been identified by the expert as most likely to be uncoated Macrocarpa timber. The east elevation has been clad with vertical corrugated metal sheeting.

2.3 The exterior joinery is aluminium. Where the window and door joinery has been installed into the metal cladding, these have been fitted with metal flashings around all four sides with a soft edge flashing at the sills. A large deck has been built off the living room at first floor level.

<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.

<sup>3</sup> Under section 177(b)(i) of the Act (prior to 7 July 2010)

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

- 2.4 The dwelling's main roof is a steep mono-pitch design clad with profiled corrugated metal sheeting. The main roof has little or no eaves, and abuts the adjoining dwelling in several places, including along an internal membrane-lined gutter. There is also a small near-flat roof over the front entry, which has a rubber membrane cladding.
- 2.5 The walls are timber framed, with the cladding direct fixed over a synthetic building wrap. The expert was unable to establish whether or not the timber framing in the walls, roof and flooring of the dwelling had been treated. Given the date of construction in 1997, I consider that the wall framing is most likely to be untreated.

### 3. Background

- 3.1 The authority received a building consent application (No. 28393) for the dwelling on 10 February 1997. The consent was approved on 21 February 1997 under the Building Act 1991 for both units (30A and 30B), however work was not able to start until Resource Management requirements had been met.
- 3.2 The authority subsequently approved amended plans for this consent on 8 July 1997. The amendments included the use of fire resistant board to line the raking ceiling adjacent to the fire wall, and combining the dwelling's sewer and stormwater drains with the drains of the neighbouring property so that they would become the responsibility of both property owners.
- 3.3 The following inspections were carried out by the authority during construction:
- a pre-cladding inspection on 21 April 1997
  - two pre-lining inspections on 29 May 1997 and on 13 June 1997.
- 3.4 There is no apparent record of a final inspection for the dwelling having taken place and there was no application for a code compliance certificate for either unit when construction was completed.
- 3.5 Early in 2010 the authority received a request for a code compliance certificate. In a letter to the applicant dated 8 February 2010, the authority stated its decision not to issue a code compliance certificate for the dwelling, and explained that
- Because the majority of the construction was completed in 1997, ... the Council is unfortunately not able to provide you with an assurance of building code compliance at this time. This is not an indication that your building is failing or deficient, but simply that too long a period has elapsed since it was built.
- 3.6 In addition, the authority noted that only four inspections had been completed during the building's construction, meaning that a final inspection 'may still be necessary' before a code compliance certificate can be issued.
- 3.7 The Department received an application for a determination on 30 June 2010.

## **4. The submissions**

- 4.1 The applicant forwarded a copy of the letter from the authority in which the authority detailed its refusal to issue a code compliance certificate. The applicant also submitted copies of plans and specifications for the dwelling.
- 4.2 Further information was sought from the authority regarding the authority's consent and inspection records for the dwelling, and any other relevant material. The authority responded to the Department in a letter dated 28 July 2010 and provided copies of:
- the building consent
  - plans and specifications
  - correspondence.
- 4.3 The authority's letter noted that its procedure for reviewing building consents over five years of age where a code compliance certificate is being sought is to conduct a desktop review before deciding whether or not to undertake an inspection. The authority also considered that the determination should include 'all Code Clauses with particular focus on B2 and E2'. I note however that the authority did not provide any information on specific elements that it believed were not code-compliant.

## **5. The expert's report**

- 5.1 As mentioned in paragraph 1.6, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors. The expert's assistants inspected the dwelling on 26 July 2010, and the expert himself inspected the dwelling on 2 August and 13 August 2010. A report dated 19 August 2010 was subsequently prepared.
- 5.2 The expert inspected the foundations, external envelope, internal linings and fittings, internal wet areas, door and window flashings, decking and balustrades, and surface water drainage. The expert also sought advice from the design engineer for the building regarding the structural integrity of the framing and other structural elements which were unable to be visually assessed.
- 5.3 The expert noted that the workmanship used in the construction of the dwelling was generally 'moderate in quality and detail'. At the time of the expert's inspection, the dwelling was also in need of minor maintenance.
- 5.4 The expert noted that although he was unable to confirm the level of treatment of the timber framing and cladding used in the dwelling, the cladding elements appeared to be untreated and uncoated.
- 5.5 The expert confirmed that changes from the consent drawings included:
- the built-in wardrobe in bedroom 1a has been repositioned to a new location against the fire wall

- the doors into bedroom 2 and the ground floor bathroom/laundry both now open into each room, in the opposite direction to that shown on the plan
- a mezzanine area has been created over the kitchen at first floor level
- the building consent plans indicate that the fire wall between the two properties extends out beyond the north external wall, but this is not the case
- four windows on south wall.

## 5.6 Weathertightness

5.6.1 The expert inspected the external envelope and the interior of the building and found the following matters of concern:

- The ground clearance between the board and batten cladding and the ground is inadequate on two elevations. On a third elevation, the ground clearance between the metal cladding and the ground is inadequate and corrosion of the metal cladding is clearly evident.
- The board and batten cladding has been direct fixed to the framing with no internal cavity and is not treated or coated.
- Rusting was observed in the roof sheeting at the abutment of the two properties, and at the end of the flat internal gutter which runs between them. It was also noted that there is vegetation in the internal gutter.
- There is evidence of cracking in the boards of the board and batten cladding in several areas around the dwelling.
- The timber cladding elements have received no apparent stain or paint treatment and there is cracking in the boards in several places allowing water ingress.
- Most door tracks on the exterior walls were full of water and debris. The water collection track at the base of the lounge window has not been adequately designed to enable the drainage of water to the exterior.
- The ribbon plate of the first floor deck has been directly fixed to the north wall cladding, with insufficient clearance provided between the deck and the wall cladding, and the metal fastenings show evidence of corrosion.
- Water is pooling on the flat membrane roof above the front entrance, and the fixing nails for the substrate are almost pushing through the membrane in places.
- The guttering on either side of the membrane roof has no stop ends, allowing water runoff to wet the cladding below.
- The junctions between the membrane roof and the wall have been poorly detailed, and there is evidence that water is entering the soffit on the south elevation.
- There is damage to the southeast metal corner at the first floor.

## 5.7 Moisture levels

5.7.1 The expert inspected the interior of the dwelling, and found evidence of moisture ingress in each lower corner of the living room windowsill on the east elevation.

5.7.2 The expert took invasive moisture readings into the framing at a number of locations and found the following elevated readings:

- 100% and 31% internally at the living room window reveal on the east elevation
- 32% and 34% in the cladding boards below the sill of a window on the south elevation
- 16% and 26% at the bottom plate below the window on the south elevation.

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.

5.7.3 The expert also noted:

- minor decay in the bottom edge of the cladding board on the south elevation, which was likely due to water ingress into the end grain
- soft timber on the east elevation in the southeast corner where the ground clearance is inadequate, but that it was ‘minimal giving consideration to the age of the dwelling and the lack of clearance’
- the bottom plate below the bathroom window was wet and decayed.

## 5.8 Other Code clauses

5.8.1 The expert observed that the property is steeply sloped, and that there is no evidence of surface water ponding at the site.

5.8.2 Although the tiled shower cubicle shows no evidence of moisture ingress to the framing behind it, the facing boards adjacent to the ground floor shower do show evidence of decay at their base. The expert also noted the presence of a hole at the base of the facing board on the bathroom’s east elevation, which is allowing water entry into the framing cavity.

5.8.3 The expert was also unable to establish whether the required fire ratings were in place for the shared party fire wall between the dwelling and the adjacent unit. An inspection of the firewall within the storage cupboard under the stairs did, however, identify that fire resistant plasterboard had been installed on the firewall as required by the modified building consent which was two layers of 9.5mm.

5.8.4 The expert noted the following concerns regarding the building’s compliance with the other clauses of the Building Code:

- The lack of PS4 or any evidence of structural inspections by the engineer during construction.

- The barriers at the edge of the access-way to the dwelling, along the south elevation of the house and along the steps above the retained earth, either do not meet Building Code requirements or do not exist.

5.9 A copy of the expert's report was provided to the parties on 26 August 2010.

5.10 The authority responded to the report in a letter dated 14 September 2010 noting the widespread potential problems and indicating it may not be appropriate to consider modifying the durability requirements. The authority also considered both units should be the subject to the determination.

## **5.11 My response to the authority's submission**

5.11.1 I acknowledge the authority's concerns regarding the incomplete nature of the inspections during the construction of this house. Inspections are required in order to ensure that building work complies with the plans and specifications and the conditions of the building consent and the Building Code. It is reasonable for an authority to be concerned where inspections are not carried out, and as a result the authority may decline to issue a code compliance certificate as it requires evidence of compliance.

5.11.2 It is not clear to me what inspections were carried out. Only three were recorded but the expert's report has not identified any areas that are obviously defective arising from a lack of inspections, although there is no indication of a final inspection. There are several variations from the plans including a mezzanine floor which would require inspection.

5.11.3 I note that the inter-tenancy wall between the units in the building is timber-framed and located beneath a complex internal gutter junction. Accordingly, I take the view that the weathertightness of the party wall and the maintenance of its required fire-ratings affect both units and cannot be considered separately.

5.11.4 For the reasons outlined above, I am of the opinion that amending the consent to enable owners to apply for code compliance certificates for each individual unit is not appropriate for this particular building.

## **Matter 1: The external envelope**

### **6. Weathertightness**

6.1 The building has been evaluated using the E2/AS1 risk matrix. The risk matrix allows the summing of a range of design and location factors applying to a specific building design. The resulting level of risk can range from "low" to "very high". The risk level is applied to determine what cladding systems can be used on a building in order to comply with E2/AS1. Higher levels of risk will require more rigorous weatherproofing detailing; for example, a high risk level is likely to require a particular type of cladding to be installed over a drained cavity.

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

**Increasing risk**

- it is in a high wind zone
- it has two storeys
- it is semi-detached
- it has small or no eaves on all elevations
- it has more than one wall cladding type, and claddings are direct fixed to framing timber that is unlikely to be treated
- three elevations of the building are clad with uncoated board and batten timber cladding (although weather grooves have been created at the lap points)
- it has a timber slat deck at first floor level that is direct fixed to the wall cladding of the dwelling.

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

**Weathertightness performance**

6.4 Taking into account the expert's report, I conclude that remedial work to the building is necessary in respect of the issues outlined in paragraph 5.6.1.

**Weathertightness conclusion**

6.5 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.

6.6 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 cladding identified in paragraph 5.6.1 are likely to allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.

6.7 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 Building Code clauses**

### **7. Discussion**

- 7.1 In considering the compliance of this building with the other relevant Building Code clauses, I have taken into account the inspection records, the expert's report, the authority's view, and other evidence in this matter.
- 7.2 I have concluded that there are reasonable grounds and sufficient evidence to conclude that the building elements that make up the building work do not comply with the following Building Code clauses relevant to this building:
- Clause B1 Structure, given that there is no evidence of a PS4 having been issued for the dwelling, or that any engineering inspections have been carried out on the dwelling's structural elements during construction
  - E3 Internal moisture, given that there is evidence of moisture ingress at internal locations in the dwelling
  - F4 Safety from falling, given the inadequate nature of the barriers installed and the absence of some barriers altogether.

## **Matter 3: The durability considerations**

### **8. Discussion**

- 8.1 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 completion of the building work during 1997.
- 8.2 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).
- 8.3 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. However, in conjunction with consideration should be taken of 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.
- 8.4 I am of the opinion that a code compliance certificate is the appropriate certificate to be issued once all the remedial work is completed and the work to both units fully complies with the building Code to the satisfaction of the authority.
- 8.5 The authority has the power, on application, to grant an appropriate modification to the Building Code to the effect that Clause B2.3.1 applies from the date when all the building elements were installed, apart from the items that are to be rectified as

described in this determination (or those identified in the adjacent unit subsequent to any investigation). I suggest that the date of substantial completion of both units would be appropriate and I leave this to the parties.

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

- 9.1 A notice to fix should be issued that requires the owner to bring the addition into compliance with the Building Code, including the defects identified in paragraphs 5.6.1 and 7.2 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 addition brought to compliance with the Building Code. That is a matter for the owner to propose and for the authority to accept or reject.
- 9.2 Unit 30A has similar design features, is of similar construction, and was built at the same time as Unit 30B. It seems likely, therefore, that some of the defects observed in 30B may also be evident in Unit 30A. As the building consent was issued for the two units, the authority will need to be satisfied that both units are code compliant before issuing the code compliance certificate.
- 9.3 I suggest that the parties adopt the following process with respect to Unit 30B. Initially, the authority should issue the notice to fix. 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 investigation and 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.
- 9.4 I also note that there have been a number of obvious changes from the consent drawings and I leave the matter of appropriate documentation of these changes for the authority to resolve with the owners.
- 9.5 Once the matters set out in paragraphs 5.6.1 and 7.2 (and any remedial work required to the adjacent unit) have been rectified to its satisfaction; the authority shall issue a code compliance certificate in respect of the building consent amended as outlined in paragraph 8.5.

## 10. The decision

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

- the external envelope of the building does not comply with Clauses E2 External Moisture and B2 Durability (insofar as it relates to Clause E2) of the Building Code
- the dwelling does not comply with Clause B1 Structure of the Building Code
- the dwelling does not comply with Clause E3 Internal moisture and Clause F4 Safety from falling of the Building Code

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 22 December 2010.

John Gardiner  
**Manager Determinations**