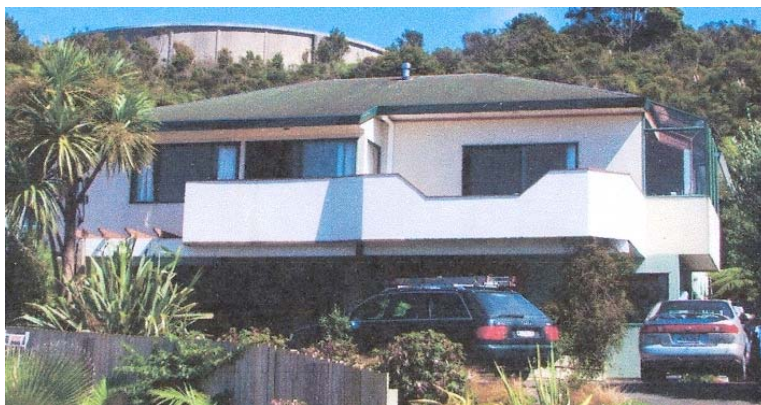


## Determination 2008/79

### Refusal by a building consent authority to amend a building consent for re-cladding of a house at 117 Waldorf Crescent, Orewa



#### 1. The matters 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 applicant is Mr I Beattie (“the applicant”), a licensed building practitioner who is also acting as an agent of the owner, Mr T Higham (“owner”). The other party is the Rodney District Council (“the authority”) carrying out its duties and functions as a territorial authority or building consent authority.
- 1.2 When the application for a determination was originally made it was in respect of a decision by the authority to refuse to issue an amendment to a building consent for the re-cladding of an existing 11-year old house unless changes are made to the design of the proposed wall claddings.

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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).

- 1.3 In the original application the matters to be determined were:
- under section 177(a), whether the proposed re-cladding system complies with the Building Code
  - under section 177(b), whether the authority's decision to refuse to issue the amendment to the building consent is correct.

1.4 As the determination process proceeded, the parties' submissions were received and two draft determinations were distributed to the parties for comment. In the course of this process it became clear that the authority is satisfied that the proposed cladding system complies with the Building Code (refer paragraph 4.8). It also became clear that the authority's refusal to issue an amendment to the building consent is based solely on its dissatisfaction with the clarity of the drawings submitted with the application for an amendment of the consent.

- 1.5 Consequently I consider that the matter to be determined is now:
- under section 177(b), whether the decision of the authority to refuse to amend the consent is correct.

I consider this matter in paragraph 6.

1.6 Although I do not now have to determine whether the proposed cladding system complies with the Building Code, I considerate it may be helpful to the parties to retain much of the discussion on that matter that was included in the earlier drafts of this determination (refer paragraph 7).

1.7 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 proposed building work consists of the installation of new cladding systems, with associated alterations, to the exterior walls of a detached house situated on an excavated east-sloping site. The house was built in about 1997, and is reasonably simple in plan and form, with a hipped roof that has 600mm eaves above most walls.
- 2.2 The house has a basement level on the lower east side of the site, with a concrete block retaining wall to the west and timber-framed exterior walls to the other elevations. A single-storey wing extends over the upper part of the site to the west, continuing as an upper floor above the basement level.
- 2.3 An existing "atrium" window to the north will be removed and lowered, in order to allow the roof gutter to extend above the glass roof and to connect with the existing gutter system.
- 2.4 An existing attached deck supported on timber posts extends to the east. The deck will be altered to increase the step down from the interior floor level, and to provide a membrane floor and open metal balustrades.

## **2.5 The wind zone**

- 2.5.1 The authority has stated that the house is situated in a high wind zone.
- 2.5.2 The agent maintains that, when local features of the site are taken into account and wind speeds are assessed according to NZS 3604<sup>2</sup>, the east (front) elevation of the house is in a medium wind zone and the other elevations are in a low wind zone.

## **2.6 The proposed cladding systems**

- 2.6.1 The upper level walls will be clad in “Eterside 180” fibre-cement weatherboards (“the Eterside cladding”). The boards are 180mm x 15mm, with a bevel to the upper inner face to provide the appearance of traditional bevel back weatherboards.
- 2.6.2 The timber framed exterior basement walls will be clad in “shadowclad” 12mm treated plywood sheets (“the plywood cladding”), which also provide bracing to the house structure.

## **3. Background**

- 3.1 The applicant is in the process of seeking approval from the authority for an amendment to the original building consent (No. 96 2821) for the house.
- 3.2 It appears that the authority issued an amendment to the consent (No. 96 2821/A) in 2007, which I have not seen. One of the amendment conditions was the engagement of a “weathertightness specialist” to oversee the remedial work and verify the integrity of the structure.
- 3.3 The owner subsequently engaged the applicant in the role of a weathertightness specialist. The applicant identified various problems in the amendment proposals, and requested a further amendment to the building consent based on a revised set of documents.
- 3.4 According to the applicant, delays in approving the amendments were not foreseen, and the original cladding was removed in February 2008 for the authority to inspect the underlying structure. The modifications to the deck and the atrium window have been carried out and the house is under temporary weather protection while still being occupied by the owner.
- 3.5 The applicant has based the design of the cladding systems on his assessment of weathertightness risk of the elevations, based on the scores derived from the E2/AS1 risk matrix. The applicant assessed the east elevation as moderate risk with the remaining elevations as low risk, and therefore proposed that the new cladding systems to the north, west and south elevations, together with the fibre-cement weatherboards to the east elevation would be direct fixed to the timber framing.
- 3.6 In a letter to the applicant dated 15 April 2008, the authority said, in respect of the Eterside cladding:

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<sup>2</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings, Section 5 Bracing Design.

After due consideration of the details submitted for gaining approval as Alternative Solution on the intended combination of cladding materials, we outline our decision. The proposed direct-fixed [Eterside cladding] is approved as an alternative solution on the condition that;

- (a) The . . . bracing panels between the studs and the building paper are incorporated in the details as previously proposed.
- (b) Project-specific full construction weathertightness detail drawings to be provided to show the joinery details and other relevant junctions.

Additional details, with respect to the use of the Eterside cladding at the lower level, were also sought.

- 3.7 In a letter to the applicant dated 9 May 2008, the authority re-estimated the risk scores for the proposed design, and assessed the west elevation as low risk, with the remaining elevations as moderate risk. The authority also classified the Eterside cladding as fibre-cement weatherboards, and therefore required cavities to be included in both of the cladding systems to all elevations apart from the low risk west elevation.
- 3.8 The Department received an application for a determination on 20 May 2008.
- 3.9 The Department sought confirmation from the authority of the matter in dispute, and received a submission dated 19 June 2008 (refer paragraph 4.3).

## 4. The submissions

- 4.1 In a letter to the Department dated 15 May 2008, the applicant outlined the background to the dispute, explaining the urgency of the situation and noting that the authority:

...had overturned the previous acceptance of direct-fixed weatherboards to the upper level and had further increased the risk factors to exclude the use of direct-fixed plywood 'shadowclad' to the lower level.

We believe the edicts issued in the [authority] correspondence dated 9<sup>th</sup> May 2008 are a misinterpretation of the weathertightness risk matrix and that no consideration has been given to the alternative solutions proposed. It is on these issues that we seek a 'determination'.
- 4.2 The applicant forwarded copies of:
  - the drawings and details of the proposed alterations
  - technical information on the proposed cladding systems
  - risk assessments of the elevations
  - the assessment of the wind zone
  - correspondence with the authority
  - photographs of the original house and the current construction.
- 4.3 The authority made a submission in the form of a letter to the Department dated 19 June 2008. The authority commented on the matters that it considered still to be in dispute, which are summarised as follows:

- The area experiences strong easterly winds, and the site is located in the “crest zone of a hill, not in an escarpment as the agent has claimed. Although a prudent designer would assume a high wind zone for the east elevation, the minimum requirements would lead to a medium wind zone for all elevations.
- The clarity and standard of the submitted drawings are also in dispute, as some aspects need further development to properly cross reference the detailing to relevant plans and sections. Drawings are also required in A3 format, with black lines and lettering, the use and labelling of appropriate scales to suit the details, and title blocks noting scales, dates and revisions if necessary.
- The use of colour is not suitable for storing records in electronic format, as a great deal of detail would be lost in the scanning process. The agent’s drawings are in colour, and are unclear and insufficient in some respects.

4.4 A draft determination was issued to the parties on 23 June 2008. The draft was issued for comment and for the parties to take the opportunity to expand on and clarify the matters in dispute.

4.5 The applicant responded to the first draft determination in a letter to the Department dated 3 July 2008, raising various detailed objections which are summarised as follows:

- The risk matrix contains numerous anomalies and is a very coarse method of evaluation. The merit of a design should not hinge on a series of risk scores.
- The north and south elevations should be treated as 2 storeys in part, and not as two separate parts.
- The risk factors in the matrix of roof/wall intersection are over-valued due to a misinterpretation of the floor levels.
- The living area over the basement is the first floor, and there is a gutter and fascia that provides some projection – meaning that the eaves should be classified as “high” rather than “very high”.
- The risk matrix does not allow for the situation of an unenclosed, free draining balcony with open balustrades, which are less risky than decks with clad balustrades. This deck has been carefully designed and detailed, and should be classified as medium risk, not part way between medium and high.
- There needs to be a complete re-evaluation of the range of cladding systems based on the long term performance of many products.

I have considered these comments in the preparation of this determination. I note that the applicant also made various references to issues that are not relevant to the matters under consideration in this determination and I make no comment on these.

4.6 The authority responded on 3 July 2008, noting that the draft determination failed to address some of the issues disputed. I note that the draft was prepared prior to receipt of the authority’s submission as outlined in paragraph 4.3, and I have now taken that submission into account during the preparation of this determination.

4.7 The applicant responded to the authority’s submission in a letter to the Department dated 10 July 2008, noting that the standard of drawings was not the subject of the

determination and should therefore not be considered further. I address this matter in paragraph 6.

- 4.8 In a letter to the Department, dated 16 July 2008, the authority said that it accepted the use of both the Eterside and plywood cladding as proposed by the agent, and that the differences in the assessment of risk by the authority and the agent were not sufficiently great to be of consequence. The authority said that previous comments it had made on the wind zone analysis was to demonstrate that this was a “blunt design tool”. The authority advised that the only matter in dispute was the standard of the drawings presented by the agent. In light of this letter I consider the only remaining matter for determination is the matter described in paragraph 1.5.
- 4.9 A second draft determination was issued to the parties on 18 July 2008. The authority accepted the second draft without comment on 28 July 2008.
- 4.10 The applicant responded to the second draft determination in a letter to the Department dated 28 July 2008. The applicant disagreed with the comments on the standard of drawings, noting that the determination should have been limited to the matter in his application. The applicant also disagreed with the risk assessment, and included a sketch of his interpretation of several risk factors. I have considered these comments, but I consider that the analysis in paragraph 7.1 is appropriate for this building. (I also note that the Department has published a guidance document<sup>3</sup> on using the risk matrix, which the agent may find helpful.)
- 4.11 A third draft determination was issued to the parties on 6 August 2008. The third draft determination was accepted by the parties without comment.

## 5. The legislation and the Compliance Documents

- 5.1 In regard to the documentation, the relevant section of the Act is:

### **45 How to apply for building consent**

- (1) An application for a building consent must-
- (a) be in the prescribed form; and
  - (b) be accompanied by plans and specifications that are-
    - (i) required by regulations made under section 402; or
    - (ii) if the regulations do not so require, required by a building consent authority; and
  - (c) contain or be accompanied by any other information that the building consent authority reasonably requires...

- 5.2 In regard to the claddings, the relevant sections of the Acceptable Solution E2/AS1 are:

### **Definitions**

Wind Zone Categorisation of wind force experienced on a particular site as determined in NZS 3604, Section 5.

### **Table 3 Suitable wall claddings**

<sup>3</sup> External Moisture – a guide to using the risk matrix: Department of Building and Housing, June 2005

## **9.4 Timber Weatherboards**

### **9.4.2 Materials**

Timber weatherboard cladding shall include the following features:

- b) Timber selection and treatment of weatherboards in accordance with NZS 3602.

## **9.5 Fibre Cement Weatherboards**

### **9.5.1 Limitations**

This Acceptable Solution is limited to flat fibre cement weatherboards, with a minimum thickness of 7.5mm.

## **6. The drawings**

### **6.1 Discussion**

6.1.1 The authority has raised the quality and format of the drawings (submitted with the application to amend the consent) as a matter that remains in dispute. The agent has submitted that the standard of drawings was not included in his application and should therefore not be considered in this determination.

6.1.2 As shown in paragraph 5.1, the Act allows the authority to set reasonable requirements for the documentation that accompanies applications for building consents and, by extension, for documentation of amendments to building consents. I note that the Department has also provided guidance information on how to apply for a building consent which includes information on the preparation of drawings<sup>4</sup>. In my view the drawings fall short of the standard described in the guidance information.

6.1.3 I have considered the authority's requirements and the underlying reasons as outlined in its submission (refer paragraph 4.3). The authority is entitled to set minimum requirements to ensure that the proposed building work is clearly documented and in an appropriate format.

6.1.4 Until the documentation requested by the authority has been supplied, the authority is entitled to refuse to amend the consent. Without adequate documentation, the authority cannot be satisfied on reasonable grounds that the provisions of the Building Code will be met if the proposed building work is completed in accordance with the plans and specifications that accompanied the application to amend the consent (see sections 45 and 49 of the Act).

### **6.2 Conclusion**

6.2.1 I consider that the authority is entitled to require the agent to clearly demonstrate how compliance is to be achieved, and for the agent to appropriately document this to the authority's satisfaction. I conclude that the authority's requirements, including the provision of revised drawings, are reasonable in this case.

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<sup>4</sup> Guide to applying for a building consent (simple residential buildings): Department of Building and Housing, January 2007

## **7. Discussion on the proposed re-cladding**

### **7.1 The weathertightness risk assessment**

- 7.1.1 The agent has submitted that the assessment of weathertightness risk of the elevations demonstrates that the east elevation has a moderate weathertightness risk rating, with the remaining elevations a low risk rating. The authority has assessed the west elevation as having a low risk weathertightness risk rating, with the remaining elevations a moderate risk rating.
- 7.1.2 I consider that the plan and form of this particular building is not appropriate for a general elevation approach to its risk assessment, due to the limited relationship between the 2-storey walls and the single-storey wing to the west. I have therefore considered this house on a wall face basis, which allows the significant differences between the two parts to be better accounted for.
- 7.1.3 I consider that certain risk factors assessed in the E2/AS1 risk matrix (such as wind zone and envelope complexity) involve judgement of the particular features of the building and its surrounding environment.
- 7.1.4 I note that the medium risk rating for the south wall has resulted from the minimal eaves to the 8 metre length of projecting wall. If additional protection were to be provided above this wall by adding an eaves projection of more than 450mm (whether by extending the existing eaves or by adding a small canopy below the gutter), the score would reduce by 4 and result in a low risk rating for this wall.
- 7.1.5 I note the authority's comments on the wind zone as outlined in paragraph 4.3, and I accept that the analysis of wind zones is not an exact science. However, I consider that the agent's assessment appears reasonable, and I also note that increasing the wind zone to a minimum of medium for all elevations would not affect the risk levels for this house.
- 7.1.6 I note the agent's comment, as outlined in paragraph 4.5 that, as the fascia and gutter to this section of wall provide a projection and the gutter height is at first floor level, the risk should be reduced. I do not accept that reasoning and I refer the agent to the Department's guidance document<sup>5</sup> (page 8 "Table A: Eaves Width" and page 12 "Figure G: Medium-risk roof/wall intersection design") for further relevant commentary on the matter.

### **7.2 The Eterside cladding**

- 7.2.1 The agent has submitted that the Eterside cladding to upper level is a bevel backed weatherboard that "should not be confused with the traditional fibre-cement plank weatherboard". (The reason for that statement is not clear, but I note that the boards used in the Eterside cladding have dimensions and a profile not dissimilar to timber bevel-back weatherboards referred to in E2/AS1.) The agent submitted that the Eterside cladding may be used for walls assessed as moderate weathertightness risk. The authority maintains that the Eterside cladding should not be considered to be the same as timber weatherboards.

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<sup>5</sup> External moisture – a guide to using the risk matrix: Department of Building and Housing, June 2005



- 7.2.2 E2/AS1 requires fibre-cement weatherboards to be installed over a cavity to the medium risk upper level wall projection on the south elevation. A cavity would not be required if timber weatherboards were used.
- 7.2.3 E2/AS1 defines fibre-cement weatherboards as having a minimum thickness of 7.5mm. E2/AS1 therefore contains installation requirements for a board of this minimum thickness. Eterside cladding is 15mm thick and is therefore significantly different from a board that is 7.5mm thick.
- 7.2.4 I therefore consider E2/AS1 has limited relevance to the installation of the Eterside cladding and in my view the Eterside cladding should be considered an alternative solution. I therefore concur with the stance taken by the authority in its letter to the agent dated 15 April 2008 (refer paragraph 3.6), and I note that the authority does not raise the matter of the weatherboards in its submission (refer paragraph 4.3).
- 7.2.5 I note that similar cladding systems have been appraised as being suitable for direct fixing up to a risk score of 12.
- 7.2.6 I also note that the risk score for part of the south wall is 8 (on the house which is otherwise low risk), which is marginally above the low risk score that would otherwise allow the use of direct-fixed fibre-cement weatherboard cladding as accepted in E2/AS1. I note the Department's guidance document<sup>6</sup> discusses such marginal situations under the topic "Risk bands and borders" (page 6 of the guide) and addresses the need to consider the underlying weathertightness risks in these circumstances.

### **7.3 Conclusion**

- 7.3.1 Given the circumstances in this instance and taking account of the marginal nature of the risk score as it applies to fibre-cement weatherboards as described in E2/AS1, I consider that the Eterside cladding to the house is not required to be installed over a cavity. Consequently, I am of the view that the proposed work will comply with Building Code Clauses E2 and B2. That is now evidently also the view of the authority, so I do not need to formally determine the matter.

## **8. The decision**

- 8.1 In accordance with section 188 of the Building Act 2004, I confirm the decision of the territorial authority to refuse to issue an amendment to the building consent.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 27 August 2008.

John Gardiner  
**Manager Determinations**

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<sup>6</sup> External moisture – a guide to using the risk matrix: Department of Building and Housing, June 2005