Determination 2007/28

Determination regarding a code compliance certificate for a house at 18 Frost Road, RD1 Hira, Nelson

1. The matter 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, Determinations Manager, Department of Building and Housing ("the Department"), for and on behalf of the Chief Executive of that Department. The applicant is the owner Mr Mapperley ("the applicant") and the other party is the Nelson City Council ("the territorial authority").

1.2 The matter for determination is the territorial authority's decision to refuse to issue code compliance certificate for a 3-year-old house with a detached garage because it had not carried out any inspections of the building work.

1.3 In order to determine that matter, I must first decide whether the building complies with the Building Code. In addition, due to the circumstances surrounding the consent and inspection of the house, I have also to consider the appropriateness of issuing either a code compliance certificate or a certificate of acceptance.

1.4 In making my decision, I have considered the documentation received from the parties, the report of the independent expert commissioned by the Department to advise on this dispute ("the expert"), and the other evidence in this matter. I have

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

evaluated this information using a framework that I describe more fully in paragraph 8.1.

1.5 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] (First Schedule, Building Regulations 1992).

2. The building

2.1 The building work consists of a single-storey house and a detached garage situated on a sloping site, which is in a very high wind zone for the purposes of NZS 3604[3]. The house is simple in plan and form. Construction is conventional light timber frame constructed on concrete slabs. The pitched roofs have hip and valley junctions, and apart from the courtyard elevations, have 600mm wide eaves projections. The roof is also extended to form the living area porch. A small roofed portico is constructed at the main entry and this is supported on monolithic-clad timber-framed beams and columns.

2.2 An endorsement on the building consent calls for bottom plates to be H3 treated and the remainder of the wall framing to be H1 plus DRF treated. However, I have not received any other confirmation of the treatment, if any, of the external wall framing. As the framing was apparently constructed before the building consent was issued I cannot be certain that the builder was aware of or acted on the endorsement on the consent.

2.3 The external walls of the house are clad with 40mm polystyrene backing sheets fixed directly through the building paper to the framing. The sheets are finished with a painted "Rockcote" plaster system. I note that this system differs from that shown on the consented plans, which specified a reinforced solid plaster finish in compliance with NZS 4251.

2.4 The plasterer has issued a "Construction/Producer Statement" for the cladding system as installed, which noted that the work was carried out between 2 and 15 April 2003.

3. Sequence of events

3.1 The territorial authority issued a building consent on 16 December 2003 based on a certificate dated 26 July 2003 issued by Prime Building Compliance (the building certifier). However, the building work had commenced, and was mainly if not entirely completed, prior to the issue of this consent.

3.2 The building certifier did not carry out any inspections while the house was being constructed. However, the building certifier did undertake a final inspection on 23 December 2003.

[2] The Building Code is available from the Department's website at www.dbh.govt.nz.
[3] New Zealand Standard NZS 3604:1999 Timber Framed Buildings

3.3 The building certifier issued a building certificate dated 17 December 2004 which stated that it was satisfied on reasonable grounds that "the building work complied with the listed provisions of the Building Code on the date of certification". The "Notice of Final Inspection" No 4043 relating to the 23 December 2003 inspection was attached to the certificate. The final building certificate was amended to cover only the processing and approval of the consent documents. Comments added to the certificate were:

> This job is handed back to the [territorial authority] for the inspection of building works and issue of the Code Compliance Certificate pursuant to section 57(3) of the Building Act 1991.
>
> This is a final Building Certificate for all building work approved under Certificate No 2003-4624.
>
> The Documents and the one inspection notice No 4043 is for information only.

3.4 The territorial authority wrote to the applicant on 12 January 2005, noting that the certificate forwarded by the building certifier was for plan processing and information only. As the territorial authority had not been engaged to carry out any inspections of the work prior to the building work being completed, it could not be satisfied on reasonable grounds that the work was code compliant and therefore could not issue a code compliance certificate.

3.5 The certifier has informed me the territorial authority issued a Notice to Rectify on 8 May 2003 but I have not been provided with a copy of that notice.

3.6 An application for a determination was received by the Department on 25 January 2006. There were delays in receiving submissions from the other parties and I was unable to commission the expert until early October 2006.

4. The submissions

4.1 The applicant did not make a submission. However, the building certifier wrote to the Department on 23 February 2006, noting that the builder had commenced work prior to the issuing of a building consent.

> The final building certificate was amended to cover only the processing and approval of the original consent documents as Prime had not carried out any inspections during construction and would not issue the CCC.

The building certifier was of the opinion that the owner's difficulties in obtaining a code compliance certificate were a direct result of the builder's decision to commence work prior to the resolution of matters relating to the granting of a building consent.

4.2 The applicant forwarded copies of:

- the plans and specifications
- the building consent and related records
- the building certifier's certificate and final inspection notice

- the correspondence with the territorial authority
- an electrical certificate of compliance
- producer statements in regard to:
    a) the foundations
    b) the wastewater system
    c) the roof trusses
    d) the cladding system.

4.3 In a letter to the Department dated 29 September 2006, the territorial authority noted that there had been delays in receiving the information that it required to issue a building consent. At the time there were also matters relating to the fact that building work had commenced prior to the issuing of the consent.

4.4 Copies of the evidence were provided to each of the parties. Neither party made any further submissions in response to the submission of the other party.

4.5 A copy of the draft determination was sent to the parties for comment on 13 December 2006. Both parties accepted the draft without comment.

5. The grounds for code compliance

5.1 The territorial authority has stated that in the absence of inspection records, it did not have sufficient grounds on which to be satisfied that the building work is code compliant.

5.2 As I discuss in paragraph 10, the appropriate certificate to be issued in this case is a certificate of acceptance.

5.3 I note that there are producer statements in regard to various aspects of the building including the foundations, the wastewater system, the roof trusses, and the cladding system, together with an electrical certificate of compliance. These documents refer to aspects of the building work that are required to comply with several Building Code clauses but rather than consider items on a clause by clause basis I have considered the information in relation to the different building elements. These elements can be categorised as follows:

(a) Those elements not able to be verified by territorial authority or building certifier inspection, and not covered by a producer statement.

(b) Those elements not able to be verified by territorial authority or building certifier inspection inspection, but covered by a producer statement.

(c) Those building elements visible now and able to be inspected by the Department's expert (e.g. clause E2 and B2 related items).

5.4 With regard to items that could be described in 5.3(a) above, I cannot determine whether a certificate of acceptance should be issued for these e.g. the unattached garage, without better evidence than I have seen in the documents supplied to me by the parties.

6. The code compliance of the house

6.1 In the absence of any evidence to the contrary, I take the view that the Department is entitled to rely on the producer statements issued by the registered engineer and other appropriately qualified persons, together with the electrical certificate, with regard to inaccessible building components.

6.2 A condition for this reliance is that there should be some other evidence to corroborate the impression given by the available written evidence. A visual inspection of accessible components can provide such corroboration and can help demonstrate code compliance of those components, thus providing reasonable grounds to form a view that this building as a whole complies with the building code. I have relied on the expert's report as a means of such corroboration. Because the visible parts of a building that are most vulnerable to failure tend to be parts of the exterior cladding, the expert was commissioned to take particular note of that cladding.

6.3 I note that the engineer's report describes the ground under the western part of the garage as "weak fill" that could not be described as good ground as defined in NZS 3604[4]. The engineer's report recommended the garage be located on good ground or that work be carried out to improve the bearing capacity of the filled area. Neither option was followed.

7 The expert's report

7.1 The expert inspected the house on 22 November, and furnished a report that was completed on 28 November 2006. The expert removed areas of the cladding to examine the construction and I am prepared to accept that these examples are representative and apply to similar details throughout the cladding.

7.2 The expert took non-invasive moisture readings internally and no elevated readings were noted. Invasive moisture readings of the wall framing were taken at several locations and one higher reading of 22% was obtained at the base of a portico column. Moisture levels above 18% recorded after cladding is in place generally indicate that external moisture is entering the structure.

7.3 The expert made the following specific comments regarding code compliant elements throughout the building:

- The building in general appears to be sound and true.
- The external joinery units are correctly flashed and sealed.

[4] [4] New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- Roof flashings are sound and kick-outs have been installed.
- Purlin hold-downs are in place.
- The ceiling is insulated with fibreglass batts.
- The vanities, the bath, the showers and the kitchen sink are satisfactorily sealed against the walls.
- Extract systems are ducted to the outside.

7.4 The expert also noted that there were some elements that required rectification. These were:

- the required 6mm capillary gap at the base of the cladding that has not been established at some locations
- the base of the cladding being too close to the ground or paved areas at some locations
- the meter board is not flashed nor is it adequately sealed
- the downpipe brackets being loose at some locations
- the power cable entry being on the outside of the building and is not physically protected
- the clearance of the ceiling insulation around recessed lights being inadequate
- an additional smoke detector being required
- the gas bottle location under the sink not complying with the current ventilation requirements.

7.5 The expert also noted that the spa pool, which has been installed in the courtyard, was not shown on the consented plans.

7.6 Copies of the expert's report were provided to each of the parties on 1 December 2006.

8. Evaluation for code compliance

8.1 Evaluation framework

8.1.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solution[5], in this case E2/AS1, which will

[5] 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.

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.

8.1.2 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 determinations[6] (for example, refer to Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

8.1.3 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, both the design of the cladding system and its installation needs to be carefully carried out.

8.2 Weathertightness risk

8.2.1 In relation to these characteristics I find that the house:

- is built in a very high wind zone

- is single storey

- is simple in plan and form

- has generally 600mm eaves projections

- has no decks or balconies

- has external wall framing that may be treated to a level that provides resistance to the onset of decay if the framing absorbs and retains moisture.

8.2.2 When evaluated using the E2/AS1 risk matrix, all elevations of the house demonstrate a low weathertightness risk. The matrix is an assessment tool that is intended to be used at the time of application for consent, before the building work has begun and, consequently, before any assessment of the quality of the building work can be made. Poorly executed building work introduces a risk that cannot be taken into account in the consent stage but must be taken into account when the

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

building as actually built is assessed for the purposes of issuing a code compliance certificate.

8.3 Building performance

8.3.1 Generally the building appears to have been built in accordance with good trade practice. However, taking account of the expert's opinion I accept that remedial work is necessary in respect of:

- the lack of a 6mm capillary gap at the base of the cladding at some locations
- the base of the cladding being too close to the ground or paved areas at some locations
- the un-flashed and inadequately sealed meter-board
- the loose downpipe brackets at some locations
- the unprotected power cable entry on the outside of the building
- the inadequate clearance of the ceiling insulation around recessed lights
- the installation of an additional smoke detector
- any other building elements associated with the above that are consequently discovered to be in need of rectification.
- the gas bottle location under the sink

This last item, noted only in terms of current requirements, was compliant at the time of construction. Building Act section 436 applies in this instance, consequently the gas bottle need not be relocated now although I observe that doing so has obvious benefits.

9 Conclusion

9.1 I am satisfied, that while the body of the house itself is weathertight now, the cladding does not comply with clause E2 as there is evidence of moisture entry at one portico column. In addition, as there are a number of items to be remedied to ensure it remains weathertight and thus meets the durability requirements of the Building Code, I find that the cladding does not comply with clause B2.

9.2 I have also considered compliance of the house with other building relevant code clauses, principally clauses B1 and G. I based my conclusions on a combination of producer statements in regard to the foundations, the wastewater system, the roof trusses, the electrical certificate, and the inspection undertaken by the expert.

9.3 I conclude that, because the faults identified with the entire house occur in discrete areas, I am able to conclude that satisfactory rectification of the relevant items

outlined in paragraph 8.3.1 will result in the building remaining weathertight and all the other elements being in compliance with the building code.

9.4 I also conclude that, on the evidence available to me, the detached garage will not comply with clause B1 of the code, because part of it sits on inadequate fill. The territorial authority is entitled to take a different view should the applicant produce convincing evidence, such as an independent engineer's report, that, in all the circumstances, the garage does comply with B1.

9.5 As regards those elements that were open to inspection, the territorial authority could have made inspections similar to those made by the expert. Had it done so, and considered the information within similar parameters to those outlined in paragraph 5.3 above it would presumably have come to the same conclusions as I have about rectification work.

10 The appropriate certificate to be issued

10.1 Having found that the building can be brought into compliance with the Building Code, I must now determine whether the territorial authority should issue either a code compliance certificate or a certificate of acceptance.

10.2 As previously described all, or the majority, of the building work was completed prior to the issue of a building consent. In my opinion, the construction constitutes illegal building work and would have constituted an offence under section 80(1)(a) of the Building Act 1991. However, the territorial authority decided not to prosecute the owner and elected instead to issue a consent after some or all of the building work had been completed.

10.3 I am of the opinion that, due to the circumstances surrounding the issuing of the consent, that it would not be appropriate to issue a code compliance certificate for the house. However, section 437 makes transitional provision for the issue of a certificate of acceptance in certain circumstances. One of these is where a building consent was required under the former Act and the building consent was not obtained. A second provision is 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 both of these circumstances a territorial authority may, on application, issue a certificate of acceptance. In this instance the first provision applies.

11 The decision

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

(a) the building does not comply with the Building Code, and accordingly confirm the territorial authority's decision to refuse to issue a code compliance certificate

(b) As the building work was completed without a building consent, a certificate of acceptance is the appropriate means for the owner to achieve regulatory "sign off"

(c) should the applicant so request, once the defects set out in paragraph 8.3.1 of this determination have been fixed to its satisfaction, together with the matter of the amended cladding and the spa pool, the territorial authority is to issue a certificate of acceptance in respect of all the building elements that have been completed and are compliant.

11.2 I understand that the territorial authority has issued a Notice to Rectify dated 8 May 2003. If so, the territorial authority should now formally withdraw that Notice and then issue a notice to fix as required by section 435 that requires the applicant to bring the building into compliance with the Building Code, identifying the defects listed in paragraph 8.3.1, taking note that one of the provisions within that list was compliant at that date, but not specifying how those defects are to be fixed. That is a matter for the applicants to propose and for the territorial authority to accept or reject. It is important to note that the Building Code allows for more than one method of achieving compliance

11.3 I would suggest that the parties adopt the following process to meet the requirements of paragraph 11.2. Initially, after withdrawing the May 2003 Notice to Rectify, the territorial authority should issue the notice to fix, listing all the items that the territorial authority considers to be non-compliant with the Building code as at the date of issue of the building consent. 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.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 5 March 2007.

John Gardiner
Determinations Manager