



Determination 2017/070

Regarding the refusal to issue a code compliance certificate for a 20-year-old house with mixed claddings at 5 Adelle Place, Murrays Bay, Auckland



Summary

This determination is concerned with the compliance of a 20-year-old house. The determination considers the authority's reasons for refusing to issue the code compliance certificate and whether the house complies with the requirements of the Building Code.

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the current Act”) made under due authorisation by me, John Gardiner, Manager Determinations and Assurance, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.
- 1.2 The parties to the determination are:
 - the owner of the building, K Marsh (“the applicant”), acting through a building surveyor (“the agent”)
 - Auckland Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3 This determination arises from the decision of the authority to refuse to issue code compliance certificate. The refusal arose because the authority is not satisfied that the building work complies with certain clauses² of the Building Code (First Schedule, Building Regulations 1992); in particular in regard to the weathertightness of the claddings.

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

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

- 1.4 The matter to be determined³ is the authority's exercise of its powers of decision in refusing to issue a code compliance certificate. In deciding this matter, I must consider whether the external wall cladding complies with Clause B2 and Clause E2 of the Building Code that was in force at the time the building consent was issued. In conjunction with this I have also considered the compliance of the exterior timber steps in respect of Clause D1 and the retaining wall in respect of Clause F4.
- 1.5 I note that the owner will be able to apply to the authority for a modification of the durability provisions to allow the durability periods specified in Clause B2.3.1 to commence from the date of substantial completion in 1997. Although I leave this matter to the parties to resolve in due course, I have taken the anticipated modification into account when considering the compliance of the claddings.
- 1.6 In making my decision, I have considered the submissions of the parties, the report of the independent expert commissioned by the Ministry to advise on this dispute ("the expert") and the other evidence in this matter.

2. The building work and background

- 2.1 The building work considered in this determination is the construction of a three-storey split level house. The consented floor plans show: a basement garage; the ground level consisting of a living room, dining room, family room, kitchen, laundry, bathroom, and three bedrooms; the first floor level consisting of a bedroom and ensuite.
- 2.2 The building has a timber frame construction, with concrete slab foundations and timber floor framing for the upper levels. The roof is constructed from timber trusses and clad with clay tiles. While, the house is predominately clad with direct-fixed timber weatherboards, there are also areas on each elevation with direct-fixed stucco plaster over fibre-cement sheet. The basement level is built with concrete blockwork that has solid plaster to the exterior. There is a covered veranda and deck on the east and north elevations
- 2.3 On 10 September 1996, the authority issued building consent No. E11260 for the new dwelling under the Building Act 1991 ("the former Act").
- 2.4 Inspections were carried out by the authority from November 1996 to July 1997. A pre-line inspection identified additional work regarding structural connections was required to the subfloor area. The post line inspection noted that the bracing and plasterboard was "nailed off correctly", and the 'final' inspection carried out in July 1997 noted several outstanding items and documents required by the authority. It appears that the matter of the code compliance certificate was not resolved at that time.

2.5 The refusal to issue a code compliance certificate

- 2.5.1 On 11 May 2010 a "Durability final inspection" was carried out by the authority, and a letter dated 5 July 2010 sent to the applicant. The letter noted the weathertightness risks associated with the use of direct-fixed monolithic cladding, and some of the relevant factors are listed as follows:
- no drainage/ventilation cavity behind cladding
 - the treatment of external wall framing is unknown

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

- a reinforcing mesh inspection was not carried out
 - the stucco cladding is not supported on a continuous foundation wall
 - there are no control joints installed to the stucco
 - unclear if there is any jamb or sill flashing to the joinery
 - lack of a drip edge to tiles at edge of deck.
- 2.5.2 The authority noted the following “preliminary list of identified defects” that were observed during the inspection:
- Inadequate clearance from the ground to the base of the cladding.
 - Inadequate clearance between cladding/deck and paved/unpaved surfaces in areas.
 - Fibre-cement sheet and reinforcing mesh exposed at the base of cladding.
 - Some subfloor vents are buried below the concrete path.
 - Gaps at the weatherboard to plaster junctions.
- 2.5.3 As well as addressing the weathertightness issues, the authority noted there were additional items to be completed; I have not included those that are not pertinent to the matter to be determined.

2.6 The refusal to issue a code compliance certificate

- 2.6.1 On 22 March 2016 the agent applied for a code compliance certificate for the house. The application was supported by a letter dated 18 March 2016 from the agent with comments and investigation results in response to the 2010 refusal to issue a code compliance certificate. The investigation carried out by the agent had identified only one area where the moisture content was above 18%, but the timber was “sound”. The agent recommended targeted remedial work.
- 2.6.2 The authority carried out an inspection of the house on 23 May 2016, and issued a section 95A letter to the applicant on 27 May 2016. The areas identified as non-compliant by the authority included the cladding, deck, external stairs, and roofs. The letter also listed documentation the authority required.
- 2.6.3 There was continued correspondence between the parties regarding the refusal to issue the code compliance certificate, resulting in further investigation by the agent. In a letter dated 18 October 2016 the agent covered the aspects identified by the authority in its previous refusal letter and proposed repair solutions.
- 2.6.4 In an email on 28 October 2016, the authority requested that the agent clarify how the inspections were carried out.
- 2.6.5 The agent responded on 8 November 2016, clarifying for each item how it was investigated, with predominately visual inspections carried out for the identified items. The agent noted that invasive investigations had been used for the weatherboard to stucco cladding junction, drip edge to membrane, and framing around the stairs.
- 2.6.6 Correspondence between the parties continued from 9 November 2016 to 25 November 2016 regarding reviewing the agent’s report. In an email dated 25 November 2016 the authority stated it could not accept further investigation being completed through visual inspection. The authority noted that an invasive

investigation report would need to be completed, and if it demonstrated compliance with Clauses B1, B2 and E2, the authority would “progress your application”.

2.6.7 The Ministry received an application for a determination on 20 December 2016.

3. The submissions

3.1 The applicant provided copies of the following documentation:

- The authority’s letter dated 5 July 2010 and inspection checklist.
- The agent’s report regarding the 2010 inspection.
- The application for a code compliance certificate, dated 22 March 2016.
- Email and letter correspondence between the parties.

3.2 The authority acknowledged the application on 20 March 2017. The authority did not make a submission but provided copies of the following:

- The section 95A letter, dated 27 May 2016.
- Building consent documentation, including plans and inspections.
- Correspondence between the parties.

3.3 A draft determination was issued to the parties for comment on 3 August 2017. The authority accepted the draft determination without comment on 10 August 2017.

3.4 The agent accepted the draft determination subject to comment on 16 August 2017. The agent requested the determination provide advice on “specific areas” requiring either remediation or maintenance to identify the “location of the work required”.

3.5 I consider the expert’s report coupled with the determination’s findings already provide this information, however I have amended the determination to better clarify the extent of the remedial work to the building envelope. I note that an expert’s report provided for a determination is not intended to provide a definitive list identifying all the faults in a building, nor is it intended as a comprehensive remedial plan.

4. The expert’s report

4.1 General

4.1.1 As mentioned in paragraph 1.6, I engaged an independent expert to assist me who is a member of the New Zealand Institute of Building Surveyors. The expert inspected the house on 14 and 27 June 2017. The expert’s report was received on 27 June and was sent to the parties on 29 June 2017.

4.1.2 The expert noted one instance where the as-built work differed from the consented drawings, namely the exterior stair and timber deck.

4.2 Observations

4.2.1 The expert carried out invasive and destructive testing, with results ranging from the “low” to “high” moisture content percentages. Medium to high moisture content

results were found in the elevations clad with stucco cladding. The moisture content bands are defined⁴ as:

- Up to 18% - generally this level will not support timber decay
- 18% - 24% - indicate that problems exist, and a warning that remedial action is required
- 24% and above – readings of 40% - 60% are optimal values for aggressive decay.

4.2.2 The expert made the following observations regarding the external envelope:

Stucco cladding

- No jamb flashings to windows and no sill flashings to some doors, but the doors were sheltered under a verandah overhang.
- A gap in a sill flashing is allowing water ingress and resulted in an elevated moisture reading below.
- A cut-out to the jamb / sill junction below this gap confirmed moisture ingress (readings of 25% and 29%) with mould on the fibre-cement sheet and surface damage to the timber framing.
- Head flashings partially buried in plaster which is allowing water to penetrate behind the stucco, however, the backing sheet is likely to have protected the timber framing.

Ground clearances to the stucco cladding

- Stucco cladding has inadequate clearances to some locations to the north and west elevation.
- No clearance between the timber deck and a concrete path and the stucco cladding on the west elevation. An elevated moisture reading to the bottom plate was recorded (22%) but this may have arisen from leaking from a window jamb sill junction above.
- Stucco cladding in contact with the tiles under veranda, however invasive reading of 17% which is within low range.

Junctions

- A potential risk at the horizontal joint between the stucco plaster and timber weatherboards, however invasive reading was 14% and no visual signs of water ingress were observed.

Timber weatherboard cladding

- Head flashings installed without upstand or kick-out, and some have insufficient falls that could allow water to pond, but this would run over a weatherboard below to the exterior.
- Where the timber weatherboard cladding met the tiled veranda deck, there was no visual signs of water ingress and invasive moisture readings were “low”, which is likely due to wide roof overhang.

⁴ Refer *Weathertightness: Guide to the Diagnosis of Leaky Buildings* (May 2011), Department of Building and Housing

Ground clearances to the weatherboard cladding

- There were insufficient clearance between the timber weatherboards and the ground along the lower west elevation where several elevated moisture readings were noted (19% and 20%).

Deck

- The deck edge, while outside the building envelope, is allowing water ingress into the structure beneath, which will result in failure to comply with Clause B1 and B2 for the deck construction.

Roof

- While there currently are no signs of water ingress, the construction details increase the risk of water ingress and damage to the cladding.
- Membrane roof to the porch is located over an open space, but has insufficient fall, signs of water ponding was evident and the membrane is delaminating from the substrate.

Other items

- Smoke alarms incorrectly located.
- Height of retaining wall requires a barrier.
- The pitch of the exterior timber stairs is too steep, there is no handrail, and larger than acceptable tread projections (meaning some treads are too narrow).

4.3 Conclusions

- 4.3.1 The expert concluded that the results of the investigation indicate that systemic failure is likely to be occurring at more than one location due to a “reoccurring and failing construction detail”. There was evidence of non-compliance with Clause E2, and the mould growth and surface damage to the timber framing indicates a failure to meet the performance requirements of Clause B2.
- 4.3.2 The head flashing installation has some shortcomings, though these were not causing moisture ingress. Some weatherboard cladding has insufficient ground clearances and Elevated moisture readings were identified in along the bottom plate at the lower west elevation, and this combined with insufficient cladding clearances indicate some water ingress is occurring.
- 4.3.3 The tiled deck is outside the external envelope of the building; however, the water ingress and damage will compromise the stability and durability of the outer edge of the tiled deck and balustrade over time.
- 4.3.4 There was no observed breach of the performance requirements of the Building Code for the roof despite the detailing of the internal gutter, the gutter at the chimney, and porch membrane roof. The expert recommended that these details be modified to ensure ongoing performance.

5. Discussion

5.1 General

- 5.1.1 The original building consent was issued under the former Act, and accordingly the transitional provisions of the current Act apply when considering the issue of a code compliance certificate for work completed under this consent. Section 436(3)(b)(i) of the current Act requires the authority to issue a code compliance certificate if it “is satisfied that the building work concerned complies with the building code that applied at the time the building consent was granted”.
- 5.1.2 An application can be made to the authority for a modification of durability requirements to allow durability periods to commence from the date of substantial completion in 1997. Although that matter is not part of this determination (see paragraph 1.5), I have taken the anticipated modification into account when considering the weathertightness performance of the claddings.
- 5.1.3 In order to determine whether the authority correctly exercised its power in refusing to issue a code compliance certificate, I must consider whether the building work complies with the Building Code that applied when the original building consent was issued.

5.2 Clause E2 External moisture, and B2 Durability

- 5.2.1 The expert’s report establishes that the current performance of the building envelope is not adequate because there is evidence of moisture penetration into the timber framing. Given the moisture levels I am satisfied that the stucco and timber weatherboard claddings do not comply with Clause E2 of the Building Code in some respects.
- 5.2.2 The house is also required to comply with the durability requirements of Clause B2, which requires a building to satisfy the objectives of the Building Code throughout its effective life. The durability requirements of Clause B2 include a requirement for wall claddings to remain weathertight for a minimum of 15 years and for timber framing to remain structurally adequate for a minimum of 50 years.
- 5.2.3 Specific matters of current non-compliance identified by the expert that need to be attended to comprise:
- the jamb / sill details to the windows in stucco cladding, cracking to stucco (refer paragraph 4.3.1)
 - ground clearances to the stucco plaster and the timber weatherboards
 - moisture ingress through the outer edge of the tiled deck.
- 5.2.4 Some building elements have satisfied Clause E2 in the period since construction. These include the membrane roof to the porch, the head flashings to the timber and stucco, and construction detailing to the roof.
- 5.2.5 The assessment of the work required to remedy the items in paragraph 5.2.3 and any additional items identified will require a careful investigation and analysis by an appropriately qualified expert. The chosen method of repair should then be submitted to the authority for its approval.
- 5.2.6 With the exception of those items identified in paragraph 5.2.3 above, both claddings have largely met the minimum 15-year durability period required by Clause B2. The

ongoing durability of the claddings is a question of careful continued maintenance and is the responsibility of the building owner.

5.3 Compliance with Clause D1 Access

- 5.3.1 The stair is a main private stair as defined in Acceptable Solution, D1/SA1. The pitch of the stair at 45° is significantly steeper than that allowed for in D1/AS1 (37°) and the going to the bottom treads (at 160mm) is also less than the minimum described on D1/AS1 (185mm). The stair also requires a graspable handrail.
- 5.3.2 While the Acceptable Solution is not the only means of achieving compliance with the Building Code, I see no mitigating features in the stairs that would lead me to consider that it complies. I conclude that the stair does not comply with Clause D1 of the Building Code that was in force at the time the consent was granted.

5.4 Compliance with Clause F4 Safety from falling

- 5.4.1 The expert observed a retaining wall adjacent a pathway to the west of the house with a fall of 1.4m. Clause F4.3.4 requires a barrier be provided where people could fall 1 metre or more from a sudden change of level within or associated with a building. Given the location of the retaining wall and pathway, I am of the view that a barrier is required. I conclude that the retaining wall does not comply with Clause F4.

5.5 Compliance with Clause F7 Warning systems

- 5.5.1 The smoke detectors have been noted as non-compliant in terms of their location. However, the provision of domestic smoke detectors in the Acceptable Solution for Clause F7 Warning systems, F7/AS1, did not come into effect until April 2003. The consent for the addition was issued in 1996 and subsequent changes to the Building Code (and any associated changes to the relevant Acceptable Solutions) cannot be enforced retrospectively. However, irrespective of this I strongly suggest that the smoke detectors be installed to meet the current standards.

5.6 The additional durability considerations

- 5.6.1 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).
- 5.6.2 In this case the 20 year delay since the completion in 1997 raises concerns that many elements of the building are now well through or beyond their required durability periods, and may consequently no longer comply with Clause B2 if a code compliance certificate were to be issued effective from today’s date.
- 5.6.3 I have considered this issue in many previous determinations and I maintain the view that:
- the authority has the power to grant an appropriate modification of Clause B2 in respect of all the building elements, if requested by an owner
 - 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 at the time of substantial completion in 1997.

I therefore leave the matter of amending the building consent to modify Clause B2.3.1 to the parties to resolve once remedial work has been completed.

6. What happens next?

- 6.1 The building consent was issued to the applicant who is also the current owner of the house. The authority may issue a notice to fix that requires the applicant to bring the building work into compliance with the Building Code or issue another notice under section 95A taking into account the findings of this determination.
- 6.2 Either notice should refer to the investigations and defects identified in paragraphs 5.2.3, 5.3.2, and 5.4.1, and any further defects that might be discovered in the course of investigation and rectification, but not specify how those defects are to be fixed – that is a matter for the applicant to propose and for the authority to accept or reject.
- 6.3 I note the section 95A notice included a number of documents the authority believes it requires in order to determine compliance. As noted in previous determinations, given the time since the work was done (in this case 20 years) such documents have little or no relevance to the current decision to be made regarding compliance. The authority is also unable to require producer statements to be provided.

7. The decision

- 7.1 In accordance with section 188 of the Building Act 2004 and in respect of the Building Code that was current at the time the building consent was issued I hereby determine that:
- the external envelope of the house does not comply with Clauses E2 External Moisture and B2 Durability as noted herein,
 - the exterior timber steps do not comply with Clause D1 Access, and
 - the retaining wall does not comply with Clause F4 Safety from falling,
- and accordingly I confirm the authority's decision to refuse to issue a code compliance certificate for the building work covered under building consent No. E11260.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 30 August 2017.

John Gardiner
Manager Determinations and Assurance