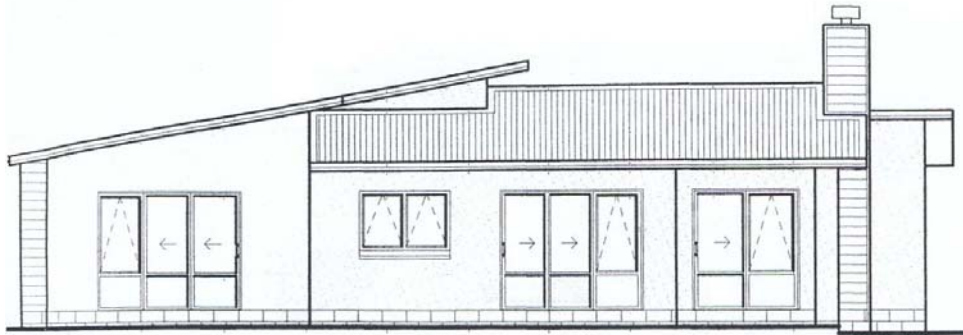




## Determination 2008/120

### Determination regarding the code compliance of a house at 385A Hereford Road, Oropi, Tauranga



#### 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, Mr A Graham and Ms M Sims (“the applicants”), 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.
- 1.2 The matter for determination is the refusal of the authority to issued a code compliance certificate for a 3-year old house because the work had been carried out under the supervision of a building certifier, and the authority did not believe the work complied with the requirements of the Building Code<sup>2</sup> (Schedule 1, Building Regulations 1992). The authority has issued a certificate of acceptance for the work, however, the applicant wanted a code compliance certificate issued in its place.
- 1.3 The building work had been undertaken under the supervision of Bay Building Certifiers (“the building certifier”), which was duly registered as a building certifier

<sup>1</sup> The Building Act 2004 is available from the Department’s website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

<sup>2</sup> The Building Code is available from the Department’s website at [www.dbh.govt.nz](http://www.dbh.govt.nz). 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.

under the former Building Act 1991, but which went into voluntary liquidation before it had issued a code compliance certificate for the building work.

1.4 The certificate of acceptance says the authority is satisfied that the building work complies with some requirements of Clauses E1, B2, E3, G13, F2, G8, G12, and H1 of the Building Code.

1.5 In order to determine whether a building is code-compliant, I must address the following questions:

- (a) Is there sufficient evidence to establish that the building work as a whole complies with the Building Code?
- (b) 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?

I address these questions in paragraph 5.

1.6 In making my decision, I have considered the submissions of the parties, the report of the expert commissioned by the Department to advise on this dispute (“the expert”), and the other evidence in this matter. I have evaluated this information using a framework that I describe more fully in paragraph 7.1.

## **2. The building**

2.1 The building work consists of a detached single storied house situated on a rural site, which is in a moderate wind zone for the purposes of NZS 3604<sup>3</sup>. The house is fairly simple in form and has a garage on the same floor level as the house. The construction is conventional light timber frame, with concrete slabs and foundations, predominantly brick and fibre-cement planking claddings, and aluminium windows. The roofs are mono-pitch at an angles of 8° to 10° and have eaves projections of about 600mm except for a section on the east elevation where two roof planes intersect.

2.2 The expert noted that the timber wall framing was shown on the plans as “... 90 x 45 H1 framing H3 bottom plate to all external walls” Given the date of construction, in 2004, and the lack of any other evidence, I consider the external wall framing except for the bottom plate to be, at best, treated to H1.

2.3 The wall sections above the windows feature monolithic “EIFS” panels. All claddings are over cavities.

## **3. Background**

3.1 The authority issued a building consent (No. 71901) on 20 October 2004, under the Building Act 1991, based on a building certificate, which I have not seen, issued by the building certifier.

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<sup>3</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 3.2 The building certifier carried out the following inspections during construction:
- Footings on 22 October 2004 (which passed).
  - Block fill on 28 October 2004 (which passed).
  - Underfloor on 29 October 2004 (which passed).
  - Building preline on 25 November 2004 (which failed as items incomplete).
  - Plumbing preline on 30 November 2004 (which passed).
  - Drainage on 24 February 2005 (which passed).
  - Final plumbing 15 April 2005 (which passed).
  - Final building 15 April 2005 (which failed).
- 3.3 The building certifier ceased trading before it could issue a code compliance certificate.
- 3.4 On 26 August 2006 a final inspection was carried out by the authority. A list of 5 items requiring remediation was produced as well as a request for various producer statements.
- 3.5 Subsequently the authority issued a certificate of acceptance (No. 77457) under section 99 of the Act on 30 August 2007. The certificate accepted the compliance of (bracketed notation added):
1. Minimum floor levels (Clause E1)
  2. Ventilation and drainage of plastered brick veneer (Clause B2)
  3. Height of gully traps (Clause G13)
  4. Safety glazing (Clause F2)
  5. Sealing of floors, walls and ceilings in wet areas but not including shower stalls (Clause E3)
  6. Ceiling insulation (Clause H1)
  7. Installation of hot water cylinder (Clause G12)
  8. Natural light and ventilation (respectively Clauses G8 & G4)
  9. Spouting and downpipes (Clause E1)
  10. Access routes (Clause D1, but which does not apply to housing).

The certificate also stated:

This certificate does not include the structure, exterior cladding/weathertightness of the building or water pipes, waster pipes or other enclosed services or materials.

- 3.6 The Department received an application for a determination on 8 July 2008.

## **4. The submissions**

- 4.1 Within the application form, the applicants stated that the matter for determination was the refusal of the territorial authority to issue a code compliance certificate. I have referred to this matter in paragraph 9.3.

- 4.2 The applicants forwarded copies of:
- the drawings and specifications
  - the building consent
  - the building certifier's inspection summary
  - the certificate of acceptance
  - correspondence from the authority to the applicants
  - correspondence from a solicitor.
- 4.3 The authority made no submission.
- 4.4 Copies of the applicants' submission and other evidence was provided to the authority, which did not respond to the information.
- 4.5 The draft determination was sent to the parties for comment on 10 September 2008. The applicant accepted the draft without comment.
- 4.6 The authority did not respond to the draft determination until early December. The authority referred to items raised in its letter to the applicant dated 11 September 2006. The authority accepted the producer statements that had now been provided in respect of two of these items, and although the expert's report did not specifically address the remaining 5 items, it noted the draft determination's finding that compliance had been achieved.
- 4.7 The authority also sought to modify the date when compliance with Clause B2 had been achieved, and, to this end, suggested a B2 completion date of April 2005.
- 4.8 In response, while I note that the authority has sought a waiver of Clause B2, none of the durability periods described in the Building Code Clause B2.3.1, and which could reasonably be expected to commence after the building was effectively completed, have yet been reached and therefore expired. I have received no evidence to suggest that normal maintenance, also required by Clause B2.3.1 and which might otherwise affect the durability of the building elements, has not been carried out.
- 4.9 Consequently I do not believe sufficient time has passed, since the completion of the house in April 2005, to initiate the need for a modification of the commencement date of the durability periods as sought by the authority.

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

- 5.1 In order for me to form a view as to code compliance, I need to establish what evidence is available and what can be obtained considering that the building work is completed and some of the elements are not able to be cost-effectively inspected.
- 5.2 In this case the evidence provided by the applicants consists of the summary of inspections carried out by the building certifier and the certificate of acceptance issued by the authority. I first need to decide if I can rely on those inspections that

were undertaken by the building certifier, particularly in regard to building components that are now inaccessible.

- 5.3 In this case, the authority does not believe it can rely on the building certifier's reports and any decision it makes with respect to compliance is limited by what items it is able to inspect. I therefore need to decide if I can rely on the building certifier's inspection summary, particularly in regards building components that are now inaccessible.
- 5.4 In the absence of any evidence to the contrary, I take the view that I am entitled to rely on the inspections undertaken by the building certifier. However, before deciding whether or not to rely on its inspection record, I consider it important to look for evidence that corroborates that record.
- 5.5 In this particular case, corroboration comes from the visual inspection of the accessible components by the expert, which can be used to verify whether the building certifier's inspections were properly conducted.
- 5.6 I note that the inspection summary indicates that 9 inspections were required for the project. Nine inspections were completed of which 7 were satisfactory. I note the two failed inspections primarily resulted from the lack of various documents or producer statements.
- 5.7 In summary, I find that the following allows me to form a view as to the code compliance of the building work as a whole:
- The summary of inspections carried out by the building certifier which indicates satisfactory inspections of the now inaccessible components.
  - The certificate of acceptance dated 30 August 2007, which indicates compliance of various building elements.
  - The expert's report as outlined below.

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

- 6.1 As mentioned in paragraph 1.6, I engaged an independent expert to provide an assessment of the condition of those building elements subject to the determination. The expert is a member of the New Zealand Institute of Building Surveyors.
- 6.2 The expert inspected the house twice, the first time on 24 July 2008 and the second time on 14 August 2008 and furnished a report that was completed on 15 August 2008. The report noted that the house appeared to be in accordance with the consent drawings and that the building is finished to a high standard.

### **6.3 The cladding**

- 6.3.1 The expert described the cladding materials as fixed to a high standard and well protected by eaves.

- 6.3.2 The expert noted that the claddings were installed over a cavity and, as the building was a low weathertightness risk, the cladding was in excess of the requirements of the Acceptable Solution E2/AS1.
- 6.3.3 The expert inspected the interior of the house, taking non-invasive moisture readings internally, and no evidence of moisture was observed. An inspection was then made by thermal imaging. This showed potential signs of moisture in the chimney framing enclosure. Subsequently moisture content was recorded at 24%. The source of the moisture was found to be a faulty flashing. This was replaced before the second inspection.
- 6.3.4 Commenting specifically on the chimney framing the expert noted that, as the walls were unlined, any moisture present would dry quickly providing little opportunity for decay to commence.

## 6.4 Other relevant code clauses

- 6.4.1 The expert also assessed compliance with other relevant building code clauses, and made the following comments on those clauses relevant to this house:

- **B1 Structure**

No issues likely in the foreseeable future. No indications of movement

- **C1 Out break of fire**

Not considered

- **E1 Surface Water**

No issues likely in the foreseeable future

- **E3 Internal moisture**

No issues likely in the foreseeable future.

- **F7 Warning systems**

Smoke alarms fitted

- **G1 Personal Hygiene**

Well provided for – no issues

- **G2 Laundering**

Well provided for – no issues

- **G4 Ventilation**

Ventilation adequate and complies

- **G5 Interior environment**

Not considered in depth but building completely finished inside including floor coverings

- **G9 Electricity**

Electrical certificate of compliance sighted.

- **G10 Piped Services**

All services inspected and appear to comply. No leaks or failures associated with these services. Producer Statement for plumbing sighted. A wall mounted water filtration system is installed in the garage.

- **G11 Gas as an energy source**

Gas supply is from a single caravan bottle supply and does not require fitting by a registered gas fitter and therefore there is no producer statement.

- **G12 Water Supplies**

Well provided for – no issues. Inspection records show overflows addressed and water supply tested and confirmed as potable 15/05/05. Owner has installed a filter system for tank water fitted to the garage wall.

- **G13 Foul Water / G14 Industrial Liquid Waste**

Septic tank fitted, producer statement issued by drainlayer. Note on consent drawings “to be in accordance with Env BOP requirements” Mushroom vent located, no soginess or settlement around tank or in soakage area. No untoward smells. Gully traps well above finished ground levels and traps fitted to sinks and vanities etc. Producer statement from drainlayer sighted.

- **H1 Energy Efficiency**

Inspection records show insulation fitted. Thermal imaging of the walls and ceiling indicate no anomalies indicating the insulation is full and well fitted.

6.4.2 A copy of the expert’s report was provided to the parties on 18 August 2008.

## 7. Evaluation for code compliance

### 7.1 Evaluation framework

7.1.1 I have evaluated the code compliance of this building by considering the following two broad categories of the building work:

- The weathertightness of the external building envelope (Clause E2) and durability (Clause B2).
- The remaining relevant code requirements.

In the case of this house, weathertightness considerations are addressed first.

7.1.2 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solutions<sup>4</sup>, which will assist in determining whether the features of this house are code compliant. However, in making this comparison, the following general observations are valid:

- Some Acceptable Solutions are written conservatively to cover the worst case, so that they may be modified in less extreme cases and the resulting alternative solution will still comply with the Building Code.

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<sup>4</sup> An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way (but not the only way) of complying with the Building Code. The Acceptable Solutions are available from The Department’s Website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

- Usually, when there is non-compliance with one provision of an Acceptable Solution, it will be necessary to add one or more other provisions to compensate for that in order to comply with the Building Code.

## **7.2 Evaluation of external building envelope for E2 and B2 Compliance**

7.2.1 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 the examination of the design of the building, the surrounding environment, the design features that are intended to prevent the penetration of water, the cladding system, its installation, and the moisture tolerance of the external framing. The Department and its antecedent, the Building Industry Authority, have also described weathertightness risk factors in previous determinations<sup>5</sup> (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

7.2.2 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.

## **7.3 Weathertightness risk**

7.3.1 In relation to these characteristics I find that this house:

- is built in a moderate wind zone
- is a fairly simple single-storey building
- has brick, fibre-cement weatherboards, and panels of monolithic cladding over a drained cavity
- has eaves projections of about 600mm above most walls
- has external wall framing that is not treated to a level that provides resistance to the onset of decay if the framing absorbs and retains moisture.

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

7.3.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 7.3.1 show that the house demonstrates a low weathertightness risk. If the details shown in E2/AS1 were adopted, the cladding on the house would not require a drained cavity to show code compliance.

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<sup>5</sup> Copies of all determinations issued by the Department can be obtained from the Department's website.



## **7.4 Weathertightness performance: exterior cladding**

- 7.4.1 Generally the cladding appears to have been installed in accordance with good trade practice and to a high standard. Plastering and painting of textured surfaces is done well and attention to detail at junctions with other building elements is satisfactory.
- 7.4.2 The wall cladding is generally well protected by eaves and provides little risk of weathertightness failure.
- 7.4.3 I note the faulty flashing which had led to the chimney framing showing signs of moisture has now been replaced and any remaining moisture will dry out.

## **7.5 Evaluation of other code requirements**

- 7.5.1 Based on the expert's comments as outlined in paragraph 6.4, there appears to be no evidence of any lack of compliance with other relevant clauses of the Building Code.
- 7.5.2 Taking account of the expert's assessment of visible components of the building together with the inspection records, the certificate of acceptance and the other documentation, I consider it is reasonable to form a view as to whether the building is likely to comply with the provisions of the remaining relevant code clauses.

# **8. Discussion**

## **8.1 Weathertightness**

- 8.1.1 I consider the expert's report establishes that the current performance of the cladding is adequate because it is currently preventing water penetration into the building. Consequently, I am satisfied that the house complies with Clause E2 of the Building Code.
- 8.1.2 In addition, the building work 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. Having regard to paragraphs 6.3.2 and 8.1.1 above I consider the house will comply with the durability requirements of Clause B2.
- 8.1.3 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).

## **8.2 Other code clauses**

- 8.2.1 I consider that the expert's inspection and comments as outlined in paragraph 6.4.1 establishes that the building work complies with Clauses B1, E1, E3, F7, G1 -5, G9, G12, G13, and H1 of the Building Code.

8.2.2 Based on the expert's assessment of visible components of the building, together with the inspection records, the certificate of acceptance and other documentation, I therefore consider that the building complies with the provisions of the remaining relevant code clauses.

## **9. The appropriate certificate to be issued**

9.1 Having found that the building is in compliance with the Building Code, I must now determine whether the territorial authority can issue either a certificate of acceptance or a code compliance certificate.

9.2 Section 437 of the Act provides for the issue of a certificate of acceptance where a building certifier is unable or refuses to issue either a building certificate under section 56 of the former Act, or a code compliance certificate under section 95 of the current Act. In such a situation, a territorial authority may, on application, issue a certificate of acceptance.

9.3 In this instance, I have not received any evidence that the applicants applied for the certificate of acceptance issued by the authority on 18 September 2007. On the contrary, I take the view that the applicants' submission (refer paragraph 4.1) indicates that they want a code compliance certificate, rather than a certificate of acceptance.

9.4 In this situation, where I have reasonable grounds to conclude that the consented building work is in compliance with the Building Code, I am of the view that the certificate of acceptance was not necessary, and that a code compliance certificate is the appropriate certificate to be issued.

## **10. The decision**

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

- the building complies with the Building Code
- the decision of the authority to decline to issue a code compliance certificate is reversed
- the authority shall, on issue of the code compliance certificate, withdraw the certificate of acceptance issued on 30 August 2007.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 18 December 2008.

John Gardiner  
**Manager Determinations**