Department of Building and Housing
*Te Tari Kaupapa Whare*

# Determination 2012/022

# Regarding the refusal to issue a code compliance certificate for two 16-year-old houses at 573A and 573B Waimea Road, Nelson



## 1. The matters to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004[1] ("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 are:

- the owner of the house at 573A ("Unit A"), A Plumtree ("applicant A")
- the owners of the house at 573B ("Unit B"), L and C Denton ("applicants B")
- Nelson City Council ("the authority"), carrying out its duties as a territorial authority or building consent authority.

1.3 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for two 16-year-old houses constructed under one building consent because it was not satisfied that the building work complied with certain clauses[2] of the Building Code (First Schedule, Building Regulations 1992). The authority's concerns about the compliance of the houses primarily relate to their age and weathertightness.

[1] The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Department are all available at www.dbh.govt.nz or by contacting the Department on 0800 242 243.
[2] Unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

1.4 The matter to be determined[3] is therefore whether the authority was correct in its decision to refuse to issue a code compliance certificate for the houses. In deciding this matter I must consider:

### 1.4.1 Matter 1: The external envelopes

Whether the external building envelopes of Unit A and Unit B comply with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The building envelopes include the components of the systems (such as the monolithic claddings, the timber weatherboards, the windows, the roof claddings and the flashings), as well as the way the components have been installed and work together. (I consider this matter in paragraph 6.)

### 1.4.2 Matter 2: Other clause requirements

Whether Unit A and Unit B comply with the other clauses of the Building Code identified by the authority. (I consider this matter in paragraph 7.)

### 1.4.3 Matter 3: The durability considerations

Whether the building elements comply with Clause B2 Durability of the Building Code, taking into account the age of the houses. (I consider this in paragraph 8.)

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 the other evidence in this matter.

## 2. The building work

2.1 The building work consists of two adjacent detached two-storey houses situated on an excavated north-sloping site in a high wind zone for the purposes of NZS 3604[4]. The properties share a driveway as shown in the following sketch in Figure 1:

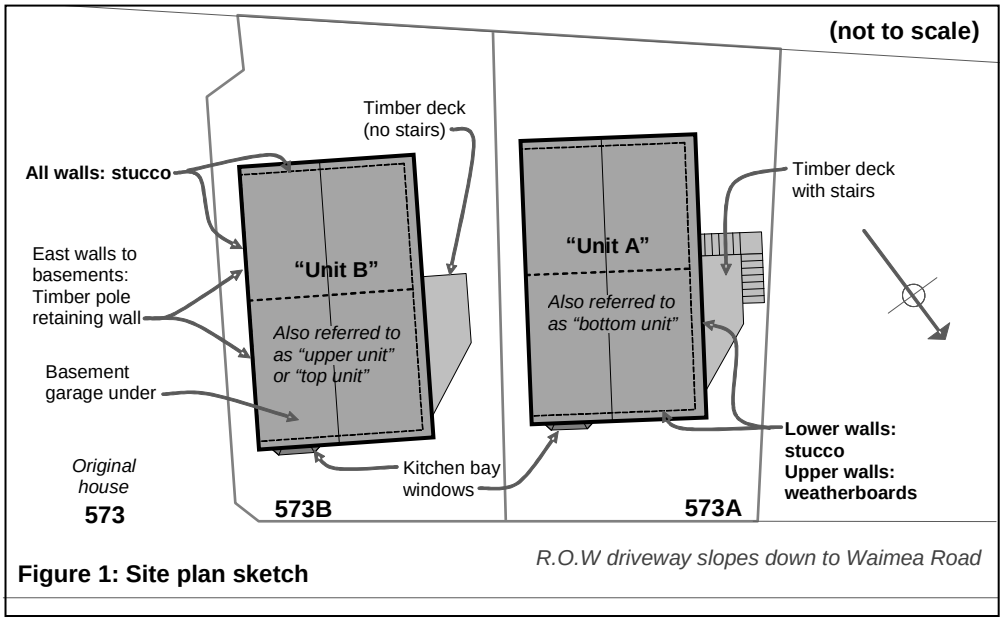


**Figure 1: Site plan sketch**

[3] Under sections 177(1)(b) and 177(2)(d) of the Act
[4] New Zealand Standard NZS 3604:1999 Timber Framed Buildings

2.2 The houses are set into the site slope, with east walls retained at basement level and exterior timber retaining walls to the south which allow two-storey walls to other elevations. Basements accommodate garages in the northern half and two bedrooms to the south, with living areas, bathroom and a bedroom on the upper levels. The houses are simple in plan and form and are assessed as having a moderate weathertightness risk (see paragraph 6.2).

2.3 Construction of the houses is generally conventional light timber frame, with concrete foundations and floor slabs and specifically engineered timber pole retaining walls to the east basement walls which support the upper walls. Although similar in design, Unit A has monolithic cladding only to basement walls with timber weatherboards above, while all walls to Unit B have monolithic wall cladding. The $15^{o}$ pitch profiled metal gable roofs have no eaves on the east elevations, with 300mm eaves and verge projections on other elevations.

2.4 Both houses have free-draining timber decks, with open timber balustrades, attached to the upper level of the west elevations. In Unit A, the timber stairs are added to provide access to ground level, where a timber retaining wall provides a platform at the bottom of the stairs.

2.5 The specification called for framing to be treated and, given the construction in 1995, I accept that the external wall framing is likely to be boric-treated. However, the level of treatment is not known and I therefore consider that the wall framing of these houses may not be sufficiently treated to provide resistance to fungal decay.

### 2.6 The wall claddings

2.6.1 In Unit A, upper walls are clad in rusticated stain-finished macrocarpa weatherboards fixed through the building wrap directly to the framing. Timber facings are installed at corners, with mitres at the $45^{o}$ corners of the kitchen bay window. The basement walls of Unit A and all walls in Unit B are clad in solid plaster ("stucco").

2.6.2 The stucco cladding is a monolithic cladding system described as solid plaster over a flexible backing. In this instance it consists of solid plaster reinforced with metal mesh and fixed through the building wrap directly to the framing timbers.

## 3. Background

3.1 The authority issued a developer with building consent No. 941358 for the construction of two houses on 4 January 1995 under the Building Act 1991. I have not been provided with a copy of that consent.

### 3.2 The authority's inspections

3.2.1 The authority carried out various inspections during construction in 1995. I have not seen records of individual inspections and the computer-generated inspection summary is unclear and confusing. However, it appears that the houses were built concurrently with foundations and floor slabs inspected during January 1995.

3.2.2 The inspection summary notes 'consulting engineer to inspect all specifically engineered elements as per Inspection Schedule and provide Producer Statement for Construction review to Council.' An inspection of timber retaining walls on 15 February 1995 also noted that the engineer was required to 'provide producer statement for 'DPC protection'.

3.2.3 The inspection summary incorrectly records a pre-line inspection during 1997 although its associated note makes it clear that the inspection was carried out in March 1995. The pre-line inspection passed some insulation but excluded bracing and fixings. Pre-plumbing inspections in April also required re-inspection. There are no pre-line re-inspections recorded.

3.2.4 There is also no record that pre-plaster inspections were carried out, as the next inspections appear to be final drainage inspections in November and December 1995. I also note that seven notices to rectify were issued between March and December 1995 on various structural, plumbing and drainage, siteworks and other matters.

3.2.5 Unit A was completed by the beginning of 1996, and sold to applicant A in February 1996. However the first sale of Unit B is not recorded until January 1998, so it appears that house may have been retained by the developer. A second sale is recorded as settled in August 2000.

3.2.6 A final inspection is recorded in August 2000 and the authority apparently issued an interim code compliance certificate for Unit B (which I have not seen). A producer statement for construction review was apparently received for that unit as the summary notes the following:

> [Referring to Unit A] ...number of items still outstanding. Developer working to resolve. Btm unit [Unit A] also has no handrail in stairwell... ...PSCR [Producer Statement – Construction Review] required...
> Upper unit (B) all OK, PSCR rec'd.

3.3 Applicants B purchased Unit B in April 2002 and I have seen no records of correspondence between the parties for the next nine years, with no further inspections carried out until 2011, when a code compliance certificate was sought for the houses.

## 3.4 The authority's refusal to issue a code compliance certificate

3.4.1 In separate letters to the applicants dated 17 August 2011, the authority referred to a 'final re-inspection carried out on 4 August 2011' which 'revealed a number of items requiring attention prior to the possible issue of a Code Compliance Certificate'. In both letters, the authority stated:

> The main concern that [the authority] has is in relation to the durability and performance of the external cladding of the dwelling, hence a number of weather tightness issues on the dwelling will need to be covered in an 'E2 based' (weather tightness) report by [a specialised consultant].

3.4.2 The authority outlined items in each house that required a 'targeted assessment', along with other more minor items as summarised in the following table:

| Item No. in letters | | Items identified by the authority | Applicable code clauses |
|---|---|---|---|
| **For both houses:** | | | |
| **A** | **B** | | |
| 4 | 1 | Clearances from ground levels to cladding and finished floor levels | **E2, B2** |
| 5 | 2 | Capillary breaks at bottom of stucco claddings | **E2, B2** |
| 2 | 5 | Adequacy and performance of window sill flashings in stucco claddings | **E2, B2** |
| 8 | 6 | Timber embedment of deck stringer into stucco claddings | **E2, B2** |
| 7 | 3 | Flashing and fixings of deck stringers | **E2, B2** |
| 20 | 15 | Seal pipe penetrations through claddings | **E2, B2** |
| 9 | 7 | Verification of fixing of plasterboard bracing | **B1** |
| 10 | 8 | Other areas identified in the consultant's report | |
| 12 | 9 | Producer statement from engineer for retaining wall DPC/protection, with as-built detail of floor to retaining wall junction. | **B1** |
| 13 | 10 | Electrical certificates of compliance | **G9** |
| 18 | 11 | Secure laundry tub to wall | **B1** |
| 23 | 17 | Lack of riser to gully trap | **G13** |
| 24 | 14 | Inadequate access route to main entry | **D1** |
| **For Unit A only** | | | |
| 1 | | Performance of rusticated weatherboards | **E2, B2** |
| 2 | | Adequacy and performance of window sill flashings in weatherboards | **E2, B2** |
| 3 | | Junction of weatherboards with stucco cladding | **E2, B2** |
| 6 | | Sealing of stucco plaster | **E2, B2** |
| 11 | | Producer statement from engineer for:<br>• Garage door steel beam<br>• Basement retaining wall<br>• Site retaining walls north and south of house | **B1** |
| 14 | | Lack of sealing of bench top/wall junction | **E3** |
| 15 | | Secure gas cooking appliances | **B1** |
| 16 | | Lack of restrictors to windows less than 760mm from floor | **F4** |
| 17 | | Lack of handrail to internal stairs | **D1, F4** |
| 19 | | Lack of hot water tempering | **G12** |
| 21 | | Lack of barrier to rear retaining wall | **F4** |
| 22 | | Inadequate extension of waste pipes into gully trap | **G13** |
| 25 | | Adequacy of balustrades to deck stairs | **F4** |
| 26 | | Engineer's investigation of slumping to deck | **B1** |
| 27 | | Provide as-built floor plan | |
| **For Unit B only** | | | |
| 4 | | Lack of projection of roof underlay into gutter | **E2, B2** |
| 12 | | Lack of seismic restraints and bracing to hot water cylinders | **B1, G12** |
| 13 | | Confirmation of hot water temperatures | **G12** |
| 16 | | Adequacy of deck balustrade | **F4** |

3.4.3 The authority also noted that durability requirements of the Building Code could be amended to commence from the 'practical completion date' of the houses.

3.4.4 The authority concluded that it:

> … cannot be satisfied on reasonable grounds at this point that the work meets all the requirements of the Building Code in regards to B1 structure, B2 durability, D1 access routes, E2 external moisture, and F4 safety from falling, G12 water supplies and G13 foul water. Hence Council will not be in a position to consider issue of a Code Compliance Certificate until a report is submitted by the preferred consultant and the issues identified [items 11 to 27 for Unit A and items 9 to 17 for Unit B] have been addressed.

3.5 The Department received applications for a determination on 26 September 2011 from applicant A and applicants B.

## 4. The submissions

4.1 The applicants made no submissions and provided copies of:

- the consent drawings and specification
- the letters from the authority dated 17 August 2011
- the authority's computer-generated summary of inspections.

4.2 The authority acknowledged the application but made no submission in response.

4.3 Copies of the submissions and other evidence were provided to each of the parties. A draft determination was issued to the parties on 9 December 2011. Applicant A and applicants B accepted the draft without comment. The authority also accepted the draft but noted that its letter dated 17 August 2011 had been quoted in error in paragraph 3.4.4. The error has been corrected.

## 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 houses on 28 and 31 October 2011, providing a report dated 8 November 2011.

5.2 The expert noted that the houses were poorly maintained and claddings appeared to be 'poor quality' with 'little consideration given to sealing and weathering of the stucco cladding to prevent water entry at junctions, external joinery, decks and service penetrations.' The overall impression was that workmanship was 'below an industry standard'; with the lack of weathertightness a particular concern.

5.3 The expert noted that the stucco cladding to Unit B had been recently repainted, while the claddings to Unit A were severely weathered with no maintenance apparently carried out since completion.

### 5.4 Windows and doors in the stucco claddings

5.4.1 The expert noted that windows in the stucco claddings are face-fixed, with metal head flashings. The expert removed small sections of stucco ("the cut-outs") at jamb to sill junctions of two windows in Unit A and a typical window in Unit B, noting

that plaster varied from only 12mm thick at one window to about 19mm at others. The plaster appeared 'soft and weak' in structure, with the mesh poorly embedded.

5.4.2 The expert noted the lack of jamb or sill flashings at all windows, also with no wrap folded and returned back in behind the window flange (a traditional method of flashing jambs of windows in stucco cladding). The expert also observed corroding mesh, damaged building wrap and, in the case of Unit B's exposed junction, severe decay in the timber behind the wrap. I accept that these exposed junctions are typical of similar locations in the stucco cladding elsewhere in both houses.

## 5.5 Other destructive testing

5.5.1 The expert made further cut-outs to investigate the underlying construction at the inter-storey junctions of Unit A and Unit B and noted:

- soft and weak plaster, with reinforcing mesh poorly embedded and corroded
- at the weatherboard/stucco inter-storey junction to Unit A, the building wrap was water damaged, there were no underlying flashings, and the upper weatherboards provided little or no cover to the top of the plaster
- at the inter-storey junction behind the continuous stucco cladding to Unit B, the building wrap was water damaged, there were no underlying flashings, and severe decay was observed in the underlying boundary joist

5.5.2 In Unit B, the expert carried out additional investigations and:

- drilled holes at 50mm and 30mm into stucco above the decking without locating the top of the upstand to the deck stringer flashing
- removed soil to expose the bottom of the stucco on the east wall, noting:
  - the stucco in the ground was about 700mm below upper floor level
  - polythene tanking behind the timber retaining wall was visible, but its integrity throughout the wall could not be confirmed.

## 5.6 Moisture levels

5.6.1 The expert inspected the interiors of the houses and took non-invasive moisture readings at exterior walls, noting no elevated readings in Unit A but elevated readings around living room windows and the kitchen bay window to Unit B.

5.6.2 The expert took invasive moisture readings through the claddings of both houses at cut-outs and other areas considered at risk; noting the following elevated moisture readings or visible evidence of moisture penetration:

### Unit A

- corroding mesh and water-damaged wrap at cut-outs
- 30% and 32% in bottom plates beside garage door, with 24% in a jamb above
- water-damaged lining and skirtings to west garage wall
- 18% and 19% in other bottom plates
- 18% and 19% through stucco under sill of bedroom 2 window

- 18% through weatherboards at garage door head under north bay window

**Unit B**

- corroding mesh and water-damaged wrap at all cut-outs
- over 40% and decay in east bottom plate beside garage door
- decay in west bottom plate beside garage door
- 24% and decay at cut-out to jamb/sill junction of bay window
- over 40% and decay at cut-out to inter-storey junction
- over 40% and 24% in framing under bay window
- 19% and 26% at base of timber pole retaining wall to east wall of garage
- water stains to linings on west garage wall
- 19% and 28% under ends of deck stringer to west wall.

Moisture levels over 18% or that vary significantly from an established base line 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. I also note that the inspection was carried out in late spring, and consider that moisture levels are likely to be higher during winter months.

5.7 Commenting specifically on the external envelopes, the expert noted that:

**Stucco – both houses**

- there are no vertical control joints installed to walls longer than 4m, and no horizontal control joints to two-storey-high walls
- mesh reinforcing is not sufficiently embedded in plaster and is corroding
- the plaster is soft and weak and in some areas is only 12mm thick
- windows and doors are not flashed at jambs and sills, with moisture penetration and decay apparent at some windows
- while Unit B has been very recently painted, the stucco to Unit A is unpainted, with algae and cracks in some areas, including at window junctions
- there are no drip edges or anti-capillary gaps at the bottom of the stucco
- there are insufficient clearances from the ground to stucco and floor levels
- deck stringers are embedded into the stucco and, although tops are flashed, water is penetrating through the stucco at the unflashed ends of the stringers

**Weatherboards to Unit A**

- the weatherboards are in need of maintenance, with severely weathered surfaces, isolated pockets of rot and some boards that require re-fixing
- corner facings are poorly fixed, with gaps that allow wind-blown rain to enter
- mitres to $45^{o}$ corners at the bay window are unflashed and allowing moisture in

- the weatherboards do not overlap the lower stucco at the inter-storey junction, with no underlying flashings and damaged building wrap

**Other – both houses**

- steel lintels to garage doors lack surface coatings, with light corrosion apparent
- roofs are in need of maintenance, with lichen build up and many loose nails
- roof underlays do not extend into the gutters, allowing water behind the gutters.

5.8 The expert commented on defects identified by the authority (see paragraph 3.4.2) and the following table summarises his comments. The table also includes areas not identified by the authority (shaded).

| Items identified | | | Expert's comments | clauses |
|---|---|---|---|---|
| **A** | **B** | **For both houses:** | | |
| 4 | 1 | Cladding/floor clearances | Clearances insufficient, with high moisture levels and/or water stained linings and swollen skirtings. | **E2, B2** |
| 5 | 2 | Bottom of stucco | No anti-capillary gaps or drip edges provided | **E2, B2** |
| 2 | 5 | window flashings in stucco | No jamb or sill flashings, and gaps apparent<br>Slip layer not returned at jamb flanges<br>High moisture levels under most windows | **E2, B2** |
| 8 | 6 | Deck stringers in stucco | Stringers buried in plaster – flashed above but not at ends, with high moisture levels apparent. | **E2, B2** |
| 7 | 3 | Flashing/fixings of stringers | Flashing upstand not high enough. | **E2, B2** |
| 20 | 15 | Unsealed pipe penetrations | Electrical meterbox not flashed<br>Some pipe penetrations not sealed | **E2, B2** |
| 9 | 7 | Plasterboard bracing | Unstopped lining in garage not nailed as required | **B1** |
| 12 | 9 | Garage retaining walls | Top of tanking observed, but remaining unknown.<br>Moisture absorbed through base – requires ventilation.<br>Need investigation of enclosed walls to east bedrooms. | **B1, E2** |
| 19 | 13 | Hot water tempering | Requires adjusting for water temperature | **G12** |
| 18 | 11 | Laundry tub fixing | Not secured | **B1** |
| 23 | 17 | Gully trap | No raised surrounds to gully traps | **G13** |
| 24 | 14 | Access route to entry | Non-compliant in both houses.<br>Steps and landing insecure and lacking balustrades – considered unsafe. | **D1, F4** |
| n/a | | Driveway drainage | Driveway falls toward undrained garage opening, with decay at bottom of door jambs and framing | **E1** |
| n/a | | Downpipes at garage door | Downpipes not seated into stormwater pipe riser or sump, allowing water to splash at garage door jambs | **E1, E2** |
| **For Unit A only** | | | | |
| 1 | | Rusticated weatherboards | Generally adequate but maintenance urgently needed. | **E2, B2** |
| 2 | | Window flashings in weatherboards | Exposed mitres under bay window allow moisture in. | **E2, B2** |
| 3 | | Weatherboard/stucco junction | Junction unflashed, with insufficient overlap | **E2, B2** |
| 6 | | Unsealed stucco | Stucco unpainted, with algae and cracking | **E2, B2** |
| 14 | | Bench top/wall junction | Junction is unsealed | **E3** |
| 15 | | Gas cooking appliances | Cooker is not secured | **B1** |
| 16 | | Lack of window restrictors | No restrictor to one master bedroom window | **F4** |
| 17 | | Lack of stairs handrail | No handrail fitted | **D1, F4** |
| 21 | | No barrier to rear retaining wall | Retaining wall requires balustrade to comply | **F4** |
| 22 | | Pipes not extended into gully trap | No raised surrounds to gully trap | **G13** |

| Items identified | | Expert's comments | clauses |
|---|---|---|---|
| 25 | Deck stair balustrades | Generally compliant – except for one small area at top of stairs where balusters are missing. | **F4** |
| 26 | Slumping to deck | Significant settlement of deck/stair structure.<br>Adjacent retaining wall leaning and causing subsidence –structural investigation required. | **B1** |
| n/a | Raised garden at garage door | Raised garden against garage wall stucco - allows moisture into framing, which is decaying | **E2, B2** |
| n/a | Roof underlay into gutter | Underlay finishes well short of gutter | **E2, B2** |
| **For Unit B only** | | | |
| 4 | Roof underlay into gutter | Underlay finishes well short of gutter | **E2, B2** |
| 12 | Seismic restraints/bracing to HWC | Restraints satisfactory.<br>Timber platform requires bracing. | **B1, G12** |
| 16 | Deck balustrade | Insufficient bolted connections of balustrade posts.<br>Handrail fixing not sufficient.<br>General construction poor – needs investigation. | **B1, F4** |
| n/a | Internal stair handrail | Insecurely fixed and positioned too high | **F4** |
| n/a | Bench top/wall junction | Poorly sealed and moisture penetrating junction | **E3** |
| n/a | Inter-storey junction | No underlying flashings, boundary joist decayed | **E2, B2** |
| n/a | Top of east stucco wall | Stucco butts up to fascia board, with no cover or drip edge and no shelter provided by eaves. | **E2, B2** |

5.9 A copy of the expert's report was provided to the parties on 1 December 2011.

# Matter 1: The external envelopes

# 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 These houses have the following environmental and design features which influence their weathertightness risk profile:

**Increasing risk**

- the houses are two-storeys high and sited in a high wind zone
- there are projecting bay windows on the north walls
- Unit A has two claddings fixed directly to the framing
- the houses have monolithic cladding fixed directly to the framing
- east walls have no eaves to shelter the cladding
- the houses have timber decks attached to the upper levels
- the external wall framing may not be treated to a level that provides resistance to decay if it absorbs and retains moisture.

**Decreasing risk**

- the houses are simple in plan and form
- north, west and south walls are sheltered by limited roof projections.

6.2.2 When evaluated using the E2/AS1 risk matrix, these features show that all elevations of the houses demonstrate a moderate weathertightness risk rating. If details in the current E2/AS1 were adopted to show code compliance, the claddings would require a drained cavity although this was not required when the houses were constructed.

## 6.3 Weathertightness performance

6.3.1 It is clear from the expert's report that the stucco claddings to these houses have not been installed in accordance with good trade practice or to the relevant standard of the time[5]. The external envelopes are unsatisfactory in terms of their weathertightness performance and durability, which has resulted in chronic moisture penetration and decay to framing. Taking into account the expert's report, I conclude that the areas outlined in paragraph 5.7 require rectification.

6.3.2 Considerable work is required to make the external envelopes weathertight and durable. Further investigation is necessary, including the systematic survey of all risk locations, to determine causes and full extent of moisture penetration, the full extent of 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 envelopes is not adequate. Consequently, I am satisfied that the houses do not comply with Clause E2 of the Building Code.

6.4.2 In addition, the building work is required to comply with the durability requirements of Clause B2. Clause B2 requires that buildings continue to satisfy all the objectives of the Building Code throughout their effective life, and that includes the requirement to remain weathertight. Because cladding faults will allow the ingress of moisture in future, these houses do not comply with the durability requirements of Clause B2.

6.4.3 I consider that the stucco claddings to both houses are likely to require removal and replacement. However, final decisions on whether code-compliance can be achieved by either remediation or re-cladding, or a combination of both, should be made after a more thorough investigation of the cladding by an appropriately qualified expert. This should establish the extent of decay in the underlying timber framing. Once that decision is made, the chosen remedial option should be submitted to the authority for its approval.

6.4.4 The Department has produced a guidance document on weathertightness remediation[6]. I consider that this guide will assist the owner in understanding the issues and processes involved in remediation work to the stucco cladding in

[5] New Zealand Standard NZS 4251: 1974 Code of Practice for Solid Plastering
[6] Weathertightness: Guide to remediation design. This guide is available on the Department's website, or in hard copy by phoning 0800 242 243.

particular, and in exploring various options that may be available when considering the work that will be required to bring the house into compliance with the Building Code.

6.4.5 The expert has also pointed out the lack of maintenance on the houses, which has contributed towards their current condition. 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 (for example, Determination 2007/60).

## Matter 2: Other clause requirements

## 7. Discussion

7.1 Taking account of the expert's report and his comments in paragraph 5.8, I consider that further investigation and/or remedial work is required to the following areas:

- in regard to Clause B1 Structure:
  - fixings of plasterboard bracing (if this is part of the structure)
  - the adequacy of the garage retaining walls
  - the fixing of the laundry tub
  - the securing of the gas cooker in Unit A
  - the subsidence of the ground and deck to Unit A
  - bracing of the hot water cylinder bracing to Unit B
  - the deck and balustrades to Unit B
- in regard to Clause E1 Surface water:
  - the drainage of driveways towards the garages
  - connection of downpipes into stormwater disposal
- the sealing of kitchen bench tops to walls (E3)
- the access route to the main entries (D1)
- in regard to Clause F4 Safety from falling:
  - the missing deck balusters to Unit A
  - the insecure deck balustrades to Unit B
  - the lack of balustrades to the external retaining wall to Unit A
  - the lack of balustrades to the access route to the main entries
  - the lack of or insecurely fixed handrails to internal stairs
  - the lack of a window restrictor to Unit A
- adjustment of water temperatures (G12)
- the lack of raised surrounds to the gully traps (G13).

## Matter 3: The durability considerations

# 8. Discussion

8.1 The authority is concerned about the durability, and hence the compliance with the Building Code, of certain elements of the building work taking into consideration the age of the houses. 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).

8.2 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, that is agreed to by the parties and that, if there are matters that are required to be fixed, they are discrete in nature.

8.3 Because of the extent of further investigation required into the timber framing and therefore the house's structure, and the potential impact of such an investigation on the external envelope, I am not satisfied that there is sufficient information on which to make a decision about this matter at this time.

# 9. What is to be done now?

9.1 The authority should issue a notice to fix that requires the owners to bring their houses into compliance with the Building Code, identifying the defects listed in paragraph 5.7 and paragraph 7.1, including the requirement for a full investigation of the condition of the framing, and referring to any further defects that might be discovered in the course of investigation and rectification. 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.

9.2 I suggest that the parties adopt the following process to meet the requirements of paragraph 9.1. The applicants should produce a response to the notice to fix in the form of a detailed proposal for both houses as a whole, produced in conjunction with a competent and suitably qualified person, as to investigation, 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.

## 10. The decision

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

- the external envelopes of the houses do not comply with Clause E2 and Clause B2 of the Building Code
- the houses do not comply with Clauses B1, E1, E3, D1, F4, G12 and G13 of the Building Code

and accordingly, I confirm the authority's decision to refuse to issue a code compliance certificate for the houses.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 19 March 2012.

John Gardiner
**Manager Determinations**