Department of Building and Housing
Te Tari Kaupapa Whare

Determination 2010/059

Disposal of surface water collected behind a retaining wall at 336A Beach Road, Mairangi Bay, North Shore City

1. The matters to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004 ("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 the Department.

1.2 In terms of section 176 of the Act the parties to the determination are:

- the applicants, S and M Bosnyak, as the owners of 336 Beach Road, Mairangi Bay ("the neighbours")
- A Perezinni, as the owner of 336A Beach Road, ("the owner")
- North Shore City Council ("the authority") carrying out its duties and functions as a territorial authority or building consent authority
- I consider that P Harrison ("the previous owner") was a person whose rights, obligations, or interests might be affected by the determination because he had

been the owner of 336A Beach Road when a retaining wall on 336A along the boundaries with 336 and 338 ("the wall") was constructed and altered.

- The same opportunity was also given to Y Lee, the owner of 338 Beach Road ("the adjacent neighbour")

In accordance with section 27 of the NZ Bill of Rights Act 1990 I gave the previous owner, and the adjacent neighbour, the opportunity to participate in the determination process to the same extent as the parties.

1.3 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 (the First Schedule to the Building Regulations 1992).

1.4 This determination arises out of complaints by the neighbours to the effect that water is coming on to their property through and beneath the wall. I take the view that in terms of section 177 the matters for determination are whether the wall as altered protects the neighbours' property from the adverse effects of surface water to the extent required by clause E1.3.1.

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

2. The wall and the sequence of events

2.1 The wall is of concrete block construction. A plan of the wall is shown below as Figure 1. One length of the wall runs along the boundary between the owner's property at 336A and the neighbours' property at 336 Beach Road. Another length, at right angles to that, runs along the boundary between the owner's property and the adjacent neighbour at 338 Beach Road. The wall retains up to approximately 1.6 m depth of soil, and parts of it also resist the surcharge from a driveway and parking area as shown on Figure 1. Along its length, the wall extends approximately 1 to 1.8 metres above the level of the retained soil to form a fence. Figure 1 does not show a low timber retaining wall on 336 Beach Road, see 2.8 below.

2.2 The house at 336A Beach Road was erected by the previous owner in 2003 under a building consent issued by the authority. In 2005, the previous owner constructed the wall, without a building consent, and backfilled the area behind it to form level ground for the driveway and parking, a tiled court, a lawn and garden.

2.3 Shortly afterwards, the neighbours commenced a continuing series of complaints to the authority that water was discharging through the wall onto their property. Those complaints included allegations of inappropriate conduct on the part of the authority or its officers. I take the view that I have no jurisdiction in respect of such allegations.

2.4 On 6 November 2005 the authority advised the previous owner that dye testing of the surface water disposal system of 336A had been undertaken and had generally established that the system was functioning properly except that the testing failed to establish "whether or not the subsoil drain ("draincoil") running along the base of the [wall] was clear and in good condition". The authority suspected that there could be

a blockage in that drain and asked the previous owner to have it flushed. That was duly done by a firm of drain specialists who used a high pressure system and reported, on 10 January 2006, that the draincoil was clear (this work was to the draincoil assumed to be located at the base of the wall).

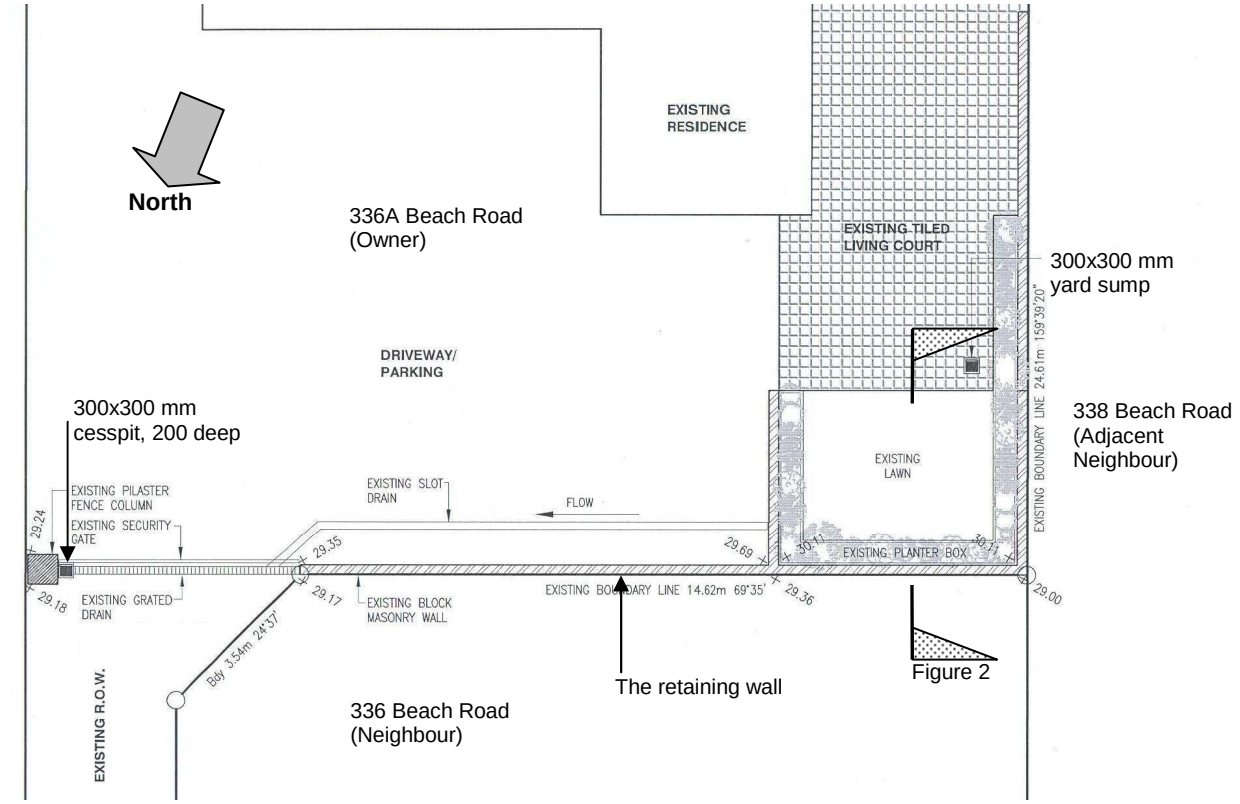

Figure 1: Part site plan (raised garden to 336 Beach Road not shown)

2.5 On 16 February 2006 a barrister acting for the neighbours wrote to the authority saying:

> The retaining wall was constructed in March 2005 or thereabouts and stormwater has been discharging into my clients' property through the retaining wall, causing flooding and damage to their living quarters.
>
> [The neighbours are] concerned that the pressure may cause the wall to collapse. . .

2.6 The neighbours continued to lodge complaints with the authority, and in or about June 2006 the neighbours engaged a firm of registered drainlayers ("the drainlayer") to investigate the matter.

2.7 On 16 June 2006 the drainlayer undertook excavations along the neighbours' side of the wall and reported that:

> We excavated by hand along side and against the concrete wall and footing. We exposed the face of the retaining wall and clearly observed the storm water seepage coming through the wall at several positions. Also a clay field tile was exposed which had water seeping out of it buried under the footing. It does not appear that a subsoil drain from the concrete retaining wall exists, and my finding is that a build up of water from the rear of property is flowing through the block wall and onto [the neighbour's] rear yard.

2.8 At some point, although I do not know the date, the neighbours constructed a timber retaining wall approximately 600 mm high and about 1200 mm away from the wall. The ground between the two walls was backfilled and drained to create a raised garden. The building work involved did not require a building consent.

2.9 In a letter dated 15 June 2006 the authority listed the actions it had taken in response to the neighbours' complaints. Those actions were concerned with the surface water disposal system for the house and paved areas at 336A and not specifically with the stability of the wall.

2.10 In October 2006, the authority served a notice to fix on the previous owner in respect of having constructed the wall without a building consent. The previous owner engaged a firm of consulting engineers ("the consulting engineers") to investigate the existing wall and design any necessary strengthening works. That was duly done, and the previous owner applied for a building consent for alterations to strengthen the wall.

2.11 On 7 November 2006 the adjacent neighbour wrote to the previous owner saying:

> As I have explained to you regarding the leakage of pressurised water . . .I would prefer that you lay the drain pipe on . . . your side of the concrete wall so as not to seep the pressurised water on to my house side . . .

On 8 November 2006 the adjacent neighbour wrote to the authority saying:

> . . . storm water is seeping under pressure through the wall from 336A onto my property. . . .

2.12 In a letter dated 7 December 2006 to the consulting engineers, the authority said:

> 1 Discharge of surface water from a structure over a legal boundary is not allowed (E1/AS1).
>
> 2 A site plan is required showing the location/layout of drain from behind concrete block wall to proposed point of discharge . . . .
>
> 3 Letters in council files indicate a field type drain is in existence but I cannot find any plans or record to confirm location or existence.
>
> 4 A new drain would eliminate any hydraulic pressure from a build up of water from behind concrete block wall in winter conditions as is indicated from existing seepage now being experienced.

2.13 On 15 December 2006, the consulting engineers replied:

> **Item 1.**
>
> We presume you are referring to drainage from behind the wall. [The previous owner] advises us that drainage eg: scoria and a drain coil was retrospectively installed behind the wall in question . . . and that Council has on the property file correspondence to this effect. (Presumably as noted in . . . item 3 [of paragraph 2.12])
>
> **Item 2.**
>
> We have been advised that the wall's subsoil drain discharges to the existing catch pit [cesspit] in the driveway. This can be verified as noted re. item 3 below.

Item 3.

Given the proposed remedial works we consider it practicable to verify the existence of drainage during the course of the works. We request that this be made a condition of the consent.

Item 4.

We understand that the seepage issue was dealt with by the retrospective installation of drainage per your property file records and that the seepage problem is no longer a problem.

2.14 The building consent for the alterations was apparently issued on 6 January 2007. I have not seen the consent itself, but the accompanying "conditions" include:

> Check position and depth of all sanitary sewers and drains before starting work.
>
> The owner shall provide to the Council an "as-built" record of all drainage systems prior to the issue of a Code Compliance Certificate (engineers letter, item no 3).

The consented drawings have been annotated by the authority to show two lines of draincoil to the wall, one line immediately above the strengthening beam and one some distance above the foot of the wall, the latter referring to the "engineers letter" and "building consent conditions".

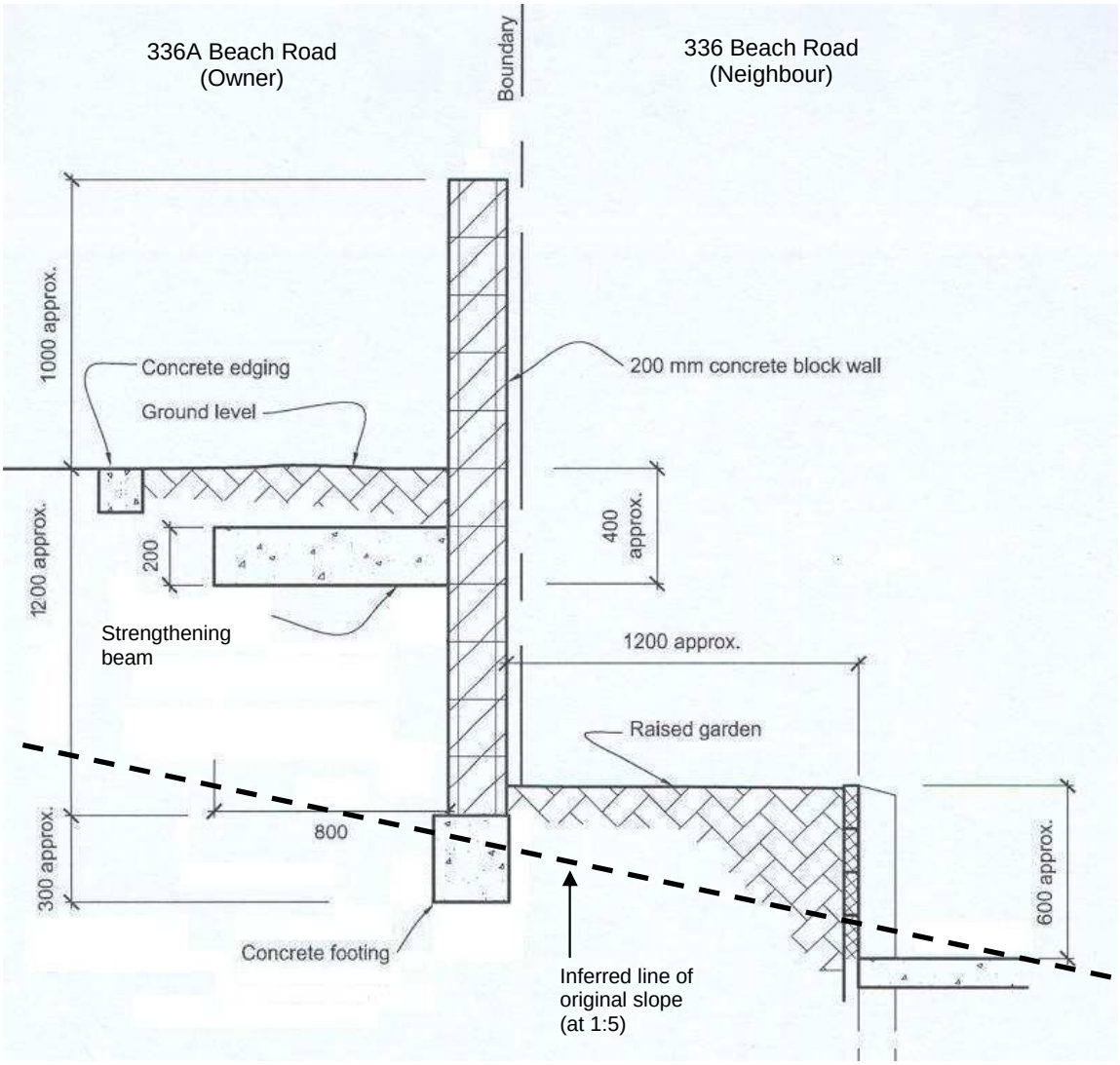

Figure 2: Section through the wall (draincoil not shown)

2.15 The neighbours engaged the drainlayer to again inspect the wall, and on 8 January 2007 the drainlayer reported that:

> It appears work on [the wall] to obtain an acceptance by [the authority] of its stability and subsoil drainage has been done.
>
> . . . it is my opinion that . . . work to remedy the subsoil water problem is not satisfactory.
>
> The subsoil drain supposedly installed by [the previous owner] along the block wall discharges into a 300x300 deep cesspit in the driveway, the stormwater leaking through the blocks at footing level is at a lower level than the cesspit. . [Sealing] these cracks on [the neighbours'] side of the wall . . . will not work. Basically you would create a holding tank behind the wall till the water level reached the height of the driveway cesspit.
>
> In summary the wall subsoil drain should be redone on the [previous owner's] side to achieve fall . . . to the private stormwater system and new cesspit.

2.16 On 19 January 2007 the neighbours wrote to the authority saying:

> . . . we now have a mud puddle which appears to be seeping through the wall. [The owner of 338 Beach Road] is also experiencing water through his boundary wall!

2.17 In a letter dated 1 February 2007 to the previous owner, a waterproofing firm reported that it had inspected the wall in the course of the alterations and:

> At the time of our inspection no sign of seepage was evident in that the paint surface was dry and well adhered, and condition of the garden soil was sound indicating that water seepage is not significant.
>
> . . . the matrix of the blockwork in the vicinity of the reported seepage could be injected with a low viscosity urethane resin [and] the work areas . . . repaired with epoxy mortar and painted with the same system.

2.18 On 1 February 2007 the previous owner undertook to pay the waterproofing firm to:

> . . . carry out remedial work to the Nth East Cnr of retaining boundary wall, within 4 weeks of this letter's date.

2.19 On 2 February 2007 the authority issued a code compliance certificate in respect of the alterations.

2.20 Photographs show the presence of waterproofing above the level of the strengthening beam, but I have seen no information as to where the draincoil is located or to what depth the waterproofing extends. The authority's 'Inspection Checklist' records drainage inspections on 6, 10, and 22 January and 1 February 2007 and mentions the draincoil and the waterproofing. The authority's 'Checklist for CCC Clearance' states that four drainage inspections had been made.

2.21 I have seen no evidence that the consulting engineers did in fact "verify" the draincoil.

2.22 On 10 February 2007 the neighbours wrote to the authority saying:

> . . . Today we had pictures taken of the mud pool that is at the lower end of the wall. . .
>
> We have had no rain for a week but have a mud pool. When winter comes it will be a flood . . .

The letter was countersigned by the adjacent neighbour as a 'witness to mud pool'.

2.23 On 17 February 2007 the authority wrote to the neighbours, saying:

> I can confirm that on the 2nd February 2007 a Code of [*sic*] Compliance Certificate was issued in respect to the [wall] …
>
> All the conditions of the consent have been met. The wall has been strengthened as per the engineering design submitted. Drainage has been installed as per the plans and the wall has been fully sealed. . . .
>
> As you are aware I visited your address on the 24th January and inspected the wall in question …. I did observe some minor seepage in one corner of the wall. This seepage was after frequent irrigation of landscaping on 336a Beach road. There was a damp patch but no flow of water at all.
>
> Following my visit and acting on your concerns I instructed [an authority officer] to carry out a flood test on the retaining wall. This consisted of a hose turned fully on for an extended period of time running directly down the retaining wall at the point of the minor seepage. Although there was still a damp seepage patch there was no flow of water coming out from under the wall and all drainage appeared to be operating as it should.
>
> I also asked him to ascertain if the minor seepage was coming from underneath or from the top of the foundations. He could find no evidence to support the seepage was coming from the top of the foundations. I suspect it might be coming right under the foundations of the wall.
>
> As you know the land falls steeply away from the retaining wall on your side of the boundary. As the rear of your property has been excavated and another small retaining wall constructed, the original ground level is hard to ascertain. This is not the ideal situation when trying to prevent seepage under a retaining wall.
>
> Added to this . . . excavation has been carried out down to the base of the footing on your side of the wall [and] disturbing the ground around the footing . . . may cause seepage problems. . . .

2.24 On 21 February 2007 the neighbours responded by disputing many of the statements in the authority's letter. After some further correspondence, the neighbours applied for the determination on 23 August 2007.

3. The legislation and the compliance documents

3.1 The relevant provisions of Clause E1 Surface Water include:

> **E1.3.1** Except as otherwise required under the Resource Management Act 1991 for the protection of other property, surface water, resulting from an event having a 10 percent probability of occurring annually and which is collected or concentrated by buildings or sitework, shall be disposed of in a way that avoids the likelihood of damage or nuisance to other property.

4. The expert's report

4.1 As mentioned in paragraph 1.5, I engaged an expert ("the expert") to provide an assessment of the condition of those building elements subject to the determination. The expert is a chartered professional engineer. The expert inspected the wall and provided a report to the Department dated 23 October 2007 which was copied to the parties and the previous owner.

4.2 The expert's report said:

> We met with [the neighbours] on [the day after] a … reasonably significant rain event . . . . Surprisingly there was very little water either seeping through or beneath the wall and very little damage to [the neighbours'] garden. Some erosion and water seepage was however noted in the adjoining property at 338 Beach Road.
>
> [The neighbours'] principal concerns are:
>
> - water seepage beneath and through the wall causing [damage] to their garden
> - the potential for their property to be flooded should the drains become overloaded in a significant rain event
> - the ground in their garden retaining wall always being saturated making plant/shrub/tree growth extremely difficult
>
> [The owner] refused to allow any excavation so our inspection was limited to a visual inspection and spearing. . . .
>
> The following features were noted [see also Fig.1]:
>
> - there is a grated drain across the right of way entrance [which discharges into a] yard sump . . . only 200 mm deep.
> - a small slot has been cut in the driveway . . . some 600 mm off the face of the wall in an effort to channel the driveway/parking area stormwater runoff to the grated drain . . .
> - the gap between the wall and the driveway concrete has not been sealed although concrete shrinkage away from the wall is minimal
> - . . . the [strengthening beam] . . . is 200 mm below existing ground level
> - the paved courtyard area beyond the grassed living court area has a yard sump.
>
> The level or existence of any drainage behind the wall could not be determined.
>
> The drainage on site differs from the approved building plans in that the driveway cesspit has been shifted and the grated drain and yard sump were never shown on the approved plan.
>
> The as-built drainage plan is extremely difficult to follow and does not show the grated drain or the yard sump to the paved area. [We] can only assume the yard sump is also connected into the [piped] system. We were unable to confirm this. . . .

The report discussed Clause B1 Structure and noted that:

> In our opinion the wall reinforcing satisfies the provisions of Clause B1. [However, in] our opinion the wall foundations do not satisfy the provisions of clause B 1 in that the foundation is undersized for wind/earthquake loads.

The report also noted:

- the strengthening work's calculations assume 400 mm of fill above the [strengthening beam] . . . . Our site check indicated only 200 mm as built depth but the retained height is also correspondingly less

The report then discussed Clause E1 Surface water, and said:

> Surface water controls on the consent plans/as-builts include:
>
> - hardstand run off including yard areas being collected via grated drains yard/sumps and discharged to the piped system
> - a novacoil drain provided behind the upper level cut retaining walls and discharged via silt traps to the pipe system

- a novacoil drain provided behind the retaining wall to the boundary

We have not investigated or tested the first [two] controls although we note that [the authority] satisfied itself that all controls were functioning adequately. . . .

From the photographs and a review of [authority] records we have no reason to believe that the drainage was not constructed.

We suspect, but cannot confirm that the drainage is not right at the bottom of the wall. We were told, but again cannot confirm, that the drainage has reverse fall over part or all of its length.

. . . the driveway cesspit is only 200 mm deep and this level is approximately the same as the bottom of the wall.

Because of the 800 mm wide [strengthening beam] it is highly unlikely that any surface water will actually reach or enter the drain coil immediately behind the wall. There is potential for water to perch on the concrete [beam] and seep through the wall.

Any . . . water below the level of the drainage behind the wall will manifest itself in the bottom NW corner of the property and enter both 336 and 338 Beach Road.

[It] is likely that the drain coil behind the wall is probably not functioning as intended.

5. The submissions, the draft determinations, and the technical meeting

5.1 The initial submissions

5.1.1 The neighbours' application for a determination was accompanied by copies of the reports mentioned in paragraph 2 above and of extensive correspondence, only a small part of which is specifically mentioned above. In a covering letter the neighbours said:

> The [previous owner] built an illegal overheight wall on the boundary for which there was no building consent. A cesspit was put in place to which a [perforated plastic] (100mm) pipe [also referred to as "draincoil"] was attached specifically to drain the wall. Unfortunately the pipe is at a higher point than the other end so that it is a backflow and the storm water cannot flow water to it but instead flows back to turn the wall into a holding tank and when it is full it automatically uses our house and section as the cesspit (sometimes a little smelly).

5.1.2 The owner of 336A Beach Road said that he did not wish to make any submissions at this stage. However, he said that he had cleaned out the cesspit and there appeared to have been no more trouble.

5.1.3 The authority provided copies of relevant documents and submitted that:

> . . . the drainage inspections . . . have been carried out by [an inspection officer]. The original footing had some site concrete laid on top of it creating fall to the silt trap in the drive. The wall has had a DPC [damp proof course] membrane applied, novacoil drain complete with sock and scoria.
>
> Complaints [from the neighbours] have been investigated. The land falls steeply away from 336a Beach road towards [the neighbours'] property. In addition to this [the neighbours and the drainlayer] have been digging around the boundary undermining the footing to [the wall]. The consent was only to strengthen the existing . . . wall and as such I can not confirm what depth the original footing is poured to. I suspect due to the above factors the minor seepage complained about may well be coming under the footing.

5.2 The first draft determination and submissions received

5.2.1 The first draft determination was issued to the parties and the previous owner on 18 January 2008 together with a request for further submissions and evidence.

5.2.2 In response the previous owner submitted an affidavit, dated 29 January 2008, accompanied by a letter dated 23 January 2008. In the letter and affidavit the previous owner submitted that:

- all aspects of the drainage to the wall had been inspected and signed off by the authority
- all the grass, topsoil and scoria behind the wall was removed and excavated down to the base of the wall. [The authority] witnessed the exposure of the draincoil which was installed to specification. The wall was waterproofed
- the draincoil has the correct fall and a test confirmed that the water flowed correctly to the outlet. The test was witnessed by the neighbours
- he has done everything necessary to ensure the wall is fully compliant.

5.3 The technical meeting

5.3.1 A technical meeting was held at the site on 28 February 2008. The purpose of the meeting was for me to inspect the wall, the property at 336A Beach Road immediately adjacent the retaining wall, and carry out a visual inspection of the ground either side of the wall including a visual inspection of the surface water drains. The meeting was convened by me and attended by:

- a referee appointed by the Chief Executive under section 187(3) of the Act
- the neighbours with other family members
- the drainlayer
- the authority represented by two of its officers
- the adjacent neighbour
- two staff members of the Department.

The owner and the previous owner chose not to attend the meeting.

5.3.2 All the parties spoke and called evidence at the meeting. The neighbours and adjacent neighbour gave evidence about the nature of the nuisance. At the conclusion of the meeting I gave the parties the opportunity to make further written submissions. In addition, the staff of the authority said they would provide what information they could from the authority's property files.

5.3.3 At the meeting the neighbours expressed their frustration at their dealings with the authority over the matter.

5.3.4 The evidence of the neighbours and adjacent neighbour was that water was coming through the wall on a number of occasions during the course of a year. At approximately 5-6 times a year this water comes through the wall into 338 Beach Road with enough pressure to 'jet' out from the face of the wall.

5.3.5 No one at the meeting could attest to the fact there is a draincoil under the strengthening beam. Based on statements made at the meeting, plus other evidence presented, it appears that the draincoil installed with the strengthening works is above the level of the strengthening beam in which case the invert of the draincoil is, at most, 200mm below the surface of the finished ground at its lowest point.

5.3.6 Following the hearing the neighbours provided a written submission which is summarised as follows:

- the neighbours disputed the previous owner's assertion that they had witnessed either the installation of the draincoil or its testing
- the wall was built without resource consent, building consent, and without any engineering input
- the footing to the wall was less than 450mm deep and not into solid ground
- the authority inspector only witnessed draincoil on top of the strengthening beam, and not the presence, or otherwise, of draincoil under it
- it was significant that the authority had not ensured that the remedial work was carried out correctly.

5.3.7 In a letter to the Department dated 19 March 2008, the authority said that, while it had no reason to doubt the evidence that has been presented by the neighbours about the nuisance, this has not been witnessed by the staff of the authority. The letter also said:

> [The authority] was under the impression [that it] had inspected the . . . drain under the strengthening beam. This was not the case . . .
>
> It is accepted the natural level of the land falls toward the boundary corner that intersects with . . . [the] boundary [of both neighbours]. As this is the lowest point of 336A Beach Road and natural water seeping through the ground will end up at this point. As water does not flow up hill [the authority] suspect[s] there could not be an effective . . . drain at the bottom footing [at] this point. The only possible way for an effective drain to be installed would have been for approval to be sought from [either neighbour] to install a stormwater drain across their properties to an approved outlet.

5.3.8 Attached to the letter was the following information:

- The surveyed site plan and information relating to the consent for the subdivision of the site which showed the natural ground level to be on or slightly steeper than 1:5.
- The approved building consent plans for 336A Beach Road, dated June 2003.
- An undated "as built" surface water and sewage drainage plan for 336A Beach Road that appeared to show both the original drains to the house as well as draincoil to the relevant boundaries.
- Photographs taken of the drive showing a cesspit immediately prior to the concrete drive to 336A being poured. (This is of limited relevance as the cesspit is no longer in the location shown).
- Confirmation from a drain specialists that 'the drainage coil line' at 336A Beach Road was 'tested' on January 2006 and that the drain was 'clear'.

- A producer statement construction review, dated June 2004, for the observation of the stormwater detention tank to 336A Beach Road.

5.3.9 The approved building consent plans show the surface water from the house at 336A Beach Road going to a detention tank located adjacent to the wall. On one plan the tank is shown as $5m^3$ but another copy of the same plan is amended to show the tank being $9.25m^3$. The status of the amended plan is not known nor which size of tank was installed. The tank receives surface water from the house at 336A and releases it at a restricted rate to the surface water drain in the street. The 'as built' plan shows manhole access to the detention tank but this is no longer evident on site. The detention tank is also shown on the drawings prepared by the owner's consulting engineers. The drawings show the tank just below the original ground level which would place it approximately 1.2 metres below the current ground level.

5.4 The second draft determination and submissions received

5.4.1 The second draft determination was issued to parties and the previous owner on 27 May 2008 taking account the submissions received in response to the first draft determination and the outcome of the technical meeting.

5.4.2 The adjacent neighbour accepted the second draft determination without comment.

5.4.3 The owner responded, via their legal adviser, in a letter to the Department dated 3 June 2008. The owner did not accept the second draft determination and made comments related to matters involving the purchase of the property, the reliance placed on the code compliance certificate, and a request that the determination include a description of the remedial work required. I note that the comments raised are of a civil nature and are not matters I can determine under the Act.

5.4.4 The authority responded in a letter to the Department received on 9 July 2008. The authority commented on its observations made during a site visit following two weeks of rain, on the relevance of the consent for the strengthening work, and on its view of nuisance.

5.4.5 The authority submitted that:

- If water is coming through the wall it can only be considered 'minor seepage'. There have been no puddles, flooding, or flow of water observed by various engineers and consultants, including the Department, and there is no evidence of damage to the house.
- The draincoil at the base of the wall was confirmed as clear in January 2005.
- If the wall was sealed, as suggested in paragraph 2.15 by the drainlayer, this would lift the water to the height of the draincoil 'near the base' of the wall.
- The consent was for alterations to strengthen the wall. The authority noted on the drawings the requirement for the owner to verify the presence if the draincoil at the base of the wall. However, the authority does not have a record of the verification.
- The test using a hose running for a prolonged period could be used to detect if a drainage pathway exists under the wall.

- The neighbours and the previous owner have made conflicting statements regarding the installation of the drainage coil at the base of the wall.
- The adjacent neighbour had showed the authority where water was running out from the wall (refer paragraph 5.3.4). The authority said this was at an 'open joint in the concrete blocks at the far end of the wall' where the retained height was less than 300mm.
- The authority agreed that the functioning of the detention tank should be checked but considered that was a separate issue to the functioning of the retaining wall.

The authority also provided rainfall data for the month of June 2008 in a letter to the Department dated 22 July 2008.

5.5 The neighbours responded, via their legal adviser, in a fax to the Department dated 11 June 2008. The neighbours submitted there was nothing in the determination that would ensure that the defects were remedied and that the determination 'did not go far enough to effectively resolve the problem. The neighbours submitted that the authority had failed to exercise its functions under the Act and that it was within the powers of the Chief Executive of the Department to require the authority to take remedial action under the Act.

5.6 The neighbours provided a further submission dated 14 December 2008 that included a number of documents and some photographs. Attached to the submission was a copy of a 'Compliance & monitoring service request' dated 21 February 2005 from the authority that included a note 'appears water is coming through wall above possibly location of [drainage] coil. …[Previous owner] advised had left tap running which potentially contributed to problem. Do another [inspection] to see if problem continues.' A further inspection was carried out in August 2006 and the authority concluded that the 'infringement is minor'.

5.7 The neighbours reiterated that the draincoil was not installed, or if it was then it would be running uphill, and that the correspondence between the authority and the consulting engineers confirmed there was an issue of seepage. The neighbours also commented on the authority's inspection records, and referred to differences between the drainlayer's report and that of the previous owner's engineer.

5.8 Further correspondence was also received from the neighbours and the adjacent neighbour raising a concern that as a result of recent weather events the wall has been undermined and may collapse.

5.9 The previous owners responded to the second draft determination, via their legal adviser, in a letter to the Department dated 24 July 2008 and also provided the report of a consulting engineer ("the previous owner's engineer) dated 22 July 2008.

5.10 The previous owner's engineer commented on his observations made during two visits to the property following periods of heavy rain. The engineer commented on the nature of the site, the testing conducted by the authority, the first draft determination, the reported observations of the parties, and made conclusions and recommendations. I summarise the submission as follows:

- Drawings show surface water piped to an underground detention chamber, and that there is a draincoil behind the wall. The hidden drainage elements were not able to be inspected, but nothing has been seen to suggest that the drainage is not functioning effectively.
- Minor dampness only was observed and from the observations made and technical data available the 'nuisance' is not significant enough to be a breach of Clause E1.3.1.
- The yard areas are 10% of the undeveloped site and the runoff from the lawn area would migrate and in part be intercepted by the draincoil, and in part would follow the original ground slope to emerge at the base of the timber retaining wall to the raised garden in 336 Beach Road (Figure 2 refers).
- The finished path level adjoining the timber retaining wall and the raised garden in 336 Beach Road is excavated below the original ground slope (Figure 2 refers). The dampness observed at this point cannot be assumed to evidence any leak in the wall.
- Effects you would expect to observe if the draincoil was deficient are not evident. It may be possible for a small amount of water to accumulate beneath the draincoil at the lowest point on the wall (the northwest corner).

5.11 The previous owner sent further correspondence to the Department, via their legal adviser, in a letter dated 29 January 2009. The letter stated that the previous owner's engineer was 'highly reputable' and had been engaged to review the matter independently. The letter, in turn, included a letter from the previous owner's engineer, dated 1 September 2008, which responded to correspondence from the neighbours and the adjacent neighbour. The previous owner's engineer advised that the submission of the neighbours, and the adjacent neighbour, did not change his view of the matter and that he stood by the findings of his earlier report (refer paragraph 5.10).

5.12 The final submissions

5.12.1 The submissions were substantive and included reference to four site inspections carried out by the authority and the previous owner's engineer. In light of the submissions received the Department wrote to the parties on 19 March 2009 requesting rainfall data corresponding to the periods prior to the four site inspections, and requested pictorial evidence of water flowing from the wall along with advice of the preceding rainfall event. I received no reply in response to the letter.

5.12.2 On 20 January 2010 the owner wrote to the Department, via their legal adviser, requesting that the matter be finalised. The letter was copied to the parties but the parties made no submissions in response.

5.12.3 The Department then wrote to the parties on 16 March 2010 requesting that the parties confirm their response to both the legal adviser's letter dated 20 January 2010, and the Department's letter dated 19 March 2009. The letter observed that the previous winter had provided a number of opportunities for such evidence to be gathered.

5.12.4 The authority responded to the request in a letter dated 15 April 2010. The letter said that no new information had been submitted to change its view of the matter and it reaffirmed its previous position that it has observed 'no water egress from the wall' 'immediately after particularly wet weather …'.

5.12.5 The neighbours responded to the request in a letter dated 13 April 2010. The letter enclosed photographs of the wall and associated drainage features taken two months previously. The neighbours reiterated matters raised in earlier submissions, including the observation that the draincoil at its lowest point was below the level of the cesspit and therefore could not drain to it, and that the installation of the draincoil had not been observed by the authority. The one photograph taken of the wall itself (at the north west corner) did not appear to show any free water running from the base of the wall.

6. Discussion

6.1 Compliance with Clause B1 Structure

6.1.1 The expert has advised in his report that the wall does not comply with Clause B1 in some respects; however, this aspect of the wall's performance is not the subject of this determination. The authority therefore needs to satisfy itself as to whether the wall is dangerous in terms of section 121 of the Act.

6.2 'Nuisance' and the requirements of Clause E1.3.1

6.2.1 Clause E1.3.1 refers to 'surface water having a 10% probability of occurring annually', which in this context I take to mean run-off from the rain falling during a 10 year storm. In my view there is some doubt that the test of the wall's drainage (refer paragraph 2.23) could have replicated the quantity of surface water arising from a 10 year storm event.

6.2.2 Clause E1.3.1 refers to "surface water . . . collected or concentrated by buildings or sitework". In this context, surface water can appear from several distinct sources:

(a) Rainwater blown against and running down the wall on the neighbours' side. In my view, water from this source is negligible and need not be taken into account;

(b) Rainwater that collects as surface water at 336A Beach Road on the level 1 deck to the house, the tiled court, the lawn area and garden;

(c) Rainwater that collects as surface water on the paved surface of the drive;

(d) Water passing either through, or under, the wall which has originated as rainwater falling on the owner's property.

6.2.3 Clause E1.3.1 uses the word "nuisance", which has a comparatively narrow legal meaning. However, in Determination 2003/4, which concerned balcony drainage for a multi-level apartment building, the predecessor to the Department, the Building Industry Authority ("the BIA") said (in the context of Clause E1.3.1, which has not been amended since that determination):

> 4.3.5 The [authority] believed that nuisance would be interpreted as having a very broad meaning and disagreed with the applicant that staining did not need to be considered as a Building Code issue.

> 6.5 The [BIA] agrees with the [authority] that nuisance must be considered in the broadest sense of the word.

6.2.4 I continue to hold that view. However broad a meaning is given to the word "nuisance", there must be some significant nuisance effect before there can be a breach of Clause E1.3.1.

6.3 The collection of surface water behind the wall

6.3.1 There appears to be two lines of draincoil installed behind the wall (the upper and lower draincoil). The "as-built" drainage plan also shows a draincoil line along the relevant boundaries. It is not known if this line is additional to the upper and lower drains. There is no corroborating evidence to confirm the location of the lower draincoil and the waterproofing to the lower part of the wall.

6.3.2 The surface water drainage from the garden and the tiled court is to a 300x300mm yard sump. It is not known to what point the yard sump drains. The expert has advised that the "as-built" drainage plan is extremely difficult to follow and does not contain some features, including the yard sump. There is also some doubt about the surface water drains serving the house, the yard sump, and in particular the performance of the detention tank and its associated pipework.

6.3.3 At its lowest point the base of the wall including its foundation, is approximately 100mm below the invert level of the cesspit to which it is intended to drain so it is unable to function as intended. The upper draincoil, because of its position above the strengthening beam, will have little effect draining surface water that falls on the garden and the tiled court. The detention tank was installed to receive the surface water runoff from the owner's house. The detention tank appears to have a manhole which, I assume, was installed for the required maintenance of the tank and its associated pipework. However, the manhole appears to have been covered when the ground level behind the wall was raised. The authority and the previous owner's engineer accept that the functioning of the detention tank should be confirmed.

6.4 The evidence presented by the parties

6.4.1 The evidence to establish that the wall does not comply with Clause E1.3.1 rests on the written complaints of the neighbours and the adjacent neighbour, the investigations by the drainlayer, and the verbal evidence presented at the technical meeting.

6.4.2 The evidence of the neighbours and the drainlayer is that water seeps through the wall above the footing into the neighbours' property. The evidence of the adjacent neighbour is that water 'jets' from the face of the wall, as if it is under pressure, which occurs about 5 times a year. The neighbours did not provide any corroborated, or photographic, evidence of water flowing from the base of the wall. The photographic evidence presented before, and since, the technical meeting only showed the wall and the adjacent ground as damp.

6.4.3 Evidence to the contrary is presented in the evidence of the authority and the previous owners' engineer arising from a number of site inspections following period of heavy rain. The authority and the previous owners' engineer only observed water

seeping through wall and in the opinion of both parties this quantity of water was insufficient to be considered a nuisance.

6.4.4 I accept the opinion of the previous owners' engineer that the excavation carried out by the neighbours, to install the timber retaining wall and raised garden, is below the level of the original ground and that the dampness in that location is not necessarily evidence of water coming from the wall. The authority has clarified where water 'jets' out of the wall into the adjacent neighbour's property; the location of the water entering adjacent neighbour's property would not appear to be related to the dampness at the base of the wall.

6.4.5 I have been presented with substantive submissions that the wall complies with Clause E1, but very little from the neighbours and the adjacent owner to substantiate their position that it does not. On balance, and based on the evidence received, I am of the view that the water entering the neighbours' property is insufficient in quantity to reach the threshold of what I consider to be a significant nuisance (refer paragraph 6.2.4), and therefore a breach of Clause E1.3.1.

6.5 Conclusions

6.5.1 I consider that insufficient evidence has been provided for me to conclude that the volume of water coming from the wall into the neighbours' property is causing a nuisance to the neighbours in contravention of the requirements of Clause E1.3.1.

6.5.2 The authority should satisfy itself as to whether the wall is dangerous in terms of section 121 of the Act.

7. Decision

7.1 In accordance with section 188 of the Act I hereby determine that the wall complies with Building Code Clause E1.3.1.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 12 July 2010.

John Gardiner
Manager Determinations