



Determination 2012/016

The exercise of the powers of an authority to issue a notice to fix for the construction of a house at 39 Lithgow Place East, Invercargill

1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department.

1.2 The following are the parties to this determination

- the applicant, B & H Housing Limited (“the applicant”) who is the owner, represented by an agent (“the agent”)
- Invercargill City District Council, carrying out its duties and functions as a territorial authority or building consent authority (“the authority”).

1.3 This determination arises from a dispute between the parties about the decision of the authority to issue a notice to fix (“the notice to fix”) for issues relating to the construction of a new house over a public drain.

1.4 I therefore consider the matters to be determined² are:

- whether the house complies with Clause B1 of the Building Code
- whether the authority correctly exercised its powers under section 164 of the Act in issuing the notice to fix.

1.5 In making my decision I have considered the application and submissions of the parties, and the other evidence in this matter.

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

² In terms of sections 177(1)(b) and 177(3)(e) of the Act.

2. The building work and background

- 2.1 The applicant purchased the property in 2006. At the time of purchase a single detached residential house was situated on the site (“the original house”).
- 2.2 There are two connected storm water drainage pipes owned by the authority on the property (“the drains”). One of the drains, which is a 450mm diameter concrete pipe, runs along the south side of the property. The original house was located adjacent to this pipe.
- 2.3 The other, which is a 750mm diameter concrete pipe, runs along the east side of the property. The drains are at a depth of approximately 4 metres. There is a manhole located at the south eastern corner of the site. Both the drains are connected to the manhole, with the drains at a depth of between 3.2 and 3.5 metres at the manhole.
- 2.4 On 2 November 2008 the original house was destroyed by a fire. A builder was engaged to construct a new replacement building (“the house”). The builder applied for and obtained a Project Information Memorandum (“PIM”) from the authority. The PIM did not make note of the drains. The drains are noted on the authority’s property file.
- 2.5 The builder subsequently applied for a building consent for the house. In processing the building consent, the authority completed a processing check sheet that includes an item to ensure no Council mains are to be under or in close proximity of a new building. For this item, the entry on the check sheet is ‘refer plans shts 2 & 13’. It is unclear what this meant.
- 2.6 The construction of the house commenced in July 2009. The house is constructed with a brick cladding, aluminium joinery and colour steel roof. The floor is a concrete slab on ground construction.
- 2.7 The authority carried out the inspections as the construction work progressed. These inspections included:
- 26 August 2009 – siting and foundation
 - 9 September 2009 – plumbing drainage under floor
 - 15 September 2009 – floor slab
 - 12 October 2009 – framing / skeleton
- 2.8 On 23 October 2009 the authority became aware of the proximity of the house to the drains. On 27 October 2009 the authority informed the builder of the matter. The correspondence notes discussion within the authority in relation to whether a stop work should be put in place on the 10th of November 2009. The authority did not issue a stop work notice at this time.
- 2.9 The authority undertook three further inspections as follows
- 11 November 2009 – plumbing pre-line
 - 12 November 2009 – brick veneer
 - 9 December 2009 – drainage.

- 2.10 On 10 December 2009 the builder volunteered to suspend work over the Christmas period to allow time to deal with the matter, and the authority carried out a building pre-line inspection on 12 December 2009. Work commenced again in the New Year and the authority carried out its post-line inspection on 12 February 2010.
- 2.11 On the 22 March 2010 emails from within the authority refer to no further work being completed on the site until the foundation/drainage matter is dealt with.
- 2.12 On 8 April 2010 the authority issued the notice to fix to the applicant and the builder requiring all work to cease. The notice to fix stipulated contravention or non-compliance as ‘No work to be undertaken until drain siting is resolved.’
- 2.13 The notice to fix further specified that to remedy the contravention of non-compliance the recipients of it must ‘Provide an engineer’s report on underpinning of the house foundations to protect the dwelling from any subsidence.’
- 2.14 On 27 May 2010, the authority wrote to the builder (as the representative of the applicant) outlining its concerns with regard to the drains as follows:
- Because of the location of the stormwater drains almost directly below the east and south walls of the dwelling, and because of the typical construction practices at the time the drain was laid, there is a high risk of settlement to these parts of the house over time, causing damage to the [house] structure.
- Due to the location of the dwelling, [the authority’s] ability to access and work on the drains is severely restricted, and there is a high risk of damage as a result of this work.
- [The authority] does not believe it would be responsible for damage as a result of settlement or resulting from work on the drains as you have been advised of the existence of the drains and given an opportunity to mitigate against any losses in the future.
- 2.15 The authority concluded that it did not ‘agree that the location of the house is acceptable and requests that this be rectified’ and stated:
- No Code Compliance Certificate will be issued by the Invercargill City Council under its regulatory powers and a notice to fix has been issued and the file has been noted as to the rights of the Invercargill City Council as owner of the drains.
- 2.16 The applicant, through its lawyer, responded to the authority’s letter of 27 May on 14 July 2010 outlining the applicant’s position and seeking a meeting. There was no response from the authority.
- 2.17 On 23 November 2010, a consulting engineer engaged by the applicant provided a proposal to address the matters raised. The proposal involved modifying the drains by placing a steel pipe inside the existing concrete pipes.
- 2.18 On 26 January 2011, the authority advised it was of the view that the proposal was not acceptable ‘as there are concerns about the sleeve reducing the pipe’s capacity which will cause problems in other areas’.
- 2.19 On 11 May 2011 a second consulting engineer, acting on behalf of the applicant, provided a further proposal to the authority following discussions with the authority. This proposal was ‘to underpin the structure in such a manner that the council could access the pipes without affecting the dwelling’. The consulting engineer provided a sketch of the proposal but stated that further design work was required and that geotechnical investigations would be required to confirm the conditions on site. This would not be undertaken unless the authority was willing to accept the proposal in principle.

- 2.20 The authority responded on 10 June 2010 rejecting the proposal. The authority's reasoning was that 'while [the] proposal may address the issue of foundation support for the house, it does not resolve the issue of access to the drain for maintenance and eventual renewal to the [authority's] satisfaction, and for that reason [the authority is] unable to accept this proposed resolution'.
- 2.21 The consulting engineer responded to the authority on 14 June 2011 by email and was of the view that the proposal 'was a design which bridged over the pipeline in such a manner that if necessary any excavation alongside the pipe could be made without affecting the house.' The consulting engineer also pointed out that it would be possible to remove sections of the pipe and replace them if necessary or using tunnelling techniques to fully replace the pipe without the house being affected.
- 2.22 There is no record of any response from the authority.
- 2.23 The agent subsequently wrote to the authority on 15 July 2011, and noted that the notice to fix had been complied with by providing a report on underpinning of the building foundations to protect it from any future subsidence. The agent enquired as to whether the authority continued to rely on the notice to fix and what alternative solutions would be acceptable to the authority. The authority did not respond.
- 2.24 An application for a determination was subsequently received by the Department on 15 of August 2011.

3. The submissions

- 3.1 In support of the application the agent provided a comprehensive file which included the relevant documentation and correspondence. Within the correspondence various letters sent to the authority on behalf of the applicant set out the applicant's submissions. These are summarised as:
- The house has been completed in accordance with and in reliance on the authority's requirements in the PIM and building consent and the authority's various inspections.
 - The applicant was not provided with any notice of the drain by the authority until the building was largely completed and the authority has not registered an easement on the title for the drain.
 - The authority has breached its statutory duties under the Building Act and its tortious duties in the provision of the PIM and the approval of the building works with references being made to the Act and to previous Court cases.
 - The applicant has complied with the notice to fix by providing an engineer's report on underpinning of the house foundations to protect the dwelling from any subsidence as per the requirements set out in the notice to fix with the consultant's report being put forward in support of this submission.
- 3.2 The authority acknowledged the application in a letter dated 2 November 2011, but did not make a submission in response.

4. The experts report and further submissions

4.1 The expert's report

- 4.1.1 In order to assist me with the Determination, I engaged an independent firm of civil and structural consulting engineers with expertise in the areas relevant to this situation (“the expert”). I asked the expert to investigate whether there was any risk of the house settling and suffering possible damage. The expert completed a visual field inspection, a survey of levels and a preliminary geotechnical investigation and provided the data from the same, and provided a report dated 30 November 2011.
- 4.1.2 Boreholes were put down to a depth of up to 3.0m within the backfilled trench of the drains and within an area perceived to be natural ground within the site to the north of the building. The expert observed that the materials generally comprising sandy (fine) silt to moderately plastic were encountered in all the boreholes. The backfill is deemed to be non-engineered as there is no information as to how the fill was placed or compacted.
- 4.1.3 The expert noted that measurements in the natural ground ranged from approximately 152kPa to greater than 223kPa, corresponding to a very stiff to hard consistency. In general, the measured shear strengths were greater than 170kPa. The hand auger met resistance at a depth of approximately 1.4m and therefore the test was concluded at this depth.
- 4.1.4 The expert noted that measurements in the stormwater trench backfill to a depth of 3.0m ranged from approximately 80kPa to greater than 174kPa, corresponding to a stiff to hard consistency, but only around 50-75% of the aforementioned natural ground properties.
- 4.1.5 In general, the expert found the measured shear strengths within the backfilled trench of the drains were greater than 100kPa.
- 4.1.6 Calculations were also undertaken by the expert to determine the additional load imposed on the drain by the new building. These determined a load of approximately 49kPa was imposed on the pipe by the soils above the pipe before the construction of the building and an additional load of around 5kPa was imposed by the new building.
- 4.1.7 The expert noted the condition of the drains is unknown and any deformation, collapse, or breakage of the drains could introduce water into the surrounding ground and softening of the base material, which could lead to subsidence. The expert noted a CCTV inspection was required to determine the condition of the drains and therefore a better assessment of the possible risks.
- 4.1.8 The expert concluded that the ground supporting the foundations to the dwelling is not likely to achieve the performance requirements of the Building Code in all foreseeable circumstances, and that there was a possibility (albeit small) that foundation settlements could occur over the future life of the house.

4.2 The further submissions

- 4.2.1 The applicant, acting through a solicitor, made a submission in response to the expert's report dated 14 December 2011. The submission noted that the determination should direct that the proposed solution to underpin the house be undertaken, and the authority subsequently should issue a code compliance certificate.

- 4.2.2 A draft determination was issued to the parties for comment on 18 January 2012.
- 4.2.3 The applicant, acting through a solicitor, accepted the draft determination in a response dated 31 January 2012, commenting that the determination should state a reasonable time frame within which the authority must carry out the investigation of the drains.
- 4.2.4 The authority, acting through its solicitor, provided a submission in response to the draft determination dated 16 February 2012. The authority noted:
- there are issues concerning the impact of the drains on the house that ought to be taken into account in the determination, in particular the potential for differential settlement because of the strength of the backfill or leakage from the drains
 - the authority, as the owner of the drains, recently carried out an inspection using CCTV and found:
 - a) The 750mm diameter storm water drain which runs north to south under the east wall of the house is in sound condition but has open butt joints with gravel sighted in the joints. The joints are leaking and there is some root intrusion.
 - b) The 450mm diameter storm water pipe which runs west to east under the south wall is in sound condition. It has collared joints but some leakage was observed through those joints.
 - c) The 150mm diameter foul sewer which runs north to south at about 1.2m east of the east wall of the house is in sound condition.

5. Discussion

5.1 Whether the house complies with Clause B1 of the Building Code

- 5.1.1 Clause B1.3.1 requires that ‘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.’ Clause B1.3.2 requires that ‘Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during construction or alteration when the building is in use’.
- 5.1.2 Clause B1.3.3 requires that ‘Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework...’. This includes self weight, imposed gravity loads arising from use, water and other liquids, differential movement, removal of support etc.
- 5.1.3 I therefore must consider whether the ‘low probability’ test is met and whether the presence of the drains means there is greater than a ‘low probability’ of the building rupturing, being unstable, losing equilibrium, or causing loss of amenity.
- 5.1.4 The geotechnical investigations by the expert show that the ground has good and uniform shear strength, and the house and foundation shows no sign of deformation or settlement at present. The drains have been in place for 50 years and I therefore consider it is unlikely that there will be any further settlement to the backfill that has been placed over the drains. I note that the foundations were inspected and passed by the authority during construction. It is my view that these reasons are adequate to

conclude that the performance requirements of the Building Code are being met in terms of current performance.

- 5.1.5 In terms of the future performance of the foundations, I am of the view that the compliance of the house with Clause B1 is reliant on the continuing satisfactory performance and operation of the drains, which I note have been in place for over 50 years. There are some possible failure scenarios, such as deformation, breakage, or collapse of the drains, or leakage from the joints of the drains, that could lead to water being introduced to the ground, softening of the ground or removal of the ground in the area of the drains.
- 5.1.6 The authority inspected the drains (which I described in paragraph 4.2.4) and found that while the drains were generally in sound condition, there was some leakage due to the construction of the joints, and evidence of gravel in the joints and root intrusion.
- 5.1.7 I am of the view that in applying the test for the expected future performance in terms of Clause B1, there is a greater than ‘low probability’ of one of the failure scenarios described in paragraph 5.1.5, and therefore the house does not comply with Clause B1.
- 5.1.8 I note that the house complies with the building consent i.e. the siting of the house and construction of the foundation are in accordance with the building consent.
- 5.1.9 I also note that although the deficiencies in the building consent have caused the non-compliance of the constructed house with the Building Code, the deficiencies fall into the category of those that can be remedied. In the circumstances, the authority has now adopted the correct approach in refusing to issue the code compliance certificate, given that it wrongly issued the building consent and PIM in the first place.

5.2 Whether the authority correctly exercised its powers under section 164 of the Act in issuing the notice to fix

The decision to issue the notice to fix

- 5.2.1 Under sections 163 to 168 of the Act, a notice to fix can be issued by an authority if the authority considers on reasonable grounds that a specified person is contravening or failing to comply with the Act or its regulations. A notice to fix must require the person to remedy the contravention or to comply with the Act or its regulations.
- 5.2.2 I note that the matter raised by the authority in relation to protecting the building from subsidence is within the ambit of the Building Code i.e. Clause B1.3.3 (refer to paragraph 5.1). As I have concluded that there is not sufficient information to conclude that the house complies with Clause B1, I consider the authority made the correct decision to issue the notice to fix.

The exercise of powers in respect of the notice to fix and the remedy sought

- 5.2.3 Section 164(2)(a) states an authority must issue a notice to fix requiring the specified person to remedy the contravention of, or to comply with, the Act or the regulations. With respect to the remedy sought on the notice to fix, it is my view that the remedy of an engineers report on underpinning the house foundations was not appropriate. I note that the act of obtaining an engineers report cannot in itself remedy a breach of the Act or its regulations.

- 5.2.4 In addition, based on the correspondence from the authority outlining its concerns about the drain and siting of the building, it is clear that the authority's intention was to use the notice to fix to manage and protect its position as the owner of the drain. This is apparent in the authority's subsequent actions in rejecting proposals put forward by the applicant which would have remedied any risk of subsidence and brought the house into compliance with Clause B1. The primary reason the authority appears to have rejected the solutions put forward by the applicant is that they failed to address the authority's interests as a utility owner in obtaining satisfactory access and protection for its drains.
- 5.2.5 When the authority is exercising its powers under the Building Act in a matter of the compliance of building work with a building consent the authority cannot use those powers for the purpose of obtaining access and protection for assets it owns as a utility owner. I therefore consider that the authority incorrectly exercised its powers in using the notice to fix in this way.

5.3 Conclusion

- 5.3.1 It is my view that the house does not comply with Clause B1, because the condition of the drains means there is a greater than 'low probability' of softening or removal of the ground, through water being introduced to the ground or removal of the ground in the area of the drains which could lead to subsidence, such as deformation, breakage, or collapse of the drains.
- 5.3.2 Although the authority had grounds to issue a notice to fix, as there was a breach of the Act and its regulations, I consider that the authority exercised its powers in respect of the notice to fix for an improper purpose that was not related to the purposes of the Building Act.
- 5.3.3 The authority should modify the terms of the notice to fix to require the applicant to bring the house into compliance with Clause B1. The authority, in its capacity as the owner of the drains, will need to provide a range of information to the applicant and its technical advisors to enable assessment to be made of the condition of the drains and whether there is a less than low probability that the drains may cause future settlement or subsidence contrary to Clauses B1.3.1 or B1.3.2.
- 5.3.4 The authority will need to be careful in assessing any proposal submitted by the applicant in fulfilment of the terms of the notice to fix that the authority does not allow its interests as a utility owner to intrude in any way into its consideration of whether the house complies with Clause B1. As an owner of the drains the authority has had numerous opportunities to ensure its interests in the drains are protected but has not availed itself of any of those opportunities. The authority cannot now seek to use its powers under the Building Act to remedy its mistakes as a utility owner. For example, the drains could have been noted on the certificate of title to the land, the information about the drains could have been noted in the PIM, identified when the authority was considering whether the plans and specifications would comply with the Building Code, or identified during the inspections of the foundations (as the existence of the drains appears in the property file).

6. Decision

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

- there is insufficient evidence to conclude the house complies with Clause B1 of the Building Code
- the authority correctly exercised its powers in issuing the notice to fix, but should modify the notice to fix in accordance with this Determination to ensure the notice to fix addresses only the issues relating to the compliance of the house with Clause B1 and excludes any consideration of the authority's interests as the owner of the drains.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 5 March 2012.

John Gardiner
Manager Determinations