



## Determination 2011/086

### Regarding the refusal to issue a code compliance certificate and the issue of a notice to fix for a 10-year-old house at 7 Star Place, Howick, Auckland



#### 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 owners, K and D Dalby (“the applicants”) and the other party is the Auckland Council<sup>2</sup> (“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 and to issue a notice to fix for a 10-year-old house because it was not satisfied that the building work complied with certain clauses<sup>3</sup> of the Building Code (First Schedule, Building Regulations 1992). The authority’s concerns primarily relate to the weathertightness of the exterior building envelope.

<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> Before the application was made, Manukau City Council was transitioned into the Auckland Council. The term authority is used for both.

<sup>3</sup> In this determination, 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>4</sup> is therefore whether the authority was correct in its decision to refuse to issue a code compliance certificate and to issue a notice to fix for the house. In deciding this matter, I must therefore consider:

**1.3.1 Matter 1: the external building envelope**

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

**1.3.2 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, F4 Safety from falling, G4 Ventilation, G11 Gas as an energy source, G12 Water supplies and G13 Foul water). I consider these clauses in paragraph 7.

**1.4 Matters outside this determination**

1.4.1 The notice to fix also cites contraventions of Clauses B1 Structure and D1 Access Routes, although there are no specific items relating to these clauses. I have taken the citing of Clause B1 as relating to potential structural implications associated with weathertightness (covered in Matter 1) and Clause D1 as relating to the uneven stair rises and treads (covered within Clause F4 in Matter 2).

1.4.2 The notice to fix also outlines requirements for durability of building elements and states that the applicants may apply to the authority for a modification of the requirements to allow durability periods to commence from the date of substantial completion in 2001. I therefore leave this matter to the parties to resolve once the building has been made code compliant.

1.5 In making my decision, I have considered the submission of the applicant, 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 two-storey, detached house is situated on an excavated level building platform in a high wind zone for the purposes of NZS 3604<sup>5</sup>. The house is fairly simple in plan and form; and is assessed as having a moderate to high weathertightness risk (see paragraph 6.2).

2.2 Construction is generally conventional light timber frame, with a concrete slab and concrete block foundations, monolithic wall claddings, pressed metal tile roofing, and aluminium windows. The 15° pitch hipped roof has eaves of more than 600mm above the upper walls, reducing to the gutter width only to part of the west elevation. A hipped canopy above the main entry extends from the west wall.

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

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

- 2.2.1 A large upper level balcony, supported on monolithic-clad columns, extends around the north and east elevations but is not located over habitable areas. The balcony has a tiled membrane floor and monolithic-clad balustrades. Timber steps lead from the deck to ground level at the southern end.

### **2.3 The wall claddings**

- 2.3.1 The cladding system to walls and columns is a form of monolithic cladding system known as EIFS<sup>6</sup>. The proprietary EIFS system consists of 60mm polystyrene backing sheets fixed directly to the framing over the building wrap and finished with a proprietary mesh reinforced plaster system and a flexible acrylic paint system. Vertical grooves are formed in the back of the polystyrene sheets. The cladding system includes purpose-made flashings to windows, edges and other junctions.
- 2.3.2 The monolithic cladding to deck balustrades consists of 7.5mm thick fibre-cement sheets fixed through the building wrap to the framing, and finished with an applied textured coating system (“flush-finished fibre-cement”).
- 2.4 The expert took four timber samples from exterior wall and balcony framing and forwarded them to a testing laboratory for analysis; the biodeterioration consultant’s analysis confirmed that two samples from wall and column framing were untreated, one sample from a balustrade top plate was H3 CCA-treated and one from a wall bottom plate was possibly LOSP-treated to H3.1. Given this evidence and the date of construction in 2001, I consider there to be some balustrade framing and bottom wall plates that are likely to be treated, and wall and column framing that is untreated.

## **3. Background**

- 3.1 The authority issued a building consent (No. 104582A) in April or May 2001 for the house under the Building Act 1991. Records of inspections carried out during construction have not been provided, but it appears that the house was completed in 2001.
- 3.2 I have seen no evidence of correspondence about the house until the applicants applied for a code compliance certificate in 2010 and the authority responded on 27 October 2010. The authority refused to issue the code compliance certificate, stating:
- ...we cannot be reasonably satisfied that the works still comply to the Building Code in relation to B2 (durability) and E2 (external moisture).
- 3.3 The Department received an application for a determination on 15 December 2010.
- 3.4 Due to the transition of the Manukau City Council into the Auckland Council, the Department requested information as to whether the authority intended to undertake an ‘assessment of the work and issue a notice to fix if it did not believe compliance has been achieved’. The authority advised the Department that it intended to carry out an inspection of the house.

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<sup>6</sup> Exterior Insulation and Finish System

### 3.5 The notice to fix

3.5.1 The authority carried out an inspection on 30 March 2011 and issued a notice to fix dated 31 May 2011. The notice identified a number of Building Code clauses that the building work was 'in breach of' and listed 'details of the contravention'.

3.5.2 The authority identified various areas of concern (including in summary):

- In regard to Clauses E2 and B2:
  - direct-fixed EIFS shows signs of failure and moisture ingress, with mould, rusting fixings and cracking
  - clearances from cladding to ground and paving
  - unprotected vents
  - cracks in plaster coating and internal crack below window
  - gaps to the entry canopy soffit and unpainted areas of cladding
  - window and door flashings

#### *Deck*

- clearances from interior and cladding to balcony floor
- top-fixed handrails to balcony balustrade
- lack of fall to balcony floor and no access to membrane under the balcony tiles
- insufficient drainage from balcony floor
- post from balcony floor to roof unflashed at junction

#### *Pergola*

- column tops, with possible moisture damage to framing
- pergola to wall junctions
- in regard to Clause E3:
  - gap to bench/upstand junction
  - possible leaks to shower lining
  - lack of splash protection to laundry
- in regard to Clause F4:
  - lack of uniform risers and treads in steps
  - height of handrails
  - lack of barrier to top of internal stairs
- in regard to Clause G4, lack of ventilation of cooking fumes and odours
- in regard to Clause G11, distance of gas hob burner to combustible surfaces
- in regard to Clause G12:
  - back flow protection to exterior taps
  - back flow protection to shower hose
- in regard to Clause G13, an inadequate overflow relief gully trap.

3.5.3 The authority required the applicants to prepare a proposed scope of work to address the areas of non-compliance, and also stated that the applicants may apply to the

authority for a modification of the requirements to allow durability periods to commence from the date of substantial completion.

## **4. The submissions**

4.1 The applicants made no submission with the application but forwarded copies of:

- the consent drawings and structural calculations
- the letter from the authority dated 27 October 2010
- the notice to fix dated 31 May 2011.

4.2 A draft determination was issued to the parties for comment on 29 August 2011. The authority accepted the draft without comment.

4.3 The applicants accepted the draft but noted that the house was ‘just on’ 10 years old, and that the mechanical extract ventilation to the kitchen was vented to the outside (refer paragraph 5.7). I have amended the determination accordingly.

## **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. The expert inspected the house on 20 July 2011, providing a report dated 10 August 2011.

### **5.2 General**

5.2.1 The expert noted that variations from the consent drawings included:

- timber shingles changed to pressed metal tile roofing
- glazed deck balustrades changed to flush-finished fibre-cement
- step down to balcony floor below the 100mm shown in drawings.

### **5.3 Destructive investigations**

5.3.1 To investigate underlying construction, the expert removed small sections of cladding (“the cut-outs”) at high risk locations, taking timber samples for analysis from four of those. Cut-outs were made at the following areas:

- Cut-out A: top plate to north west corner of balustrade (Sample 1)
- Cut-out B: jamb to sill junction of an upper floor north window
- Cut-out C: deck soffit at junction with timber stairs
- Cut-out D: top of deck column at the northeast corner (Sample 2)
- Cut-out E: bottom plate under jamb of a ground floor north window (Sample 3)
- Cut-out F: above the garage door under jamb of a south window (Sample 4).

5.3.2 The laboratory report dated 26 July 2011 stated that Sample 2 and Sample 4 were untreated, Sample 1 was CCA-treated to an equivalent of H3.2 and Sample 3 was 'probably LOSP' treated (see paragraph 2.4).

5.3.3 The tests also found that:

- Sample 1 from the balustrade top plate (CCA-treated) had 'dense fungal growth', but contained 'no structurally significant decay'
- Sample 3 from the bottom plate (probably LOSP treated) contained 'pockets of early soft rot' restricted to the outside
- Sample 2 from the column and Sample 4 from wall framing (untreated) contained 'advanced decay that had caused loss of the bulk of the original structural integrity in affected areas'.

5.3.4 The report noted that 'it is important to establish the limits of fungal infection and/or decay and establish the causes'; concluding that results suggested all the samples had 'been exposed to moisture conditions inconsistent with sound building practice and/or weathertight design, and appropriate remediation is needed to correct this.'

## 5.4 Moisture levels

5.4.1 The expert inspected the interior linings of the external walls but found no evidence of moisture damage or ingress. The expert also took 12 invasive moisture readings at areas considered at risk and recorded 11 of these elevated as follows:

### Windows and doors

- 29% under sill/jamb junction of upper north window (Cut-out B)
- 97% in bottom plate under sill/jamb of lower north window (Cut-out E)
- 25% above garage door, under sill/jamb of upper south window (Cut-out F)

### The deck and columns

- At junction of deck with timber stairs at south end:
  - 24% in the bottom plate of balustrade
  - 28% in the top of column framing below
  - 100% in the deck soffit framing (Cut-out C)
- At northeast corner of the deck:
  - 32% in bottom plate of balustrade
  - 63% in top of column framing below the above (Cut-out D)
- At northwest corner of the deck:
  - 27% in top plate of the balustrade (Cut-out A)
  - 27% in bottom plate below the above
- 82% in bottom of framing to southwest pergola column.

5.4.2 I note that the remaining moisture level was recorded at 12% in a bottom plate which could be considered an equilibrium moisture content. Moisture levels above 18%, or which vary significantly from equilibrium levels, indicate that external moisture is entering the structure and investigation is needed and that readings over 40% indicate that the timber is saturated and decay will be inevitable over time.

## 5.5 The windows

5.5.1 The expert noted that windows are recessed by the EIFS thickness, with visible head flashings and planted polystyrene sills. At Cut-out B, where a jamb to sill reveal was cracked, the expert was able to observe the underlying jamb, sill and soaker flashings. The expert noted that silicone sealant was intended to seal the soaker against uPVC jamb and sill flashings.

5.5.2 However, the expert noted that the silicone had peeled away from the corner soaker which proved to be made from polypropylene. This has allowed moisture from the cracked reveal to penetrate behind the uPVC sill flashing. The expert also noted that the silicone sealant specified in the cladding manufacturer's instructions should not be used against polypropylene, as it would not adequately adhere to that plastic<sup>7</sup>.

5.5.3 The expert also tested an exposed ground floor window where high moisture levels were recorded in the bottom plate below (Cut-out E). The expert created a 'dam' at the jamb/sill junction and tracked the dyed water entering the junction; noting that coloured water leaked from the bottom of the cladding below.

5.6 Commenting specifically on the external envelope, the expert noted that:

### The wall cladding

- there are no or insufficient clearances from the bottom of the EIFS claddings to the ground or paving in some areas
- there cracks in some areas
- the apron flashings to the entry canopy are 'poorly formed' and likely to fail

### Windows and doors

- there are cracks at jamb/sill reveal junctions to some windows
- investigation reveals that sealant is incompatible with the polypropylene soakers and is peeling away at junctions with the uPVC jamb and sill flashings, allowing moisture penetration and damage to the framing below

### The deck

- clearance between the cladding and balcony tiles is insufficient
- balcony tiles turn up against the face of the fibre-cement balustrade cladding, allowing water to penetrate behind the tiles
- although the membrane around the corner post to balcony junction could not be inspected and there is no evidence of moisture penetration, the plywood balcony substrate is damaged from leaks related to other defects

<sup>7</sup> Source: BRANZ Appraisal Certificate No. 311 (1995)

- while lacking evidence of moisture penetration resulting from tiles adhered to membrane, the plywood substrate is damaged from leaks related to other defects
- the flat balustrade tops lack cappings or waterproofing and are penetrated by handrail fixings, with cladding cracks and moisture apparent in the framing
- balcony and balustrade to wall junctions lack saddle flashings
- inter-cladding junctions of fibre-cement balustrade cladding with EIFS-clad columns are not weatherproof, with moisture penetration into column framing
- at the balcony steps:
  - the balcony membrane turns down behind EIFS cladding on the top riser, with saturated timber in the soffit framing below
  - the junction with the balustrade is not weatherproof and moisture is penetrating into adjacent framing
  - timber treads are severely decayed at the stringers and are unsafe
  - stair risers vary from 175mm to 201mm, which may cause falls

#### **The pergola**

- EIFS cladding to framed pergola columns butts against the paving
- tops to columns are not likely to be weatherproof, with very high moisture levels recorded at the bottom of the framing
- nailed junctions of pergola timbers to the EIFS are unflashed.

5.7 In regard to other code clauses identified in the notice to fix, the expert noted:

- severe decay to the balcony stairs (B1)
- lack of sealant to the kitchen bench/upstand junction (E3)
- possible lack of waterproofing to shower/tray junction (E3)
- insufficient height of mezzanine balustrade (F4)
- insufficient height of balcony balustrade adjacent to stairs (F4)
- inconsistent risers to balcony stairs (F4)
- the extract ventilation to the kitchen may not be vented to the outside (G4)
- combustible timber is too close to gas hob burners (G11)
- lack of air break to shower hose in ground floor shower (G12)
- plastic grille to gully trap is too tight to lift off if overflowing (G13).

5.8 The expert also commented on other items identified in the notice to fix, and I have taken those comments into account in paragraph 8.1. The expert noted that:

- soffit linings are pre-painted, so do not need further painting (E2 and B2)
- although step-down to balcony is less than 100mm, there is no evidence of any associated damage and that the junction is sheltered by eaves (E2 and B2)

- lack of balcony falls have not affected performance and there is no evidence of ponding to the balcony floor (E2 and B2)
- the balcony has a drainage outlet through the floor and overflow outlet through the balustrade, which generally accord with E2/AS1 (E2 and B2)
- reference to the incomplete plaster system is unclear, as there are no areas of unfinished plaster (E2 and B2)
- reference to unsealed cladding penetrations is unclear, as no specific problems were observed (E2 and B2)
- with no risks of cross connection, exterior taps comply with G12/AS1 (G12)
- reference to water splash in laundry is unclear, as garage floor is concrete (E3).

5.9 A copy of the expert's report was provided to the parties for comment on 11 August 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).

#### **6.2 Weathertightness risk**

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

##### **Increasing risk**

- the house is two-storeys high and in a high wind zone
- the walls have monolithic cladding fixed directly to the framing
- there is a tiled balcony, with clad balustrades, attached to the upper level
- the balustrade cladding differs from the wall and column cladding
- there is a pergola, supported on clad columns, attached to the walls
- the external wall framing is unlikely to be treated to a level that provides resistance to decay if it absorbs and retains moisture

##### **Decreasing risk**

- the house is reasonably simple in plan and form
- there are eaves to shelter most of the upper wall cladding.

6.2.2 Using the E2/AS1 risk matrix to evaluate these features, one elevation is assessed as having a moderate weathertightness risk rating and the remaining elevations a high 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 performance**

- 6.3.1 I view with concern the expert's evidence of high levels of moisture penetration into jamb to sill window junctions, with decay confirmed in the untreated timber framing below, and the severe decay in the timber steps, together with the numerous identified defects and evidence of severe moisture penetration into balcony junctions and column framing below.
- 6.3.2 Taking into account the expert's report, I conclude that considerable work is required to make the house and the deck weathertight and durable, and further investigation is necessary, including the systematic survey of all risk locations, to determine the full extent of any moisture penetration, timber damage and the repairs required.

### **6.4 Weathertightness conclusion**

- 6.4.1 I consider the expert's report establishes that the current performance of the building envelope is not adequate because there is evidence of severe moisture penetration and decay to some of the timber framing. Consequently, I am satisfied that the house does not comply with Clause E2 of the Building Code.
- 6.4.2 The building envelope is also required to comply with the durability requirements of Clause B2, which 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 faults will allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.
- 6.4.3 Final decisions on whether code compliance can be achieved by remediation or re-cladding, or a combination of both, can only be made after a more thorough investigation of the external envelope, including the balcony and columns, and of the underlying timber framing. This requires a careful analysis by a qualified expert, with the chosen remedial option submitted to the authority for its approval.
- 6.5 I note that the Department has produced a guidance document on weathertightness remediation<sup>8</sup>. This guide will assist the owners in understanding issues and processes involved in cladding remediation work, and in exploring various options that may be available when considering the upcoming work required to the house.
- 6.6 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).

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<sup>8</sup> External moisture – A guide to weathertightness remediation. This guide is available on the Department's website, or in hard copy by phoning 0800 242 243

## Matter 2: The remaining Building Code clauses

### 7. Discussion

7.1 Taking account of the expert's report, as outlined in paragraph 5.7, I consider that the following items require further investigation and/or remedial work:

- in regard to Clause B1:
  - the extent of decay to wall and deck framing
  - the severe decay to the balcony stairs
- in regard to Clause E3:
  - the kitchen bench/up-stand junction
  - waterproofing to the shower/tray junction
- in regard to Clause F4:
  - the height of the balustrade to the mezzanine
  - the height of balcony balustrade adjacent to the stairs
  - inconsistent risers and treads to the balcony stairs
- mechanical extract ventilation to the kitchen (Clause G4), although I note that the applicants have advised this is vented to the outside.
- combustible material adjacent to gas hob burners (Clause G11)
- lack of a non-return valve to ground floor shower hose (Clause G12)
- inadequate overflow relief grate to gully trap (Clause G13).

### 8. The notice to fix

8.1 Taking into account the expert's comments, the following table summarises my conclusions on items listed in the notice to fix dated 31 May 2011; referring also to the relevant code clauses and related paragraphs within this determination:

Notice to fix		My conclusions	Code Clauses	Paragraph references
Item	Summarised requirement			
<b>2.0</b>	<b>Issues related to cladding</b>			
	Possible failure and moisture ingress	Remedial work required	<b>E2, B2</b>	Paragraphs 5.3 and 5.4
<b>2.1</b>	<b>Not to manufacturer's specifications</b>			
a)	Unpainted cladding sheets (soffits)	Adequate	<b>E2, B2</b>	Paragraph 5.8
	<b>Not per acceptable solutions</b>			
a)	Cladding cracks	Remedial work required	<b>E2, B2</b>	Paragraph 5.6
b)	Ingress into column tops	Remedial work required	<b>E2, B2</b>	Paragraphs 5.4 and 5.6
c)	Insufficient step down to deck	Adequate	<b>E2, B2</b>	Paragraph 5.8
d)	No weather cowlings to vents	Adequate	<b>E2, B2</b>	Paragraph 5.8
e)	Handrail penetrations through balustrades	Remedial work required	<b>E2, B2</b>	Paragraph 5.6
f)	No access to membrane under deck tiles	Investigation required	<b>E2, B2</b>	Paragraph 5.6
g)	No membrane boot to deck roof post	Investigation required	<b>E2, B2</b>	Paragraph 5.6
h)	Lack of cladding clearances	Remedial work required	<b>E2, B2</b>	Paragraph 5.6
i)	Inadequate discharge from deck	Adequate	<b>E2, B2</b>	Paragraph 5.8

Notice to fix		My conclusions	Code Clauses	Paragraph references
Item	Summarised requirement			
j)	Unflashed joist/rafter penetrations	Remedial work required	<b>E2, B2</b>	Paragraph 5.6
k)	Incomplete plaster system	Adequate	<b>E2, B2</b>	Paragraph 5.8
l)	Lack of appropriate window flashings	Remedial work required	<b>E2, B2</b>	Paragraphs 5.5 and 5.6
m)	Likely moisture penetration	Remedial work required	<b>E2, B2</b>	Paragraph 5.6
n)	Non-uniform risers/treads to deck stairs	Remedial work required	<b>F4</b>	Paragraph 5.6
o)	Cladding clearance to paving/ground	Remedial work required	<b>E2, B2</b>	Paragraph 5.6
p)	No back flow protection to exterior taps	Adequate	<b>G12</b>	Paragraph 5.8
q)	Unsealed cladding penetrations	Adequate	<b>E2, B2</b>	Paragraph 5.8
r)	Moisture penetration rusting fixings	Remedial work required	<b>E2, B2</b>	Paragraphs 5.4 and 5.6
s)	Inadequate overflow relief gully trap	Remedial work required	<b>G13</b>	Paragraph 5.7
t)	Gas hob burner too close to combustible surface	Remedial work required	<b>G11</b>	Paragraph 5.7
u)	Unsealed bench/splash-back junction	Remedial work required	<b>E3</b>	Paragraph 5.7
v)	Unsealed shower tray/wall junction	Investigation required	<b>E3</b>	Paragraph 5.7
w)	No back flow protection to lower shower	Remedial work required	<b>G12</b>	Paragraph 5.7
x)	Moisture ingress via cladding cracks	Remedial work required	<b>E2, B2</b>	Paragraphs 5.4 and 5.6
y)	Inadequate barrier heights	Remedial work required	<b>F4</b>	Paragraph 5.7
z)	Water splash in laundry	Adequate	<b>G12</b>	Paragraph 5.8
<b>2.3</b>	<b>Drainage and ventilation</b>			
	Lack of cladding drainage & ventilation	Investigation required	<b>E2, B2</b>	Paragraphs 6.4.3 and 9.1
<b>3.0</b>	<b>Changes to Building Consent</b>			
	Specified deck fall not achieved	Adequate	<b>E2, B2</b>	Paragraph 5.8
<b>4.0</b>	<b>Other building related issues</b>			
	Unvented fumes and odours	Confirmation required	<b>G4</b>	Paragraph 5.7
	Inadequate barrier to top of internal stairs	Remedial work required	<b>F4</b>	Paragraph 5.7

8.2 I am satisfied that the house does not comply with the Building Code and 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 I have also identified additional items that need to be addressed, so the notice should be modified accordingly (refer to paragraph 9.2).

## 9. What is to be done now?

9.1 I note the expert's comments on the severe decay to the deck stairs, and I draw this to the authority's attention for its urgent consideration. The authority should satisfy itself that the steps to the deck are not dangerous as defined in the Act.

9.2 The notice to fix should be modified to take account the findings of this determination, identifying the items listed in paragraph 5.6 and paragraph 7.1 and referring to any further defects that might be discovered in the course of investigation and rectification, but not specifying how those defects are to be fixed. 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.

- 9.3 In addition, the notice to fix should include the requirement for an investigation into the extent of moisture penetration and condition of the timber framing against the performance requirements of Clause B1 Structure, B2 Durability, and E2 External moisture.
- 9.4 I suggest that the parties adopt the following process to meet the requirements of paragraph 9.2. Initially, the authority should revise and re-issue 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.
- 9.5 I also note that the expert has identified some changes from the consent drawings, and I leave these to the parties to resolve once the appropriate remedial work is satisfactorily completed.

## **10. The decision**

- 10.1 In accordance with section 188 of the Act, I hereby determine that:
- the external envelope does not comply with Building Code Clauses E2 and B2
  - some components of the house do not comply with Clauses B1, E3, F4, G11, G12 and G13 of the Building Code
- and I accordingly confirm the authority's decision to refuse to issue a code compliance certificate.
- 10.2 I also determine that the authority is to modify the notice to fix, dated 30 March 2011, to take account of the findings of this determination.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 4 October 2011.

John Gardiner  
**Manager Determinations**