



Determination 2010/092

Refusal to issue a code compliance certificate for an 11-year-old house at 12 Albert Road, Nelson due to concerns over steel frames and a retaining wall



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 T Huizinga (“the applicant”) and the other party is the Nelson City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority. I consider the former owner to be a person with an interest in this determination.

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.

1.2 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for an 11-year-old house because it was not satisfied that the building work complied with certain clauses² of the Building Code (First Schedule, Building Regulations 1992). The authority's concerns are limited to the compliance of steel frames to the garage and deck, and of an exterior retaining wall.

1.3 The matter to be determined³ is therefore whether the authority was correct to refuse to issue a code compliance certificate. In deciding this, I must consider:

1.3.1 Matter 1: The steel frames

Whether the steel frames to the garage and deck of the house comply with Clause B1 Structure and Clause B2 Durability of the Building Code. The frames include the components of the systems (such as the posts, the beams, the base fixings and the footings). I consider this matter in paragraph 6.

1.3.2 Matter 2: The exterior retaining wall

Whether the exterior retaining wall complies with Clause B1 Structure and Clause F4 Safety from falling of the Building Code. I consider this in paragraph 7.

1.3.3 Matter 3: The durability considerations

Whether the elements that make up the building work comply with Building Code Clause B2 Durability, taking into account the age of the house. I consider this matter in paragraph 8.

1.4 The authority has stated that, because the work to the exterior retaining wall was undertaken without a building consent, a certificate of acceptance could be considered appropriate for the retaining wall. I consider this in paragraph 7.3.

1.5 In making my decision, I have considered the submissions of the parties, the reports from the expert ("the expert") and the engineer ("the engineer") commissioned by the Department to advise on this dispute, and the other evidence in this matter.

2. The building work

2.1 The building work consists of a two-storey house on an excavated sloping site in a high wind and corrosion zone⁴ for the purposes of NZS 3604⁵. Except for some specifically engineered steel frames, construction is conventional light timber frame, with concrete foundations and floor slab, EIFS wall cladding, aluminium windows and pressed metal tile roofing. A timber-framed deck extends along the west and north elevations, supported by a steel beam and posts above the garage entry.

2.2 The steel frames

2.2.1 The steel frames consist of steel posts and beams installed to the garage and beneath the deck of the house, as shown in the sketch in Figure 1.

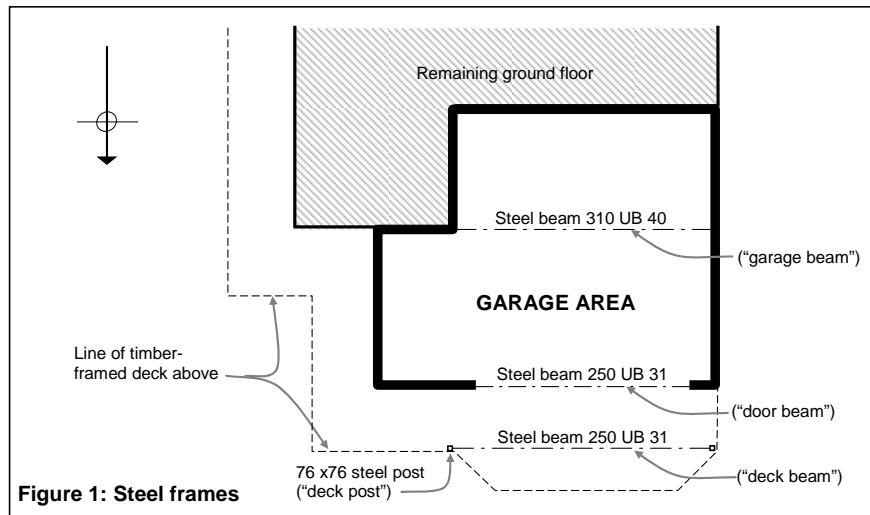
² In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

³ Under section 177(b)(i) of the Act (prior to 7 July 2010)

⁴ Corrosion Zone 1

⁵ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

- 2.2.2 The garage and the deck beams span about 6m and the garage door beam spans about 5m. The steel posts to the garage and deck beams are 76mm x 76mm, while the posts to the garage door beam are 89mm x 89mm.



2.3 The exterior retaining wall

- 2.3.1 An existing house on the site was apparently demolished prior to the construction of this house, and the north-sloping site was then further excavated to provide a level building platform. At some stage in the construction, an exterior retaining wall was constructed along the west and south sides, with a continuous garden strip above.
- 2.3.2 At the top of the west retaining wall, the garden slopes up to a small timber retaining wall which has a fence installed beside the public footpath. The garden above the south retaining wall backs on to driveway to several rear houses. The retaining wall ends with a return beside concrete steps at the southeast corner.
- 2.3.3 The wall is a conventional timber pole and rail type, sloping back from the base towards the top. The position, dimensions and details of the retaining wall were not shown in the building consent drawings, although are understood to have been constructed around the same time.

3. Background

- 3.1 The authority issued a building consent (No. 981094) for the house on 15 October 1998, under the Building Act 1991.
- 3.2 The consent documentation included an engineer's 'Producer Statement – PS1 – Design' for 'steel beams, support posts and foundations to garage, garage door and deck in front of the garage'. Included also was the engineer's 'Inspection Schedule' dated 6 October 1998, stating that inspections were required for:

- Foundation pads to beam support posts
- Steel beams and posts when erected and before linings fixed.

- 3.3 The authority carried out various inspections during construction in 1999. The engineer provided a 'Producer Statement – PS4 – Construction Review' dated 23 August 1999, which stated 'pole holes to deck only – other items not inspected'.
- 3.4 It appears that the authority carried out a final inspection in August 1999, re-inspecting the house on 24 and 25 January 2000. The authority's records note the timber retaining walls and the lack of engineering inspections.
- 3.5 In a letter to the former owner dated 14 February 2000, the authority referred to a notice to rectify dated 2 June 1999, which I have not seen. With regard to the matters considered in this determination, the authority stated that:
- Item number 4, relating to an amended plan showing the location of all timber post and rail retaining walls has not been received from the architect. Also as discussed, [the engineer] wrote back to Council notifying of nil inspections to these walls. Because these walls are additional to the original approval, Council holds no design details relating to them.
 - Item number 9 also remains outstanding as the Producer Statement of Construction Review received from the engineer specifically excludes many of the inspections listed on his original Inspection Schedule.
- 3.6 I have not seen any further correspondence about the building work and the applicant purchased the house in April 2009. With regard to the matters in dispute, according to the applicant the authority stated that it could not issue a code compliance certificate and the applicant should 'lodge a determination [application]'.
- 3.7 The Department received an application for a determination on 2 December 2009 and sought further information from the parties about the matters in dispute. Following some email correspondence, matters were clarified on 11 March 2010.

4. The submissions

- 4.1 The applicant's submitted information included copies of:
- the engineer's producer statements
 - the authority's letter dated 14 February 2000
 - a sketch plan of the ground floor.
- 4.2 In email correspondence following the application, the authority clarified that its concerns related to the lack of engineer's inspection of the steel frames and the compliance of the timber retaining wall that was built without a building consent.
- 4.3 The authority's submitted information included copies of:
- the consent documentation
 - the engineer's producer statements and inspection schedule
 - the computer records of some inspections
 - the authority's letter to the former owner dated 14 February 2000.

- 4.4 A draft determination was issued to the parties on 8 September 2010. The draft was issued for comment and for the parties to agree a date when the house complied with Building Code Clause B2 Durability.
- 4.5 Both parties accepted the draft without comment and agreed that compliance with Clause B2 was achieved on 24 January 2000.

5. The expert's report

- 5.1 As mentioned in paragraph 1.5, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Building Surveyors. The expert inspected the steel frames and exterior retaining wall on 2 June 2010 and provided a report dated 3 June 2010.

5.2 The steel frames

- 5.2.1 The expert noted that there were no visual signs of deflection or movement in the steel structure. The expert removed some linings in the garage to observe the underlying posts and connections and examined the foundation under a deck post.

The garage area beam and posts

- 5.2.2 The expert noted the following:

- stiffeners to each end of the beam as shown in the consent drawings
- baseplates under each post bolted into the concrete foundations
- the steel had been shop primed.

The garage door beam and posts

- 5.2.3 The expert noted the following:

- stiffeners at each end of the beam as shown in the consent drawings
- baseplates under each post bolted into the concrete foundations
- the steel had been shop primed
- there was some light rust to the exterior side of the beam.

The exterior deck beam and posts

- 5.2.4 The expert noted the following:

- stiffeners at each end of the beam as shown in the consent drawings
- fillet welds at the junctions of the posts with the beam
- at the west end, the post base was buried beneath asphalt
- at the east end the post was supported on a concrete pad that was 600mm x 400mm x 210mm deep, with a baseplate bolted into the concrete
- the painted steel had areas of light rust on the baseplate and the beam.

- 5.2.5 The expert noted that the visible parts of the steel structure appeared to accord with the consent drawings.

5.2.6 However, the expert was concerned about the concrete foundations to the deck posts, with one end hidden from view and the visible concrete pad at the other end only 210mm deep. The expert concluded that, while ‘the steel structure appears sound, the integrity of the concrete footing needs an opinion from an engineer’.

5.3 The exterior retaining wall

5.3.1 The expert inspected the visible parts of the exterior retaining walls, noting that they appeared to be ‘soundly constructed’, with no signs of any movement. The expert could not confirm the presence of subsoil drains behind the walls, noting that the water passing through the lower part of the walls could have been due to a period of extended rainfall prior to his inspection.

5.3.2 With regard to the need for safety barriers, the expert noted that:

- the maximum height of the wall is 1.45m – at the southwest corner where the upper ground is not accessible due to a barrier installed at street level
- at the east end of the south wall, there is a short length where the height is 1.1m and not protected by a barrier.

5.4 A copy of the expert’s report was provided to the parties on 18 June 2010.

5.5 The engineer’s report

5.5.1 After considering the expert’s comments on the need for an engineer’s assessment of the deck post footings, I sought advice from the engineer who had designed, inspected, and provided producer statements for part of the building work (see paragraph 3.3). I also requested the engineer to visually assess the exterior retaining wall. The engineer inspected the footings and exterior retaining walls and reported to the Department in a letter dated 19 August 2010.

5.5.2 With regard to the foundations to the deck posts, the engineer noted that:

The deck support post foundations are inadequate and should be replaced with foundation pads of sufficient depth that they bear on the Port Hills gravels or firm clay. Excavations would need to be inspected and approved by a Chartered Professional Engineer.

5.5.3 With regard to the timber retaining walls, the engineer noted that:

The timber pole retaining walls appear to be in good condition and are sized correctly for the conditions. There is no sign of movement.

Matter 1: The steel frames

6. Discussion

- 6.1 Taking account of the expert's and the engineer's reports, I conclude that remedial work is necessary for the following areas:
- the foundations of the deck support posts, as described by the engineer in paragraph 5.5.2
 - the light corrosion apparent to some areas of the steelwork.
- 6.2 The authority's inspection records, the expert's report and the engineer's statements allow me to conclude that the remaining areas of the steel frames are likely to be adequate, despite the lack of engineering oversight commented on by the authority (refer paragraph 3.5). I am therefore able to conclude that satisfactory rectification of the areas outlined in paragraph 6.1 will result in the frames being brought into compliance with Clauses B1 and B2 (insofar as it applies to B1) of the Building Code.

Matter 2: The exterior retaining wall

7. Discussion

- 7.1 The expert's report and the engineer's statements in paragraph 5.5.3 allow me to conclude that the exterior retaining walls are likely to be adequate, despite the lack of approval or inspections of the building work. Consequently, I am satisfied that the exterior retaining walls comply with Clauses B1 of the Building Code.
- 7.2 I note the expert's comments in paragraph 5.3.2 in regard to the need for safety barriers to the top of the wall in some areas, and I accept the lack of safety barriers to parts of the wall does not provide a danger from falling in these particular circumstances. Consequently, I am satisfied that the exterior retaining walls comply with the performance requirements of Clauses F4 of the Building Code.

7.3 The appropriate certificate

- 7.3.1 I note that the authority has proposed a certificate of acceptance as appropriate for the exterior retaining walls, taking into account the lack of a building consent and inspections for their construction.
- 7.3.2 I acknowledge that the construction of the retaining walls were carried out without a building consent, but I am of the opinion that the expert and engineer's assessments of these walls allow to me conclude that they comply with the relevant clauses of the Building Code. I also note that the retaining walls have been in place for more than ten years with no apparent problems.
- 7.3.3 In this situation, where I have reasonable grounds to conclude that the retaining walls as constructed comply with the Building Code, I take the view that an amendment to

the original building consent would be appropriate, providing the position and dimensions of the retaining walls are satisfactorily documented.

- 7.3.4 Once the documentation has been provided to the satisfaction of the authority and the building consent amended accordingly, then the retaining walls may be included within a code compliance certificate for the house in due course.

Matter 3: The durability considerations

8. Discussion

- 8.1 There are also concerns regarding the durability, and hence the compliance with the building code, of certain elements of the addition taking into consideration the age of the building work completed in 1999.
- 8.2 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).
- 8.3 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.
- 8.4 In this case the delay between the completion of the building work in 1999 and the applicant’s request for a code compliance certificate has raised concerns that various elements of the house 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. 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 1999.
- 8.5 It is not disputed, and I am therefore satisfied, that all the building elements in the house, with the exception of those items that are to be rectified, complied with Clause B2 on 24 January 2000. This date has been agreed between the parties, refer paragraph 4.5
- 8.6 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.

8.7 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, as in practical terms the building is no different from what it would have been if a code compliance certificate for the building work had been issued in January 2000.

8.8 I strongly suggest 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.

9. What is to be done now?

9.1 A notice to fix should be issued that requires the owner to bring the house into compliance with the Building Code, including the defects identified in paragraph 6.1, 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 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.

9.2 I suggest that the parties adopt the following process to meet the requirements of paragraph 9.1. Initially, the authority should issue the notice to fix. The applicant should then produce a response to this in the form of a detailed proposal, produced in conjunction with a competent and suitably qualified engineer, as to the investigation and 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.

9.3 Once the matters set out in in paragraph 6.1 have been rectified to its satisfaction, the authority shall issue a code compliance certificate in respect of the building consent amended as outlined in paragraphs 7.3.3 and 8.

10. The decision

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

- the deck post foundations do not comply with Clause B1 of the Building Code
- the steel frames do not comply with Clause B2 of the Building Code, insofar as it relates to Clause B1

and accordingly, I confirm the authority's decision to refuse to issue a code compliance certificate.

10.2 I also determine that the exterior retaining walls comply with Clauses B1 and F4 of the Building Code.

10.3 I also determine that:

- (a) all the building elements installed in the house, apart from the items that are to be rectified as described in Determination 2010/92, complied with Clause B2 on 24 January 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 24 January 2000 instead of from the time of issue of the code compliance certificate for all the building elements, except the items to be rectified as set out in paragraph 6.1 of Determination 2010/92.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 26 October 2010.

John Gardiner
Manager Determinations