



## Determination 2014/003

### Regarding the refusal to issue a code-compliance certificate for a relocated house at 543 Weedons Ross Road, West Melton



#### 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 and Assurance, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.

1.2 The parties to the determination are

- the owner of the house, R Hughes (“the applicant”)
- Selwyn District Council carrying out its duties and functions as a territorial authority or a building consent authority (“the authority”).

1.3 This determination arises from the authority’s refusal to issue a code compliance certificate for a relocated house. The authority is of the view that some of the building work does not comply with the building consent and does not comply with certain clauses of the Building Code<sup>2</sup> (First Schedule, Building Regulations 1992).

1.4 The matter to be determined<sup>3</sup> is whether the authority correctly exercised its powers when it refused to issue a code compliance schedule for the relocated house. In making this decision I must also consider whether the completed building work complies with the relevant provisions of the Building Code.

1.5 In making my decision, I have considered the submissions of the parties, the report of the expert commissioned by the Ministry to advise on this dispute (“the expert”), and the other evidence in this matter.

1.6 The relevant sections of the Act are set out Appendix A.

<sup>1</sup> The Building Act, Building Code, Compliance documents, past determinations and guidance documents issued by the Ministry are all available at [www.dbh.govt.nz](http://www.dbh.govt.nz) or by contacting the Ministry on 0800 242 243.

<sup>2</sup> In this determination, unless otherwise stated, references are to sections of the Act and references to clauses are references to the Building Code

<sup>3</sup> Under sections 177(1)(b) and 177(2)(d) of the Act

## 2. The building work

- 2.1 The building work in question consists of a relocated upper storey of a two-storey house; the original two-storey house was subject to a building permit issued in 1975 by an adjoining territorial authority. The relocated section of the house is now situated on a level section in a high wind zone and Corrosion Zone 2 in terms of NZS 3604<sup>4</sup>.
- 2.2 The relocated section is timber-framed and the external walls are clad with timber vertical shiplap weatherboards fixed directly to the timber framing. The pitched roof is covered with painted corrugated steel fixed over building paper, has 450mm wide eaves projections, and adjoins gables at two elevations. The external joinery is anodised aluminium. The house has a timber-framed floor and is installed on new timber bearers and timber piles.
- 2.3 A small porch that is attached to the rear of the building has a landing and set of stairs leading from the ground, both of which have timber handrails. A timber-framed veranda runs along two elevations of the house with a timber post and rail balustrade.
- 2.4 The water supply is apparently sourced from a neighbouring house that is owned by the applicant, and foul water is fed to a proprietary sewage treatment plant.
- 2.5 A consulting engineer, who is a Member of the NZ institution of Professional Engineers (“the engineer”) and who inspected the original two-storey building, noted that the existing timber framing was specified to be treated *Pinus Radiata*.
- 2.6 The consented building work that is the subject of this determination included:
- new pile foundation for the relocated section
  - strengthening the roof
  - drainage and plumbing work associated with establishing the building on site, including the installation of a new septic tank and effluent disposal system
  - access steps
  - smoke alarms
  - making good the existing stairwell.

## 3. Background

- 3.1 On 26 September 2007, the engineer inspected the original two-storey house and produced a report dated 27 October 2007. The report described the construction of the house and noted that it had been ‘dutifully maintained and the building structure remains sound.’ There was no evidence of any overloading of the bracing systems, nor was there any evidence of water ingress into the building.
- 3.2 The report noted that
- the upper floor was adequately braced for relocation to its new site as a single storey building

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<sup>4</sup> New Zealand Standard NZS 3604:2011 Timber Framed Buildings

- the purlins and rafter fixings were not consistent with NZS 3604 construction for a high wind zone and these required upgrading.
- 3.3 The report concluded that in the engineer's opinion, if the roof structure was rectified and the foundation constructed in accordance with NZS 3604, the building could be relocated to its present site and meet the requirements of Clause B1.
- 3.4 The authority issued a building consent dated 4 February 2008 for the relocated dwelling. The conditions to the consent specified various inspections and noted that 'all drainage work must be inspected prior to backfilling and a fully dimensioned 'as-built' drainage plan for [the authority's] records must be available ...'
- 3.5 In respect of any onsite effluent system, the building consent included the following condition:
- The monitoring of the system function, including effluent field etc. is a function of the Canterbury Regional Council.
- Canterbury Regional Council require that:-
- When the construction of the treatment and land application system or soakage hole is completed:-
- a. The work be certified by a suitably qualified and competent person (typically the designer or registered Drainlayer) as having been carried out in accordance with the design plan; and
  - b. A copy of the certificate shall be forwarded to Environment Canterbury within twenty working days following the completion of the work.
- Applicants are advised that a Code Compliance Certificate for any building work which includes an onsite disposal system, will not be issued unless appropriate discharge approval has been confirmed by Canterbury Regional Council.
- 3.6 According to a summary of inspections provided by the authority, the following inspections were carried out during construction:
- 6 March 2008 Piles/Holes – some still to be dug out and additional piles to be added nominated by contractor.
- 14 May 2008 Sanitary Drainage – reinspection required.
- 29 August 2008 Sanitary Drainage – reinspection required. 1. Drains backfilled cannot inspect. 2. No [registration number] from drainlayer.
- 3.7 According to the authority, the building work was substantially completed in August 2008. In December 2009 or January 2010 the applicant made an application for a code compliance certificate; the application was returned by the authority.
- 3.8 The authority inspected the building work on 4 March 2010, noting:
1. Sanitary drainage to be done by Registered Drainlayer
  2. Under floor must comply with consented plans, NZS 3604 & NZBC G12
  3. Roofspace: collar ties not installed as per plan and Z nails to purlins also CT200s to be fitted as required
  4. Plans show 4 downpipes only 2 fitted
  5. Verandah to back door not on consented plans. (owner said was already on house)
  6. Solid fuel heater with under and over wet (existing) back system installed not on consented plans

NB Stormwater to be used for irrigation as instructed by owner.

7. Kitchen/Dining area no battery in smoke alarm.

- 3.9 The applicant engaged a certifying plumber and drainlayer to undertake an investigation of the drainage work that had been completed by the applicant. The drainlayer emailed the authority on 18 March 2010 stating that ‘the line appears to be in good condition, evenly laid and at a shallow gradient. Probably about 1:100 or 1:120’. The drainlayer noted that invasive investigations would be required to confirm the exact gradient, and that the drainlayer would not ‘put [his] name to the work’ as it wasn’t done by him.
- 3.10 A further investigation was carried out by a registered certifying drainlayer, with the observations emailed to the authority on 23 April 2010. The drainlayer noted that:
- ‘fall measured as 70mm over 2 metres’ calculated to be a fall of 1:30, ‘very fast fall over the section ... measured’
  - ‘the pipework was bedded in stones [what was observed was] concrete capped, with a steel bar over top, which had then been backfilled with soil’
  - the drainage pipe is ‘100mm uPVC SN6’.
- The drainlayer separately advised that he provided a video inspection of the drain to the authority that showed the drain to be satisfactory. I have not been provided with a copy of the video inspection.
- 3.11 The authority carried out a further inspection on 13 May 2010, noting ‘complete anchor pile fixings as discussed’ and that the seven items (listed in paragraph 3.8 above) were not complete.
- 3.12 The authority wrote to the applicant on 21 May 2010, referring to the inspection undertaken in March, and noting that none of the items had been addressed at the time of the inspection in May. The authority stated that it was not satisfied on reasonable grounds that the building work complied with the building consent. In particular, the authority listed Clauses B1.3.1, B1.3.2, B2.3.1, D1.3.3(f) and (g), E1.3.3, E2.3.2, E2.3.6, F4.3.4(f)<sup>5</sup>, and G13.3.2. The authority’s letter also stated that a notice to fix would be issued.
- 3.13 In a letter to the authority dated 26 May 2010, the applicant noted that the pile installation had been amended to increase the number of piles prior to the consent being approved, and had been inspected at the time the pile holes were open. The builder had made improvements to the roof structure to withstand high wind and snow loads. The work that the applicant had undertaken on the drainage system had been ‘inspected and passed’ by two different drainlayers and their reports had been forwarded to the authority (refer paragraphs 3.9 and 3.10).
- 3.14 The authority responded in a letter dated 3 June 2010, stating that there was still remedial work to be completed. In particular, the authority noted that a CCTV inspection carried out by a registered drainlayer could only confirm that the viewed drains ‘had gradient’. However, the drainlayer was not prepared to provide a Producer Statement that would confirm the compliance of other aspects of the system. The authority said that the information supplied by the applicant to date was

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<sup>5</sup> The authority has advised this reference is in error and should have been be Clause F4.3.4(d).

insufficient and it also noted that a garage that had been located on the site lacked both resource and building consent.

- 3.15 The authority issued a notice to fix on 10 June 2010 requiring the rectification of building elements in respect of Clauses B1.3.1, B1.3.2, B2.3.1, D1.3.3(f) and (g), E1.3.3, E2.3.2, E2.3.6, [F4.3.4(d)], and G13.3.2.
- 3.16 The applicant engaged the engineer to provide a report on the relocated building. In a letter dated 24 February 2011 to the applicant, the engineer noted:
- The space under the floor was measured at 370mm. The applicant had shown that it was adequate to undertake construction and inspection.
  - The applicant needed to remove the sheeting around the building perimeter in order to provide adequate under-floor ventilation.
  - The shear capacity of the pile heads was adequate.
  - The engineer could provide a PS4 as regards the drainage provided the information and further investigation were satisfactory.
  - The engineer was satisfied that the roof had been ‘significantly strengthened’ and based on certain assumptions, the roof had sufficient capacity to resist the imposed design roof loads.
- 3.17 The authority wrote to the applicant on 16 March 2011, acknowledging the receipt of the engineer’s letter. The authority stated that its position as regards the code compliance certificate was unchanged due to the ‘paucity of the information supplied’.
- 3.18 On 28 March 2011, the engineer provided a brief of evidence for a District Court hearing. In this, the engineer stated that:
- As regards the foundations and subfloor construction, the foundations were constructed on ‘good ground’ and the construction of the fixings of the building to the foundations was sufficient to comply with the requirements of Clause B1 subject to the provision of adequate cross-ventilation and the installation of a damp-proof course to prevent the adverse effects of ground moisture
  - In reviewing the roof strengthening, and having observed the construction of the under purlins and purlin connections, the engineer was satisfied that the roof construction would meet the requirements of Clause B1.
  - Based on tests carried out by the certifying drainlayer, the engineer understood that the drainage construction was satisfactory.
  - If so requested, the engineer would issue a PS4 for the building structure.
- 3.19 In a letter to the applicant dated 17 December 2012, in response to a request from the applicant as to the remedial work required; the authority listed the following examples of non-compliance that required remediation:
- Sanitary drainage to be done, overseen / signed off by Registered Drainlayer
  - Under floor must comply with consented plans, NZS3604 (Height above floor level) & NZBC G12 Water supply

Roofspace: colar (*sic*) ties not installed as per plan and Z nails to purlins also CT200s to be fitted as required

Plans show 4 downpipes only 2 fitted (NB Stormwater to be used for irrigation as instructed by owner) Amendment and clarification required to demonstrate 2 downpipes is sufficient to dispose of surface water runoff.

Veranda to back door not on consented plans. Amendment required to show veranda construction including barrier.

Solid fuel heater with under and over wet back (existing) system installed not on consented plans, including location of [solid fuel heater] on amended plans.

Kitchen/dining area; install battery in smoke alarm.

3.20 The applicant wrote to the authority on 22 July 2013 stating that:

- the house has had its roof wind loading strengthened
- the under floor height had been ‘approved’ by the engineers
- the authority had been informed that the house was on a ‘stony ridge’ and ‘cannot get water damage’
- the drainage and all services were working well and the earthquakes had not damaged them.

3.21 The authority responded in a letter dated 2 August 2013, stating that the information supplied by the engineers did not address all the code-compliance issues raised by the authority. The authority advised the applicant to seek assistance from a suitably qualified person to ensure that compliance was achieved and a code compliance certificate could be obtained.

3.22 The Ministry received an application for a determination on 20 May 2013.

## **4. The submissions and the draft determinations**

### **4.1 The initial submissions**

4.1.1 In a covering letter to the application for determination, the applicant repeated the information that he had sent to the authority in his letter dated 22 July 2013 (see paragraph 3.20), and also referred to the involvement of the engineers. The applicant provided a copy of the authority’s letter to the applicant that was dated 21 May 2010.

4.1.2 The authority provided a written submission dated 5 August 2013, stating that it maintained its view regarding the decision not to issue a code compliance certificate. The authority described the background to the dispute and noted that the applicant had not rectified the non-compliant items identified by the authority. The authority listed some of these items, which I summarise below:

- The roof structure has not been strengthened in accordance with the consented plans.
- The scarfing of the bearers over the piles as carried out meant that the construction of the anchor piles were contrary to the engineers’ specification.
- There is insufficient ground clearance under the floor.
- The stair treads do not have a uniform rise or easily seen leading edges, and the gaps between treads could result in children becoming held fast.

- Only two downpipes had been installed, rather than the four indicated on the plans, and they discharged directly on the ground and not into soak holes as consented.
- The porch was not built in accordance with the consented plans and it failed to meet the requirements of Clause E2—External moisture.
- The deck barriers lacked adequate rigidity, had split uprights, and some fixing bolts were missing.
- The applicant had carried out the sanitary drainage work and the drains had been installed and backfilled prior to any inspections taking place. The resource and building consents required the wastewater treatment and disposal work to be carried out by suitably qualified and competent persons. No approved certificate or monitoring report had been provided.
- The authority was not satisfied that the existing water supply to the building was either ‘potable or lawful’.

4.1.3 At the request of the applicant, the drainlayer that had undertaken investigation of the drainage work carried out by the applicant provided the emails that had been sent to the authority (refer paragraphs 3.9 and 3.10).

## **4.2 The first draft determination**

4.2.1 A draft determination was issued to the parties for comment on 27 September 2013.

4.2.2 The applicant forwarded a submission regarding the draft determination in the form of an annotated copy of the draft that was received by the Ministry on 14 October 2013. I summarise what I consider to be the relevant comments made by the applicant:

- The work in installing the effluent treatment and disposal systems was carried out exactly as specified by the Regional Council.
- Strengthening work to the roof framing had been carried out but had not been inspected by the authority.
- New spouting was fitted before the house was moved.
- The garage was indicated on a site plan.
- The surface water disposal was used to irrigate shrubs on a dry ridge and this was agreed to by the authority.
- The authority had approved the use of an existing water supply from a near-by house that was on the same title as the house in question.
- The deck barriers are ‘just for show’ because, as the house is now single-storey, they are not now a requirement. Their removal would spoil the character of the house.
- The underfloor insulation was installed by the ‘crawl method’.
- The broken handrail will be replaced and the stair handrail will be altered.
- The porch has not been altered.
- The applicant had never observed surface water entering the gully trap.

4.2.3 The authority commented on the draft determination in a submission dated 10 October 2013. In addition to references to some typographical errors, the authority noted (in summary):

- The authority considered it was unlikely that the external wall framing was treated.
- It was noted that the letter from the engineer dated 24 February 2011 did not address the durability of the sub-floor components. The authority was of the opinion that ventilation to the lower floor areas was not adequate, that the measurement of 370mm (refer paragraph 5.2.2) is not representative of the entire subfloor, and that there is nothing to prevent moisture wicking up the short piles.
- The authority produced photographs supporting its arguments that the porch was not part of the original house construction and was poorly constructed.
- The authority noted that the wastewater treatment and disposal system had not been subject to the certification and notification required by the Regional Council, and the authority had received no evidence that the system was code-compliant. As the certifying drainlayer involved in the second inspection of the system (see paragraph 3.10) had not offered any opinion regarding the system, nothing is known about its construction, performance, or durability.
- The authority was of the opinion that non-compliance with Clause G12 was raised with applicant regarding the water supply. But whether this issue was raised or not, the water supply as installed did not comply with the building consent. Accordingly, consideration of Clause G12 should be part of the determination.

4.2.4 The applicant responded to the to the authority's submission, in the form of an annotated copy of the submission, which was received by the Ministry on 23 October 2013. The applicant maintained the view that the water supply coming from another house on the same title had been approved by the authority. I summarise below what I consider to be the other relevant comments made by the applicant:

- A timber treatment stamp is inside all weatherboards.
- Ventilation has been provided to the subfloor on the east side.
- New roofing was installed over the original porch timbers.
- The waste water system was installed 'as specified by Environment [Canterbury]' and a plan sent to the authority.

4.2.5 After consideration of the comments made by both parties, and taking into account the expert's report, I have amended the determination as I consider appropriate.

### **4.3 The second draft determination**

4.3.1 The second draft determination was issued to the parties for comment on 5 December 2013.

4.3.2 A response from the applicant was received on 13 December 2013. The applicant did not accept the second draft determination and noted his view that wording differences 'favoured' the authority and that the determination focused more on the



back door porch than the 'original dispute'. The applicant did not expand on those comments.

4.3.3 The authority responded to the second draft determination by way of a letter dated 18 December 2013. The authority submitted the following (in summary):

- The site plan indicates a well located several metres away from the eastern end of the house; if this serves both houses the authority will withdraw its concerns regarding the requirements of Clause G12 (refer paragraph 6.13.3).
- Clause E1 should be added 'to take account of the conclusion outlined in paragraph 6.13.1'.
- The authority had accepted the poorly prepared consent application on the understanding that the pile drawings were only diagrammatic and not a true representation of what was to be built (the anchor pile shows no bearer to joist connection and the pile rebates are not dimensioned).
- Item 6 of the work schedule submitted with the consent application stated '... the house will be lowered onto foundation bearers and anchored compliant with NZS3604:1999', and the engineer's report stated '...relocated onto a timber piled foundation designed and constructed in accordance with NZS3604'.

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

### **5.1 General**

5.1.1 As described in paragraph 1.5, I engaged the services of an expert, who is a member of the New Zealand Institute of Building Surveyors, to assist me. The expert examined the house on 4 November 2013 and produced a report that was completed on 14 November 2013. Copies of the expert's report were forwarded to the parties on 15 November 2013.

5.1.2 The report gave some of the background to the dispute and described the house in general terms. In the expert's opinion, the building had generally been finished to a very poor standard, both inside and out and was also in need of maintenance. Despite the recent series of earthquakes in the Canterbury region the expert found no signs of significant movement in the structure of the house.

5.1.3 I summarise below the other detailed observations made by the expert:

### **5.2 The subfloor**

5.2.1 The expert noted that the consent drawings specify 580mm clearance to the underside of the floor and 250mm deep floor joists; leaving 330mm from the underside of the joists to the ground.

5.2.2 The expert was able to crawl in both east/west and north/south directions under the floor framing of the house and noted the average clearance from ground level to the floor joists was 370mm. Accordingly the expert considered the clearance complied with the dimensions shown on approved consented drawings. He also noted that there was one access point between the piles at the east end of the building.

5.2.3 The expert observed the following elements that provided ventilation to the subfloor area:

- a gap on average of 50mm below the bottom of the metal weatherboard sheathing that has been used to close-in between the pile foundations on the south elevation
- a slatted access point with two slots of 50mm each on the east elevation
- a gap 150mm high x 3m wide in the centre of the north elevation
- the west elevation open to the slat deck.

5.2.4 The expert calculated the total ventilation currently achieved in the subfloor area and compared his findings with the requirements of NZS 3604. He concluded that the total ventilation achieved was some 8-times the minimum recommended by NZS 3604. However the expert also noted that the nearest ventilation to the northeast corner is approximately 6m away and recommended that the timber blocking the ventilation space at the north elevation should be replaced with wire mesh or a similar material.

5.2.5 The expert also noted the ground at the time of the inspection was dry and dusty, however insulation installed under the ground floor was hanging down and was restricting the airflow

### **5.3 The durability of the subfloor elements**

5.3.1 The expert observed the bearers separated from the piles by a layer of damp-proof course. While the bearers were slightly closer to the ground than the 150mm recommended in NZS 3604, the expert observed ground under them at the time of the inspection was dry and dusty.

5.3.2 In referring to the engineer's brief of evidence dated 28 March 2011, the expert did not consider that it was necessary to install a damp proof membrane under the ground floor to prevent the adverse effects of ground moisture as there was already sufficient ventilation.

### **5.4 The fixing of bearers to the piles**

5.4.1 The expert noted the pile-to-bearer connections were constructed 'exactly as per the consented drawing' with the 75mm x 150mm bearer checked fully into a 125mm square pile leaving only 50mm.

5.4.2 The expert was of the opinion that the adequacy of the consented drawings regarding the subfloor area could only be addressed by a 'Registered Structural Engineer'. However, the expert noted the engineer's brief of evidence (refer paragraph 3.18) which concluded that 'the fixings of the building to the foundations is sufficient to meet [Clause] B1', and 'there was no damage to the ground or building as a result of the recent earthquakes despite the building's relative proximity to the epicentre'.

### **5.5 The roof construction**

5.5.1 The building had been relocated from an original site that the expert calculated was in the same wind zone as the present site. While the present site was slightly more exposed than the original site, lowering the building would have reduced the wind loading.

- 5.5.2 The expert noted that collar ties had been installed to every second rafter as required on the consented plans.
- 5.5.3 The proprietary brackets installed at the under purlin-to-rafter connections had been screw fixed, and this lessened their sheer strength. However, additional brackets had been fitted at the under purlin-to-strut connections.
- 5.5.4 There was a lack of construction brackets at those rafter-to-wall connections that the expert had been able to inspect. Very few wire dogs had been installed at the north roof face and only half of the purlin-to-rafter connections on the south face had been installed
- 5.5.5 A recent severe north-westerly storm had blown down thousands of trees, including two close to the building; however, the house, which is exposed to northerly winds, showed no sign of damage to the roof. In the expert's opinion, as the Building Code is performance based, the house continued to comply with the mandatory requirements of Clause B1.

## **5.6 The rear porch**

- 5.6.1 The expert noted that the approved consent drawings showed the rear porch in elevations with the roof to the porch being a continuation of the main roof. The floor plan did not show the porch.
- 5.6.2 Based on his observations, the expert was of the opinion that the rear porch had been attached to the original building but had likely been removed to facilitate road transport. While it maintained its original footprint using mostly the same materials, the porch had been extensively rebuilt and altered from the original design. The slope of the porch roof was at 90° to main roof and installed with a 2° pitch which was inadequate.
- 5.6.3 Due to the inadequate slope to its roof and the lack of a drip edge, water had been tracking back up the underside of the roofing, causing corrosion to the underside of the sheets.
- 5.6.4 The inside face of the exterior wall has been lined with plasterboard with a modified acrylic exterior plaster applied over the top. Moisture was penetrating behind the internal face of the lining to the exterior porch wall.
- 5.6.5 The corner post for the rear porch handrail had cracked right through and needed replacing; and the handrail would not restrain the weight of an adult stumbling against it.

## **5.7 Surface water collection and disposal**

- 5.7.1 The expert observed the site was flat and appears to be 500mm topsoil over gravel and relatively free draining. The expert noted that at the time of his inspection the two horizontal downpipe extensions at ground level were folded back against the building; he recommended that they be swung away from the building. While the expert considered that it was fine to use the downpipes to irrigate the garden, he considered a more permanent system with an overflow was required.
- 5.7.2 In noting that only two downpipes had been installed instead of the four as consented, the expert calculated that in terms of Approved Document E1/AS1 the two 74mm diameter downpipes were adequate to drain the roof.

## **5.8 Water supply**

- 5.8.1 The expert could not obtain confirmation that the authority had accepted the proposal that the water supply could run from the adjacent property, nor could he ascertain the source of the water though he noted there was a water storage tank on site. He also noted that the matter concerning the water supply had not been included in the items set out on the notice to fix.

## **5.9 Smoke alarms**

- 5.9.1 There were two smoke alarms marked on the consent plans; however the kitchen smoke alarm had been removed at the time of the expert's inspection (apparently to allow for painting), and the battery was missing from the hall alarm.

## **5.10 The deck**

- 5.10.1 The expert noted that there were several areas of advanced decay in the deck boundary joists and many of the balustrade posts were broken or split and the posts were only nailed in place. There were also small pockets of decay in the decking.
- 5.10.2 The expert considered that the deck did not comply with Clauses B1 and B2.

# **6. Discussion**

## **6.1 General**

- 6.1.1 In engaging the expert I now have an independent assessment of the matters under consideration. Taking the expert's report into account and the submissions in response to the draft determination, I have amended the following discussion accordingly.
- 6.1.2 In accordance with section 94(1)(a), the completed building work must comply with the building consent before a building consent authority can issue a code compliance certificate. In addition, under section 17 of the Act, all building work must be compliant with the Building Code to the extent required by the Act.
- 6.1.3 The authority has raised a number of outstanding items that it considers relevant to its refusal to issue a code compliance certificate, and I address the compliance of those items below.

## **6.2 The roof structure**

- 6.2.1 The engineer's letter of 24 February 2011 (refer paragraph 3.16) stated that the roof 'has sufficient capacity to resist the design roof loads imposed' and that the roof has been significantly strengthened based on AS/NZS 1170 wind design 'and the assumption that each purlin/rafter connection is fixed with 2 x 3.55 dia. Nails and 1 Z nail per square meter (*sic*)'.
- 6.2.2 The authority has noted that the roof structure has not been strengthened to meet the engineers' specifications (refer paragraphs 3.8, 3.19 and 4.1.2).
- 6.2.3 The expert has now examined the roof structure and has found some brackets or fixings to be either missing (some fixings are unable to be installed without the roof or the ceiling being removed) or improperly secured. However, he has noted that the roof structure withstood a recent severe storm that had caused significant damage in the region.

- 6.2.4 I note that the roof structure is existing, and I accept the expert's opinion that the relocated building originally came from the same wind zone. While the consent detailed additional roof fixings, had these been absent from the consent the authority would have been unable to require these to be provided under the provisions of section 112 of the Act.
- 6.2.5 Given the above, the strengthening work that has been completed to an existing building element, and the performance of the roof in use, I am of the opinion that the roof structure is adequate and satisfies Clause B1.

### **6.3 The anchor piles**

- 6.3.1 The authority has indicated that the anchor piles have not been constructed according to the consent (refer paragraph 4.1.2.)
- 6.3.2 The expert has noted that the floor bearers, which are situated in a dry subfloor area, are only slightly closer to the ground than the recommended distance set out in NZS 3604. He also was of the opinion that the pile-to-bearer connections had been installed exactly as shown on the consented drawings.
- 6.3.3 The expert stated that the adequacy of subfloor structure could only be verified by a Registered Structural Engineer. As the engineer has provided an opinion that the shear capacity of the anchor piles heads is adequate (refer paragraph 3.16); I am prepared to accept that opinion and therefore consider that the anchor piles meet the requirements of the Building Code. I also agree with the expert that the installation of a damp-proof membrane at the subfloor area as recommended by the engineer is not required.
- 6.3.4 The Building Code is performance-based. I note that the expert observed that there has been no apparent damage to the structure of the house following the recent Canterbury earthquake events.

### **6.4 Ground clearance under the house**

- 6.4.1 The consented plans forwarded by the authority show the distance to the underside of the joists as about 350mm (two drawings of the piles show a 300mm dimension to the top of the timber piles rebated to receive the bearer). The authority has submitted one photograph of a pile that shows the distance from the ground to the top of the bearer to be 279mm. The engineer has measured the clearance as 370mm.
- 6.4.2 Clause 6.14.4 of NZS 3604 says that a crawl space for the purpose of access to inspect subfloor framing 'shall be not less than 450mm high to the underside of the floor joists'. Table 1 in D1/AS1 has a similar height clearance but in respect of 'access routes' as defined in the compliance document for Clause D1.
- 6.4.3 The Building Code is performance-based, and the Acceptable Solution and Standards are not the only way of achieving compliance. Clause G13.3.1(d) requires that there be 'reasonable access' for maintenance and blockage clearance of plumbing systems and G13.3.2(d) for drainage systems.
- 6.4.4 The expert has been able to access the subfloor in all directions and considers that the 330mm distance from the underside of the floor joists to the ground below complied with the details shown on the consented drawings. He has also calculated that the total ventilation currently achieved in the subfloor area is some eight times that required by NZS 3604.

6.4.5 Based on the expert's observations, I am prepared to accept that in terms of the subfloor space, compliance with the Building Code has been met. I suggest as an additional safeguard that the timber blocking the north elevation be removed and replaced with a mesh grille or similar.

## **6.5 The exterior stairs**

6.5.1 The authority has provided a copy of a photograph of one set of stairs and has stated that the stair treads do not have a uniform rise or easily seen leading edges, and that the gaps between treads could result in children becoming held fast.

6.5.2 It is clear from the photograph that the set of stairs do not have a uniform rise, and in this respect I consider that they are not in accordance with D1/AS1.

6.5.3 I consider that the lack of uniformity in the riser height does not satisfy the performance requirement of Clause D1.3.3(f); in addition, the lack of an easily seen leading edge and the spacing of the risers do not comply with Clause D1.3.3(g) and (h).

## **6.6 Surface water: collection and disposal**

6.6.1 The authority noted that only two downpipes had been installed and that these discharge directly on the ground, which differed from the consented plans that showed four downpipes.

6.6.2 The consent drawings show downpipes discharging onto the ground but an amendment added as an annotation to the floor plan stating 'stormwater to soakholes'. No surface water drainage details are provided. The consent drawings show four downpipes on the floor plan, but only three downpipes on the elevations (one each to the north and south elevations and one to the porch).

6.6.3 Clause E1.3.3 requires drainage systems for the disposal of surface water shall be constructed to convey surface water to an appropriate outfall using gravity flow where possible.

6.6.4 The expert has found that the two downpipes installed are adequate to accept the surface water from the roof. However, the downpipes do not discharge to an appropriate outfall: the expert found both downpipes discharging adjacent the house foundations. I accept the expert's finding that the downpipes are adequate but a more permanent solution is required in terms of a suitable outfall, be it a soak hole, collection tank or similar; in that respect the building does not comply with Clause E1.3.3. I also consider that the consent drawings do not adequately describe the consented work in respect of the surface water discharge from the roof.

## **6.7 The water supply**

6.7.1 The 'Work Schedule' attached to the consent includes the statement 'Water supply either from Council water supply or new well to be drilled .... In the meantime water to be supplied from existing house next door.' The house next door is also owned by the applicant. The applicant says that he advised the authority that the water supply was to be taken from the house next door.

6.7.2 The authority says it has no knowledge of the applicant's request to run the water supply from the house next door; and is of the view that the water supply does not

comply with the building consent, and, 'cannot be considered adequate, and therefore does not meet the functional requirements of Clause G12.2'.

- 6.7.3 I do not accept the authority's view that the water supply cannot be considered compliant because it does not accord with the approved consent.
- 6.7.4 The applicant has advised the water supply is coming from the house next door as described in the 'Work Schedule'. The authority has provided no evidence to show that the water supply does not meet the requirements of the Clause G12. The water supply may well be adequate, but the applicant has not demonstrated to me or the authority that the water supply from to the house next door will satisfy Clause G12.
- 6.7.5 I have not received sufficient information to determine whether or not the water supply satisfied the requirements of G12 Water supplies. I note the authority's submission (refer paragraph 4.3.3), and I leave this matter to the parties to resolve in due course.

## **6.8 The rear porch**

- 6.8.1 The authority is of the opinion that the porch was not built in accordance with the consented plans and does not meet the requirements of Clause E2. The authority has provided no information as to the non-compliance of the porch with Clause E2.
- 6.8.2 I note that the consent documentation is limited in scope and detail and does not clearly detail the porch: the consented plans show the porch on three elevations but not on the floor plan.
- 6.8.3 The applicant contends that the porch was existing. The expert considered the porch had the same footprint but had been extensively rebuilt, and differed from the original. I therefore do not consider the porch as it is now can be considered an existing building element.
- 6.8.4 The expert has noted that there has been water ingress through the porch roof and wall elements, and that the porch handrail is inadequate. Accordingly, I find that the porch does not comply with the requirements of Clauses B1 Structure, E2 External moisture, and D1 Access routes.

## **6.9 The deck barrier**

- 6.9.1 The authority has also raised the issue of the barrier construction to the deck, noting that the barrier lacks 'adequate rigidity', has split uprights, and lacks some fixing bolts. The expert has noted that there is decay in both the veranda decking and the balustrade posts, and that the posts are also inadequately secured.
- 6.9.2 As the deck is significantly less than 1 metre above ground level Clause F4 does not require a barrier to safeguard people from falling from the deck. However, if a barrier is to be provided it should be durable and have sufficient strength to not fail when it is used as a barrier. In my view, if the barrier is to remain it is required to comply with Clauses B1 and B2, which at present it does not.

## **6.10 The foul water drainage**

- 6.10.1 The authority stated that in order to be satisfied that the foul water drainage system as installed was in accordance with the requirements of the building consent (see paragraph 3.5), the work must be 'certified'.

- 6.10.2 I note that the building consent condition relating to the drainage installation refers to certification by a designer or a registered drainlayer. I accept that the authority was correct when it did not accept that the system was built in accordance with the building consent.
- 6.10.3 While the system appears to be properly installed and is performing adequately, that position needs to be verified. The onus is on the owner to obtain the relevant documentation to demonstrate that the as-built work is compliant.
- 6.10.4 I have insufficient information to be satisfied that the foul water drainage system meets the requirements of Clause G13.

### **6.11 Smoke detectors**

- 6.11.1 The expert noted that the smoke alarms installed in the house (as shown on the consent drawings) are not functional. The consented work does not comply with Clause F7 Warning systems.

### **6.12 Miscellaneous**

- 6.12.1 The consent drawing do not adequately describe the consented work. Some work has also been completed in accordance with the consented drawings that authority now says does not comply with the Building Code. There are a number of variations from the consent documents and it appears that these have not be formalised by way of an amendment to the consent or as-built records provided to the authority.

### **6.13 Conclusion**

- 6.13.1 I am satisfied that the roof and subfloor structure complies with B1 Structure and B2 Durability.

- 6.13.2 However, I consider that:

- the porch and stair does not comply with B2 Durability, E2 External moisture, and D1 Access routes
- the deck and barrier does not comply with B1 Structure, and B2 Durability
- the house does not comply with F7 Warning systems
- the surface water outfall does not comply with E1 Surface water.

Accordingly I consider the authority was correct in the exercise of its powers of decision in its refusal to issue a code compliance certificate.

- 6.13.3 I have insufficient information to be satisfied that the work complies with Clause G12 Water supplies, and G13Foul Water.



## **7. The Decision**

- 7.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the building work to the relocated house does not comply with Building Code in respect of Clauses B1, B2, D1, E1, E2, and F7; and accordingly I consider the authority correctly exercised its powers of decision when it refused to issue a code compliance certificate for the relocated house and I confirm the authority's decision.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 27 January 2014.

John Gardiner  
**Manager Determinations and Assurance**

## Appendix A: the Legislation

A.1 The relevant sections of the Building Act 2004 include:

**94 Matters for consideration by building consent authority in deciding issue of code compliance certificate**

- (1) A building consent authority must issue a code compliance schedule if it is satisfied, on reasonable grounds,--
- (a) that the building work complies with the building consent; and...

A.2 The relevant clauses of the Building Code

**B1.3.1** Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.

**B2.3.1** Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:

- (a) the life of the building, being not less than 50 years, if:
- (i) those building elements (including floors, walls, and fixings) provide structural stability to the building, or ...

**D1.3.3** Access routes shall:

- (f) have stair treads, and ladder treads or rungs which:
- (i) provide adequate footing, and
- (ii) have uniform rise within each flight and for consecutive flights,
- (g) have stair treads with a leading edge that can be easily seen,
- (h) have stair treads which prevent children falling through or becoming held fast between treads, where open risers are used,

**E1.3.3** Drainage systems for the disposal of surface water shall be constructed to:

- (a) convey surface water to an appropriate outfall using gravity flow where possible,

**F4.3.4** Barriers shall:

- (d) be of adequate strength to withstand the foreseeable impact of people and, where appropriate, the static pressure of people pressing against them,

**G13.3.1** The plumbing system shall be constructed to:

- (d) provide reasonable access for maintenance and clearing blockages

**G13.3.2** The drainage system shall:

- (d) be provided with reasonable access for maintenance and clearing blockages