



## Determination 2014/058

# Regarding the issuing of a building consent to repair earthquake damage to concrete foundations and floor slab at 8 Delta Way, Christchurch

### 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 building owners, D & D Murrell (“the owners”)
- the project manager, Stream Group NZ Ltd (“the PMO”), represented by an LBP<sup>2</sup> concerned with the relevant building work
- Christchurch City Council carrying out its duties and functions as a territorial authority or a building consent authority (“the authority”), and who was the applicant
- the architectural designer, Goodison Architectural Ltd (“the designer”), represented by an LBP concerned with the relevant building work
- the design engineer, Engineering Design Consultants (“the design engineer”), represented by a Chartered Professional Engineer who is deemed to be an LBP<sup>3</sup> and therefore a party to the matter.

1.3 I consider that the following are persons with an interest in the matter:

- Tower Insurance (“the insurer”) as the insurer
- Coffey Geotechnics (NZ) Ltd, who is the geotechnical engineer providing advice to the insurer (“the geotechnical engineer”).

1.4 This determination arises from the decision of the authority to issue a building consent to re-level the concrete foundations and floor of the residential dwelling. The authority has applied for a determination on whether the consent was correctly granted in accordance with the Act.

1.5 The consent documents were prepared for the insurer. The owners have expressed various concerns regarding the compliance of the proposed repairs with the Building Code and believe the dwelling should be demolished and rebuilt.

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<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> licensed building practitioner

<sup>3</sup> Chartered Professional Engineers under the Chartered Professional Engineers of New Zealand Act 2002 are treated as if they were licensed in the building work licensing class Design 3 under the Building (Designation of Building Work Licensing Classes) Order 2010.

- 1.6 The matter to be determined<sup>4</sup> is whether the building consent was correctly granted in accordance with section 49 of the Act. In making this decision I must consider whether the building work, if completed in accordance with the consented plans, would comply with the Building Code to the extent required by the Act. I have not considered any other building elements or other clauses of the Building Code.
- 1.7 The owners have also raised matters regarding the terms of the insurance policy. I note that I have no jurisdiction in respect of those matters and the determination considers only the matter set out in paragraph 1.6 above.
- 1.8 In making my decision, I have considered: the application and the submissions of the parties, including the reports of the various experts; the information and discussions at the technical meeting; and the other evidence in this matter.

## 2. The building work and background

- 2.1 The building work considered in this determination consists of a detached house built around 2002 (“the house”) situated on a flat site in a low lying area. The house is simple in plan and form; it is a single-storey construction with conventional light timber frame, concrete floor slab and foundations, aluminium joinery, and metal tiles over hip roof. The cladding is brick veneer.
- 2.2 The house was subject to a series of earthquakes (known as the Canterbury Earthquake sequence<sup>5</sup>) and suffered damage to the largely unreinforced concrete floor slab and foundations.
- 2.3 The repair methodology proposed by the PMO, and generally in line with MBIE repair guidance<sup>6</sup> for Foundation Technical Category 3 (“TC3”) land, involves the perimeter foundation being re-levelled and underpinned using temporary screw piles, grout injected below the perimeter foundation (filling the void under the foundation and slab) to level the slab and support the foundation, and once the grout has cured the screw piles are removed. Cracks in the existing slab are to be repaired with epoxy, with some sections of the slab to be removed and replaced with D12 starters epoxied into the existing slab.
- 2.4 In conjunction with the foundation repair, the consented plans allow for re-pointing and isolated repairs to the existing brick veneer cladding whilst noting this work does not form part of the consent.
- 2.5 The application for consent was made on 19 February 2013 and included documentation on the repair work prepared by the designer and incorporating the structural design by the design engineer.
- 2.6 The consent documentation included a PS1, dated 22 May 2013, provided by the design engineer to the PMO; a detailed geotechnical assessment of the site dated 30 July 2012 (“the geotechnical report”) prepared by the geotechnical engineer. Also included was a report that used ground-penetrating radar to assess the presence of voids under the slab, and survey information assessing the variation in the level of the slab.
- 2.7 On 6 December 2013 the authority issued the building consent (No. BCN/2013/1074).

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<sup>4</sup> Under sections 177(1)(b) and 177(2)(a) of the Act

<sup>5</sup> The Canterbury Earthquake Sequence includes the ‘Darfield Earthquake’ of 4 September 2010 with a moment magnitude of 7.1, followed by a series of aftershocks that included a 6.3 magnitude earthquake on 22 February 2011.

<sup>6</sup> Revised issue of *Guidance on repairing and rebuilding houses affected by the Canterbury earthquake sequence* (Department of Building and Housing) November 2011. (This version has been superseded).

2.8 On 1 May 2014 the Ministry received an application for a determination.

### 3. The submissions

3.1 The authority applied for the determination and provided a schedule of the files for the building consent along with access to relevant documents. The reason for the authority's application was to provide the owners some assurance that the decision to issue the building consent was correct.

3.2 The owners provided a detailed submission dated 9 June 2014 which included the following points (in summary):

- The proposed repair will not resolve the structural problems with the dwelling and is in breach of the terms of the full replacement terms of the insurance policy.
- The application for building consent was lodged without the owners' knowledge. The owners stopped the process and have only allowed it to continue 'under duress'.
- The PMO withheld a report recommending new proprietary insulated concrete foundations be constructed.
- The house has sunk and surface flooding enters the garage. The house is located in a flood plain area and is at risk of further flooding and settlement. All new housing in this area require raised floor levels.
- There is evidence of lateral spreading of the land at the rear of the property which has not been confirmed in the insurer's geotechnical report (see also paragraph 4.4, 2<sup>nd</sup> bullet point).
- There is cracking and a loss of structural strength in the garage firewall and bedroom walls.
- The proposed repair does not mitigate against future earthquakes.
- There is material resulting from liquefaction in the brick cavities.

3.3 The owners also supplied copies of the following:

- A building report from a builder ("the owner's building consultant") dated 9 October 2012 providing measurements of the deflection in the floor slab.
- A structural engineering report dated 6 November 2012 from a chartered professional engineer ("the owner's engineer") that concluded that repairs are not a viable option due to the ground floor levels, extent of ground slab cracking, liquefaction and extent of repairs required.
- A repair estimate dated 25 October 2013.
- A report from the owner's engineer dated 3 September 2013 which provided a 'Global structural reinstatement strategy' for reinstatement on an "as new" basis.
- A report from the owner's engineer dated 25 May 2014 which provided a review of the consent documents, headed '8 Delta Way - Structural Review of Consent Documents – Rev A'.

## 4. The technical meeting

4.1 I held a technical meeting in Christchurch on 13 June 2014. I was accompanied by an officer of the Ministry and three experts engaged by the Ministry to assist me.

Present at the meeting were:

- the owners and the owners' engineer
- two representatives from the authority
- a representative of the design engineer<sup>7</sup>
- the geotechnical engineer
- three representatives of the PMO
- a representative of the insurer.

4.2 The authority acknowledged the controversy around issue of the consent, and maintained that it was obliged to grant a building consent as it had reasonable grounds to be satisfied that the proposed building work would comply with the Building Code to the extent required by the Act. The authority is of the view that there are two issues to consider: 1) whether they had reasonable grounds to issue the consent, and 2) whether the proposed work will comply with the Building Code.

4.3 The authority put forward its views regarding the issuing of the building consent as follows:

- With regard to existing user rights and flooding vulnerability, the authority is limited by section 112 of the Act. An existing building being repaired needs to comply to at least the extent it did immediately before the work, as opposed to the extent of compliance prior to the earthquake sequence.
- The authority reviewed the geotechnical report and level differentials and agreed that a repair was possible, rather than a full replacement. Discrepancies were reviewed by in-house geotechnical staff and the design engineer.
- The authority satisfied its concerns around the adequacy of the repairs by discussion with in-house structural engineers.
- The authority was not concerned about the land capacity for jacking; it is for temporary works only and the authority has observed jacking successfully used to re-level multi-storey buildings.

4.4 The owners expressed the following concerns (in summary):

- The method of re-levelling could create a bowing effect in the slab. Pumping grout under the slab adds weight to the home, putting more pressure on the unstable ground.
- The ground is still moving and an underground channel runs through the rear of the property.
- Liquefaction is causing material to appear in smaller 5.1 or 5.3 magnitude earthquake events.

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<sup>7</sup> The lead design engineer concerned with the building work was unable to attend, but a recording of the meeting was later sent to him.

- The repair strategy is unsatisfactory from a long term view. The condition of the dwelling could deteriorate in 5-10 years' time and would then be the responsibility of the owners.
- Various people inspecting the property have expressed their opinion (verbally) that the house should be demolished and replaced.
- The consent doesn't take flood risks into consideration under the existing use rule, referring to general concerns expressed in a report on sea level rise commissioned by the authority<sup>8</sup>.
- The owners had no say in the building consent application process.

4.5 The owners' engineer stated that he had some communications with the design engineer but not with the authority. The owners' engineer set out his views and concerns as follows (in summary):

- The foundation design was at issue, rather than the loading on the land as any land can be built on with an appropriate foundation design. The authority did not have reasonable grounds on which to grant consent, given the lack of response from the authority to his significant technical concerns.
- The provisions of section 112 required the building to be reinstated to its original condition as it was before the earthquake events. The alteration to the building occurred on 4 September 2010 when the first earthquake damaged the building, and the alteration would finish with the completion of the repair.
- It appeared section 112 had become a basis to 'degrade the structural capacity of the building' i.e. that the repair will reduce the structural compliance of the building as a whole.
- There was doubt that the repair was appropriate when most other houses in the immediate area were being demolished.
- The structural calculations indicated that the ground capacity was inadequate for the jacking proposed to re-level the slab.

4.6 The PMO advised that repair methodologies and guidelines have been developed and updated over the last few years and that the proposed repair methodology has been consented before for other dwellings, has worked elsewhere, and the PMO believes it will work in this situation. The PMO's role has been to collaborate with the various parties and oversee the repair process. The PMO is of the belief that genuine endeavours had been made to develop a reasonable repair strategy.

4.7 The geotechnical engineer gave a presentation on the condition of the ground under the house and the nature of the adjacent land. The land under the house was described as having a cap of about one metre of fill consisting of silty sand material, overlying natural silty sand and then deep sand proven to a depth of 20m. The natural soil below the fill was laid down by coastal and estuarine processes. The soil is of varying strengths and includes layers that are prone to liquefaction in a large earthquake. Groundwater is typically at a depth of 1 to 1.5m below ground level.

4.8 The geotechnical engineer explained how the Ministry's Guidance was used to inform decisions on the repair strategy for the house. The differences in floor level to the house (50 to 150mm) were between the thresholds where a repair was considered appropriate. He advised that where land settlement of less than 100mm is

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<sup>8</sup> Effects of Sea Level Rise for Christchurch City, Tonkin & Taylor Ltd, November 2013

recorded, the site is geotechnically appropriate for a repair to take place. The indexed SLS<sup>9</sup> ground surface settlements for the site (30 and 70mm) were less than 100mm which also indicated a repair was appropriate. Accordingly the site conditions are geotechnically appropriate for a repair to take place. The geotechnical engineer was 'comfortable' with his assessment and stood by it; he had no concerns with lateral spread insofar as the risk of lateral spread does not preclude repair of the house.

4.9 Following the meeting, a site visit was made to the subject property which was attended by the majority of those present at the meeting.

4.10 There were no significant matters arising from the discussion on the technical compliance of the proposed work to the foundation for the house, apart from a question raised by the owners' engineer as noted in his report to the owners dated 25 May 2014, namely:

[The design engineer] used, in his check of permanent works, the bearing pressures identified by [the geotechnical engineer] as applicable for re-levelling (i.e. temporary) works only. This is an error, and Producer Statement PS1 [refer paragraph 2.6] shall be rejected on this basis, until updated bearing pressures and calculations are provided demonstrating compliance separately for temporary foundations works (re-levelling) and separately for permanent foundation works.

The design engineer was asked to respond to this matter.

4.11 On 15 July 2014 the design engineer responded, noting that the PS1 references the geotechnical report and that the calculations show 'the foundation bearing pressure does not grossly exceed the ground bearing capacity, even with an applicable reduction factor applied', and 'the foundations will bear on the same layer as in the original condition. Therefore section 112 of the Building Act is satisfied'. The design engineer noted that the bearing pressure is referenced in the calculations purely as a check that the existing foundations are not grossly undersized, and that the compliance for temporary works and the permanent works are addressed in the calculations.

4.12 This response was put to one of the experts engaged by the Ministry who responded on 7 August 2014 noting that the geotechnical report had recommended underpinning the load bearing walls and sought comment from the geotechnical engineer.

4.13 The geotechnical engineer responded on 9 September 2014 noting:

- There is no evidence or reported issues associated with pre-earthquake settlement of the house or foundations. There is little evidence that the heavy cladding has 'influenced the settlement pattern of the house'.
- From 'the ground profile and nature of the land damage it is evident that the fill acted as a competent soil layer overlying liquefiable natural soil. If the fill was not present and the house was founded in the natural soil then it is highly likely that the house would have suffered considerable damage due to differential settlement and also would have settled into the liquefiable soil. The fill layer protected the house...'
- A review of available data showed that 'the ground elevation of the site (as well as most of the suburb) has changed relatively little (0.1 to 0.2m), and

<sup>9</sup> Serviceability Limit State (SLS): the state at which a structure becomes unfit for its intended use through deformation, vibratory response, degradation, or other operational inadequacy.

importantly the change has been uplift. The reason for this is that settlement that may have occurred due to liquefaction effects has been more than offset by the effects of tectonic uplift. There is no evidence of “crust thinning”, which is beneficial in terms of maintaining the fill layer’s competency.

- ‘Notable cracking and deformation of the land occurred in part of the driveway and lawn adjoining the garage [the eastern corner of the site], but not across the footprint of the house & garage.’

4.14 In summary, the geotechnical engineer considered ‘the fill layer to be as competent now as it was before the earthquakes’ and that the ‘fill layer has no signatures of damage that preclude foundation repair by re-levelling and crack repair.’

4.15 The Ministry’s expert confirmed he was satisfied with this response.

## 5. The draft determination and further submissions

5.1 The owners provided a further submission on 11 September 2014, noting that the property was in the “Phase 1” category of land highly susceptible to liquefaction, and that flood risk and sea level rise information should be taken into account by the authority and the floor levels raised. The owners provided a copy of an article supporting their view<sup>10</sup>.

5.2 On 2 October 2014 I issued a draft determination to the parties and persons with an interest for comment.

5.3 The insurer provided comment on 14 October 2014, requesting only that paragraph 6.2.9 be removed as I have no jurisdiction in respect of insurance policy matters.

5.4 The design engineer responded on 14 October 2014, noting only that references to the design engineer in paragraph 4.8 were incorrect and should be to the geotechnical engineer. This has subsequently been corrected.

5.5 The authority responded on 15 October 2014, accepting the draft determination with the following comment:

- Reference should be made to the fact that the consent was granted after the amendment to the Act was enacted on 28 November 2013. Although the consent was submitted prior to his date, the later version of section 112 applied.
- Information in paragraph 6.2.9 is useful to the wider community but should be modified to provide a clear demarcation between the obligations under the Act and insurance obligations which are not necessarily the same.

5.6 The geotechnical engineer responded on 15 October 2014, requesting the description in paragraphs 4.7 and 4.8 be amended.

5.7 The designer accepted the draft determination without further comment in a response on 16 October 2014.

5.8 The PMO responded to the draft determination on 15 October 2014, accepting the draft in principle and providing a submission as follows:

- The consent documentation does not require the brick veneer cladding be removed and replaced; the architectural plans state ‘allow to re-point and isolated repairs to existing brick veneer’; and the geotechnical report

<sup>10</sup> <http://www.stuff.co.nz/the-press/news/10483990/Sea-threat-to-properties>

recommends the building's heavy cladding is removed and replaced with lightweight cladding, but that if the heavy cladding is retained, the re-levelling operation can be undertaken with the veneer still in place and a decision regarding repair/removal can be made after any re-levelling works. (Refer paragraph 2.4)

- The scope of works has allowed for the investigation of wall cavities. If liquefiable material is present the scope allows for removal of internal linings for inspection, removal of any contaminant as necessary, and remediation and replacement of linings.
- 5.9 The insurer responded by email on 17 October 2014 to the authority's submission, noting that it considered paragraph 6.2.9 should be deleted or the wording altered.
- 5.10 The owners responded on 20 October 2014 and made the following comments in a submission dated 16 October 2014:
- Three independent engineering/building reports commissioned by the owners advised that the proposed repair strategy is insufficient and the foundations need to be replaced.
  - Clarification is required regarding the replacement or otherwise of the brick veneer cladding; liquefaction material present raises health concerns and linings and bricks must be replaced if they have come into contact with the contaminated silt.
  - The owners' concerns about the limitations and exclusions in the geotechnical report were presented to the PMO.
  - Paragraph 6.2.9 should not be altered or deleted.
  - The change to the wording in section 112 'effectively waters down the obligations' of authorities and agents to determine if the proposed strategies meet the insurance policy obligations. An insurance policy 'supercedes' MBIE guidelines and the Act, and this distinction must be made clear.
  - If consent is required for one structural element only without considering the whole site, it allows the insurer to evade responsibility via an application for building consent to fix only part of the house.
  - As the consent application was made in February 2013, it is the version of section 112 that was applicable up to 27 November 2013 that applies.
  - The report on sea level commissioned by the authority (refer, paragraph 4.4, 6<sup>th</sup> bullet point) states the authority should be using the opportunity to raise the floor levels of those houses identified in the flood plain area.
- 5.11 The insurer responded to the owners' submission, noting that the matter concerning insurance policy entitlements is outside the scope of the determination. The insurer reiterated its views regarding paragraph 6.2.9, noting that the suggested changes should be made to ensure the determination remains within its scope and does not comment on matters that fall outside of this.
- 5.12 The owners forwarded comments from their lawyer on 25 November 2014. The comments objected to the way in which the draft determination applied section 112(1)(a) based on the changes to that provision in late November 2013, and raised concerns about the way the insurer was interpreting and applying the insurance policy held by the owners.



## 6. Discussion

6.1 In order to determine whether the authority correctly exercised its power to issue a building consent, I must consider whether there were reasonable grounds for the authority to be satisfied that the provisions of the Building Code to the extent required by the Act would be met if the building work is properly completed in accordance with the plans and specifications that accompanied the application.

### 6.2 The application of section 112

6.2.1 As the proposed building work is an alteration to an existing building, the provisions of section 112 apply. I note here that although the consent application was lodged prior to section 112 being amended on 28 November 2013, section 112 only applies to the decision of a building consent authority to “grant a building consent”. Section 112 does not apply to an application for a building consent. The building consent was granted after section 112 was amended and so the amended section 112 applied to the decision of the building consent authority to grant the building consent. There are no transitional provisions in respect of the amendment to section 112.

6.2.2 An earlier draft of this determination erroneously quoted section 112(1)(a) as including some words that were in fact repealed in 2005 and it is those words that gave rise to the concerns raised by the owners’ lawyer. Those concerns are no longer applicable as those changes to section 112(1)(a) occurred back in 2005 and are not relevant to this decision.

6.2.3 The changes that were made to section 112 on 28 November 2013 concerned section 112(1)(b) and are described below. The changes did not alter the requirements of section 112(1)(b) but merely spelt out those requirements in more detail to make them easier for readers to understand and apply.

6.2.4 Section 112 of the Act contains specific requirements for alterations and relates to the compliance of the existing building (which is the whole building as altered, not merely the alteration).

6.2.5 Section 112(1)(b)<sup>11</sup> states that:

A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration,—

(b) the building will,—

- (i) if it complied with the other provisions of the building code immediately before the building work began, continue to comply with those provisions; or
- (ii) if it did not comply with the other provisions of the building code immediately before the building work began, continue to comply at least to the same extent as it did then comply.

6.2.6 Section 112(1)(b) states that before an authority can grant a building consent for alterations, the authority must be satisfied that, after the alteration, the building will continue to comply with the other provisions of the building code to at least the same extent as before the alteration.

6.2.7 It is important to distinguish between the need for building work (i.e. the repairs to the foundations) to comply with the Building Code, as required by section 17 of the Act, and the need to ensure the repairs do not reduce the extent to which the building

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<sup>11</sup> Section 112 (1) as from 28 November 2013

as a whole complies with the remaining clauses of the Building Code, as required by section 112(1)(b) of the Act. In my view how these requirements are applied to this particular case is directly related to the scope and extent of the proposed repairs.

- 6.2.8 The section 112 provision of the Building Act requires the building “to continue to comply” where it complied before the alterations and, where it didn’t comply before the alterations, to comply to “at least the same extent” as it did before the alterations. In the context of repair work to earthquake damaged buildings such as the rebuild and repair work being carried out as a result of the Canterbury earthquakes, I am of the view that section 112 does not require reinstatement of the building to what it was before the earthquake. Section 112 is a provision to ensure buildings comply to the same extent as before the building work is carried out.
- 6.2.9 The reinstatement of a building to the same condition it was before an event such as an earthquake, or its removal and replacement, is determined by the terms of the owners’ insurance policy. I note that section 17 of the Act requires that all building work must comply with the Building Code to the extent required by the Act, whether or not a building consent is required in respect of that building work. This, in combination with section 112, sets the minimum requirements for building work carried out to repair an earthquake-damaged house.
- 6.2.10 I observe that in terms of reinstatement, insurers, in effect, appear to use the regulatory processes under the Act as a default means of satisfying their policy obligations to owners. An insurance policy and an owner’s expectations may well exceed the minimum performance requirements set out in the Act.

### **6.3 The code compliance of the building work**

- 6.3.1 Section 112 of the Act contains specific requirements for alterations to existing buildings. Section 112 relates to the compliance of the existing building (which is the whole building as altered). It does not detract from the section 17 requirement that all building work must comply with the Building Code. Under sections 17 and 112(1):
- Any new building work must comply fully with the Building Code (subject to any waiver or modification granted by the authority) (section (17)).
  - After the alteration, the existing building, as a whole must:
    - comply as nearly as reasonably practicable with the provisions of the Building Code that relate to means of escape from fire and access and facilities for people with disabilities (section 112(1)(a));
    - continue to comply with the other provisions of the Building Code (where the building complied with those other provisions of the Building Code immediately before the building work began) (Section 112(1)(b)(i));
    - continue to comply with the other provisions of the Building Code to at least the same extent as it complied immediately before the building work began (where the building did not comply with those other provisions of the Building Code immediately before the building work began) (section 112(1)(b)(ii)).
- 6.3.2 The owners are of the view that the proposed repair will not resolve structural problems and does not mitigate against future earthquakes (Clause B1.3.3(f)). In this respect, given the evidence provided I am of the view that the proposed repairs will

comply with the Building Code, and the remainder of the building will comply to the extent required by section 112 of the Act. The matter of concern raised by the owners' engineer at the technical meeting has been satisfactorily answered through subsequent correspondence. I also note that the adequacy of ground bearing pressures is to be verified on site as a necessary part of the repair process with remedial action to be taken if the ground is found to be inadequate.

- 6.3.3 In regards to the material resulting from liquefaction in the brick cavities; the PMO has stated that the wall cavities are to be investigated, and that if any material is present that the contaminant will be removed and linings replaced. I consider any remedial work needs to ensure that the brick cavity is clear and free of contamination, and left in a state where it can drain freely. I do not consider the cladding necessarily needs to be removed in order to achieve this.

## **6.4 The floor level of the house and compliance with Clause E1**

- 6.4.1 The owners state that the house has sunk and surface flooding enters the garage, and the house is at risk of further flooding and settlement: the owner's contend that the floor levels should be raised. The Building Code obligations for Clause E1 that relate to repairs or rebuilds depend on the scope of repair work to be carried out.

- 6.4.2 The following advice is taken from Section 8.4 of the Ministry guidance document<sup>12</sup> on the repair and rebuilding of houses in Canterbury which I consider is relevant to this case:

In general, if the building work relating to foundations is confined to releveling and repair work as defined in Part A (refer to section 4 and Tables 2.2. and 2.3) and Part C then the Clause E1.3.2 requirement will not apply because buildings and site works are not being constructed. In these cases, the existing foundations are being repaired and there is not an opportunity to raise the floor level. Section 112 will be met, in that compliance with Clause E1.3.2 will be no worse than before the repair.

If, however, the foundations need to be rebuilt (refer to Part A Section 5 and criteria from Tables 2.2 and 2.3) then Building Code Clause E1.3.2 will apply, setting the floor level to be no less than the 50-year flood level, plus the 400 mm freeboard if you are in Christchurch City's area.

- 6.4.3 In this instance as the existing foundations are being re-levelled and repaired, and not rebuilt, I do not consider the provisions of the Building Code require the floor level of the house to be raised in order to satisfy the requirements of Clause E1.3.2.

## **7. The decision**

- 7.1 In accordance with section 188 of the Building Act 2004, I determine that the authority was correct in the exercise of its powers of decision in granting the building consent for the proposed repairs and I confirm that decision.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 5 December 2014.

John Gardiner  
**Manager Determinations and Assurance**

<sup>12</sup> Repairing and rebuilding houses affected by the Canterbury earthquakes, Part B Technical Information, Ministry of Business Information and Employment, December 2012, Version 3

## Appendix A: The relevant legislation

### A.1 The relevant sections of the Act

#### A1.1 Section 112 in force up until 27 November 2013:

##### 112 Alterations to existing buildings

- (1) A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration, the building will—
  - (a) comply, as nearly as is reasonably practicable, with the provisions of the building code that relate to—
    - (i) means of escape from fire; and
    - (ii) access and facilities for persons with disabilities (if this is a requirement in terms of section 118);and
  - (b) continue to comply with the other provisions of the building code to at least the same extent as before the alteration.
- (2) Despite subsection (1), a territorial authority may, by written notice to the owner of a building, allow the alteration of an existing building, or part of an existing building, without the building complying with provisions of the building code specified by the territorial authority if the territorial authority is satisfied that,—
  - (a) if the building were required to comply with the relevant provisions of the building code, the alteration would not take place; and
  - (b) the alteration will result in improvements to attributes of the building that relate to—
    - (i) means of scape from fire; or
    - (ii) access and facilities for persons with disabilities; and
  - (c) the improvements referred to in paragraph (b) outweigh any detriment that is likely to arise as a result of the building not complying with the relevant provisions of the building code.

#### A1.2 Section 112(1) in force from 28 November 2013:

##### 112 Alterations to existing buildings

- (1) A building consent authority must not grant a building consent for the alteration of an existing building, or part of an existing building, unless the building consent authority is satisfied that, after the alteration,—
  - (a) the building will comply, as nearly as is reasonably practicable, with the provisions of the building code that relate to—
    - (i) means of escape from fire; and
    - (ii) access and facilities for persons with disabilities (if this is a requirement in terms of section 118); and
  - (b) the building will,—
    - (i) if it complied with the other provisions of the building code immediately before the building work began, continue to comply with those provisions; or

- (ii) if it did not comply with the other provisions of the building code immediately before the building work began, continue to comply at least to the same extent as it did then comply.

## A.2 The relevant clauses of the Building Code

**B1.3.3** Account shall be taken of all physical conditions likely to affect the stability of *buildings*, *building elements* and *sitework*, including:

...

- (f) earthquake,

**E1.3.2** Surface water, resulting from an event having a 2% probability of occurring annually, shall not enter buildings.