

Determination 2008/100

Dispute regarding the refusal to issue a code compliance certificate for a 6-year-old house at 50 Karner Drive, Te Puke



1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“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 applicants are B Fox, L Fox and P Wood (“the applicants”), acting through a firm of barristers and solicitors (“the applicant’s legal advisers”). 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.
- 1.3 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for a 6-year-old house because it was not satisfied that it

¹ The Building Act 2004 is available from the Department’s website at www.dbh.govt.nz.

complied with various clauses of the Building Code² (Schedule 1, Building Regulations 1992).

1.4 I therefore take the view that the matters for determination are:

Matter 1: The wall cladding

Whether the wall cladding as installed on the house comply with Clauses E2 and, B2 of the Building Code. By “the claddings as installed” I mean the components of the systems (such as the backing materials, the flashings, the joints and the coatings), as well as the way the components have been installed and work together.

Matter 2: Compliance with other Building Code clauses

Whether the building complies with Clauses B1, C1, F2 and F4 of the Building Code.

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 building work.

1.5 In making my decision, I have considered the following evidence:

- The submissions of the parties.
- The report of the independent expert (“the expert”) commissioned by the Department to advise on this dispute.
- The other evidence in this matter.

With respect to the cladding, I have evaluated this information using a framework that I describe more fully in paragraph 6.1.

2. The building

2.1 The building work consists of a two storey detached house of approximately 312 m² situated on a level rural site that is in a high wind zone for the purposes of NZS 3604³. Construction is of conventional light timber frame with perimeter masonry foundation blocks and concrete floor. The cladding is brick to the ground floor, with two sections of brick coming to the full height of two storeys, and monolithic cladding to the first floor and the windows are aluminium.

2.2 The building is relatively simple in plan and form but has two decks to the upper floor which are sheltered by the roof structure. The first floor has monolithic cladding consisting of fibre-cement sheeting direct fixed through the building wrap to the framing, and finished with a sprayed texture painted finish.

² The Building Code is available from the Department’s website at www.dbh.govt.nz.

Unless otherwise stated references to sections are to sections of the Act and references to clauses are to clauses of the Building Code

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 2.3 The roof is constructed of 30° pitched trusses and clad with pressed steel tiles.
- 2.4 The decks are lined with a butyl rubber membrane laid over 17mm ply which has a 25mm fall to deck drainage. The membrane has been tiled over.
- 2.5 I have received no written evidence as to the treatment, if any, of the external wall framing timber. However given the date of construction and the expert's comments I consider the external wall framing to be untreated.

3. Background

- 3.1 The authority issued building consent (No. 63998) for the building on 2 November 2000, which was accompanied by a building certificate issued by a building certifier.
- 3.2 Initial inspections were carried out by the building certifier. In a letter to the authority dated 12 February 2001 the building certifier advised that the builder had gone into liquidation, also which inspections the building certifier had completed. The building certifier passed the remaining regulatory tasks to the authority.
- 3.3 The remaining inspections were completed by the authority. The final inspection on 22 June 2001 recorded a list of outstanding work required before a code compliance certificate could be issued.
- 3.4 A further inspection was carried on out 22 June 2005. In a letter to the original owner dated 12 July 2005 the authority outlined six matters which required attention, and inspection requirements for these matters were included in this letter.
- 3.5 In a further letter to the applicant dated 12 September 2007 the authority advised a code compliance certificate would not be issued. The reasons being, that two years had gone by and work outlined previously had not been carried out, the monolithic cladding was faced fixed, and the house was six to seven years old.
- 3.6 The Department received the application for a determination on 3 June 2008.

4. The submissions

- 4.1 In a letter dated 26 May 2008 the applicant's legal advisers outlined the reasons for the application and confirmed the builder and building certifier were no longer in business.
- 4.2 The applicant forwarded copies of:
- the drawings and consent documentation
 - engineer's calculations
 - certifier and authority inspection records
 - correspondence from the authority.
- 4.3 The authority acknowledged the application, but made no other submission.

- 4.4 Copies of the submissions and other evidence were provided to the parties. Neither party made any further submissions in response to the information that was provided.
- 4.5 The draft determination was sent to the parties on 19 August 2008 for comment and to agree a date when the building work complied with Building Code Clause B2 Durability
- 4.6 The parties made no comment on the draft. In an email to the Department, dated 6 October 2008, the applicant's legal advisers proposed that compliance with Clause B2 was achieved on 22 June 2001, being the date of the final inspection. The authority confirmed its acceptance of this date on 17 October 2008.

5. The expert's report

- 5.1 As mentioned in paragraph 1.5, I engaged an independent expert, who is a member of the New Zealand Institute of Building Surveyors, to provide an assessment of the condition of those building elements subject to the determination.
- 5.2 The expert inspected the house on 30 June 2008 and furnished a report that was completed on 30 July 2008. The expert inspected the cladding and those other items listed in the authority's letter of July 12. The expert noted that the finish of the monolithic cladding is generally good, the flashings are tidy and effective and the overall standard of workmanship is good.
- 5.3 The two sections of the two-storey brick cladding that exceed 4m in height are outside the scope of NZS:3604 and should be checked by an engineer. The expert also noted changes to the deck layout which should also be checked by the engineer.
- 5.4 The producer statement for the installation of the solid fuel heater is not consistent with the installation as observed.
- 5.5 The expert inspected the interior of the house taking non-invasive moisture readings and no evidence of moisture was detected. The expert took 22 invasive moisture readings. Readings taken below the rumpus room, bedroom 4 windows, and the stair balustrade were up to 50% higher than the base levels indicating moisture ingress.
- 5.6 The expert noted the following:
- The junction of the aluminium joinery jambs and the fibre-cement cladding rely on a fillet of sealant for weathertightness. This is not in accordance with the manufacturers specifications.
 - There are no control joints evident in walls over 5.4 metres in length
 - The fibre-cement cladding to the stair balustrade is cracked at one location
 - There is no saddle flashing at the balustrade wall junction, and the top of the balustrade is flat
 - The height of the balustrade does not meet the requirements of Clause F4 of the Building Code

- The glazing in the stair well is not safety glass as required by the Building Code Clause F2.

5.7 A copy of the expert's report was provided to each of the parties on 4 August 2008.

6. Evaluation for code compliance

6.1 Evaluation framework

6.1.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solution⁴, in this case E2/AS1, 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.
- 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.

6.1.2 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 determinations⁵ (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

6.1.3 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.

6.2 Weathertightness risk

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

- is built in a high wind zone
- is two stories high
- has monolithic cladding fixed directly to the framing to the upper story
- has two decks one of which is above a living area

⁴ 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.

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

- has external wall framing that may not be treated to a level that provides resistance to the onset of decay if the framing absorbs and retains moisture.
- 6.2.2 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 risk rating can range from 'low' to 'very high'. The risk rating 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 particular types of cladding to be installed over a drained cavity.
- 6.2.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2.1 show that two elevations of the house demonstrate a moderate weathertightness risk and the remaining elevations a high risk. I note that, in order to comply with the current edition of E2/AS1, the monolithic cladding of this building would require a drained cavity.

Matter 1: The cladding

7. Discussion

- 7.1 When considering whether this house will meet the requirements of the Building Code the applicable risk factors (as outlined in paragraph 0) are taken into account.
- 7.2 In addition any factors that compensate for the risks should be considered. Notwithstanding the fact that the cladding is fixed directly to the timber framing, thus limiting drainage and ventilation behind the cladding, I have noted there are certain compensating factors that will contribute to the performance of the cladding in this case:
- Apart from the noted exceptions, the cladding is installed to reasonable trade practice.
 - The house has eaves that cover the entire deck areas and provide some protection to the balance of the monolithic cladding on the upper story.
- 7.3 However in this case I consider the expert's report establishes that the current performance of the cladding is not adequate because it is allowing some water penetration into the building at two locations at present. Consequently, I am satisfied that the building does not comply with Clause E2 of the Building Code.
- 7.4 In addition, the building 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.
- 7.5 The expert has identified a number faults with the potential to allow water ingress in the future. The faults identified, which are the result of non compliance with the manufacturers specifications, have not yet led to serious failure. However their nature and extent, plus the presence of untreated timber, are such that the house does not 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.

7.6 Accordingly I consider remedial work is necessary in respect of the following:

- The jambs of the aluminium joinery installed in the fibre-cement cladding (that are not protected by the wide eaves to the decks).
- One crack in the cladding to the stair balustrade.
- The lack of a saddle flashing at the balustrade wall junction and the flat top of the balustrade.

7.7 I acknowledge the apparent lack of control joints to the fibre-cement-clad walls that are over 5.4 metres in length, but consider that as the cladding has performed adequately for 6 years as sufficient evident to establish that the controls joints are not required and that the cladding complies with the Building Code.

7.8 Because the faults identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 7.6 will result in the building remaining weathertight and in compliance with Clauses B2 and E2. I emphasise that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular cladding system has been established as being code compliant in relation to a particular building does not necessarily mean that the same cladding system will be code compliant in another situation.

7.9 Effective maintenance of claddings (in particular monolithic cladding) is important to ensure ongoing compliance with Clauses B2 and E2 of the Building Code and is the responsibility of the building owner. The Department has previously described these maintenance requirements, including examples where the external wall framing of the building may not be treated to a level that will resist the onset of decay if it gets wet (for example, Determination 2007/60).

Matter 2: Compliance with other Building Code Clauses

8. Discussion

8.1 The expert noted the following:

- The height of the balustrade does not meet the requirements of Clause F4 of the Building Code.
- Safety glass is required to the windows in the stair well.

8.2 Consequently, I am satisfied that the building work does not comply with Clause F4 and F2 of the Building Code.

8.3 The expert noted the two-storey brick veneer cladding and the amended deck layout should be subject to a review by an engineer (refer paragraph 5.3).

- 8.4 The expert noted an inconsistency between the producer statement for the installation of the solid fuel heater and the as-built installation. The installer of the heater should verify the as-built installation against the manufacturer's installation requirements (refer paragraph 5.4)
- 8.5 I have received insufficient information regarding the code compliance of the two-storey brick cladding, the changes to the deck layout, and the installation of the solid fuel heater, and I therefore cannot form a view as to the building's compliance with Clauses B1 and C1.

Matter 3: The durability considerations

9. Discussion

- 9.1 The authority has concerns about the durability, and hence compliance with the building code, of the building work taking into consideration the time that has elapsed since the apparent completion of the building work sometime in 2001.
- 9.2 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).
- 9.3 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.
- 9.4 The 6-year delay between the substantial completion of the work and the applicants' request for a code compliance certificate raises the issue of when all the elements of these additions complied with Clause B2. I have not been provided with any evidence that the authority did not accept that the building work was completed in June 2001.
- 9.5 It is not disputed, and I am therefore satisfied, that all the building elements complied with Clause B2 on 22 June 2001, refer paragraph 4.6.
- 9.6 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.

9.7 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 had been issued when the building was substantially completed in 2001.

9.8 I strongly recommend 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.

10. What is to be done now

10.1 A notice to fix should be issued that requires the owner to bring the building work into compliance with the Building Code, identifying the defects listed in paragraphs 7.6 and 8.1, 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 specify how the defects are to be remedied and the unit brought to compliance with the Building Code. That is a matter for the owner to propose and for the authority to accept or reject.

10.2 I suggest that the applicant and the authority adopt the following process to meet the requirements of paragraph 10.1. Initially, the authority should issue the notice to fix. The owner should then produce a response to this in the form of a detailed proposal, together with suitable amendments to the plans and specifications, 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.

10.3 I note that changes have been made to the building that have not been recorded as amendments on the consented plans. This matter should be resolved to the satisfaction of the territorial authority.

11. Decision

11.1 In accordance with section 188 of the Building Act 2004, I determine that the building work does not comply with Clauses E2, F2 and F4 of the Building Code, and accordingly confirm the authority's decision to refuse to issue a code compliance certificate.

11.2 I also determine that:

- (a) all the building elements installed in the building work, apart from the items that are to be rectified, complied with Clause B2 on 22 June 2001.

- (b) the building consent is hereby 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 22 June 2001 instead of from the time of issue of the code compliance certificate for all building elements, provided that the modification does not apply to the items that are to be rectified as set out in paragraphs 7.6 and 8.1 of Determination 2008/100.

- (c) the authority, once the matters set out in paragraphs 7.6 and 8.1, together with any other matters arising from a more extensive investigation, have been rectified to its satisfaction, is to issue a code compliance certificate in respect of the building consent as amended.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 5 November 2008.

John Gardiner
Manager Determinations