



Determination 2010/106

Refusal of a code compliance certificate for house alterations completed under the supervision of a building certifier at 27A Parkvale Road, Karori, Wellington



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, the RJ and LJ Swann Family Trust (“the applicant”), and the other party is the Wellington 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 alterations to a house, because it is not satisfied that the building work complies with certain clauses² of the Building Code (First Schedule, Building Regulations 1992). The refusal arose because the building work had been undertaken under the supervision of Nationwide Building Certifiers (“the building certifier”), which was duly registered as a building certifier under the Building Act 1991, but which ceased operating as a certifier before it had issued a code compliance certificate for the work.

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

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 The building work inspected by the building certifier (“the alterations”) was covered by two building consents as follows:

Consent No. 83231 (“the deck consent”):

- issued in 2001 for a deck addition and minor alterations (“the deck alterations”)

Consent No. 101896 (“the garage consent”):

- issued in 2003 for a garage addition (“the garage addition”).

1.4 The matter to be determined³ is therefore whether the authority was correct to refuse to issue a code compliance certificate for the building work covered by the above building consents. In deciding this matter, I must consider:

1.4.1 Matter 1: The external envelope

Whether the external claddings to the alterations (“the claddings”) comply with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The claddings include the components of the systems (such as the backing sheets, the solid plaster, the windows, the roof claddings and the flashings), as well as the way components have been installed and work together. I consider this in paragraph 7.

1.4.2 Matter 2: The remaining Building Code clauses

Whether the building work complies with the remaining clauses relevant to these alterations. I consider this in paragraph 8.

1.5 The available evidence

1.5.1 Based on the information and records supplied, I consider there is sufficient evidence available to allow me to reach a conclusion on the code compliance of the alteration (refer paragraph 5). This determination therefore considers whether, if the building work is compliant or can be made compliant, it is reasonable to issue code compliance certificates for the building work under the two consents. I address this question in paragraph 9.

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.

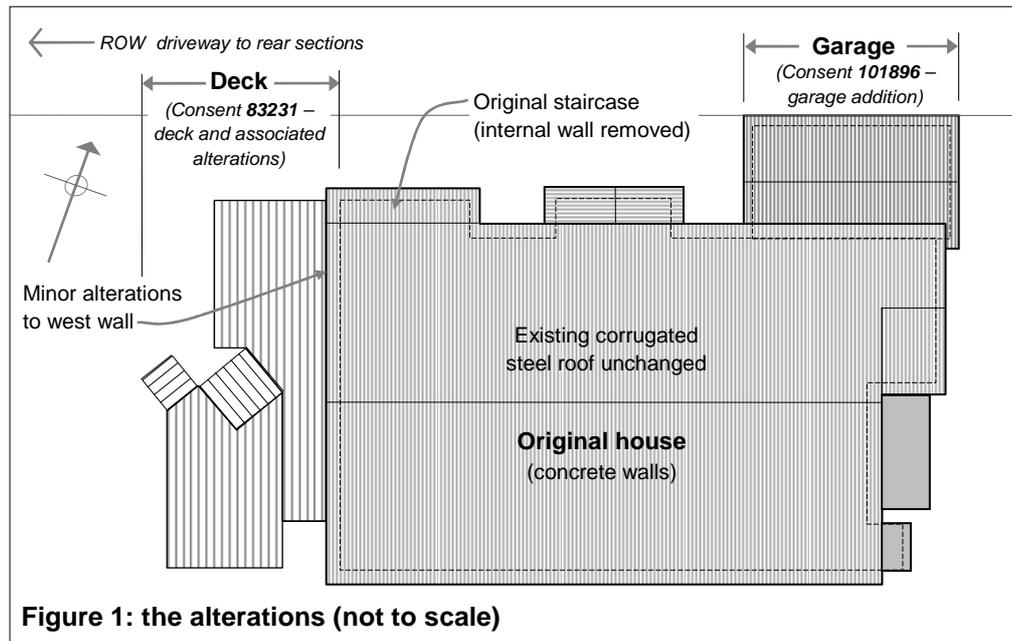
2. The building work

2.1 The building work consists of alterations and additions to a single-storey detached house situated on a west-sloping site that the authority’s records classify as being in a low wind zone for the purposes of NZS 3604⁴. The altered house is fairly simple in plan and form and is assessed as having a low weathertightness risk.

2.2 The alterations considered in this determination are shown in Figure 1:

³ Under sections 177(1)(b) and 177(2)(d) of the Act

⁴ New Zealand Standard NZS 3604:1999 Timber Framed Buildings



2.3 The original house

- 2.3.1 The original 1920's house included various interior alterations carried out over time, with a staircase providing access to the low ground level at the west. Prior to the deck alterations, the main roof extended over the projecting concrete-walled staircase on the north elevation.
- 2.3.2 The original house had concrete exterior walls and foundation walls, timber-framed interior walls and suspended floor, corrugated steel roof cladding and timber windows. The main gabled roof is 20° pitch, with various low-pitched bay window projections. The concrete exterior walls are finished in a 'rough-cast' solid plaster and the timber-framed gable ends are clad in bevel-backed weatherboards.

2.4 The deck alterations

- 2.4.1 The deck alterations carried out in 2002 under the deck consent included:
- construction of new two-level deck and steps
 - alteration of the roof over the staircase to a lower pitch
 - interior alterations:
 - removal of concrete wall between staircase and original passage
 - extension of floor over redundant staircase to form new family room
 - new doors to family room
 - master bedroom window replaced with re-used french doors to new deck
 - conversion of second bathroom into ensuite bathroom.
- 2.4.2 The new decks and steps are timber-framed. The lower deck is about 600mm above ground level and the upper deck about 1800mm, with horizontal timber lattice to the sub-floor space. The balustrades to the upper deck and the upper steps are open timber, while the lower deck and steps have no balustrades.

- 2.4.3 The original concrete wall to the new family room was removed to accommodate a large bi-fold door, with new timber framing above the lintel. The re-located french doors to the master bedroom are installed within the original window opening, with concrete removed below the sill level.

2.5 The garage addition

- 2.5.1 The 2003 garage is a simple rectangular addition to the street end of the north wall of the house, and is constructed to match the appearance of the original house. The concrete floor slab is specifically designed as an extension of the original car pad. The remaining construction is conventional light timber frame, with concrete foundations, monolithic wall cladding, a re-used timber window and rear door, and corrugated steel roofing to match the original.
- 2.5.2 The gable roof abuts the original concrete wall beneath the eaves of the house, with a stainless steel internal gutter at the junction. Although the consent drawings show the interior lined with plasterboard, most of the timber-framing is unlined, with sheet plywood lining some wall areas.
- 2.5.3 The expert noted that the exposed wall framing in the garage is generally untreated, but was unable to see the infill framing in the west wall of the house. Given the date of construction in 2002 and 2003, I consider the external wall framing to the alterations is likely to be untreated.

2.6 The wall claddings

- 2.6.1 The wall cladding to the garage and to the infill above the new doors to the family room is a monolithic cladding system described as stucco plaster over a rigid backing. In this instance it consists of 4.5mm fibre-cement sheets fixed through the building wrap directly to the framing timbers, and covered by a slip layer of building wrap, and metal-reinforced solid plaster to match the original plastered concrete walls.
- 2.6.2 The gable ends to the garage are clad in horizontal timber bevel backed weatherboards to match the gable end cladding on the existing house.

3. Background

- 3.1 The authority issued a building consent (No. 83231) for the deck alterations on 5 December 2001 under the Building Act 1991, based on a building certificate issued by the building certifier on 3 December 2001.
- 3.2 The building certifier carried out a pre-line building inspection on 4 January 2002 (which passed). It appears that the work was completed during 2002, although a final inspection was not carried out until 2004.
- 3.3 The authority issued the building consent (No. 101896) for the garage addition on 21 May 2003 under the Building Act 1991, based on a building certificate issued by the building certifier on 13 May 2003.

- 3.4 The building certifier carried out the following inspections of the garage:
- Pre-pour slab and foundation inspection on 28 August 2003 (which passed).
 - Bracing and framing inspection on 20 October 2003 (which passed).
 - Pre-cladding inspection on 2 April 2004 (which passed, noting that only the fibre-cement backing sheets were in place and ‘as an accessory building a cavity has not been used for this stucco).

- 3.5 The building certifier also carried out a final inspection of the deck alterations on 2 April 2004 and the inspection record states:

Please change dynabolts used to attach ribbon plate to house with galvanised Trubolts or similar.
All other work complies.

(I note that the ribbon plate bolts were subsequently replaced.)

- 3.6 It appears that the building certifier’s Wellington office was closed in May 2004 and its approval as a certifier expired on 30 December 2004.

3.7 The authority’s refusal to issue a code compliance certificate

- 3.7.1 On 27 November 2009, the applicant contacted the authority about the outstanding building consents for the alterations. The authority advised that it ‘was unable to be satisfied that the work complies with the Building Code and so was unable to issue a Code Compliance Certificate’.

- 3.7.2 In the authority’s record of the conversation, the applicant was advised of the following options:

- Apply for a certificate of acceptance (Form attached). Please note a COA will only cover the visual elements of the project. The work must meet the requirements of the Building Code at the time the COA application is made.
- Apply to the [Department] for a determination.
- It is not an offence under the Building Act 1991 [not] to have a Code Compliance Certificate.

- 3.8 The Department received an application for a determination on 27 August 2010.

4. The submissions

- 4.1 The applicant explained that the alterations had been inspected by the building certifier, and the unsuitable deck bolts identified in the final inspection had since been replaced with stainless steel fixings.

- 4.2 The applicant provided copies of:

- the consent documentation for both building consents
- the building certifier’s inspection records
- photographs of the alterations.

- 4.3 The authority wrote to the Department on 6 September 2010, setting out the background to the dispute and stating that it had not carried out any inspections of the building work, nor had the building certifier notified the authority that it was unable to inspect or certify the building work as required by Section 57(3) of the 1991 Act. The authority considered that a certificate of acceptance was the appropriate method to deal with the outstanding consents and stated:
- As [the building certifier] did not supply a section 56 building certificate the Council considers that it has insufficient grounds on which to be satisfied that the work that can no longer be inspected complies with the Building Code.
- 4.4 The authority forwarded a CD-Rom containing the information held on its property file, providing some additional information including copies of:
- the consent application documentation
 - the inspection documentation forwarded by the building certifier
 - the interim code compliance certificate issued by the building certifier.
- 4.5 Copies of the submissions and other evidence were provided to the applicants and the territorial authority.
- 4.6 A draft determination was issued to the parties for comment on 11 October 2010. The authority accepted the draft without comment.
- 4.7 The applicant accepted the draft subject to information submitted about the requirements for safety glass to various doors in the alterations. The applicant provided evidence that the glass to the bi-folding doors to the deck was safety glass, and also information about pane size and glass thickness for other doors. The applicant asked that the draft be clarified with respect to the reference to individual doors.

5. Grounds for 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 that the building work is completed and some of the elements were not able to be cost-effectively inspected.
- 5.2 The authority believes that any decision it makes with respect to compliance of the house is limited by what items it is able to inspect. I therefore needed to decide if I could rely on the inspections that were undertaken by the building certifier, particularly in regard to inaccessible building components.
- 5.3 In the absence of any evidence to the contrary, I take the view that I am entitled to rely on the inspection records, but I consider it important to look for evidence that corroborates or contradicts these records and can be used to verify that the building certifier's inspections were properly conducted.

5.4 In summary, I find that the following evidence allows me to form a view as to the code compliance of the building work as a whole:

- The inspections carried out by the building certifier, indicating satisfactory inspections of the inaccessible components (see paragraphs 3.2 and 3.4).
- The expert's report (below).

6. The expert's report

6.1 As mentioned in paragraph 1.6, 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 house on 9 September 2010 and provided a report that was completed on 13 September 2010.

6.2 The expert noted that the overall house, including the alterations, was 'tidy, well presented' with 'traditional, well proven construction'. The expert noted that the overall quality of construction was 'excellent', and the house and additions appear built and maintained to a 'high standard'. The building work had been completed in a 'tradesman like fashion' and was in 'acceptable/good condition', apart from the areas noted in paragraph 6.5.

6.3 The expert noted that the windows and doors have timber facings to heads and jambs, with traditional solid timber sills. At the heads, metal head flashings overlap the timber facings.

6.4 Moisture levels

6.4.1 The expert inspected the interior of the altered west wall of the house and took non-invasive moisture readings, noting no evidence of moisture penetration. As the timber framing to the west wall of the house is limited to the infill above the head of the new doors, the expert did not consider it necessary to take invasive readings.

6.4.2 The expert took invasive moisture readings into the timber bottom plates of the garage and recorded:

- 19% beside the garage door, with 24% in the plywood
- 21% beside the rear door.

Moisture readings above 18% generally indicate that moisture is entering the structure and further investigation is needed.

6.4.3 The expert removed a small section of plywood beside the rear door and noted no signs of damage in the timber bottom plate. The expert considered that rainwater was likely to occasionally wet the concrete floor and the bottom of the adjacent plywood; transferring through the plywood into the bottom plate. The expert also noted that his inspection followed a 'particularly wet winter'.

- 6.5 Commenting specifically on the external envelope, the expert noted that:
- there are fine cracks at the junction of the new plaster over the bi-fold doors to the deck and the original concrete walls, which require regular maintenance
 - the plaster above the windows butts against the head flashings, with no anti-capillary gap or allowance for drainage
 - the plaster at the timber sills butts against the solid timber sills of the rear access door to the garage
 - the plywood in the cladding of the garage butts against the concrete floor slab, and allows moisture to wick into the bottom plate
 - the timber jambs to the vehicle access door to garage the butt against the concrete.

6.6 Compliance with the relevant code clauses

6.6.1 The expert assessed the deck and garage for compliance with the other relevant clauses of the Building Code and noted that Clauses C, E3, G and H were not applicable to these alterations. The expert commented on the remaining relevant clauses.

6.6.2 B1 Structure

- Inspection records note satisfactory inspections of foundations and floor slab.
- The deck structure is visible and is 'well constructed', with stainless steel bolt fixings to the house.
- There is no evidence of structural stress or excessive movement.
- Structural elements appear to be unchanged, so the design engineer's calculations remain relevant to the completed structure.

6.6.3 E1 Surface water

- Roof water from the garage addition is collected by gutters and directed into council's drains.
- There are no apparent problems relating to surface water drainage.

6.6.4 F4 Safety from falling

- The deck and stair balustrades are at an appropriate height and design.

6.7 A copy of the expert's report was provided to the parties on 19 August 2010.

Matter 1: The cladding

7. Weathertightness

7.1 I note that, if the details shown in the current E2/AS1 were adopted to show code compliance, the stucco cladding would require a drained cavity. However, I note that this was not a requirement at the time of construction of the deck alterations. In regard to the garage addition, I address this below.

7.2 The garage

7.2.1 The question of whether Clause E2 applies to garages that are attached to houses has been addressed in various previous determinations (for example, Determination 2007/23). In that determination I took the view that, in the absence of specific information about the harm likely to arise from internal moisture, a garage is required to comply with Clause E2 (refer Appendix A).

7.2.2 However, needing to comply with Clause E2 does not mean that the Acceptable Solution applies, as E2/AS1 excludes 'garages and other unlined structures' (refer Appendix A). The garage to this house butts against the original concrete wall, is uninsulated and most of the wall framing is unlined. I therefore consider that E2/AS1 does not apply to this garage.

7.2.3 As noted in the comment to paragraph 1.2.1 of E2/AS1 (refer Appendix A), the requirements of E2/AS1 may be 'in excess of the minimum required by the Building Code' as any moisture that reaches the framing from outside is not likely to cause undue dampness or damage to building elements contrary to clause E2.3.2 because:

- a higher level of dampness is acceptable in a garage than in a habitable room.
- framing timbers (with the possible exception of bottom plates) are less likely to be damaged because they are not enclosed with insulation and linings and moisture is likely to dissipate before resulting in any damage.

7.2.4 However, although I consider that a lower weathertightness is acceptable for this particular garage, framing members and claddings must still comply with Clauses B1 Structure and B2 Durability.

7.3 Weathertightness performance

7.3.1 Taking account of the expert's report, although the claddings generally appear to have been installed in accordance with good trade practice, I conclude that remedial work is necessary to the areas outlined in paragraph 6.5.

7.4 Weathertightness conclusion

7.4.1 I consider the expert's report establishes that the current performance of the altered wall to the deck alterations is adequate because it is preventing moisture penetration at present. Consequently, I am satisfied that the deck alterations comply with Clause E2 of the Building Code

- 7.4.2 However, the expert's report also establishes that the current performance of the garage building envelope is not adequate because it is allowing moisture penetration into the timber framing at present. Consequently, I am satisfied that the garage addition does not comply with Clause E2 of the Building Code.
- 7.4.3 In addition, the alterations are 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 alterations to remain weathertight. Because the cladding faults on the altered wall to the deck alterations and the garage addition are likely to allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.
- 7.4.4 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 6.5 will result in the alterations being brought into compliance with Clauses B2 and E2 of the Building Code.
- 7.4.5 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 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: Other clause requirements

8. Discussion

- 8.1 The expert's report and the other evidence provide me with reasonable grounds to conclude that the remaining building work complies with other relevant clauses of the Building Code.
- 8.2 I accept that the bi-folding doors to the deck are glazed with safety glass. The thickness of the glass to the exterior double doors to the bedroom and the rear door to the garage will need to be verified against the requirements of NZS 4223:Part 3⁵.

9. The appropriate certificate to be issued

- 9.1 Having found that the building work can be brought into compliance with the Building Code, I must now determine whether the authority can issue either a certificate of acceptance or a code compliance certificate.
- 9.2 Section 437 of the Act provides for the issue of a certificate of acceptance 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 such a situation, a building consent authority may, on application

⁵ New Zealand Standard NZS 4223:Part 3:1999 - Code of practice for glazing in buildings - Human impact safety requirements

issue a certificate of acceptance. In the case of these alterations, the owner is seeking code compliance certificates for the two building consents.

- 9.3 In this situation, where I have reasonable grounds to conclude that the building work under the two consents can be brought into compliance with the Building Code, I take the view that code compliance certificates are the appropriate certificates to be issued in due course.

10. What is to be done now?

- 10.1 The authority should issue a notice to fix that requires the owner to bring the alterations into compliance with the Building Code, identifying the items listed in paragraph 6.5 and paragraph 8.2. The applicants 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 matters. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

11. The decision

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

- the deck alterations carried out under building consent No. 83231 does not comply with Building Code Clause B2
- the garage addition carried out under building consent No. 101896 does not comply with Building Code Clauses B2 and E2

and accordingly, I confirm the authority's decision to refuse to issue code compliance certificates for the two building consents.

- 11.2 I have insufficient evidence to enable me to determine whether the glass to the exterior double doors to the bedroom and the rear door to the garage comply with Building Code Clause F2.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 1 November 2010.

John Gardiner
Manager Determinations

Appendix A

The legislation

The relevant provisions of the Building Code:

The relevant provisions of the Building Code Clause E2 External Moisture are:

Provisions	Limits on application
FUNCTIONAL REQUIREMENT	
E2.2 Buildings shall be constructed to provide adequate resistance to penetration by, and the accumulation of, moisture from the outside.	Requirement E2.2 shall not apply to buildings in which moisture from outside would result in effects which are no more harmful than those likely to arise indoors during normal use.
PERFORMANCE	
E2.3.2 Roofs and exterior walls shall prevent the penetration of water that could cause undue dampness, or damage to building elements.	

The Acceptable Solution E2/AS1

The relevant paragraphs of the Acceptable Solution to Clause E2 are:

1.2.1 Outbuildings

Outbuildings, such as garages and other unlined structures, do not come within the scope of this Acceptable Solution.

COMMENT:

Details contained in this Acceptable Solution can be used for unlined spaces, but the requirements may be in excess of the minimum required by the building code.

This is particularly the case in regard to unlined and uninsulated buildings, where a drained cavity is unlikely to be necessary.

However, care must be taken, as some weathertight details depend on the presence of an internal lining to provide pressure equalisation behind the cladding.