



## Determination 2011/077

### Regarding the refusal to issue a code compliance certificate for a 13-year-old house at 14 Patsy O'Hara Place, Swanson, Auckland



#### 1. The matter 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 parties to the determination are:

- the owners, P and A Blackham (“the applicants”)
- the Auckland Council<sup>2</sup> (“the authority”), carrying out its duties and functions as a territorial authority or building consent authority.

1.3 This determination arises from the authority’s decision to refuse to issue a code compliance certificate because it was not satisfied that the house complied with

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<sup>1</sup> 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](http://www.dbh.govt.nz) or by contacting the Department on 0888 242 243.

<sup>2</sup> The building consent was issued and inspections were undertaken by Waitakere City Council which was transitioned into the Auckland Council. The term authority is used for both

certain clauses<sup>3</sup> of the Building Code (First Schedule, Building Regulations 1992). The authority's concern regarding compliance of the building work relates primarily to the weathertightness of the exterior building envelope.

- 1.4 The matter to be determined<sup>4</sup> is therefore whether the authority was correct in its decision to refuse to issue a code compliance certificate for the house. In deciding this, I must consider:

**1.4.1 Matter 1: the exterior building envelope**

Whether the exterior building envelope to the house ("the cladding") complies with Clause E2 External Moisture and Clause B2 Durability of the Building Code. The cladding includes the components of the systems (such as the wall claddings, the windows, the roof claddings and the flashings), as well as the way the components have been installed and work together. I consider this in paragraph 6.

**1.4.2 Matter 2: the remaining code requirements**

Whether the house complies with other relevant Building Code clauses identified in the notice to fix: E3 Internal Moisture, F2 Hazardous Building Materials, F4 Safety from Falling, and G4 Ventilation. I consider this in paragraph 6.4.

- 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 house is sited on a moderately sheltered semi-rural section in a medium wind zone in terms of NZS 3604<sup>5</sup>. The site is outside the corrosion zone.
- 2.2 The house is two storeys high and built on a gently sloping site with the body of the house founded on concrete poles and the garage on concrete block walls and a concrete floor. The garage is offset on the south elevation resulting in a partial two storey wall on the gable end to the south of the house.
- 2.3 The east half of the upper storey sits inside the attic roof space, with one long projecting dormer. The remainder of the upper storey, with three dormer windows, is set back from the lower level to the north elevation and in line with the lower level external wall to the west elevation.
- 2.4 The house is a conventional light timber frame construction. The cladding is direct fixed fibre-cement sheet that has been textured coated. The expert was advised by the owner that the sheets used differed from that specified in the building consent. Aluminium joinery has been used throughout.
- 2.5 The roof comprises painted pressed metal tiles at a 45° pitch to the upper level with 150mm eaves to the dormers and minimal verges and eaves to the remainder of the upper level. The lean-to roof to the east and north elevation is a lower pitch, with no verge to the north and providing a verandah space to the west elevation.

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<sup>3</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>4</sup> Under sections 177(1)(b) and 177(2)(d) of the Act

<sup>5</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 2.6 The specifications note that all timber preservative treatment was to comply with NZS 3602, however I have received no evidence as to the level of treatment of the external wall framing. The expert observed that treated timber piles has been used to the foundations.

### **3. Background**

- 3.1 On 21 August 1997, the authority issued a building consent (COM 1997-3853) for the house, under the Building Act 1991.

- 3.2 The building work commenced and a total of nine inspections were undertaken. It appears that the house was substantially completed in January 1998 and the final inspection passed on 7 August 1998; the owners did not seek a code compliance certificate at that time.

#### **The notice to fix**

- 3.3 In early 2008, the owners contacted the authority and requested a final inspection with a view to obtaining a code compliance certificate. This inspection failed and a notice to fix issued on 5 February 2008.

- 3.4 In November 2010, the applicants contacted the authority in order to address the outstanding notice to fix. An updated notice to fix, dated 5 February 2011, was issued. The listed defects were, in summary (with associated code clauses shown in brackets):

- a) lack of horizontal control joints (E2)
- b) lack of vertical control joints (E2)
- c) fascia/spouting touching/set into cladding system (E2)
- d) no stop ends to apron flashings (E2)
- e) lack of clearance between cladding and apron flashings (E2)
- f) lack of drainage gap between cladding system and head flashings (E2)
- g) lack of [weatherproofing] strips between exterior joinery and cladding (E2)
- h) lack of clearance between cladding and exterior ground levels (E2)
- i) inadequate slope of exterior ground levels from house (E2)
- j) penetrations inadequately sealed or flashed (E2)
- k) insufficient clearance between finished deck surface and cladding (E2)
- l) no head flashing above garage door (E2)
- m) fascia board not sealed to cladding (E2)
- n) unsealed bottom of cladding sheets (E2)
- o) lack of drip edge (E2)
- p) no subfloor vents (E2)
- q) bathroom tiles not sealed at perimeter (E3)
- r) no confirmation of safety glass installed where needed (F2)
- s) vanities, bath etc not sealed to wall (E3)
- t) handrail required to stairs (F4)

- 3.5 It is evident from the experts findings (refer paragraph 5.6.1) that some remedial work has been undertaken to address the notice to fix. However I am unclear as to whether the applicants approached the authority for a further inspection subsequent to the remedial work being carried out. I note that the items listed on the notice to fix are of a nature that could have been assessed relatively easily by the authority and/or a building surveyor with weathertightness expertise engaged by the applicants.
- 3.6 An application for a determination was received by the Department on 17 May 2011.

## **4. The submissions**

- 4.1 The applicants forwarded copies of:
- a covering letter providing some background to the dispute
  - photographs to showing building elements listed on the notice to fix
  - building consent plans and documentation
  - inspection records.
- 4.2 The applicants disputed a number of items in the notice to fix and noted that some remedial work had been undertaken to make other items compliant.
- 4.3 The authority acknowledged the application on 17 May 2011, noting that it wished to make a submission. I contacted the authority on 23 May 2011 to request further information regarding the status of the 2008 notice to fix and the authority's view regarding compliance subsequent to the remedial work haven been completed.
- 4.4 The authority clarified these matters in an email of 25 May, noting that a 're-assessment visit' had been undertaken in 2011 (refer paragraph 3.4) and a number of items on the notice to fix had been removed from the 2008 notice to fix. The authority also provided the building consent documents and inspection records.
- 4.5 A draft determination was issued to the parties for comment on 1 August 2011. The authority accepted the draft without comment.
- 4.6 The applicants accepted the draft and sough clarification regarding compliance with Clause B2 in respect of Clause E2. The applicants also noted that the house has been maintained throughout its life, with no requirement for major repairs, and in their view had proven performance in terms of durability and weathertightness.

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

- 5.1 As mentioned in paragraph 1.5, I contracted an independent expert to assist me and assess the Building Code compliance of the house with respect to the items of non-compliance as noted in the notice to fix of 5 February 2011.
- 5.2 The expert is a member of the New Zealand Institute of Building Surveyors. He visited the house on 15 and 24 June 2011 and furnished a report dated 30 June 2011. A copy of the report was provided to the parties on 4 July 2011.

### **5.3 General**

- 5.3.1 The expert noted that the house had been constructed with a cladding system that differed from the consented plans and that an elevated deck to the east elevation had not been constructed.

5.3.2 The expert observed the quality of workmanship associated with the construction of the house appeared to be good in all areas; there was no deviation in the straightness and fairness in the finish of internal and external claddings and flashings appeared to be tidy and effective.

5.3.3 The expert also noted that the external cladding had recently been repaired and that openings and penetrations had been repainted and resealed.

## 5.4 Weathertightness

5.4.1 The expert undertook external and internal inspection as well as carrying out internal invasive and non-invasive moisture readings. Internal non-invasive moisture content readings were taken in a number of locations through the interior of the house and no evidence of moisture ingress was found.

5.4.2 Invasive moisture content readings were taken in locations considered “high risk”. These sites included: bottom plate both sides of the garage door, bottom plate northwest corner of the lounge (adjacent to the deck connection and bottom edge of cladding), and bottom plate in the dining area (adjacent to bottom edge of the cladding). Moisture levels between 12 to 17% were recorded, and no evidence was found of elevated moisture levels.

## 5.5 Other building code clauses

5.5.1 The expert noted that the surface water falls to the natural contour with some accumulation/saturation to the northeast corner of the section. Collected storm water is disposed of into a main stormwater drain to the north.

## 5.6 Notice to fix

5.6.1 The expert inspected the house and compared it to the items of non-compliance as documented in the notice to fix. The expert’s findings along with my conclusions are summarised in the table below:

Notice to fix		Expert’s findings	My conclusions	Code Clauses
Item	Summarised requirement			
a)	No horizontal joints	Not required. No continuous wall exceed 5.4m in height.	Adequate	E2, B2
b)	No vertical joints	None evident. 5.4 exceeded on all elevations. No cracks evident, however repairs have been carried out.	Vertical movement joints required	B2 (insofar as it relates to E2)
c)	Fascia/spouting touching cladding	No evidence the fascia or spouting was set into the cladding; texture coating was continuous behind fascia and spouting	Adequate	E2, B2
d)	No stop ends to apron flashings	Stop ends have been fitted.	Adequate	E2, B2
e)	Inadequate clearance between cladding & apron flashings	Clearance is adequate	Adequate	E2, B2
f)	No gap between head flashing & cladding	Cladding coating was terminated onto the head flashing and this prevents water migration from the back of the cladding to the outside and this point	Adequate	E2, B2
g)	No [compressible foam] strips	No evidence of the strips between the cladding and external joinery	Jamb/ cladding joins require more protection	E2, B2

Notice to fix		Expert's findings	My conclusions	Code Clauses
Item	Summarised requirement			
		but all frames have been recently resealed	that just sealant	
h)	Insufficient clearance between ground & cladding	Remedial work has been undertaken and there is now a clear drainage path at the bottom edge of the cladding in all places	Adequate	E2, B2
i)	Inadequate slope to exterior paving	Remedial work had been undertaken	Adequate	E2, B2
j)	Unsealed penetrations	All penetrations were now adequately sealed.	Adequate	E2, B2
k)	Inadequate clearance between finished deck level and cladding	In all instances the wall cladding passes behind the decking and terminates at the deck joist on the cantilevered floor joist bearer. The joist size difference creates the set down of the deck and a continuous clearance beneath the cladding face for drainage to ground.	Adequate	E2, B2
l)	Inadequate clearance between timber slatted deck and cladding	The verandah was fully roofed	Adequate	E2, B2
m)	No head flashing to garage door	No head flashing detected, however the full opening is externally trimmed with an on face 60x25mm sealed and painted architrave. No elevated moisture content readings.	No water ingress evident, adequate	E2, B2
n)	Fascia board unsealed to cladding	Fascia boards are pre-painted steel	Adequate	E2, B2
o)	Unsealed bottoms of cladding sheets	Maintenance coat required in some areas.	Remedial work required	B2 (insofar as it relates to E2)
p)	No drip edge	A 50mm drip edge is required and could be achieved with a 'Z' kick-out flashing.	Remedial work required	B2 (insofar as it relates to E2)
q)	No subfloor vents	Unnecessary due to the open detail at the cantilevered floor joist detail, the base cladding has not been taken down to the ground and the open nature of the timber deck.	Adequate	E2, B2
r)	Perimeter of bathroom tiles unsealed	Tiles and bathroom fittings have been sealed.	Adequate	E3
s)	Safety glass to bathroom & ensuite windows not confirmed	No safety glass evident. High bathroom sill	Window to vanity adequate, but safety glass required to window over bath.	F2
t)	Unsealed bathroom fixtures	Tiles and bathroom fittings have been sealed.	Adequate	E3, B2
u)	Handrail to stairs	Has 'graspable capping'	Capping does not provide graspable handrail. Handrail is required	F4

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

##### Increasing risk

- the house is two storey
- timber treatment is unknown
- roof to wall intersection is exposed
- there are minimal or no eaves to shelter the cladding

##### Decreasing risk

- the house is in a medium wind zone
- the exterior envelope is relatively simple.

6.2.2 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2.1 show the house has a moderate weathertightness risk rating. If details shown in the current E2/AS1 were adopted to show code compliance, a drained cavity would be required for all elevations. However, this was not a requirement at the time of construction.

#### 6.3 Weathertightness conclusion

6.3.1 I consider the expert's report establishes that the current performance of the external envelope is adequate as there is no evidence of moisture ingress. Consequently, I am satisfied that the external envelope complies with Clause E2 of the Building Code.

6.3.2 The external envelope 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. Whilst there is no evidence of moisture ingress, there is evidence of some faults to the external envelope that could allow the ingress of moisture in the future (refer table in paragraph 5.6.1, items o and p), therefore the external envelope does not comply with Clause B2 insofar as it relates to Clause E2.

6.3.3 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: Other relevant code requirements

- 6.4 Taking into account the expert's comments and the remedial work undertaken, I find that the house complies with Clause E3 (refer table in paragraph 5.6.1, item r).
- 6.5 However, I find that the house does not comply with Clauses F2 Hazardous Substances, and F4 Safety from falling, (refer table in paragraph 5.6.1, items s and u).

## 7. What is to be done now?

- 7.1 I am satisfied that the house does not comply with the Building Code that was in effect at the time the consent was issued, and that the authority made an appropriate decision to issue the notice to fix. However, I am also of the view that some items identified in the notice are likely to be adequate and so the notice should be modified to take account the findings of this determination, identifying the items listed in paragraph 5.6.1 and referring to any further defects that might be discovered in the course of investigation.
- 7.2 It is not for the notice to fix to stipulate directly how the defects are to be remedied and the house brought to compliance with the Building Code. That is a matter for the owner to propose and for the authority to accept or reject. It is important to note that the Building Code allows for more than one means of achieving code compliance.
- 7.3 I suggest that the parties adopt the following process to meet the requirements of paragraph 7.1. Initially, the authority should revise and reissue the notice to fix. The applicants should then produce a response to this in the form of a detailed proposal for the house as a whole, 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. The decision

- 8.1 In accordance with section 188 of the Act, I hereby determine that
- the external building envelope does not comply with Building Code Clause B2 insofar as it relates to Clause E2
  - the house does not comply with Clauses F2 Hazardous Substances, and F4 Safety from falling
- and accordingly the authority was correct in its decision to refuse to issue the code compliance certificate.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 25 August 2011.

John Gardiner  
**Manager Determinations**