

## Determination 2007/78

### Refusal of a code compliance certificate for additions and alterations to a house at 21 The Parade, Island Bay, Wellington



#### 1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“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 applicants are the owners of the building, C McAnulty and I MacNeill (“the applicants”) and the other party is the Wellington City Council (“the territorial authority”).
- 1.2 The matter for determination is whether the territorial authority’s decision to decline to issue a code compliance certificate for 5-year-old additions and alterations to a house is correct. The refusal arose because the building work had been undertaken

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<sup>1</sup> The Building Act 2004 is available from the Department’s website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

under the supervision of Nationwide Building Certifiers Ltd (“the building certifier”), which was duly registered as a building certifier under the former Building Act 1991 but which lost its registration as a building certifier before it had issued a code compliance certificate for the building work.

- 1.3 In order to determine that matter, I must first decide whether the additions and alterations comply with the Building Code.
- 1.4 In making my decision, I have considered the submissions of 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 evaluated this information using a framework that I describe more fully in paragraph 7.1.
- 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. The building**

- 2.1 The building work consists of alterations (including a small addition) to an existing detached house situated on a flat site, which is in a high wind zone for the purposes of NZS 3604<sup>2</sup>. The original house was built around 1910, and is a single storey building with conventional light timber frame construction, suspended timber-framed floors, weatherboard claddings, timber windows and a profiled metal hipped roof. An original bedroom has been converted into a new kitchen (while the original kitchen has become a bedroom). The addition involves rebuilding and extending the original lean-to on the east elevation to provide a new dining and family area which opens off the new kitchen area. The addition is timber-framed, with a concrete slab and foundations and includes a concrete block nib wall beneath the new east and south walls.
- 2.2 The 8° pitch lean-to roof is corrugated metal to match the existing roof – and extends to the north to provide a 1300mm overhang (supported by a timber post) above new timber bi-fold doors.
- 2.3 The expert noted no evidence as to timber treatment. The specification calls for “all framing” to be “Pinus Radiata No1 gauged Boric treated. Tanalised where required” Elsewhere the specification requires all new walls to be “boric pine”, but does not specify the level of treatment. I have received no other written evidence as to the treatment, if any, of the external wall framing timber. Given the date of construction of the addition, I consider that the new wall framing is unlikely to be treated to a level that will provide resistance to fungal decay.
- 2.4 The addition is clad in rusticated timber weatherboards, with timber windows and facings to match the original house.

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<sup>2 2</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings

### 3. Sequence of events

- 3.1 Nationwide Building Certifiers Ltd (“the building certifier”) was approved as a building certifier under section 53 of the Building Act 1991 on 5 January 1999.
- 3.2 The territorial authority issued a building consent (No. 76165) on 23 April 2001, based on a building certificate issued by the building certifier dated 20 April 2001. The building certificate did not contain any exclusions from the building certifier’s scope of engagement, nor was the work inconsistent with its approval at that time.
- 3.3 According to the owners, building work commenced in early October 2001. The building certifier carried out various inspections during construction, but I have received no records of any final inspection.
- 3.4 The building certifier issued a “Building Certifier’s Monthly Inspection Report” dated 30 November 2001 and a copy of this was forwarded to the territorial authority. This appears to be the only report issued – and notes the last inspection (pre-lining) was carried out on 7 November 2001. According to the owners, the building work was completed by mid-December 2001.
- 3.5 In a letter to the owners dated 31 August 2004, the building certifier noted that no code compliance certificate had been issued for the additions and alterations, and advised the owners to complete the work as soon as possible. On behalf of the owners, the architect for the building work (“the architect”) followed this matter up with the building certifier and was apparently advised that a code compliance certificate would be issued.
- 3.6 In a pro-forma letter dated 10 November 2004, the building certifier notified the owners that its Wellington office would be closing, and that the intention was to complete outstanding jobs by the end of December 2004. The owners understood from this letter that the code compliance certificate would be issued before that date.
- 3.7 The building certifier’s approval as a certifier expired on 30 December 2004.
- 3.8 In 2007, while arranging to sell the house, the owners discovered that no code compliance certificate had been issued for the alterations and additions. The architect requested information from the territorial authority in a phone call on 14 February 2007.
- 3.9 In an email to the architect dated 14 February 2007, the territorial authority explained that it had insufficient grounds to be satisfied that the work was code compliant as it had not inspected the work and outlined the following options for the owners:
  - supply a copy of a code compliance certificate (if it had been mislaid)
  - apply for a determination on the compliance of the work
  - apply for a certificate of acceptance for the work
  - take no further action.

3.10 The Department received an application for a determination on 5 March 2007.

#### **4. The submissions**

4.1 In a covering letter to the Department dated 5 March 2007, the applicants set out the background of the building work, noting that they had discovered the lack of a code compliance certificate only when arranging to sell the house in 2007.

4.2 The applicants forwarded copies of:

- some of the contract documentation
- the building certifier's monthly report dated 30 November 2001
- producer statements and certificates for structural, electrical and plumbing and gasfitting work
- various other engineering calculations and other statements.

4.3 The territorial authority wrote to the Department on 13 March 2007, setting out the background to the dispute and listed the inspection documentation that it had received from the building certifier. The territorial authority stated that it had not carried out any inspections of the building work, nor had the building certifier notified the territorial authority that it was unable to inspect or certify the building work as required by section 57 (3) of the 1991 Act. As the building certifier had not supplied a building certificate under section 56 of the 1991 Act for the work or a code compliance certificate, the territorial authority had insufficient grounds to be satisfied that the work was code compliant. In addition, the territorial authority considered that the issuing of a certificate of acceptance under section 437 of the Act was the appropriate method to deal with the issues.

4.4 The territorial authority forwarded copies of:

- the building certifier's monthly report dated 30 November 2001
- the email to the architect dated 14 February 2007.

4.5 Copies of the submissions and other evidence were provided to the applicants and the territorial authority. Neither party made any further submissions in response to the submission of the other party.

4.6 A copy of the draft determination was sent to the parties for comment on 22 May 2007. The applicant accepted the draft on 6 June 2007.

4.7 In a letter to the Department dated 7 June 2007, the territorial authority commented on the draft determination and on the expert's report (comments on the expert's report are outlined in paragraph 6.11). The territorial authority made the following comments on the draft determination:

- The building certifier did not carry out an inspection after the cladding was installed and before the lining, which would have allowed reasonable assessment of weathertightness issues.

- There is no discussion about the ongoing durability of the unprotected membrane (I note that the lack of membrane protection is included within the items requiring rectification as outlined in paragraph 7.3.1).
- There is no consideration of the junction between the membrane and the slab damp proofing, with reliance for compliance apparently placed on the building certifier's inspections.

I have considered the territorial authority's comments, and have amended the draft as I consider appropriate.

## **5. Grounds for the establishment of code compliance**

- 5.1 I find that the available documentation, which includes the building certifier's inspection report and the expert's report, allows me to form a view as to the code compliance of the building work as a whole.
- 5.2 Taken together, these sources of information provide reasonable grounds for me to conclude that the consented building work as a whole will comply with the building code, once the defects noted in paragraphs 6.5 and 6.6 have been fixed to the satisfaction of the territorial authority.
- 5.3 With specific regard to inaccessible building components, and in the absence of any evidence to the contrary, I take the view that the Department is entitled to rely on the inspections undertaken by the building certifier, along with other supporting evidence. (In regard to the territorial authority's comment in the third bullet point of paragraph 4.7, I consider that this reliance extends to the inspections of the foundation work).
- 5.4 However, before deciding whether or not to rely on the building certifier's inspection report, I consider it important to look for evidence that corroborates it. In this particular case, corroboration comes from the visual inspection of the accessible components by the expert, which can be used to verify whether the building certifier's inspections were properly conducted. (In regard to the territorial authority's comment in the first bullet point of paragraph 4.7, I note that this visual inspection includes an assessment of weathertightness issues with regard to the cladding).
- 5.5 In this particular instance, the visual inspection of the accessible components has verified code compliance of those components. This provides grounds for me to form a view that the building work as a whole, including the inaccessible components, complies with the building code. The fact that the building work is now 5 years old means there has been some time for weaknesses in the building work to become evident.

## **6. The expert's report**

- 6.1 As mentioned in paragraph 1.4, I engaged an independent expert to provide an assessment of the condition of those building elements subject to the determination. The expert is a member of the New Zealand Institute of Building Surveyors.

- 6.2 The expert inspected the additions and alterations on 17 April 2007 and furnished a report that was completed on 19 April 2007. The expert noted that in general (apart from the items outlined in paragraph 6.5) the building work appeared to be of a high standard, with the cladding “neatly finished” and the flashings “neat and tidy”.
- 6.3 The expert noted that the timber windows were bordered by timber facings to match the original windows, with metal head flashings above the top facing and the jamb facings butting against the timber window sills. Timber plugs are inserted between the jamb facings and the weatherboards. Plugs are also used at the corner facings.
- 6.4 The expert took invasive moisture readings into the interior skirtings of the new building work around the house. Elevated readings were noted at the southeast corner (inside the concrete block nib wall), and the skirting showed signs of minor moisture damage. Subsequently, invasive moisture readings were taken at the bottom of the timber framing above the concrete nib walls – and readings of 9% to 12% were noted (indicating that moisture was entering through the concrete nib wall, rather than from the timber-framed wall above).
- 6.5 Commenting specifically on the cladding, the expert noted that:
- the lower fixings to the corrugated metal roofing on the lean-to are not correctly spaced
  - the waterproofing membrane to the outer face of the concrete nib walls is unprotected above ground and provides inadequate protection below ground - as water may be penetrating through the concrete at the southeast corner or moisture in the skirtings could be from an internal source
  - the gas and water pipes on the south elevation are unsealed where they penetrate the weatherboards.
- 6.6 The expert also noted that the insulation on some of the hot water pipes on the south elevation is missing.
- 6.7 The expert made the following additional comments:
- The base of the timber post to the overhang is only 50mm above the paving.
  - The paving at the bi-fold doors is only about 30mm below the interior floor level, but has a slot drain installed at the junction and is under a deep roof overhang.
- 6.8 The expert noted that the building work appeared to comply with all of the other relevant building code clauses.
- 6.9 The expert also commented on changes to the consented plans, being:
- the change in the floor from timber to concrete slab
  - the addition of a concrete block nib wall to the east and south elevations.

The above matters highlight changes made to the building that were not noted as amendments on the consented plans. I consider this matter also needs to be resolved to the satisfaction of the territorial authority.

6.10 Copies of the expert's report were provided to each of the parties on 8 May 2007.

6.11 In a letter to the Department, dated 7 June 2007, the territorial authority made the following comments on the expert's report:

- The expert makes no reference to the weathertightness of the skylight installed into the low-pitched skillion roof. (I note that the skylight and roof were inspected and photographed, and I have subsequently confirmed with the expert that the skylight installation and flashings appeared adequately weathertight – as confirmed also by the lack of moisture penetration since construction).
- The expert did not consider the interface of the new addition with the existing subfloor, in particular the issue of subfloor ventilation. (The expert has subsequently advised me that the new lean-to has made no difference to the level of subfloor ventilation originally provided to this side of the house).
- The expert assumes that the moisture damage and elevated moisture readings in the southeast corner are due to a failure of the concrete nib wall tanking, but moisture could be entering elsewhere.

## **7. Evaluation for code compliance**

### **7.1 Evaluation framework**

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

7.1.2 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<sup>3</sup> (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

7.1.3 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.

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<sup>3</sup> Copies of all determinations issued by the Department can be obtained from the Department's website.

Conversely, where there is a low weathertightness risk, the solutions may be less robust. In any event, there is a need for both the design of the cladding system and its installation to be carefully carried out.

## **7.2 Weathertightness risk**

7.2.1 In relation to these characteristics I find that the additions and alterations:

- are built in a high wind zone
- are one storey high
- are simple in plan and form
- have external wall framing that is unlikely to be treated to a level that provides resistance to the onset of decay if the framing absorbs and retains moisture.

7.2.2 The house has been evaluated using the E2/AS1 risk matrix. The risk matrix allows the summing of a range of design and location factors applying to a specific building design. The resulting level of risk can range from 'low' to 'very high'. The risk level is applied to determine what claddings can be used on a building in order to comply with E2/AS1. Higher levels of risk will require more rigorous weatherproof detailing; for example, a high risk level is likely to require a particular type of cladding to be installed over a drained cavity

7.2.3 I note that, in order to comply with E2/AS1, the weatherboard cladding of this addition would not require a drained cavity.

## **7.3 Weathertightness performance**

7.3.1 Generally the cladding appears to have been installed in accordance with good trade practice. However, based on the expert's opinion, I accept that remedial work is necessary in respect of the following:

- The spacing of the lower fixings to the corrugated metal roofing on the lean-to.
- The inadequate waterproofing of the membrane to the outside of the concrete nib walls, and the lack of protection above ground.
- The unsealed gas and water pipe penetrations on the south elevation.

7.3.2 It is possible that, in the course of rectifying the defects observed by the expert, other associated defects will be discovered. These too will need to be fixed.

7.3.3 I also note the expert's additional comments in paragraph 6.7, but I consider that these elements are adequate in the circumstances as the paving is well-drained and sheltered beneath a deep roof overhang.

## **8. Discussion**

8.1 I consider the expert's report establishes that the current performance of the concrete nib wall is not adequate because it is allowing water penetration into the building at

present. Consequently, I am satisfied that the additions and alterations do not comply with clause E2 of the Building Code.

- 8.2 I am also satisfied that the water pipe insulation does not comply with clause H1 of the Building Code.
- 8.3 In addition, the additions and alterations are also 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 house to remain weathertight. Because the cladding faults on the additions and alterations are likely to continue to allow the ingress of moisture in the future, the house does not comply with the durability requirements of clause B2.
- 8.4 Because the faults identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraphs 7.3.1 and 8.2 will result in the building becoming and remaining weathertight and in compliance with clauses B2 and E2 and also clause H1.
- 8.5 As I state in paragraph 7.3.2, other faults may become evident during the course of rectifying the faults outlined in paragraph 7.3.1. If the process described in paragraph 9.3 is followed, the territorial authority will be able to satisfy itself, by appropriate inspection, that faults identified in the course of rectification are themselves rectified. The territorial authority may of course decline to issue a code compliance certificate if any of the faults described in paragraph 7.3.1, or associated faults that are discovered in the course of rectification, are not rectified to its satisfaction.
- 8.6 I decline to incorporate any waiver or modification of the Building Code in this determination.
- 8.7 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. Clause B2.3.1 of the Building Code requires that the cladding be subject to “normal maintenance”, however that term is not defined in the Act.
- 8.8 I take the view that normal maintenance is that work generally recognised as necessary to achieve the expected durability for a given building element. With respect to the cladding, the extent and nature of the maintenance will depend on the material, or system, its geographical location and level of exposure. Following regular inspection, normal maintenance tasks should include but not be limited to:
- where applicable, following manufacturers’ maintenance recommendations
  - washing down surfaces, particularly those subject to wind-driven salt spray
  - re-coating protective finishes
  - replacing sealant, seals and gaskets in joints.

8.9 As the external wall framing of the additions and alterations may not be treated to a level that will resist the onset of decay if it gets wet, periodic checking of its moisture content should also be carried out as part of normal maintenance.

## 9. The Decision

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

- the additions to this house do not comply with clauses E2, B2, and H1 of the Building Code, and accordingly I confirm the territorial authority's decision to refuse to issue a code compliance certificate
- the territorial authority shall issue a code compliance certificate once the items listed in the notice to fix have been fixed to its satisfaction.

9.2 I note that the territorial authority has not issued a notice to fix. A notice to fix should be issued that requires the applicants to bring the additions and alterations into compliance with the Building Code, identifying the defects listed in paragraphs 7.3.1 and 8.2 above, and any further defects that might be discovered in the course of rectification (refer paragraph 7.3.2). The notice to fix should not specify how the defects are to be rectified. 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.

9.3 I would suggest that the parties adopt the following process to meet the requirements of paragraph 9.2. Initially, the territorial authority should issue the notice to fix. The owner should then produce a response to this in the form of a technically robust 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.

9.4 I note that changes were made to the building that were not recorded as amendments on the consented plans, and I consider that the matters highlighted in paragraph 6.9 also need to be resolved to the satisfaction of the territorial authority.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 18 July 2007.

John Gardiner  
**Manager Determinations**