



Determination 2011/105

Refusal to grant an amendment to a building consent for a tiled roof on a house at 294 Oriental Parade, Wellington



1. The matter 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.
- 1.2 The parties to this determination are:
- the Foot & Kedgley Trust which owns the property, acting through one of the Trustees (“the applicant”)
 - Wellington City Council carrying out its duties and functions as a territorial authority or building consent authority (“the authority”).
- 1.3 The dispute arises from the decision of the authority to refuse to grant an amendment to a building consent for a change in the roofing system to an extension to a house. The authority’s concern relates to the installation of the roofing system as a variation to the consented plans because the work had already been completed. I take the view that the matters to be determined are:

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

1.4 Matter 1: The refusal to grant an amendment to the building consent²

1.4.1 Whether the authority correctly exercised its powers in refusing to grant an amendment to the building consent for the roofing system.

1.5 Matter 2: The compliance with the Building Code³

1.5.1 Whether the installed roofing system complies with the relevant clauses⁴ of the Building Code (Schedule 1, Building Regulations 1992).

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 and background

2.1 The property is a two storey residential house with a new extension at the rear of the first floor that connects an existing sleep-out to the main house. The building work that is the subject of this determination is the installation of the roofing system to the part of the extension.

2.2 The roof is a 20 degree mono-pitch and sits over the bedroom and wardrobe/dressing room part of the extension. The roof is ‘skillion’ construction, and is approximately 7.0x3.8 square metres in area. The roof was originally designed and consented to be concrete tiles over transverse tile battens, with an underlay over the rafters. During construction the type of roof cladding was changed and work proceeded without an amendment to the consent being sought by the applicant.

2.3 The roofing system as installed comprises a 15mm treated plywood substrate, with butyl rubber and metal flashings, a 1.7mm thick reinforced bituminous waterproof self-adhesive membrane, timber battens, and clay barrel tiles (the clay tiles”). The roofing system was installed by a Licensed Building Practitioner in the licence class ‘Roofing’ who was approved for the installation of ‘Concrete or Clay Tile Roof, Roof Membrane, Shingle or Slate Roof’.

2.4 Information about the roofing system (for the change in the roof cladding) was provided to the authority on 11 March 2011. The building work was completed in April 2011. On 21 June 2011 (referring also to a letter dated 14 March 2011) the authority wrote to the applicant returning the application for the amendment to the building consent and supporting information. The authority refused to grant the amendment because the roofing system was already installed. The authority instead requested that the applicant apply for an amendment to the building consent to remove the original roof cladding from the consent and then apply for a certificate of acceptance for the roofing system as-built. The authority noted that the information to be provided with the application for a certificate of acceptance include a request for the authority to consider the clay tiles as an alternative solution, the relevance of

² In terms of sections 177(1)(b) and 177(2)(a)

³ In terms of sections 177(1)(a)

⁴ 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

the literature submitted to the New Zealand situation, and evidence of how the product meets the requirements of the Building Code.

2.5 The application for a determination was received by the Department on 8 September 2011.

3. Submissions

3.1 Along with the application, the applicant forwarded copies of:

- an email from the roof installer outlining the roofing system for installation
- ten photographs taken during installation of the roof and annotated by the roof installer
- technical literature for the membrane and the installation of the tiles
- the letter from the authority dated 21 June 2011.

3.2 The authority acknowledged the application in a letter dated 26 September 2011 and noted that it was of the view that ‘insufficient evidence has been supplied to achieve the level of compliance to meet the Building Codes E2 and B2.’

3.3 A draft determination was issued to the parties on 17 November 2011.

3.4 The authority accepted the draft determination without comment in a response dated 28 November 2011.

3.5 The applicant accepted the draft determination in a response dated 28 November 2011. The applicant clarified a point of fact that was covered in the draft determination and noted surprise that the authority was not able to deal with this matter without incurring additional charges, referring to a statement from the authority’s 14 June 2011 letter, that it stated ‘that it is an alternative solution and is outside normal criteria for a [certificate of acceptance]] and may incur additional charges ...’.

4. The expert’s report

4.1 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 and a former registered engineer and member. The expert inspected the roof that is the subject of this determination on 6 October 2011, providing a report dated 17 October 2011.

4.2 The expert was unable to view hidden parts of the construction but reported the actual roof construction (as described by the roofing contractor) as being clay barrel tiles over longitudinal and transverse timber battens over a protector membrane over longitudinal counter-battens over plywood over rafters. At the eaves there is an additional strip of butynol sheet between the plywood and the protector membrane. Metal flashings under the tiles are present at the eaves, barges and saw-tooth ridge.

4.3 The expert was advised by the applicant that when the authority became aware of the change in cladding during construction it informed the applicant that an amendment to the building consent should be sought and that to proceed with the installation of

the roofing system as an alternative solution without consent would be at the owner's risk. The applicant chose not to resolve the matter at the time, instead installed the roofing system without prior approval.

4.4 The expert noted that the build up of the roof is not one found in any New Zealand publication used to demonstrate compliance with the Building Code. It is a combination of components commonly used in Canada and France. The expert inspected the linings in the rooms of the addition and no evidence of leaks in the roof.

4.5 The expert also noted that:

- The reinforced bitumen membrane product is primarily designed for shingle roofs in Canada but is also reportedly suitable for use as an exposed trafficable roofing membrane. The technical literature indicates it is self-sealing at laps and effectively seals around nails and screws which pass through it to fix fittings.
- While there is no information regarding the durability of the material when exposed to New Zealand's environmental conditions, in particular the higher level of ultra violet light, the only part of the membrane on this roof exposed is the drip edge into the gutter. The roofing system incorporates another butynol layer beneath the drip edge, which also extends outside of the wall cladding line.
- The clay tiles are French in origin and reportedly meet the French standards. The wind speeds and rainfall intensities the tiles are designed for appear at least equal to that at the property.
- Similar tiles have been used in New Zealand for at least 15 years with no reported durability concerns.
- At the lower edge of the roof there is a gap of around 10mm between the bottom edge of the transverse batten and membrane between each counter batten. From the description of the roof construction it is reasonable to assume that similar gaps occur under each transverse batten and these gaps allow for the drainage of any rain water which gets under the tiles. The gaps at the side laps of all of the tiles will also provide for air circulation to provide for drying of the space containing the timber battens between the membrane and the under side of the tiles.

4.6 The expert concluded that the roofing system is considered an alternative solution in terms of compliance with the Building Code and that:

- the fixings used to secure the roof appear adequate to satisfy the provisions of Clause B1 Structure for wind and earthquake forces
- the materials used in construction of the roof appear to satisfy the provisions of Clause B2 Durability
- the construction of the roof appears adequate to satisfy the provisions of Clause E2 External Moisture.

5. Matter 1: The refusal to grant an amendment to the building consent

5.1 The authority's position is that it was unable to grant the amendment to the building consent because the roofing system had already been installed. The authority also recorded that the roofing system was an alternative solution for which the authority could not be satisfied on reasonable grounds complied with the Building Code.

5.2 I note that the authority had advised the applicant prior to the completion of the building work that an amendment to the consent would be required and that the roofing system would be considered as an alternative solution (refer paragraph 2.2).

5.3 I have considered the extent of change from the consented system to what was constructed. The change was:

- from concrete tiles over transverse tile battens, with an underlay over the rafters
- to clay tiles over longitudinal and transverse timber battens over a protector membrane over longitudinal counter-battens over plywood over rafters, with an additional strip of butynol sheet between the plywood and the protector membrane.

5.4 I consider this to be a relatively significant variation and therefore the impact on compliance with the Building Code needed to be carefully assessed. I note the authority explained the need for the consent to be amended, and the change approved, before the work was carried out.

5.5 Based on the extent of the change, I am of the view that the authority correctly exercised its powers in refusing to amend the building consent because the work was already completed.

5.6 The authority's position that the applicant must apply to amend the building consent to remove the original roofing system and apply for a certificate of acceptance for the installed roofing system is the correct one.

6. Matter 2: Compliance with the Building Code

6.1 With respect to the Building Code compliance of the as built system, I note the following key points:

- the expert inspected the linings in the rooms of the extension and no evidence of leaks in the roof
- the work was carried out by a Licensed Building Practitioner in the licence class 'Roofing' who was approved for the installation of 'Concrete or Clay Tile Roof, Roof Membrane, Shingle or Slate Roof'
- the expert concluded that the roofing system is an alternative solution in terms of compliance with the Building Code and that:
 - the fixings used to secure the roof appear adequate to satisfy the provisions of Clause B1 Structure for wind and earthquake forces

- the materials used in construction of the roof appear to satisfy the provisions of Clause B2 Durability
- the construction of the roof appears adequate to satisfy the provisions of Clause E2 External Moisture.

6.2 The authority has raised questions relating to four particular aspects of the documentation supporting the construction:

- the appropriateness of the clay tiles for New Zealand conditions (refer to paragraph 6.3)
- the appropriateness of the membrane for New Zealand conditions (refer to paragraph 6.4)
- the relevance to the standards cited (refer to paragraph 6.5)
- the adequacy of the drawings and detailing (refer to paragraph 6.6).

6.3 With respect to the appropriateness of the clay tiles for New Zealand conditions, I accept the evidence provided about the history of use in New Zealand and note the expert's comments that:

- the wind speeds and rainfall intensities the tiles are designed for appear at least equal to that at the property
- similar tiles have been used in New Zealand for at least 15 years with no reported durability concerns.

6.4 With respect to the appropriateness of the membrane for New Zealand conditions, I note the expert's comments that:

- the technical literature indicates for the Canadian climate, the membrane is designed for use under shingled roofs but is also suitable for use as an exposed, trafficable membrane
- the technical literature does not indicate the durability of the material if exposed to New Zealand's environmental conditions, however the only part of the membrane that is exposed is the drip edge into the gutter, and there is another layer of butynol beneath this edge
- the configuration of the roofing system provides for drainage of water from under the tiles and air circulation between the membrane and tiles to provide capacity for drying.

6.5 With respect to the relevance of the standards cited, I accept the authority's comments and note that if standards are provided from another jurisdiction as part of demonstrating compliance with the Building Code, it is necessary to justify how the standards are relevant to the New Zealand situation.

6.6 With respect to the adequacy of the drawings and details, I note that no as-built drawings have been provided, and there are no details showing the configuration of the roofing system.

6.7 I therefore am of the view that:

- the roofing system, as constructed, complies with the Building Code
- there is insufficient evidence to support Building Code compliance for the purposes of an application for a building consent or a certificate of acceptance.

6.8 With respect to any future application for a certificate of acceptance, I note that the applicant should provide as built drawings and details.

7. The decision

7.1 In accordance with section 188 of the Act, I hereby determine that:

- the authority correctly exercised its powers in refusing to amend the building consent and I confirm the authority's decision in this respect
- the roofing system complies with Building Code Clauses B1 Structure, B2 Durability and E2 External moisture.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 19 December 2011.

John Gardiner
Manager Determinations