

## Determination 2010/015

### Refusal to issue a code compliance certificate for a nine-year-old house with a monolithic cladding system at 63A Boucher Avenue, Te Puke



#### 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 applicant is the owner, Ms J Cornwall (“the applicant”), acting through her lawyer (“the applicant’s lawyer”), and the other party is the Western Bay of Plenty District Council (“the authority”), carrying out its duties and functions as a territorial authority or building consent authority.

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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

1.2 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for a 9-year-old house because it believes it cannot be satisfied that the building work complies with certain clauses<sup>2</sup> of the Building Code (First Schedule, Building Regulations 1992).

1.3 In order to determine, under section 177(b)(i) of the Act, whether the decision to refuse to issue the code compliance certificate was correct I must also consider, under section 177(a), the following matters:

**1.3.1 Matter 1: The external 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 systems (such as the wall and roof claddings, the windows and the flashings), as well as the way the components have been installed and work together. (I consider this matter in paragraph 7.)

**1.3.2 Matter 2: The durability considerations**

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

1.4 In making my decision, I have considered the submissions of the parties, the report of the expert commissioned by the Department to advise on this dispute (“the expert”), and the other evidence in this matter. I have evaluated this information using a framework that I describe more fully in paragraph 7.

## **2. The building**

2.1 The house is a fairly simple, single-storey, detached house with no unusual or complicated features. It is situated on a sheltered, level section in the middle of a residential area in a low wind zone for the purposes of NZS 3604<sup>3</sup>.

2.2 Construction is generally conventional light timber frame, with concrete slabs and foundations, aluminium windows and monolithic wall cladding. The roof has concrete tile roofing with eaves in some areas of 400mm, and a concealed fascia and spouting system. The interior has plasterboard linings.

2.3 The exterior cladding is a form of EIFS<sup>4</sup> consisting of 40mm expanded polystyrene backing sheets fixed directly to the framing over the building wrap, and finished with a mesh-reinforced modified plaster system. The EIFS is penetrated by plumbing, light fittings, and the spouting system, in addition to the windows and doors. A timber pergola is also direct fixed to the north wall.

2.4 I have not been provided with any direct evidence as to the treatment afforded to the external wall framing. Given the date of construction in 1999 and the lack of other evidence, I consider that the wall framing is not treated.

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

<sup>4</sup> External Insulation and Finish System

### **3. Background**

- 3.1 The authority issued a building consent (No. 61321) on 18 August 1999 under the Building Act 1991. The authority carried out five inspections during construction in 1999, including footing, slab and drains, which all passed. An undated inspection note states that the cladding, a 'plaster over polystyrene system', is not a proprietary system and it varies from the cladding stated in the plans. I have seen no evidence of a final inspection being carried out.
- 3.2 The builder sold the property to the current owner without having obtained a code compliance certificate. The owner made an application for a code compliance certificate and on 1 October 2004 the authority declined to issue one, citing that it was not satisfied that the cladding complied with Clause E2 of the Building Code.
- 3.3 The application for determination was received on 20 May 2009.

### **4. The submissions**

- 4.1 An application for a determination was received from the applicant's lawyer, with a cover letter dated 18 May 2009 providing some background to the dispute. The submission included:
- copies of correspondence with the Council
  - copies of the building permit application and building plans
  - a building inspection report and notes.
- 4.2 The authority was provided with a copy of the letter from the Department accepting the application for determination but has not acknowledged the application or made any submission.
- 4.3 The draft determination was issued to the parties on 11 December 2009. The draft was issued for comment and for the parties to agree a date when the building work, with the exception of the items requiring rectification, complied with Clause B2 Durability.
- 4.4 The parties accepted the draft without comment and agreed that the building complied with Clause B2 on 31 January 2000.

### **5. Grounds for the establishment of code compliance**

- 5.1 In order for me to form a view to code compliance, I need to establish what evidence is available and what can be obtained, given that the building work is completed and some elements are not able to be cost-effectively inspected.
- 5.2 In this case, the evidence supplied includes:
- the authority's inspection report and notes (for the period September–December 1999)
  - an independent expert's report (16 October 2009)

## 6. The expert's report

6.1 As mentioned in paragraph 1.4, I engaged an independent expert to provide an assessment of the external cladding. The expert is a member of the New Zealand Institute of Building Surveyors. The expert inspected the house on 23 July 2009 and provided a report that was completed on 16 October 2009.

6.2 The expert noted the following variations from the consent drawings:

- The wall cladding is EIFS in lieu of the mix of fibre-cement and brick detailed on the plans.
- The roof on the west elevation is not constructed according to the plans provided; however it has created a consistent roof line the length of the elevation.

6.3 The expert inspected the interior and noted evidence of moisture damage in six locations. The expert took non-invasive moisture readings internally, finding high readings in two locations: the sidewall of the hall close to the main entrance, and below and left of the window in bedroom 3 (which also felt damp to touch).

6.4 The expert took invasive moisture readings through the cladding at areas considered at risk, and recorded moisture readings of approximately 40% at two locations; the right side of the garage in the framing at the internal corner and the right corner of the west elevation.

6.5 The expert removed three sections of cladding: a section above the doors in the master bedroom, revealing some evidence of past water entry affecting internal wall linings; and two sections around the window in bedroom 3, revealing some decaying timber and fungi growing on the timber surface. The expert attributed the immediate cause of water penetration to the following areas to be debris blocking the spouting.

6.6 The expert also noted:

- inadequate ground clearance at three locations around the garage and to the north elevation outside the master bedroom
- the flashings do not provide for a drip edge at the head of the garage door, and there is no mechanical flashing along the top of the sliding doors
- no gaps left under sill flashing to allow drainage
- cracking in the exterior cladding at services pipe penetrations
- reliance on only sealant to provide weathertightness at some penetrations and fixings
- cladding exposed to water where the cover to a power cable had been dislodged at some time
- cracking in the exterior cladding where a pergola beam was embedded, and a rotten reveal in this location indicating water ingress.

6.7 A copy of the expert's report was provided to the parties on 23 October 2009.

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

### **7.1 Evaluation for code compliance**

7.1.1 In order to determine whether the building is code compliant I must address the following questions:

- Is there sufficient evidence to establish that the building work as a whole complies with the Building Code? If so, a code compliance certificate can be issued.
- If not, are there sufficient grounds to conclude that, once any outstanding items are repaired and inspected, the building work will comply with the Building Code? If so, can a code compliance certificate be issued in due course?

7.1.2 I have evaluated the code compliance of this building by considering the weathertightness of the external building envelope (Clause E2) and durability (Clause B2 insofar as it relates to Clause E2).

7.1.3 The approach in determining whether building work is weathertight and durable, and is likely to remain so, is to apply the principles of weathertightness. This involves consideration of the building design, the surrounding environment, the design features that are intended to prevent the penetration of water, the cladding system and its installation, and the moisture tolerance of the external framing.

7.1.4 The consequences of a building demonstrating a high weathertightness risk is that building solutions that comply with the Building Code will need to be more robust. Conversely, where there is a low weathertightness risk, the solutions may be less robust. In any event, there is a need for both the design of the cladding system and its installation to be carefully carried out.

7.1.5 Notwithstanding the fact that the EIFS is fixed directly to the timber framing, thus inhibiting drainage and ventilation behind the cladding, I have noted that the following compensating factors that assist the performance of the cladding in this particular case:

- there are limited cracks in the cladding
- moisture penetration has occurred in discrete areas only
- the cladding generally appears to be installed to a reasonable standard.

I consider that these factors help compensate for the lack of a drained cavity and can assist the building to comply with the weathertightness and durability provisions of the Building Code.

### **7.2 Weathertightness conclusion**

7.2.1 I consider that the expert's report establishes that the current performance of the cladding is inadequate because water has penetrated to the right of the garage doors and to the right of the window in bedroom 3. Consequently, I am satisfied that the external envelope does not comply with Clause E2 of the Building Code.

7.2.2 Taking account of the expert's report, I conclude that remedial work is necessary with respect to the following deficiencies:

**Cladding**

- the cladding system is not always installed with adequate clearances at ground level
- the adequacy of the flashings to the garage door and to the lack of a mechanical flashing along the top of the sliding doors
- the lack of any gap under sill flashings to allow drainage
- water penetrates into the walls from the spouting to the right of the garage and on the right end of the west elevation
- the weathertightness of the cladding at penetrations and fixings, and in particular the cracking of the cladding adjacent the pergola beam

**Maintenance**

- removal of debris from spouting & fascia
- replacement of the rotten reveal
- unblocking drainage holes in windows.

7.2.3 In addition, the building work is also required to comply with the durability requirements of Clause B2 of the Building Code. 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 of the building to remain weathertight. Because the cladding faults are likely to allow moisture penetration in the future, the building work does not comply with the durability requirements of Clause B2.

7.2.4 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).

7.2.5 Because the cladding faults occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 7.2.2 will result in the house complying with Clauses E2 and B2 of the Building Code.

## **8. Matter 2: The durability considerations**

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 1999 or 2000.

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 These durability periods are:

- 5 years if the building elements are easy to access and replace, and failure of those elements would be easily detected during the normal use of the building
- 15 years if building elements are moderately difficult to access or replace, or failure of those elements would go undetected during normal use of the building, but would be easily detected during normal maintenance
- the life of the building, being not less than 50 years, if the building elements provide structural stability to the building, or are difficult to access or replace, or failure of those elements would go undetected during both normal use and maintenance.

8.4 In this case the delay between the completion of the building work and the applicant's request for a code compliance certificate has raised concerns that various elements of the building are now well through or beyond their required durability periods, and would consequently no longer comply with Clause B2 if a code compliance certificate were to be issued effective from today's date.

8.5 It is not disputed, and I am therefore satisfied, that all the building elements with the exception of the matter requiring rectification complied with Clause B2 on 31 January 2000. This date has been agreed between the parties, refer paragraph 4.4.

8.6 In order to address these durability issues when they were raised in previous determinations, I sought and received clarification of general legal advice about waivers and modifications. That clarification, and the legal framework and procedures based on the clarification, is described in previous determinations (for example, Determination 2006/85). I have used that advice to evaluate the durability issues raised in this determination.

8.7 I continue to hold that view, and therefore conclude that:

- (a) the authority has the power to grant an appropriate modification of Clause B2 in respect of all the building elements
- (b) it is reasonable to grant such a modification, with appropriate notification, because in practical terms the building is no different from what it would have been if a code compliance certificate for the house had been issued in 2000.

8.8 I strongly suggest that the authority record this determination and any modifications resulting from it, on the property file and also on any LIM issued concerning this property.

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

9.1 The authority should issue a notice to fix that requires the owner to bring the house into compliance with the Building Code, identifying the deficiencies listed in paragraph 7.2.2 and referring to any further defects that might be discovered in the course of investigation and rectification, but not specifying how those deficiencies must be fixed. It is not for the notice to fix to stipulate how the deficiencies are to be

remedied and the house to be 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 Once the matters set out in in paragraph 7.2.2 have been rectified to its satisfaction, the authority may issue a code compliance certificate in respect of the building consent as amended (see paragraph 9.1).

9.3 I note that the expert has identified some variations from the consent drawings (see paragraph 6.2), and I leave that matter to the parties to resolve.

## **10. The decision**

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

10.2 I also determine that:

(a) all the building elements installed in the house, apart from the items that are to be rectified as described in Determination 2010/015, complied with Clause B2 on 31 January 2000.

(b) the building consent be modified as follows:

The building consent is subject to a modification to the Building Code to the effect that, Clause B2.3.1 applies from 31 January 2000 instead of from the time of issue of the code compliance certificate for all the building elements, except the items to be rectified as set out in paragraph 7.2.2 of Determination 2010/015.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 25 February 2010.

John Gardiner  
**Manager Determinations**