

Determination 2019/061

Regarding the compliance of a surface water drainage connection at 37A Miles Lane, Tauriko, Tauranga



Summary

This determination considers whether a surface water drain complies with Building Code Clause E1 Surface water. The drain collects water from a roof and is connected to a kerb sump and not directly to a surface water drain. The authority considers the connection to the sump was contrary to the means of compliance stated in the building consent, being the Acceptable Solution for Clause E1, and that approval should be sought for the work as a minor variation to the consent.

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, Katie Gordon, Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.¹
- 1.2 The parties to the determination are:
- the owners of the building, A and L Sands (“the applicant”) acting via an agent (“the agent”)
 - Tauranga City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.
- 1.3 This determination arises from the authority’s refusal to approve the connection of a surface water drain from a secondary dwelling (“the cottage”) into an outfall at the kerb sump in a private road because it considers that the connection is not in accordance with the building consent in regard to Building Code Clause E1 Surface water. The authority is of the view that the connection will not comply with the

¹ The Building Act and Building Code are available at www.legislation.govt.nz. The Building Code is contained in Schedule 1 of the Building Regulations 1992. Compliance and guidance documents issued by the Ministry, as well as past determinations, are available at www.building.govt.nz

Acceptable Solution for Clause E1, being E1/AS1, as called for in the consent documentation.

1.4 The matter to be determined is therefore whether the surface water connection to the kerb sump in the private road complies with the building consent and Clause E1 Surface water under section 177(1)(a) of the Act².

1.5 This determination is limited to the compliance of the as-built sump connection with Clause E1 and does not consider other elements of the building or other clauses of the Building Code.

1.6 The evidence

1.6.1 Evidence considered in this determination includes reports provided by several engineering advisors. In making my decision, I have considered:

- relevant parts of submissions from the parties
- the following reports provided by the applicant for the authority:
 - the 2 July 2018 geotechnical assessment for the foundations and retaining wall (“the geotechnical engineers”)
 - the 22 August 2018 services report by the engineering consultant (“the services engineer”)
 - 21 June 2019: the report on the sump connection by the services engineer
- the other evidence in this matter.

1.6.2 Within this determination, the above reports are given the following titles:

Table 1: The relevant reports

Date	Report provided by:	Title in this determination	Reference:
2 July 2018	the geotechnical engineers	“the geotechnical report”	Paragraph 2.2.1
22 Aug 2018	the services engineer	“the services report”	Paragraph 2.2.2
21 June 2019	the services engineer	“the surface water report”	Paragraph 2.6

1.6.3 Relevant provisions of the Building Code and the relevant Acceptable Solution discussed in this determination are provided in Appendix A.

2. The building work and background

2.1 The building work consists of a three-bedroom cottage constructed as a secondary dwelling on a large semi-rural property. The drawings take the deck as west facing and this determination follows that convention. The site slopes steeply down to the west, with a retaining wall to the east of the cottage as shown in Figure 1.

2.2 The geotechnical and services reports

2.2.1 The consent documentation includes a ‘geotechnical assessment for proposed dwelling’ prepared by the geotechnical engineers. The report addressed geotechnical characteristics in regard to a sketch design and siting of the proposed cottage,

² In this determination, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code

retaining walls, surface water disposal and effluent disposal. In regard to surface water, the geotechnical engineer noted:

Discharge of [surface water] onto the western slope is not permitted due to the potential effect on the slope stability. Likewise, disposal via onsite soakage is not recommended unless limited to pre-development levels ...

- 2.2.2 A services report dated 22 August 2018 was submitted with the consent documentation. This included a review of the effect of disposal of surface water from the proposed cottage and sitework. The services engineer noted that the existing house and paved areas discharged into soak holes and not to the private surface water main.

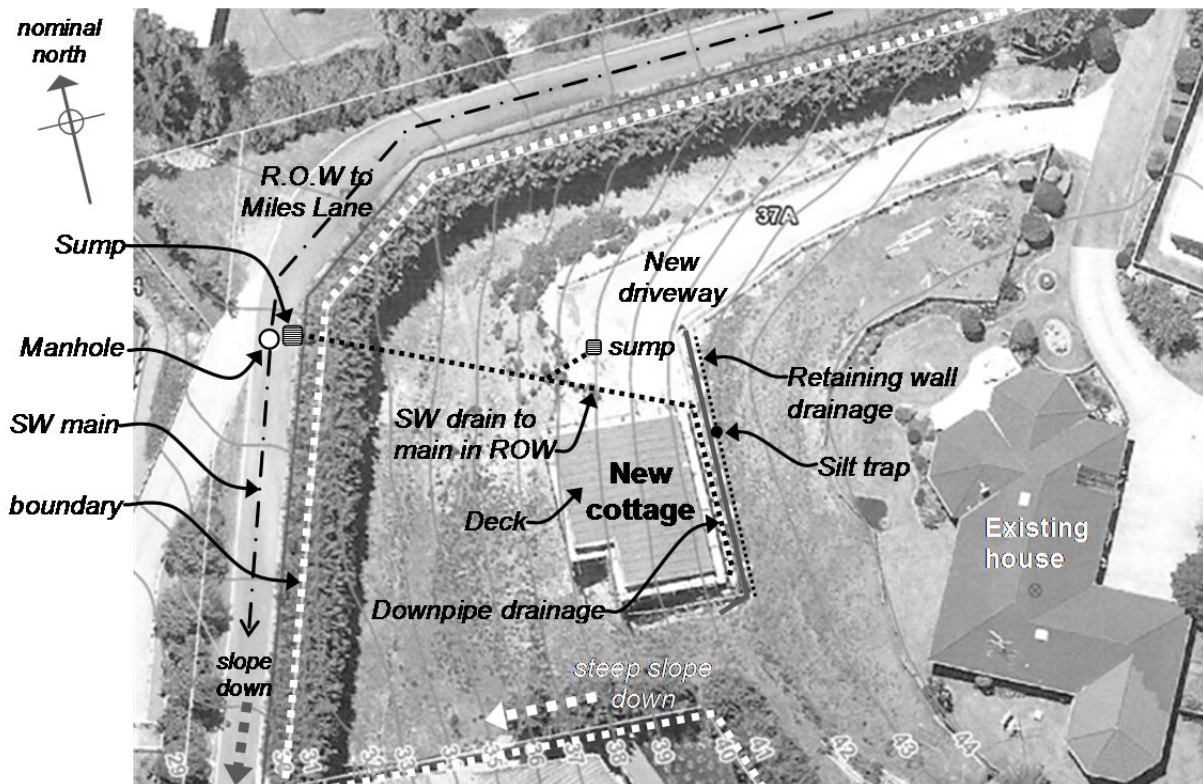


Figure 1: The property (not to scale)

- 2.2.3 The engineer noted that the existing surface water main is piped along the right-of-way from Miles Lane that services the properties accessed by the private road. The engineer noted that 37A has the 'right to drain water over surface water easement areas C and D which contains the surface water main'.
- 2.2.4 The engineer took into account roof and paved areas for existing buildings (including allowances for future building work) and assessed the current drain capacity against catchment areas. The effect of the proposed cottage was then added, and the report noted:

The existing pipe reticulation is relatively steep and has ample hydraulic capacity to serve the proposed development. The two sections of surface water main have in the order of 50% capacity remaining.

2.3 The work as consented

- 2.3.1 The cottage is simple in plan and form, with a floor area of 80m² and a 26m² deck to the west. Construction is generally conventional light timber frame; with timber pile foundations and a low-pitched metal roof. A timber retaining wall runs along the

east parallel to the cottage wall and returns at the south end to step down to the level building platform.

- 2.3.2 Perforated pipe installed behind the east timber retaining wall drains to a silt trap, which is connected into the underground surface water drain as shown in Figure 2:

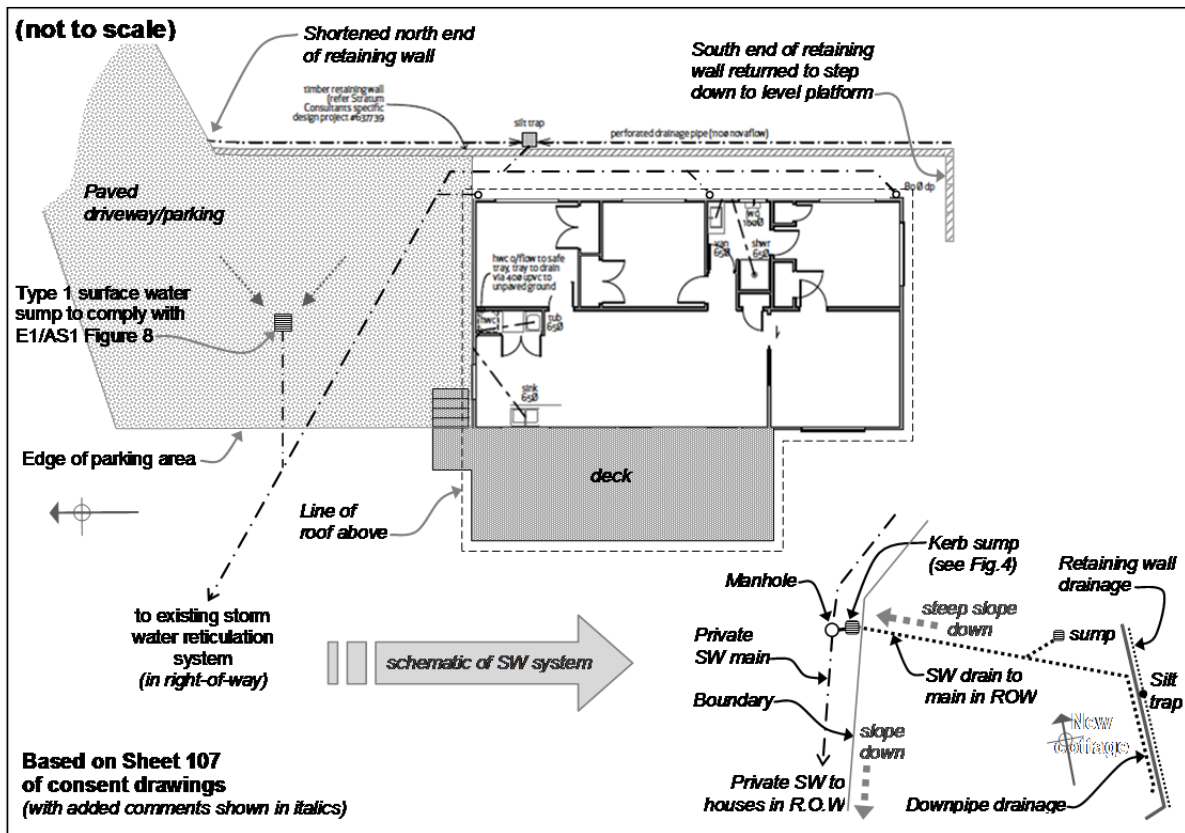


Figure 2: The consented surface water disposal system

- 2.3.3 A sump is installed within the paved parking area, to pick up surface water from the paved area. Sheet 107 revision C dated 26 September 2018 shows the driveway sump discharging into the surface water pipe, with an inspection junction called for at the intersection. The drain extends down the slope with an arrow and note stating 'to existing surface water reticulation system'.
- 2.3.4 The consent site plan (Sheet 102 revision B dated 25 September 2018) shows the cottage, driveway and retaining wall. Contours and boundaries are shown, with the main manhole located and the private road noted as 'easement C (right to drain surface water)'.
- 2.3.5 The drain was connected into the existing private road kerb sump adjacent to the manhole as shown in the schematic in Figure 2 to avoid damaging the recently resealed road surface. However, I note that an earlier connection application form had ticked a connection to the manhole not the kerb sump.
- 2.3.6 The connection to the kerb sump in the private road was described and sketched by the services engineer (see paragraph 2.6.3). The engineer's sketch is shown in Figure 3 (with explanatory notes added in italics).
- 2.3.7 During the authority's consent processing, a request for information dated 24 September 2018 included the following under a heading 'Miscellaneous – Other':

The surface water connection is to be made to a private surface water line, therefore a services connection application is unnecessary. Please confirm that the application is withdrawn.

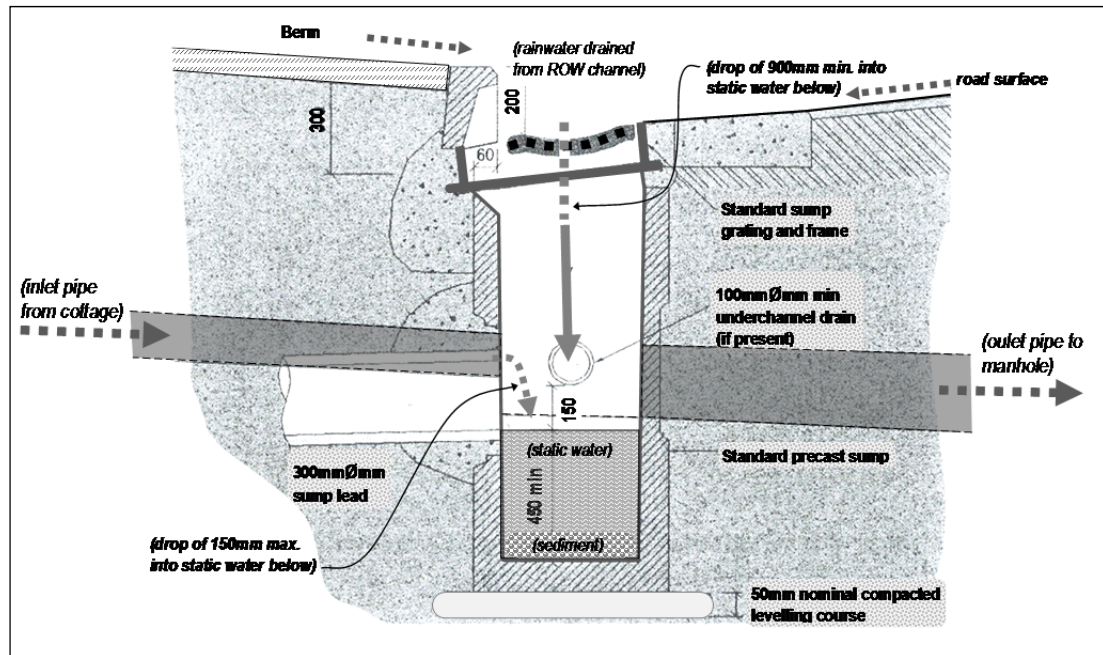


Figure 3: Connection to the kerb sump in the private road (not to scale)

2.3.8 However, the services connection application was not withdrawn so remained part of the consent documents. Other matters were apparently resolved, and consent documents were stamped as approved on 15 October 2018.

2.4 Construction and inspections

2.4.1 The authority issued the building consent (No. BC181909) for a '3 Bedroom secondary residential dwelling' on 18 October 2018. The consent noted that the design engineers would undertake construction monitoring and listed documentation that would be required, which included:

- E1: Surface water drain leakage test and as-built plans.

2.4.2 The authority commenced inspections, which included:

- pre-pour and sub-floor framing during December 2018
- framing/pre-wrap during January 2019
- preline and post line during February 2019
- drainage on 5 March 2019 which noted:

E1: Surface Water:

STORM WATER CONNECTION TO TCC³ LATERAL STILL TO BE CONNECTED. THIS WILL NEED TO BE INSPECTED. PLEASE BOOK AN INSPECTION WHEN READY.

- drainage (as part of the final inspection) on 23 April 2019 which noted:
Storm water ... check and water test required. Please re-book with Drain-layer in attendance.

³ Tauranga City Council. The connection was to a private main (as noted by the authority at paragraph 2.3.7).

2.4.3 The authority's building consent file includes a completed 'As Built Drainage Plan' form dated 18 March 2019 with an as-built plan showing the surface water drain discharging to the sump.

2.4.4 In inspection reports dated 24 April and 1 May 2019, the authority listed outstanding drainage items. The inspection record dated 8 May 2019 noted the following in regard to drainage:

Inspection Outcome: FAIL- ...

E1: Surface Water:

1. STORM WATER CONNECTION IS NOT AS PER PLAN, IT IS CONNECTED TO A TYPE TWO SUMP IN THE NEIGHBOURS PROPERTY⁴, THIS DOES NOT SHOW COMPLIANCE TO E1.

2.4.5 A services connection application to connect the surface water drain to the manhole had been made as part of the building consent application (the authority had advised that the application was not required as the manhole was part of the private drainage system, refer paragraph 2.3.7). In an email to the authority dated 28 May 2019 the designer attached a consent amendment application form for this change and noted that:

...however on site it was discovered [that connecting to the manhole] was not a practical solution (would need to dig up roading etc.). Can we please amend this to a new connection to the sump?

2.5 Response to the drainage inspection

2.5.1 Correspondence followed between the applicants, their agent (an engineer) and the authority as summarised as below:

Table 2: Summary of correspondence between the parties

Date	The applicant's queries and comments (in summary)	Date	The authority's responses (in summary)
13 May	<ul style="list-style-type: none"> Why can driveway surface water discharge into a sump but not roof water? 	20 May	<ul style="list-style-type: none"> Paragraph 3.6.1 of E1/AS1 states that 'All surface water, except that collected directly from a roof, shall enter the drain via a sump. The authority can allow drains to connect to road sumps on public roads. Connection to a private sump would require a building consent.
21 May	<ul style="list-style-type: none"> Paragraph 3.6.1 of E1/AS1 says that surface water from elsewhere must go through a sump. The above does not <u>exclude</u> roof water from the sump. 	21 May	<ul style="list-style-type: none"> Roof water draining into downpipes must be directed to the surface water drain, not via a sump. Sumps are to capture silt and sediment. The extra volume of roof water will stir up the sediment and negate the purpose of the sump in protecting the outfall.
6 June	<ul style="list-style-type: none"> Connecting to the manhole would require excavation of the private road. A sump connection is a minor variation and achieves the same performance requirement in a different way. Surface water discharge into kerb sumps is common practice and does not remobilise 	6 June	<ul style="list-style-type: none"> No new information provided so the decision remains as outlined in previous emails.

⁴ Being the kerb sump in the private road.

Date	The applicant's queries and comments (in summary)	Date	The authority's responses (in summary)
	sediment.		
10 June	<ul style="list-style-type: none"> • Requests confirmation of authority's position: <ol style="list-style-type: none"> 1. roof water cannot go to sump 2. sump is not appropriate outfall 3. the sump connection will not comply with the Building Code 4. the roof water must go to the manhole. 	17 June	<ul style="list-style-type: none"> • Authority's confirmed position: <ol style="list-style-type: none"> 1. correct 2. no - E1/AS1 is identified as means of compliance in consent 4. correct – E1/AS1 identified as means of compliance in drawings 5. the connection must meet E1/AS1 to show compliance with Clause E1.

2.6 The surface water report

2.6.1 The applicants re-engaged the services engineer, who had prepared the initial services report, to review the interpretation of Clause E1 by the authority. The engineer provided an indicative plan showing the location of the surface water connection, the private road and relevant levels of the drainage system. The engineer discussed the matter with authority staff who confirmed that their position was that paragraph 3.6.1 in E1/AS1 'does not permit roof water to discharge into a privately-owned sump.'

2.6.2 In regard to paragraph 3.6.1 of E1/AS1 the engineer noted (in summary):

- Paragraph 3.6.1 does not relate to acceptable roof discharge points, but to surface water other than that 'collected directly from a roof' by providing for design criteria for the sump to handle silt and sediment.
- It is common practice for roof water to discharge to public road kerbs and sumps, as shown in the authority's standard connection application form (which includes kerb sumps and kerb channels as options to be ticked).

2.6.3 The engineer included a cross section through the standard kerb sump as shown in Figure 3 paragraph 2.3.6 and noted (in summary):

- Figure 3 shows the approximate position of the property's inlet surface water pipe in relation to the tapped water level within the sump
- although authority staff noted concerns that discharging roof water into the kerb sump could stir up sediment in the sump:
 - there is far more risk of that occurring from kerb collected rainwater falling through the significantly higher surface-mounted sump grate
 - the pipe from the property aligns with the top of the outlet pipe – so is close to the trapped water level; reducing the risk of sediment being stirred up from the property's discharge
- discharging into a kerb sump also allows further silt to be removed from the property's drain prior to it entering the private surface water system.

2.7 The application for this determination

2.7.1 The dispute remained unresolved and the Ministry received an application for a determination from the agent on 29 July 2019. The Ministry sought additional information and clarification from the parties on the matter to be determined.

2.7.2 In a letter dated 5 August 2019, the Ministry asked the authority to 'clarify its position with respect to the matter to be determined; namely why it believes the as-

built work does not comply with the requirements of Clause E1.3.3(a)'. The Ministry also discussed the meaning of paragraph 3.6.1 of E1/AS1 noting that the authority had taken:

...paragraph 3.6.1 to mean that water from a roof must only enter a drain directly and is unable to do so via a sump. This interpretation is not correct and there is no reason why surface water that is free from silt and debris is not able to enter a drain via a sump.

- 2.7.3 The application was accepted for determination on 21 August 2019. In an email to the authority dated 4 September, the Ministry referred to the consent documents and sought clarification as to 'what outfall the surface water drain was to discharge to as described in the approved building consent.' The Ministry gave its view of the matter and asked the authority to confirm how the performance requirements of Clause E1 were not being met.
- 2.7.4 The authority responded on 5 September 2019, attaching an opinion from an in-house legal adviser dated 29 August 2019. I have included this statement as part of the authority's submission to this determination.
- 2.7.5 In response to a request for further information, on 6 September 2019, the agent provided a marked-up location plan, two photographs of the sump and manhole, and a recent aerial photograph showing site contours and the cottage. The authority confirmed its position in an email to the Ministry dated 9 September 2019.

3. The submissions, the draft determination and submissions received

3.1 The initial submissions

- 3.1.1 The agent made a submission dated 29 July 2019 on behalf of the applicants. The agent explained that the 'issue is over the ability to dispose of surface ... via a sump as opposed to a surface water manhole'. The agent noted that (in summary):
- consent documentation included a 'drainage services connection application' to connect to a manhole
 - the surface water mains system is private and not controlled by the authority, but 'the property has easement rights to drain into it'
 - the authority maintains that paragraph 3.6.1 of E1/AS1 precludes roof water from entering a drain via a sump, so the drain must connect to the manhole.
- 3.1.2 With and following the application, the agent provided copies of:
- the drainage services connection application
 - the consented plumbing and drainage plan (Sheet 107)
 - the services engineer's surface water report dated 21 June 2019
 - email correspondence with the authority
 - a marked-up location plan showing the kerb sump
 - a recent aerial photograph showing contours and the as-built work, photographs of the private road manhole and kerb sump.
- 3.1.3 On 9 September 2019, the agent responded to the authority's initial submission. The agent reiterated previous submissions and noting that no alternative means of

compliance or consent amendment is needed because the consent plan notes surface water will discharge ‘to existing surface water reticulation system’.

3.1.4 On 16 August 2019, the authority responded to the agent’s submission and included the following comments (in summary):

- The building work does not comply with the building consent because the means of compliance at consent application stage was E1/AS1.
- The Objective Clause E1.1(b) is to ‘Protect the outfalls of drainage systems’; in this case the ‘outfall of this drain is a ditch, which runs to [a river]’.
- Paragraph 3.6.1 of E1/AS1 does not permit roof water to enter a sump.
- The kerb sump collects driveway runoff which contains silt. ‘The additional discharge of roof water to the sump has the potential to stir up the silt ... and discharge this into the outfall ... which is not permitted.’

3.1.5 In response to requests from the Ministry, the authority also provided an opinion from an in-house legal adviser dated 29 August 2019. The opinion considered that the agent’s interpretation of E1/AS1 paragraph 3.6.1 was incorrect and noted the following (in summary):

- Paragraph 3.6.1 is a compliance solution that ‘does not apply to water from the roof so cannot be a means of showing compliance with the code’.
- The design does not comply with E1/AS1 paragraph 3.6.1 so the authority is not required to accept it.
- The authority has also considered the proposal against the Building Code and concluded that the sump connection does not comply with Clause E1.
- There was no determination that dealt with this matter, and it was the adviser’s understanding that the authority’s position was consistent with the stance taken by other authorities.

3.1.6 In a subsequent email dated 9 September 2019, the authority added the following comments (in summary):

- The means of compliance with Clause E1 is identified in the consent documents as E1/AS1, the documents did not show water from the roof would go to the kerb sump.
- Clause E1 requires protection of the drain outfall and no alternative solution proposal has been proposed to achieve that protection.
- E1/AS1 paragraph 3.6.1 specifically excludes roof water, as confirmed by the authority’s in-house legal advice.

3.1.7 The authority provided a digital copy of its property file, which included documents pertinent to this determination, including:

- the building consent application and requests for further information
- the geotechnical report dated 2 July 2018 and the services report dated 22 August 2018
- the approved consent documentation and building consent dated 18 October 2018

- the inspection records, relevant correspondence with the applicants and the agent.

3.1.8 On 9 September 2019, the agent responded to the authority’s submission of the same date. The agent reiterated its previous submissions, noting that no alternative means of compliance or consent amendment is needed because the consent plan notes surface water will discharge ‘to existing surface water reticulation system’.

3.2 The draft determination and submissions received in response

3.2.1 A draft determination was issued to the parties for comment on 3 October 2019.

3.2.2 The agent accepted the draft on 12 October 2019 noting what he viewed as unsubstantiated claims by the authority’s in-house legal advisor (noted at paragraph 3.1.5) that the authority’s position followed that of other authorities, and that these claims could be accepted as having undue merit.

3.2.3 The authority responded to the draft determination on 17 October 2019. It did not accept the draft noting, in summary, that:

- The approval of the connection to the kerb sump had not been refused, the authority had “failed the inspection on the basis that it was not as per the approved plan or the nominated means of compliance” being E1/AS1.
- At time of inspection the authority did not know some details of the connection. If an alternative solution proposal for the work was sought “it is likely that it would be approved” as an alternative solution.
- An amendment could be applied for as a minor variation to the consent and it was suggested the determination have the authority “approve the connection to the sump by way of a minor variation applied for by the applicant...”
- To allow the work “to progress without some form of amendment would be a contravention of [section] 40” of the Act.

3.2.4 The agent responded to the authority’s submission on 20 October 2019 noting it was not factually correct; no further details were provided.

4. Discussion

4.1 The legislation

Clause E1 Surface Water

4.1.1 The relevant performance criteria that applies to the surface water drain connection is Clause E1.3.3(a) which says:

E1.3.3 Drainage systems for the disposal of surface water shall be constructed to:

- (a) convey surface water to an appropriate outfall using gravity flow where possible,

4.1.2 In this instance the outfall connection is to the existing kerb sump which is located outside the property boundary but which the owner has a right to access and use.

The Acceptable Solution, E1/AS1

4.1.3 The Acceptable Solution for Clause E1 is E1/AS1, which was nominated by the designer as the means of code compliance for the work when the consent application was lodged.

4.1.4 With respect to the matter in dispute, the provisions of E1/AS1 ensure that water is discharged to an outfall that is free of debris. Surface water sumps are described in E1/AS1 to collect sediment and silt, and to inhibit any floating matter. Paragraph 3.6.1 of E1/AS1 states that all ‘surface water, except that collected directly from a roof, shall enter the drain via a sump’.

4.2 The approved consent documentation

4.2.1 Although consent drawings identified that surface water would connect to an ‘existing surface water reticulation system’, no details of that connection were provided; the means of compliance given for Clause E1 stated in the approved consent was ‘E1/AS1’.

4.2.2 The approved consent documentation showed surface water collected from the roof, the driveway, and from behind the retaining wall. The water from the driveway enters the surface water drain via a sump, and the water from the retaining wall entered the drain via a silt trap.

4.3 The compliance of the as-built outfall

4.3.1 During construction, the property’s surface water drain was connected to the private kerb sump instead of the manhole. The dispute arises from the interpretation of the wording in paragraph 3.6.1 of E1/AS1, namely ‘surface water, except that collected directly from a roof, shall enter the drain via a sump’.

- The authority maintains that paragraph 3.6.1 is a compliance solution that does not apply to roof water, so the surface water drain must connect to the manhole instead. The authority maintains that ‘except that collected directly from a roof’ modifies paragraph 3.6.1 to the effect that roof water from a roof cannot enter a sump, and says that the ‘additional discharge of roof water to the [kerb] sump has the potential to stir up the silt’ collected in the sump.
- The applicants and their engineering advisors maintain that paragraph 3.6.1 does not preclude roof water from entering a drain via a sump, but instead stipulates what is required to collect silt and other debris before surface water collected from areas other than a roof is discharged into an outfall.

4.3.2 The intent of paragraph 3.6.1 of E1/AS1 is to limit the amount of silt and debris entering a surface water outfall – the solution described in E1/AS1 involves providing a sump with particular design features designed to collect this type of foreign matter. A sump requires regular maintenance and provides no certainty that all foreign matter is prevented from entering an outfall. Surface water from a roof does not normally contain this type of foreign matter and, as such, can be conveyed to an outfall directly.

4.3.3 In my view the as-built work falls within the solutions described in E1/AS1, but for completeness, I now consider whether the as-built kerb sump connection is a suitable outfall in terms of Clause E1.3.3(a).

4.3.4 There would appear to be no reason why a surface water drain from a roof cannot also enter the sump so long as the sump’s performance in collecting silt and debris is not compromised and the following is noted with respect to the as-built kerb sump connection shown in Figure 3:

- The water level in the kerb sump is at the invert of the outlet pipe, which provides a trapped water depth of approximately 450mm for silt and sediment

to collect and settle. (A type 2 sump described in E1/AS1 shows a minimum trapped water depth of 380mm.)

- The property's surface water drain collects water from an area of 380m² (according to the services report). The 100mm diameter pipe from the property's surface water drain enters the sump at a maximum of 150mm above the trapped water level, providing a limited height from which the surface water from the property will drop into the sump and disturb the collected sediment.
- The service road has a gradient of approximately 1:8 running towards the kerb sump, and the sump collects water from approximately 250m² of paved road. The kerb channel discharges through the grate into the sump, with a fall in excess of 900mm into the trapped water.

4.3.5 In my view the effect of the surface water coming from the service road is more likely to have a detrimental effect on the kerb sump's ability to collect silt and sediment than the surface water pipe from the property which I consider will have a negligible effect on the performance of the sump. I note that if the surface water pipe from the property had entered the sump at a point where collected sediment would have been disturbed then, in my view, the sump's performance could have been compromised.

4.3.6 Bubble-up sumps are also specifically provided for in E1/AS1 (Figure 6 and 7, see Appendix A5) which are designed to receive water from roofs and transfer it to a surface water outfall – the sumps include features that enables them to collect silt and sediment. The Comment on Figure 6 also states:

The bubble-up chamber allows the water to be discharged through pipes laid at the allowable minimum gradients, and for the convenient collection and removal of any silts or debris which might enter the system.

In my view the inclusion of bubble-up sumps (and related Comment) in E1/AS1 can also be taken as evidence that paragraph 3.6.1 should not be read as preventing water from a roof from entering a sump.

4.3.7 Taking account of the above I consider the property's surface water pipe draining to the outfall at the kerb sump as described above will comply with Clause E1.3.1(a).

4.3.8 I also observe it is commonly accepted practice for properties to use an adjacent street kerb as the surface water outfall with the street kerb discharging to a sump before entering an NUO⁵'s surface water drain; this is contrary to the authority's contention that its position followed that of other authorities.

4.4 The change from the consent documentation

4.4.1 Section 94(1)(a) of the Act requires an authority to 'issue a code compliance certificate if it is satisfied, on reasonable grounds, — ... that the building work complies with the building consent'.

4.4.2 Previous determinations (for example Determinations 2008/030⁶ and 2019/003⁷) have established that the issue of a code compliance certificate is a two-step process and consideration should be given to both whether the work has been completed in

⁵ Network utility operator, see Appendix A1

⁶ Determination 2008/030: The issuing of a code compliance certificate for a multi-storey apartment building (5 May 2008)

⁷ Determination 2019/003 Regarding the ground preparation for a house's foundations and its compliance with Clause B1 Structure (11 March 2019)

accordance with the building consent, but also to whether the work complies the Building Code.

- 4.4.3 There will also be instances where consent documentation lacks all the details required to describe the proposed building work as was the case here (refer paragraph 4.2.1). While the means of compliance was stated as E1/AS1, I do not consider E1/AS1 prevents the connection of a surface water drain from a roof from entering a sump; indeed E1/AS1 specifically provides for such connections.
- 4.4.4 I do not consider the as-built connection is a major departure from the consented work, and this position does not appear to be disputed by the authority. The authority inspected the work on 8 May 2019 (refer paragraph 2.4.4) and the authority has been provided with the as-built drainage plan dated 18 March 2019 (refer paragraph 2.4.3). The authority was further advised of the variation in writing on 28 May 2019 (refer paragraph 2.4.5).
- 4.4.5 In my view the applicant has already advised the authority of the variation and the as-built drainage plan serves to record the variation. I observe that the receipt of as-built drainage plans is commonly accepted by authorities without the need for a further formal approval process.

5. The decision

- 5.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the kerb sump connection complies with Building Code Clause E1 Surface water.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 4 December 2019.

Katie Gordon
Manager Determinations

Appendix A: Relevant provisions of the Building Code and the Acceptable Solution

A1 Terms included in this determination are defined in Clause A2 Interpretation as follows:

outfall that part of the disposal system receiving surface water or foul water from the drainage system. For foul water the outfall may include a sewer or a septic tank. For surface water, the outfall may include a natural water course, kerb and channel, or soakage system

network utility operator means a person who—

(d) is the operator of a sewerage system or a surface water drainage system

surface water all naturally occurring water, other than sub-surface water, which results from rainfall on the site or water flowing onto the site, including that flowing from a drain, stream, river, lake or sea

A2 Relevant provisions of Building Code Clause E1 Surface water include:

Clause E1—Surface Water

Objective

E1.1 The objective of this provision is to:

- (a) safeguard people from injury or illness, and *other property* from damage, caused by surface water, and
- (b) protect the *outfalls* of drainage systems.

Functional requirement

E1.2 Buildings and *sitework* shall be constructed in a way that protects people and *other property* from the adverse effects of surface water.

Performance

E1.3.3 Drainage systems for the disposal of *surface water* shall be constructed to:

- (a) convey surface water to an appropriate *outfall* using gravity flow where possible,
- (b) avoid the likelihood of blockages,

A3 Relevant definitions within E1/AS1 (expanded from or not included in Clause A2 Interpretation) include:

Sump A chamber which is installed in the drain and incorporates features to intercept and retain silt, gravel and other debris.

Trap A chamber which is installed in the drain and incorporates features to intercept and retain floatable debris.

A4 Relevant paragraphs from E1/AS1 include:

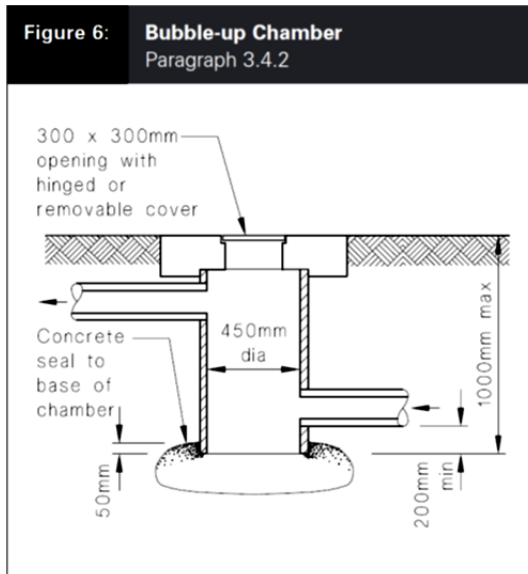
3.6 Surface water inlets to drains

3.6.1 All surface water, except that collected directly from a roof, shall enter the drain via a sump which has:

- a) A grating, hinged or removable for maintenance access. The grating shall comprise at least 35% openings. The smaller dimension of any individual opening shall not exceed 35 mm,
- b) Capacity at the bottom for settlement of silt and debris, and

- c) A submerged (or trapped) outlet which prevents floatable solids entering the drain.

A5 References to bubble-up chambers described in E1/ASA1 include:



Comment on figure 6 says:

The bubble-up chamber allows the water to be discharged through pipes laid at the allowable minimum gradients, and for the convenient collection and removal of any silts or debris which might enter the system.

