



Determination 2009/116

Refusal to issue a code compliance certificate for a 13-year-old house at 50 Meadowstone Drive, Wanaka



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 owner of the house, Mr G Luff (the applicant), acting through Orange Homes 2005 Ltd (“the developer”). The other party is the Queenstown Lakes District Council (the authority), carrying out its duties and functions 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 a 13-year-old house because it did not observe various building elements during construction of the house and it cannot therefore be satisfied that the building work complies with certain clauses² of the Building Code (First Schedule, Building Regulations 1992).

¹ The Building Act, Building Code, Compliance documents, past determinations and guidance documents issued by the Department are all available at www.dbh.govt.nz or by contacting the Department on 0800 242 243

² 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.

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

1.3.1 Matter 1: Foundations and floor slab

Whether the foundations and floor slab comply with Clause B1 Structure of the Building Code, given that they were not fully inspected before the foundations were poured. (I consider this matter in paragraph 8.2.)

1.3.2 Matter 2: Framing, water pipes, waste pipes, and wall insulation

Whether the timber framing, water pipes, waste pipes, and wall insulation comply with Clause B1 Structure, Clause G12 Water supplies, G13 Foul water and Clause H1 Energy efficiency of the Building Code, given that these elements were not inspected before the walls were lined. (I consider this matter in paragraph 8.3.)

1.3.3 Matter 3: The electrical work certificate

Whether the electrical work complies with Clause G9 Electricity of the Building Code. (I consider this matter in paragraph 8.4.)

1.4 This determination considers whether there is sufficient evidence available to provide reasonable grounds for me to reach a conclusion as to whether this building will comply with the Building Code and it is therefore reasonable to issue a code compliance certificate. In order to determine that, I have addressed the following questions:

- (a) Is there sufficient evidence to establish that the building work as referred to in paragraphs 1.3.1 to 1.3.3 complies with the Building Code? (I address this question in paragraph 5.)
- (b) If not, are there sufficient grounds to conclude that, once any additional investigation is carried out and outstanding items are resolved, the building work as referred to in paragraphs 1.3.1 to 1.3.3 will comply with the Building Code? (I address this question in paragraph 9)

1.5 Matters outside this determination

1.5.1 I note that the authority has limited its concerns to the matters outlined in paragraph 1.3, and this determination does not consider the building's compliance with other clauses of the Building Code.

1.5.2 I also note that the applicant has applied to the authority for a modification of the building consent to reflect the age of the building work (see paragraph 3.5.3), and I therefore leave this matter to the parties to resolve.

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.

2. The building work

- 2.1 The building is a simple, single-storey detached house situated on a flat site that is in a high wind zone in terms of NZS 3604³ but is 'reasonably sheltered'. The house is a simple rectangular form with a gabled roof and is assessed as having a low weathertightness risk.
- 2.2 The building is of light-timber frame construction, with a concrete floor slab and foundations, profiled metal roofing, brick veneer cladding and aluminium joinery.
- 2.3 The bracing is provided by the plasterboard linings. The consent documents include a bracing calculation schedule for the timber framed walls which, when examined show the bracing capacity is twice that required for a high wind zone and moderate earthquake zone.

3. Background

- 3.1 The authority issued a building consent (No. 960571) on 25 June 1996, under the Building Act 1991 and carried out three inspections during construction in 1996.
- 3.2 The authority's 'inspection sheet notice' includes the following notes:
- 22-8-96 DPC OK. No mesh in floor. Floor slab 75mm thick (P/Statement reqd)
 - 20-8-96 Most of foundations poured prior to inspection. Starters placed in concrete after they were poured (P/Statement reqd)
 - No pre-lining inspection carried out. P/Statement reqd for bracing & m/c etc.
 - 30-10-96 Final inspection (without advice).
- 3.3 The authority issued a notice to rectify dated 4 October 1996, and the attached 'particulars of contravention' stated:
1. All items on attached inspection sheet notice to be rectified prior to code compliance certificate being issued.
 2. Electrical certificate required.
- 3.4 It appears that there was no further correspondence until the developer applied for a code compliance certificate in late 2008.

3.5 The authority's refusal

- 3.5.1 The authority declined to issue a code compliance certificate on 29 April 2009, explaining that:
- ...the difficulty which has been experienced to date in order for the Council to be able to make that decision based on reasonable grounds has been because of two concerns:
1. a lack of adequate inspections having been called for during the construction stage, primarily at the foundation stage and prior to lining the walls

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

2. some observed items of construction which were assessed as being either non compliant with the building code or not sufficient evidence provided to indicate compliance.

3.5.2 The authority expanded on its particular concerns related to:

- the foundations and floor slab
- the elements not inspected due to the lack of a pre-line inspection, including
 - insulation
 - framing timbers (type, fixings, moisture content)
 - bracing elements and fixings
 - plumbing pipes
- the lack of an electrical certificate.

3.5.3 The authority confirmed that the applicant had applied for a modification of the consent to 'reflect the durability provisions of the building having started from the time the work was complete', which would resolve its concerns on the age of the building work.

3.5.4 The developer submitted further information to the authority, including a producer statement from the builder and details showing the slab and foundations as constructed. However, the situation remained unresolved.

3.6 On 31 July 2009, the Department received an application for a determination from the developer on behalf of the applicant.

4. The submissions

4.1 The developer made no submission with the application but forwarded copies of:

- the specifications (including bracing calculations)
- the building consent
- notes from the authority's inspection sheet
- the notice to rectify dated 4 October 1996
- the builder's producer statement dated 3 June 2009
- the correspondence with the authority
- various statements, photographs, sketches and other information.

4.2 The authority did not acknowledge or make a submission to the application. The authority provided submissions in response to the expert's report (refer paragraph 6.5) and in response to the draft determination (refer paragraph 7.2). I have noted the authority's concerns and have made those amendments to the draft determination that I consider to be appropriate.

5. The establishment of code compliance

- 5.1 In order for me to form a view as to the code compliance of the building work, I established what evidence was available and what could be obtained considering the building work is completed and some of the elements were not able to be cost-effectively inspected.
- 5.2 In this case the evidence provided by the applicant consists of the authority's summary of inspections, the as-built foundation detail, and the producer statement issued by the builder in respect of the 'footings, floor and preline'. However, the authority does not believe that it can rely on the builder's producer statement and the as-built foundation detail and so any decision it makes with respect to compliance of the house is limited by what items it is able to inspect
- 5.3 In considering the reliance that can be placed on the builder's producer statement, I have taken into account that although the house was constructed 13 years ago the builder is still operating in the area and was able to provide further confirmation as to how the house was constructed. In the absence of any evidence to the contrary, I take the view that it is reasonable to rely on the builder's producer statement, particularly in regard to inaccessible building components.
- 5.4 However, before deciding whether or not to rely on the producer statement, I consider it important to look for evidence that corroborates or contradicts that statement. In this particular case, corroboration comes from the visual inspection of the associated accessible components by the expert and I have not seen any contradictory evidence.
- 5.5 In forming a view as to the code compliance of the building work as a whole, I have therefore taken into account the following:
- The authority's inspection notes, which indicate inspections of some of the inaccessible components (refer paragraph 3.2) and in particular some of the foundation and reinforcing details before concrete pouring was complete.
 - The builder's producer statement and as-built foundation detail, which indicates compliance of the 'footings, floor and preline'.
 - 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 general construction quality and the likely structural code compliance of the building. The expert is a member of the New Zealand Institute of Building Surveyors. The expert visited the site on 17 September 2009 and provided a report that was completed on 21 September 2009.
- 6.2 The expert noted that the construction 'appears to have followed standard detailing and finishes and is of a good general trade standard.'

6.3 The structural aspects

- 6.3.1 The expert viewed the foundation faces, finding no indication of cracking, settlement, or stress. Three brick stepping cracks did not carry into the foundations and were considered to be the result of wind loading or seismic activity. Two patio cracks were regarded as shrinkage cracks, unrelated to the dwelling.
- 6.3.2 Commenting on the brick veneer, the expert noted that it was in a good general condition and of a high standard of construction. The general alignment is true, giving no indication of any major distress, settlement, or displacement.
- 6.3.3 Similarly, the general alignment of the fascia lines, roof alignment, and the soffit is true, as are the interior wall to ceiling junctions. There was virtually no cracking or separation in the large ceiling spaces. There are some cracks to sheet joints above and below windows, which the expert attributed to wind loading.
- 6.4 Based on his visual inspection, the expert was of the opinion that the building work complied with Clause B1 of the Building Code.
- 6.5 The expert's report was forwarded to the parties on 22 September 2009. The authority commented on the report on 9 October 2009, noting that it was 'generally in agreement with the comments made', based on the expert's visual assessment. The authority included the following comments (in summary):
- The concealed parts of the building were not able to be verified.
 - Evidence of performance for 13 years is not sufficient to ensure performance for the required 50 years.
 - One of the mortar cracks aligns with cracks to the concrete patio which, while minor, may be indicative of a more significant problem.
 - The expert does not comment on the other elements concealed within the walls.
 - Although there are no identifiable issues that require rectification, it is the unknown factors about the construction that preclude the issue of the code compliance.

7. The draft determination

- 7.1 A draft determination was issued to the parties for comment on 15 October 2009. The applicant accepted the draft determination on 28 October 2009.
- 7.2 The authority responded to the draft determination in an email to the Department on 6 November 2009, reiterating points made in response to the expert's reports and including the following (in summary):
- The determination should be made on whether the authority's decision to refuse to issue the code compliance certificate was correct on the information available, and whether further works or inspections could be undertaken to ensure the building complied with the Building Code.
 - To be reasonably satisfied of code compliance, components with the longer durability requirement of 50 years must be observed. It is insufficient to

assume that, because items that can be visually inspected comply, all items comply. The authority cannot be reasonably satisfied that the foundations will perform for the 50-year structural durability requirement.

- Visual inspection of insulation in the roof space is acceptable, but visual inspection of wall insulation behind an electrical socket is an inadequate test of compliance with Clause H1 of the Building Code.
- Testing plumbing functionality is an incomplete test, providing no information on installation or durability.
- Giving weight to the producer statement provided by the builder and the building company is flawed when the full history of design details contains contradictions.

8. Discussion

8.1 I acknowledge the authority's concerns regarding the lack of inspections during the construction of this house. Inspections are required in order to ensure that building work complies with the plans and specifications and the conditions of the building consent and the building code. It is reasonable for an authority to be concerned where inspections are not carried out, and as a result the authority may decline to issue a code compliance certificate as it requires evidence of compliance.

8.2 Matter 1: Foundations and floor slab

8.2.1 In determining whether there are reasonable grounds to be satisfied that the foundations and floor slab comply with the Building Code, I have taken into account the following factors:

- The nature of the house as a simple, single-storey building that is moderately exposed to wind and earthquake forces.
- The two inspections carried out by the authority during construction of the concrete slab and foundations, which allowed observation of parts of those elements.
- The producer statement and as-built foundation detail provided by an established builder to support the code compliance of the structural elements of the building work.
- The expert's report, which corroborates the producer statement by establishing that this building element has structurally performed for 13 years at a level that suggests compliance with Clause B1 of the Building Code.

8.2.2 In the case of this house, I consider the evidence outlined in paragraph 8.2.1 has provided me with sufficient reasonable grounds to come to the view that the foundations and floor slab comply with Clause B1 of the Building Code and Clause B2 insofar as it relates to Clause B1.

8.3 Matter 2: Framing, water pipes, waste pipes, and wall insulation

8.3.1 The authority maintains that, as no pre-line inspection was carried out during construction, code compliance cannot be assessed for those elements that are now concealed within lined walls. The elements within those walls are discussed below.

The framing, bracing and fixings

8.3.2 In addition to the factors outlined in paragraph 8.2.1, consider that the expert's report has corroborated the builder's producer statement by observing no signs of undue movement that would indicate problems related to the framing, bracing and fixings.

8.3.3 I therefore consider that the framing, bracing and fixings comply with Clause B1 of the Building Code.

The water and waste pipes

8.3.4 The pipes within the walls have been operating for the past 13 years and any significant problems with water supply or foul water should have become apparent during that time.

8.3.5 I consider that, in these particular circumstances, reasonable grounds for deciding whether the water supply and foul water system comply with Clauses G12 and G13 is to observe their functionality, that is, whether the water pressure is adequate and how quickly foul water drains away. If the water pressure appears to be inadequate a pressure test should be undertaken.

The wall insulation

8.3.6 In commenting on a draft of this determination, the authority has expressed concern that establishing the presence of insulation by simply removing wall electrical sockets is not the same as being reasonably satisfied that the insulation complies with Clause H1.

8.3.7 Taking into account the evidence discussed above and the authority's concerns as outlined in paragraph 7.2, I consider that some additional investigation, such as those described below, would provide verification of compliance of the concealed wall elements.

- the selection of two to three separate locations to provide appropriate sample areas that will allow inspection of the element within the walls (I suggest that the laundry and the exterior wall of the wardrobe could be included)
- the removal of a section of the lining in the sample areas to inspect the concealed elements, in the light of the codes and practices applicable at the time of construction.

Conclusion

8.3.8 In summary, I conclude that the following investigations are required to establish the code compliance of the water pipes, waste pipes, and wall insulation (the relevant Building Code clauses are shown in brackets):

- Observation of the adequacy of the water pressure (Clause G12).
- Observation of the operation of facilities (Clause G13).
- The inspection of the ceiling space and walls to verify the thickness and installation of the insulation (Clause H1).

- The removal of linings at sample locations to inspect the fixings and the underlying elements at those locations (Clauses G12, G13 and H1).

8.4 Matter 3: The electrical certificate

- 8.4.1 While the expert's report has revealed no indication of electrical problems, an electrical certificate of compliance was not provided at the time of construction as evidence that the building's electrical work complied with Clause G9. I am therefore unable to reach a conclusion as to the code compliance of the electrical work to this house.
- 8.4.2 A certificate is therefore required as evidence that the house complies with Clause G9 of the Building Code.

9. What is to be done now?

- 9.1 Initially, the parties should agree on the appropriate number and sample locations for lining to be removed in preparation for inspection. The authority should then inspect the house taking into account the investigations listed in paragraph 8.3.8.
- 9.2 The authority should then issue a notice to fix that requires the electrical certificate to be provided and the owner to bring the house into compliance with the Building Code, identifying and referring to any further defects that might be discovered in the course of inspection and investigation.
- 9.3 Once the matters set out in paragraphs 8.3.8 and 8.4.2 have been resolved to its satisfaction, the authority may issue a code compliance certificate in respect of the building consent (amended as per paragraph 1.5.2).

10. The decision

- 10.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the framing, foundations and floor slab comply with Clause B1 of the Building Code.
- 10.2 I also confirm the authority's decision to refuse to issue a code compliance certificate based on insufficient evidence to be satisfied on reasonable grounds as to the compliance of:
- the electrical work with Building Code Clause G9
 - the water and waste pipes with Building Code Clauses G12 and G13
 - the insulation with Building Code Clause H1

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 24 December 2009.

John Gardiner
Manager Determinations