

Determination 2008/19

Determination regarding a code compliance certificate for a house with monolithic cladding at 251 Kaipara Road, Papakura



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. The applicant is D Barnes of Building Appraisals Ltd (“the applicant”) acting on behalf of the owners of the house, (“the owners”), and the other party is the Papakura District Council (“the territorial authority”). The applicant has identified the builder of the house, G J Gardiner Homes Ltd (“the builder”), as an interested party to the matter.
- 1.2 This determination arises from the decision of the territorial authority to refuse to issue a code compliance certificate for an 8-year-old house because it is not satisfied that the house complies with clauses B1 “Structure”, B2 “Durability” and E2

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

“External Moisture” of the Building Code² (First Schedule, Building Regulations 1992).

1.3 I consider that the matters for determination are:

1.3.1 Matter 1: The monolithic cladding

Whether the monolithic cladding as installed on the house (“the cladding”) complies with Clauses E2 and B2 of the Building Code. By “the cladding as installed” I mean the components of the system (such as the backing materials, the flashings, the joints and the plaster and/or the coatings) as well as the way the components have been installed and work together.

1.3.2 Matter 2: The durability considerations

Whether the elements that make up the construction comply with Building Code Clause B2 “Durability”, taking into account the age of the building.

1.3.3 Matter 3: The structural considerations

Whether the foundations of the house comply with Building Code Clause B1 “Structure” of the Building Code.

1.4 The territorial authority has also raised concerns about possible damage to the timber framing and consequent compliance with B1 that may be associated with weathertightness defects in the cladding (refer paragraph 3.7). I have discussed this matter in paragraph 9.2 and 10.7.

1.5 I also note that the owners originally sought a code compliance certificate for this house (refer paragraph 3.6), which was refused by the territorial authority. Some months later, the applicant lodged an application for a certificate of acceptance (refer paragraph 3.14). In the case of this house, I consider that I have sufficient evidence available to allow me to reach a conclusion as to whether the building will comply with the Building Code once remedial work is completed. This determination therefore considers the matter of the issue of a code compliance certificate.

1.6 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”), the weathertightness and moisture survey report by the specialist inspection company commissioned by the owners (refer paragraph 3.13), the structural engineer’s correspondence with the territorial authority (refer paragraphs 3.8 and 3.10), and the other evidence in this matter. With regard to the cladding and the roofing, I have evaluated this information using a framework that I describe more fully in paragraph 6.1.

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 Code is available from the Department’s website at www.dbh.govt.nz.

2. The building

- 2.1 The building work consists of a large detached house and garage situated on a rural site, which slopes gently towards the west and is in a high wind zone for the purposes of NZS 3604³. The house is generally rectangular in plan, with the length oriented across the slope from south to north, and is generally one storey high except for a two storey high section above the central area. A single storey garage wing projects out from the east elevation towards the southeast, with a narrower and lower link section accommodating the change in plan direction. Construction is conventional light timber frame, with a concrete slab and foundations, monolithic cladding and aluminium windows. The house is moderately complex in plan and form, and has 30° pitch concrete tile gabled roofs with no eaves or verge projections.
- 2.2 A small balcony (with open metal balustrades, a membrane floor and monolithic-clad support columns) extends to the west from an upper level bedroom. An attached timber pergola, supported on monolithic-clad columns, extends along the west wall of the single storey living area. A monolithic-clad “chimney” extends up the north gable wall.
- 2.3 The expert noted that the wall framing he was able to inspect within the roof space did not appear to be treated, and I note that the specification calls for the framing timber to be “stress graded kiln dried. Given the date of construction and the lack of other evidence, I consider the external wall framing to be untreated.
- 2.4 The cladding system to the house is EIFS⁴. Although the expert was not able to identify the particular type, details are very similar to those specified for “Insulclad” EIFS cladding, with purpose-made flashings to windows, edges and other junctions. I also note that the plasterer has described the cladding as Insulclad (refer paragraph 2.5). The cladding consists of 40mm polystyrene backing sheets fixed directly to the framing over the building wrap, and finished with a textured plaster system and an acrylic paint system.
- 2.5 The plasterer has provided a producer statement dated 30 December 1999, which describes the cladding as “Insulclad with an Ezytex Plaster sponge finish and Insulcote 100% acrylic paint”, and states that the cladding is installed to Plaster Systems Ltd specifications for Insulclad in accordance with the Building Code and the manufacturer’s specifications (refer paragraph 3.3).

3. Background

- 3.1 The territorial authority issued a building consent (No. BC15982) on 25 June 1999, based on a building certificate (No. C/99-1724) issued by A1 Building Certifiers Ltd (“the building certifier”). I have not seen copies of these documents.
- 3.2 On 15 July 1999, the structural engineer (“the engineer”) tested the compacted fill of the building platform and recommended that piles be installed under the western (rear) side of the strip footings. The inspection summary indicates that the building

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

⁴ External Insulating Foam System

certifier inspected the front side of the footings on 27 July 1999, with a note stating “engineer to certify rear”. However, it appears that the engineer did not expect to inspect the piles, and this misunderstanding has resulted in no record of any specific inspection of the amended footings (refer paragraph 3.8).

- 3.3 The building certifier carried out various other inspections during construction including a pre-line inspection on 8 October 1999 and a lining inspection on 22 October 1999. The inspection summary does not include a cladding inspection, but notes the requirement for a producer statement, which was subsequently provided (refer paragraph 2.5).
- 3.4 The house appears to have been completed early in 2000, although the last inspection noted in the building certifier’s inspection records was a final inspection on 8 December 2001. The records indicate that the only area not passed was the internal staircase. According to the builder, this was due to a non-complying handrail that was subsequently remedied.
- 3.5 The building certifier’s approval as a certifier expired on 18 September 2002, and the project was passed to another building certifier. It appears the second building certifier had no involvement with the building and passed the work to the territorial authority when the second building certifier’s approval also expired.
- 3.6 I am not aware of any further inspections carried out on the house until the owners wished to sell the house in 2007 and sought a code compliance certificate. The territorial authority inspected the building on 21 May 2007 and identified a number of items requiring attention. These items were apparently completed and passed during a re-inspection on 25 June 2007.
- 3.7 In a letter to the owner dated 26 June 2007, the territorial authority refused to issue a code compliance certificate and attached a notice to fix of the same date. The notice to fix listed the particulars of contravention or non-compliance as:
- Application of plaster cladding system does not appear to comply with E2/AS1.
 - Possible deterioration of the structural skeleton due to inadequacies of cladding application.
 - Undocumented foundation variation.
- The territorial authority set out the work required to remedy the listed concerns as:
- Cladding must comply with the performance requirements of E2 External Moisture and B2 Durability.
 - Structural skeleton to be assessed for compliance with B1 Structure and B2 Durability.
 - Foundation variation must be assessed in compliance with B1 Structure.
- 3.8 The builder sought advice from the engineer, who visited the site and reported to the territorial authority in a letter dated 3 July 2007. The engineer described the background to the amended footings and the misunderstanding that had arisen. At the time of construction, the engineer had understood that the building certifier would inspect the amended footings, which he considered would be sufficient to establish compliance (refer paragraph 3.2). Having been advised of the current

situation, he had carefully inspected the building for any signs indicating underlying foundation movement or settlement problems. The engineer concluded:

Following our discussions with all parties involved, and our research of the records we have obtained, we have no reason to believe the foundation piles were not installed as requested by our site instruction of 15/7/99.

Based on our observations and investigations, [the engineers] have no reason to believe that the foundations were not constructed in accordance with the plans and the site instruction issued by [the engineers]. There are no signs of movement in the residence that would indicate any foundation movement or settlement.

[The engineers] are of the opinion that there is no need for further investigation on this matter and are satisfied that the foundations will continue to be satisfactory to support the residence as they have done for the past 8 years.

3.9 The territorial authority replied to the above letter on 6 July 2007, stating that the engineer's information was not sufficient to establish confidence in the adequacy of the foundations and refusing to reconsider its position unless the engineer supplied:

- (a) Foundation plans and calculations for the dwelling.
- (b) Inspection record for the foundations.
- (c) Engineering certificate and producer statement for the foundations.

3.10 The engineer responded in a letter to the territorial authority dated 10 July 2007, explaining that he was unable to produce the documentation required as he was not able to view the foundations at the time of construction, but considered that the information provided to the territorial authority (refer paragraph 3.8) was sufficient to allow a code compliance certificate to be issued, as the 1991 Building Act put less emphasis on correct as-built plans than the current Act. The engineer concluded:

In summary we believe that the information provided is adequate in terms of the Section 436 requirements for the transitional provisions for Code of Compliance Certificates under BA2004. We do not believe that you require plans and calculations, inspection records or engineering certificates, which would be applicable to a building constructed under BA04. We do not believe that this foundation issue requires a determination from the Department of Building and Housing and further do not believe that the foundation issue requires remedial work to bring the house up to current standards under the 2004 Building Code.

3.11 In a letter to the owners dated 12 July 2007, the builder described the outcome of a meeting with the territorial authority on 11 July 2007, explaining that the cladding and foundation issues were still not resolved and the territorial authority was not prepared to accept the risk that the house might not comply. The builder explained that the documentation provided to the territorial authority was the same as provided to the building certifier, which would have been sufficient for a code compliance certificate at the time of construction. The builder recommended that additional advice be engaged, should a determination be sought.

3.12 On behalf of the owners, the builder subsequently engaged the applicant to assist in resolving the issues raised by the territorial authority. The applicant engaged an independent inspection company ("the assessor") to inspect and assess the

weathertightness and associated durability related to the cladding. I note that the assessor is a member of the New Zealand Institute of Building Surveyors.

- 3.13 The assessor inspected the building and provided a report dated 17 September 2007 (“the assessor’s report”), which described the building in detail and identified various potential weathertightness risks associated with the design and construction. The assessor carried out non-invasive moisture testing and limited invasive testing at four locations in bottom plates, at areas considered at risk of moisture penetration. Readings in the latter ranged from 23% to 25% (refer paragraph 5.4). The assessor also identified various weathertightness defects that required addressing, noted that the moisture penetration may have caused damage to the timber structure, and concluded that the building did not comply with Clauses B1, B2 and E2. I am not aware of any remedial work carried out following the assessor’s report.
- 3.14 On behalf of the owners, the applicant lodged an application for a certificate of acceptance with the territorial authority, which was accompanied by a report dated 17 October 2007 together with various reports, records and other documentation. I note that this is the first reference to a certificate of acceptance rather than the code compliance certificate that the owners had been seeking (refer paragraph 1.5).
- 3.15 In a letter to the owners dated 26 October 2007, the territorial authority declined the above application as:
- Weathertightness Report indicates risks of leaking.
 - The report does indicate that the building is showing signs of leaking but no details of the damage that it has caused.
 - Moisture meter photos are indecipherable.
 - Non-invasive moisture readings are not an accurate means of detecting moisture ingress, they are also not acceptable to the Department of Building & Housing.
 - [The engineer’s] report is inadequate as they have not actually inspected the foundations.
 - Cladding details and the flashing details do not comply with E2/AS1.
 - Details of further investigations which will lead to further remedial work are unclear.
 - Incorrect Certificate of Title has been supplied.

The territorial advised that the issues raised in the Notice to Fix (refer paragraph 3.7) were still outstanding.

- 3.16 The Department received an application for a determination on 15 November 2007.

4. The submissions

- 4.1 In the letter to the Department accompanying the application, the applicant outlined the information supplied and noted that the sale of the house is contingent upon

resolution of the issues. The applicant attached a list of key points, which summarised the history of the project.

4.2 The applicant forwarded copies of:

- the drawings and specifications
- some of the consent documentation
- the inspection records
- the notice to fix dated 26 June 2007
- the correspondence from the territorial authority
- the letters from the structural engineer to the territorial authority
- the assessor's report dated 17 September 2007
- the application for a certificate of acceptance dated 18 October 2007
- various producer statements, certificates, technical information, invoices and other information.

4.3 The territorial authority made a submission in the form of a letter dated 16 November 2007, which outlined its involvement with the project since the final inspections in June 2007. The territorial authority noted that its concerns are outlined in the correspondence, described its responsibility to current and future owners of the building and noted:

Papakura District Council feels that the independent report which was included in the Certificate of Acceptance application, lacked detail as to how the issues identified were going to be rectified. It was also [felt] that the report was deficient on information, for example non-invasive moisture readings were recorded.

4.4 Copies of the submissions and other evidence were provided to each of the parties. Neither party made any further submissions in response to the submission of the other party.

4.5 The draft determination was sent to the parties for comment on 12 February 2008. The draft was issued to the parties for comment and to agree a date when the building complied with Building Code Clause B2 Durability.

4.6 Both parties accepted the draft. The owner nominated 1 January 2000 as the date when compliance with Clause B2 was achieved, being a convenient date following the occupation of the building on 14 December 1999. The territorial authority accepted the date.

5. The expert's report

5.1 As discussed in paragraph 1.6, 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.

5.2 The expert inspected the claddings on 10 January 2008 and furnished a report that was completed on 24 January 2008, which noted that the construction generally accorded with the drawings. The expert noted that the cladding was reasonably straight and fair, except for two poorly aligned areas at the ribbon plate of the pergola and at the inter-storey area adjacent to the upper deck. The paint coating appeared to be “of a reasonable standard and condition”, except for unfinished areas behind gutters and fascias. I note that control joints are not specified by the manufacturer for the dimensions of EIFS used on the walls of this building.

5.3 The expert noted that the windows are recessed, with head and jamb flashings. The expert removed the planted decorative polystyrene sill together with a small section of plaster at the jamb to sill junction of a garage window, and noted satisfactory ribbed uPVC sill flashings with sealant applied at the junction but no corner soakers. The expert also noted satisfactory mesh within the coating and no evidence of corrosion of fixings indicating moisture penetration. I note that the sill flashing appears to be installed in accordance with the Insulclad manufacturer’s instructions at the time of installation, and I accept that the exposed junction is typical of similar locations elsewhere in the building.

5.4 The expert inspected the interior of the house, taking non-invasive moisture readings internally, and no evidence of moisture was observed. The expert took an invasive moisture reading of 12% at the window cut-out. The expert noted that his inspection followed an extended dry spell, so considered that further invasive testing would not reflect moisture levels likely at other times of year. He therefore considered that the readings reported in the assessor’s report (refer paragraph 3.13) would be more representative, noting these as follows:

- 24% and 25% in the bottom plates of the side and end walls of the garage
- 23% in the bottom plate of the entry alcove
- 23% in the bottom plate of the recessed wall linking the garage to the house.

These moisture levels exceeded the maximum in-service moisture content as set out in Table 1 of NZS 3602⁵ and indicate that external moisture is entering the structure. The expert also noted staining and signs of decay in roof timbers above the recessed wall linking the garage to the house.

5.5 Commenting specifically on the wall and roof claddings, the expert noted that:

- the clearance from the bottom of the cladding to the paving is inadequate in most areas
- the window sill flanges are sealed to the cladding, with no drainage gap (5mm between the lower edge of the aluminium joinery and the plaster) to allow any moisture that may enter from escaping to the outside
- the garage door lacks a head flashing

⁵ New Zealand Standard NZS 3602:2003 Timber and Wood-based Products for Use in Buildings

- there are no anti-capillary drip edges provided where the membrane turns down at the deck edges
 - the pergola ribbon plate butts against the wall and is fixed through the cladding
 - the flat tops of the monolithic-clad pergola columns are uncapped, and are penetrated by the pergola beams
 - the apron flashings lack adequate kickout flashings, with gaps and exposed timber apparent in some areas and weatherproofing reliant on sealant
 - gutters and fascias have been fixed against unsealed backing sheets, with the plaster coating applied following installation
 - the lack of weatherproofing at the bottom of the apron flashing junction has resulted in water penetrating into the roof timbers above the recessed wall linking the garage to the house, with staining and signs of decay apparent in the bottom chord of the truss
 - the concrete verge tiles are poorly fixed and sealed in some areas
 - the meter box lacks a head flashing, and moisture is able to penetrate through the cable holes in the cladding
 - some fixings and cables through the cladding are poorly sealed.
- 5.6 The expert also noted that the sump to the right of the main entry appears to pond during heavy rain, observing that the soil in the area was damp despite the dry weather.
- 5.7 A copy of the expert's report was provided to each of the parties on 25 January 2008.
- 5.8 The territorial authority responded in a letter received on 4 February 2008 expressing satisfaction with the report.

Matter 1: The monolithic cladding

6. Evaluation for code compliance

6.1 Evaluation framework

6.1.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solutions⁶, 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.

⁶ An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way (but not the only way) of complying with the Building Code. The Acceptable Solutions are available from The Department's Website at www.dbh.govt.nz.

- 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.

6.1.2 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 determinations⁷ (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

6.1.3 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. 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.

6.2 Weathertightness risk

6.2.1 In relation to these characteristics I find that this building:

- is built in a high wind zone
- is two storeys high in part
- is moderately complex in plan and form
- has monolithic cladding fixed directly to the framing
- has no eaves or verge projections to protect the cladding
- has an attached upper balcony, with a membrane floor open balustrades and monolithic-clad support columns
- has an attached timber pergola, supported on monolithic-clad columns
- has external wall framing that is not treated to provide resistance to the onset of decay if the framing absorbs and retains moisture.

6.2.2 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

⁷ Copies of all determinations issued by the Department can be obtained from the Department's website.

detailing; for example, a high risk level is likely to require a particular type of cladding to be installed over a drained cavity.

6.2.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2.1 show that two elevations of the building demonstrate a high weathertightness risk rating and the remaining elevations a moderate risk rating. I note that, if the details shown in E2/AS1 were adopted to show code compliance, the monolithic cladding on this building would require a drained cavity. Consequently the cladding on the house is considered to be an alternative solution to code performance requirements.

6.3 Weathertightness performance: exterior cladding

6.3.1 Generally the cladding appears to have been installed in accordance with good trade practice and in accordance with the manufacturer's instructions. Taking account of the expert's report, I conclude that remedial work is necessary in respect of the:

- inadequate clearances from the bottom of the cladding to the paving and possible damage to bottom plates
- lack of drainage gaps under the window sill flanges
- lack of a head flashing to the garage door
- lack of drip edges where the membrane turns down at the deck edges
- attachment of the pergola ribbon plate through the cladding
- uncapped flat tops of the monolithic-clad pergola columns, and the penetrations by the pergola beams
- lack of adequate kickouts at the bottom of apron flashings
- unsealed cladding behind gutters and fascias
- inadequately weatherproofed junction at the recessed wall linking the garage to the house, resulting in possible damage to the bottom chord of the truss
- poorly fixed and sealed concrete verge tiles
- inadequate weatherproofing of the meter box
- inadequate weatherproofing of some fixings and cable penetrations.

6.3.2 I note the expert's comment in paragraph 5.6 on possible drainage problems related to the sump in the vicinity of raised moisture levels in a bottom plate, and draw this matter to the attention of the territorial authority for further investigation.

- 6.3.3 I also note the expert's observation of possible timber damage in the bottom chord of the timber truss in the roof linking the garage to the house, and I accept the expert's recommendation that the truss should be inspected by an engineer.
- 6.3.4 Notwithstanding the fact that the cladding is fixed directly to the timber framing, thus limiting drainage and ventilation behind the cladding, I have noted certain compensating factors that assist the performance of the cladding in this particular case:
- apart from the noted exceptions the cladding is installed to good trade practice
 - apart from some isolated areas, the cladding has been preventing moisture penetration into the building for about 8 years.
- 6.3.5 I consider that these factors help compensate for the lack of a drained cavity and can assist the building to comply with the weathertightness and durability provisions of the Building Code.

7. Discussion

- 7.1 I consider the expert's report establishes that the current performance of the cladding is not adequate because it is allowing water penetration into the building at present. Consequently, I am satisfied that the building does not comply with Clause E2 of the Building Code.
- 7.2 In addition, the building is 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 building are likely to allow the ingress of moisture in the future, the building does not comply with the durability requirements of Clause B2.
- 7.3 Because the faults identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory investigation and rectification of the items outlined in paragraphs 6.3.1, to 6.3.3 will result in the building being brought into compliance with Clauses B2 and E2.
- 7.4 It is emphasized that each determination is conducted on a case-by-case basis. Accordingly, the fact that particular cladding systems have been established as being code compliant in relation to a particular building does not necessarily mean that the same cladding systems will be code compliant in another situation.
- 7.5 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: The durability considerations

8. Discussion

- 8.1 I have concerns about the durability, and hence the compliance with the building code, of certain elements of the house taking into consideration the completion of the building work at the beginning of 2000.
- 8.2 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).
- 8.3 These durability periods are:
- 5 years if the building elements are easy to access and replace, and failure of those elements would be easily detected during the normal use of the building
 - 15 years if building elements are moderately difficult to access or replace, or failure of those elements would go undetected during normal use of the building, but would be easily detected during normal maintenance
 - the life of the building, being not less than 50 years, if the building elements provide structural stability to the building, or are difficult to access or replace, or failure of those elements would go undetected during both normal use and maintenance.
- 8.4 The 8-year delay between the substantial completion of the house and the applicant’s request for a code compliance certificate raises the issue of when all the elements of the building complied with Clause B2. I have not been provided with any evidence that the building certifier did not accept that those elements complied with Clause B2 when the house was completed in 2000.
- 8.5 It is not disputed, and I am therefore satisfied that all the building elements complied with Clause B2 on 1 January 2000. This date has been agreed between the parties, refer paragraph 4.6.
- 8.6 In order to address these durability issues when they were raised in previous determinations, I sought and received clarification of general legal advice about waivers and modifications. That clarification, and the legal framework and procedures based on the clarification, is described in previous determinations (for example, Determination 2006/85). I have used that advice to evaluate the durability issues raised in this determination.
- 8.7 I continue to hold that view, and therefore conclude that:
- (a) the territorial authority has the power to grant an appropriate modification of clause B2 in respect of the building elements
 - (b) it is reasonable to grant such a modification, with appropriate notification, because in practical terms the building is no different from what it would have

been if a code compliance certificate for the house had been issued some time in 2000.

- 8.8 I strongly recommend that the territorial authority record this determination, and any modifications resulting from it, on the property file and also on any LIM issued concerning this property.

Matter 3: The structural considerations

9. Discussion

9.1 The foundations

- 9.1.1 I have considered the building certifier's inspection record (refer paragraph 3.2), together with the engineer's reports as outlined in paragraphs 3.8 and 3.10 which describe the misunderstanding in relation to the inspection of the amended foundations to the western side of the house. I also note that the building certifier inspected and passed all remaining footings and the concrete slabs.
- 9.1.2 While I accept that there was a misunderstanding regarding the need for the engineer to specifically certify the piles, I consider it unlikely that, at the time of inspecting adjacent elements of the slab and footings, the building certifier would have missed any obvious signs of problems associated with the amended footings.
- 9.1.3 I also consider that the adequacy of the amended footings has been corroborated by the recent inspection of the building by the engineer (refer paragraph 3.8), and I therefore accept his conclusion that the foundations are, and will continue to be, adequate to support the house. I also accept the engineer's opinion that the building work was in accordance with the Building Code at the time of construction, and that no remedial work is required.
- 9.1.4 Based on the considerations outlined above, I am able to conclude that the amended foundations of this building are likely to comply with the structural requirements of Clause B1 of the Building Code.

9.2 Possible timber damage

- 9.2.1 The expert has identified inadequate clearances between the cladding and the surrounding paving, which can lead to water splashing against the wall during heavy rain. I consider that such splashback is likely to be the most significant cause of the elevated moisture levels measured in the bottom plates of the ground floor walls.
- 9.2.2 Further investigation is necessary in order to establish the extent of possible timber damage and resultant timber replacement that may be needed (refer paragraph 10.7). This investigation should include moisture testing and timber sampling (including laboratory testing) of those framing areas associated with other weathertightness defects included in paragraph 6.3.1.

10. The decision

- 10.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the house foundations comply with Clause B1 of the Building Code.
- 10.2 However, I also determine that the wall and roof claddings do not comply with Clauses E2 and B2 of the Building Code, and accordingly confirm the territorial authority's decision to refuse to issue a code compliance certificate.
- 10.3 I also determine that:
- (a) all the building elements installed in the building, apart from the items that are to be rectified, complied with Clause B2 on 1 January 2000.
 - (b) the building consent is modified as follows:

The building consent is subject to a modification to the Building Code to the effect that, Clause B2.3.1 applies from 1 January 2000 instead of from the time of issue of the code compliance certificate for all building elements, provided that the modification does not apply to those elements of the building which have been altered or modified as set out in Determination 2008/19.
 - (c) following the modification set out in (b) above, the territorial authority is to issue a code compliance certificate in respect of the building consent as amended.
- 10.4 I note that the territorial authority has issued a notice to fix. Under the Act, a notice to fix can require the owner to bring the house into compliance with the Building Code. The Building Industry Authority has found in a previous Determination 2000/1 that a Notice to Rectify (the equivalent to a notice to fix under the Building Act 1991) cannot specify how that compliance can be achieved. I concur with that view.
- 10.5 The territorial authority should now issue a new notice to fix that requires the owners to bring the cladding into compliance with the Building Code, identifying the defects listed in paragraphs 6.3.1 to 6.3.3 and referring to any further defects that might be discovered in the course of investigation and rectification, but not specifying how those defects are to be fixed. It is not for me to decide directly how the defects are to be remedied and the cladding brought to compliance with the Building Code. That is a matter for the owner to propose and for the territorial authority to accept or reject.
- 10.6 I would suggest that the parties adopt the following process to meet the requirements of paragraph 10.5. Initially, the territorial authority should issue the new notice to fix. The owner 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 issues. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.
- 10.7 I also note that the territorial authority has also raised concerns about damage to the timber framing that may have resulted from cladding defects that have been identified in this building (refer paragraphs 3.7). I consider that the investigation and

repair of any associated timber damage as outlined in paragraph 9.2.2 should form part of the detailed proposal described in paragraph 10.6.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 28 March 2008.

John Gardiner
Manager Determinations