



Determination 2015/003

Compliance of a retaining wall between two properties at 34A and 36B Ballin Street, Ellerslie, 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, 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 affected other property at 34A Ballin Street, Callisto Trustee Limited, who is the applicant (“the applicant”)
 - the current owners of 36B Ballin Street, A Tao and S Zheng (“the owners”), acting through the previous owner (W Zhou) as their agent (“the agent”)
 - Auckland Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3 I have also included the owners at of 14A Ellerslie Park Road, M and F Avery (“the other neighbours”) as parties to the matter.
- 1.4 The property at 36 Ballin Street was previously one lot under single ownership; it was subdivided for the construction of two properties by the agent into 36A and 36B Ballin Street.
- 1.5 This determination arises from the construction of a retaining wall which the applicant believes does not comply with the relevant clauses² of the Building Code (Schedule 1, Building Regulations 1992).
- 1.6 The matter to be determined³ is therefore whether the building work complies with Clause B1 of the Building Code.
- 1.7 In making my decision, I have considered the submissions of the parties, the report of the independent expert engaged by the Ministry (“the expert”), and the other evidence in this matter.

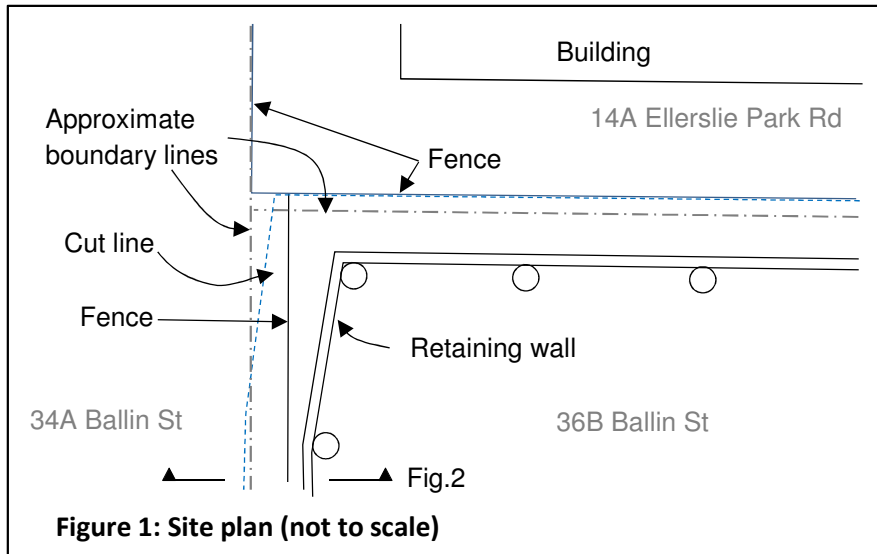
¹ The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at www.dbh.govt.nz or by contacting the Ministry on 0800 242 243.

² 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.

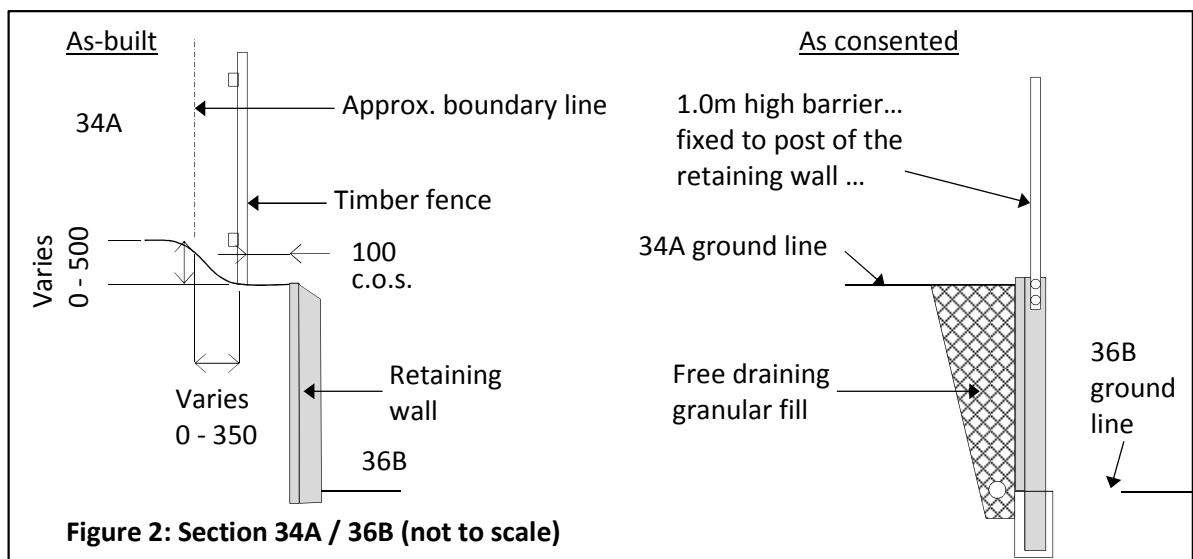
³ Under sections 177(1)(a) of the Act

2. The building work

- 2.1 The building work consists of a timber retaining wall constructed on or near the boundary between 36B Ballin Street (“36B”) and the adjacent properties at 34A Ballin Street (“34A”) and 14A Ellerslie Park Road (“14A”) – refer Figure 1 below.



- 2.2 The site at 36B was excavated to the approximate cut line shown in Figure 1 above. The retaining wall is constructed approximately 350mm inside the boundary of 36B to an estimated height of 1100mm, with the ground behind the retaining wall backfilled to the height of the retaining wall.
- 2.3 The fence between 36B and 34A has been constructed approximately 100mm out from the retaining wall.
- 2.4 The difference in height between the ground level in 34A and the top of the retaining wall is up to 500mm and was left as an open cut face – refer figure 2 below “as-built”.



3. Background

- 3.1 On 15 April 2013 the previous owner was granted resource consent for the subdivision of the property at 36 Ballin St and the construction of two new dwellings on the new lots created. A statement provided for that consent indicated that the maximum retained height along the northern (14A) and western (34A) boundaries would be 1.2m.
- 3.2 On 7 June 2013 the authority issued building consent B/2013/4115 for the construction of the proposed dwelling and retaining wall on 36B. The site plan provided did not clearly define the level difference across the boundaries, but noted that the maximum retained height would be 1.1m.
- 3.3 Construction was carried out, and on 7 April 2014 the applicant contacted the authority regarding stability of the open cut face left on 34A and the adequacy of the retaining wall. The applicant advised the authority that the wall overload issue would not be apparent from 36B but was clearly seen from 34A.
- 3.4 According to the applicant, the authority carried out a site visit but in a phone conversation on 15 April 2014 advised the applicant that the authority would not be taking any further action. The applicant was advised they could backfill the section to the fence, and that they would have to wait for 34A to become unstable and it would then be a civil matter between the applicant and the previous owner.
- 3.5 The applicant wrote to the authority again on 17 April 2014 reiterating the concerns stated earlier and noting that instability of the property was a matter the authority must take into account in issuing 'and enforcing' building consents. The applicant also pointed out that backfilling to the fence would not be appropriate.
- 3.6 The authority made no further response to the applicant.
- 3.7 On 29 May 2014 the authority issued a code compliance certificate for the building work.
- 3.8 The Ministry received an application for a determination on 30 May 2014.

4. The submissions

4.1 Initial submissions

- 4.1.1 The applicant provided the following in support of the application:
- Resource consent documentation for the subdivision of 36, including a statement from a surveyor, a geotechnical report and the issued resource consent.
 - A producer statement PS4 from a chartered professional engineer that the site works and retaining wall had been carried out 'to the satisfaction of [the authority]' and follow the methodology set out in the resource consent documentation (the PS4 is dated 12 December 2013 and the cover letter 7 April 2014).
 - Building consent documentation for consent 2013/4115, including a drawing of the retaining wall
 - Photographs from 34A.

- 4.1.2 In the covering letter to the application, the applicant set out the background to the issue and noted that:
- the unsupported edge of 34A ranges from 500mm to 700mm
 - every time it rains, soil washes down the gap between 34A and the fence, further destabilising 34A and removing soil from around the roots of large trees near the boundary
 - the documentation indicates the intention that the retaining wall should be built up to the ground line of 34A to completely retain it
 - the signing off of the retaining wall is an error brought about by not inspecting the wall from 34A where the unsupported edge is visible
 - although it was not unreasonable for the authority to rely on the engineer's sign off, the authority was made aware of the problem by the applicant and still did nothing.
- 4.1.3 The authority and the owners did not acknowledge the application for determination or make a submission in response.

4.2 The draft determination and submissions

- 4.2.1 A draft determination was issued to the parties for comment on 11 November 2014. The first draft determination concluded that the unsupported cut face had left a situation where the land on 34A is likely to be subject to failure, and that therefore the requirement of Building Code clause B1.3.6(b) to avoid the likelihood of damage to other property was breached.
- 4.2.2 The applicant accepted the draft in a response received on 19 November 2014.
- 4.2.3 In an email on 23 November 2014 the agent responded to the draft determination, noting that the owners did not accept the findings in the draft. In a letter dated 24 November 2014, emailed to the Ministry on 26 November 2014, the agent for the owners submitted the following:
- Construction of this type of fence does not require a building consent, and accordingly it cannot be said that the fence does not comply with the Building Code.
 - The retaining wall is strong enough to retain the fence with the slope back to the boundary. The construction was 'signed off' by a structural engineer, geotechnical engineer and an inspector from the authority.
 - The intended construction was to have a 'small garden wall up to 500mm beneath the fence' ("the garden wall") in order to have a straight cut along the boundary rather than a sloping cut from the top of the retaining wall to the ground surface at 34A (refer Figure 3 below).
- 4.2.4 The owners submitted that they still wished to install the garden wall and believed this would address the issue, but that permission was required from the applicant in order for construction to proceed and that permission had been withheld. The owners noted that the construction of the garden wall would be supervised by a geotechnical engineer that had not been involved in the building work to date.

- 4.2.5 On 26 November 2014 the authority provided a submission in response the draft determination. The authority submitted that it had relied on producer statements by geotechnical and structural engineers in issuing the code compliance certificate and that the statutory grounds for issuing the certificate were satisfied at the time. The authority was of the view that the author of the producer statements should be given the opportunity to directly respond to the opinions of the expert.

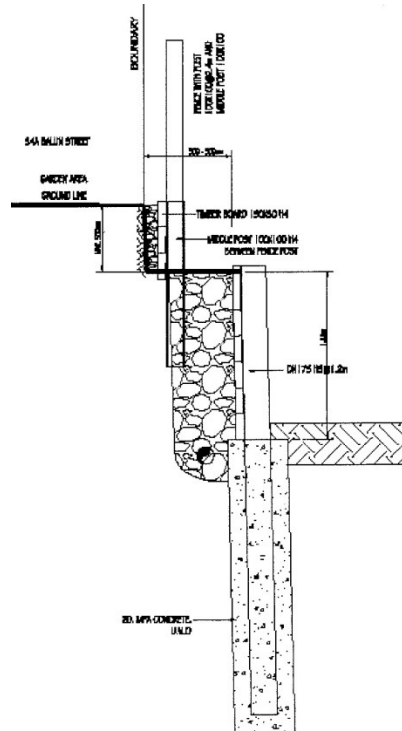


Figure 3: The proposed “garden wall”

- 4.2.6 The applicant provided a further submission responding to that received from the owner, noting:
- There is no justification provided for the owners’ stated view that the building work complies with the Building Code and the owner has provided no engineering evidence to contradict the expert’s opinion or the determination decision.
 - The inspections were all done from 34B and the unretained section would not have been visible.
 - The sketches submitted for the “garden wall” solution are unclear, however it appears that the solution being proposed consists of extra timber applied to the current fence and backfilling.
 - In the proposed solution the owner has not addressed the issues noted by the expert (refer paragraph 5.4).
- 4.2.7 The other neighbours did not respond to the draft determination.
- 4.2.8 In light of the authority’s submission (refer paragraph 4.2.5) I provided a copy of the draft determination and the expert’s report to the chartered professional engineer who was the author of the PS4. The engineer responded on 28 January 2015 acknowledging that the matter under consideration is the stability of the batter slope. The engineer stated that the retaining wall has adequate strength to retain a 12kPa

surcharge and that 'the fence needs further investigation and needs to be designed and reconstructed if required'.

5. The expert's report

5.1 As described in paragraph 1.7, I engaged an independent expert, who is a Chartered Professional Engineer, to assist me. The expert visited 34A on 18 July 2014 but was unable to access 36B; observations were from 34A and the expert was unable to confirm the exact retained height or pole size used.

5.2 The expert provided a general description of the sites and construction of the retaining wall, and I have set out that information in paragraph 2. In regards to the consented plans the expert noted:

- The consent drawings indicate the top of the retaining wall (RL 46.65m) as being 1150mm above the proposed floor level (RL 45.50m).
- Allowing 200mm from the proposed floor level to the finished ground level, and assuming level ground between the dwelling and the retaining wall, this would indicate the retained height was more likely to be 1.35m not 1.1m.
- The retaining wall design and drawing covers retained heights up to 2.0m; the expert had no concerns regarding the design and calculations.
- The drawing depicts a barrier attached to the top of the wall and indicates essentially level ground behind the wall (refer Figure 2); boundaries are not indicated on the retaining wall design drawings.

5.3 During the site visit the expert located a boundary peg and noted that the excavation had been taken right up to the boundary but appeared not to have been cut in a straight line. The fence was constructed approximately 100mm from the retaining wall, and the difference in level between the actual ground level in 34A and the top of the retaining wall was up to 500mm and left as an open cut face. The cut face would be concealed by the fence when looking from 36B.

5.4 In regards to the as-built construction the expert noted the following:

- It would not be appropriate to infill the gap between the excavated face and the fence by backfilling against the fence until it has been established that the fence posts can take the load, that appropriate rails were provided between the posts, and that the retaining wall below can take the additional load.
- Should the excavated face be left as is there is the potential for slumping to occur and for that slumping to progress into 34A. The existing house on 34A is far enough away from the boundary for foundations not to be affected.
- The same situation occurs along the northern boundary with 14A where the garage in 14A is in close proximity to the open cut excavated face. In this case boards have been placed against the fence posts and the gap backfilled.

5.5 The expert also commented that:

- the un-retained ground above the top of the retaining wall imposes a fill surcharge load of up to 9.0kPa on the wall
- while the wall has been designed for a 12.0kPa surcharge load, that surcharge load was intended to allow for any future development over the boundary (34A) such as a driveway or the placement of fill not requiring a land use consent

- the 100x100 fence posts at 2.4m c/c could take the loads from 0.5m of fill but not the 12.0kPa surcharge load.
- 5.6 The expert was unable to ascertain what diameter bores were used for the fence posts or the bore depths. The expert noted that the posts could be fixed to the back of the walings, but no fixings were evidence from photographs. The expert also noted that the fence posts should be checked for the load combination of soil plus wind, and that should the fence posts be backfilled the loads imposed by the fence posts on the retaining wall walings could also be an issue.
- 5.7 The expert concluded that the following had not been adequately addressed:
- site works do not avoid the likelihood of damage to 34A
 - property at 34A was not protected; site works have removed support to 34A
 - loss of amenity to 34A
 - site works do not take account of the effects of ground loss and slumping
 - the wall as constructed may not allow for the correct earth pressures.
- 5.8 The expert provided a report on 21 August 2014 which was copied to the parties on 8 September 2014, and the current owners on 11 September 2014.
- 5.9 On 29 September 2014 the agent requested that he have until 17 October 2014 to respond to the expert's report as he wished to refer it to his engineer. The agent provided no response.

6. Discussion

- 6.1 The Act and the Building Code both require that any building must be built in such a manner as to protect 'other property', where 'other property' is defined by the Building Code (Clause A2 Interpretation) as:
- Other property means any land or buildings or part thereof which are –
- a) Not held under the same allotment; or
 - b) Not held under the same ownership, and...
- 6.2 The 'other property' in relation to the retaining wall at 36B is both 34A and 14A.
- 6.3 The owner has submitted that as the building work is of a type that would be exempt from the requirement to obtain a consent, that it is not required to comply with the Building Code (refer paragraph 4.2.3). This view is incorrect. Section 17 of the Act states 'all building work must comply with the building code to the extent required by this Act, whether or not a building consent is required in respect of that building work.' The as-built work considered in this determination, and any further building work carried out as proposed by the owner, must comply with the relevant clauses of the Building Code.
- 6.4 Clause B1.3.1 of the Building Code states:
- 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.
- 6.5 The expert has stated that if open cut face is left un-retained it can be expected to continue to slump and that slumping would progress into the property at 34A. I accept the expert's opinion in this matter. In this respect I consider that the unsupported face cannot be said to have 'a low probability of becoming unstable' throughout its lifetime and accordingly I consider the excavation did not comply with

the requirements of Clause B1.3.1. I acknowledge that the author of the PS4 may not have been fully aware of the fill placed behind the fence.

6.6 Clause B1.3.6 of the Building Code states:

Sitework, where necessary, shall be carried out to:

- (a) Provide stability for construction on the site, and
- (b) Avoid the likelihood of damage to other property.

6.7 I consider that ‘other property’ is not limited to the protection of buildings⁴ and that the land itself must also be protected from the likelihood of damage. In respect of “the likelihood of damage” I refer to reasoning in *Auckland CC v Selwyn Mews Ltd*⁵, where the Judge stated:

...In cl B1.3.6 “the likelihood of damage to other property” refers to a real and substantial risk of such damage.

6.8 Taking into account the report of the expert, I am of the view that the unsupported cut face has left a situation where the land on 34A is likely to be subject to failure. I consider therefore that the requirement of Building Code Clause B1.3.6(b) to avoid the likelihood of damage to other property was breached.

6.9 The expert has also raised the concern that the retaining wall as constructed may not allow for the correct earth pressures. The expert’s report confirms that the retaining wall has the capacity to withstand a 12kPa surcharge and was intended to allow for a future driveway, but presently some 9.0kPa of this has been taken up by the raised height of the ground level behind the wall: the 12kPa surcharge should not be exceeded. Should a driveway be constructed behind the wall, the ground level behind the wall would need to be lowered to reduce the surcharge on the wall.

6.10 I also note that the authority issued the code compliance certificate after the applicant had raised concerns about the compliance of the retaining wall and the authority had carried out a site visit to observe the applicant’s concerns. I disagree with the view attributed to the authority that the applicant should backfill to the fence and the issue should be left until the wall becomes unstable and becomes a civil matter. I note that a determination on, either the compliance of the wall could be sought (as the applicant has done), or subsequent to the issue of the code compliance certificate, the authority could have applied for a determination to have the Ministry consider the issue of the code compliance certificate in respect of the retaining wall and whether the certificate should be reversed.

7. The decision

7.1 In accordance with section 188 of the Building Act 2004, I hereby determine that retaining wall and fence constructed between 36B Ballin Street and 34A Ballin Street does not comply with Clause B1.3.6(b) of the Building Code.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 10 February 2015.

John Gardiner
Manager Determinations and Assurance

⁴ See also Determination 2007/141 Requirement for a fire protection barrier to a coolstore

⁵ 18/6/03, Judge McElrea, DC Auckland CRN2004067301-19