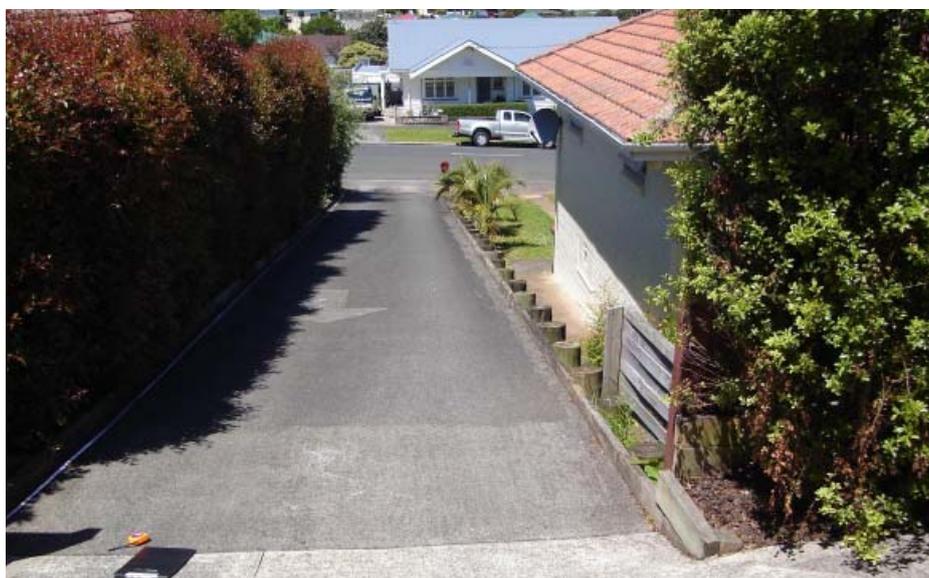


Determination 2007/71

A dispute in relation to the issue of a notice to fix for retaining walls at Nos 36, 36A, 38, and 38A Normans Hill Road, Onehunga, Auckland



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, Determinations Manager, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The applicant is Mr John Preston the owner of No 38A Normans Hill Road (“the applicant”) and the other parties are the Auckland City Council (“the territorial authority”) and the three individual owners of Nos 36, 36A and 38 Normans Hill Road.
- 1.2 This determination arises from the decision of the territorial to issue a notice to fix for several retaining walls, as it is not satisfied that they comply with clauses B1 “Structure” and F4 “Safety from Falling of the Building Code² (First Schedule, Building Regulations 1992).
- 1.3 The matter to be determined is whether the retaining walls as installed on the various properties comply with clauses B1 and F4 (see sections 177 and 188 of the Act).

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

² The Building Code is available from the Department’s website at www.dbh.govt.nz.

- 1.4 In making my decision, I have considered the submissions of the parties, the report of the independent expert commissioned by the Department to advise on this dispute (“the expert”), and the other evidence in this matter.
- 1.5 In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

2. The building work

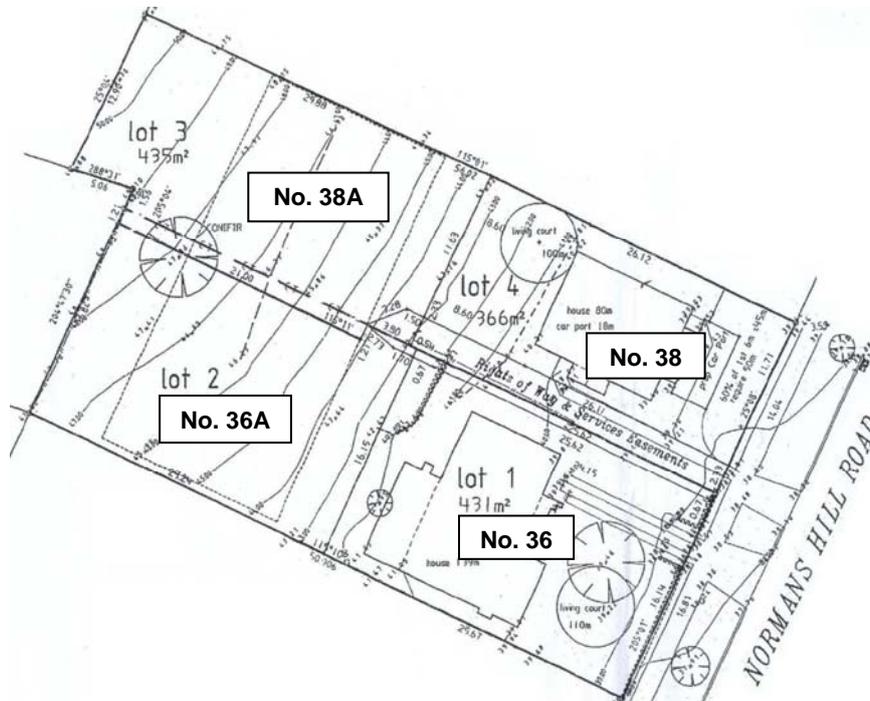


Figure 1: Site layout taken from the unit title plan

- 2.1 The building work consists of retaining walls constructed on 4 separate properties. There are two parallel retaining walls, supporting a concrete driveway slab, that run along the entire end boundaries of Nos 36 and 38 and for a short distance along the end boundaries of Nos 36A and 38A. The driveway slab gradient rises from the road and its height above the natural ground level along the retaining walls varies from zero at each end to a maximum of approximately 1500mm at the centre. The supporting retaining walls are constructed with circular timber poles concreted into drilled holes and which support timber walings installed above the ground level. No safety barriers are installed along either of these walls.
- 2.2 The retaining walls between adjoining properties 36 and 36A and 38 and 38A are constructed with square timber poles, which support timber walings installed above the ground level. The heights of the retaining walls do not exceed 1 metre above the lower ground level. Fences have been installed above these walls.

3. Sequence of events

- 3.1 The territorial authority issued a building consent under the Building Act 1991 (“the 1991 Act”) for the laying of stormwater and sewer drainage and the construction of the two retaining walls supporting the driveway in 1998.

- 3.2 I have not been provided with any evidence that consents were provided for the retaining walls between the adjoining properties 36 and 36A and 38 and 38A. I note that, as reported by the expert, the heights of both these walls are such that a consent would not be required for their construction. I also comment that factors other than the height of a retaining wall, such as any surcharge supported by the wall, need to be considered in the context of the requirement to obtain a building consent.
- 3.3 On 16 October 1998 a firm of engineers (“the engineers”) wrote to the territorial authority, stating that they had not provided any design input for the retaining walls supporting the driveway. The engineers noted that one of the drawings that had been submitted with the consent documentation was an edited version of a drawing they had originally produced for a project at another property. It was also noted that this drawing related to a design prepared for the specific topographical and geotechnical conditions that existed at the other property.
- 3.4 A firm of consulting engineers (“the consultants”) wrote to the territorial authority on 16 October 1998, stating that it had “carried out calculations on the retaining wall to the drive and inspected the excavation, drilled holes and poles”. The consultants described the construction and concluded that “the retaining wall as constructed is sound and a Producer Statement Construction review is attached”.
- 3.5 The territorial authority carried out a final inspection of the work on 17 February 2006. The “Site Meeting Checklist” relating to this inspection noted “no consent plans on site”.
- 3.6 The territorial authority issued a notice to fix on 10 July 2006 but this was subsequently withdrawn.
- 3.5 The territorial authority issued a new notice to fix dated 3 August 2006. This notice to fix was issued to the individual owners of all four properties and included particulars of contravention or non-compliance that identified building work which had not been undertaken in accordance with the:
- building consent
 - requirements of the Building Code, and in particular clauses B1 and F4
 - requirements of the Act, and in particular sections 17, 40(1) and 44(1).
- The details of contravention on the notice detailed:
- changes to the building consent regarding structural bolts and safety barriers in regard to the driveway retaining walls
 - other building related issues relating to the lean of the retaining wall between the Nos 36 and 36A and the associated movement and lift of the concrete driveway.
- 3.6 The territorial authority attached a set of photographs to the notice to fix. One photograph showed the wall between Nos 38 and 38A, which was described as being “All OK, in good order”.
- 3.7 In a letter to the territorial authority dated 4 August 2006, the applicant noted that the driveway was soundly constructed and had not cracked after many years of use. Whether the retaining wall had moved was disputed. The driveway slab movement on the 36A property could be due to settlement after extensive terrain alterations. In

contrast, the slab on the 38A property, where no alteration work has been undertaken, has sunk approximately 2 inches (50mm).

- 3.8 The application for a determination was received by the Department on 1 September 2006.

4. The submissions

- 4.1 A firm of barristers and solicitors (“the legal advisers”) made a submission dated 25 January 2007 to the Department on behalf of the owners of No 38. The submission set out the background to the matters in question and noted that the notice to fix was issued to all the owners of the 4 affected properties. The legal advisers were of the opinion that the building related issues should not have been included on the notice to fix sent to their client. This was because a consent was not required for the retaining walls between the front and rear properties and the one of these giving the territorial authority concern was not on their clients’ property. The legal advisers noted that their clients accepted the expert’s comments regarding the lack of bolts to the driveway walls and would also accept the need for barriers to these walls. The legal advisers also commented on the relevance of the territorial authority issuing of a Certificate under section 224(c) of the Resource Management Act.

- 4.2 No other party made a submission.

- 4.3 The applicant forwarded copies of:

- the notice to fix
- the applicant’s letter to the territorial authority dated 4 August 2006

- 4.4 The territorial authority forwarded copies of:

- the plans
- documentation relating to the building consent
- the notice to fix

5. The expert’s report

- 5.1 As discussed in paragraph 1.4, I engaged an independent expert to provide an assessment of the condition of those building elements subject to the determination. The expert is a chartered professional engineer and a member of the Institution of Professional Engineers New Zealand with a special competency in geotechnical engineering.

- 5.2 The expert investigated the various properties on 2 and 7 November 2006 and produced a report that was dated 4 December 2006. The expert described the background to the works and the construction of the various retaining walls installed on the properties. The expert made specific reference to the matters raised in the notice to fix, which I summarise as follows:

5.3 The Structural bolts

- 5.3.1 The expert could not identify the presence of the bolts shown on the consented plans that were detailed as passing through the driveway retaining wall poles into the concrete driveway slab edging. Nor could the expert identify any alternative fixings.

The expert noted that the design calculations indicated that the poles were designed to withstand lateral forces from the retained driveway fill by cantilever action. The expert presumed that the bolts were detailed so as to minimise movement of the retaining wall from the driveway. However, as there was no sign of any such movement since the wall was constructed, the need for the bolts is questionable. The expert also noted that the consultants' letter of 16 October 1998 (See paragraph 3.2) expressed satisfaction with the construction of the retaining wall.

5.4 The safety barrier

5.4.1 The expert noted the absence of the driveway safety barrier that was shown on the consented plans. The tops of retaining walls were more than 1 metre above the ground levels for a length of 10.5 metres along the boundary with No 36 and for 10.8 metres along the boundary with No 38. The maximum fall-heights are 1.25 metres for the No 36 wall and 1.45 metres for the No 38 wall.

5.5 The retaining wall between Nos 36 and 36A

5.5.1 The expert noted that part of this retaining wall has "bowed" slightly towards the lower (No 36) property and some of the posts within this section have a slight tilt forwards. While the expert did not think that the wall was failing at this time, he was of the opinion that it is not performing as intended. The wall appears to be "under-designed" as the diameter of the poles is less than expected taking into account their spacing. In addition, the embedded depth of the poles is unknown. The expert observed that, as the retained height varies between 0.7 and 1.2 metres and does not support any surcharge, this particular wall did not require a building consent. (I observe, though, that section 7 of the 1991 Act requires that all building work complies with the Building Code, regardless of whether it requires a building consent).

5.6 The concrete paving

5.6.1 The expert noted that some of the concrete paving slabs behind the retaining wall between Nos 36 and 36A have moved. In addition, one saw cut in the slab at this location has opened up. The expert attributed this movement to the fact that the slabs are on both sloping and filled ground. Where the slab has lifted, the expert was of the opinion that this was not necessarily related to retaining wall movement but rather to the settlement of the fill material under the slab.

6. The legislation

6.1 The relevant requirements of the 1991 Act are:

Section 32(2)(b) states that a building consent is not required for any building work specified in the Third Schedule of the Act, as being work for which a building consent is not required. This matter revolves around the interpretation of paragraph (e) of the Third Schedule, which states:

A building consent is not required in respect of the following building work:

- (e) Any retaining wall that retains not more than 1.5 metres depth of ground and that does not support any surcharge or any load additional to the load of that ground, such as the load of vehicles on a road:

6.2 The relevant requirement of Building Code Clause B1.3.1 “Structure” is:

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

6.3 The relevant requirement of Building Code Clause F4 “Safety from Falling” is:

Performance

Provision

Limit on application

F4.3.1 Where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change of level within or associated with a *building*, a barrier shall be provided.

Performance F4.3.1 shall not apply where such a barrier would be incompatible with the intended use of an area, or to temporary barriers on construction sites where the possible fall is less than 3 metres or to buildings providing pedestrian access in remote locations where the route served presents similar natural hazards.

7. Discussion

- 7.1 The expert has noted that there has been no movement in the driveway retaining walls. This despite the fact that the bolts that were presumably intended to assist in preventing movement are not installed. In addition, the consultants who inspected the initial wall installation in 1998 were satisfied with the construction of these walls. Accordingly, based on these opinions, I am prepared to accept that both the retaining walls that support the driveway are code-compliant.
- 7.2 The expert’s investigation has established that there is a length of each of the driveway retaining walls that are not protected where the possible fall exceeds 1 metre. I note also that the consented plans detail a barrier for the driveway. The lack of a protective barrier at these two locations means that in this respect, the driveway does not comply with clause F.4.3.1.
- 7.3 The concerns raised by the expert regarding the structural stability of the retaining wall between Nos 36 and 36A leads me to believe that this particular retaining wall does not appear to meet the performance requirements of B1.3.1. The expert has stated that, as the height of this retaining wall above the lower ground level is less than 1.5 metres, it did not require a building consent. Subject to the earlier qualification note in paragraph 2.1, while I agree with this opinion, the wall still needs to comply with the Building Code. I endorse the recommendation of the expert that further investigation of the wall is required because it may not comply with clause B1 of the Building Code.
- 7.4 The expert is of the opinion that the movement and uplift of the concrete driveway slabs is not caused by any deflection of its supporting retaining walls. Rather, the expert believes that the problems are likely to be associated with movement or settlement of the fill material under the slabs. I note also that the movement, which has occurred over a period of some 8 years, has only resulted in minor damage. Accordingly, as I also believe that the structural integrity of the slab has not been compromised to any major extent up to this time, that the concrete driveway slabs still comply with the requirements of clause B1. I also note that there may be

occasions where elements such as driveway slabs may not, in isolation, fall within the definition of “building work”.

8. Conclusion

8.1 As discussed in paragraphs 7.1 to 7.4, I am of the opinion that:

- Both of the driveway retaining walls and the concrete driveway slabs are code-compliant at the present time.
- The driveway does not meet the requirements of clause F4.
- The retaining walls between 36 and 36A and 38 and 38A did not require building consents.
- The retaining wall between Nos 36 and 36a does not meet the Building Code requirements of clause B1.

8.2 I also conclude that the territorial authority must withdraw its notice to fix and issue new notices that deal only with the remediation of the retaining wall between Nos 36 and 36A and the lack of a safety barrier to the driveway where the fall height exceeds 1 metre. Such notices should be sent individually to each property owner with details that are only relevant to each property.

9. The decision

9.1 In accordance with section 188(1) of the Act, I hereby

- a) determine that the driveway retaining walls and the concrete driveway slabs as installed comply with clauses B1 and F4
- b) determine that the retaining wall between Nos 36 and 36a does not comply with clauses B1 “Structure” of the Building Code
- c) determine that the lack of safety barriers to the driveway means that it does not comply with the requirements of clause F4 “Safety from Falling” of the Building Code
- d) modify the territorial authority’s decision to issue a notice to fix, by deleting all items set out therein except for work required to the retaining wall between Nos 36 and 36A and the lack of a safety barrier to the driveway where the fall height exceeds 1 metre.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 29 June 2007.

John Gardiner
Manager Determinations