

Determination 2008/69

Determination regarding the code compliance of an 8-year-old house and garage at 398A Nayland Road, Stoke, Nelson



1. The matters 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. The applicant is the original owner, A McNabb (“the applicant”), and the other parties are the current owner G Jarvie (“the owner”), and Nelson City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.2 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for an 8-year-old house because it was not satisfied that it complied with certain clauses of the Building Code² (First Schedule, Building Regulations 1992).
- 1.3 Despite numerous requests, the authority has provided no information to me, the applicant or the current owner as to the reasons for the refusal. I therefore have no option but to base this determination on those matters that appear to me to be

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

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

relevant to this particular building. I consider these matters to be related to the following aspects of the building work:

- The weathertightness of the wall and roof claddings.
- The age of the building work.

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

1.4.1 Matter 1: The roof and wall claddings

Whether the roof and wall claddings as installed on the house comply with Clauses B2 and E2 of the Building Code (see sections 177 and 188 of the Act). 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.

1.4.2 Matter 2: 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 The remaining items from the interim code compliance certificate (refer paragraph 3.3, being the downpipes and the air admittance valve to the branch drain) are not considered in this determination, as in my view, these items can be readily assessed for code compliance by the authority (refer paragraph 10.3).

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

1.7 For the purposes of this determination I have assumed that the site at 398A Nayland Road was known as 402 Nayland Road at the time the building consent was issued, the certifier inspections carried out, and the interim code compliance certificate was issued.

1.8 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.

2. The building work

2.1 The building work consists of a single-storey house with a detached garage, which is situated on a flat site in a low wind zone for the purposes of NZS 3604³. Construction is conventional light timber frame, with concrete slabs and foundations, monolithic cladding and aluminium windows. Both buildings are simple in plan and form, with 25° pitch profiled metal hipped and gabled roofs that have eaves and verge projections of more than 600mm overall.

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 2.2 The expert has noted that the timber framing is Douglas fir. Given the date of construction in 2000 and the lack of other evidence, I consider the external wall framing to be untreated.
- 2.3 The monolithic cladding is a system described as solid plaster over a solid backing. In this instance it consists of 4.5mm thick fibre-cement sheet fixed through the building wrap directly to the framing timbers, and covered by a slip layer of building wrap, under metal-reinforced solid plaster finished with a flexible paint coating system.

3. Background

- 3.1 The authority issued a building consent in early 2000, which I have not seen, under the Building Act 1991. The consent was based on a building certificate (No. 407) issued by the building certifier on 2 March 2000.
- 3.2 The building certifier carried out the following inspections during construction:
- Excavations, reinforcing and dampproofing on 3 March, 6 March and 27 March 2000 (which passed).
 - Pre-lining, pre-plaster and plumbing on 2 May 2000 (which passed).
 - Basecoat plaster and drainage on 21 June 2000 (which passed).
 - Final inspection on 6 July 2000 (which identified 4 outstanding items).
- 3.3 The building certifier issued an interim code compliance certificate dated 6 July 2000, which noted:
- The outstanding work required for the issue of a full code compliance certificate is as follows: (1) Painting of the stucco cladding. (2) Final fixing of downpipes. (3) The installation of an air admittance valve at the head of the head branch drain. (4) The cladding system to the garage.
- 3.4 It appears that the applicant did not apply for a code compliance certificate until the house was sold in 2007, when the new owner withheld funds pending the issue of a code compliance certificate. It appears that the authority refused to inspect the house or issue a certificate “unless instructed to” by the Department.
- 3.5 The Department received the initial application for a determination on 10 July 2007, but the application did not include sufficient information about the building work. The Department sought additional information, providing a list of documentation required.
- 3.6 In a letter to the parties dated 5 November 2007, the Department again requested information about the building and the dispute, asking the applicant why he considered the house was code compliant and asking the authority why it considered the house was not code compliant.
- 3.7 As insufficient information was available to allow work to proceed, the Department wrote again to the parties on 13 March 2008, asking the applicant whether the application should be closed. In an email to the owner dated 14 March 2008, the

applicant's lawyer asked whether a code compliance certificate for the house had been obtained.

- 3.8 In an email to the Department dated 25 March 2008, the owner explained the current situation, stating that the outstanding items listed in the interim code compliance certificate (refer paragraph 3.3) had been completed and noting that he had been advised by the applicant that requests for further information had been forwarded to the authority. The owner explained that he had tried to obtain a final inspection of the house, but:

The [authority], when requested to do a final inspection advised I had to file a Determination, as they would not sign off unless instructed to by the DBH.

- 3.9 The Department attempted to obtain information from the authority in order to allow the determination to proceed.
- 3.10 In a letter to the authority dated 12 May 2008, the Department advised that the expert had been engaged to examine council records on the property and stated that the determination would be based on the matters outlined in paragraph 1.3 unless the authority advised otherwise. Once again, no response was received.

4. The submissions

- 4.1 The application form, although signed by the applicant, was completed by the current owner who noted that the house required a final inspection and code compliance certificate in order to complete the sale of the house, stated:

This is effecting our Sale & Purchase agreement for our dwelling which is subject to "Code of Compliance". Terms of settlement are held, pending this.

- 4.2 The applicant forwarded a copy of the interim code compliance certificate dated 6 July 2000.
- 4.3 The authority made no submission and provided no information. I record here my concern that the progress of this determination has been hindered by the failure of the authority to respond to any of my requests for information.
- 4.4 A copy of the applicant's submission was provided to the authority, which did not respond.
- 4.5 A draft determination was issued to the parties on 30 June 2008 for comment and for the parties to agreed date when the building elements complied with Building Code Clause B2 Durability.
- 4.6 All parties accepted the draft and agreed that compliance with Clause B2 was achieved on 30 September 2000.

5. The expert's report

- 5.1 As mentioned in paragraph 1.6, I engaged an independent expert to assist me. In the absence any submissions from the authority the expert was asked to research the

matter for determination and to provide an assessment of the condition of the building elements concerned.

- 5.2 The expert is a member of the New Zealand Institute of Building Surveyors. The expert inspected the house on 4 June 2008 and furnished a report that was completed on 6 June 2008. The expert noted no significant variations from the consent drawings.
- 5.3 The expert obtained records from the authority, and provided copies of:
- the consent drawings stamped 28 March 2000, none of which show the address of the house
 - the building certificate dated 2 March 2000
 - the building certifier's inspection reports
 - the interim code compliance certificate dated 6 July 2000.
- 5.4 The expert noted that construction appeared to be "to a good trade practice for that time" with good quality workmanship and the cladding generally showing that "there has been consideration given to sealing and weathering of the stucco cladding to prevent water entry at junctions and service penetrations".
- 5.5 The expert noted that the windows are face-fixed, with satisfactory metal head flashings above exposed windows. The expert removed a small section of cladding at the jamb to sill junction of a northeast window, and noted the heavy weight "tar-based" building wrap and the satisfactory embedment of the mesh within the plaster. Along the window sill, a strip of polythene is folded over the sill trimmer and down over the slip layer and there is an additional strip of malthoid over the slip layer at the jamb, which is folded and returned back in behind the window flange. The expert noted that the flashings appeared satisfactory. I accept that the exposed junctions are typical of similar locations elsewhere in the building.
- 5.6 The expert inspected the interior of the house, taking many non-invasive moisture readings internally, and no evidence of moisture was observed. The expert took 6 invasive moisture readings through the cladding at areas considered at risk, and noted that the readings ranged from 13% to 18%, compared to a control moisture level of 12% obtained below the eaves.

Moisture levels that vary significantly generally indicate that external moisture is entering the structure and further investigation is required. I note that the inspection was carried out in winter, and I therefore consider that the moisture levels recorded are likely to represent higher levels than expected at warmer times of the year.

- 5.7 Commenting specifically on the wall cladding, the expert noted that:
- clearance from the detached garage's cladding to the paving is insufficient
 - clearance from the cladding to the southwest garden is insufficient
 - there are minor isolated cracks in the cladding
 - there are cracks at the junctions of the plaster and window jamb flanges

- there are two small areas of unpainted plaster on the southwest wall
- there is a small area of damage to the stucco above the house garage door
- the soffit lining and fascia to the southeast gable is damaged
- some of the roof sealants are cracking.

5.8 The expert made the following additional comments:

- Although there is no evidence of control joints in the stucco, all shrinkage issues should have occurred by now.
- Although there is minimal clearance from the bottom of the cladding to the south entry paving, the paving is well drained and protected by 730mm eaves.

5.9 A copy of the expert's report was provided to the parties on 21 May 2008.

5.10 The owner and the applicant commented on the expert's report in an email to the Department dated 17 June 2008. The general content of the report was accepted although several minor errors were noted, including that the partition in the detached garage was shown in the consent drawings. However, I note that the unidentified section on page 5 of the submitted drawings is not easily interpreted as showing the relevant partition.

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 Solutions⁴, 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 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 some other provision to compensate for that in order to comply with the Building Code.

6.2 Evaluation of external building envelope for E2 and B2 Compliance

6.2.1 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

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.

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

- 6.2.2 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.

6.3 Weathertightness risk

- 6.3.1 In relation to these characteristics I find that this house and garage:

- are built in a low wind zone
- are simple single-storey buildings
- have monolithic cladding fixed directly to the framing
- have eaves and verge projections of about 600mm
- have external wall framing that is untreated Douglas fir, which will provide only limited resistance to the onset of decay if the framing absorbs and retains moisture.

- 6.3.2 The buildings have 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.

- 6.3.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.3.1 show that all elevations of both buildings demonstrate a low weathertightness risk rating. However, I note that a drained cavity is required by E2/AS1 irrespective of the risk rating. I also note that a drained cavity was not a requirement of E2/AS1 at the time that the buildings were constructed.

6.4 Weathertightness performance: exterior cladding

- 6.4.1 Generally the claddings appear to have been installed in accordance with good trade practice. However, taking account of the expert's report, I conclude that remedial work is necessary in respect of:

- the clearance from the cladding to the paving around the detached garage
- the clearance from the cladding to the southwest garden
- the cracks in the cladding, including at jamb junctions
- the unpainted plaster areas on the southwest wall

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

- the damage to the stucco above the house garage door
 - the damage to the soffit lining and fascia of the southeast gable
 - the roof sealants.
- 6.4.2 I note the expert's comments in paragraph 5.8, and I accept that these areas are adequate in these particular circumstances.
- 6.4.3 With regard to control joints, I note that the building certifier's inspection record of the pre-plastering inspection notes that "construction joints" are to be checked. I therefore consider that, despite the lack of visual evidence, the joints may be installed within the plaster base coat. However, if that is not the case, I consider that the seriousness of the omission is offset to some extent by the fact that the stucco cladding appears to have been installed according to good trade practice, and has been in place for 8 years with no signs of significant cracking or moisture entry.
- 6.4.4 During the period since construction, all drying shrinkage in the plaster and supporting framing will have likely occurred, and the cladding's future performance will be governed solely by response to environmental factors such as imposed temperature and moisture effects, wind, earthquake forces and seasonal foundation movements.

Matter 1: The wall and roof claddings

7. Discussion

- 7.1 I consider the expert's report establishes that the current performance of the roof and wall claddings are adequate because they are currently preventing water penetration into the buildings. Consequently, I am satisfied that the buildings comply with Clause E2 of the Building Code.
- 7.2 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. Because the cladding faults on the buildings may allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.
- 7.3 Because the faults identified with the claddings occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 6.4.1 will result in the house and garage being brought into compliance with Clauses B2 and E2.
- 7.4 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 applicant. 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: The durability considerations

9 Discussion

- 9.1 There are 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 during 2000.
- 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 In this case the delay between the completion of the building work in 2000 and the applicant’s request for a code compliance certificate in 2007 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
- 9.5 The 7-year delay between the substantial completion of the house and the applicant’s request for a code compliance certificate raises the issue of when all the elements of the building complied with Clause B2. I have not been provided with any evidence that the authority did not accept that those elements complied with Clause B2 at a date in 2000.
- 9.6 It is not disputed, and I am therefore satisfied, that all the building elements complied with Clause B2 on 30 September 2000. This date has been agreed between the parties, refer paragraph 4.6.
- 9.7 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.

9.8 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.

9.9 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 house into compliance with the Building Code, identifying the items listed in paragraph 6.4.1 and referring to any further defects that might be discovered in the course of rectification, but not specifying how those defects are to be fixed. It is not for the notice to fix to stipulate directly how the defects are to be remedied and the house brought to compliance with the Building Code. That is a matter for the owner to propose and for the authority to accept or reject.

10.2 I would suggest that the parties 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, produced in conjunction with a competent and suitably qualified person, as to the rectification or otherwise of the specified issues. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

10.3 The authority should satisfy itself that the two remaining items highlighted in the interim code compliance certificate are code compliant (being the final fixing of downpipes and the installation of an air admittance valve at the head of the head branch drain), refer paragraph 3.3. Any non-complaint items should be included in the notice to fix referred to in paragraph 10.2.

11 The decision

11.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the building does not comply with Clause B2 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 complied with Clause B2 on 30 September 2000.

- (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 30 September 2000 instead of from the time of issue of the code compliance certificate for all the building elements as described in Determination 2008/69.

- (c) the authority is to issue a code compliance certificate in respect of the building consent as amended, once the matters set out in paragraph 6.4.1 have rectified and the two matters in paragraph 10.3 have been established as code compliant.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 28 July 2008.

John Gardiner
Manager Determinations