

9 December 2022

Cheyla

s7(2)(a)

Tēnā koe Cheyla

Request for Information – Local Government Official Information and Meetings Act (LGOIMA) 1987

We refer to your official information request dated 4 November 2022 for:

“...all information relating to slips, slip remediation and internal council correspondence relating to historical 2005 to the recent slips at 46 and 60 Holborn Drive or around that area facing the Eastern Hutt Road”

We have interpreted your request as applying to landslips occurring on or above Eastern Hutt Road, between the Stokes Valley roundabout and the intersection with High Street at Pomare. This covers properties at 46-92 Holborn Drive and 200-204 Eastern Hutt Road.

We have decided to release the information you have requested, subject to the following information being withheld under the following sections of the LGOIMA, in whole documents, as well as part documents:

- 7(2)(a) – to protect privacy of individuals including homeowners (this includes withholding specific property addresses in some instances)
- 7(2)(b) – to maintain commercial sensitivity
- 7(2)(g) – to maintain legal professional privilege

In withholding this information, we do not believe there are public interest considerations that weigh in favour of release of this information. As legal, investigatory and remedial actions are complex and still active, our focus is on maintaining privacy for the homeowners who have been affected by the slips.

The first tranche of information you have requested is enclosed. The balance of the material will be prepared for release and emailed to you next week, ie during the week of 12 December 2022.

You have the right to seek an investigation and review by the Ombudsman of this response. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Please note that this letter may be published on the Council's website.

Nāku noa, nā

A handwritten signature in black ink, appearing to read 'Sales', written in a cursive style.

Susan Sales

Senior Advisor, Official Information and Privacy

From: susan.sales@huttcity.govt.nz
Sent: Friday, December 9, 2022 6:52 PM
To: [REDACTED] s7(2)(a)
Subject: LGOIMA request

Kia ora Cheyla

Please find attached our letter of response to your recent LGOIMA, along with the first tranche of documents.

Regards

Susan Sales
Hutt City Council

From: Information Management Team <Susan.Sales@huttcity.govt.nz>
Sent on: Monday, December 12, 2022 3:15:23 AM
To: [REDACTED] s7(2)(a)
Subject: LGOIMA request for information - LGOIMA2022-0059 -
Attachments: Binders1-6 combined.pdf (5.75 MB)

Kia ora Cheyla

Please find attached the second tranche of material to respond to your LGOIMA request of 4 November 2022.

Information has been withheld in this tranche under the following sections of the LGOIMA:
7(2)(a) – To protect the privacy of an individual, including email addresses, phone numbers etc. This also includes the address of individual houses that were affected by or in proximity to the slips.

7(2)(b)(ii) – To protect the commercial position of the person who supplied the information or is subject to the information. This includes financial information.

7(2)(g) – To protect legal privilege.

You have the right to seek an investigation and review by the Ombudsman of this response. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

From: Information Management Team
Sent: Wednesday, 14 December 2022 12:02 pm
To: [REDACTED] s7(2)(a)
Subject: LGOIMA request for information - LGOIMA2022-0059 -

Kia ora Cheyla

Please find attached the final tranche of material to respond to your LGOIMA request of 4 November 2022.

Information has been withheld in this tranche under the following sections of the LGOIMA:
7(2)(a) – To protect the privacy of an individual, including email addresses, phone numbers etc. This also includes the address of individual houses that were affected by or in proximity to the slips.

7(2)(b)(ii) – To protect the commercial position of the person who supplied the information or is subject to the information. This includes financial information.

7(2)(c)(i) – To protect information provided under an obligation of confidence, where its release would prejudice the future supply of this information it is in the public interest that such information should continue to be supplied.

7(2)(g) – To protect legal privilege.

You may also find information of interest about the Eastern Hutt Road landslips on Hutt City Council's website (www.huttcity.govt.nz), see:

- www.huttcity.govt.nz/services/emergency-management/eastern-hutt-road-slip
- www.huttcity.govt.nz/people-and-communities/news/2022/update-about-slips-on-eastern-hutt-road-lower-hutt2
- The Chief Executive's papers and updates to Council meetings – see the search function under the calendar entry on the following link:
<http://infocouncil.huttcity.govt.nz/>

You have the right to seek an investigation and review by the Ombudsman of this response. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Ngā mihi

Susan Sales

Ringa Āwhina Tāhūhū ki Te Koromatua | Senior Advisor

Te Kaunihera o Te Awa Kairangi | Hutt City Council, [30 Laings Road](http://www.huttcity.govt.nz), Private Bag 31912, Lower Hutt 5040, New Zealand

Paetukutuku: www.huttcity.govt.nz

Ness Franks

From: Caryn Ellis
Sent: Friday, 16 September 2022 3:20 pm
To: Jo Miller; Alison Geddes
Subject: FW: [EXTERNAL] RE: RE: FW: ██████████ Stokes Valley, Lower Hutt (ARL 221632)

FYI. Meeting today on this. Kara is attending.

Regards

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: | M: 027 2385894 | W www.huttcity.govt.nz



From: ██████████
Sent: Friday, 16 September 2022 8:37 AM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
██████████, Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Casey Truman <Casey.Truman@huttcity.govt.nz>; ██████████
Subject: [EXTERNAL] RE: RE: FW: ██████████ Stokes Valley, Lower Hutt (ARL 221632)

Hi Derek

I have reviewed the T&T report dated 1 September 2022 on the above property and would make the following comments:

1. The report states there is imminent risk of regression of the landslip within the following 12 months (under normal annual rainfall conditions) and we would concur with this statement.
2. The proposed remedial option is based on constraints of working solely within the property boundary. Other options that extend onto HCC property have not been presented, however, the in ground palisade wall option offers a low risk solution for protecting the property, albeit at high cost.
3. The palisade wall option will reduce the risk of further regression of the landslip and offer increased resilience to the road below once the soil has been re-profiled, hydroseeded and the palisade wall installed.
4. Simply re-profiling the upper slope and installing an erosion protection mesh/mat and hydroseeding over the upper soil area of the slope would be a lower cost option and help mitigate further regression of the slope. This would not offer the same resilience as the palisade wall for addressing the imminent risk or the same improvement in the resilience of the road below.
5. Soil nails / anchors and shotcrete would provide a lower risk but higher cost solution than the surface protection. However, costs could be comparable to the palisade wall as a drilling rig would be required on the slope and traffic control below. We can provide a concept design and cost estimate for this option if required.

171 Featherston Street
Address Line 2
Wellington 6011, New Zealand, New Zealand
T +6421819493
aecom.com

Living a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office = PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
✓	✓	✓	✓	WFH

Please consider the environment before printing this email.

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 2:04 pm
To: [REDACTED]
Subject: RE: RE: FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Annette

Are we on track to have the report ready by tomorrow? If not, can you provide an ETA please.

DK

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: [REDACTED] W: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

We have now received the Geotech report prepared for [REDACTED] can you review provide comment on the potential remedial options provided.

Regards,

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: [REDACTED] V: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: [REDACTED]
Sent: Friday, 9 September 2022 5:14 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>;
Bradley Cato <Bradley.Cato@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Just received

Partner | Thomas Dewar Sziranyi Letts

Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011 Lower Hutt
Level 6, Forsyth Barr Tower, 45 Knights Road, Lower Hutt

www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

D *do you really need to print this email*

Ness Franks

From: Caryn Ellis
Sent: Tuesday, 6 September 2022 11:52 am
To: Jo Miller
Subject: FW: [EXTERNAL] RE: Geotech reports and next steps

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: | M: [REDACTED] W www.huttcity.govt.nz



From: [REDACTED]
Sent: Tuesday, 6 September 2022 9:00 am
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
CC: [REDACTED]; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>
Subject: RE: [EXTERNAL] RE: Geotech reports and next steps

Morena Derek

The customer at [REDACTED] has been issued with their Geo Engineering report last week. The settlement options will continue to be worked through with this homeowner by their Private Insurer as Toka Tū Ake agent. The homeowner at [REDACTED] will have their report this week and they are aware of this. It is up to each of the customers to share their report with the HCC.

Ngā mihi nui

[REDACTED]
Head of Event Readiness and Response
Toka Tū Ake | EQC
Mobile: [REDACTED]
www.eqc.govt.nz

Toka
Tū Ake **EQC**

The foundation from which we
stand strong, together

It would be helpful if you could confirm when the reports from the engineers have gone to the homeowners. I understand from the meeting yesterday that one was going to be sent today and you were reviewing the timeframe for the other.

We also understand that [REDACTED] was working with their structural engineers to assess the cantilevered deck, we would greatly appreciate if any findings could be shared with us as soon as possible.

Caryn and I have been in touch with the homeowners of [REDACTED]

Please give me a phone call if there is anything you would like to discuss.

Regards,

From: [REDACTED]
Sent: Monday, 29 August 2022 10:41 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] RE: Geotech reports and next steps

Good Evening Derek & Caryn

It was lovely to get the chance to meet virtually face to face today and talk through everyone's questions and concerns. I hoped that the explanation and content outlined from [REDACTED] at T & T has enabled the HCC to think about the roading situation and better understand what the next steps look like. Thank you for raising the concerns with the customer at [REDACTED] have followed up with [REDACTED] today to let them know their customer might need some assurance and communication on what they can expect from the Toka Tū Ake settlement and how this impacts the section 124 placed on their home by the council.

...now that you were going to have some internal conversations with your Engineers, so I just wanted to check in and understand if you have any further questions that need to be put in front of Toka Tū Ake or Tonkin and Taylor.

Look forward to providing any further support to enable this matter to be resolved.

Ngā mihi nui

[REDACTED]
Head of Event Readiness and Response
Toka Tū Ake | EQC
Mobile [REDACTED]
www.eqc.govt.nz

Toka Tū Ake **EQC**

The foundation from which we stand strong, together

-----Original Appointment-----

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Friday, 26 August 2022 10:42 AM
To: Derek Kerite; Jon Kingsbury; Caryn Ellis; Alison Geddes; [REDACTED]
Cc: Paul Pugh; Craig Ewart
Subject: Geotech reports and next steps

Ness Franks

From: Derek Kerite
Sent: Wednesday, 31 August 2022 1:20 pm
:
Karen Piper; __CLT; Anthony Robinson; Cam Meads; Caryn Ellis; Colin Lunn; Diane Robinson; Frances Gregory; Jon Kingsbury; Matthew McKenzie; Paul Pugh; Ted Grieve; Casey Truman; Claire Stevens
Subject: RE: IN CONFIDENCE: SLIPS UPDATE 31 AUG 2022

Kia ora

██████████ is heading to site this afternoon and will call me with a verbal update as soon as soon as he has completed the site visit.

DK

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M ██████████ W: www.huttcity.govt.nz



From: Karen Piper <Karen.Piper@huttcity.govt.nz>
Sent: Wednesday, 31 August 2022 11:01 AM
To: __CLT <CLT@huttcity.govt.nz>; Anthony Robinson <Anthony.Robinson@huttcity.govt.nz>; Cam Meads <Cam.Meads@huttcity.govt.nz>; Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>; Colin Lunn <Colin.Lunn@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Diane Robinson <Diane.Robinson@huttcity.govt.nz>; Frances Gregory <Frances.Gregory@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Matthew McKenzie <Matthew.McKenzie@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Ted Grieve <Ted.Grieve@huttcity.govt.nz>; Casey Truman <Casey.Truman@huttcity.govt.nz>
Subject: IN CONFIDENCE: SLIPS UPDATE 31 AUG 2022

Regulatory & Transport

- Regulatory has engaged a specialist engineer from Spencer Holmes for advice on the deck at ██████████. Expecting a verbal update in the next day or so and a report by the end of this week.
- EQC has been in email contact following Monday's meeting. We have again requested their structural engineers assessment of the deck as soon as possible.
- Abseilers working on the other part of the slip later this week ██████████ require engineering clearance before working underneath ██████████.

Ness Franks

From: Karen Piper
Sent: Monday, 29 August 2022 12:51 pm
_CLT; Anthony Robinson; Cam Meads; Caryn Ellis; Colin Lunn; Derek Kerite; Diane Robinson; Frances Gregory; Jon Kingsbury; Matthew McKenzie; Paul Pugh; Ted Grieve
Subject: CONFIDENTIAL: Update on Slips 29 August 2022

Comms

- Questions are being asked on how far away the engineering reports from EQC are. There are also concerns about large trees next to Eastern Hutt Rd and huge pine trees between the present slip and Reynolds Bach drive. Please keep Comms posted so we can update the website.
- There are also questions around why we can't cut off traffic from Silverstream. We will publish an FAQ on this to use for replies.

Transport

- Awaiting engineering clearance from AECOM for the abseilers to work on clearing loose debris and vegetation/trees below [REDACTED]
- Request for a calendar of work for the timeline to clear slips/other roading works around the city.

Regulatory

- Meeting with EQC and Tonkin & Taylor at 10am. See confidential notes below.

Confidential Update from meeting (not for wider distribution)

- **Note:** T+T reports nearing completion (Finalised: [REDACTED])
[REDACTED] Noting reports cover imminent risk only and do not factor natural disasters including another heavy rain event (i.e. reports based on 12 months normal annual rainfall). The reports will not help to lift the Dangerous Building Notices.
- **Note:** Homeowners approval is needed before reports can be shared. Derek noted the owners have agreed to share the reports with us.
- **Action:** [REDACTED] requires an independent structural assessment on the deck and foundations. HCC will commission this independently as a priority as impacts road fully opening. Once received HCC can work out what it needs to do to open the road fully (e.g. containers welded together and anchored to the slope).
- **Action:** [REDACTED] Abseil access for later this week. AECOM to complete engineering assessment and follow the same process as the slip north of Stokes Valley roundabout. Target for site visit and debris removal 01 and 02 September. Derek/Caryn have advised property owners of this work and likely dates.

Karen Piper
Executive Assistant

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: M: +64 [REDACTED] W: www.huttcity.govt.nz

Ness Franks

From: Derek Kerite
Sent: Friday, 29 July 2022 5:12 pm
Subject: Update on Geotech report
Attachments: Risk assessment report_Final.pdf; Dangerous Building Notice -
ll.pdf

Kia ora [REDACTED]

Thank you for your patience as we sought geotechnical advice on the landslips at your property and the risk this presents to your home. The reports are absolutely necessary to give us the most accurate advice to inform our decisions and give us all the certainty that we need. The effects that this has on you and your family is not lost on us, and has been front of mind throughout this process.

On the advice we have received today we have issued a new Dangerous Building Notice requiring that your home remains vacant until a comprehensive geotechnical has been submitted and any associated remedial work completed. I have attached to this email the S124 notice that will replace the previous notice. An officer will put the notice up at your property today.

As we discussed we are happy to coordinate access to your property on the basis that access is for a limited time (30 minutes) and a Council appointed officer is there to monitor risks. You have indicated Sunday would be most preferable, if you can just let me know what time we can organise someone to meet you on site.

If you have any questions please reach out to me or any of our support staff.

Regards,

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: [REDACTED] W: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

29 July 2022

Colin Lunn
Hutt City Council,
30 Laings Road,
Lower Hutt 5040,
New Zealand

Dear Colin

Slope assessment below ██████████ Stokes Valley

1.0 Introduction

AECOM New Zealand Limited (AECOM) has been engaged by the Hutt City Council (HCC) to assess a slip that has occurred below ██████████ Stokes Valley. A risk assessment has been undertaken using the agreed HCC initial inspection report risk matrix which is based on Appendix G of Australasian Geomechanics Society (2000) Landslide Risk Management Concepts and Guidelines. A copy of the risk matrix is provided in Appendix C.

AECOM geotechnical engineers completed a site visit on 22-26 July 2022, to assess the ground conditions, identify possible trigger mechanisms and carry out a risk assessment.

2.0 Ground Conditions

2.1.1 Geological setting

The Wellington geological map (Begg & Mazengarb, 1996) for the area (Figure 1) describes the site to comprise of alternating sandstone/argillite, with conglomerate and minor pillow basalt, chert, diamictite, and limestone (collectively termed greywacke).

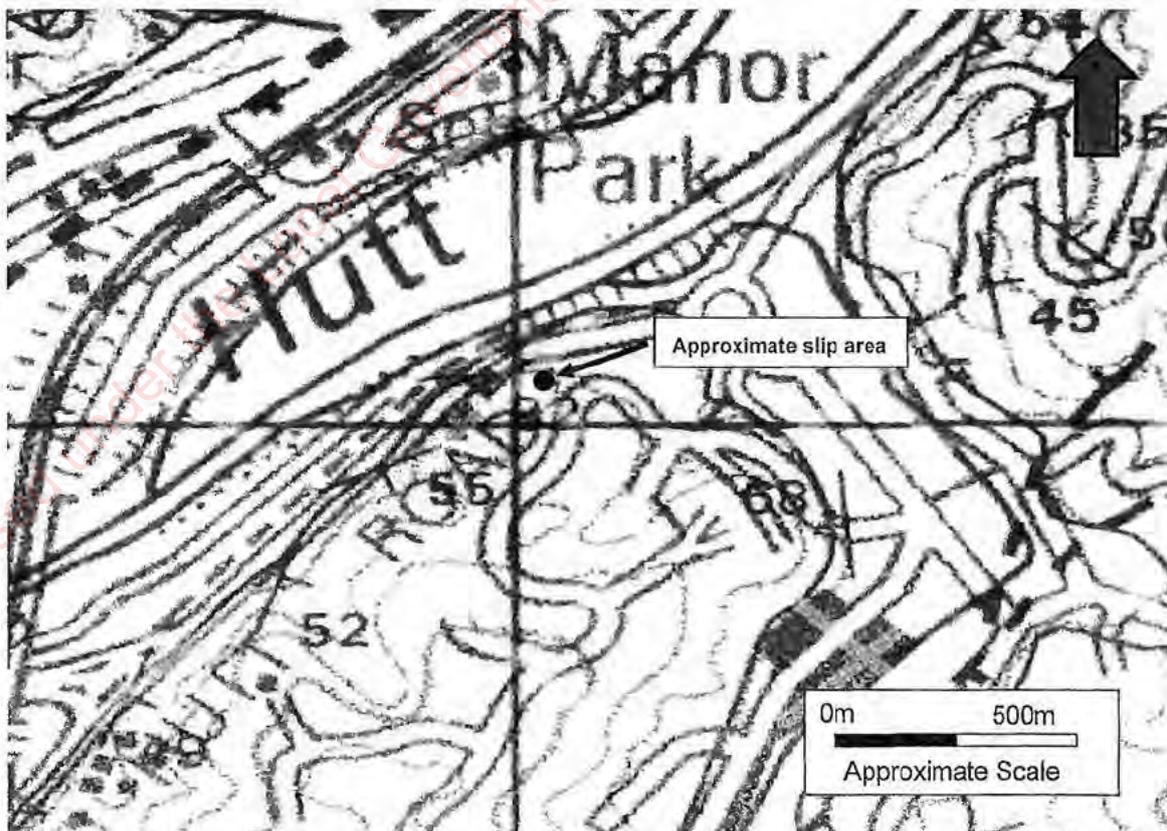


Figure 1 Location of failure at 60 Holborn Street (Begg & Mazengarb, 1996)

- HCC webmaps indicate the slip to be located within private property and some within public land as shown in Figure 2.
- The total width of the affected area is approximately 33.2m along Eastern Hutt Road.
- Major rock outcrop is visible at about 16m above the road as shown in the marked-up photo (Appendix A)
- The surrounding slopes are well vegetated and comprise of small to medium-sized shrubs, trees, and grass.

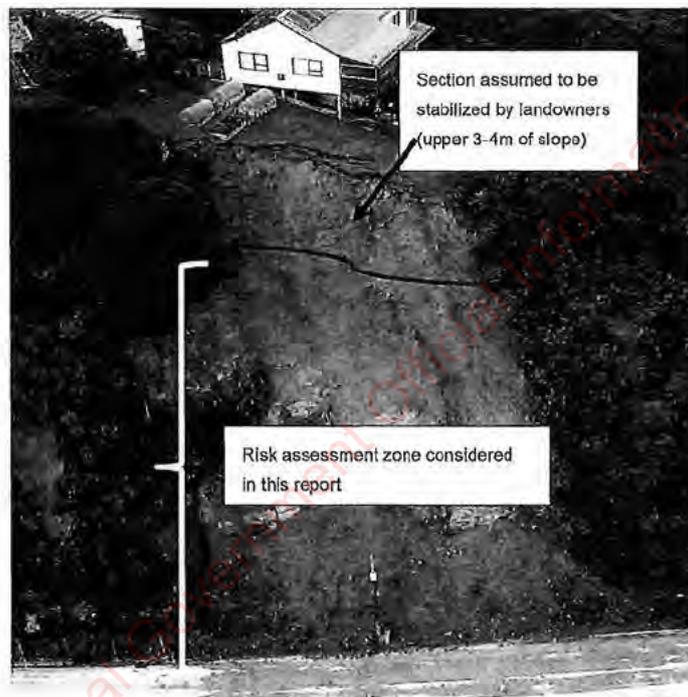


Figure 3 Risk assessment zone (AECOM)

Released under the Local Government Official Information and Meetings Act

The remedial options below primarily consider the risk posed to HCC-owned assets. We anticipate remedial works will be undertaken across the upper reaches of the slope to minimise the risk associated with [REDACTED]. Any remedial works undertaken should consider controls and physical works undertaken by the residents of [REDACTED] towards the crest of the slope.

6.1 Option 1: Temporary options

6.1.1 Placing welded containers along the toe of the slope

This option would include placing containers (2.4m x 6m x 2.4m high) along the toe of the slope to capture the entire area affected having an approximate length of 34m along the Eastern Hutt Road. The containers will be welded together and filled with concrete cubes to prevent sliding and overturning during debris impact. The containers will minimize the risk of debris falling from above to encroach the southbound lanes of Eastern Hutt Road.

This temporary solution would occupy one of the southbound lanes, reducing the road to one trafficable lane. This solution does not reduce the risk associated with further instability or damage to private property [REDACTED].

The works could be directed by HCC to a local maintenance contractor with the appropriate skills to undertake the works and supervised by AECOM personnel. This option presents itself as a low-cost but a high to very high residual risk solution.

6.2 Permanent options

Prior to any permanent works being undertaken, it is recommended clearing of loose rock and soil (scaling) is undertaken. Scaling is considered necessary to create a safe working environment and would be undertaken via abseiling and hand tools. Temporary mesh may be a suitable alternative to scaling.

Services are not expected to adversely impact the proposed remedial works. As indicated in Figures 2 and 4, remedial works undertaken on the slope and anchors towards the toe of the slope may encroach into private property.

Both options required detailed design and construction monitoring to be undertaken by a suitably qualified geotechnical engineer.

6.2.1 Option 2: Catch fence along the Eastern Hutt Road

This remedial option would involve installing a 2m high catch fence having a capacity of 100KJ (approx.) along the toe of the existing slope covering a length of approximately 34m along the shoulder of Eastern Hutt Road. The catch fence may comprise of proprietary systems provided by Geobruigg/Macafferri (or similar), a system comprising of regularly spaced galvanised steel post anchored into competent rock and high tensile mesh. The fence would prevent the runout of rockfall from entering the carriageway, however, require maintenance once debris has accumulated. The proprietary system/s are typically manufactured overseas and would be shipped to New Zealand (approx. 8–12-week lead time).

If a proprietary system is utilised this option can be designed for a 50-year design life, however ongoing maintenance is expected to be required. This option only addresses risk to HCC-owned assets and road users. The residual risk to private property is assessed as very high. The residual risk to HCC-owned assets is very low. This option is considered a high-cost remedial option.

6.2.2 Option 3: Steel post (steel UC) with each post tied back into the slope

This remedial option would involve installing 2m high steel posts at regular spacings (approx. 2m) along the toe of the slope. The posts would be placed in bored holes to approximately 3m depth and encased in concrete. High tensile steel mesh will be installed between the posts, secured using shackles and serve to minimise debris runout into Eastern Hutt Road. The posts may also be anchored into the slope to minimise fence/post displacements during significant rockfall events. Similar structures are present along Eastern Hutt Road.

This option mitigates the need for importing proprietary systems and the associated delays, however unable to be rated to a specific energy level without full-scale testing.

Geotechnical Engineer

Principal Geotechnical Engineer

Appendix A - Marked up photo
Appendix B - Site photographs
Appendix C - Risk Assessment

Limitations

The recommendations and opinions contained within this inspection report are based on visual geotechnical appraisal and engineering judgment. Inferences about ground conditions across the site are made according to desktop studies, site and observations, standard geological principles, and engineering judgment. Therefore, it is not possible to guarantee the ground conditions due to the absence of site-specific investigations. Information provided within the appendices is based on the initial site visit and experience with similar projects.

The estimated costs for the remediation options are indicative only and should be revisited in the detailed design stage. Each option includes a sum for the traffic management requirements, detailed design/monitoring, consenting and construction monitoring where appropriate. Additionally, the indicative costs are based upon the following assumptions:

- All figures are GST exclusive and based upon previous tendered rates from previous similar-sized projects.
- A contingency sum of 10% is included for each option.
- Accuracy of the above estimates is of the order of +/- 20%.

It is considered to be in the best interests of all parties that AECOM is retained to undertake this work. In any event, we should be notified if ground conditions encountered on site differ from those described in this report. Cost estimates have been undertaken to the best of our knowledge, given the restrictions and limits placed on us, and the lack of detailed data available.

This report has been prepared for the particular project and purpose described in the brief of this report, and no responsibility is accepted for the use of any part of this report in any other context or any other purpose.

Appendix B - Site photographs

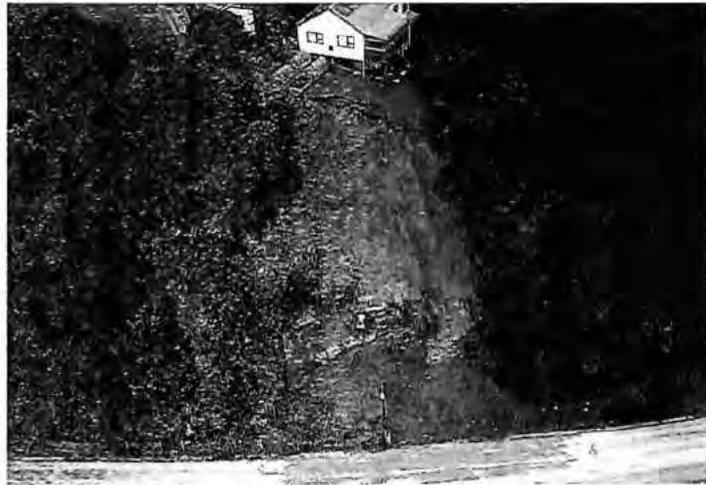


Figure 5 Aerial view of the slip



Figure 6 Upper 3-4m of the slope



Figure 7 Aerial view of the Eastern Hutt Road



Figure 8 street property view



Figure 9 Rock outcrop in the middle section



Figure 10 Debris accumulated along the shoulder

Susan Sales

From: Derek Kerite
Sent: Monday, 7 November 2022 4:50 pm
To: Casey Truman
Subject: FW: [EXTERNAL] FW: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey

I've just been forwarded this from [REDACTED] - Do you think we got the section highlighted below through to the Aecomm engineers last week?

DK

From: [REDACTED]
Sent: Monday, 7 November 2022 4:04 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: RE: Eastern Hutt Road Slope Inspections (13/10/2022)



-----Original Message-----

From: [REDACTED]

Sent: Thursday, 3 November 2022 9:41 AM

To: [REDACTED]

Subject: FW: [EXTERNAL] FW: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

EXTERNAL EMAIL: Do not open if suspicious. Use the Phish Alert button to report.

Fyi

Sent from my Galaxy

----- Original message -----

From: Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>

Date: 2/11/22 12:04 pm (GMT+12:00)

To: Bradley Cato <Bradley.Cato@huttcity.govt.nz>

Subject: FW: [EXTERNAL] FW: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: | M: [REDACTED] | W www.huttcity.govt.nz

[cid:HFwaZPytV0qG6VOaLwlmwunnamed_jpg]
Bradley Cato

Chief Legal Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] W: www.huttcity.govt.nz IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you
From: Caryn Ellis
Sent: Wednesday, 2 November 2022 10:32 am
To: Jo Miller <Jo.Miller@huttcity.govt.nz>; Alison Geddes <Alison.Geddes@huttcity.govt.nz>; Kara Puketapu-Dentice <Kara.Puketapu-Dentice@huttcity.govt.nz>
Cc: Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Kia ora, forwarding on behalf of Casey who is having problems with her HCC email address.

Regards Caryn

From: Casey Truman
[REDACTED]

Sent: Wednesday, 2 November 2022 10:23 am
To: Caryn Ellis <Caryn.Ellis@huttcity.govt.nz<<mailto:Caryn.Ellis@huttcity.govt.nz>>>
Subject: [EXTERNAL] FW: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Caryn,

Please see attached / below.

Can you please distribute with those who require.

Many thanks,

Casey Truman
SENIOR CONSULTANT
[REDACTED]

From: [REDACTED]

Sent: Wednesday, 2 November 2022 9:55 am

To: Casey Truman

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

Thanks for your call this morning. The structural report is attached for HCC's information. Note the report concludes the house is safe to occupy from a structural perspective but does not account for geotechnical risk. We can issue a final version of the letter once we have incorporated HCC feedback (if any).

We note the dangerous building notice issued to [REDACTED] stipulates the following:

You [landowner] are required to take the following action to reduce or remove the danger:

1. Submit a report from a Chartered Professional Geotechnical Engineer confirming whether
 - a. The building is not dangerous and is safe to occupy or
 - b. The remedial work required to ensure the building is not dangerous for occupation. This should include preliminary methodology and timeline for the work to be completed.

1. The premise will not be occupied until Council has reviewed the report and confirmed that the building is safe for occupation.

We are happy to update the existing geotechnical report (attached) to include cost estimates, however, the report has been prepared for HCC to inform the risk to the road. Unfortunately for public liability reasons AECOM is unable to produce a report for the landowner to address item 1 listed above. We are happy for our report to be made available to the landowner for information but our limitations will state that only HCC can rely on it. We recommend the landowner engages a geotechnical specialist for such a report.

We will review the EQC report for [REDACTED] this week.

High-level cost estimates and timeframes can be provided for a catch fence beneath [REDACTED] and pinned erosion control matting and sub-horizontal drain construction at [REDACTED]. We will get back to you on this.

In order to effectively cost site investigations we need further clarification on purpose and scope. Investigations would be tailored to the solution/option being investigated. For instance, if this is for cutting and benching the slope investigations would be more onerous than that of localised anchored shotcrete wall/s.

With regard to [REDACTED] there didn't appear to be any material change to the slope condition during the inspection on 13/10/2022. We haven't completed an assessment/report for this site, however, it is encapsulated within the extent of the containers and the residential dwelling is offset a reasonable distance (10-15m). Let us know if anything further for this property.

I suspect it will be easiest to discuss each of these items via a Teams meeting - are you available sometime this week for a catch-up?

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington

[REDACTED]
AECOM
Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com<<https://aecom.com/>>

Delivering a better world
LinkedIn<<https://www.linkedin.com/company/aecom/>> | Twitter<<https://twitter.com/AECOM>>
| Facebook<<https://www.facebook.com/AecomTechnologyCorporation/>> |
Instagram<<https://www.instagram.com/aecom/>>
Please consider the environment before printing this email.

From: [REDACTED]
Sent: Friday, 28 October 2022 9:54 am
To: Casey Truman
<Casey.Truman@huttcity.govt.nz<<mailto:Casey.Truman@huttcity.govt.nz>>>; [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey

I'm just waiting to hear back from our structural engineer on the report delivery and will get back to you as soon as I have an update.

[REDACTED] will be back on Monday so can provide further updates then.

Thanks for your patience.

Ngā mihi | Kind regards

[REDACTED]
Associate Director - Ground Engineering & Tunneling, NZ
M [REDACTED]

AECOM
Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com<<https://aecom.com/>>

Delivering a better world
微信WeChat<<https://wx2.sinaimg.cn/mw690/7657decbylgsxysptdezj2076076dg3.jpg>> |
LinkedIn<<https://www.linkedin.com/company/aecom/>> | Twitter<<https://twitter.com/AECOM>> |
Facebook<<https://www.facebook.com/AecomTechnologyCorporation/>> |
Instagram<<https://www.instagram.com/aecom/>>
[Worlds most ethical company]
Please consider the environment before printing this email.

From: Casey Truman
<Casey.Truman@huttcity.govt.nz<<mailto:Casey.Truman@huttcity.govt.nz>>>
Sent: Thursday, 27 October 2022 4:17 pm

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi [REDACTED]

Appreciate you probably have millions of things on the go!

Following up on the below email. For response on some items there is a bit more time, but could you please give me an update on the structural report asap?

Cheers,
Casey Truman
Project Manager
Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED]
www.huttcity.govt.nz<https://www.huttcity.govt.nz/> http://www.huttcity.govt.nz
M!zvJDb08tayQ5x72TFh f9kg4LB0J (AeNmi~Vr5G0Xnn841Oh~LbOKT @hsT14f 89-
f6r DYB41Y4YA MYR~7RnmGe0S>

[Content removed - please see [REDACTED] 1AA0]

From: Casey Truman
Sent: Thursday, 20 October 2022 4:45 pm



Subject: RE: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Great, thanks [REDACTED] Some comments below.

In addition to these comments:

1. I spoke to [REDACTED] whilst on site around potentially completing some core samples. Can AECOM please provide some indicative costs for this work? [REDACTED] have asked if this would be something we would consider doing / cost-sharing.
2. Are there any concerns for [REDACTED]

Cheers,
Casey Truman
Project Manager
Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] W:
www.huttcity.govt.nz http://www.huttcity.govt.nz http://www.huttcity.govt.nz
BM!zvJDb08tayQ5x72TFh00f9kg4LB0P29AeNmi~Vr5G0Xnn841On00LbOKTsq2hsT14f 89-
f6r DYB41Y4YA MYR~7RnmGe0S>

[Content removed - please see [REDACTED] 1AA0]



Sent: Thursday, 20 October 2022 3:39 pm
To: Casey Truman <Casey.Truman@huttcity.govt.nz>



Subject: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We discussed the site observations from last week's visit and recommend the following:



Containers are left in place and a fence is erected along the top to prevent runoff of debris into the carriageway - can we please get some indicative timeframes for design and costs associated for this work?

HCC/AECOM to review the landowner's geotechnical report (RDCL?) once made available to confirm preferred solution and cost-share arrangements. [REDACTED] didn't proceed with RDCL. Once the AECOM report is complete, we will share this with the landowner, and they can choose whether they get it peer reviewed. At this stage we will be basing the solution and cost-share agreements of the AECOM report. Could you also please provide an update on how this is progressing?

[REDACTED]
Containers remain in place. - noted
AECOM to review the landowner's updated EQC/T&T and geotechnical consultancy reports once made available to confirm preferred solution and cost-share arrangements. - report attached.

[REDACTED]
The instability appears to be located within council land however has minimal impact to Eastern Hutt Road. - noted
We recommend a low-energy catch fence (or similar alternative) be erected along the boundary of Eastern Hutt Road to prevent runoff into the carriageway. Refer to the attached document [REDACTED] "Catch Fence Extent". - can we please get some indicative timeframes for design and costs associated for this work?
Further dropout/ravelling of the existing slope is anticipated to occur, however, expected to predominately impact the accessway that services two properties. Periodic maintenance will be required following further slips. - is there any simple and cost-effective way of mitigating this? There have been several slips in this area.

[REDACTED]
Pinned erosion control matting is installed across the slip face (particularly that of the soil slope) and hydroseeded. - can we please get some indicative timeframes for design and costs associated for this work?
3 sub-horizontal drains are installed in an array at the seepage location - refer to attached markup. Refer to the attached document "pages 2 and 3 of [REDACTED] Cross-section". - can we please get some indicative timeframes for design and costs associated for this work?
Barriers remain in place until vegetation re-establishes.

The Opus report provided relates to three existing cribwalls that retain Eastern Hutt Road. We are happy to review this and comment, however, I understand there may have been another report related to the possibility of realigning/widening the road which has been impacted by the slips? I recall the landowner of [REDACTED] talked about this report during one of our inspections. It may be worth touching base with [REDACTED] to double check? - Will check in and get back to you.

Kind Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M [REDACTED]

[REDACTED]
AECOM
Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com<<https://aecom.com/>>

Delivering a better world

LinkedIn<<https://urldefense.com/v3/https://www.linkedin.com/company/aecom/>> ;!!ETWISUBM!zvjd08tayQ5x72TFh00f9kq4LBjPZ9AeNmiceVr5G0Xnn841OhUOLbOKTsg2hsTl4t0_GG-f6r_DYB4iY4YA MY8qc7Ur7wcuc\$> |
Twitter<<https://urldefense.com/v3/https://twitter.com/AECOM>> ;!!ETWISUBM!zvjd08tayQ5x72TFh00f9kq4LBjPZ9AeNmiceVr5G0Xnn841OhUOLbOKTsg2hsTl4t0_GG-f6r_DYB4iY4YA MY8qc7OL6oJc8\$> |

Firstly, thank you for your help in getting access to the properties listed below and assisting Taine/Cam with the structural assessment.

I have outlined the geotechnical observations from our abseil inspection of the area for your consideration. [REDACTED] will discuss these observations on Monday and forward through any relevant recommendations.

We are happy to undertake a review of the previously discussed reports (Opus, T&T) and scope geotechnical investigations as appropriate. We understand that HCC are still working with the residents to confirm funding and what remedial works will be undertaken.

Date/time: 13/10/2022, 9am-1pm

Weather: Raining

Attendees: [REDACTED] (AECOM), [REDACTED] (Abseil Access)

- * Tension cracks are evident along the western perimeter of the building
- * Shallow grade away from the house and no obvious signs of bulging or evidence to suggest it is a deep-seated instability
- * The tension cracks appear to be constrained to the edge of the building platform
- * Towards the southern end of the building beneath the small deck there appears to have been ~200mm of vertical displacement.
- * It is unclear whether this was a sudden movement or gradual creep of the existing soils.
- * No tension cracks were observed behind the Eastern Hutt Road slope crest
- * Loosened rock mass and colluvium persist across the upper portion of the slope (property of [REDACTED]).
- * Ongoing fretting of the slope occurred while on site
- * Scaling of loose soils and dilated rock mass will be required prior to constructing an anchored shotcrete wall (if implemented)
- * Debris is deposited on top of the containers at the slope toe and by the median barriers indicating rockfall is still making its way into the carriageway.
- * To prevent rockfall from running out into the carriageway [REDACTED] and I believe a ~2m high fence could be installed on the containers. We anticipate this would be easier to install than a robust barrier/drape half way up the slope.
- * The posts could be installed in the corners of the containers and could comprise of steel posts and mesh
- * This could be installed ahead of the construction phase to minimise risk to road users and left in place throughout the construction period (more scaling/earthworks likely required)
- * The lateral extents of the slip appear to have increased slightly due to the regression of the scarp (particularly evident towards No. [REDACTED])
- * Structural assessment of the dwelling completed. Report writing will begin today/Monday and we hope to have finalised for HCC review within 2 weeks.

- * No material change to the slip face
- * Signs of displaced soils evident ~5m south of the deck
- * No tension cracking observed towards the building behind this area
- * A wastewater(?) pipe is severed near the top of the pipe - unsure if in use or not (refer to IMG_9135)
- * Seepage evident towards the toe of the slope which is saturating the debris (previously observed by Abseil Access even during dry weather)
- * Ponding is occurring along the eastern perimeter of the building

- * Instability appears to be located within council land at set back ~8m from any structures
- * The slips typically comprise of HW greywacke with a relatively thin sequence of overlying soil (1-1.5m thick).

- * Some areas of rock remain tight, while some locations are loosened and overhanging.
- * It doesn't appear as though any scaling works has been undertaken, although a large pine tree to the north appears to have been pruned.
- * Some boulders ~100mm in diameter are reaching the carriageway
- * A historic soil instability is located further north up the driveway, however, vegetation is beginning to re-establish
- * Rather than scaling, treating and maintaining the slope, Eastern Hutt Road could be protected using a low-energy catch fence
- * There appears to be enough space to erect this along the existing kerb line, although underground services may be present (i.e. power between streetlights)
- * The driveway services 2 dwellings. We anticipate that in its current condition, further rockfall and slips will occur along the slope requiring periodic clearing. There doesn't appear to be any alternative access to the properties.

[Redacted]

- * No material change to the slope face or slip extent identified
- * Traversing down from [Redacted] there is substantial evidence of ongoing slumping and medium-sized failures above our site
- * HW greywacke outcrops 5-10m east of the property boundary where there is a clear change slope angle.
- * Rockfall source appears to originate from the exposed rock and boulders entrained within the previously failed soils (colluvium).
- * Medium-dense vegetation is doing a reasonable job at constraining rocks from running out, however we can expect more failures to occur in the future. Some of which are bound to reach Eastern Hutt Road.
- * No gullies or features which could concentrate water towards the slip/seepage area are evident. In turn, the seepage is likely to be groundwater percolating through the jointed rock mass.
- * I have attached a cross-section indicating the inferred ground model

Photos for download - <https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>
<https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>
<https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>
<https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>

Regards,

[Redacted]

Senior Engineering Geologist, Wellington

M [Redacted]

AECOM
 Level 19, ANZ Centre
 171 Featherston Street
 Wellington 6011, New Zealand
 T +64 4 896 6000
aecom.com

Delivering a better world

LinkedIn<<https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>
<https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>
<https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>
<https://www.urldefense.com/v3/https://www.linkedin.com/company/aecom>

Twitter<<https://www.urldefense.com/v3/https://twitter.com/AECOM>
<https://www.urldefense.com/v3/https://twitter.com/AECOM>
<https://www.urldefense.com/v3/https://twitter.com/AECOM>
<https://www.urldefense.com/v3/https://twitter.com/AECOM>

Facebook<<https://www.urldefense.com/v3/https://www.facebook.com/aecom>
<https://www.urldefense.com/v3/https://www.facebook.com/aecom>
<https://www.urldefense.com/v3/https://www.facebook.com/aecom>
<https://www.urldefense.com/v3/https://www.facebook.com/aecom>

Instagram<<https://www.urldefense.com/v3/https://www.instagram.com/aecom>
<https://www.urldefense.com/v3/https://www.instagram.com/aecom>
<https://www.urldefense.com/v3/https://www.instagram.com/aecom>
<https://www.urldefense.com/v3/https://www.instagram.com/aecom>

Please consider the environment before printing this email.

Susan Sales

From: [REDACTED]
Sent: Tuesday, 23 August 2022 2:05 PM
To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; [REDACTED]
Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Cc: [REDACTED] Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: [EXTERNAL] RE: FW: HCC Emergency Slip Inspections 22/8/2022

Hi Jon

The garage is approximately 2 m from the edge of the scarp and the loose soil is approximately 2 m thick. Therefore there is a risk the garage could be undermined if further regression occurs and this could lead to part of the garage collapsing. Stormwater and wastewater services have been severed at the top of the slope and therefore can discharge directly onto the top of the slope, potentially resulting in erosion, undermining and instability of the slope.

We therefore recommend a dangerous building notice is issued to the owner and remain in place until suitable mitigation measures are taken to reduce the risk of further instability. It is anticipated such measures will be outlined in a report for EQC.

Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ
M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

[微信WeChat](#) | [LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



Please consider the environment before printing this email.

From: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

Sent: Tuesday, 23 August 2022 1:20 pm

To: [REDACTED] Colin Lunn <Colin.Lunn@huttcity.govt.nz>

Cc: [REDACTED] Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>

Subject: RE: FW: HCC Emergency Slip Inspections 22/8/2022

Thanks [REDACTED]

Confirming my approval to go ahead and get Abseil Access to install the tarpaulins.



Ngā mihi

Jon Kingsbury

Head of Transport

Hutt City Council, 30 Laings Road, 5040, Lower Hutt 5040, New Zealand

M: [REDACTED] W: www.huttcity.govt.nz



Jon Kingsbury

Head of Transport

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: M: [REDACTED] W: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

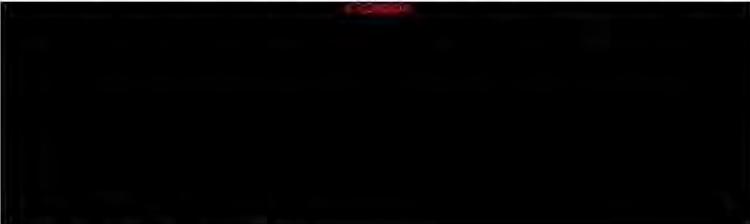
From: [Redacted]
Sent: Tuesday, 23 August 2022 11:02 AM
To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Cc: [Redacted]
Subject: [EXTERNAL] FW: HCC Emergency Slip Inspections 22/8/2022

Hi Jon,

I hope you are well and coping with work ok.

Abseil Access has confirmed that they are available to install tarpaulin to prevent erosion and saturation of exposed soils. Would you be able to confirm that you are happy with this recommendation so we can lock them in?

Below are the rates they sent through for your reference.



I will be calling you shortly.

Ngā mihi | Kind regards,

[Redacted]
(She/Her/Hers)

Principal Geotechnical Engineer, ANZ NZ, Wellington
D: [Redacted]
[Redacted]

[Click here](#) to connect with me on LinkedIn

AECOM
171 Featherston Street
Address Line 2
Wellington 6011, New Zealand, New Zealand
T +6421819493
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office = PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
WFH	✓	✓	✓	WFH

Please consider the environment before printing this email.

From [REDACTED]
Sent: Tuesday, 23 August 2022 9:44 am
To: Jon.kingsbury@huttcity.govt.nz; colin.lunn@huttcity.govt.nz

Subject: HCC Emergency Slip Inspections 22/8/2022

Hi All,

Please see below and attached for the key observations and recommendations for each of the sites inspected yesterday (22/8/2022). We are mindful that further rain is forecast for this Thursday/Friday and public safety is of top priority. We are keen to hear your thoughts and any feedback you have.

Photos - <https://we.tl/t-vwnEddCSOf>



The slip is situated 10-15m north of the previous instability at [REDACTED] and similar in extent (i.e. approx. 30m high).

The dwelling is not effected – approximately 15m southeast of the scarp. Garages are present further to the east and south of the slip - approximately 5m from the scarp.

The scarp is currently vegetated.

Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.

The area of subsidence previously identified at [REDACTED] between the two slips remains in place.

Debris scheduled to be cleared in the coming day or two.

1 row of concrete blocks have been installed along the median TL3 barrier. Both lanes of southbound traffic have been closed to the public.

Recommendations

EQC are notified by the residents of [REDACTED]

The containers beneath [REDACTED] are extended to the north and welded together. We recommend a minimum of 3 are installed. This should enable one southbound lane to be reopened.

The slope is monitored and incorporated in to the Eastern Hutt Road permanent works

100m north of Stokes Valley Roundabout (below [REDACTED])

The slip is approximately 25m high and predominately situated in council owned land.

The catch fence comprising of mesh and steel posts appears to have worked in containing debris, however damaged and the needs requires replacement.

The dwelling is not effected – approximately 15m southeast of the scarp.

The scarp is currently vegetated.

Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.

Concrete blocks have been placed along the southbound lane and automatic traffic lights are in place.

Recommendations

For temporary works to open both lanes, extend and repair the catch fence to the south to encompass the instability. This could comprise of steel/timber posts and chainlink mesh. Look to install proprietary catch fence for permanent works.

Keep one lane operating for the time being.

Regards

[REDACTED]

Senior Engineering Geologist, Wellington

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

Susan Sales

From: Jon Kingsbury
Sent: Tuesday, 23 August 2022 11:43 am
To: Derek Kerite; Paul Pugh
Subject: FW: [EXTERNAL] FW: HCC Emergency Slip Inspections 22/8/2022
Attachments: Harbour View Road (22.8.2022)_optimised.pdf; [REDACTED]
(22.8.2022)_optimised.pdf

Chaps

Please see advice from [REDACTED] I am comfortable with this. Your views?

Jon Kingsbury

Head of Transport

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Tuesday, 23 August 2022 11:02 AM
To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] FW: HCC Emergency Slip Inspections 22/8/2022

Hi Jon,

I hope you are well and coping with work ok.

Abseil Access has confirmed that they are available to install tarpaulin to prevent erosion and saturation of exposed soils. Would you be able to confirm that you are happy with this recommendation so we can lock them in?

Below are the rates they sent through for your reference.



I will be calling you shortly.

Ngā mihi | Kind regards,

[REDACTED]
(She/Her/Hers)

Principal Geotechnical Engineer, ANZ NZ, Wellington
D [REDACTED]

[Click here to connect with me on LinkedIn](#)

AECOM

171 Featherston Street
Address Line 2
Wellington 6011, New Zealand, New Zealand
T +6421819493
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office = PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
WFH	✓	✓	✓	WFH

Please consider the environment before printing this email.

From: [REDACTED]

Sent: Tuesday, 23 August 2022 9:44 am

To: Jon.kingsbury@huttcity.govt.nz; colin.lunn@huttcity.govt.nz

[REDACTED]
Subject: HCC Emergency Slip Inspections 22/8/2022

Hi All,

Please see below and attached for the key observations and recommendations for each of the sites inspected yesterday (22/8/2022). We are mindful that further rain is forecast for this Thursday/Friday and public safety is of top priority. We are keen to hear your thoughts and any feedback you have.

Photos - <https://we.tl/t-vwnEccCSOf>

[REDACTED]

The slip is situated 10-15m north of the previous instability at [REDACTED] and similar in extent (i.e. approx. 30m high).

The dwelling is not effected – approximately 15m southeast of the scarp. Garages are present further to the east and south of the slip - approximately 5m from the scarp.

The scarp is currently vegetated.

Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.

The area of subsidence previously identified at [REDACTED] between the two slips remains in place.

Debris scheduled to be cleared in the coming day or two.

1 row of concrete blocks have been installed along the median TL3 barrier. Both lanes of southbound traffic have been closed to the public.

Recommendations

EQC are notified by the residents of [REDACTED]

The containers beneath [REDACTED] are extended to the north and welded together. We recommend a minimum of 3 are installed. This should enable one southbound lane to be reopened.

The slope is monitored and incorporated in to the Eastern Hutt Road permanent works

100m north of Stokes Valley Roundabout (below [REDACTED])

The slip is approximately 25m high and predominately situated in council owned land.

The catch fence comprising of mesh and steel posts appears to have worked in containing debris, however damaged and the needs requires replacement.

The dwelling is not effected – approximately 15m southeast of the scarp.

The scarp is currently vegetated.

Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.

Concrete blocks have been placed along the southbound lane and automatic traffic lights are in place.

Recommendations

For temporary works to open both lanes, extend and repair the catch fence to the south to encompass the instability. This could comprise of steel/timber posts and chainlink mesh. Look to install proprietary catch fence for permanent works.

Keep one lane operating for the time being.

Regards

[REDACTED]
Senior Engineering Geologist, Wellington

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

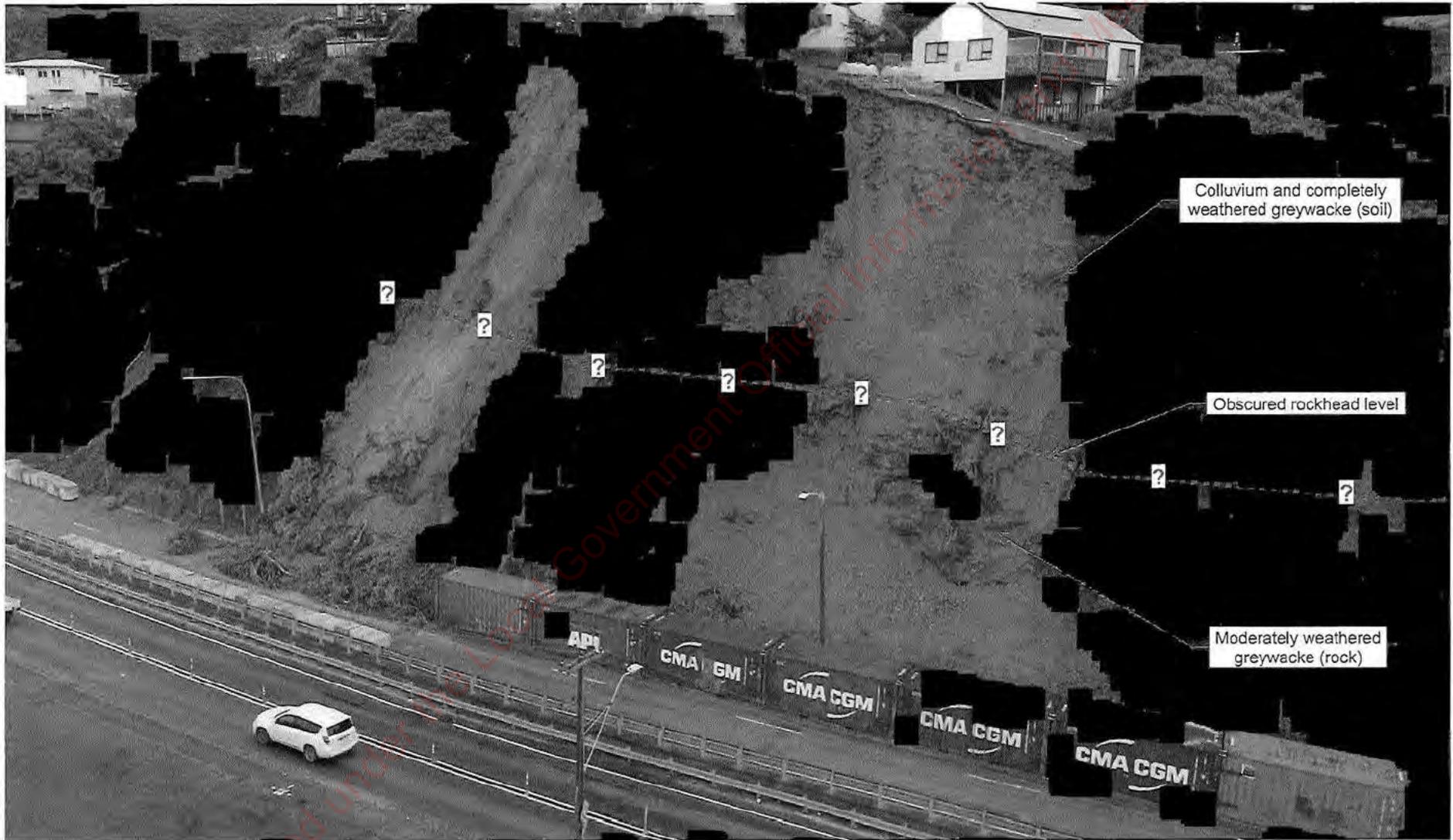
Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

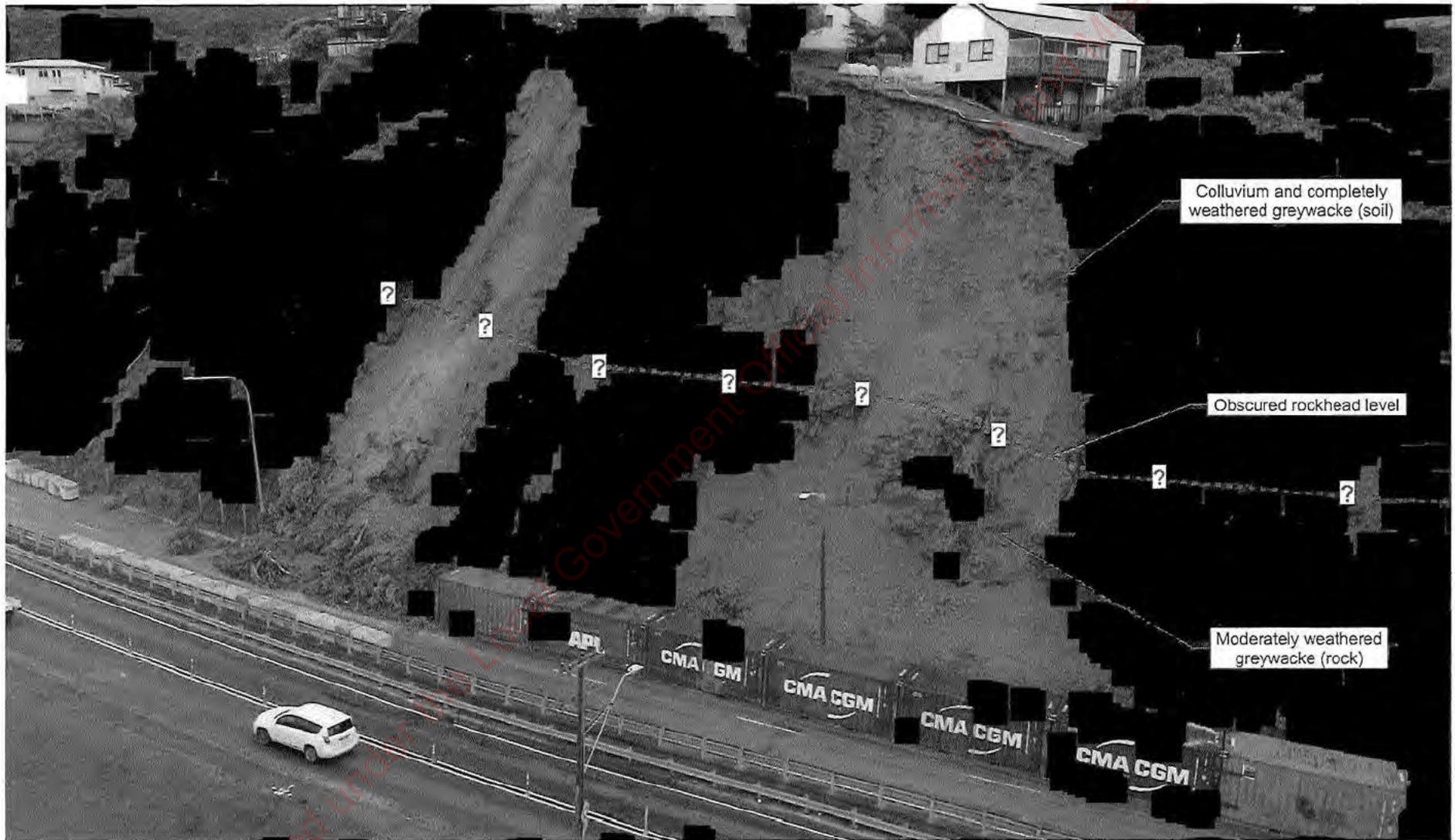
Released under the Local Government Official Information and Meetings Act

EASTERN HUTT ROAD
(BELOW [REDACTED])



Released under the Official Information Act

EASTERN HITT ROAD
(BELOW [REDACTED])



Released under the Official Information Act

I will get back to you as soon as I have direction from our legal team.

Ngā mihi | Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ
M [REDACTED]
[REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

微信WeChat | LinkedIn | Twitter | Facebook | Instagram



Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Monday, 7 November 2022 7:51 am

[REDACTED]
Subject: RE: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi team,

Hope you had a great weekend and enjoyed some sunshine.

Thanks for your time on Friday. As discussed, please proceed with updating the structural and geotech report. The current thinking is that the structural report will be by Wednesday and Geotech by Friday.

Key items we need covered:

Geotech:

1. Imminent risk section to be added
2. Clear recommendations / conclusions

Structural:

3. Clear recommendations / conclusions. Something along the line of the structure is sound, subject to XXX, until remedial actions are carried out xxx.
4. Remove the reference to the short term vs long term

I have added below the points raised from legal, please address in both reports:

5. Confirm the date and nature of the inspection, and who was present.
6. Confirm the purpose of the inspection.

Structural: The current scope of the inspection in the draft says that it was just to assess the damage since the landslip. However, what the Council is seeking is an assessment as to whether the house is dangerous under Building Act. That is directly relevant to the dangerous building notice. The purpose of the Council

engaging the report is that the Council is seeking advice as to whether the current state of the building is dangerous, or alternatively whether it can be occupied. If the answer is the latter, then the Council may choose to lift the dangerous notice.

7. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Thursday, 3 November 2022 3:41 pm
To: Casey Truman <Casey.Truman@huttcity.govt.nz>; [REDACTED]

Subject: [EXTERNAL] RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We have read and discussed your feedback internally. We would like to discuss some of the elements with you and the wider team tomorrow afternoon prior to finalising the report.

Kind Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M [REDACTED]

AECOM
Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Thursday, 3 November 2022 3:37 pm

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi team,

Can you please confirm you are working on a response to the below?

Our CE has invested interest in this.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: Casey Truman
Sent: Wednesday, 2 November 2022 4:53 pm

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

Thanks for getting the structural report completed.

I have a few questions on the report that would be good to get an understanding before meeting on Friday.

1. Can we please add a section on the imminent risk?
2. Clarification on the dangerous building notice – can homeowners occupy or not?
3. Can we please have clear distinction on whether the building is dangerous or not – the sentence below is ambiguous. As previously mentioned, occupying the house in its current state should only be for a short term. In the long term, it is recommended that the landslip be remediated to enable long term safe occupation of the dwelling.
4. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,
Casey Truman
SENIOR CONSULTANT

From: [REDACTED]
Sent: Wednesday, 2 November 2022 9:55 am
To: Casey Truman [REDACTED]

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

Thanks for your call this morning. The structural report is attached for HCC's information. Note the report concludes the house is safe to occupy from a structural perspective but does not account for geotechnical risk. We can issue a final version of the letter once we have incorporated HCC feedback (if any).

We note the dangerous building notice issued to [REDACTED] stipulates the following:

You [landowner] are required to take the following action to reduce or remove the danger:

1. Submit a report from a Chartered Professional Geotechnical Engineer confirming whether
 - a. The building is not dangerous and is safe to occupy or
 - b. The remedial work required to ensure the building is not dangerous for occupation. This should include preliminary methodology and timeline for the work to be completed.
2. The premise will not be occupied until Council has reviewed the report and confirmed that the building is safe for occupation.

We are happy to update the existing geotechnical report (attached) to include cost estimates, however, the report has been prepared for HCC to inform the risk to the road. Unfortunately for public liability reasons AECOM is unable to produce a report for the landowner to address item 1 listed above. We are happy for our report to be made available to the landowner for information but our limitations will state that only HCC can rely on it. We recommend the landowner engages a geotechnical specialist for such a report.

We will review the EQC report for [REDACTED] this week.

High-level cost estimates and timeframes can be provided for a catch fence beneath [REDACTED] and pinned erosion control matting and sub-horizontal drain construction at [REDACTED]. We will get back to you on this.

In order to effectively cost site investigations we need further clarification on purpose and scope. Investigations would be tailored to the solution/option being investigated. For instance, if this is for cutting and benching the slope investigations would be more onerous than that of localised anchored shotcrete wall/s.

With regard to [REDACTED] there didn't appear to be any material change to the slope condition during the inspection on 13/10/2022. We haven't completed an assessment/report for this site, however, it is encapsulated within the extent of the containers and the residential dwelling is offset a reasonable distance (10-15m). Let us know if anything further for this property.

I suspect it will be easiest to discuss each of these items via a Teams meeting – are you available sometime this week for a catch-up?

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington

M + [REDACTED]
[REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: [REDACTED]
Sent: Friday, 28 October 2022 9:54 am

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey

I'm just waiting to hear back from our structural engineer on the report delivery and will get back to you as soon as I have an update.

[REDACTED] will be back on Monday so can provide further updates then.

Thanks for your patience.

Ngā mihi | Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

微信WeChat | LinkedIn | Twitter | Facebook | Instagram



Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Thursday, 27 October 2022 4:17 pm

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi [REDACTED]

Appreciate you probably have millions of things on the go!

Following up on the below email. For response on some items there is a bit more time, but could you please give me an update on the structural report asap?

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] V: www.huttcity.govt.nz



From: Casey Truman
Sent: Thursday, 20 October 2022 4:45 pm
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Great, thanks [REDACTED] Some comments below.

In addition to these comments:

1. I spoke to [REDACTED] whilst on site around potentially completing some core samples. Can AECOM please provide some indicative costs for this work? [REDACTED] have asked if this would be something we would consider doing / cost-sharing.
2. Are there any concerns for [REDACTED]?

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Thursday, 20 October 2022 3:39 pm
To: Casey Truman <Casey.Truman@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We discussed the site observations from last week's visit and recommend the following:

[REDACTED]
Containers are left in place and a fence is erected along the top to prevent runoff of debris into the carriageway. We please get some indicative timeframes for design and costs associated for this work?

HCC/AECOM to review the landowner's geotechnical report [REDACTED] once made available to confirm preferred solution and cost-share arrangements. [REDACTED] didn't proceed with [REDACTED]. Once the AECOM report is complete, we will share this with the landowner and they can choose whether they get it peer reviewed. At this stage we will be basing the solution and cost-share agreements of the AECOM report. Could you also please provide an update on how this is progressing?

[REDACTED]
Containers remain in place. noted
AECOM to review the landowner's updated EQC/T&T and geotechnical consultancy reports once made available to confirm preferred solution and cost-share arrangements. report-attach

[REDACTED]
The instability appears to be located within council land however has minimal impact to Eastern Hutt Road. noted

We recommend a low-energy catch fence (or similar alternative) be erected along the boundary of Eastern Hutt Road to prevent runout into the carriageway. Refer to the attached document "[REDACTED] - Catch Fence Extent". – can we please get some indicative timeframes for design and costs associated for this work?
Further dropout/ravelling of the existing slope is anticipated to occur, however, expected to predominately impact the accessway that services two properties. Periodic maintenance will be required following further slips. – is there any simple and cost-effective way of mitigating this? There have been several slips in this area.

[REDACTED]
Pinned erosion control matting is installed across the slip face (particularly that of the soil slope) and hydroseeded. – can we please get some indicative timeframes for design and costs associated for this work?
3 sub-horizontal drains are installed in an array at the seepage location – refer to attached markup. Refer to the attached document "pages 2 and 3 of [REDACTED] Cross-section". – can we please get some indicative timeframes for design and costs associated for this work?
Barriers remain in place until vegetation re-establishes.

The Opus report provided relates to three existing cribwalls that retain Eastern Hutt Road. We are happy to review this and comment, however, I understand there may have been another report related to the possibility of realigning/widening the road which has been impacted by the slips? I recall the landowner of [REDACTED] talked about this report during one of our inspections. It may be worth touching base with [REDACTED] to double check? – Will check in and get back to you

Kind Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M + [REDACTED]
[REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Friday, 14 October 2022 12:10 pm

To: [REDACTED]
Cc: [REDACTED] Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; [REDACTED]

Subject: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

A big thanks for your work onsite yesterday and it was good meeting you [REDACTED]

I have attached the Opus report for your consideration, as discussed yesterday this was originally completed in 2014 and updated in 2016.

Thanks for the summary below, we look forward to receiving the recommendations and structural report. Please keep us updated on how the structural report is progressing as we will need to keep the landowners informed.

Catch up next week, have a great weekend team,

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]

Sent: Friday, 14 October 2022 11:53 am

To: Casey Truman <Casey.Truman@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

Subject: [EXTERNAL] Eastern Hutt Road Slope Inspections (13/10/2022)

Hi All,

Firstly, thank you for your help in getting access to the properties listed below and assisting [REDACTED] with the structural assessment.

I have outlined the geotechnical observations from our abseil inspection of the area for your consideration. [REDACTED] and I will discuss these observations on Monday and forward through any relevant recommendations.

We are happy to undertake a review of the previously discussed reports (Opus, T&T) and scope geotechnical investigations as appropriate. We understand that HCC are still working with the residents to confirm funding and what remedial works will be undertaken.

Date/time: 13/10/2022, 9am-1pm

Weather: Raining

Attendees: [REDACTED] (AECOM), [REDACTED] (Abseil Access)

- Tension cracks are evident along the western perimeter of the building
- Shallow grade away from the house and no obvious signs of bulging or evidence to suggest it is a deep-seated instability
- The tension cracks appear to be constrained to the edge of the building platform
- Towards the southern end of the building beneath the small deck there appears to have been ~200mm of vertical displacement.
 - o It is unclear whether this was a sudden movement or gradual creep of the existing soils.
- No tension cracks were observed behind the Eastern Hutt Road slope crest
- Loosened rock mass and colluvium persist across the upper portion of the slope (property of 60 Holborn Drive).
 - o Ongoing fretting of the slope occurred while on site
 - o Scaling of loose soils and dilated rock mass will be required prior to constructing an anchored shotcrete wall (if implemented)
- Debris is deposited on top of the containers at the slope toe and by the median barriers indicating rockfall is still making its way into the carriageway.
 - o To prevent rockfall from running out into the carriageway [REDACTED] and I believe a ~2m high fence could be installed on the containers. We anticipate this would be easier to install than a robust barrier/drape half way up the slope.
 - o The posts could be installed in the corners of the containers and could comprise of steel posts and mesh
 - o This could be installed ahead of the construction phase to minimise risk to road users and left in place throughout the construction period (more scaling/earthworks likely required)

- The lateral extents of the slip appear to have increased slightly due to the regression of the scarp (particularly evident towards [REDACTED])
- Structural assessment of the dwelling completed. Report writing will begin today/Monday and we hope to have finalised for HCC review within 2 weeks.

- No material change to the slip face
- Signs of displaced soils evident ~5m south of the deck
 - o No tension cracking observed towards the building behind this area
- A wastewater(?) pipe is severed near the top of the pipe – unsure if in use or not (refer to IMG_9135)
- Seepage evident towards the toe of the slope which is saturating the debris (previously observed by Abseil Access even during dry weather)
- Ponding is occurring along the eastern perimeter of the building

- Instability appears to be located within council land at set back ~8m from any structures
- The slips typically comprise of HW greywacke with a relatively thin sequence of overlying soil (1-1.5m thick).
- Some areas of rock remain tight, while some locations are loosened and overhanging.
- It doesn't appear as though any scaling works has been undertaken, although a large pine tree to the north appears to have been pruned.
- Some boulders ~100mm in diameter are reaching the carriageway
- A historic soil instability is located further north up the driveway, however, vegetation is beginning to re-establish
- Rather than scaling, treating and maintaining the slope, Eastern Hutt Road could be protected using a low-energy catch fence
 - o There appears to be enough space to erect this along the existing kerb line, although underground services may be present (i.e. power between streetlights)
 - o The driveway services 2 dwellings. We anticipate that in its current condition, further rockfall and slips will occur along the slope requiring periodic clearing. There doesn't appear to be any alternative access to the properties.

- No material change to the slope face or slip extent identified
- Traversing down from [REDACTED] there is substantial evidence of ongoing slumping and medium-sized failures above our site
- HW greywacke outcrops 5-10m east of the property boundary where there is a clear change slope angle.
- Rockfall source appears to originate from the exposed rock and boulders entrained within the previously failed soils (colluvium).
- Medium-dense vegetation is doing a reasonable job at constraining rocks from running out, however we can expect more failures to occur in the future. Some of which are bound to reach Eastern Hutt Road.
- No gullies or features which could concentrate water towards the slip/seepage area are evident. In turn, the seepage is likely to be groundwater percolating through the jointed rock mass.
- I have attached a cross-section indicating the inferred ground model

Photos for download - <https://we.tl/t-jKrrX5IF2>

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.



From: [Redacted]

Sent: Thursday, 3 November 2022 3:41 pm

To: Casey Truman <Casey.Truman@huttcity.govt.nz>; [Redacted]

Subject: [EXTERNAL] RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We have read and discussed your feedback internally. We would like to discuss some of the elements with you and the wider team tomorrow afternoon prior to finalising the report.

Kind Regards,

[Redacted]
Senior Engineering Geologist, Wellington
M [Redacted]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Thursday, 3 November 2022 3:37 pm



Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi team,

Can you please confirm you are working on a response to the below?

Our CE has invested interest in this.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] www.huttcity.govt.nz



From: Casey Truman
Sent: Wednesday, 2 November 2022 4:53 pm

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

Thanks for getting the structural report completed.

I have a few questions on the report that would be good to get an understanding before meeting on Friday.

1. Can we please add a section on the imminent risk?
2. Clarification on the dangerous building notice – can homeowners occupy or not?
3. Can we please have clear distinction on whether the building is dangerous or not – the sentence below is ambiguous. As previously mentioned, occupying the house in its current state should only be for a short term. In the long term, it is recommended that the landslip be remediated to enable long term safe occupation of the dwelling.
4. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,
Casey Truman
SENIOR CONSULTANT

[REDACTED]

Sent: Wednesday, 2 November 2022 9:55 am
To: Casey Truman [REDACTED]

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

Thanks for your call this morning. The structural report is attached for HCC's information. Note the report concludes the house is safe to occupy from a structural perspective but does not account for geotechnical risk. We can issue a final version of the letter once we have incorporated HCC feedback (if any).

We note the dangerous building notice issued to [REDACTED] stipulates the following:

You [landowner] are required to take the following action to reduce or remove the danger:

1. *Submit a report from a Chartered Professional Geotechnical Engineer confirming whether*
 - a. *The building is not dangerous and is safe to occupy or*
 - b. *The remedial work required to ensure the building is not dangerous for occupation. This should include preliminary methodology and timeline for the work to be completed.*
2. *The premise will not be occupied until Council has reviewed the report and confirmed that the building is safe for occupation.*

We are happy to update the existing geotechnical report (attached) to include cost estimates, however, the report has been prepared for HCC to inform the risk to the road. Unfortunately for public liability reasons AECOM is unable to produce a report for the landowner to address item 1 listed above. We are happy for our report to be made available to the landowner for information but our limitations will state that only HCC can rely on it. We recommend the landowner engages a geotechnical specialist for such a report.

We will review the EQC report for [REDACTED] this week.

High-level cost estimates and timeframes can be provided for a catch fence beneath [REDACTED] and pinned erosion control matting and sub-horizontal drain construction at [REDACTED]. We will get back to you on this.

In order to effectively cost site investigations we need further clarification on purpose and scope. Investigations would be tailored to the solution/option being investigated. For instance, if this is for cutting and benching the slope investigations would be more onerous than that of localised anchored shotcrete wall/s.

With regard to [REDACTED] there didn't appear to be any material change to the slope condition during the inspection on 13/10/2022. We haven't completed an assessment/report for this site, however, it is encapsulated within the extent of the containers and the residential dwelling is offset a reasonable distance (10-15m). Let us know if anything further for this property.

I suspect it will be easiest to discuss each of these items via a Teams meeting – are you available sometime this week for a catch-up?

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: [REDACTED]
Sent: Friday, 28 October 2022 9:54 am

[REDACTED]
Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey

I'm just waiting to hear back from our structural engineer on the report delivery and will get back to you as soon as I have an update.

[REDACTED] will be back on Monday so can provide further updates then.

Thanks for your patience.

Ngā mihi | Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

微信WeChat | LinkedIn | Twitter | Facebook | Instagram



Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Thursday, 27 October 2022 4:17 pm

[REDACTED]
Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi [REDACTED]

Appreciate you probably have millions of things on the go!

Following up on the below email. For response on some items there is a bit more time, but could you please give me an update on the structural report asap?

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] W: www.huttcity.govt.nz



From: Casey Truman
Sent: Thursday, 20 October 2022 4:45 pm

Subject: RE: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Great, thanks [REDACTED] Some comments below.

In addition to these comments:

1. I spoke to [REDACTED] whilst on site around potentially completing some core samples. Can AECOM please provide some indicative costs for this work? [REDACTED] have asked if this would be something we would consider doing / cost-sharing.
2. Are there any concerns for [REDACTED]

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Thursday, 20 October 2022 3:39 pm
To: Casey Truman <Casey.Truman@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We discussed the site observations from last week's visit and recommend the following:

[REDACTED]
Containers are left in place and a fence is erected along the top to prevent runoff of debris into the carriageway. we please get some indicative timeframes for design and costs associated for this work?
HCC/AECOM to review the landowner's geotechnical report [REDACTED] once made available to confirm preferred solution and cost-share arrangements. [REDACTED] didn't proceed with [REDACTED]. Once the AECOM report is complete, we will share this with the landowner, and they can choose whether they get it peer reviewed. At this stage we will be basing the solution and cost-share agreements of the AECOM report. Could you also please provide an update on how this is progressing?

[REDACTED]
Containers remain in place. [REDACTED] noted
AECOM to review the landowner's updated EQC/T&T and geotechnical consultancy reports once made available to confirm preferred solution and cost-share arrangements. [REDACTED] report attached

[REDACTED]
The instability appears to be located within council land however has minimal impact to Eastern Hutt Road. [REDACTED] noted

We recommend a low-energy catch fence (or similar alternative) be erected along the boundary of Eastern Hutt Road to prevent runout into the carriageway. Refer to the attached document [REDACTED] - Catch Fence Extent". - can we please get some indicative timeframes for design and costs associated for this work?
Further dropout/ravelling of the existing slope is anticipated to occur, however, expected to predominately impact the accessway that services two properties. Periodic maintenance will be required following further slips. - is there any simple and cost-effective way of mitigating this? There have been several slips in this area.

[REDACTED]
Pinned erosion control matting is installed across the slip face (particularly that of the soil slope) and hydroseeded. - can we please get some indicative timeframes for design and costs associated for this work?

3 sub-horizontal drains are installed in an array at the seepage location - refer to attached markup. Refer to the attached document "pages 2 and 3 of [REDACTED] Cross-section". - can we please get some indicative timeframes for design and costs associated for this work?

Barriers remain in place until vegetation re-establishes.

The Opus report provided relates to three existing cribwalls that retain Eastern Hutt Road. We are happy to review this and comment, however, I understand there may have been another report related to the possibility of realigning/widening the road which has been impacted by the slips? I recall the landowner of [REDACTED] talked about this report during one of our inspections. It may be worth touching base with [REDACTED] to double check? - Will check in and get back to you

Kind Regards,

[REDACTED]
Senior Engineering Geologist, Wellington

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Friday, 14 October 2022 12:10 pm

To: [REDACTED]

Cc: [REDACTED]; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; [REDACTED]

Subject: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

A big thanks for your work onsite yesterday and it was good meeting you [REDACTED]

I have attached the Opus report for your consideration, as discussed yesterday this was originally completed in 2014 and updated in 2016.

Thanks for the summary below, we look forward to receiving the recommendations and structural report. Please keep us updated on how the structural report is progressing as we will need to keep the landowners informed.

Catch up next week, have a great weekend team.

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] V: www.huttcity.govt.nz



From [REDACTED]

Sent: Friday, 14 October 2022 11:53 am

To: Casey Truman <Casey.Truman@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

Subject: [EXTERNAL] Eastern Hutt Road Slope Inspections (13/10/2022)

Hi All,

Firstly, thank you for your help in getting access to the properties listed below and assisting [REDACTED] with the structural assessment.

I have outlined the geotechnical observations from our abseil inspection of the area for your consideration. Annette, Russell and I will discuss these observations on Monday and forward through any relevant recommendations.

We are happy to undertake a review of the previously discussed reports (Opus, T&T) and scope geotechnical investigations as appropriate. We understand that HCC are still working with the residents to confirm funding and what remedial works will be undertaken.

Date/time: 13/10/2022, 9am-1pm

Weather: Raining

Attendees: [REDACTED] (AECOM), [REDACTED] (Abseil Access)

- Tension cracks are evident along the western perimeter of the building
- Shallow grade away from the house and no obvious signs of bulging or evidence to suggest it is a deep-seated instability
- The tension cracks appear to be constrained to the edge of the building platform
- Towards the southern end of the building beneath the small deck there appears to have been ~200mm of vertical displacement.
 - o It is unclear whether this was a sudden movement or gradual creep of the existing soils.
- No tension cracks were observed behind the Eastern Hutt Road slope crest
- Loosened rock mass and colluvium persist across the upper portion of the slope (property of 60 Holborn Drive).
 - o Ongoing fretting of the slope occurred while on site
 - o Scaling of loose soils and dilated rock mass will be required prior to constructing an anchored shotcrete wall (if implemented)
- Debris is deposited on top of the containers at the slope toe and by the median barriers indicating rockfall is still making its way into the carriageway.
 - o To prevent rockfall from running out into the carriageway [REDACTED] and I believe a ~2m high fence could be installed on the containers. We anticipate this would be easier to install than a robust barrier/drape half way up the slope.
 - o The posts could be installed in the corners of the containers and could comprise of steel posts and mesh
 - o This could be installed ahead of the construction phase to minimise risk to road users and left in place throughout the construction period (more scaling/earthworks likely required)

- The lateral extents of the slip appear to have increased slightly due to the regression of the scarp (particularly evident towards [REDACTED])
- Structural assessment of the dwelling completed. Report writing will begin today/Monday and we hope to have finalised for HCC review within 2 weeks.

- No material change to the slip face
- Signs of displaced soils evident ~5m south of the deck
 - o No tension cracking observed towards the building behind this area
- A wastewater(?) pipe is severed near the top of the pipe – unsure if in use or not (refer to IMG_9135)
- Seepage evident towards the toe of the slope which is saturating the debris (previously observed by Abseil Access even during dry weather)
- Ponding is occurring along the eastern perimeter of the building

- Instability appears to be located within council land at set back ~8m from any structures
- The slips typically comprise of HW greywacke with a relatively thin sequence of overlying soil (1-1.5m thick).
- Some areas of rock remain tight, while some locations are loosened and overhanging.
- It doesn't appear as though any scaling works has been undertaken, although a large pine tree to the north appears to have been pruned.
- Some boulders ~100mm in diameter are reaching the carriageway
- A historic soil instability is located further north up the driveway, however, vegetation is beginning to re-establish
- Rather than scaling, treating and maintaining the slope, Eastern Hutt Road could be protected using a low-energy catch fence
 - o There appears to be enough space to erect this along the existing kerb line, although underground services may be present (i.e. power between streetlights)
 - o The driveway services 2 dwellings. We anticipate that in its current condition, further rockfall and slips will occur along the slope requiring periodic clearing. There doesn't appear to be any alternative access to the properties.

- No material change to the slope face or slip extent identified
- Traversing down from [REDACTED] there is substantial evidence of ongoing slumping and medium-sized failures above our site
- HW greywacke outcrops 5-10m east of the property boundary where there is a clear change slope angle.
- Rockfall source appears to originate from the exposed rock and boulders entrained within the previously failed soils (colluvium).
- Medium-dense vegetation is doing a reasonable job at constraining rocks from running out, however we can expect more failures to occur in the future. Some of which are bound to reach Eastern Hutt Road.
- No gullies or features which could concentrate water towards the slip/seepage area are evident. In turn, the seepage is likely to be groundwater percolating through the jointed rock mass.
- I have attached a cross-section indicating the inferred ground model

Photos for download - <https://we.tl/t-jKrlrX5IF2>

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M +64 [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Monday, 7 November 2022 7:51 am

Subject: RE: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi team,

Hope you had a great weekend and enjoyed some sunshine.

Thanks for your time on Friday. As discussed, please proceed with updating the structural and geotech report. The current thinking is that the structural report will be by Wednesday and Geotech by Friday.

Key items we need covered:

Geotech:

1. Imminent risk section to be added
2. Clear recommendations / conclusions

Structural:

3. Clear recommendations / conclusions. Something along the line of the structure is sound, subject to XXX, until remedial actions are carried out xxx.
4. Remove the reference to the short term vs long term

I have added below the points raised from legal, please address in both reports:

5. Confirm the date and nature of the inspection, and who was present.
6. Confirm the purpose of the inspection.

Structural: The current scope of the inspection in the draft says that it was just to assess the damage since the landslip. However, what the Council is seeking is an assessment as to whether the house is dangerous under Building Act. That is directly relevant to the dangerous building notice. The purpose of the Council

engaging the report is that the Council is seeking advice as to whether the current state of the building is dangerous, or alternatively whether it can be occupied. If the answer is the latter, then the Council may choose to lift the dangerous notice.

7. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Thursday, 3 November 2022 3:41 pm

[REDACTED]
Subject: [EXTERNAL] RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We have read and discussed your feedback internally. We would like to discuss some of the elements with you and the wider team tomorrow afternoon prior to finalising the report.

Kind Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M: [REDACTED]

AECOM
Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Thursday, 3 November 2022 3:37 pm

[REDACTED]
Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi team,

Can you please confirm you are working on a response to the below?

Our CE has invested interest in this.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M [REDACTED] W: www.huttcity.govt.nz



From: Casey Truman
Sent: Wednesday, 2 November 2022 4:53 pm

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

Thanks for getting the structural report completed.

I have a few questions on the report that would be good to get an understanding before meeting on Friday.

1. Can we please add a section on the imminent risk?
2. Clarification on the dangerous building notice – can homeowners occupy or not?
3. Can we please have clear distinction on whether the building is dangerous or not – the sentence below is ambiguous. As previously mentioned, occupying the house in its current state should only be for a short term. In the long term, it is recommended that the landslip be remediated to enable long term safe occupation of the dwelling.
4. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,
Casey Truman
SENIOR CONSULTANT

From: [REDACTED]
Sent: Wednesday, 2 November 2022 9:55 am
To: Casey Truman [REDACTED]

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

Thanks for your call this morning. The structural report is attached for HCC's information. Note the report concludes the house is safe to occupy from a structural perspective but does not account for geotechnical risk. We can issue a final version of the letter once we have incorporated HCC feedback (if any).

We note the dangerous building notice issued to [REDACTED] stipulates the following:

You [landowner] are required to take the following action to reduce or remove the danger:

1. Submit a report from a Chartered Professional Geotechnical Engineer confirming whether
 - a. The building is not dangerous and is safe to occupy or
 - b. The remedial work required to ensure the building is not dangerous for occupation. This should include preliminary methodology and timeline for the work to be completed.
2. The premise will not be occupied until Council has reviewed the report and confirmed that the building is safe for occupation.

We are happy to update the existing geotechnical report (attached) to include cost estimates, however, the report has been prepared for HCC to inform the risk to the road. Unfortunately for public liability reasons AECOM is unable to produce a report for the landowner to address item 1 listed above. We are happy for our report to be made available to the landowner for information but our limitations will state that only HCC can rely on it. We recommend the landowner engages a geotechnical specialist for such a report.

We will review the EQC report for [REDACTED] this week.

High-level cost estimates and timeframes can be provided for a catch fence beneath [REDACTED] and pinned erosion control matting and sub-horizontal drain construction at [REDACTED]. We will get back to you on this.

In order to effectively cost site investigations we need further clarification on purpose and scope. Investigations would be tailored to the solution/option being investigated. For instance, if this is for cutting and benching the slope investigations would be more onerous than that of localised anchored shotcrete wall/s.

With regard to [REDACTED] there didn't appear to be any material change to the slope condition during the inspection on 13/10/2022. We haven't completed an assessment/report for this site, however, it is encapsulated within the extent of the containers and the residential dwelling is offset a reasonable distance (10-15m). Let us know if anything further for this property.

I suspect it will be easiest to discuss each of these items via a Teams meeting – are you available sometime this week for a catch-up?

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: [REDACTED]
Sent: Friday, 28 October 2022 9:54 am
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey

I'm just waiting to hear back from our structural engineer on the report delivery and will get back to you as soon as I have an update.

[REDACTED] will be back on Monday so can provide further updates then.

Thanks for your patience.

Ngā mihi | Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ
M: [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

微信WeChat | [LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Thursday, 27 October 2022 4:17 pm

[REDACTED]
Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi [REDACTED]

Appreciate you probably have millions of things on the go!

Following up on the below email. For response on some items there is a bit more time, but could you please give me an update on the structural report asap?

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] W: www.huttcity.govt.nz



From: Casey Truman
Sent: Thursday, 20 October 2022 4:45 pm

Subject: RE: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Great, thank [REDACTED] Some comments below.

In addition to these comments:

1. I spoke to [REDACTED] whilst on site around potentially completing some core samples. Can AECOM please provide some indicative costs for this work? [REDACTED] have asked if this would be something we would consider doing / cost-sharing.
2. Are there any concerns for [REDACTED]

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
IV [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Thursday, 20 October 2022 3:39 pm
To: Casey Truman <Casey.Truman@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We discussed the site observations from last week's visit and recommend the following:

[REDACTED]
Containers are left in place and a fence is erected along the top to prevent runoff of debris into the carriageway. We please get some indicative timeframes for design and costs associated for this work?

HCC/AECOM to review the landowner's geotechnical report ([REDACTED] once made available to confirm preferred solution and cost-share arrangements. [REDACTED] didn't proceed with [REDACTED]. Once the AECOM report is complete, we will share this with the landowner, and they can choose whether they get it peer reviewed. At this stage we will be basing the solution and cost-share agreements of the AECOM report. Could you also please provide an update on how this is progressing?

[REDACTED]
Containers remain in place. [REDACTED]
AECOM to review the landowner's updated EGC/T&T and geotechnical consultancy reports once made available to confirm preferred solution and cost-share arrangements. [REDACTED] report attached

[REDACTED]
The instability appears to be located within council land however has minimal impact to Eastern Hutt Road. [REDACTED] noted

We recommend a low-energy catch fence (or similar alternative) be erected along the boundary of Eastern Hutt Road to prevent runout into the carriageway. Refer to the attached document "[REDACTED] - Catch Fence Extent". - can we please get some indicative timeframes for design and costs associated for this work?
Further dropout/ravelling of the existing slope is anticipated to occur, however, expected to predominately impact the accessway that services two properties. Periodic maintenance will be required following further slips. - is there any simple and cost-effective way of mitigating this? There have been several slips in this area.

[REDACTED]
Pinned erosion control matting is installed across the slip face (particularly that of the soil slope) and hydroseeded. - can we please get some indicative timeframes for design and costs associated for this work?

3 sub-horizontal drains are installed in an array at the seepage location - refer to attached markup. Refer to the attached document "pages 2 and 3 of [REDACTED] Cross-section". - can we please get some indicative timeframes for design and costs associated for this work?

Barriers remain in place until vegetation re-establishes.

The Opus report provided relates to three existing cribwalls that retain Eastern Hutt Road. We are happy to review this and comment, however, I understand there may have been another report related to the possibility of realigning/widening the road which has been impacted by the slips? I recall the landowner of [REDACTED] talked about this report during one of our inspections. It may be worth touching base with [REDACTED] to double check? - Will check in and get back to you.

Kind Regards,

[REDACTED]
Senior Engineering Geologist, Wellington

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Friday, 14 October 2022 12:10 pm

[REDACTED] Derek
Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; [REDACTED]

Subject: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

A big thanks for your work onsite yesterday and it was good meeting you [REDACTED]

I have attached the Opus report for your consideration, as discussed yesterday this was originally completed in 2014 and updated in 2016.

Thanks for the summary below, we look forward to receiving the recommendations and structural report. Please keep us updated on how the structural report is progressing as we will need to keep the landowners informed.

Catch up next week, have a great weekend team.

Cheers,

Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From [REDACTED]
Sent: Friday, 14 October 2022 11:53 am
To: Casey Truman <Casey.Truman@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

[REDACTED]
Subject: [EXTERNAL] Eastern Hutt Road Slope Inspections (13/10/2022)

Hi All,

Firstly, thank you for your help in getting access to the properties listed below and assisting [REDACTED] with the structural assessment.

I have outlined the geotechnical observations from our abseil inspection of the area for your consideration. [REDACTED] and I will discuss these observations on Monday and forward through any relevant recommendations.

We are happy to undertake a review of the previously discussed reports (Opus, T&T) and scope geotechnical investigations as appropriate. We understand that HCC are still working with the residents to confirm funding and what remedial works will be undertaken.

Date/time: 13/10/2022, 9am-1pm

Weather: Raining

Attendees: [REDACTED] (AECOM), [REDACTED] (Abseil Access)

- Tension cracks are evident along the western perimeter of the building
- Shallow grade away from the house and no obvious signs of bulging or evidence to suggest it is a deep-seated instability
- The tension cracks appear to be constrained to the edge of the building platform
- Towards the southern end of the building beneath the small deck there appears to have been ~200mm of vertical displacement.
 - o It is unclear whether this was a sudden movement or gradual creep of the existing soils.
- No tension cracks were observed behind the Eastern Hutt Road slope crest
- Loosened rock mass and colluvium persist across the upper portion of the slope (property of 60 Holborn Drive).
 - o Ongoing fretting of the slope occurred while on site
 - o Scaling of loose soils and dilated rock mass will be required prior to constructing an anchored shotcrete wall (if implemented)
- Debris is deposited on top of the containers at the slope toe and by the median barriers indicating rockfall is still making its way into the carriageway.
 - o To prevent rockfall from running out into the carriageway Stuart and I believe a ~2m high fence could be installed on the containers. We anticipate this would be easier to install than a robust barrier/drape half way up the slope.
 - o The posts could be installed in the corners of the containers and could comprise of steel posts and mesh
 - o This could be installed ahead of the construction phase to minimise risk to road users and left in place throughout the construction period (more scaling/earthworks likely required)

- The lateral extents of the slip appear to have increased slightly due to the regression of the scarp (particularly evident towards No. [REDACTED])
- Structural assessment of the dwelling completed. Report writing will begin today/Monday and we hope to have finalised for HCC review within 2 weeks.

- No material change to the slip face
- Signs of displaced soils evident ~5m south of the deck
 - o No tension cracking observed towards the building behind this area
- A wastewater(?) pipe is severed near the top of the pipe – unsure if in use or not (refer to IMG_9135)
- Seepage evident towards the toe of the slope which is saturating the debris (previously observed by Abseil Access even during dry weather)
- Ponding is occurring along the eastern perimeter of the building

- Instability appears to be located within council land at set back ~8m from any structures
- The slips typically comprise of HW greywacke with a relatively thin sequence of overlying soil (1-1.5m thick).
- Some areas of rock remain tight, while some locations are loosened and overhanging.
- It doesn't appear as though any scaling works has been undertaken, although a large pine tree to the north appears to have been pruned.
- Some boulders ~100mm in diameter are reaching the carriageway
- A historic soil instability is located further north up the driveway, however, vegetation is beginning to re-establish
- Rather than scaling, treating and maintaining the slope, Eastern Hutt Road could be protected using a low-energy catch fence
 - o There appears to be enough space to erect this along the existing kerb line, although underground services may be present (i.e. power between streetlights)
 - o The driveway services 2 dwellings. We anticipate that in its current condition, further rockfall and slips will occur along the slope requiring periodic clearing. There doesn't appear to be any alternative access to the properties.

- No material change to the slope face or slip extent identified
- Traversing down from [REDACTED] there is substantial evidence of ongoing slumping and medium-sized failures above our site
- HW greywacke outcrops 5-10m east of the property boundary where there is a clear change slope angle.
- Rockfall source appears to originate from the exposed rock and boulders entrained within the previously failed soils (colluvium).
- Medium-dense vegetation is doing a reasonable job at constraining rocks from running out, however we can expect more failures to occur in the future. Some of which are bound to reach Eastern Hutt Road.
- No gullies or features which could concentrate water towards the slip/seepage area are evident. In turn, the seepage is likely to be groundwater percolating through the jointed rock mass.
- I have attached a cross-section indicating the inferred ground model

Photos for download - <https://we.tl/t-jKrIrX51F2>

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

DANGEROUS BUILDING NOTICE

Issued under sections 121 to 128A of the Building Act 2004

Owner of the building

Building details

Site Address: ██████████ Stokes Valley 5019

Legal Description: ██████████
Legal Desc: ██████████
Owners: ██████████

Location within site: Dwelling

Levels: 2 storey dwelling

TAKE NOTICE that Hutt City Council (Council), a territorial authority under the Building Act 2004, is satisfied that the building identified above is 'dangerous' as defined in section 121 of the Building Act 2004 due to the instability of the ground to Eastern Hutt Road and the consequential risk of further landslip that may undermine the building.

A warranted council officer and structural engineer inspected the building on 22 July 2022. Subsequently a geotechnical report was provided to Council on 29 July 2022 concluding that there are significant risks caused by the recent slip that require further remedial work before the building can be occupied.

You are required to take the following action to reduce or remove the danger:

1. Submit a report from a Chartered Professional Geotechnical Engineer confirming whether
 - a. The building is not dangerous and is safe to occupy or
 - b. The remedial work required to ensure the building is not dangerous for occupation. This should include preliminary methodology and timeline for the work to be completed.

2. The premise will not be occupied until Council has reviewed the report and confirmed that the building is safe for occupation.

If a Building consent is required for any remedial work one must be obtained before building work can commence.

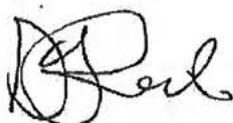
In accordance with section 128(2) of the Building Act 2004, as a result of this notice:

No person may:

- a) use or occupy the parts of the buildings listed above; or
- b) permit another person to use or occupy them

WARNING: Failure to comply with the requirements of this notice is an offence against section 128A of the Building Act 2004. The maximum penalty for an offence against that provision is a fine not exceeding \$200,000 and, in the case of a continuing offence, a further fine not exceeding \$20,000 for every day or part of a day during which the offence has continued.

DATED: 29 July 2022

A handwritten signature in black ink, appearing to read 'Derek Kerite', written in a cursive style.

Derek Kerite
Head of Regulatory Services
Hutt City Council

Released under the Local Government Official Information and Meetings Act

23 September 2022

Derek Kerite
Head of Regulatory Services
30 Laings Road
Lower Hutt 5040
New Zealand

Dear Derek

Slope Condition Re-assessment and Remedial Works [REDACTED]

1.0 Introduction

AECOM New Zealand Limited (AECOM) has been engaged by the Hutt City Council (HCC) to re-assess the risk associated with the slip that has occurred below [REDACTED] Stokes Valley and provide interim and long-term remedial options. An initial risk assessment was undertaken following a site inspection on 22 July 2022 and a reassessment following the completion of temporary works.

Characteristics of the slope, initial remedial options and previous risk assessments are summarised within the following reports:

- AECOM New Zealand Limited, 2022a. Slope Assessment Below [REDACTED] Stokes Valley. Issued 4 August 2022.
- AECOM New Zealand Limited, 2022b. Slope Condition Re-assessment [REDACTED] Stokes Valley). Issued 18 August 2022.
- Tonkin & Taylor Ltd, 2022. Claim for Natural Disaster (Landslip) Damage. [REDACTED] [REDACTED] Dated 1 September 2022.

The Tonkin & Taylor Ltd (2022) report was prepared for the residents of [REDACTED] and their insurers as a part of the Earthquake Commission (EQC). This was provided to HCC and AECOM for review and includes a risk assessment and conceptual remedial design.

This report serves to summarise the following:

- Review of the Tonkin & Taylor Ltd (2022) risk assessment and proposed remedial option
- Existing and residual risks for each remedial option. The risk assessment utilises the New South Wales Government Roads and Maritime Services 'Guide to Slope Risk Analysis' (Version 4, April 2014).
- Interim and long-term remedial options
- Recommendations

2.0 Temporary Works

Temporary works have been undertaken at the slip site at the direction of HCC and support from AECOM engineers. Temporary works completed to date has comprised of:

- Temporary traffic management including a permanent lane closure and periodic road closures (southbound lanes)
- Scaling of loose soil and rock
- Recontouring of head scarp and removal of slumped soils
- Removal of overhanging garden bed
- Vegetation clearance
- Installation of welded steel containers along the slope toe

The temporary works have been implemented to ensure the safety of road users along Eastern Hutt Road while a permanent solution/s are designed and constructed. The slope continues to be visually

monitored and temporary works remain in place. A Dangerous Building Notice has been issued for the residential dwelling which remains unoccupied.

Photos of the initial slip and current slope condition are provided in Figure 1.



Figure 1 Left: Initial slip (21 July 2022). Right: Current slope condition following temporary works (14 September 2022)

3.0 Current Situation

We understand HCC is in frequent communication with the landowner to understand their desired remedial solution which is required to lift the Dangerous Building Notice. The solution implemented by the owners of [REDACTED] will have a direct impact on the risk to road users and HCC assets. The private remedial works are expected to take at least 6-12 months to complete.

We understand that a permanent lane closure for an extended period of time is unacceptable to HCC due to the high road usage and pressure from the community. The road is classed as a major 'arterial' route by One Network Road Classification with an average annual daily traffic count of ~15,450 and ~16,600 for the southbound and northbound carriageways respectively. The road provides the main point of access to the suburbs of Holborn and Stokes Valley to the southeast.

4.0 Risk Assessments

4.1 Existing Risk Assessment

Initial risk assessments carried out by AECOM have utilised the agreed risk matrix which is based on Appendix G of Australasian Geomechanics Society (2000) Landslide Risk Management Concepts and Guidelines. These risk assessments have considered the holistic risk associated with the site (i.e. both private and public asset impacts). The assessments consider both adverse weather and seismic shaking events.

The Tonkin & Taylor Ltd (2022) risk assessment only considers risk to private property. The assessment considers the 'imminent risk' to the private property based on a 12 months of normal rainfall conditions as a direct result of the slip. The assessment does not consider seismic shaking events. The outcome of the assessment is outlined below:

"The dwelling has not been damaged and is not considered to be at imminent risk as a direct result of the natural disaster (landslip) that has occurred.

There is a risk of landslips on adjacent slopes due to future storm or earthquake events. However, this risk is not considered imminent (under normal annual rainfall conditions) within the next 12 months as a direct result of the natural disaster (landslip) that has occurred. We recommend that the property owners seek further advice and engage a geotechnical specialist to assess the stability risk of the adjacent slopes and implement remedial work if required."

4.2 Risk Re-assessment

We have undertaken a detailed risk assessment using New South Wales Government Roads and Maritime Services 'Guide to Slope Risk Analysis' (Version 4, April 2014). This risk assessment considers the risk to road users by considering the following:

- Anticipated type of slope failure and size of debris
- Likelihood of material dislodging and entering the road corridor
- Temporal probability of road users being present at the time of the failure
- Vulnerability of the vehicles

The risk assessment provides an 'assessed risk level' (ARL) rating based on each of these factors and considered a more robust risk assessment than those previously used. Based on previous project experience a minimum residual ARL of 3 or greater is recommended. Select risk assessments associated with the instability at [REDACTED] are provided in Appendix A.

5.0 Remedial Solutions

We acknowledge that discussions with the owners of [REDACTED] are ongoing and a long-term permanent lane closure is unacceptable to HCC. In turn, we have outlined possible interim and long-term solutions which eliminates the need for containers across the toe of the slip.

Prior to implementing interim or long-term remedial works beneath [REDACTED] HCC should consider the risk at neighbouring slips and the remedial works programme to minimise cost implications and impact to road users. We note that in isolation the removal of containers beneath 60 Holborn Drive may provide little relief to traffic congestion if the carriageway is constrained to one lane nearby.

5.1 Interim Remedial Works (i.e. ~6-12 months)

Interim remedial solutions are expected to provide some resilience to the slope and reduce the risk to road users to an acceptable level that allows the removal of containers. This may provide enough time to enable private remedial works to be designed and/or constructed which could provide HCC with an opportunity to coordinate remedial works for the lower reaches of the slope.

Interim remedial solutions are not likely to meet Building Act 2004 requirements and should be monitored.

5.1.1 Pinned Erosion Control Matting

Pinned erosion control matting such as MacMat R, Greenax or a similar approved product would be applied across the entire extent of the slip. This option would protect the slope from further erosion and saturation of exposed soils. Once installed, hydroseeding the treated area would encourage vegetation growth and help bind surficial soils together.

The erosion control matting would be secured using anchors and expected to be ~2-3 m long. Anchors would be installed ~3 m behind the crest and at the toe of the slope at regular spacings (2-3 m). Intermittent anchors and wire rope may be required to adequately secure the mesh to the slip face and anchor heads. The position of crestal and intermittent slope anchors should consider the likely position of permanent retaining wall works that may be completed by the owners of [REDACTED]

Anchors at the toe could be replaced with roadside concrete barriers to prevent runoff of soil instabilities which may occur beneath the mesh, however anticipated to impact lane widths. Localised instabilities are anticipated to occur beneath the mesh; however, debris will be secured to the slope by the mesh and debris runoff minimised by anchors at the slope toe.

On its own, reliance on vegetation to stabilise the slope cannot be guaranteed to meet a ≥50 year design life.

This arrangement would mitigate the need for containers at the toe of the slope and may be incorporated into permanent works.

An example of pinned erosion control matting is provided in Figure 2.



Figure 2 Example of pinned erosion control matting

5.2 Long-term Remedial Works (i.e. ≥ 50 years)

All long-term remedial options will need to consider the impact and tie-in with the private remedial works undertaken along the upper reaches of the slope. In the instance remedial encroach into private property, written approval from the landowners should be sought (e.g. anchored solutions).

Long term remedial solutions can be designed to withstand ultimate limit state events based on their importance and design life. Permanent solutions are likely to require geotechnical and/or structural Producer Statements in order to meet building consent requirements. Producer Statements can be provided by suitably qualified chartered engineers.

5.2.1 Anchored Shotcrete

This option would require the removal of vegetation and scaling of loose material from the slope across the slip site. Anchors would be installed across the slope at regular spacings (typically 1.5-2.5 m) and be bonded into rock. Prior to shotcreting reinforcement would be installed to match the slope profile and distribute loads. The anchored slope can be designed to actively retain the soil and loosened rock mass providing long-term resilience.

Ideally all vegetation would be stripped from the site beneath the shotcrete, however, cutting and treatment of the tree stumps and exposed roots can be tolerated. With sufficient treatment of vegetation, anchors and reinforced concrete this solution can meet a ≥ 50 year design life.

An example of anchored shotcrete is provided in Figure 3.



Figure 3 Example of anchored shotcrete

5.2.2 Re-profiling and Benching the Existing Slope

This option would involve extensive vegetation clearance, excavating the cut slope to a shallower angle and use of localised stabilisation measures such as high tensile mesh, anchors and shotcrete. The option would involve extensive earthworks and require private property acquisition. Due to the height of the slope multiple benches are likely required to minimise the consequence of rockfall and meet stability requirements. Sub-horizontal drains are likely to be required to manage porewater pressures and extend on the order of 15-20 m into the slope. Detailed geotechnical investigations would be required prior to design and likely to comprise of machine drill holes, downhole televiewer recordings and mapping. Excavations would be completed using a top-down approach and likely to be staged to enable geological mapping and stabilisation (as required) throughout construction.

The return period for the design ultimate limit state events should be agreed prior to design, however, in general expected to have a 50-100 year design life. Localised instabilities and rockfall is expected to occur throughout the design life and require maintenance. The residual risks need to be considered and managed throughout the design, construction and maintenance phases.

This solution is unlikely to be suitable for short extents due to the need to tie-in to the existing slope profile at either end. We believe this solution would be better suited to a larger Eastern Hutt Road slope remedial works solution and likely to be a high-cost remedial solution.

An example of re-profiling and benching of an existing slope is provided in Figure 4.



Figure 4 Example of re-profiling and benching

5.2.3 Proprietary Catch Fence

This remedial option would involve installing a ≥ 2.0 m high catch fence having a capacity of ≥ 100 kJ along the toe of the existing slope and extend the full length of the instability. The catch fence will be proprietary systems provided by Geobrugg/Macafferri (or similar) and comprise of regularly spaced galvanised steel posts that are anchored into competent rock with high tensile mesh spanning between posts. The fence would prevent the runout of rock, and to a lesser extent soil, from entering the carriageway. The proprietary system/s are typically manufactured overseas and would be shipped to New Zealand (approx. 8–12-week lead time).

Additional upslope slope stabilisation work (e.g. erosion control matting) may be required to minimise the likelihood of soil instability which would otherwise runout into the road. Runout of failed soils would occur due to the mesh having an aperture size on the order of 65-85 mm. Alternative barriers systems could be explored, however would require consultation with supplier to confirm its suitability.

If a proprietary system is utilised, this option can be designed for a 50-year design life. Ongoing maintenance is expected to be required.

An example of a roadside catch fence is provided in Figure 5.



Figure 5 Example of a roadside catch fence

6.0 Conclusion and Recommendation

A summary of the current and residual risk associated with each remedial option is presented in Table 1. An indicative cost is provided for each option to assist HCC in evaluating each option. A detailed cost estimate can be provided for each option upon request.

Table 1 Risk assessment summary

Event	Current Condition		Pinned Erosion Control Matting	Anchored Shotcrete	Re-profiling and Benching	Catch Fence
	With Containers ¹	Without Containers ²				
Surficial or localised failures	ARL5	ARL2	ARL4	ARL5	ARL5	ARL2-ARL3
Localised kinematic failure of the rock mass	ARL3	ARL1	ARL2	ARL3 ³	ARL4	ARL3
Global instability of the slope	ARL3	ARL3	ARL3	ARL3 to ARL4	ARL3 to ARL4	ARL3
Indicative cost	N/A (current situation)	Very Low	Low	High	Very High	Moderate

- Notes: 1) Assumes a posted speed of 30km/h due to the presence of containers and temporary traffic management
 2) Assumes a posted speed of 80km/h (posted speed limit of Eastern Hutt Road)
 3) Assumes loosened rock will be scaled, treated with mesh or encapsulated within the shotcrete extent

Based on the assessed risk, cost of proposed remedial options and current situation it is recommended that pinned erosion control matting is installed, as described in section 5.1.1. This temporary solution would adequately manage the risk in the interim and enable the removal of the containers at the toe of the slope. This solution could be adjusted once private remedial works at the crest of the slope are progressed, as appropriate.

The need for additional protection measures should be re-evaluated once private remedial works are undertaken, detailed site investigations are undertaken and if vegetation re-establishes.

The risk assessments associated with the current condition of the slope and pinned erosion control matting are presented in Appendix A.

With regard to the dwelling, we recommend that until suitable remedial measures are implemented, the Dangerous Building Notice should remain in place.

AECOM are available to support HCC in assessing the slope following future rainfall or seismic events, as well as site investigations and remedial works as needed.

Report prepared by:

[Redacted Name]

Senior Engineering Geologist

Associate Director – Ground Engineering & Tunnelling

Appendix A – Select Risk Assessments

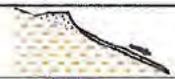
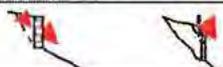
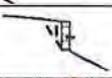
Limitations

The recommendations and opinions contained within this inspection report are based on visual geotechnical appraisal and engineering judgment. Inferences about ground conditions across the site are made according to desktop studies, site observations, standard geological principles, and engineering judgment. Therefore, it is not possible to guarantee the ground conditions due to the absence of site-specific investigations. Information provided within the appendices is based on the initial site visit and experience with similar projects.

It is considered to be in the best interests of all parties that AECOM is retained to undertake this work. In any event, we should be notified if ground conditions encountered on site differ from those described in this report. Cost estimates have been undertaken to the best of our knowledge, given the restrictions and limits placed on us, and the lack of detailed data available.

This report has been prepared for the particular project and purpose described in the brief of this report, and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.

Released under the Local Government Information and Meetings Act

Common hazard types			
Mechanism	Typical Circumstances	Description	Schematic illustration(s)
Fall	Steep rock batters	Prior to failure the block is supported at the top and/or rear surfaces and fails in tension. In practice, includes other initial failure types where the travel path is relatively long and the debris can go into trajectory over part of the distance.	
Topple	Columnar or tabular blocks resting on defects dipping out of the face	Prior to failure the block is supported on its basal surface and rotates about its front lower edge or an axis on the basal surface. Includes cases of undercutting where the debris cannot go into trajectory.	
Slide – rotational	In soils or some weak or highly fractured rock masses	Common in cohesive soils. Rupture surface may or may not be circular.	
Boulder roll	Steep soil batters containing boulders	Approximately equidimensional boulders released by erosion or other mechanism which will roll down the slope rather than go into trajectory.	
Slide - translational	Plane and wedge failures in rock	Almost always controlled by discontinuities or material interfaces.	
Spread	Lateral movement of blocks in a massive, jointed rock unit (most commonly sedimentary)	Requires deformation or failure of underlying material or shear at interface.	
Flow	Most commonly in soil slopes with high moisture content or substantial water inflows	Requires high moisture content in cohesive materials. Can also happen in dry cohesionless materials.	
Complex	Combination of above types, usually in different parts of the failed mass	Most common is a combination of rotational and translational.	
Rotational, within embankment	Any, but requires water source	Typically shallow to part width. Can be close to full width on steep side slopes.	
Rotational through foundations	Soft soils, side slopes with deeper soils.	In soft soils usually during or shortly after construction, but can be delayed if soils have a stiffer crust which can soften when it wets up.	
Translational	Side slopes, especially when steep	Can be on interface with underlying materials at fill base, within underlying soils or at or within underlying rock. Normally on an interface, or defect controlled if in rock. Would normally affect the full width of the fill.	
Collapse	Loose granular fills, especially on side slopes	Requires fill to be very loose and close to saturation. Almost complete loss of shear strength on minor shearing. Only in end-dumped or sidecast fills. Highly mobile.	
Liquefaction	Confined loose sands in foundations, below water table	Earthquake or (possibly) vibration trigger. Often applied (incorrectly) to collapse of quick clays. Most often in natural materials, insitu. Could not happen within an engineered fill.	
Internal erosion	Dispersive or erodible soils, in fills or underlying materials. Most commonly in culvert backfills.	Forms internal voids which may collapse abruptly.	
Reactivation of pre-existing landslide	Fill on side slope, not necessarily steep	Due to loading of head or adverse effects on drainage.	
Spreading of foundations	Soft soils	Blurry distinction between this and rotational failure through foundations, except there won't be a visible scarp. Can be very difficult to distinguish from settlement without prolonged and careful observation.	
Overturning	Thin gravity structures, inadequate design.	Full or part height. Most common mode of failure under live loading.	
Sliding	Gravity structures	Insufficient shear resistance at base. Not common in properly designed structures, unless passive resistance at the toe is removed eg by excavation.	
Bearing	Gravity walls	Not common in modern structures.	
Global foundation failure	Gravity structures.	Weak foundation materials or adverse defects in rock	
Settlement	Gravity structures	Compressible foundations. May have been allowed for in design. Can lead to tilting of wall and damage to any supported structures.	
Shear failure through backfill (bulging)	Flexible or brittle walls (eg drystone, RSW, gabions)	Common failure mode in flexible structures. May manifest as overturning in thin, rigid structures.	
Bending	Cantilevered pile walls with insufficient strength.	Can only occur in structures with substantial tensile strength.	
Toe breakout	Cantilevered pile walls usually on steep slopes	Insufficient embedment, inadequate rock strength.	
Anchor pullout	Anchored pile walls	Inadequate anchor strength, damage to anchors or loss of surrounding ground.	

Current Situation. Failure type 1:
Surficial or localised soil instability

Current Situation. Failure type 2:
Localised Kinematic failure

Current Situation. Failure type 3:
Global soil or rockmass instability

Appendix A - Current Condition



Figure 6. Detachment and Travel Distance Probabilities

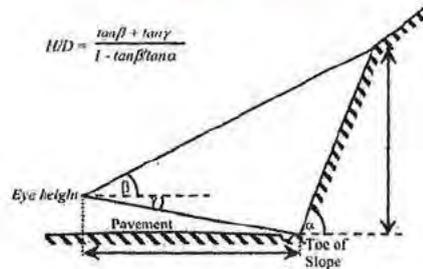


Figure 4. Height Estimation by Triangulation

P(d)	Current Slope Condition	Evidence for Previous Failures	Progress of Evolving Mechanisms	Possible Triggering Event
1	A potential mechanism is apparent. Either failure appears imminent or there is evidence that the detachment mechanism is currently active	The slope may show evidence of earlier repeated failures of the same type.	Failure could be initiated by a very small further progression of the mechanism relative to that which has already occurred.	Failure could be initiated by a triggering event with a short return period (eg 1 year storm)
0.1 (1 x 10 ⁻¹)	A potential mechanism is apparent, and either is active or could easily be activated but failure does not appear imminent. There may be evidence of past distress.	Slopes which have been in existence for some time (ie in the order of decades) may show evidence of occasional previous failures.	Failure could be expected within a few years to a few decades if the mechanism continues to develop at its current rate	Failure could be triggered by a fairly common event (eg 10 year storm).
0.01 (1 x 10 ⁻²)	A potential mechanism is apparent, but failure does not appear imminent. There may be evidence of past distress.	Slopes which have been in existence for many years (ie usually more than 30 years) may show evidence of an earlier failure	The progress of the mechanism is evident, but would require substantial development relative to that which has already occurred before failure would be initiated.	Triggering could be expected to require a severe event (eg 1 in 100 year storm).
0.001 (1 x 10 ⁻³)	The potential mechanism can be identified but failure does not appear imminent	Constructed slopes show no evidence of previous failures of the same type. There may be evidence of old failures on natural slopes.	The existence of the mechanism is evident, but would require very substantial development relative to that which has already occurred before failure would be initiated, or failure would require a substantial acceleration of the progress of the mechanism.	Failure would require an unusually severe triggering event
0.0001 (1 x 10 ⁻⁴)	The potential mechanism can be deduced from slope features or geological considerations	Comparable slopes in the same area may show evidence of previous failures of the same type	Where processes are ancient their age may be used to infer (loosely) their probability of recurrence eg landslides formed at the end of the last ice age (about 10 - 12,000 years ago)	Failure would require an extreme triggering event
0.00001 (1 x 10 ⁻⁵) and smaller	The potential mechanism can be deduced from slope features or geological considerations	Some comparable slopes in the same area may show evidence of rare previous failures of the same type	The mechanism may only be deduced from long term slope evolution considerations	Failure would require the most extreme of triggering events eg probable maximum flood or maximum credible event

Factor	Considerations
Wall Type	Masonry walls, particularly when un-mortared ('drystones'), are prone to brittle failure under load. Walls of this type were commonly used to retain road embankments in the 19 th and early 20 th centuries and were still being constructed in some areas until about 1960.
Foundations	Foundation materials and design (if any) will constrain the types of mechanism which are possible.
Original condition of wall	Construction standard and geometry of structure. Drystone walls were built to a number of patterns. The most common in smaller walls was with front and rear faces parallel and with a height:thickness ratio of 6:1, subject to a minimum thickness of about 400 mm. Original batter angles would normally have been no steeper than about 80° (1:6).
Current condition of wall	Evidence for the presence of one or more distress modes (see tables and diagrams). The factor of safety against overturning of drystone walls decreases rapidly as the batter angle increases above 80° and may be close to 1 where the wall is near vertical, even without considering live loading.
Condition of retained material	Cracking or subsidence in the pavement or shoulder may indicate the existence of an active or dormant failure mechanism. Evidence of past movement may be disguised by resurfacing or pavement rehabilitation
Extent of development of potential or actual failure mechanisms	Based on a synthesis of the above factors. Consider the degree of development of the mechanism relative to that needed for failure to occur.
Potential live load location	The potential for failure under live loading depends critically on the location of the load. Consider the location of the outer wheelpath relative to the wall crest, constraints on traffic (eg edge lines, visual or physical barriers, road geometry in relation to the possible position of heavy vehicles), local circumstances which may cause traffic to divert towards the wall under normal operating conditions (eg narrow pavement and poor sight distance). Normally the edge line (or edge of the seal if no edge line is present) would be considered the limit of potential live load locations.

Note: Although upper reaches of the slope is private property it is not anticipated to be adversely loaded (i.e. light vehicles and residential dwellings only). A new retaining structure would be designed to withstand these loads.

Table 10. Likelihood allocation matrix.

P(l)	P(d)							
	1	0.1 (1 x 10 ⁻¹)	0.01 (1 x 10 ⁻²)	0.001 (1 x 10 ⁻³)	0.0001 (1 x 10 ⁻⁴)	0.00001 (1 x 10 ⁻⁵)	< 0.00001	
1	L1	L2	L3	L4	L5	L6	L6*	L6*
0.1 (1 x 10 ⁻¹)	L2	L3	L4	L5	L6	L6*	L6*	L6*
0.01 (1 x 10 ⁻²)	L3	L4	L5	L6	L6*	L6*	L6*	L6*
0.001 (1 x 10 ⁻³)	L4	L5	L6	L6*	L6*	L6*	L6*	L6*
0.0001 (1 x 10 ⁻⁴)	L5	L6	L6*	L6*	L6*	L6*	L6*	L6*
0.00001 (1 x 10 ⁻⁵)	L6	L6*	L6*	L6*	L6*	L6*	L6*	L6*
< 0.00001	L6*	L6*	L6*	L6*	L6*	L6*	L6*	L6*

Refer to Figure 6.

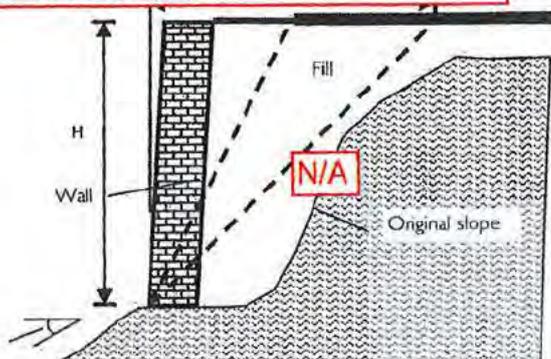


Figure 7. Parameters for Live Loading of Retaining Structures

Version 4
Current Situation. Failure type 1: Surficial or localised soil instability

Current Situation. Failure type 2: Localised Kinematic failure

Current Situation. Failure type 3: Global soil or rockmass instability

Appendix A - Current Condition

Guide to Slope Risk Analysis

This example considers containers being present

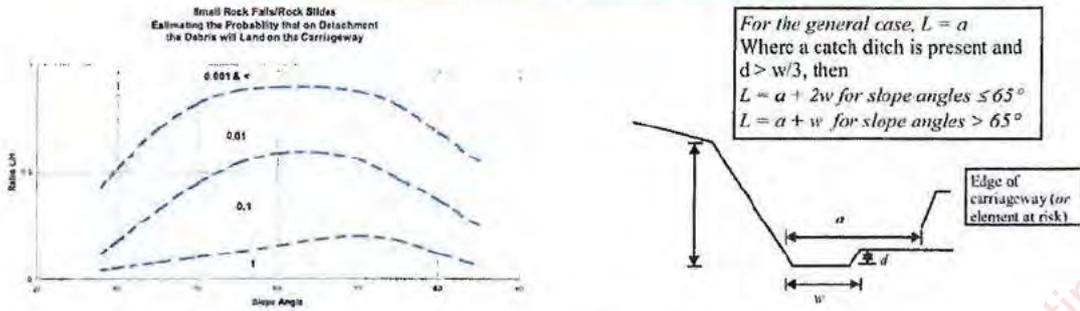
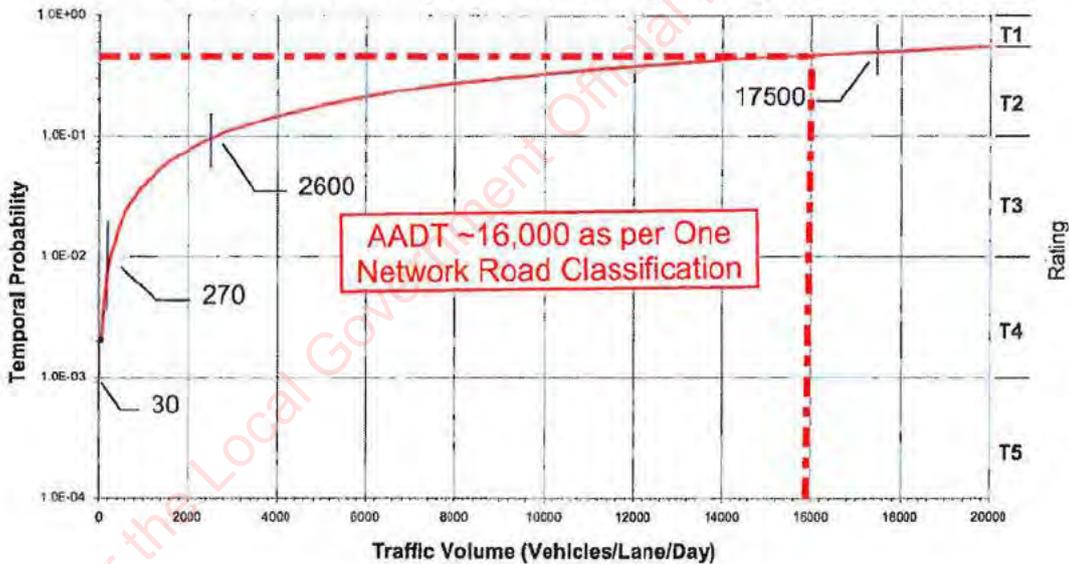


Figure 8. Estimating Travel Distance Probability for Small Rock Falls/Slides Figure 9. Definition of Parameters for Figure 8

Rating	Probability Range	Definition
T1	> 0.5	Person usually expected to be present as part of the normal pattern of usage (eg residential buildings, some commercial buildings).
T2	0.1 – 0.5	Person often expected to be present as part of the normal pattern of usage (eg many commercial buildings). Road users on major urban arterial roads and the most heavily trafficked rural roads.
T3	0.01 – 0.1	major rural arterial roads
T4	0.001 – 0.01	Person unlikely to be present even where there is a pattern of usage. Road users on suburban roads and minor rural arterial roads
T5	< 0.001	Person is very unlikely to be present. Road users on the most highly trafficked roads, road shoulders etc.

Allocation of Temporal Probability Rating by Traffic Volume



Case	T Rating				
Debris lodging on the road (from Guide Figure 6)	T5	T4	T3	T2	T1
Modified T for debris directly impacting vehicle	T5	T5	T4	T3	T3

Modification to T	Length of Failure Traversed at Posted Speed Limit		
	≤ 50 km/h	60 – 99 km/h	100 – 110 km/h
Decrease T (eg T3 ⇒ T4)	< 15 m	< 25 m	< 60 m
T unchanged	15 – 100 m	25 – 250 m	60 – 600 m
Increase T (eg T3 ⇒ T2)	> 100 m	> 250 m	> 600 m

Current Situation. Failure type 1: Surficial or localised soil instability

Current Situation. Failure type 2: Localised Kinematic failure

Current Situation. Failure type 3: Global soil or rockmass instability

Appendix A - Current Condition

Guide to Slope Risk Analysis



Transport
Roads & Maritime
Services

Table 17. Expanded vulnerability table

Vulnerability Rating	People in the Open	People in Buildings	Vehicle Occupants		
			Vehicle Impact with Individual Rock Blocks	Vehicle Impact with Mixed Landslide Debris	Vehicle Crossing Embankment Failure Area
V1	Unable to evade rockfall or other debris (movement very/extremely rapid), or buried	Engulfed in building collapse	Block > 1 m high at highway speeds		Lost into a deep, narrow void
V2	May be able to evade debris	Partial building collapse	Block > 1 m high at urban speeds Block 0.5 – 1 m high at highway speeds		Lost into a shallow void
V3	Most people able to evade debris	Building penetrated, no collapse	Block > 1 m high at low speeds Block 0.5 – 1 m high at urban speeds	Loose or wet mixed soil/rock debris at highway speeds	Stepped surface with 0.1 – 0.2 m steps at highway speeds
V4		Building struck, damaged but not penetrated	Block 0.5 – 1 m high at low speeds Block around 0.2 m high at highway speeds	Loose or wet mixed soil/rock debris at urban speeds	Stepped surface with 0.1 – 0.2 m steps at urban speeds Shallow void/depression where guardfence may prevent a vehicle from leaving the road
V5		Building struck, only minor damage etc	Block around 0.2 m high at urban speeds Smaller block at highway speeds	Loose or wet mixed soil/rock debris at low speeds Irregular surface formed by soil or small (<100mm minimum dimension) rock at highway speeds	Stepped surface with 0.1 – 0.2 m steps at low speeds Irregular surface formed by a developing embankment failure at highway speeds

Table 18. Extended vulnerability table - Vehicles impacting single rock blocks

Block Size	Posted Speed Limit		
	Highway Speeds (100 – 110 km/h)	Urban Speeds (60 – 80 km/h)	Low Speeds (≤ 50 km/h)
Minimum dimension > 1 m	V1	V2	V3
Minimum dimension 0.5 – 1 m	V2	V3	V4
Minimum dimension 0.2 – 0.5 m	V3	V4	V5
Minimum dimension ≈ 0.2 m	V4	V5	V5*
Minimum dimension ≈ 0.1 m	V5	V5*	V5*

Table 19. Extended Vulnerability Table - Vehicles impacting mixed landslide debris

Debris Type	Posted Speed Limit		
	Highway Speeds (100 – 110 km/h)	Urban Speeds (60 – 80 km/h)	Low Speeds (≤ 50 km/h)
Loose or wet mixed soil/rock debris	V3	V4	V5
Small rock debris (min dim < 0.1 m)	V5	V5*	V5*

Table 20. Extended vulnerability table - Vehicles impacting voids or stepped surfaces

Void or Surface Type	Posted Speed Limit		
	Highway Speeds (100 – 110 km/h)	Urban Speeds (60 – 80 km/h)	Low Speeds (≤ 50 km/h)
Deep, narrow void	V1	V2	V3
Shallow void (0.2 – 0.5 m step)	V2	N/A	V4
Stepped surface (0.1 – 0.2 m steps)	V3	V4	V5
Irregular surface (steps < 0.1 m)	V5	V5*	V5*
Shallow void with guardfence or wire rope barrier	V4	V4	V4

Table 21. Resultant velocity (m/s) by fall height and traffic speed

Traffic speed m/s (km/h)	Fall Height (m)									
	5	10	15	20	25	30	40	50	75	100
0 (0)	9.9	14.0	17.2	19.8	22.1	24.3	28.0	31.3	38.4	44.3
13.9 (50)	17.1	19.7	22.1	24.2	26.1	27.9	31.3	34.3	40.8	46.4
16.7 (60)	19.4	21.8	23.9	25.9	27.7	29.4	32.6	35.5	41.8	47.3
19.4 (70)	21.8	24.0	25.9	27.8	29.5	31.1	34.1	36.9	43.0	48.4
22.2 (80)	24.3	26.3	28.1	29.8	31.4	32.9	35.8	38.4	44.3	49.6
25.0 (90)	26.9	28.7	30.3	31.9	33.4	34.8	37.6	40.1	45.8	50.9
27.8 (100)	29.5	31.1	32.7	34.1	35.5	36.9	39.5	41.9	47.4	52.3
30.6 (110)	32.1	33.6	35.0	36.4	37.7	39.0	41.5	43.8	49.0	53.8

Current Situation. Failure type 1:
Surficial or localised soil instability

Current Situation. Failure type 2:
Localised Kinematic failure

Current Situation. Failure type 3:
Global soil or rockmass instability

Table 22. Vulnerability allocation for vehicle directly impacted by single rock blocks

Block Size	Resultant Velocity		
	> 25 m/s	15 – 25 m/s	< 15 m/s
Minimum Dimension > 1 m	V1	V1	V1
Minimum Dimension 0.5 – 1 m	V1	V1	V2
Minimum Dimension 0.2 – 0.5 m	V1	V2	V3
Minimum Dimension 0.1 – 0.2 m	V2	V3	V3
Minimum Dimension < 0.1 m	V3	V4	V4

Table 24. Vulnerability allocation for retaining wall failure under live loading (road users)

Slope angle below wall	Wall height				
	< 1 m	1 – 2 m	2 – 3 m	3 – 4 m	> 4 m
> 35°	V2	V2?	N/A	V1	V1
25° - 35°	V3	V2	V2	V1	V1
15° - 25°	V4	V3	V2	V1	V1
<15°	V5	V4	V3	V2	V1

Table 26. Consequence ratings for property damage and consequential effects

Rating	Indicative Criteria
C1	Total direct and indirect costs > \$15 million: <ul style="list-style-type: none"> Total closure of a Sub-Network Rank 5 or 6 (SN5-SN6) road for an extended period or very high disruption cost (other than road users) Major infrastructure or property damage (other than road) Very high repair cost
C2	Total direct and indirect costs > \$3 million < \$15 million: <ul style="list-style-type: none"> Total closure of one carriageway of an SN5-6 road or total closure of an SN3-SN4 road for an extended period or large disruption costs Substantial infrastructure or property damage High repair cost
C3	Total direct and indirect costs > \$0.8 million < \$3 million: <ul style="list-style-type: none"> Partial or total closure of an SN3-SN4 road for a short period, longer period if reasonable alternatives are available or moderate disruption costs Moderate infrastructure or property damage Moderate repair cost
C4	Total direct and indirect costs > \$0.2 million < \$0.8 million: <ul style="list-style-type: none"> Partial or total closure of an SN2 road for a short period or minor disruption costs Minor infrastructure or property damage Low repair cost
C5	Total direct and indirect costs < \$0.2 million: <ul style="list-style-type: none"> Partial or total closure of an SN1 road for a short period or little or no disruption costs Negligible infrastructure or property damage Very low – no repair cost

Table 25. Consequence matrix for risk to life
Temporal Probability of an Individual Being Present at the Time of Failure

Vulnerability	T5	T4	T3	T2	T1
V1	C4	C3	C2	C1	C1
V2	C4	C3	C2	C1	C1
V3	C5	C4	C3	C2	C2
V4	C5	C5	C4	C3	C3
V5	C5	C5	C5	C4	C4

Table 27. Assessed risk level matrix

Likelihood	Consequence Class				
	C5	C4	C3	C2	C1
L1	ARL3	ARL2	ARL1	ARL1	ARL1
L2	ARL4	ARL3	ARL2	ARL1	ARL1
L3	ARL5	ARL4	ARL3	ARL2	ARL1
L4	ARL5	ARL5	ARL4	ARL3	ARL2
L5	ARL6	ARL5	ARL5	ARL4	ARL3
L6	ARL6	ARL5	ARL5	ARL5	ARL4

$L = p(d) * p(t)$
as per Figure 6.

Meanings Attached to the Term 'Road Closure'.

Total closure

This means that the road is closed to traffic in both directions and all traffic has to take an alternate route.

Partial closure

This means that the road is closed to traffic in one direction and either:

- the traffic in one direction has to take an alternate route, or
 - the traffic in both directions has to be controlled to allow alternating one-way flows.
- This may require the construction of earthworks and temporary pavements (for instance, to cross the median in dual carriageway roads or to allow traffic to use the road shoulder for an extended period).

Asset damage categories

Supplementary Ratings

Table 28. Scale of failure (S) ratings

Rating	Volume of Failure	Individual Block Size
S1	Volume > 20,000 m ³ (eg. 40 m wide x 50 m long x 10 m deep = 24,000 m ³)	Individual blocks of > 1m minimum dimension (eg one rock 1 x 1 x 2 m)
S2	Volume > 2,000 m ³	Individual blocks of 0.5 – 1 m minimum dimension
S3	Volume > 200 m ³	Individual blocks of 0.2 – 0.5 m minimum dimension
S4	Volume > 20 m ³	Individual blocks of about 0.2 m minimum dimension
S5	Volume < 20 m ³	Individual blocks of about 0.1 m minimum dimension

Table 29. Velocity of failure (R) ratings

Rating	Description	Velocity (mm/sec)	Typical Velocity
R1	Extremely Rapid	5 x 10 ³	5 m/sec
	Very Rapid		
R2	Rapid	5 x 10 ¹	3 m/min
		5 x 10 ⁻¹	1.8 m/h
R3	Moderate	5 x 10 ⁻³	13 m/month
R4	Slow	5 x 10 ⁻⁵	1.6 m/year
R5	Very Slow	5 x 10 ⁻⁷	16 mm/year
	Extremely Slow		

Table 30. Event magnitude classification matrix

Velocity of Failure	Scale of Failure				
	S5	S4	S3	S2	S1
Fast	R1	M3	M2	M1	M1
	R2	M4	M3	M2	M2
	R3	M4	M4	M3	M2
	R4	M5	M4	M4	M3
Slow	R5	M5	M5	M4	M3

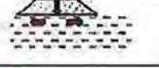
Table 31. Hazard classification matrix

Likelihood	Event Magnitude				
	M5	M4	M3	M2	M1
L1	H3	H2	H2	H1	H1
L2	H4	H3	H2	H2	H1
L3	H4	H4	H3	H2	H2
L4	H5	H4	H4	H3	H2
L5	H5	H5	H4	H4	H3
L6	H5	H5	H5	H4	H4

Current Situation. Failure type 1: Surficial or localised soil instability

Current Situation. Failure type 2: Localised Kinematic failure

Current Situation. Failure type 3: Global soil or rockmass instability

Common hazard types			
Mechanism	Typical Circumstances	Description	Schematic illustration(s)
Fail	Steep rock batters	Prior to failure the block is supported at the top and/or rear surfaces and falls in tension. In practice, includes other initial failure types where the travel path is relatively long and the debris can go into trajectory over part of the distance.	
Topple	Columnar or tabular blocks resting on defects dipping out of the face	Prior to failure the block is supported on its basal surface and rotates about its front lower edge or an axis on the basal surface. Includes cases of undercutting where the debris cannot go into trajectory	
Side – rotational	In soils or some weak or highly fractured rock masses	Common in cohesive soils. Rupture surface may or may not be circular.	
Boulder roll	Steep soil batters containing boulders	Approximately equidimensional boulders released by erosion or other mechanism which will roll down the slope rather than go into trajectory	
Slide – translational	Plane and wedge failures in rock	Almost always controlled by discontinuities or material interfaces.	
Spread	Lateral movement of blocks in a massive, jointed rock unit (most commonly sedimentary)	Requires deformation or failure of underlying material or shear at interface.	
Flow	Most commonly in soil slopes with high moisture content or substantial water inflows	Requires high moisture content in cohesive materials. Can also happen in dry cohesionless materials.	
Complex	Combination of above types, usually in different parts of the failed mass	Most common is a combination of rotational and translational.	
Rotational, within embankment	Ary, but requires water source	Typically shallow to part width. Can be close to full width on steep side slopes.	
Rotational, through foundations	Soft soils, side slopes with deeper soils.	In soft soils usually during or shortly after construction, but can be delayed if soils have a stiffer crust which can soften when it wets up.	
Translational	Side slopes, especially when steep	Can be on interface with underlying materials at fill base, within underlying soils or at or within underlying rock. Normally on an interface, or defect controlled if in rock. Would normally affect the full width of the fill.	
Collapse	Loose granular fills, especially on side slopes	Requires fill to be very loose and close to saturation. Almost complete loss of shear strength on minor shearing. Only in end-dumped or sidecast fills. Highly mobile.	
Liquefaction	Confined loose sands in foundations, below water table	Earthquake or (possibly) vibration trigger. Often applied (incorrectly) to collapse of quick clays. Most often in natural materials, insitu. Could not happen within an engineered fill.	
Internal erosion	Dispersive or erodible soils, in fills or underlying materials. Most commonly in culvert backfills.	Forms internal voids which may collapse abruptly.	
Reactivation of pre-existing landslide	Fill on side slope, not necessarily steep	Due to loading of head or adverse effects on drainage.	
Spreading of foundations	Soft soils	Blurry distinction between this and rotational failure through foundations, except there won't be a visible scarp. Can be very difficult to distinguish from settlement without prolonged and careful observation.	
Overturning	Thin gravity structures, inadequate design.	Full or part height. Most common mode of failure under live loading.	
Sliding	Gravity structures	Insufficient shear resistance at base. Not common in properly designed structures, unless passive resistance at the toe is removed eg by excavation.	
Bearing	Gravity walls	Not common in modern structures.	
Global foundation failure	Gravity structures.	Weak foundation materials or adverse defects in rock	
Settlement	Gravity structures	Compressible foundations. May have been allowed for in design. Can lead to tilting of wall and damage to any supported structures.	
Shear failure through backfill ('bulging')	Flexible or brittle walls (eg drystone, RSW, gabions)	Common failure mode in flexible structures. May manifest as overturning in thin, rigid structures.	
Bending	Cantilevered pile walls with insufficient strength.	Can only occur in structures with substantial tensile strength.	
Toe breakout	Cantilevered pile walls usually on steep slopes	Insufficient embedment, inadequate rock strength.	
Anchor pullout	Anchored pile walls	Inadequate anchor strength, damage to anchors or loss of surrounding ground.	

Pinned ECM. Failure type 1:
Surficial or localised soil instability

Pinned ECM. Failure type 2:
Localised Kinematic failure

Pinned ECM. Failure type 3:
Global soil or rockmass instability

Appendix A - Pinned Erosion Control Matting

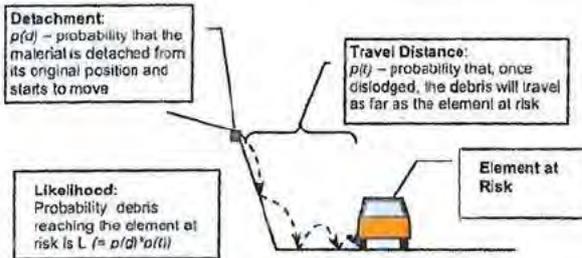


Figure 6. Detachment and Travel Distance Probabilities

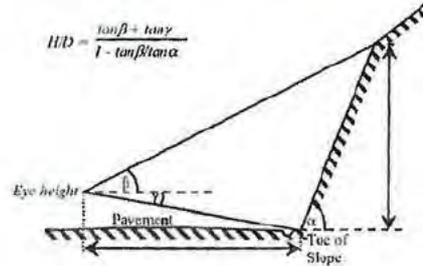


Figure 4. Height Estimation by Triangulation

P(d)	Current Slope Condition	Evidence for Previous Failures	Progress of Evolving Mechanisms	Possible Triggering Event
1	A potential mechanism is apparent. Either failure appears imminent or there is evidence that the detachment mechanism is currently active.	The slope may show evidence of earlier repeated failures of the same type.	Failure could be initiated by a very small further progression of the mechanism relative to that which has already occurred.	Failure could be initiated by a triggering event with a short return period (eg 1 year storm).
0.1 (1 x 10 ⁻¹)	A potential mechanism is apparent and either is active or could easily be activated but failure does not appear imminent. There may be evidence of past distress.	Slopes which have been in existence for some time (ie in the order of decades) may show evidence of occasional previous failures.	Failure could be expected within a few years to a few decades if the mechanism continues to develop at its current rate.	Failure could be triggered by a fairly common event (eg 10 year storm).
0.01 (1 x 10 ⁻²)	A potential mechanism is apparent, but failure does not appear imminent. There may be evidence of past distress.	Slopes which have been in existence for many years (ie usually more than 30 years) may show evidence of an earlier failure.	The progress of the mechanism is evident, but would require substantial development relative to that which has already occurred before failure would be initiated.	Triggering could be expected to require a severe event (eg 1 in 100 year storm).
0.001 (1 x 10 ⁻³)	The potential mechanism can be identified but failure does not appear imminent.	Constructed slopes show no evidence of previous failures of the same type. There may be evidence of old failures on natural slopes.	The existence of the mechanism is evident, but would require very substantial development relative to that which has already occurred before failure would be initiated, or failure would require a substantial acceleration of the progress of the mechanism.	Failure would require an unusually severe triggering event.
0.0001 (1 x 10 ⁻⁴)	The potential mechanism can be deduced from slope features or geological considerations.	Comparable slopes in the same area may show evidence of previous failures of the same type.	Where processes are ancient their age may be used to infer (loosely) their probability of recurrence eg landslides formed at around the end of the last ice age (about 10 - 12,000 years ago).	Failure would require an extreme triggering event.
0.00001 (1 x 10 ⁻⁵) and smaller	The potential mechanism can be deduced from slope features or geological considerations.	Some comparable slopes in the same area may show evidence of rare previous failures of the same type.	The mechanism may only be deduced from long term slope evolution considerations.	Failure would require the most extreme of triggering events eg probable maximum flood or maximum credible event.

Factor	Considerations
Wall Type	Masonry walls, particularly when unmortared ('drystone'), are prone to brittle failure under load. Walls of this type were commonly used to retain road embankments in the 19 th and early 20 th centuries and were still being constructed in some areas until about 1960.
Foundations	Foundation materials and design (if any) will constrain the types of mechanism which are possible.
Original condition of wall	Construction standard and geometry of structure. Drystone walls were built to a number of patterns. The most common in smaller walls was with front and rear faces parallel and with a height:thickness ratio of 6:1, subject to a minimum thickness of about 400 mm. Original batter angles would normally have been no steeper than about 80° (1:6).
Current condition of wall	Evidence for the presence of one or more distress modes (see tables and diagrams). The factor of safety against overturning of drystone walls decreases rapidly as the batter angle increases above 80° and may be close to 1 where the wall is near vertical, even without considering live loading.
Condition of retained material	Cracking or subsidence in the pavement or shoulder may indicate the existence of an active or dormant failure mechanism. Evidence of past movement may be disguised by resurfacing or pavement rehabilitation.
Extent of development of potential or actual failure mechanisms	Based on a synthesis of the above factors. Consider the degree of development of the mechanism relative to that needed for failure to occur.
Potential live load location	The potential for failure under live loading depends critically on the location of the load. Consider the location of the outer wheelpath relative to the wall crest, constraints on traffic (eg edge lines, visual or physical barriers, road geometry in relation to the possible position of heavy vehicles), local circumstances which may cause traffic to divert towards the wall under normal operating conditions (eg narrow pavement and poor sight distance). Normally the edge line (or edge of the seal if no edge line is present) would be considered the limit of potential live load locations.

Note: Although upper reaches of the slope is private property it is not anticipated to be adversely loaded (i.e. light vehicles and residential dwellings only). A new retaining structure would be designed to withstand these loads.

Table 10. Likelihood allocation matrix.

P(t)	1	0.1 (1 x 10 ⁻¹)	0.01 (1 x 10 ⁻²)	0.001 (1 x 10 ⁻³)	0.0001 (1 x 10 ⁻⁴)	0.00001 (1 x 10 ⁻⁵)	< 0.00001
1	L1	L2	L3	L4	L5	L6	L6*
0.1 (1 x 10 ⁻¹)	L2	L3	L4	L5	L6	L6*	L6*
0.01 (1 x 10 ⁻²)	L3	L4	L5	L6	L6*	L6*	L6*
0.001 (1 x 10 ⁻³)	L4	L5	L6	L6*	L6*	L6*	L6*
0.0001 (1 x 10 ⁻⁴)	L5	L6	L6*	L6*	L6*	L6*	L6*
0.00001 (1 x 10 ⁻⁵)	L6	L6*	L6*	L6*	L6*	L6*	L6*
< 0.00001	L6*	L6*	L6*	L6*	L6*	L6*	L6*

Refer to Figure 6.

Slope angle below wall

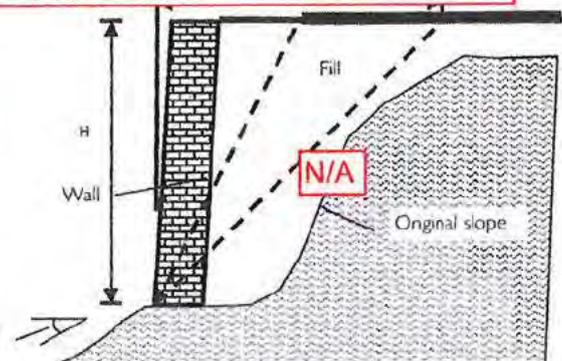


Figure 7. Parameters for Live Loading of Retaining Structures

Pinned ECM. Failure type 1:
Surficial or localised soil instability

Pinned ECM. Failure type 2:
Localised Kinematic failure

Pinned ECM. Failure type 3:
Global soil or rockmass instability

This example considers containers being present

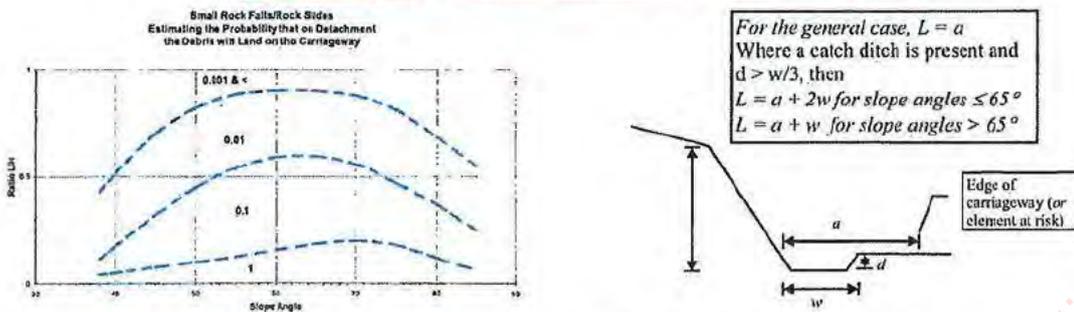
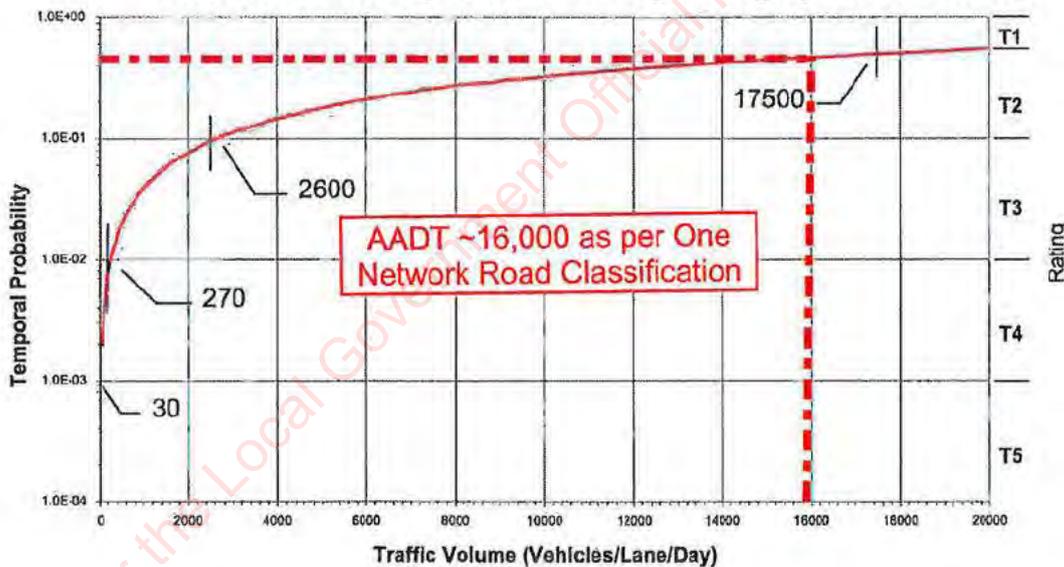


Figure 8. Estimating Travel Distance Probability for Small Rock Falls/Slides Figure 9. Definition of Parameters for Figure 8

Rating	Probability Range	Definition
T1	> 0.5	Person usually expected to be present as part of the normal pattern of usage (eg residential buildings, some commercial buildings).
T2	0.1 – 0.5	Person often expected to be present as part of the normal pattern of usage (eg many commercial buildings). Road users on major urban arterial roads and the most heavily trafficked rural roads.
T3	0.01 – 0.1	major rural arterial roads
T4	0.001 – 0.01	Person unlikely to be present even where there is a pattern of usage. Road users on suburban roads and minor rural arterial roads
T5	< 0.001	Person is very unlikely to be present. Road users on the most lightly trafficked roads, road shoulders etc.

Allocation of Temporal Probability Rating by Traffic Volume



Case	T Rating				
Debris lodging on the road (from Guide Figure 6)	T5	T4	T3	T2	T1
Modified T for debris directly impacting vehicle	T5	T5	T4	T3	T3

Modification to T	Length of Failure Traversed at Posted Speed Limit		
	≤ 50 km/h	60 – 90 km/h	100 – 110 km/h
Decrease T (eg T3 → T4)	< 15 m	< 25 m	< 60 m
T unchanged	15 – 100 m	25 – 250 m	60 – 600 m
Increase T (eg T3 → T2)	> 100 m	> 250 m	> 600 m

Pinned ECM. Failure type 1:
Surficial or localised soil instability

Pinned ECM. Failure type 2:
Localised Kinematic failure

Pinned ECM. Failure type 3:
Global soil or rockmass instability

Table 17. Expanded vulnerability table

Vulnerability Rating	People in the Open	People in Buildings	Vehicle Occupants		
			Vehicle Impact with Individual Rock Blocks	Vehicle Impact with Mixed Landslide Debris	Vehicle Crossing Embankment Failure Area
V1	Unable to evade rockfall or other debris (movement very/extremely rapid), or buried	Engulfed in building collapse	Block > 1 m high at highway speeds		Lost into a deep, narrow void
V2	May be able to evade debris	Partial building collapse	Block > 1 m high at urban speeds Block 0.5 – 1 m high at highway speeds		Lost into a shallow void
V3	Most people able to evade debris	Building penetrated, no collapse	Block > 1 m high at low speeds Block 0.5 – 1 m high at urban speeds	Loose or wet mixed soil/rock debris at highway speeds	Stepped surface with 0.1 – 0.2 m steps at highway speeds
V4		Building struck, damaged but not penetrated	Block 0.5 – 1 m high at low speeds Block around 0.2 m high at highway speeds	Loose or wet mixed soil/rock debris at urban speeds	Stepped surface with 0.1 – 0.2 m steps at urban speeds Shallow void/depression where guardrail may prevent a vehicle from leaving the road
V5		Building struck, only minor damage etc	Block around 0.2 m high at urban speeds Smaller block at highway speeds	Loose or wet mixed soil/rock debris at low speeds Irregular surface formed by soil or small (<100mm minimum dimension) rock at highway speeds	Stepped surface with 0.1 – 0.2 m steps at low speeds Irregular surface formed by a developing embankment failure at highway speeds

Table 18. Extended vulnerability table - Vehicles impacting single rock blocks

Block Size	Posted Speed Limit		
	Highway Speeds (100 – 110 km/h)	Urban Speeds (60 – 80 km/h)	Low Speeds (≤ 50 km/h)
Minimum dimension > 1 m	V1	V2	V3
Minimum dimension 0.5 – 1 m	V2	V3	V4
Minimum dimension 0.2 – 0.5 m	V3	V4	V5
Minimum dimension = 0.2 m	V4	V5	V5*
Minimum dimension = 0.1 m	V5	V5*	V5*

Table 19. Extended Vulnerability Table - Vehicles impacting mixed landslide debris

Debris Type	Posted Speed Limit		
	Highway Speeds (100 – 110 km/h)	Urban Speeds (60 – 80 km/h)	Low Speeds (≤ 50 km/h)
Loose or wet mixed soil/rock debris	V3	V4	V5
Small rock debris (min dim < 0.1 m)	V5	V5*	V5*

Table 20. Extended vulnerability table - Vehicles impacting voids or stepped surfaces

Void or Surface Type	Posted Speed Limit		
	Highway Speeds (100 – 110 km/h)	Urban Speeds (60 – 80 km/h)	Low Speeds (≤ 50 km/h)
Deep, narrow void	V1	V2	V3
Shallow void (0.2 – 0.5 m step)	V2	N/A	V4
Stepped surface (0.1 – 0.2 m steps)	V3	V4	V5
Irregular surface (steps < 0.1 m)	V5	V5*	V5*
Shallow void with guardrail or wire rope barrier	V4	V4	V4

Table 21. Resultant velocity (m/s) by fall height and traffic speed

Traffic speed m/s (km/h)	Fall Height (m)									
	5	10	15	20	25	30	40	50	75	100
0 (0)	9.9	14.0	17.2	19.8	22.1	24.3	28.0	31.3	38.4	44.3
13.9 (50)	17.1	19.7	22.1	24.2	25.1	27.9	31.3	34.3	40.8	46.4
16.7 (60)	19.4	21.8	23.9	25.9	27.7	29.4	32.6	35.5	41.8	47.3
19.4 (70)	21.8	24.0	25.9	27.8	29.5	31.1	34.1	36.9	43.0	48.4
22.2 (80)	24.3	26.3	28.1	29.8	31.4	32.9	35.8	38.4	44.3	49.6
25.0 (90)	26.9	28.7	30.3	31.9	33.4	34.8	37.6	40.1	45.8	50.9
27.8 (100)	29.5	31.1	32.7	34.1	35.5	36.9	39.5	41.9	47.4	52.3
30.6 (110)	32.1	33.6	35.0	36.4	37.7	39.0	41.5	43.8	49.0	53.8

Pinned ECM. Failure type 1:
Surficial or localised soil instability

Pinned ECM. Failure type 2:
Localised Kinematic failure

Pinned ECM. Failure type 3:
Global soil or rockmass instability



Appendix A - Pinned Erosion Control Matting

Guide to Slope Risk Analysis

Table 22. Vulnerability allocation for vehicle directly impacted by single rock blocks

Block Size	Resultant Velocity		
	> 25 m/s	15 – 25 m/s	< 15 m/s
Minimum Dimension > 1 m	V1	V1	V1
Minimum Dimension 0.5 – 1 m	V1	V1	V2
Minimum Dimension 0.2 – 0.5 m	V1	V2	V3
Minimum Dimension 0.1 – 0.2 m	V2	V3	V3
Minimum Dimension < 0.1 m	V3	V4	V4

Table 24. Vulnerability allocation for retaining wall failure under live loading (road users)

Slope angle below wall	Wall height				
	< 1 m	1 – 2 m	2 – 3 m	3 – 4 m	> 4 m
> 35°	V2	V2?	V1	V1	V1
25° - 35°	V3	V2	V2	V1	V1
15° - 25°	V4	V3	V2	V1	V1
< 15°	V5	V4	V3	V2	V1

Table 26. Consequence ratings for property damage and consequential effects

Rating	Indicative Criteria
C1	Total direct and indirect costs > \$15 million: <ul style="list-style-type: none"> Total closure of a Sub-Network Rank 5 or 6 (SN5-SN6) road for an extended period or very high disruption cost (other than road users) Major infrastructure or property damage (other than road) Very high repair cost
C2	Total direct and indirect costs > \$3 million < \$15 million: <ul style="list-style-type: none"> Total closure of one carriageway of an SN5-6 road or total closure of an SN3-SN4 road for an extended period or large disruption costs Substantial infrastructure or property damage High repair cost
C3	Total direct and indirect costs > \$0.8 million < \$3 million: <ul style="list-style-type: none"> Partial or total closure of an SN3-SN4 road for a short period, longer period if reasonable alternatives are available or moderate disruption costs Moderate infrastructure or property damage Moderate repair cost
C4	Total direct and indirect costs > \$0.2 million < \$0.8 million: <ul style="list-style-type: none"> Partial or total closure of an SN2 road for a short period or minor disruption costs Minor infrastructure or property damage Low repair cost
C5	Total direct and indirect costs < \$0.2 million: <ul style="list-style-type: none"> Partial or total closure of an SN1 road for a short period or little or no disruption costs Negligible infrastructure or property damage Very low – no repair cost

Table 25. Consequence matrix for risk to life
Temporal Probability of an Individual Being Present at the Time of Failure

Vulnerability	T5	T4	T3	T2	T1
V1	C4	C3	C2	C1	C1
V2	C4	C3	C2	C1	C1
V3	C5	C4	C3	C2	C2
V4	C5	C5	C4	C3	C3
V5	C5	C5	C5	C4	C4

Table 27. Assessed risk level matrix
Consequence Class

Likelihood	C5	C4	C3	C2	C1
L1	ARL3	ARL2	ARL1	ARL1	ARL1
L2	ARL4	ARL3	ARL2	ARL1	ARL1
L3	ARL5	ARL4	ARL3	ARL2	ARL1
L4	ARL5	ARL5	ARL4	ARL3	ARL2
L5	ARL5	ARL5	ARL5	ARL4	ARL3
L6	ARL5	ARL5	ARL5	ARL5	ARL4

$L = p(d) * p(t)$
as per Figure 6.

Meanings Attached to the Term 'Road Closure'

Total closure

This means that the road is closed to traffic in both directions and all traffic has to take an alternate route.

Partial closure

This means that the road is closed to traffic in one direction and either:

- the traffic in one direction has to take an alternate route, or
 - the traffic in both directions has to be controlled to allow alternating one-way flows.
- This may require the construction of earthworks and temporary pavements (for instance, to cross the median in dual carriageway roads or to allow traffic to use the road shoulder for an extended period).

Asset damage categories

Supplementary Ratings

Table 28. Scale of failure (S) ratings

Rating	Volume of Failure	Individual Block Size
S1	Volume > 20,000 m ³ (eg. 40 m wide x 60 m long x 10 m deep = 24,000 m ³)	Individual blocks of > 1m minimum dimension (eg one rock 1 x 1 x 2 m)
S2	Volume > 2,000 m ³	Individual blocks of 0.5 – 1 m minimum dimension
S3	Volume > 200 m ³	Individual blocks of 0.2 - 0.5 m minimum dimension
S4	Volume > 20 m ³	Individual blocks of about 0.2 m minimum dimension
S5	Volume < 20 m ³	Individual blocks of about 0.1 m minimum dimension

Table 29. Velocity of failure (R) ratings

Rating	Description	Velocity (mm/sec)	Typical Velocity
R1	Extremely Rapid	5 x 10 ³	5 m/sec
	Very Rapid		
R2	Rapid	5 x 10 ¹	3 m/min
		5 x 10 ⁻¹	1.8 m/h
R3	Moderate	5 x 10 ⁻³	13 m/month
R4	Slow	5 x 10 ⁻⁵	1.6 m/year
R5	Very Slow	5 x 10 ⁻⁷	16 mm/year
	Extremely Slow		

Table 30. Event magnitude classification matrix
Scale of Failure

Velocity of Failure	Scale of Failure				
	S5	S4	S3	S2	S1
Fast	R1	M3	M2	M2	M1
	R2	M4	M3	M2	M1
	R3	M4	M4	M3	M2
	R4	M5	M4	M4	M3
Slow	R5	M5	M5	M4	M3

Table 31. Hazard classification matrix
Event Magnitude

Likelihood	M5	M4	M3	M2	M1
L1	H3	H2	H2	H1	H1
L2	H4	H3	H2	H2	H1
L3	H4	H4	H3	H2	H2
L4	H5	H4	H4	H3	H2
L5	H5	H5	H4	H4	H3
L6	H5	H5	H5	H4	H4

Pinned ECM. Failure type 1:
Surficial or localised soil instability

Pinned ECM. Failure type 2:
Localised Kinematic failure

Pinned ECM. Failure type 3:
Global soil or rockmass instability

Susan Sales

From: [REDACTED]
Sent: Monday, 22 August 2022 2:37 pm
To: Derek Kerite
Cc: Paul Pugh; Jon Kingsbury; Alison Geddes
Subject: [EXTERNAL] P307413 - [REDACTED]
Attachments: P307413 - [REDACTED]

Hi Derek

Please find [REDACTED] Rd inspection attached.

The contractor has cleared the debris from access track but it needs a bit more scaling of loose rock/soil on lower slope which is at risk of further collapse during rain.

Also fell the pine tree at slope crest.

Kind Regards

[REDACTED] Senior Engineering Geologist
Mobile [REDACTED]

Tetra Tech Coffey | *Leading with Science*
Level 6, 342 Lambton Quay | Wellington 6011 | tetratech.com | tetratechcoffey.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

 Please consider the environment before printing. [Read more](#)



MEMORANDUM

Recipient name	Derek Kerite	Recipient company	Hutt City Council
Copied recipients	-	Memo date	22 August 2022
Author	[REDACTED]		
Project reference	773-WLGGE307413		
Memo subject	[REDACTED]	Initial Landslide Assessment	

Dear Derek

Tetra Tech Coffey inspected a landslide at [REDACTED] on 21 August 2022 as requested by Hutt City Council (HCC). The slip occurred on 18 August 2022 following heavy rain over the previous week. The slip debris deposited on the accessway to the dwelling has been cleared over the weekend. HCC requested an inspection on the progress of the debris clearance and advice on whether the remediation is adequate to allow continued use of the accessway in the short term.

The slip follows other large failures over the winter along the slope towards Stokes Valley Road. The previous slips lead to closure of the southbound lane of the road.

The following inspection observations were made:

- The slip feature comprises two adjacent failures above the gravel access track.
- The slips are predominately in the road reserve however, the headscarp may extend into 141 Holborn Drive.
- Slip debris blocked the access road to the property at the top of the slope. The contractor has been clearing slip debris over the weekend to regain access for owner.
- The contractor advised further movement of the slope has been occurring with the lower slope then progressively scaled and debris cleared.
- Roots of a pine tree are exposed in the crest of the slip (see Photo 1 below).
- Water seepage is present in lower slip face through completely weathered rock (see Photos 1 & 2).
- Portions of lower slope are unstable, rocks have open defects. A tension crack appears to be running along portion of lower slope.
- Work is continuing to remove debris from slips further east along the slope. Tree has been felled at crest of a slip removing risk of collapse (see Photo 4 below). Slip headscarp is still over-steepened and may be unstable.

Photography is attached

We make the following recommendations specifically regarding the slip adjacent 200 Eastern Hutt Road:

- Further scaling of unstable rock/soil recommended below red line in Photo 1. This material will likely collapse during further rain.
- Pine trees within 3m of the slope crest should be felled.
- The above measures will reduce the risk to the home owner using the track however, a permanent rockfall protection or slope stabilisation solution is required, potentially a steel mesh drape anchored at the top, middle and base of slope. Similar measures may be required for slips to the east and management of surface water runoff via cut off drains may be required.

-
- An additional inspection of the completed works is recommended.
 - We can provide advice to HCC on permanent retaining measures if requested.

For and on behalf of Tetra Tech Coffey




Senior Engineering Geologist

Reviewed/ Authorised by




Senior Principal Geotechnical Engineer
CMEngNZ

Attachments

Site Plan

Photography

APPENDIX A: SITE PLAN

Released under the Local Government Official Information and Meetings Act



Figure 1 HCC GIS webmap

APPENDIX B: PHOTOGRAPHY

Released under the Local Government Official Information and Meetings Act



Photo 1: slip features

Released under the LOI and Access to Information and Meetings Act

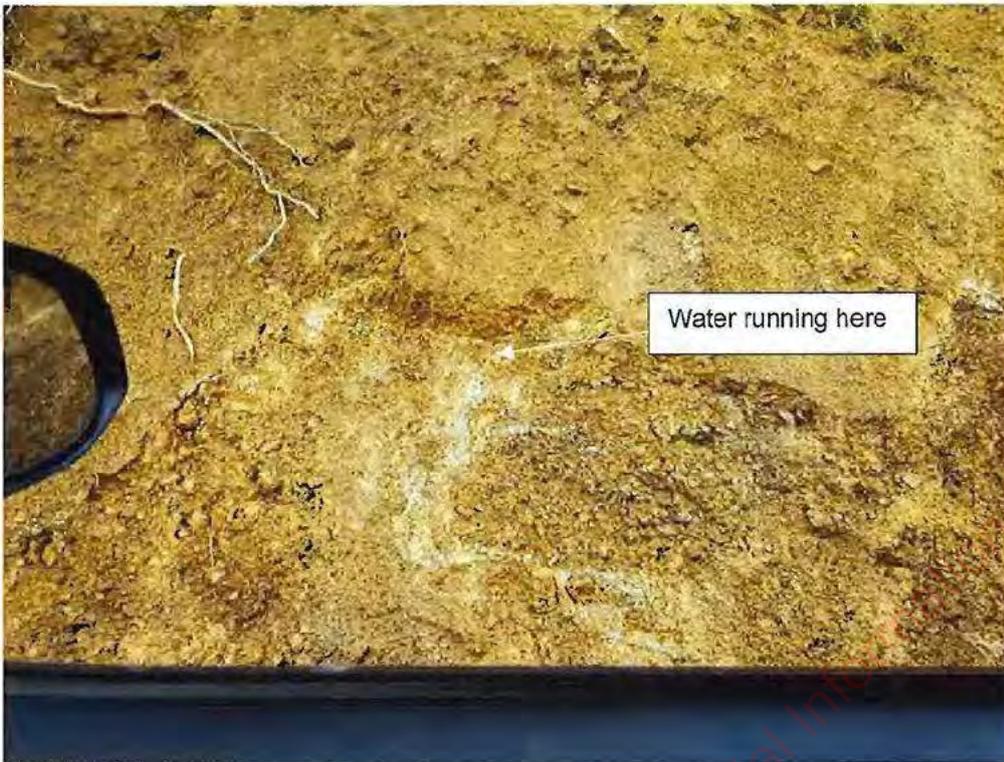


Photo 2: running water from lower slip face (see location Photo 1)

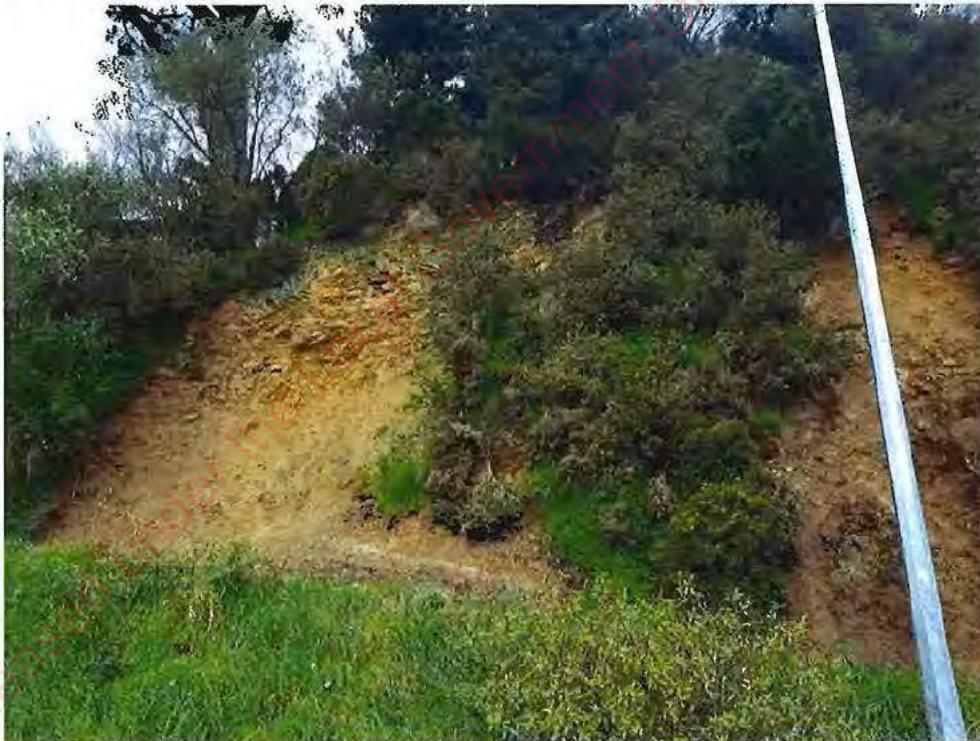


Photo 3: Slip at [REDACTED]



Photo 4 slip further east along road



Photo 5 slip debris base of Photo 4



Photo 5: Slips east along slope

Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Casey Truman [REDACTED]
Sent: Monday, 29 August 2022 6:36 pm
To: Derek Kerite
Subject: [EXTERNAL] Stokes Valley Slips - Landowner approval

Kia ora Derek,

I have spoken with Abseil Access, and they are committed to working on the Stokes job for Friday and working on being available for Thursday. Key works will include debris and rock removal (same works as North of the RAB).

Are you able to work through gaining landowner approval for [REDACTED] please?

Let me know if you need anything from me.

Many thanks,

Casey Truman
PROJECT MANAGER

[REDACTED]

Susan Sales

From: Karen Piper
Sent: Monday, 29 August 2022 12:51 pm
To: __CLT; Anthony Robinson; Cam Meads; Caryn Ellis; Colin Lunn; Derek Kerite; Diane Robinson; Frances Gregory; Jon Kingsbury; Matthew McKenzie; Paul Pugh; Ted Grieve
Subject: CONFIDENTIAL: Update on Slips 29 August 2022

Comms

- Questions are being asked on how far away the engineering reports from EQC are. There are also concerns about large trees next to Eastern Hutt Rd and huge pine trees between the present slip and Reynolds Bach drive. Please keep Comms posted so we can update the website.
- There are also questions around why we can't cut off traffic from Silverstream. We will publish an FAQ on this to use for replies.

Transport

- Awaiting engineering clearance from AECOM for the abseilers to work on clearing loose debris and vegetation/trees below [REDACTED]
- Request for a calendar of work for the timeline to clear slips/other roading works around the city.

Regulatory

- Meeting with EQC and Tonkin & Taylor at 10am. See confidential notes below.
- **Confidential Update from meeting (not for wider distribution)**
 - **Note:** T+T reports nearing completion (Finalised: [REDACTED] – will be sent to the homeowners in 24 hours, [REDACTED] – revisited site last week due to heavy rainfall and land movement, final report to be sent next week), based on observational basis only. Noting reports cover imminent risk only and do not factor natural disasters including another heavy rain event (i.e. reports based on 12 months normal annual rainfall). The reports will not help to lift the Dangerous Building Notices.
 - **Note:** Homeowners approval is needed before reports can be shared. Derek noted the owners have agreed to share the reports with us.
 - **Action:** [REDACTED] requires an independent structural assessment on the deck and foundations. HCC will commission this independently as a priority as impacts road fully opening. Once received HCC can work out what it needs to do to open the road fully (e.g. containers welded together and anchored to the slope).
 - **Action:** [REDACTED] Abseil access for later this week. AECOM to complete engineering assessment and follow the same process as the slip north of Stokes Valley roundabout. Target for site visit and debris removal 01 and 02 September. Derek/Caryn have advised property owners of this work and likely dates.

Karen Piper
Executive Assistant

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: M: [REDACTED] V: www.huttcity.govt.nz

Susan Sales

From: Casey Truman
Sent: Thursday, 1 September 2022 2:46 pm
To: Kara Puketapu-Dentice; Jon Kingsbury; Derek Kerite; Colin Lunn; Caryn Ellis
Subject: Eastern Hutt Road Slips Update - 01 September

Kia ora koutou,

Please see a brief update below:

- Abseil Access are underway today and tomorrow, clearing the debris at [REDACTED]
- 3 containers are being dropped at [REDACTED] tomorrow morning in preparation for road open.

- AECOM are completing a rockfall analysis to assess the mitigation required under [REDACTED] we expect this back tonight / tomorrow morning. Current strategy is that we will get containers double stacked, filled with rocks, and welded / anchored.
- Subject to the structural report and geotechnical assessment, Abseil Access aim to complete works at this slip on Monday.

Additional lane open

- A plan is being marked up to show how the contraflow will work – once reviewed (internal and external), this will be shared with comms.
- The team are meeting onsite at 12pm tomorrow to finalise requirements for road open and to confirm the contraflow.

Please let me know if you have any questions.

Many thanks,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] W: www.huttcity.govt.nz



Susan Sales

From: [REDACTED]
Sent: Tuesday, 23 August 2022 2:05 pm
To: Jon Kingsbury; [REDACTED] Colin Lunn
Cc: [REDACTED] Derek Kerite; Paul Pugh
Subject: [EXTERNAL] RE: FW: HCC Emergency Slip Inspections 22/8/2022

Hi Jon

The garage is approximately 2 m from the edge of the scarp and the loose soil is approximately 2 m thick. Therefore there is a risk the garage could be undermined if further regression occurs and this could lead to part of the garage collapsing. Stormwater and wastewater services have been severed at the top of the slope and therefore can discharge directly onto the top of the slope, potentially resulting in erosion, undermining and instability of the slope.

We therefore recommend a dangerous building notice is issued to the owner and remain in place until suitable mitigation measures are taken to reduce the risk of further instability. It is anticipated such measures will be outlined in a report for EQC.

Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

[微信WeChat](#) | [LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



Please consider the environment before printing this email.

From: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Sent: Tuesday, 23 August 2022 1:20 pm
To: [REDACTED] Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Cc: [REDACTED] Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: RE: FW: HCC Emergency Slip Inspections 22/8/2022

Thanks [REDACTED]

Confirming my approval to go ahead and get Abseil Access to install the tarpaulins.

[REDACTED]

Ngā mihi

Jon Kingsbury

Head of Transport

Hutt City Council, 30 Laings Road, 5040, Lower Hutt 5040, New Zealand

M: [REDACTED] W: www.huttcity.govt.nz



Jon Kingsbury

Head of Transport

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: M: [REDACTED] W: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: [REDACTED]

Sent: Tuesday, 23 August 2022 11:02 AM

To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Colin Lunn <Colin.Lunn@huttcity.govt.nz>

Cc: [REDACTED]

Subject: [EXTERNAL] FW: HCC Emergency Slip Inspections 22/8/2022

Hi Jon,

I hope you are well and coping with work ok.

Abseil Access has confirmed that they are available to install tarpaulin to prevent erosion and saturation of exposed soils. Would you be able to confirm that you are happy with this recommendation so we can lock them in?

Below are the rates they sent through for your reference.

[REDACTED]

I will be calling you shortly.

Ngā mihi | Kind regards,

[REDACTED]

(She/Her/Hers)

Principal Geotechnical Engineer, ANZ NZ, Wellington

[REDACTED]

[Click here to connect with me on LinkedIn](#)

AECOM

171 Featherston Street

Address Line 2

Wellington 6011, New Zealand, New Zealand

[REDACTED]

aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office = PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
WFH	✓	✓	✓	WFH

Please consider the environment before printing this email.

From [REDACTED]

Sent: Tuesday, 23 August 2022 9:44 am

To: Jon.kingsbury@huttcity.govt.nz; colin.lunn@huttcity.govt.nz

Cc: [REDACTED]

Subject: HCC Emergency Slip Inspections 22/8/2022

Hi All,

Please see below and attached for the key observations and recommendations for each of the sites inspected yesterday (22/8/2022). We are mindful that further rain is forecast for this Thursday/Friday and public safety is of top priority. We are keen to hear your thoughts and any feedback you have.

Photos - <https://we.tl/t-vwnEddCSOf>

[REDACTED]

[REDACTED]

The slip is situated 10-15m north of the previous instability at [REDACTED] and similar in extent (i.e. approx. 30m high).
The dwelling is not effected – approximately 15m southeast of the scarp. Garages are present further to the east and south of the slip - approximately 5m from the scarp.
The scarp is currently vegetated.
Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.
The area of subsidence previously identified at [REDACTED] between the two slips remains in place.
Debris scheduled to be cleared in the coming day or two.
1 row of concrete blocks have been installed along the median TL3 barrier. Both lanes of southbound traffic have been closed to the public.

Recommendations

EQC are notified by the residents of [REDACTED]
The containers beneath [REDACTED] are extended to the north and welded together. We recommend a minimum of 3 are installed. This should enable one southbound lane to be reopened.
The slope is monitored and incorporated in to the Eastern Hutt Road permanent works

100m north of Stokes Valley Roundabout (below [REDACTED])

The slip is approximately 25m high and predominately situated in council owned land.
The catch fence comprising of mesh and steel posts appears to have worked in containing debris, however damaged and the needs requires replacement.
The dwelling is not effected – approximately 15m southeast of the scarp.
The scarp is currently vegetated.
Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.
Concrete blocks have been placed along the southbound lane and automatic traffic lights are in place.

Recommendations

For temporary works to open both lanes, extend and repair the catch fence to the south to encompass the instability. This could comprise of steel/timber posts and chainlink mesh. Look to install proprietary catch fence for permanent works.
Keep one lane operating for the time being.

Regards

[REDACTED]
Senior Engineering Geologist, Wellington

Susan Sales

From: Casey Truman
Sent: Wednesday, 31 August 2022 4:53 pm
To: Derek Kerite; Colin Lunn
Cc: Jon Kingsbury
Subject: FW: [REDACTED] Upper Slope Reaches Scaling
Attachments: [REDACTED] - Plan.pdf

Hi Derek and Colin,

Please see mark up from [REDACTED] and plans below.

For the slips at [REDACTED] from initial assessment [REDACTED] has indicated that 3 containers will be sufficient.

I have just spoken to [REDACTED] and we will now be onsite Friday at 12pm – will let you know if this time changes.

Cheers,

Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Wednesday, 31 August 2022 4:36 pm
To: Casey Truman [REDACTED]
Cc: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; [REDACTED]
Subject: [REDACTED] - Upper Slope Reaches Scaling

Hello Casey,

Following the meeting last Monday and our conversation yesterday, the following actions were carried out:

- 1) Liaise with Abseil Access and confirm the scheduled work dates on scaling and vegetation removal at the [REDACTED] upper slope reaches to enable the safe opening of the southbound lane.
- 2) Provided drone photos to Abseil Access per their request.

I have spoken to [REDACTED] (Abseil Access) this afternoon and he confirmed the crew will be onsite starting tomorrow. The works for the 2 sites and one smaller slip left of [REDACTED] are programmed to take 2 days.

A marked-up photo is attached to show the stages of the work to be completed before one southbound lane will be opened. The extent of the scaling will be determined onsite by rope techs and I will come around midday Friday to do an assessment. In regard to the garden bed, I will leave this with you to communicate to the landowner that the one closest to the scarp will have to be removed.

Please reach out if you have further queries.



SCALING AND REMOVAL OF VEGETATION (STAGE 1)

ADDITIONAL 3 NOS CONTAINER (STAGE 2)

Released under the Official Information Act 1982

From: Casey Truman
Sent: Wednesday, 2 November 2022 4:53 pm

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

Thanks for getting the structural report completed.

I have a few questions on the report that would be good to get an understanding before meeting on Friday.

1. Can we please add a section on the imminent risk?
2. Clarification on the dangerous building notice – can homeowners occupy or not?
3. Can we please have clear distinction on whether the building is dangerous or not – the sentence below is ambiguous. As previously mentioned, occupying the house in its current state should only be for a short term. In the long term, it is recommended that the landslip be remediated to enable long term safe occupation of the dwelling.
4. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,
Casey Truman
SENIOR CONSULTANT

From: [REDACTED]
Sent: Wednesday, 2 November 2022 9:55 am
To: Casey Truman [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

Thanks for your call this morning. The structural report is attached for HCC's information. Note the report concludes the house is safe to occupy from a structural perspective but does not account for geotechnical risk. We can issue a final version of the letter once we have incorporated HCC feedback (if any).

We note the dangerous building notice issued to [REDACTED] stipulates the following:

You [landowner] are required to take the following action to reduce or remove the danger:

1. *Submit a report from a Chartered Professional Geotechnical Engineer confirming whether*
 - a. *The building is not dangerous and is safe to occupy or*
 - b. *The remedial work required to ensure the building is not dangerous for occupation. This should include preliminary methodology and timeline for the work to be completed.*
2. *The premise will not be occupied until Council has reviewed the report and confirmed that the building is safe for occupation.*

We are happy to update the existing geotechnical report (attached) to include cost estimates, however, the report has been prepared for HCC to inform the risk to the road. Unfortunately for public liability reasons AECOM is unable to produce a report for the landowner to address item 1 listed above. We are happy for our report to be made available to the landowner for information but our limitations will state that only HCC can rely on it. We recommend the landowner engages a geotechnical specialist for such a report.

We will review the EQC report for [REDACTED] this week.

High-level cost estimates and timeframes can be provided for a catch fence beneath [REDACTED] and pinned erosion control matting and sub-horizontal drain construction at [REDACTED]. We will get back to you on this.

In order to effectively cost site investigations we need further clarification on purpose and scope. Investigations would be tailored to the solution/option being investigated. For instance, if this is for cutting and benching the slope investigations would be more onerous than that of localised anchored shotcrete wall/s.

With regard to [REDACTED] there didn't appear to be any material change to the slope condition during the inspection on 13/10/2022. We haven't completed an assessment/report for this site, however, it is encapsulated within the extent of the containers and the residential dwelling is offset a reasonable distance (10-15m). Let us know if anything further for this property.

I suspect it will be easiest to discuss each of these items via a Teams meeting – are you available sometime this week for a catch-up?

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: [REDACTED]

Sent: Friday, 28 October 2022 9:54 am

To: Casey Truman <Casey.Truman@huttcity.govt.nz>; [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey

I'm just waiting to hear back from our structural engineer on the report delivery and will get back to you as soon as I have an update.

[REDACTED] will be back on Monday so can provide further updates then.

Thanks for your patience.

Ngā mihi | Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

微信WeChat | LinkedIn | Twitter | Facebook | Instagram



Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Thursday, 27 October 2022 4:17 pm

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi [REDACTED]

Appreciate you probably have millions of things on the go!

Following up on the below email. For response on some items there is a bit more time, but could you please give me an update on the structural report asap?

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

[REDACTED] W: www.huttcity.govt.nz



From: Casey Truman

Sent: Thursday, 20 October 2022 4:45 pm

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Great, thanks [REDACTED] Some comments below.

In addition to these comments:

1. I spoke to [REDACTED] whilst on site around potentially completing some core samples. Can AECOM please provide some indicative costs for this work? [REDACTED] have asked if this would be something we would consider doing / cost-sharing.
2. Are there any concerns for [REDACTED]

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

W: www.huttcity.govt.nz



Sent: Thursday, 20 October 2022 3:39 pm

To: Casey Truman <Casey.Truman@huttcity.govt.nz>

Subject: [EXTERNAL] RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We discussed the site observations from last week's visit and recommend the following:

Containers are left in place and a fence is erected along the top to prevent runoff of debris into the carriageway. We please get some indicative timeframes for design and costs associated for this work? HCC/AECOM to review the landowner's geotechnical report once made available to confirm preferred solution and cost-share arrangements. We won't proceed with the AECOM report is complete, we will share this with the landowner, and they can advise whether they get it peer reviewed. At this stage we will be basing the solution and cost-share agreements on the AECOM report. Could you also please provide an update on how this is progressing?

Containers remain in place. AECOM to review the landowner's updated EQC/T&T and geotechnical consultancy reports once made available to confirm preferred solution and cost-share arrangements. Report attached.

The instability appears to be located within council land however has minimal impact to Eastern Hutt Road. We recommend a low-energy catch fence (or similar alternative) be erected along the boundary of Eastern Hutt Road to prevent runoff into the carriageway. Refer to the attached document "Catch Fence Extent". We please get some indicative timeframes for design and costs associated for this work? Further dropout/ravelling of the existing slope is anticipated to occur, however, expected to predominately impact the accessway that services two properties. Periodic maintenance will be required following further slips. Is there any simple and cost-effective way of mitigating this? There have been several slips in this area.

Pinned erosion control matting is installed across the slip face (particularly that of the soil slope) and hydroseeded. We please get some indicative timeframes for design and costs associated for this work? 3 sub-horizontal drains are installed in an array at the seepage location – refer to attached markup. Refer to the attached document "pages 2 and 3 of Cross-section". We please get some indicative timeframes for design and costs associated for this work? Barriers remain in place until vegetation re-establishes.

The Opus report provided relates to three existing cribwalls that retain Eastern Hutt Road. We are happy to review this and comment, however, I understand there may have been another report related to the possibility of realigning/widening the road which has been impacted by the slips? I recall the landowner of [redacted] talked about this report during one of our inspections. It may be worth touching base with [redacted] to double check? We will check in and get back to you.

Kind Regards,

Senior Engineering Geologist, Wellington

aecom.com

Delivering a better world

微信WeChat | LinkedIn | Twitter | Facebook | Instagram



Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Monday, 7 November 2022 7:51 am

Subject: RE: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi team,

Hope you had a great weekend and enjoyed some sunshine.

Thanks for your time on Friday. As discussed, please proceed with updating the structural and geotech report. The current thinking is that the structural report will be by Wednesday and Geotech by Friday.

Key items we need covered:

Geotech:

1. Imminent risk section to be added
2. Clear recommendations / conclusions

Structural:

3. Clear recommendations / conclusions. Something along the line of the structure is sound, subject to XXX, until remedial actions are carried out xxx.
4. Remove the reference to the short term vs long term

I have added below the points raised from legal, please address in both reports:

5. Confirm the date and nature of the inspection, and who was present.
6. Confirm the purpose of the inspection.

Structural: The current scope of the inspection in the draft says that it was just to assess the damage since the landslip. However, what the Council is seeking is an assessment as to whether the house is dangerous under Building Act. That is directly relevant to the dangerous building notice. The purpose of the Council engaging the report is that the Council is seeking advice as to whether the current state of the building is dangerous, or alternatively whether it can be occupied. If the answer is the latter, then the Council may choose to lift the dangerous notice.

7. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,

Casey Truman

Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

W: www.huttcity.govt.nz

From [REDACTED]

Sent: Thursday, 3 November 2022 3:41 pm

To: Casey Truman <Casey.Truman@huttcity.govt.nz>

Subject: [EXTERNAL] RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

We have read and discussed your feedback internally. We would like to discuss some of the elements with you and the wider team tomorrow afternoon prior to finalising the report.

Kind Regards,

[REDACTED]
Senior Engineering Geologist, Wellington

M [REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: Casey Truman <Casey.Truman@huttcity.govt.nz>

Sent: Thursday, 3 November 2022 3:37 pm

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi team,

Can you please confirm you are working on a response to the below?

Our CE has invested interest in this.

Cheers,

Casey Truman

Project Manager



From: Casey Truman

Sent: Wednesday, 2 November 2022 4:53 pm

[REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi all,

Thanks for getting the structural report completed.

I have a few questions on the report that would be good to get an understanding before meeting on Friday.

1. Can we please add a section on the imminent risk?
2. Clarification on the dangerous building notice – can homeowners occupy or not?
3. Can we please have clear distinction on whether the building is dangerous or not – the sentence below is ambiguous. As previously mentioned, occupying the house in its current state should only be for a short term. In the long term, it is recommended that the landslip be remediated to enable long term safe occupation of the dwelling.
4. Homeowners have indicated that they will not be doing remedial works on the slip. If they don't do this work would this deem the house unsafe and is there a risk to public safety?

Cheers,

Casey Truman

SENIOR CONSULTANT

From: [REDACTED]

Sent: Wednesday, 2 November 2022 9:55 am

To: Casey Truman

Cc: [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey,

Thanks for your call this morning. The structural report is attached for HCC's information. Note the report concludes the house is safe to occupy from a structural perspective but does not account for geotechnical risk. We can issue a final version of the letter once we have incorporated HCC feedback (if any).

We note the dangerous building notice issued to [REDACTED] stipulates the following:

You [landowner] are required to take the following action to reduce or remove the danger:

1. *Submit a report from a Chartered Professional Geotechnical Engineer confirming whether*
 - a. *The building is not dangerous and is safe to occupy or*
 - b. *The remedial work required to ensure the building is not dangerous for occupation. This should include preliminary methodology and timeline for the work to be completed.*

2. *The premise will not be occupied until Council has reviewed the report and confirmed that the building is safe for occupation.*

We are happy to update the existing geotechnical report (attached) to include cost estimates, however, the report has been prepared for HCC to inform the risk to the road. Unfortunately for public liability reasons AECOM is unable to produce a report for the landowner to address item 1 listed above. We are happy for our report to be made available to the landowner for information but our limitations will state that only HCC can rely on it. We recommend the landowner engages a geotechnical specialist for such a report.

We will review the EQC report for [REDACTED] this week.

High-level cost estimates and timeframes can be provided for a catch fence beneath [REDACTED] and pinned erosion control matting and sub-horizontal drain construction at [REDACTED]. We will get back to you on this.

In order to effectively cost site investigations we need further clarification on purpose and scope. Investigations would be tailored to the solution/option being investigated. For instance, if this is for cutting and benching the slope investigations would be more onerous than that of localised anchored shotcrete wall/s.

With regard to [REDACTED] there didn't appear to be any material change to the slope condition during the inspection on 13/10/2022. We haven't completed an assessment/report for this site, however, it is encapsulated within the extent of the containers and the residential dwelling is offset a reasonable distance (10-15m). Let us know if anything further for this property.

I suspect it will be easiest to discuss each of these items via a Teams meeting – are you available sometime this week for a catch-up?

Regards,

[REDACTED]
Senior Engineering Geologist, Wellington
[REDACTED]
[REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

From: [REDACTED]

Sent: Friday, 28 October 2022 9:54 am

To: Casey Truman <Casey.Truman@huttcity.govt.nz> [REDACTED]

Subject: RE: RE: Eastern Hutt Road Slope Inspections (13/10/2022)

Hi Casey

I'm just waiting to hear back from our structural engineer on the report delivery and will get back to you as soon as I have an update.

[REDACTED] will be back on Monday so can provide further updates then.

Thanks for your patience.

Ngā mihi | Kind regards

[REDACTED]

Susan Sales

From: Jon Kingsbury
Sent: Tuesday, 23 August 2022 5:37 pm
To: [REDACTED] Colin Lunn
Cc: [REDACTED] Derek Kerite; Paul Pugh
Subject: RE: [EXTERNAL] RE: FW: HCC Emergency Slip Inspections 22/8/2022

Thank you [REDACTED]
Paul/Derek – over to you on that.

Jon Kingsbury
Head of Transport

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: M [REDACTED] W: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: [REDACTED]
Sent: Tuesday, 23 August 2022 2:05 PM
To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz> [REDACTED]
Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Cc: [REDACTED] Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: [EXTERNAL] RE: FW: HCC Emergency Slip Inspections 22/8/2022

Hi Jon

The garage is approximately 2 m from the edge of the scarp and the loose soil is approximately 2 m thick. Therefore there is a risk the garage could be undermined if further regression occurs and this could lead to part of the garage collapsing. Stormwater and wastewater services have been severed at the top of the slope and therefore can discharge directly onto the top of the slope, potentially resulting in erosion, undermining and instability of the slope.

We therefore recommend a dangerous building notice is issued to the owner and remain in place until suitable mitigation measures are taken to reduce the risk of further instability. It is anticipated such measures will be outlined in a report for EQC.

Kind regards

[REDACTED]
Associate Director- Ground Engineering & Tunnelling, NZ
[REDACTED]
[REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

[微信WeChat](#) | [LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



Please consider the environment before printing this email.

From: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

Sent: Tuesday, 23 August 2022 1:20 pm

To: [REDACTED] Colin Lunn <Colin.Lunn@huttcity.govt.nz>

Derek Kerite

<Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>

Subject: RE: FW: HCC Emergency Slip Inspections 22/8/2022

Thanks [REDACTED]

Confirming my approval to go ahead and get Abseil Access to install the tarpaulins.

Ngā mihi

Jon Kingsbury

Head of Transport

Hutt City Council, 30 Laings Road, 5040, Lower Hutt 5040, New Zealand

M: [REDACTED] W: www.huttcity.govt.nz



Jon Kingsbury

Head of Transport

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: M: [REDACTED] V: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: [REDACTED]
Sent: Tuesday, 23 August 2022 11:02 AM
To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] FW: HCC Emergency Slip Inspections 22/8/2022

Hi Jon,

I hope you are well and coping with work ok.

Abseil Access has confirmed that they are available to install tarpaulin to prevent erosion and saturation of exposed soils. Would you be able to confirm that you are happy with this recommendation so we can lock them in?

Below are the rates they sent through for your reference.

[REDACTED]

I will be calling you shortly.

Ngā mihi | Kind regards,

[REDACTED]

(She/Her/Hers)

Principal Geotechnical Engineer, ANZ NZ, Wellington

[REDACTED]

[Click here to connect with me on LinkedIn](#)

AECOM
171 Featherston Street
Address Line 2
Wellington 6011, New Zealand, New Zealand
T +6421819493
aecom.com

Delivering a better world
[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office = PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
WFH	✓	✓	✓	WFH

Please consider the environment before printing this email.

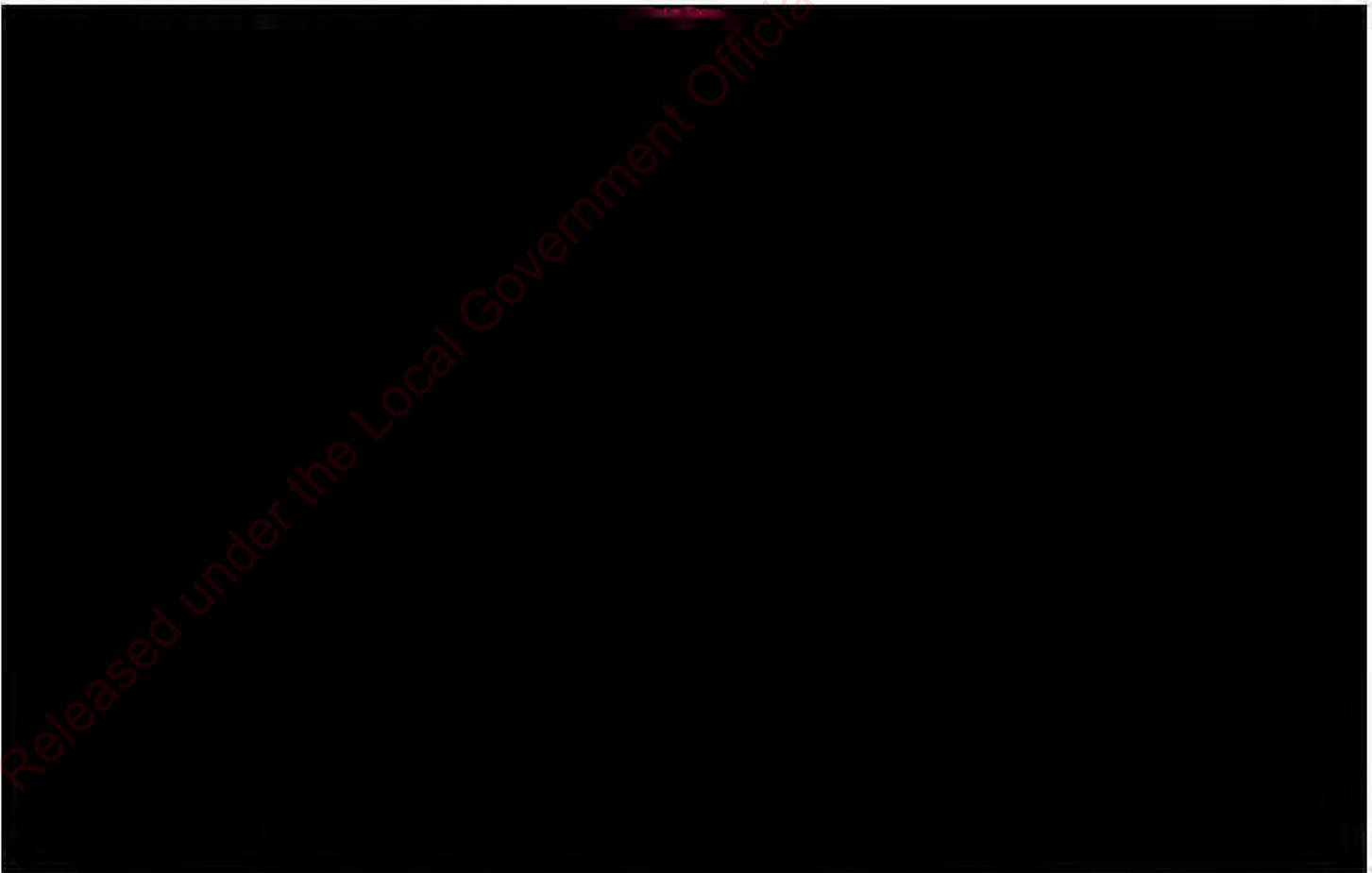
From: [REDACTED]
Sent: Tuesday, 23 August 2022 9:44 am
To: Jon.kingsbury@huttcity.govt.nz; colin.lunn@huttcity.govt.nz

Subject: HCC Emergency Slip Inspections 22/8/2022

Hi All,

Please see below and attached for the key observations and recommendations for each of the sites inspected yesterday (22/8/2022). We are mindful that further rain is forecast for this Thursday/Friday and public safety is of top priority. We are keen to hear your thoughts and any feedback you have.

Photos - <https://we.tl/t-vwnEddCSOf>



The slip is situated 10-15m north of the previous instability at [REDACTED] and similar in extent (i.e. approx. 30m high). The dwelling is not effected – approximately 15m southeast of the scarp. Garages are present further to the east and south of the slip - approximately 5m from the scarp.

The scarp is currently vegetated.

Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.

The area of subsidence previously identified at [REDACTED] between the two slips remains in place.

Debris scheduled to be cleared in the coming day or two.

1 row of concrete blocks have been installed along the median TL3 barrier. Both lanes of southbound traffic have been closed to the public.

Recommendations

EQC are notified by the residents of [REDACTED]

The containers beneath [REDACTED] are extended to the north and welded together. We recommend a minimum of 3 are installed. This should enable one southbound lane to be reopened.

The slope is monitored and incorporated in to the Eastern Hutt Road permanent works

100m north of Stokes Valley Roundabout (below [REDACTED])

The slip is approximately 25m high and predominately situated in council owned land.

The catch fence comprising of mesh and steel posts appears to have worked in containing debris, however damaged and the needs requires replacement.

The dwelling is not effected – approximately 15m southeast of the scarp.

The scarp is currently vegetated.

Rock outcrops along the lower portion of the slope. The instability appears to be largely confined to the overlying soils. Rockhead level is obscured due to the veneer of failed soils across the slip surface.

Concrete blocks have been placed along the southbound lane and automatic traffic lights are in place.

Recommendations

For temporary works to open both lanes, extend and repair the catch fence to the south to encompass the instability. This could comprise of steel/timber posts and chainlink mesh. Look to install proprietary catch fence for permanent works.

Keep one lane operating for the time being.

Regards

[REDACTED]
Senior Engineering Geologist, Wellington
[REDACTED]
[REDACTED]

AECOM

Level 19, ANZ Centre
171 Featherston Street
Wellington 6011, New Zealand
T +64 4 896 6000

aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)

Please consider the environment before printing this email.

Susan Sales

From: Caryn Ellis
Sent: Thursday, 25 August 2022 7:40 pm
To: Craig Ewart; Derek Kerite; Paul Pugh
Subject: Re: [EXTERNAL] RE: Eastern Hutt Road – Slip below [REDACTED]

Thanks Craig, I'll leave this with your team to follow-up.

Regards Caryn

Get [Outlook for Android](#)

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: | M [REDACTED] W www.huttcity.govt.nz



From: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Sent: Thursday, August 25, 2022 5:48:50 PM
To: Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>
Subject: FW: [EXTERNAL] RE: Eastern Hutt Road – Slip below [REDACTED]

Hi Caryn

Here you go.

Craig

Sent from my Galaxy

Craig Ewart
Inspections Team Lead

Hutt City Council, 30 Laings Road, Lower Hutt 5010
[REDACTED] /: www.huttcity.govt.nz



----- Original message -----

From: Craig Ewart <Craig.Ewart@huttcity.govt.nz>

Date: 25/08/22 11:11 am (GMT+12:00)

To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>

Subject: FW: [EXTERNAL] RE: Eastern Hutt Road – Slip below [REDACTED]

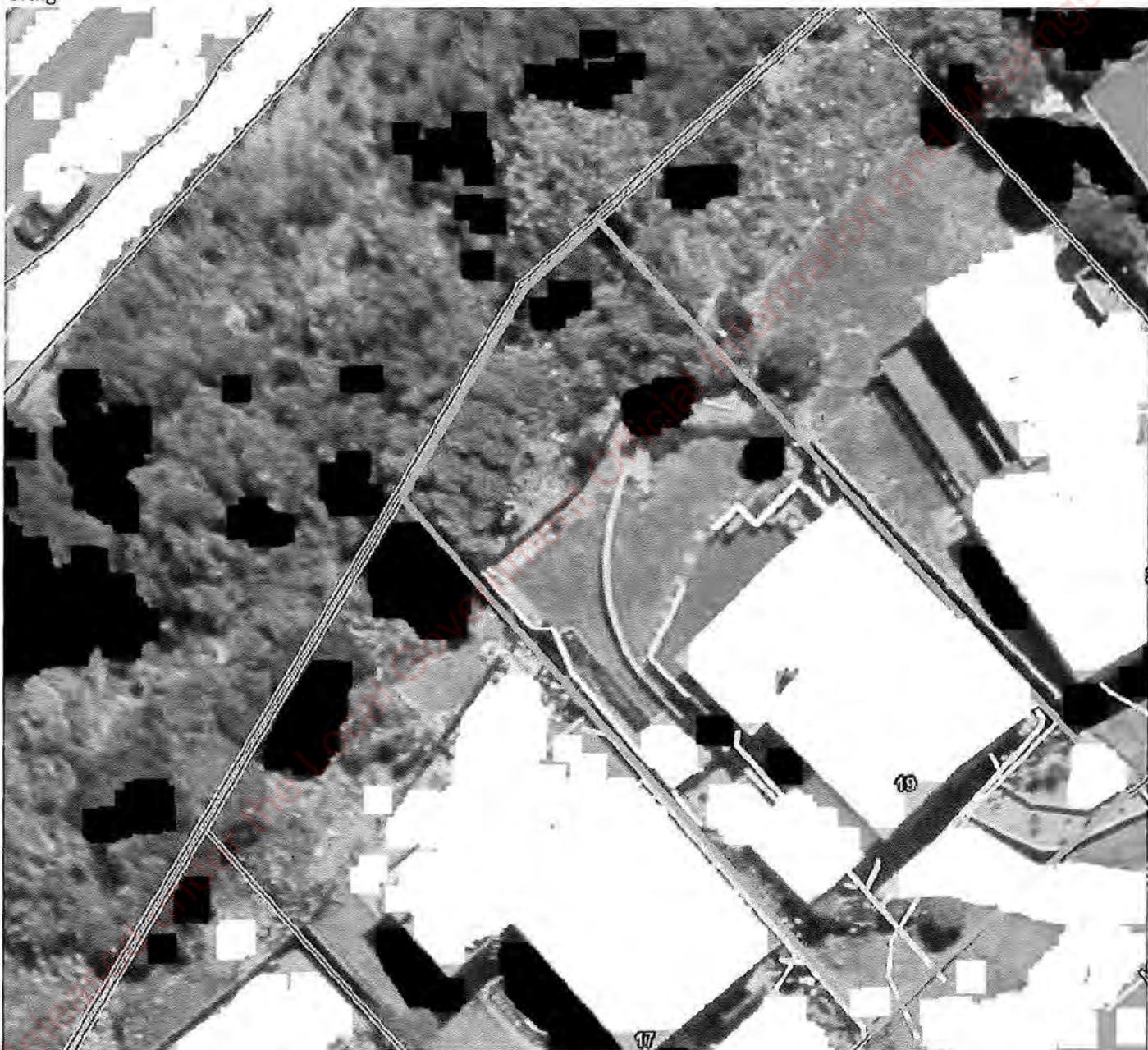
Hi Ray

Another slip,

Just need to confirm if WW have records of pipe work in the area below [REDACTED]

Thanks

Craig



From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>

Sent: Thursday, 25 August 2022 7:58 AM

To: Craig Ewart <Craig.Ewart@huttcity.govt.nz>

Cc: Paul Pugh <Paul.Pugh@huttcity.govt.nz>

Subject: FW: [EXTERNAL] RE: Eastern Hutt Road – Slip below [REDACTED]

Hi Craig

Can you or one of the team have a look in to the SW services in and around this area – [REDACTED] Photo's attached. We want to understand if there are any damaged/ broken pipes that may have contributed to the slip.

Also coordinate with WW to get them out for a site visit and report back on their findings as you did with Holborn please.

TIA
DK

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: [REDACTED] W: www.huttcity.govt.nz



From: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Sent: Wednesday, 24 August 2022 5:51 PM
To: Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: FW: [EXTERNAL] RE: Eastern Hutt Road – Slip below [REDACTED]

Jon Kingsbury
Head of Transport

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Wednesday, 24 August 2022 5:11 PM
To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Cc: [REDACTED] Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Subject: [EXTERNAL] RE: Eastern Hutt Road – Slip below [REDACTED]
PDF attached for reference

From: [REDACTED]
Sent: Wednesday, 24 August 2022 5:10 pm
To: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Cc: [REDACTED] Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Subject: Eastern Hutt Road – Slip below [REDACTED]

Hi Jon,
Eastern Hutt Road – Slip below [REDACTED]
Option 1 - Timeframe (3 weeks) – Repair and extension of catch fence

1. Abseil Access will scale out the slope, clear the vegetation that has been undermined and cut back the scarp to ensure that the crew working below will be safe.
2. Followed by ground-based works – drilling holes for the steel/timber poles
3. Put the mesh on the outside of the poles (e.g. tighter mesh) and have a releasable bottom wire to allow easier maintenance.

Option2 – Installation of Pinned erosion control mesh at the upper reaches of the slope (3-4 weeks?)

1. Abseil Access will scale out the slope, clear the vegetation that has been undermined, and cut back the scarp to ensure that the crew working below will be safe.
2. Install 17 to 20 anchors 4m spaced at 3-5 m centres using an A-Frame drill. Note that the availability of the A-frame is not confirmed at this point yet. Also, the number of anchors will be ascertained when the scaling has already been carried out. The timeframe may need to be adjusted as a result.

HCC assistance is requested in the following regardless of the option chosen:

1. Location of underground services
2. Placement of concrete barriers with the screens that sit on top of the barrier, otherwise, it will have to be a road closure for scaling work

AECOM recommends Option 1.

I will call shortly.

Ngā mihi | Kind regards,

Principal Geotechnical Engineer, ANZ NZ, Wellington

[Click here](#) to connect with me on LinkedIn

AECOM

171 Featherston Street

Address Line 2

Wellington 6011, New Zealand, New Zealand

aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office – PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
WFH	✓	✓	✓	WFH

Please consider the environment before printing this email.

Susan Sales

From: Derek Kerite
Sent: Tuesday, 30 August 2022 4:19 pm
To: [REDACTED] Caryn Ellis
Cc: [REDACTED] Paul Pugh
Subject: RE: [EXTERNAL] RE: Geotech reports and next steps

Hi [REDACTED]

Thanks for your email, we agree that was good to meet you and the engineers.

It would be helpful if you could confirm when the reports from the engineers have gone to the homeowners. I understand from the meeting yesterday that one was going to be sent today and you were reviewing the timeframe for the other.

We also understand that [REDACTED] was working with their structural engineers to assess the cantilevered deck, we would greatly appreciate if any findings could be shared with us as soon as possible.

Caryn and I have been in touch with the homeowners of [REDACTED]

Please give me a phone call if there is anything you would like to discuss.

Regards,

From: [REDACTED]
Sent: Monday, 29 August 2022 10:41 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>
Cc: [REDACTED]
Subject: [EXTERNAL] RE: Geotech reports and next steps

Good Evening Derek & Caryn

It was lovely to get the chance to meet virtually face to face today and talk through everyone's questions and concerns. I hoped that the explanation and content outlined from [REDACTED] at T & T has enabled the HCC to think about the roading situation and better understand what the next steps look like. Thank you for raising the concerns with the customer at [REDACTED] have followed up with [REDACTED] today to let them know their customer might need some assurance and communication on what they can expect from the Toka Tū Ake settlement and how this impacts the section 124 placed on their home by the council.

I know that you were going to have some internal conversations with your Engineers, so I just wanted to check in and understand if you have any further questions that need to be put in front of Toka Tū Ake or Tonkin and Taylor.

Look forward to providing any further support to enable this matter to be resolved.

Ngā mihi nui

[REDACTED]
Head of Event Readiness and Response
Toka Tū Ake | EQC

[REDACTED]
www.eqc.govt.nz

-----Original Appointment-----

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>

Sent: Friday, 26 August 2022 10:42 AM

To: Derek Kerite; Jon Kingsbury; Caryn Ellis; Alison Geddes; [REDACTED]

Cc: Paul Pugh; Craig Ewart

Subject: Geotech reports and next steps

When: Monday, 29 August 2022 10:00 AM-11:00 AM (UTC+12:00) Auckland, Wellington.

Where: Microsoft Teams Meeting

You don't often get email from derek.kerite@huttcity.govt.nz. [Learn why this is important](#)

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Kia ora

Meeting to discuss the scope of pending Geotech reports being prepared by Tonkin and Taylor on behalf of the owners of [REDACTED] and the next steps needed for remediation.

Ros, can you please forward to T&T engineers and anyone one else who needs to attend?

Regards,
Derek

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Meeting ID: 492 948 205 474

Passcode: LLDWKp

[Download Teams](#) | [Join on the web](#)

[Learn More](#) | [Meeting options](#)

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M [REDACTED] W: www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

***** This email message (along with any attachments) is intended only for the addressee(s) named above. The information contained in this email is confidential to the New Zealand Earthquake Commission (EQC) and must not be used, reproduced or passed on without consent. If you have received this email in error, informing EQC by return email or by calling (04)978 6400 should ensure the error is not repeated. Please delete this email if you are not the intended addressee.

UNCLASSIFIED

Susan Sales

From: Derek Kerite
Sent: Wednesday, 31 August 2022 5:10 pm
To: Casey Truman; Colin Lunn
Cc: Jon Kingsbury
Subject: RE: [REDACTED] Upper Slope Reaches Scaling

Thanks for the update Casey.

FYI – Our structural engineer reported back to say the Deck @ [REDACTED] is secured back to the dwelling and he doesn't believe it presents any immediate safety concerns.

DK

From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Wednesday, 31 August 2022 4:53 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Colin Lunn <Colin.Lunn@huttcity.govt.nz>
Cc: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [REDACTED] Upper Slope Reaches Scaling

Hi Derek and Colin,

Please see mark up from [REDACTED] and plans below.

For the slips at [REDACTED] from initial assessment [REDACTED] has indicated that 3 containers will be sufficient.

I have just spoken to [REDACTED] and we will now be onsite Friday at 12pm – will let you know if this time changes.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: [REDACTED]
Sent: Wednesday, 31 August 2022 4:36 pm
To: Casey Truman [REDACTED]
Cc: Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; [REDACTED]
Subject: [REDACTED] Upper Slope Reaches Scaling

Hello Casey,

Following the meeting last Monday and our conversation yesterday, the following actions were carried out:

- 1) Liaise with Abseil Access and confirm the scheduled work dates on scaling and vegetation removal at the [REDACTED] upper slope reaches to enable the safe opening of the southbound lane.
- 2) Provided drone photos to Abseil Access per their request.

I have spoken to [REDACTED] (Abseil Access) this afternoon and he confirmed the crew will be onsite starting tomorrow. The works for the 2 sites and one smaller slip left of [REDACTED] are programmed to take 2 days.

A marked-up photo is attached to show the stages of the work to be completed before one southbound lane will be opened. The extent of the scaling will be determined onsite by rope techs and I will come around midday Friday to do an assessment. In regard to the garden bed, I will leave this with you to communicate to the landowner that the one closest to the scarp will have to be removed.

Please reach out if you have further queries.

Ngā mihi | Kind regards,

[REDACTED]
(She/Her/Hers)

Principal Geotechnical Engineer, ANZ NZ, Wellington
[REDACTED]

[Click here](#) to connect with me on LinkedIn

AECOM

171 Featherston Street
Address Line 2
Wellington 6011, New Zealand, New Zealand
T +6421819493
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office = PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
WFH	✓	✓	✓	WFH

Please consider the environment before printing this email.

Susan Sales

From: Jekkie Suwanposee
Sent: Wednesday, 26 October 2022 3:57 pm
To: Derek Kerite; Casey Truman; Paul Pugh
Subject: RE: EHR - Road Closure Notification
Attachments: Letter to affected houses.docx; Slip at [REDACTED].docx

Hi Derek,
Attached were mail merge letters which Paul dropped off on 2 August. These are what I knew and got involved with. Road closure letter – I don't know.

Cheers

Jekkie

Jekkie Suwanposee
Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: 04 570 6850 [REDACTED] W: www.huttcity.govt.nz



From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Wednesday, 26 October 2022 3:21 PM
To: Casey Truman <Casey.Truman@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Cc: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Subject: RE: EHR - Road Closure Notification

Hi Casey

I've sifted through my emails and desktop and cant locate the last letter we sent to property owners.

Jekkie, can you find anything?

DK

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M [REDACTED] W: www.huttcity.govt.nz



From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Tuesday, 25 October 2022 3:52 PM
To: Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: RE: EHR - Road Closure Notification

Cool, will get this sorted.

Could you please send me the final version of the last letter, half of it will be redundant but will give me a starting point.

Cheers,

Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
W:  W: www.huttcity.govt.nz



From: Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Sent: Tuesday, 25 October 2022 3:43 pm
To: Casey Truman <Casey.Truman@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: RE: EHR - Road Closure Notification

Hi Casey

Since this is BAU transport related road closure now rather than anything to do with the actual properties we'll leave it to you but I personally would do a door knock with a letter to advise.

Cheers
Paul

From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Tuesday, 25 October 2022 9:06 am
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: EHR - Road Closure Notification

Morena Derek and Paul,

Hope you had a lovely long weekend 😊

Checking in to see if we have the details for the houses in the northern section of EHR?

The TMP was declined so there is unlikely to be any work completed this week and we will lock in 1-2 days for next week.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

W: www.huttcity.govt.nz



Released under the Local Government Official Information and Meetings Act

2 August 2022

Derek Kerite

027 202 1187

Regulatory Services

Derek.Kerite@huttcity.govt.nz

Kia ora

I am writing to you following the recent landslip events that have occurred between Holborn Drive and Eastern Hutt Road.

Given the proximity of these properties to your property and whilst we are unaware of any issues for your address, we wanted to advise you of the steps we have taken in relation to [REDACTED]

Following geotechnical assessments on 29 July 2022 Hutt City Council issued Dangerous Building Notices on the properties at [REDACTED] I have enclosed a copy of the geotechnical reports for your information.

In the event that you find damage at your home or property as the result of landslips we strongly advise that you talk to your insurer, EQC and also advise me on derek.kerite@huttcity.govt.nz.

We acknowledge the uncertainty that these events can bring and want to assure you that we are here to assist you. If you have any questions please contact me.

Ngā mihi nui



Derek Kerite
Head of Regulatory Services

Susan Sales

From: Jekkie Suwanposee
Sent: Wednesday, 26 October 2022 3:57 pm
To: Derek Kerite; Casey Truman; Paul Pugh
Subject: RE: EHR - Road Closure Notification
Attachments: Letter to affected houses.docx; Slip at [REDACTED].docx

Hi Derek,
Attached were mail merge letters which Paul dropped off on 2 August. These are what I knew and got involved with. Road closure letter – I don't know.

Cheers

Jekkie

Jekkie Suwanposee
Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: 04 570 6850 M: [REDACTED] W: www.huttcity.govt.nz



From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Wednesday, 26 October 2022 3:21 PM
To: Casey Truman <Casey.Truman@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Cc: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Subject: RE: EHR - Road Closure Notification

Hi Casey

I've sifted through my emails and desktop and cant locate the last letter we sent to property owners.

Jekkie, can you find anything?

DK

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: [REDACTED] W: www.huttcity.govt.nz



From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Tuesday, 25 October 2022 3:52 PM
To: Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: RE: EHR - Road Closure Notification

Cool, will get this sorted.

Could you please send me the final version of the last letter, half of it will be redundant but will give me a starting point.

Cheers,

Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Sent: Tuesday, 25 October 2022 3:43 pm
To: Casey Truman <Casey.Truman@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: RE: EHR - Road Closure Notification

Hi Casey

Since this is BAU transport related road closure now rather than anything to do with the actual properties we'll leave it to you but I personally would do a door knock with a letter to advise.

Cheers
Paul

From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Tuesday, 25 October 2022 9:06 am
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: EHR - Road Closure Notification

Morena Derek and Paul,

Hope you had a lovely long weekend 😊

Checking in to see if we have the details for the houses in the northern section of EHR?

The TMP was declined so there is unlikely to be any work completed this week and we will lock in 1-2 days for next week.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



Released under the Local Government Official Information and Meetings Act

2 August 2022

Derek Kerite
027 202 1187
Regulatory Services
Derek.Kerite@huttcity.govt.nz

Kia ora

I am writing to you following the recent landslip events that have occurred between Holborn Drive and Eastern Hutt Road.

Given the proximity of these properties to your property and whilst we are unaware of any issues for your address, we wanted to advise you of the steps we have taken in relation to [REDACTED]

Following geotechnical assessments on 29 July 2022 Hutt City Council issued Dangerous Building Notices on the properties at [REDACTED] I have enclosed a copy of the geotechnical reports for your information.

In the event that you find damage at your home or property as the result of landslips we strongly advise that you talk to your insurer, EQC and also advise me on derek.kerite@huttcity.govt.nz.

We acknowledge the uncertainty that these events can bring and want to assure you that we are here to assist you. If you have any questions please contact me.

Ngā mihi nui



Derek Kerite
Head of Regulatory Services

Susan Sales

From: Derek Kerite
Sent: Wednesday, 31 August 2022 1:20 pm
To: Karen Piper; __CLT; Anthony Robinson; Cam Meads; Caryn Ellis; Colin Lunn; Diane Robinson; Frances Gregory; Jon Kingsbury; Matthew McKenzie; Paul Pugh; Ted Grieve; Casey Truman; Claire Stevens
Subject: RE: IN CONFIDENCE: SLIPS UPDATE 31 AUG 2022

Kia ora

Jon Devine is heading to site this afternoon and will call me with a verbal update as soon as soon as he has completed the site visit.

DK

From: Karen Piper <Karen.Piper@huttcity.govt.nz>
Sent: Wednesday, 31 August 2022 11:01 AM
To: __CLT <CLT@huttcity.govt.nz>; Anthony Robinson <Anthony.Robinson@huttcity.govt.nz>; Cam Meads <Cam.Meads@huttcity.govt.nz>; Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>; Colin Lunn <Colin.Lunn@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Diane Robinson <Diane.Robinson@huttcity.govt.nz>; Frances Gregory <Frances.Gregory@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Matthew McKenzie <Matthew.McKenzie@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Ted Grieve <Ted.Grieve@huttcity.govt.nz>; Casey Truman <Casey.Truman@huttcity.govt.nz>
Subject: IN CONFIDENCE: SLIPS UPDATE 31 AUG 2022

Regulatory & Transport

- Regulatory has engaged a specialist engineer from Spencer Holmes for advice on the deck at [REDACTED]. Expecting a verbal update in the next day or so and a report by the end of this week.
- EQC has been in email contact following Monday's meeting. We have again requested their structural engineers assessment of the deck as soon as possible.
- Abseilers working on the other part of the slip later this week [REDACTED] require engineering clearance before working underneath [REDACTED].
- Transport has been working with AECOM about getting a sketch of what is needed on site and what needs to be removed before we can put structures/containers in place to be able to open a lane. Meeting with them at site tomorrow.

Economy & Development

- Next steps are to determine what is needed to open another lane and ultimately to work towards a permanent fix of the slips. Sourcing extra containers to give us an extra buffer, contra-flow etc need to fall into place to make this happen.

CE's office

- Working towards an update going out at the end of this week re estimated time of lane opening.

Action: Meeting on Friday on this to brief Jo. Caryn/Ness

Comms

- Responding to a couple of queries that we have been seeing on social media. Will update the website with some additional Q and A in this week's update.
- Need map update for the new layout for designer.

Action: Frances

Karen Piper

Executive Assistant

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: M: [REDACTED] W: www.huttcity.govt.nz



Susan Sales

From: Casey Truman
Sent: Friday, 7 October 2022 1:24 pm
To: Jekkie Suwanposee; Emma Cryan; Alicia Andrews; Derek Kerite
Subject: RE: Stokes Valley - landowner access

Thanks team! 😊

Derek, where we don't have phone numbers can your team assist with drafting a letter please? We can touch on this in the meeting today if needed.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] W: www.huttcity.govt.nz



From: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Sent: Friday, 7 October 2022 12:01 pm
To: Emma Cryan <Emma.Cryan@huttcity.govt.nz>; Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Casey Truman <Casey.Truman@huttcity.govt.nz>; Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>
Subject: RE: Stokes Valley - landowner access

Hi Emma and Alicia,

Thanks you so much for your help. Much appreciate it 😊

Cheers

Jekkie

Jekkie Suwanposee
Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: 04 570 6850 M: [REDACTED] W: www.huttcity.govt.nz



From: Emma Cryan <Emma.Cryan@huttcity.govt.nz>
Sent: Friday, 7 October 2022 11:37 AM
To: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Cc: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Subject: RE: Stokes Valley - landowner access

Hi Alicia & Jekkie

Of course! Contact details of owners below 😊



Hope this is ok but if you have any questions or require any further information, please just let me know 😊

Thanks heaps
Emma

Emma Cryan
Rates Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: M: W: www.huttcity.govt.nz



From: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Sent: Friday, 7 October 2022 11:17 am
To: Emma Cryan <Emma.Cryan@huttcity.govt.nz>
Subject: FW: Stokes Valley - landowner access

Hi Emma

Can I ask you a huge favour to collate this information and send direct to Jekkie?

Thanks so much

Alicia

Alicia Andrews

Finance Transaction Services Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: 04 570 6666 M: [REDACTED] W: www.huttcity.govt.nz



From: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>

Sent: Thursday, 6 October 2022 9:40 am

To: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>

Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>

Subject: RE: Stokes Valley - landowner access

Hi Alicia,

Is it possible to have contact details of these owners soon? We need to give them to our contractor to arrange access to their properties which will happen in next week as below details.

Sorry for emailing this to you. I can't see you at your desk.

Many thanks

Cheers

Jekkie

Jekkie Suwanposee

Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: 04 570 6850 M: [REDACTED] W: www.huttcity.govt.nz



From: Jekkie Suwanposee
Sent: Tuesday, 4 October 2022 1:42 PM
To: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: FW: Stokes Valley – landowner access

Hi Alicia,
As discussed, please look up owners contact details of below properties for Casey to contact them to arrange access to their properties for our contractors and HCC staff.
Thanks a million.

Cheers

Jekkie

From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Tuesday, 4 October 2022 1:30 PM
To: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: Stokes Valley - landowner access

Hi Jekkie,

As Paul mentioned, we would like to arrange access to a few properties to enable the team to assess the slips on Eastern Hutt Road.

This will include Abseil Access, AECOM and potentially HCC representatives. If possible, we would like to arrange for access approval 13/14 October – it should only take one day, but it would be good to have a backup day.

The properties we will need access are:



We won't be doing any physical works – this visit will allow us to plan for the next stage and identify what remedial works are required. If homeowners are wanting to speak to someone about access, I am happy to liaise with them.

To give you a heads up, we are also arranging a TMP for north of the RAB and we will need to arrange access to additional properties. I know from last time we were trying to arrange access; it was difficult to find contact information for Manor Drive residents. While we have a bit of lead in time, could we please work through getting these contact details?



Please let me know if you need any further information.

Many thanks,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M:  W: www.huttcity.govt.nz

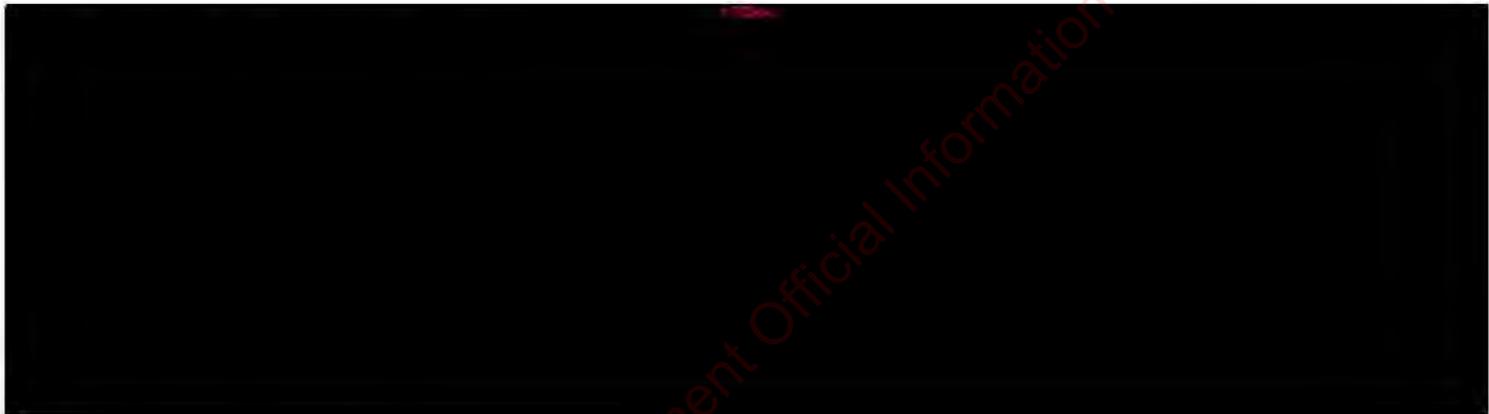
Susan Sales

From: Casey Truman
Sent: Monday, 10 October 2022 6:07 pm
To: Derek Kerite; Paul Pugh; Caryn Ellis; Jekkie Suwanposee
Cc: Jon Kingsbury
Subject: RE: Stokes Valley - landowner access
Attachments: Letter to affected houses.docx

Hi team,

Further to our meeting today, I have drafted the attached letter for your comment and approval.

I am keen to get these out asap. Jekkie has mentioned Derek is tied up until 3pm tomorrow but after this we could visit residents, I am available if required.



Any questions please let me know.

Many thanks,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M: [REDACTED] : www.huttcity.govt.nz



From: Casey Truman
Sent: Friday, 7 October 2022 1:24 pm
To: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>; Emma Cryan <Emma.Cryan@huttcity.govt.nz>; Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: RE: Stokes Valley - landowner access

Thanks team! 😊

Derek, where we don't have phone numbers can your team assist with drafting a letter please? We can touch on this in the meeting today if needed.

Cheers,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010

M: [REDACTED] W: www.huttcity.govt.nz



From: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Sent: Friday, 7 October 2022 12:01 pm
To: Emma Cryan <Emma.Cryan@huttcity.govt.nz>; Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Casey Truman <Casey.Truman@huttcity.govt.nz>; Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>
Subject: RE: Stokes Valley - landowner access

Hi Emma and Alicia,

Thanks you so much for your help. Much appreciate it☺

Cheers

Jekkie

Jekkie Suwanposee
Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040

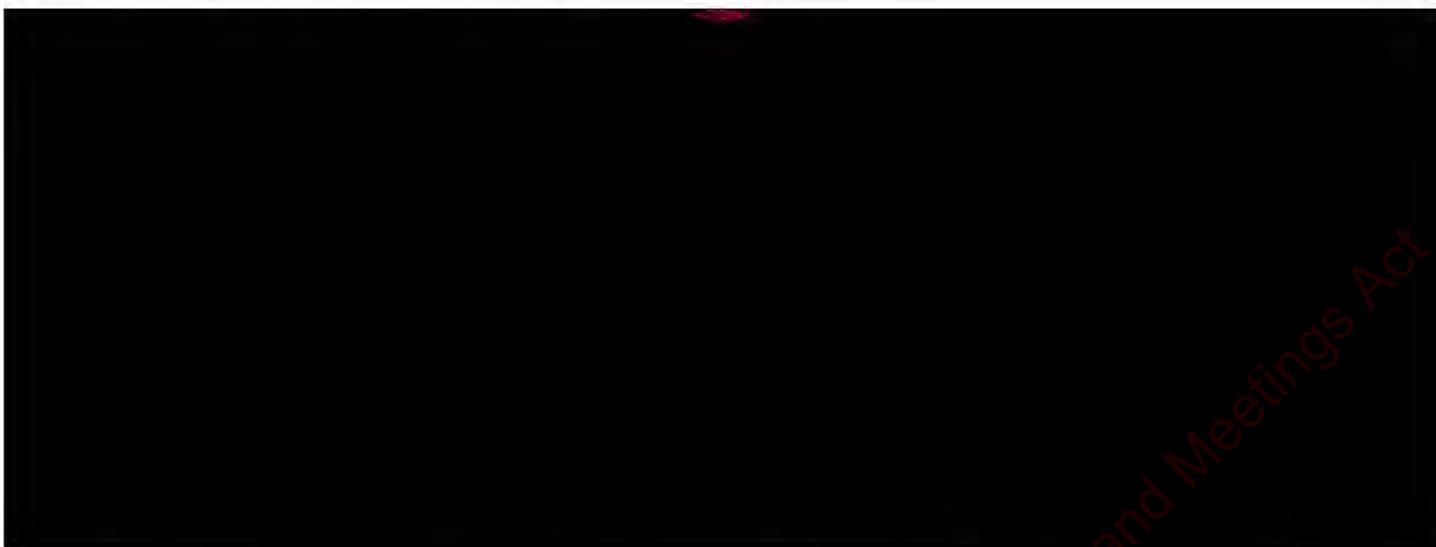
P: 04 570 6850 M: [REDACTED] W: www.huttcity.govt.nz



From: Emma Cryan <Emma.Cryan@huttcity.govt.nz>
Sent: Friday, 7 October 2022 11:37 AM
To: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Cc: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Subject: RE: Stokes Valley - landowner access

Hi Alicia & Jekkie

Of course! Contact details of owners below 😊



Hope this is ok but if you have any questions or require any further information, please just let me know 😊

Thanks heaps
Emma

Emma Cryan
Rates Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: M: W: www.huttcity.govt.nz



From: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Sent: Friday, 7 October 2022 11:17 am
To: Emma Cryan <Emma.Cryan@huttcity.govt.nz>
Subject: FW: Stokes Valley - landowner access

Hi Emma

Can I ask you a huge favour to collate this information and send direct to Jekkie?

Thanks so much

Alicia

Alicia Andrews
Finance Transaction Services Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: 04 570 6666 M: [REDACTED] W: www.huttcity.govt.nz



From: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Sent: Thursday, 6 October 2022 9:40 am
To: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: RE: Stokes Valley - landowner access

Hi Alicia,
Is it possible to have contact details of these owners soon? We need to give them to our contractor to arrange access to their properties which will happen in next week as below details.
Sorry for emailing this to you. I can't see you at your desk.

Many thanks

Cheers

Jekkie

Jekkie Suwanposee
Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: 04 570 6850 M: [REDACTED] W: www.huttcity.govt.nz



From: Jekkie Suwanposee
Sent: Tuesday, 4 October 2022 1:42 PM
To: Alicia Andrews <Alicia.Andrews@huttcity.govt.nz>
Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: FW: Stokes Valley - landowner access

Hi Alicia,
As discussed, please look up owners contact details of below properties for Casey to contact them to arrange access to their properties for our contractors and HCC staff.
Thanks a million.

Cheers

Jekkie

From: Casey Truman <Casey.Truman@huttcity.govt.nz>
Sent: Tuesday, 4 October 2022 1:30 PM

To: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>

Cc: Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

Subject: Stokes Valley - landowner access

Hi Jekkie,

As Paul mentioned, we would like to arrange access to a few properties to enable the team to assess the slips on Eastern Hutt Road.

This will include Abseil Access, AECOM and potentially HCC representatives. If possible, we would like to arrange for access approval 13/14 October – it should only take one day, but it would be good to have a backup day.

The properties we will need access are:



We won't be doing any physical works – this visit will allow us to plan for the next stage and identify what remedial works are required. If homeowners are wanting to speak to someone about access, I am happy to liaise with them.

To give you a heads up, we are also arranging a TMP for north of the RAB and we will need to arrange access to additional properties. I know from last time we were trying to arrange access; it was difficult to find contact information for Manor Drive residents. While we have a bit of lead in time, could we please work through getting these contact details?



Please let me know if you need any further information.

Many thanks,
Casey Truman
Project Manager

Hutt City Council, 30 Laings Road, Lower Hutt 5010
M [redacted] www.huttcity.govt.nz



Susan Sales

From: Caryn Ellis
Sent: Friday, 7 October 2022 3:06 pm
To: Jekkie Suwanposee
Cc: Derek Kerite; Paul Pugh
Subject: RE: There is no slip record of [REDACTED] in 2015

Thanks Jekkie, I think it is worthwhile seeing if Colin has any information.

Regards

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: [REDACTED] W www.huttcity.govt.nz



From: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Sent: Friday, 7 October 2022 2:56 pm
To: Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>
Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: There is no slip record of [REDACTED] in 2015

Hi Caryn,

As requested, I have done a search on the property folder and slips info in 2015. There is no record of slip in the Land Hazards and Stability Flood or Slip folder of the property. Archived correspondence of slips in that year, no mentioned if there was a slip on the property.

See below.

- [REDACTED] STOKES VALLEY - LAND HAZARDS and STABILITY FLOOD OR SLIP
- Archived correspondence on Slips 2015

We may need to ask Colin and his team to double check again, if you want.

Cheers

Jekkie

Jekkie Suwanposee
Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: 04 570 6850 M: [REDACTED] W: www.huttcity.govt.nz

Susan Sales

From: Caryn Ellis
Sent: Sunday, 21 August 2022 3:04 pm
To: Kara Puketapu-Dentice
Subject: Slips update 21 August 2022

Kia ora Mayor, Councillors and Community Boards, this is a further update on the work we're doing to manage the impact of the wet weather on hills and roads around the city.

Our staff and crews have been working responding to further slips overnight and today. We continue to receive a number of flood and slip related calls. We're also monitoring the report a problem address <https://maps.huttcity.govt.nz/RAP/viewer/> and encouraging people to use this.

Due to the heavy workload we are prioritising slips that present a safety risk to people and main roads as we continue to undertake engineering and safety assessments. This includes visiting homes on Eastern Hutt Road and Marine Drive Mahina Bay. Other work on the transport network will be addressed when we can get to it.

Please share our updates on our social media channels. This is helping to get the latest information out to our community. We continue to work closely with emergency services and other groups. RT18 who is part of our response team is continuing to provide help to our community.



South of Stokes Valley roundabout

We removed the large tree at the top of one slip below Holborn Drive. Two homeowners on Eastern Hutt Road have had their driveway blocked by a slip and we are working to get that cleared. We are in contact with the families.



Wet weather

There are no active weather watches in place. The team is monitoring river levels, particularly at Block Road and the Riverbank carpark.

If you have any queries please get in touch.

Nga mihi nui,

Sent on behalf of Kara Puketapu-Dentice
Acting Chief Executive

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: [REDACTED] W www.huttcity.govt.nz



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Caryn Ellis
Sent: Wednesday, 24 August 2022 8:37 pm
To: Kara Puketapu-Dentice; Jon Kingsbury; Derek Kerite
Subject: Slips update 25 August 2022 - for review please

Kia ora Mayor, Councillors and Community Boards, this update focuses on the section of road north of the roundabout on Eastern Hutt Road Stokes Valley. As per my email on 23 August this section of road is a priority to re-open.

Abseilers have been cleared by our engineers to investigate the land at the top of the slip above Eastern Hutt Road north of the roundabout. They are on site this morning working at the rear of some of the properties on [REDACTED]. They will inspect the land and decide whether it is safe to remove trees and vegetation at the site of the slip. Indications are that the land is very wet so the team will only proceed if it is safe to do so. We have also asked Wellington Water to look at stormwater services in the area (we did this previously with [REDACTED]). There will be contact with the homeowners.

If the weather is ok and the site assessed as being safe, the team will start working to remove vegetation which will include removing loose rocks. Subject to this, and depending on the weather, a digger will be onsite from Saturday for at least 3 days. The next stage is to install posts and catch fences to secure the face of the slip. We are currently sourcing the materials for this. Due to the tight working space, there will be short periods when lanes may have to close in both directions. This will be controlled by the temporary traffic lights in place near the slip.

Subject to weather and working to timeframes that ensure the safety of all involved we can expect to re-open this section of the Eastern Hutt Road by mid to late next week.

Work on the slope above Harbour View Road where the slip occurred as detailed in my email yesterday (installation of the tarpaulin) will now need to get underway next week.

If you have any questions, please get in touch.

Nga mihi nui

JO

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: | M: [REDACTED] | W www.huttcity.govt.nz



Susan Sales

From: Caryn Ellis
Sent: Thursday, 25 August 2022 7:43 am
To: Jon Kingsbury; Kara Puketapu-Dentice; Derek Kerite; Frances Gregory; Ness Franks
Subject: Slips update 25 August 2022

Kia ora Mayor, Councillors and Community Boards, this update focuses on the section of road north of the roundabout on Eastern Hutt Road Stokes Valley. As per my email on 23 August this section of road is a priority to re-open.

Abseilers have been cleared by our engineers to investigate the land at the top of the slip above Eastern Hutt Road north of the roundabout. They are on site this morning working at the rear of some of the properties on [REDACTED]. They will inspect the land and decide whether it is safe to remove trees and vegetation at the site of the slip. Indications are that the land is very wet so the team will only proceed if it is safe to do so. We have also asked Wellington Water to look at stormwater services in the area (we did this previously with [REDACTED]). There will be contact with the homeowners.

If the weather is ok and the site assessed as being safe, the team will start working to remove vegetation which will include removing loose rocks. Subject to this, and depending on the weather, a digger will be onsite from Saturday for at least 3 days. The next stage is to install posts and catch fences to secure the face of the slip. We are currently sourcing the materials for this. Due to the tight working space, there will be short periods when lanes may have to close in both directions. This will be controlled by the temporary traffic lights in place near the slip.

Subject to weather and working to timeframes that ensure the safety of all involved we can expect to re-open this section of the Eastern Hutt Road by mid to late next week.

Eastern Hutt Road – south of the Stokes Valley roundabout - Engineering assessments are awaited to fully understand the work required on this part of the hill. In the meantime, the wind yesterday delayed the installation of a tarpaulin to protect the hill where the slips are. We're prioritising the northern section and once this has been addressed as per this update we will start work on this allowing the land underneath to start to dry out as we work to stabilise the slip. We continue to press to receive the engineering assessments and once we have these we will fully understand what's needed for the totality of works on that part of the hill

[REDACTED]

If you have any questions, please get in touch.

Nga mihi nui

Jo

Caryn Ellis She/Her
Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: [REDACTED] W www.huttcity.govt.nz

Susan Sales

From: Derek Kerite
Sent: Thursday, 6 October 2022 4:04 pm
To: Carboglass
Subject: RE: [EXTERNAL] RE: Engineers report

That's fine [REDACTED]

From: Carboglass <[REDACTED]>
Sent: Thursday, 6 October 2022 3:43 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: [EXTERNAL] RE: Engineers report

Hi Derek, thanks for that. Will FWD to assessor [REDACTED] in my next contact with them if that's OK with HCC. Please confirm if that's OK. Cheers [REDACTED]

From: Derek Kerite [mailto:Derek.Kerite@huttcity.govt.nz]
Sent: Thursday, 6 October 2022 3:00 pm
To: Carboglass <[REDACTED]>
Cc: Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: Engineers report

Kia ora [REDACTED]

I attach a structural report that was commissioned by Council on the stability of the deck at [REDACTED]. The purpose of the report was to give us an assessment of the risk at the corner of Eastern Hutt Road and SV Road and to inform decisions on any further measures needed to be put in place to protect motorists.

As a result additional containers and further stability measures were put in place at the bottom of the slip face.

Regards,

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: [REDACTED] www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Jarred Griffiths <Jarred.Griffiths@huttcity.govt.nz>
Sent: Friday, 9 December 2022 4:51 pm
To: Caryn Ellis <Caryn.Ellis@huttcity.govt.nz>; Susan Sales <Susan.Sales@huttcity.govt.nz>
Subject: [REDACTED] media query - 22 September

22/09/2022 [REDACTED]

NZ Herald

Was just checking in about how many homes remain evacuated after the Eastern Hutt Rd slip and what the council is doing in relation to those homes?

The landslips above Eastern Hutt Road Stokes Valley meant that there are two properties situated on Holborn Drive, which were evacuated following the heavy rain on 21 July. Due to the instability of the ground above Eastern Hutt Road and the consequential risk of further landslips that may have undermined the dwellings, Hutt City Council issued Dangerous Building Notices as per the Building Act 2004. We are continuing to work with the two affected families. There are no other properties that have been evacuated as a result of the recent slips.

Released under the Local Government Official Information and Meetings Act

From: Eastern Hutt Road Updates <ehupdate@huttcity.govt.nz>
Sent: Friday, 28 October 2022 11:31 am
To: Eastern Hutt Road Updates <ehupdate@huttcity.govt.nz>
Subject: Eastern Hutt Road Update: Road Closure - Tuesday 01 November

Kia ora,

We wish to advise you of an upcoming road closure on Eastern Hutt Road next week.

We are continuing to work on the road and the nearby hillside to improve safety and guard against future slips.

There are trees and other debris that needs to be cleared from the site of a slip between Stokes Valley roundabout and Reynolds Bach Drive.

To do this work in the shortest time possible and to allow debris to be cleared safely we are closing both lanes between Stokes Valley roundabout and Reynolds Bach Drive on **Tuesday 01 November** from **10am until 2pm**.

The attached map shows the affected section of the road. Please find alternative routes for travel in this area during these times.

We appreciate your understanding as we continue to work on improving the safety of the road.

The latest updates and further information on Eastern Hutt Road can be found on our Facebook page: <https://www.facebook.com/huttcitycouncil> and our website: <https://hutt.city/EHRupdate>.

Ngā mihi,
Eastern Hutt Road response team

If you have received this email in error, please respond to be unsubscribed.



Susan Sales

From: Kara Puketapu-Dentice
Sent: Saturday, 20 August 2022 2:54 pm
To: Kara Puketapu-Dentice
Subject: Slips update

Kia ora Mayor, Councillors and Community Boards, this is a brief update on the work we're doing to manage the impact of the wet weather on hills and roads around the city.

You will have seen a number of updates on our social media channels today. We encourage you to share these updates. Emergency services are being kept in the loop on road closures, as is Upper Hutt City Council.

North of Stokes Valley roundabout

Our crews have been out clearing the slips impacting Eastern Hutt Road, which is currently closed between Stokes Valley roundabout and Reynolds Bach Drive in both directions. There is signage up advising people to use SH2 instead. This will be in place pending further information.

South of Stokes Valley roundabout

We are working to remove a large tree at the top of one slip off Holborn Drive which overlooks Eastern Hutt Road (i.e. where the south bound lanes are currently closed) which is in imminent danger of coming down. We expect the tree removal to happen in the next few hours. As you'd expect, there are quite a few logistics to work through on this.

Current engineering advice is that the properties nearby on Holborn Drive are not impacted. We have visited the property owners so will stay in close contact with them.

Korokoro Road

There is a slip and tree down on Korokoro Road blocking one lane. The other lane is open. Our crews will get to this as soon as they can.

There are other slips around the city that we are aware of and we encourage people to continue to use the website to report a problem at this link: <https://maps.huttcity.govt.nz/RAP/viewer/>

Wet weather

There are no active weather watches in place. The team is monitoring river levels, particularly at Block Road and the Riverbank carpark.

If you have any queries please get in touch.

Nga mihi nui,

Kara
Acting CE

Kara Puketapu-Dentice

Director - Economy & Development

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: 04 570 6666 **M:** [REDACTED] **W:** www.huttcity.govt.nz



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Jo Miller
Sent: Friday, 2 September 2022 3:08 pm
To: Jo Miller
Subject: Slips Update 2 September 2022

Kia ora Mayor, Councillors and Community Boards,

Eastern Hutt Road - south of the Stokes Valley roundabout

You would have seen some activity on our social media regarding Eastern Hutt Road yesterday and today. This involved closing lanes for short periods on the road south of the roundabout at the entrance to Stokes Valley while the team of abseilers worked on the slip site underneath two properties.

The abseilers are making great progress in a challenging environment and will continue to clear material on the other slips into next week (subject to the weather). There will continue to be periodic road closures while this happens to protect motorists from any falling debris.

We estimate there is around one week of work ahead of the team to make the slip sites safe to be able to operate a contraflow in one of the south-bound lanes – meaning one of the closed lanes will be able to open. We will be in touch again on Wednesday next week with a further update.

We will be sharing this update on our channels and sending out an email to our database today. If people would like to receive these emails, they should email ehupdate@huttcity.govt.nz

We ask that you please share our social media on Eastern Hutt Road.

Routine garden and mowing maintenance

There are currently some sites in the Eastern Hutt Road area and other parts of the city that our contractors cannot carry out their routine contracted garden and mowing maintenance due to the recent slips and the traffic management in place. We need to be able to meet safety requirements for any form of work/activity in these areas. We will commence this work again once the roads are clear from traffic management and access is safe for our contractors.

Korokoro Road slip

A major slip came down yesterday forcing the closure of part of the road. Following an inspection, the team has confirmed there are no houses at risk. Contract partners have been working to clear a large amount of debris from the road and it should open later today. A further engineering assessment will be undertaken next week to identify longer term solutions for the site of the slip.

If you have any questions, please get in touch.

Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

W: www.huttcity.govt.nz

Follow me on Twitter [@jomillenz](https://twitter.com/jomillenz)



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Jo Miller
Sent: Wednesday, 7 September 2022 5:07 pm
To: Jo Miller
Subject: Slips Update 7 September 2022

Kia ora Mayor, Councillors and Community Boards,

Eastern Hutt Road - south of the Stokes Valley roundabout

Our contract partners have been busy this week working on the slips. Due to the instability of the land, we've been advised that more trees need to come down before other safety measures can be put in place. This means the abseilers will be working for a few more days at the site south of the Stokes Valley roundabout with temporary road closures.

Once the site is cleared more containers will be installed, filled with concrete blocks, welded together and secured into the hill. The far lane next to the hill will continue to be closed while containers are in place until a permanent solution is agreed.

The work required to secure the containers into the hill will take some time. Examples of this type of work can be seen around Wellington in Ngaio and previously in the Ngauranga Gorge. These measures are necessary to ensure if there is a further slip, debris will not fall onto the road. Following this work part of the road will need to be dug up and re-laid.

As you can see there are a few more steps to go before we can make further changes to the roading layout which will allow one lane to re-open. We had hoped we would be able to give you more details on an opening date and expect to advise further on this next Wednesday. The team is working as hard as they can on this. Geotech and civil engineering and other specialist advice is informing each step of the process and safety is the number one priority.

We will be sharing this update on our channels and sending out an email to our database today. If people would like to receive these emails, they should email ehupdate@huttcity.govt.nz

We ask that you please share our social media on Eastern Hutt Road.

If you have any questions, please get in touch.

Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

T: 04 570 6773 | **M:** s 7(2)(a)
W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Jo Miller
Sent: Wednesday, 14 September 2022 6:04 pm
To: Jo Miller
Subject: Slips Update - 14 September 2022

Kia ora Mayor, Councillors and Community Boards, this email provides a further update on the work we're doing on Eastern Hutt Road.

Eastern Hutt Road - south of the Stokes Valley roundabout

Our staff and contract partners have been working on Eastern Hutt Road to make it safe for the opening of one of the closed lanes which will mean we will have two southbound lanes open by the end of next week.

The slip sites on the southern part of the road have proven to be very challenging with ongoing land movement, cracks and springs impacting our work. Due to this we have sought further engineering advice and put additional health and safety precautions in place, e.g. more containers, concrete blocks and mesh nets to provide protection from potential rockfall.

We are pushing ahead over the next few days so that we can get a second southbound lane open by the end of next week. Since the slips occurred, the bulk of the traffic delays have been caused by people heading south in the mornings and the opening of an additional southbound lane will improve traffic flow.

Temporary road closure

Large scale equipment and machinery is now needed to clean up the site of the slips, install and secure containers, and complete paving and roading to enable two southbound lanes to open. To do this work in the shortest time possible and to allow debris to be cleared safely we are closing all lanes between Stokes Valley roundabout and Eastern Hutt Road/High Street roundabout on Friday from 10am until 2pm. We will share a map on the road closure on our channels.

Emergency Services and Metlink have been advised and we will be letting commuters know about the need to take SH2 while the southern part of Eastern Hutt Road is closed. Further road closures may be required over the weekend (at night). On Monday there will be a road closure for southbound traffic only between 10am and 2pm and possibly on Monday night. This will be advised on our social media channels

Eastern Hutt Road – north of the Stokes Valley roundabout

In addition, traffic lights will be re-installed on Thursday 15 September at the northern entrance to the Stokes Valley roundabout to manage the flow of traffic from Upper Hutt.

These lights will be manually controlled by our contract partner to ensure that traffic exiting Stokes Valley is given priority to enter the roundabout at Eastern Hutt Road. The lights will operate between 7am-9 am Monday to Friday and will remain in place until two southbound lanes are open on Eastern Hutt Road, south of the Stokes Valley roundabout.

Next week we will share diagrams of the new roading layout on our channels to advise people of how the additional southbound lane will work once open.

We will be sharing this update on our channels and sending out an email to our database today. If people would like to receive these emails, they should email: ehupdate@huttcity.govt.nz

We ask that you please share our social media on Eastern Hutt Road.

If you have any questions, please get in touch.

Ngā mihi nui

Jo Miller

Tumu Whakarae

Chief Executive Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

T: 04 570 6773 | M: [REDACTED]

W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Eastern Hutt Road Updates
Sent: Thursday, 20 October 2022 5:08 pm
To: Eastern Hutt Road Updates
Subject: Eastern Hutt Road Update: Thursday 20 October

Kia ora,

This is an update on the work we're continuing to do on Eastern Hutt Road and the nearby hillside to improve safety and guard against future hazards.

As you will be aware, on 21 September 2022, an additional southbound lane was opened on Eastern Hutt Road. This has significantly improved the traffic flow and reduced the wait times for those travelling south from Stokes Valley. We have also re-marked the area behind Caltex and removed the orange flexi posts to make it easier for residents coming out of Wagon Road and those trying to get to Caltex from Stokes Valley Road.

Some sections of the lane closest to the slips are still needed for containers and concrete barriers to protect the road in the case of further slips. These sections will continue to be closed for some time as we work on interim slip protection solutions. We are committed to reopening two lanes north once it is safe to do so.

We are continuing to monitor speed of vehicles travelling along Eastern Hutt Road. For safety reasons the temporary speed limit of 30km/hr will need to remain for now. We will advise if there is any change to this.

Our team is continuing to work regularly on Eastern Hutt Road. As an example, there will be further works in the coming weeks in the areas north of Stokes Valley roundabout to remove trees and debris from the areas above the road. Our work will continue as we look to make improvements to safety and usability in the short term, ahead of the longer-term solutions that are being worked on.

We are in the early stages of a business case looking at the resilience of Eastern Hutt Road from the High Street roundabout to Reynolds Bach Drive. This will involve looking at both sides of the road and will identify permanent solutions and also look at areas that weren't affected by the slips. A project team is leading the business case work which will be informed by further engineering assessments. This is a major piece of work and it's important we take the time to get this right

We expect to be able to provide a further update to you before the end of the year.

The latest updates and further information on Eastern Hutt Road can be found on our website:

<https://hutt.city/EHRupdate>.

Ngā mihi,
Eastern Hutt Road response team

If you have received this email in error, please respond to be unsubscribed.

Susan Sales

From: Jo Miller
Sent: Wednesday, 21 September 2022 3:05 pm
To: Jo Miller
Subject: Slips Update - 21 September 2022

Kia ora Mayor, Councillors and Community Boards,

This email provides a further update on the work we're doing on Eastern Hutt Road.

I'm very pleased to advise that two southbound lanes are now open. I want to acknowledge the work of our transport team and contract partners who have been working on the slip to make it safe for nearby traffic and putting in place a new roading layout. This work has involved a dedicated effort informed by engineering advice.

The new road layout for the Stokes Valley roundabout and Eastern Hutt Road is shown below. This will be shared on our channels today. As indicated in my last email update, the traffic lights will no longer be operating on the northern part of the road because the new traffic layout will enable the free flow of commuters out of the Stokes Valley roundabout. We will continue to monitor traffic flows and we will let you and the public know about any changes.

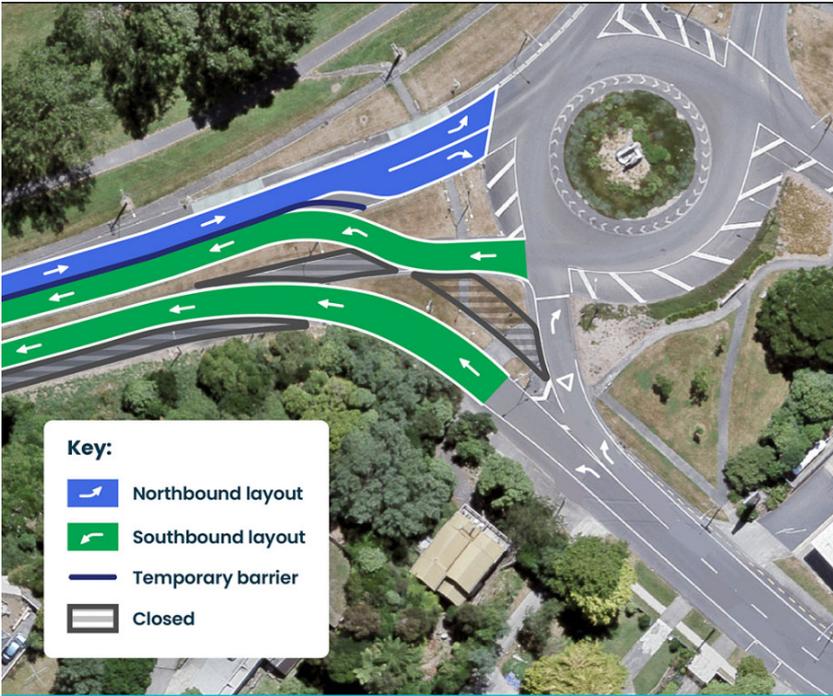
For safety reasons, the temporary speed limit of 30km/hr will remain along Eastern Hutt Road. This will be monitored, and any changes advised.

Some sections of the lane closest to the slip are needed for containers and concrete barriers. These sections will continue to be closed for some time as we work on a permanent solution to the slips. This includes ongoing liaison with property owners in the area.

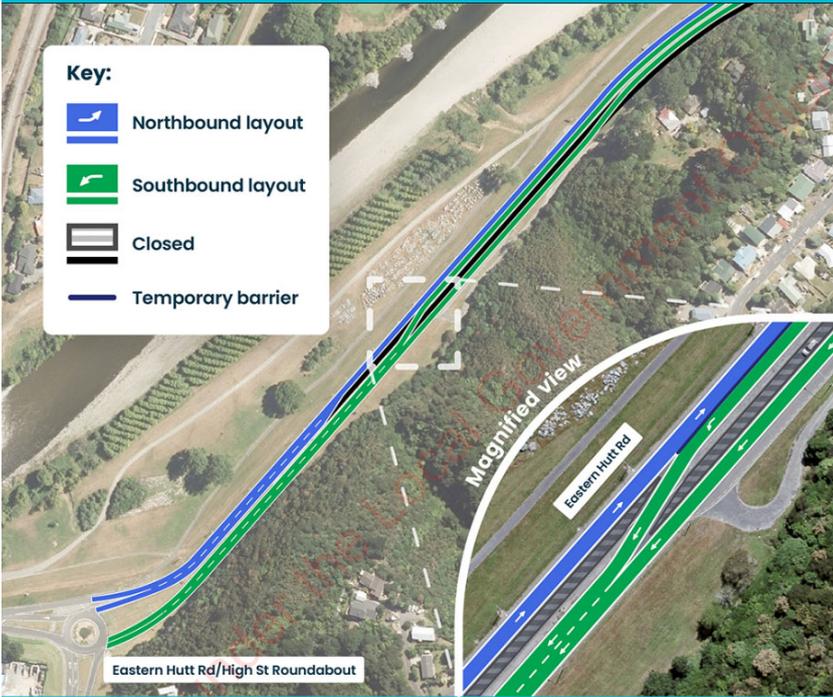
We have shared an update on our channels and will be sending out an email to our database. I would be grateful if you could please share our social media.

If people would like to receive these our regular email updates, they should email: ehupdate@huttcity.govt.nz We ask that you please share our social media on Eastern Hutt Road.

If you have any questions, please get in touch.



Stokes Valley roundabout
New road layout



Eastern Hutt Road
New road layout



Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

T: 04 570 6773 | M: s 7(2)(a)
W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Kara Puketapu-Dentice
Sent: Monday, 22 August 2022 5:20 pm
To: Kara Puketapu-Dentice
Subject: Slips update 22 August

Kia ora Mayor, Councillors and Community Boards, this is a brief update on the roading network in our city. All going well, this will be the last update from me as acting chief executive. Jo is returning from her short break away with family and will be back on deck tomorrow.

Wainuiomata Hill

We have consulted our contractors this afternoon, and despite clearing the slip which resulted in the lane closure, we have been advised the consequences of further material falling down and overtopping the blocks is not worth the risk of re-opening the lane fully at this time. Safety is at the heart of this decision.

Commuters will be advised to plan their journey out of Wainuiomata accordingly and to expect delays at peak times. This information will be included on advisory signage in both directions.

The team has been on site today to clear material that came down. We are doing further investigations on the slip. Arborists will be on site tomorrow morning.

We appreciate the efforts of our staff and contractors who have worked through the weekend and today to achieve this result. We also acknowledge the community's patience this morning with the delays caused this morning travelling out of Wainuiomata.

We are preparing external communications on Wainuiomata which will go out shortly

Stokes Valley

No substantive change to yesterday's update (22 August).

The traffic lights on Stokes Valley Road before the Caltex service station have not operated today. We've received reports that the traffic is flowing as well as can be expected. Last night we sent an email out to schools and to our database of residents who have requested updates. People can subscribe to our distribution list for these email updates by contacting us at: ehupdate@huttcity.govt.nz As well as social media, we put information out through Neighbourly.

The slip north of Stokes Valley roundabout cannot be cleared until we receive the engineer's report, so the traffic lights and lane closure will remain in place until then.

The slips south of the roundabout impacting the driveway to two properties on Eastern Hutt Road have been cleared today, with a tree felled at the top of the slip. There is some debris still to be removed.

We are investigating more permanent solutions for these slips as we await engineering advice.

Harbour View Road

The large slip that was blocking the road completely has been cleared and the road is now fully open. This was a great effort after a shed and tree that were threatening to come down were removed.

We will need to do more work to stabilise the land that led to the slip. We are awaiting further engineering assessments.

Eastern Bays

Some small slips at Point Howard have been cleared. Re house in Mahina Bay – no further update from yesterday.

Weather outlook

Strong north westerlies are forecast for Wednesday, possibly gale force, so tree work and engineering assessments (using drones) will need to be planned accordingly. There are no severe weather watches or warnings forecast for the moment. Forecasts indicate there will be showers throughout the week with rain expected this Friday.

Resources

Our staff are working on a roster to manage the work resulting from the slips. Some of our specialist contracting crews are now taking a well-earned break. They have been working in Lower Hutt and regionally for many days now and often through the night. We are in close contact with other councils in the region impacted by the wet weather to have a regionally co-ordinated approach to our roading and other contractors (e.g. arborists who remove trees from slips).

As noted yesterday we are prioritising slips that present a safety risk to people and main roads. Other work on the transport network will be addressed when we can get to it.

If you have any questions please get in touch.

Ngā mihi nui

Kara Puketapu-Dentice
Acting Chief Executive

Kara Puketapu-Dentice
Director - Economy & Development

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: 04 570 6666 M: s 7(2)(a) W: www.huttcity.govt.nz



From: Jo Miller <Jo.Miller@huttcity.govt.nz>
Sent: Friday, 22 July 2022 8:09 pm
To: Jo Miller <Jo.Miller@huttcity.govt.nz>
Subject: Update on Eastern Hutt Road, and s 7(2)(a) Stokes Valley

Kia ora Mayor, Councillors and Community Boards, as you will be aware we have experienced road closures and slips this week due to the heavy rainfall.

This email provides an update on the Eastern Hutt Road and two homes at Holborn Drive Stokes Valley.

Eastern Hutt Road

Public safety is our priority alongside making sure roads can remain open wherever possible. Our staff and contractors have been working incredibly hard to keep the roading network open during the recent weather event. However, the southbound lanes of Eastern Hutt Road (from Stokes Valley) will remain closed due to slips and the risks associated with two properties on Holborn Drive which reside above the slip sites.

We are working urgently to make temporary arrangements for the road which are expected to remain in place until we can make more permanent arrangements. We have been liaising with both Waka Kotahi and Upper Hutt City Council re: traffic management and signage.

Emergency services and other service providers including for rubbish and recycling have been informed of the road closure.

A detour will continue through the northern access roads. This means there will be continued traffic delays in the area especially at peak times. People who do not live in Stokes Valley are encouraged not to use the road. Please see the attached map which we will share on social media shortly.

We are updating our communication channels including our website this evening and issuing a press release on this. Please share our messaging.

S 7(2)(a) Stokes Valley

A geotechnical engineering specialist from AECOM has today carried out a visual inspection of these properties. Our regulatory team has sought legal advice and will issue a Dangerous Building Notice as per the s124 Building Act 2004 requiring the buildings to be vacated until a geotechnical report has been provided (HCC is commissioning this). On receipt of the geotechnical report the notice will either be lifted or a second notice issued requiring remedial work to be completed. The Dangerous Building Notices will be affixed to the properties requiring them to be immediately vacated until the hazard has been removed or a detailed geotechnical assessment has been provided allowing the buildings to be occupied. Remedies will be discussed with the owners.

Our team including welfare, regulatory and emergency services are meeting with the families this evening. This is understandably a very stressful time for them so we are doing all we can to support them.

If you have any questions please get in touch.

Ngā mihi nui

Jo

Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

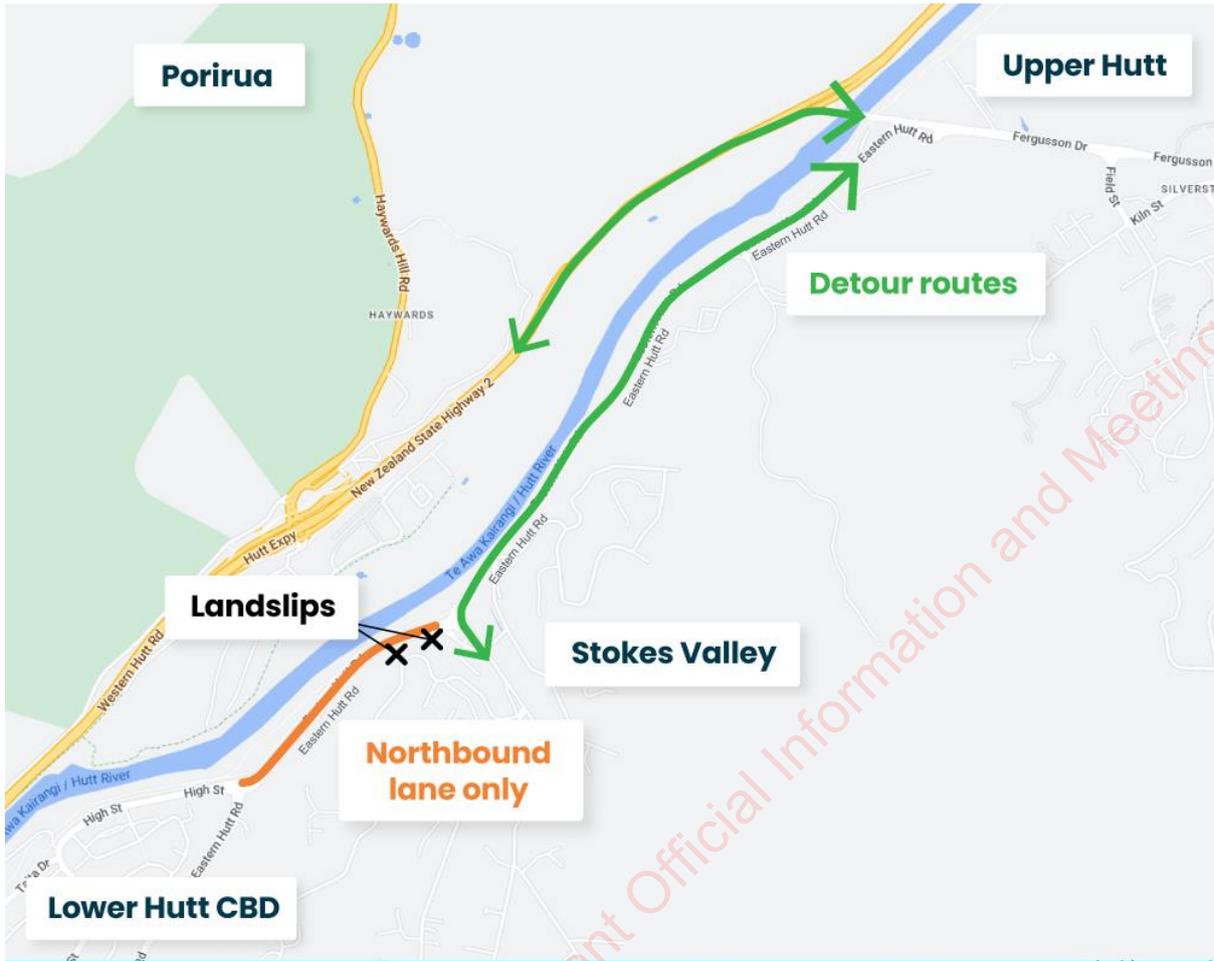
Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

T: 04 570 6773 | **M:** s 7(2)(a)
W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



Released under the Local Government Official Information and Meetings Act



Landslips on Eastern Hutt Road



Released under the Local Government Official Information and Meetings Act

From: Jo Miller <Jo.Miller@huttcity.govt.nz>
Sent: Friday, 22 July 2022 8:09 pm
To: Jo Miller <Jo.Miller@huttcity.govt.nz>
Subject: Update on Eastern Hutt Road, and s 7(2)(a) Stokes Valley

Kia ora Mayor, Councillors and Community Boards, as you will be aware we have experienced road closures and slips this week due to the heavy rainfall.

This email provides an update on the Eastern Hutt Road and two homes at Holborn Drive Stokes Valley.

Eastern Hutt Road

Public safety is our priority alongside making sure roads can remain open wherever possible. Our staff and contractors have been working incredibly hard to keep the roading network open during the recent weather event. However, the southbound lanes of Eastern Hutt Road (from Stokes Valley) will remain closed due to slips and the risks associated with two properties on Holborn Drive which reside above the slip sites.

We are working urgently to make temporary arrangements for the road which are expected to remain in place until we can make more permanent arrangements. We have been liaising with both Waka Kotahi and Upper Hutt City Council re: traffic management and signage.

Emergency services and other service providers including for rubbish and recycling have been informed of the road closure.

A detour will continue through the northern access roads. This means there will be continued traffic delays in the area especially at peak times. People who do not live in Stokes Valley are encouraged not to use the road. Please see the attached map which we will share on social media shortly.

We are updating our communication channels including our website this evening and issuing a press release on this. Please share our messaging.

46 and 60 Holborn Drive Stokes Valley

A geotechnical engineering specialist from AECOM has today carried out a visual inspection of these properties. Our regulatory team has sought legal advice and will issue a Dangerous Building Notice as per the s124 Building Act 2004 requiring the buildings to be vacated until a geotechnical report has been provided (HCC is commissioning this). On receipt of the geotechnical report the notice will either be lifted or a second notice issued requiring remedial work to be completed. The Dangerous Building Notices will be affixed to the properties requiring them to be immediately vacated until the hazard has been removed or a detailed geotechnical assessment has been provided allowing the buildings to be occupied. Remedies will be discussed with the owners.

Our team including welfare, regulatory and emergency services are meeting with the families this evening. This is understandably a very stressful time for them so we are doing all we can to support them.

If you have any questions please get in touch.

Ngā mihi nui

Jo

Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

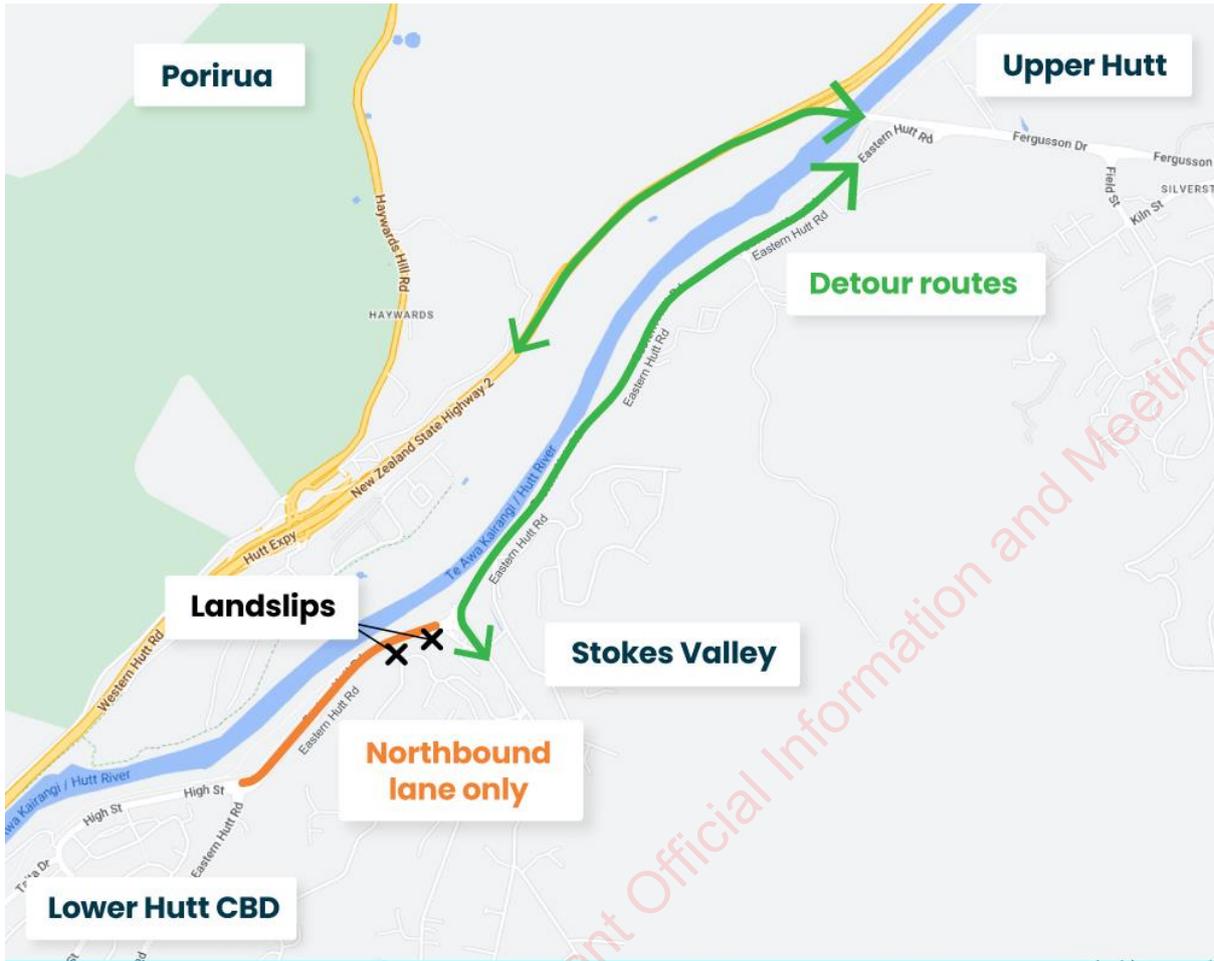
Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

T: 04 570 6773 | **M:** s 7(2)(a)
W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



Released under the Local Government Official Information and Meetings Act



Landslips on Eastern Hutt Road



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Jo Miller
Sent: Tuesday, 23 August 2022 3:09 pm
To: Jo Miller
Subject: Slips update 23 August 2022

Kia ora Mayor, Councillors and Community Boards,

Thank you to Kara for acting for me while I took a couple of days off to spend some time with family. This is a brief update on the roading network in our city following the recent wet weather.

Wainuiomata Hill

The sunny day has allowed the team of arborists to safely remove the trees at the top of the slip that were in danger of coming down. The risk to further debris falling on the road has been assessed as minor. We will continue to monitor the slip as wet weather is forecast later in the week. Contractors have also been on site to dig out a channel at the bottom of the slip which has enabled the concrete barriers to be pushed back.

All of this work means that both lanes of the road out of Wainuiomata are open. A road cleaning crew will be on-site tomorrow evening to remove any residual material on the road – the lane can safely open before the clean up occurs.

There will be a 50km/h speed limit in place on this part of the road in the short term. We will still need to get a further engineering assessment of the slip before any more permanent measures can be put in place.

An enormous thank you to our hard-working transport team and contractors Fulton Hogan, Downer, Wellington Developments, and geo-technical team Torlesse Limited.

Eastern Hutt Road – north of the Stokes Valley roundabout

No change to yesterday's update. We are awaiting an engineering assessment of this slip before determining the best course of action to stabilise the slip area. We want to re-instate the lane that is closed as a priority. This part of Eastern Hutt Road is more straight forward to deal with compared to the southern part of Eastern Hutt Road, which as previously advised, has private properties located at the top of several slips.

Eastern Hutt Road – south of the Stokes Valley roundabout

We are working to instal a tarpaulin to protect the hill where the slips are. This will be done by a professional abseiling team and ahead of forecast wet weather later in the week. This will allow the land underneath to start to dry out as we work to stabilise the slip. Again, engineering assessments are awaited to fully understand the work required on this part of the hill.

Harbour View Road

A tarpaulin (as per Eastern Hutt Road note above) will also be installed here to stop further movement. The long term plan is still to be worked on to stabalise the site and will be informed by AECOM completing their engineering assessment. The road is open in both directions.

Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

T: 04 570 6773 | M: [REDACTED] s 7(2)(a)
W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



Released under the Local Government Official Information and Meetings Act

From: Jo Miller <Jo.Miller@huttcity.govt.nz>
Sent: Sunday, 24 July 2022 5:37 pm
To: Jo Miller <Jo.Miller@huttcity.govt.nz>
Subject: Update on Eastern Hutt Road Stokes Valley

Kia ora Mayor, Councillors and Community Boards, further to my email on Friday we have been in contact with the two families who had to evacuate their homes on Friday evening, and we continue to provide support to them.

This email provides an update on the work that has happened on the Eastern Hutt Road over the weekend.

Our staff and contractors (Fulton Hogan, Intergroup and others) have been working this weekend and will continue to work into this evening on Eastern Hutt Road to enable the installation of a contra-flow traffic lane. This enables traffic to move in both directions on a road that is usually single directional.

This new temporary road layout will be in place from Monday morning for the next few months, following last Thursday evening's landslips. What this means is that while both southbound lanes remain closed, one northbound lane will be converted to a southbound lane for travellers.

The new layout will be in place between the Stokes Valley roundabout and the roundabout at the Eastern Hutt Rd/High St intersection (see attached maps for more information).

This temporary arrangement aims to minimise traffic delay impacts in the area, but travel times will not return to normal. We are advising road users to continue to avoid non-essential travel or prepare for delays. We continue to recommend travelling via SH2 rather than Eastern Hutt Road.

A temporary speed limit is in place for the north bound lanes of 50 km/h on the straight section, with 30km/hr within 250m of the two roundabouts on both ends.

Electronic signboards are in place to warn drivers of possible delays and the new road layout.

Cyclists should avoid cycling on Eastern Hutt Road and use the Hutt River Trail instead. Extra care should be taken for cyclists crossing Stokes Valley roundabout to connect to the river trail due to the change in traffic layout.

We continue to be in touch with Waka Kotahi NZ Transport Agency, MetLink, Upper Hutt City Council, Waste Management and other stakeholders including schools on the new road layout and the delays.

Clear weather over the weekend has also allowed our staff and contractors to put concrete-filled containers in place between the road and the slips, and more containers will be added over the coming days. Further rain is expected this week which may increase the risk of further slips.

We will issue a press release and update our channels and website shortly.

If you have any questions, please get in touch.

Caryn Ellis She/Her

Head of Chief Executive's Office

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: | M: s 7(2)(a) | W www.huttcity.govt.nz



Nga mihi nui

Jo Miller

Tumu Whakarae
Chief Executive Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

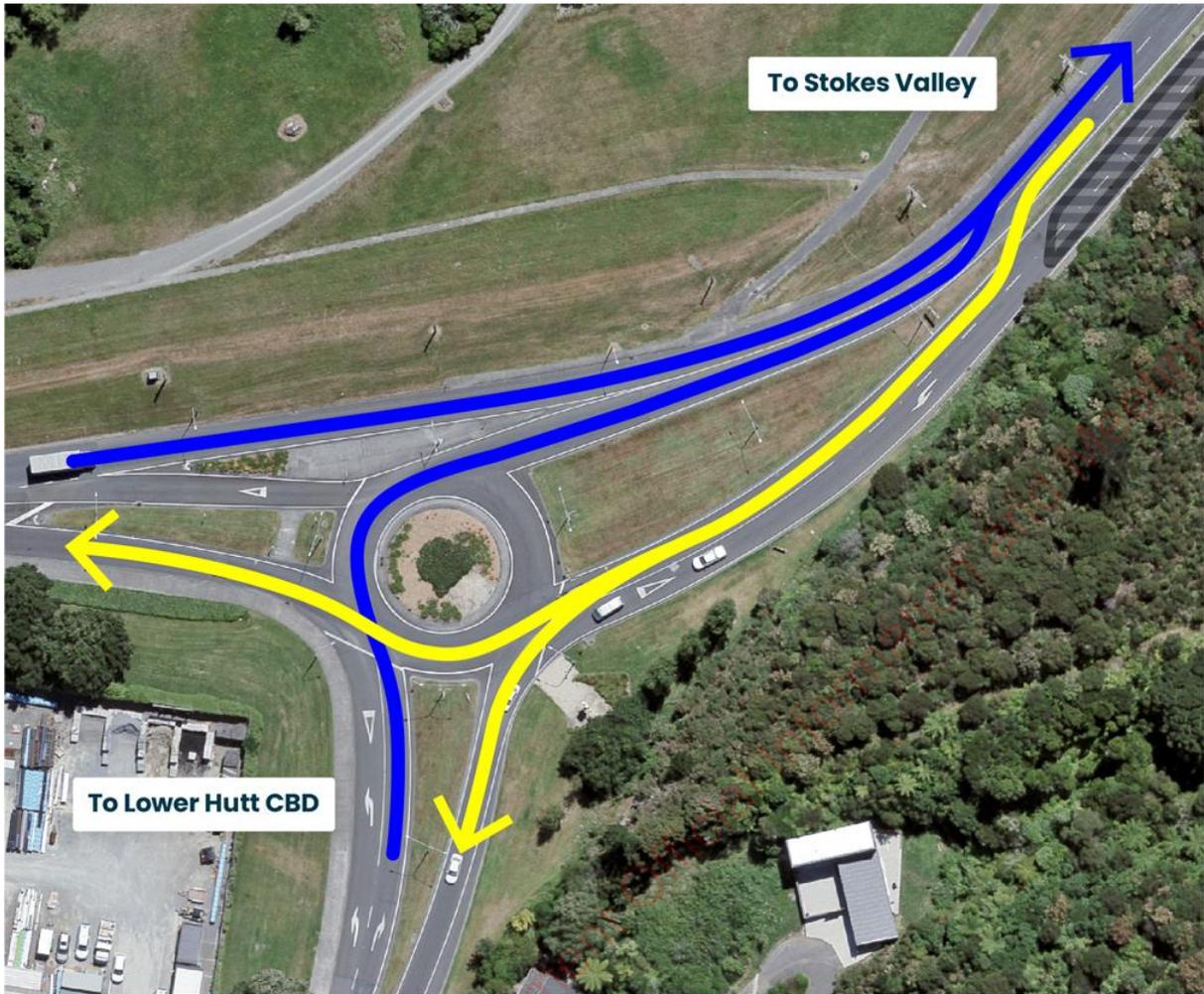
T: 04 570 6773 | M: s 7(2)(a)

W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



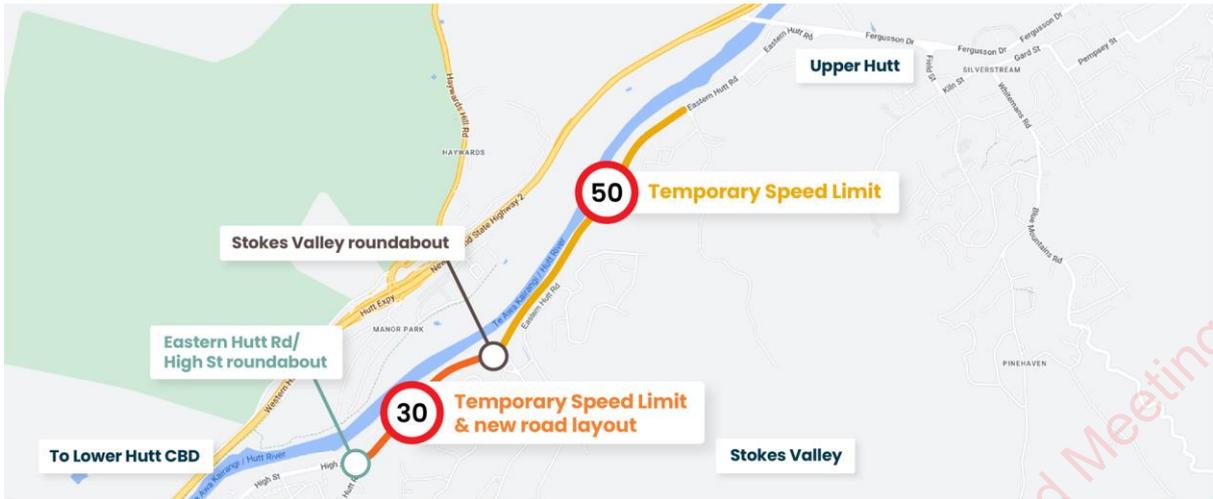
Released under the Local Government Official Information and Meetings Act



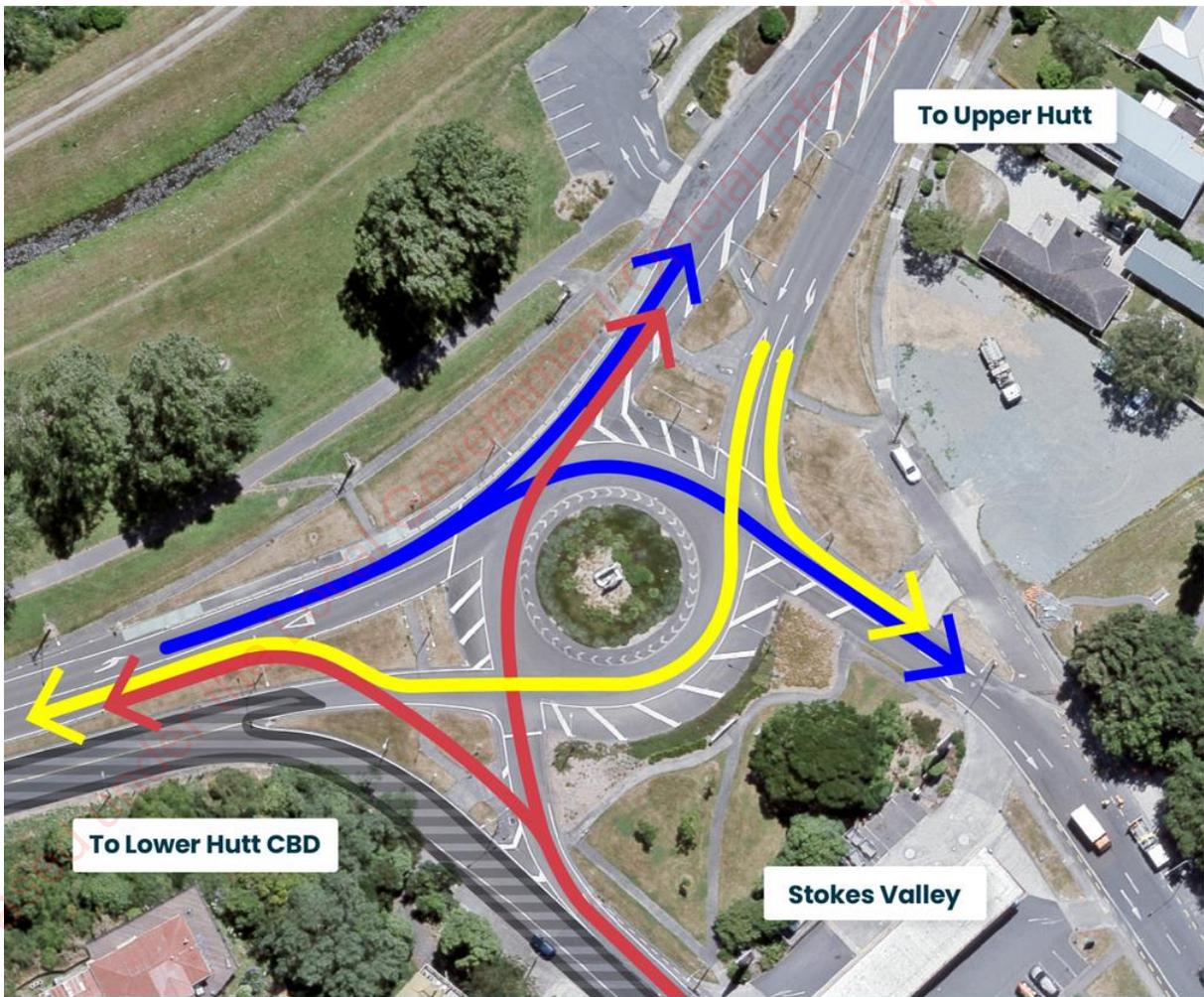
Eastern Hutt Rd/High St
New road layout



Released under the Local Government Information Act



Eastern Hutt Rd - Update



Stokes Valley roundabout New road layout



Susan Sales

From: Jo Miller
Sent: Thursday, 25 August 2022 8:48 am
To: Jo Miller
Subject: Slips update 25 August 2022

Kia ora Mayor, Councillors and Community Boards,

This update focuses on the section of road north of the roundabout on Eastern Hutt Road Stokes Valley. As per my email on 23 August this section of road is a priority to re-open.

Abseilers have been cleared by our engineers to investigate the land at the top of the slip above Eastern Hutt Road north of the roundabout. They are on site this morning working at the rear of some of the properties on Manor Drive. They will inspect the land and decide whether it is safe to remove trees and vegetation at the site of the slip. Indications are that the land is very wet so the team will only proceed if it is safe to do so. We have also asked Wellington Water to look at stormwater services in the area (we did this previously with Holborn Drive). There will be contact with the homeowners.

If the weather is ok and the site assessed as being safe, the team will start working to remove vegetation which will include removing loose rocks. Subject to this, and depending on the weather, a digger will be onsite from Saturday for at least 3 days. The next stage is to install posts and catch fences to secure the face of the slip. We are currently sourcing the materials for this. Due to the tight working space, there will be short periods when lanes may have to close in both directions. This will be controlled by the temporary traffic lights in place near the slip.

Subject to weather and working to timeframes that ensure the safety of all involved we can expect to re-open this section of the Eastern Hutt Road by mid to late next week.

Eastern Hutt Road – south of the Stokes Valley roundabout - Engineering assessments are awaited to fully understand the work required on this part of the hill. In the meantime, the wind yesterday delayed the installation of a tarpaulin to protect the hill where the slips are. We're prioritising the northern section and once this has been addressed as per this update we will start work on this allowing the land underneath to start to dry out as we work to stabilise the slip. We continue to press to receive the engineering assessments and once we have these we will fully understand what's needed for the totality of works on that part of the hill

Harbour View Road - Work on the slope above Harbour View Road where the slip occurred as detailed in my email yesterday (installation of the tarpaulin) will now need to get underway next week.

If you have any questions, please get in touch.

Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

T: 04 570 6773 | **M:** s 7(2)(a)
W: www.huttcity.govt.nz

Follow me on Twitter [@jomillenz](https://twitter.com/jomillenz)



Released under the Local Government Official Information and Meetings Act

Susan Sales

From: Jo Miller
Sent: Friday, 26 August 2022 8:24 am
To: Jo Miller
Subject: Slips Update 26 August 2022

Kia ora Mayor, Councillors and Community Boards,

This update focuses on the section of road north of the roundabout on Eastern Hutt Road Stokes Valley.

The abseiling team made great progress on Thursday to clear the vegetation and loose material off the site of the slip.

Further work was able to be done to clear material off the road and install blocks, barriers and temporary catch fences at the foot of the slip which enabled two lanes to be opened late last night with a reduced temporary speed limit of 30 KMH. We are currently seeking further engineering advice around a more permanent fix.

We will be working to provide an update to you next week on the southern part of Eastern Hutt Road.

Ngā mihi nui

Jo Miller
Tumu Whakarae
Chief Executive Officer

Hutt City Council, 30 Laings Road, Lower Hutt 5010, New Zealand

T: 04 570 6773 | **M:** [REDACTED] s 7(2)(a)
W: www.huttcity.govt.nz

Follow me on Twitter [@jomillernz](https://twitter.com/jomillernz)



The landslide response to the 14 May 2015 high intensity rainstorm in the Kapiti Coast-Hutt Valley area

M.J. Page

B.J. Rosser

GNS Science Report 2015/20
December 2015



BIBLIOGRAPHIC REFERENCE

Page, M.J., Rosser, B.J. 2015. The landslide response to the 14 May 2015 high intensity rainstorm in the Kapiti Coast-Hutt Valley area, *GNS Science Report* 2015/20. 70 p.

M.J. Page, GNS Science, PO Box 30368, Lower Hutt 5040, New Zealand

B.J. Rosser, GNS Science, PO Box 30368, Lower Hutt 5040, New Zealand

CONTENTS

ABSTRACT	V
KEYWORDS	V
1.0 INTRODUCTION	1
2.0 14 MAY 2015 STORM	3
2.1 KAPITI COAST	4
2.2 PORIRUA AND WELLINGTON	5
2.3 HUTT VALLEY AND WAINUIOMATA	5
3.0 RECONNAISSANCE FLIGHT	7
4.0 LANDSLIDE EFFECTS	9
4.1 DISTRIBUTION AND TYPE OF LANDSLIDING	9
4.1.1 Extent of landsliding	9
4.1.2 Severity of landsliding	9
4.1.3 Type of landsliding	15
4.1.4 Distribution of landsliding in relation to terrain	19
4.1.5 Distribution of landsliding in relation to vegetation	22
4.1.6 Recently logged pine plantations	26
4.1.7 Damage to road cuts	31
4.2 LANDSLIDE EFFECTS AT SPECIFIC LOCATIONS	32
4.2.1 Fly-by-Wire and adjacent catchments	32
4.2.2 Centennial Highway/SH 1	37
4.2.3 Coastal cliffs	44
4.2.4 Porirua City	47
4.2.5 Korokoro Catchment	48
4.2.6 Battle Hill	54
4.2.7 Transmission Gully	57
5.0 INTERPRETATION OF THE NATURE OF THE LANDSLIDE RESPONSE	61
5.1 LANDSLIDE EROSION	61
5.2 GULLY/CHANNEL EROSION	61
6.0 CONCLUSIONS	63
7.0 REFERENCES	65

FIGURES

Figure 2.1	24-hour rainfall totals for the 14 May 2015	3
Figure 2.2	Debris flood deposit on SH1, 2.5 km south of Paekakariki, at Bartons Corner.....	4
Figure 4.1	The distribution of landslides triggered by the May 14, 2015 rainstorm.....	10
Figure 4.2	Hills at the end of Mickell Road, Te Horo. Note absence of landslides.	11
Figure 4.3	Hills south of Otaki Gorge Road. Note absence of landslides.	11
Figure 4.4	Low hills of Pleistocene weathered gravels with a loess mantle were unaffected by landslides in the Reikorangi Valley.....	12
Figure 4.5	Looking northwest along Kakaho Stream.....	12
Figure 4.6	Landslide on moderate (20-25°) hill slopes, north of Waterfall Road.....	13
Figure 4.7	Landslides on hills south of Paraparaumu, along Valley Road.....	13
Figure 4.8	Entrance to Whareroa Station and Queen Elizabeth Park at MacKays Crossing.....	14
Figure 4.9	Hills east of SH1 between Waikanae and Otaihanga roundabout.	14
Figure 4.10	Typical shallow landslides on greywacke hills, opposite Poplar Avenue, south of Paraparaumu.....	15
Figure 4.11	Channel-sourced sediment deposited on fan.	16
Figure 4.12	Gully erosion along an ephemeral channel in the Reikorangi Valley, 0.5 km south of Water Treatment Plant.	17
Figure 4.13	Distant view of gully feature in Figure 4.12.....	18
Figure 4.14	Google Earth view of gully feature on 18/8/2013.....	18
Figure 4.15	Google Earth view of gully feature on 7/9/2005.....	19
Figure 4.16	Landslide in gorse on hills east of Emerald Glen Road, MacKays Crossing.	20
Figure 4.17	Landslides on undifferentiated, weathered gravels and silts. North of Battle Hill.	20
Figure 4.18	Landslide locations in relation to the slope categories shown in Figure 4.19.	21
Figure 4.19	Landslide frequency (%) in relation to slope angle at the source areas of landslides generated by the Kapiti storm, slope angle frequency of the study area, and the slope angle/landslide susceptibility classes for the Wellington area	22
Figure 4.20	Landslides on hills south of Paraparaumu, along Valley Road. Raumatī in distance.	23
Figure 4.21	Indigenous forest on slopes of Wainui Hill, near Transmission Gully.	23
Figure 4.22	Hill slopes east of Valley Road, Paraparaumu.	24
Figure 4.23	Landslide in pasture between pine plantation, above Reikorangi Valley.....	25
Figure 4.24	Sediment deposited on old, grass-covered debris fans at the base of small, scrub covered catchments.	26
Figure 4.25	Recently logged forest (2011/2012) at end of Flightys Road.....	27
Figure 4.26	Recently logged forest, in tributary of Horokiri Stream.	27
Figure 4.27	Landslide (debris avalanche) in area logged in 2011/2012.	28
Figure 4.28	Landslides on a scarp where pine trees have recently been logged. Note the association of landslides with the recently formed track.....	29
Figure 4.29	Landslide from forestry landing in Maungakotukutuku catchment, south of Nikau Valley.	29
Figure 4.30	Landslide originating from a forestry landing in recently logged forest, Moonshine Valley.....	30
Figure 4.31	Debris from landslide blocking Paekakariki Hill Road, 250 m north of the Lookout.....	31
Figure 4.32	Map of the Paekakariki area showing the main landslide, gully erosion features and debris flood deposits resulting from the flood of 3 October 2003.....	32

Figure 4.33	The upper Fly-by-Wire catchment, was unaffected by landslides and gullies during the 2015 storm.	33
Figure 4.34	Paekakariki Hill Road, showing 2003 gullies (centre) which were unaffected by the 2015 storm, and gully (far right) showing some reactivation.	34
Figure 4.35	Accumulation of gravel in hill slope swales above the Paekakariki Hill Road.	35
Figure 4.36	View from Paekakariki Hill Road, looking upstream.	36
Figure 4.37	Paekakariki Hill Road from the lookout, showing landslide which blocked the road.	37
Figure 4.38	Bartons Corner, 2.5 km south of Paekakariki.	38
Figure 4.39	There was a general absence of landslides along the Pukerua Bay to Paekakariki coastal escarpment.	39
Figure 4.40	General absence of landslides along the Pukerua Bay to Paekakariki coastal escarpment.	40
Figure 4.41	Landslide at head of former quarry ~1 km south of Paekakariki.	41
Figure 4.42	Single landslide in catchment above Centennial Highway, just north of Pukerua Bay.	42
Figure 4.43	NIMTL, 1 km north of Pukerua Bay.	43
Figure 4.44	Coastal cliffs between Pukerua Bay and Plimmerton.	44
Figure 4.45	Coastal cliffs between Pukerua Bay and Plimmerton.	45
Figure 4.46	Coastal cliffs between Pukerua Bay and Plimmerton.	46
Figure 4.47	Flood debris from streams draining Colonial Knob, Porirua.	47
Figure 4.48	Light industrial buildings on the fan at the outlet of the Korokoro Stream.	48
Figure 4.49	One of the few landslides in the Korokoro catchment, all of which were near the head of the catchment, and in pasture.	49
Figure 4.50	Landslides at head of Korokoro Stream near Cannons Head Trig.	49
Figure 4.51	Pine plantation, ~2 km upstream of the Korokoro Stream fan.	50
Figure 4.52	Log jam in Korokoro stream, 1.8 km upstream of the fan.	50
Figure 4.53	Bridge damage and bank erosion. Note build-up of debris behind bridge support.	51
Figure 4.54	Sections of track washed away.	52
Figure 4.55	Bank erosion or stream-side landslides damaged the walking track in several places.	52
Figure 4.56	Terraces of the Korokoro Stream, 500 m upstream of the fan.	53
Figure 4.57	Landslides on undifferentiated, weathered gravels and silts.	54
Figure 4.58	Battle Hill Farm Forest Park.	55
Figure 4.59	Landslides on undifferentiated, weathered gravels and silts (foreground), and on greywacke.	56
Figure 4.60	Transmission Gully route looking north.	57
Figure 4.61	Debris avalanche on eastern slopes of Transmission Gully.	58
Figure 4.62	Debris avalanche on western slopes of Transmission Gully.	59
Figure 4.63	Sediment derived largely from in-channel sources.	60

TABLES

Table 2.1	Rainfall totals for 14 May 2015 for rain gauges in the area between Otaki and Petone.	6
------------------	--	---

APPENDICES

A1.0	PLACENAMES USED IN THIS REPORT.....	69
-------------	--	-----------

APPENDIX FIGURES

Figure A1.1	Kapiti Coast (Paekakariki to Otaki) placenames and locations used in this report.	69
Figure A1.2	Wellington to Paekakariki placenames and locations used in this report.	70

ABSTRACT

Following a high-intensity rainstorm in the Kapiti Coast-Hutt Valley area on the 14 May 2015, GNS Science undertook a reconnaissance helicopter flight to provide an overview of the distribution of landslides and other erosion processes. Rainfall for the storm was not exceptional, being in the range of 80-150 mm in 24 hours, although one hour maximums of between 20 and 30 mm were recorded in some areas. While this caused severe localised flooding and several road closures, the limited number of reported landslides indicated that rainfall was near the threshold for landsliding on the largely greywacke hill country terrain. Landslides generally occurred on slopes greater than 25°, with most landslides occurring on slopes between 30° and 40°. There appeared to be a threshold slope angle of about 18° for landslide initiation during the storm, while the average slope at the area of initiation of landslides was 37°.

Almost all observed landslides occurred on hill country in pasture, or in recently logged pine forest plantations. There were also a number of instances where, despite the lack of catchment landsliding, rainfall intensity and runoff was sufficient to initiate incision (gullying) in hill slope swales/ephemeral channels. These are sites where sediment has been accumulating for 100s to 1000s of years, and are a component of hill slopes throughout the Kapiti Coast-Wellington area. As such they represent a potential hazard to infrastructure located at the catchment outlet. In several cases the resulting debris floods were the cause of road closures, including State Highway 1 between Pukerua Bay and Paekakariki, which was similarly affected by storms in 2003, 2004, 2005 and 2006.

KEYWORDS

Rainfall-triggered landslides, debris floods, intense rainfall, Kapiti Coast, Korokoro Stream

1.0 INTRODUCTION

This report provides a qualitative description of the landslides and other erosion processes caused by the 14 May 2015 high-intensity rainstorm in the Kapiti Coast-Hutt Valley area. The report is based on observations made two weeks after the storm, during a reconnaissance helicopter flight between Te Horo, near Otaki and Korokoro, near Petone. The reconnaissance flight and report were undertaken as part of a GeoNet¹ Landslide Response. The observations are illustrated and supported by numerous oblique aerial photographs. In addition to observations on the distribution of landslides and their relation to rainfall, terrain, vegetation and roading, comments are also made on erosion at the following locations:

- Fly-by-Wire and adjacent catchments near Paekakariki, affected by an intense rainstorm in 2003
- Centennial Highway (SH1) between Pukerua Bay and Paekakariki
- Coastal cliffs between Pukerua Bay and Plimmerton
- Porirua City
- Korokoro catchment west of Petone
- Battle Hill in the Horokiri Valley
- Transmission Gully, the route for the new motorway north of Wellington

Rainfall recorded during the storm was in the range of 80 to 150 mm over a 24-hour period. While this was not exceptional, totals were thought to be near the threshold for landsliding on the largely greywacke hill country terrain (based on the authors observations of previous storms), and it was for this reason that the aerial reconnaissance was undertaken. The high intensity rainfall caused localised flooding on the Kapiti Coast, and in Porirua, Tawa, the Hutt Valley, and Petone where one man was drowned. Several roads were blocked by erosion debris, including Centennial Highway between Pukerua Bay and Paekakariki.

¹ The GeoNet Project is a collaboration between the Earthquake Commission and GNS Science for the monitoring, data collection and rapid response to earthquake, volcano, landslide and tsunami hazards in New Zealand.

This page is intentionally left blank.

2.0 14 MAY 2015 STORM

Areas of the Kapiti Coast, Porirua and the Hutt Valley were affected by very heavy rain on the 14 May 2015 (Figure 2.1). Localised severe flooding resulted in a number of houses and businesses being evacuated, and several roads and the Main Trunk Rail Line were closed due to deposition of sediment and organic debris from landslides and gullies.

A strong, warm, moist northwest flow funnelled an area of heavy rainfall and north westerly winds from the Tasman Sea over the lower North Island between the Kapiti Coast and Wellington. The front contained numerous bands of heavy rain and “pockets” of thunderstorms that initially hit the Kapiti Coast before slowly moving south east across Porirua, the Hutt valley and Wellington. Because the rainfall occurred in narrow bands, or as thunderstorms, some parts of the region were affected far worse than others (<http://www.gw.govt.nz/yesterday-s-rainfall-by-the-numbers>).

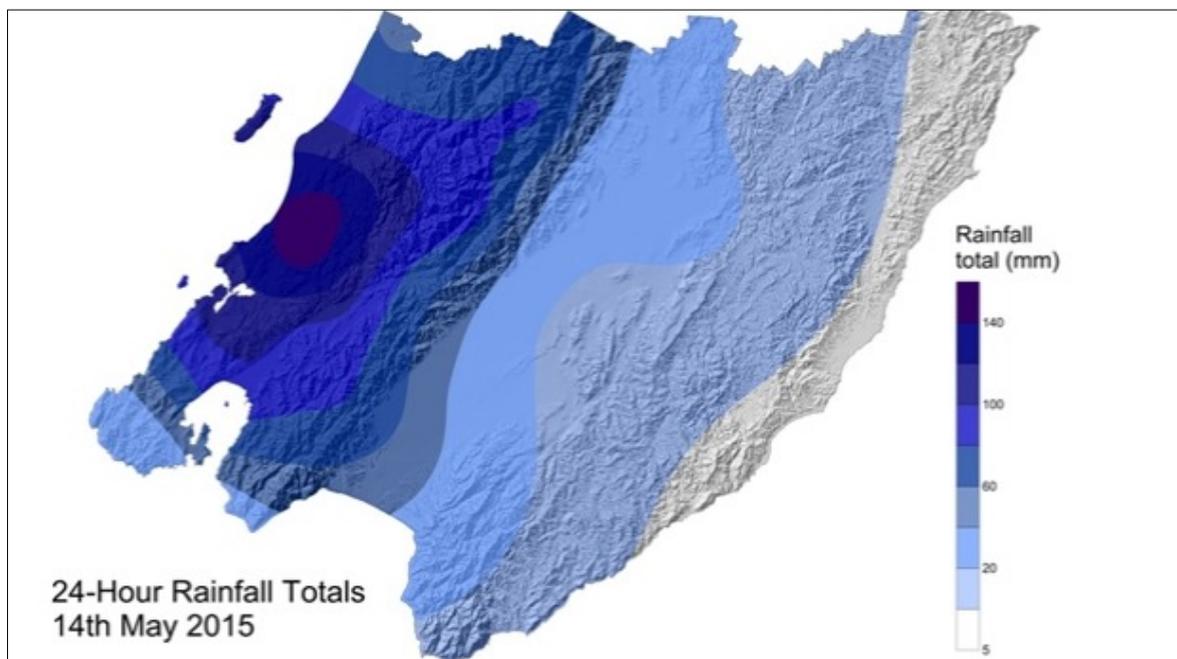


Figure 2.1 24-hour rainfall totals for the 14 May 2015 (from Wellington Regional Council).

State Highway 1 (SH1) and the Main Trunk Railway Line between Pukerua Bay and Paekakariki were closed for a day by a debris flood deposit (Figure 2.2). The debris flood was caused by periods of intense rainfall over a 24-hour period, during which ~150 mm of rain was recorded. As this is the main highway north from Wellington, the blockage prevented ~23 000 motorists from returning home. While only a relatively small amount of debris (sandy gravel) was deposited on the highway, this highlighted the vulnerability of the coastal highway (and railway line), and the need for the soon to be built inland route (Transmission Gully). State Highway 2 (SH2) was also closed by flooding from the Korokoro Stream catchment, near Petone, disrupting traffic between Wellington and the Hutt Valley.

Damage caused by the rainstorm was estimated to cost the region \$16.8 million (http://hwe.niwa.co.nz/event/May_2015_Wellington_Flooding).



Figure 2.2 Debris flood deposit on SH1, 2.5 km south of Paekakariki, at Bartons Corner (Photo: Dominion Post).

In the following storm summaries (sections 2.1, 2.2, 2.3), rainfall and stream flow information are from the Environmental Science Department of Greater Wellington Regional Council. Individual rain gauge information is given in Table 2.1.

2.1 KAPITI COAST

Heavy rain started to fall in the early hours of 14 May on the Kapiti Coast with a total of 145 mm recorded in 24 hours at MacKays Crossing. A rainfall total of this magnitude is expected once in every 40 years at this location. To the north, Waikanae received 102 mm of rain in 24 hours which is expected once every 6 years. An intense burst of rain was recorded at Te Hapua Road, south of Te Horo Beach, where 27 mm fell in just one hour. This is equivalent to a 10 year event.

The Waikanae River peaked at a flow of 270 cubic metres per second (m^3/sec) above SH1 (1-in-13 year event). This was the 3rd largest flow recorded since 1975 – only January 2005 and October 1998 were larger. A flow of this size in the river is expected once every 13 years. The Wharemauku Stream turned into a raging torrent as it passed under SH1 at Paraparaumu, and the recorded flow ($18.05 \text{ m}^3/\text{sec}$ - equivalent to a 1-in-40 year event) was only slightly less than that recorded during the October 1998 flood.

In all, 27 homes on the Kapiti Coast were evacuated, mainly in Raumati Beach where the Wharemauku stream breached its banks.

2.2 PORIRUA AND WELLINGTON

After initially hitting the Kapiti Coast, the rain band began to move south. A number of rain gauge sites in the Porirua area recorded very heavy rainfall. At Battle Hill the most intense rain recorded was 30 mm in one hour. Rainfall totals of 76 mm and 144 mm were recorded over 6 and 24 hours respectively, equating to approximately one in 30 and one in 50 year events. As a result of the intense rainfall the Horokiri Stream rose rapidly and peaked at 57 m³/sec, its highest flow since 2003. The return period for the flow is estimated at 10-15 years. The concentration of suspended sediment in the tributaries of the Porirua Harbour and Pauatahanui Inlet were three times higher than typically recorded after high rainfall events (Greater Wellington Regional Council 2015).

The Porirua Stream peaked at a flow rate of 66 m³/sec (1-in-20 year event), which was the third largest flow since the floods of 1976, and the largest since 1980. It ranks as the largest flood to have occurred since the Seton Nossiter and Stebbings flood detention dams were constructed in the upper catchment.

In addition to flooding in the Porirua Stream, there was significant surface water flooding and many smaller streams also overtopped their channels. Rainfall was very intense with a total of 62 mm recorded at Tawa Pool in two hours. This intensity of rainfall is expected once every 40 years. A total of 115 mm was recorded at Tawa Pool over 24 hours (a one in 20 year total).

At Tawa, flooding from the Porirua Stream affected a number of properties including a school where pupils were evacuated by boat.

2.3 HUTT VALLEY AND WAINUIOMATA

The rainfall band moved onto the Hutt Valley and Wainuiomata. In just one hour 42 mm of rain was recorded in Avalon, which is estimated to be in excess of a 50 year event. Peak one hour rainfall totals at Shandon and Wainuiomata reached 33 mm and 28 mm respectively, equivalent to about one in 10 to 30 year events. In total 96 mm fell in 24 hours in Lower Hutt.

The Hutt River only reached a level expected once in every two years. The Akatarawa River reached a similar level, but all other major rivers draining to the Hutt River had insignificant flows. The Waiwhetu Stream and Wainuiomata River also only reached levels equivalent to a 2-year event.

One man drowned when the car he was in was caught in floodwaters near a boat ramp bordering the Hutt River at Sladden Park in Petone.

Torrential rain on the Belmont Hills between Tawa and Maungaraki was estimated to be a 1-in-50 year event and resulted in a flood in the Korokoro Stream which exceeded the capacity of the culverts under SH2. Flood waters flowed over the highway and inundated a number of businesses in Cornish Street.

Table 2.1 Rainfall totals for 14 May 2015 for rain gauges in the area between Otaki and Petone (from Wellington Regional Council website).

Location	24 hour total (mm)	6 hour max (mm)	1 hour max (mm)
Otaki Depot	54.5	42 (2-8 pm)	8 (2-3 pm)
Te Hapua	92	38 (2-8 pm)	27 (8-9 am)
Transmission Lines	81.5	43 (2-8 pm)	19.5 (8-9 am)
Waitatapia at Taungata	69	51.5 (2-8 pm)	10 (5-6 pm)
Waikanae at Water Treatment Plant	101.5	46.5 (3-9 pm)	17.5 (9-10 am)
Southern Waiotauru at Kapakapanui	102.5	40 (5-11 am)	12.5 (4-5 pm)
Penn Creek at McIntosh	84	42.5 (2-8 pm)	11 (4-5 pm)
Akatarawa at Warwicks	144.5	77 (4-10 am)	19 (5-6 am)
Whareroa at Queen Elizabeth Park	144.5	85.5 (3-9 am)	20 (7-8 am)
Taupo at Whenua Tapu	103.5	53.5 (7 am-1 pm)	22 (10-11 am)
Battle Hill	144	65.6 (4-10 am)	29.5 (6-7 am)
Tawa	111.5	76 (6-12 am)	31.5 (10-11 am)
Seton Nossiter Park	79.5	44 (8 am-2 pm)	17 (11-12 am)
Hutt at Shandon Golf Club	100	64.5 (8 am-2 pm)	28 (11-12 am)

3.0 RECONNAISSANCE FLIGHT

The apparent limited number of landslides (from ground observations and media reports), seemed surprising given the widespread and rapid flooding across the region. It was decided therefore to carry out an aerial reconnaissance of the affected area to photograph and assess the nature of landslides. On 28 May, two weeks after the storm, the authors carried out a two hour helicopter flight from Paraparaumu Airport in a Kapiti Heliworx Jet Ranger. The area covered extended from the hills east of Te Horo, south along the hills via Centennial Highway to Pauatahanui Inlet and then over the Haywards-Belmont Hills to the Korokoro Stream (the southern extent of reported damage). Return to Paraparaumu was via Transmission Gully. The flight path is shown in Figure 4.1. A total of 683 oblique photographs were taken, and were geo-located by synchronising their time of capture with a hand-held GPS track log. All place names referred to in this report are shown on a map in Appendix 1.

Landslides were located on the oblique aerial photography and mapped using ArcGIS 10.1. Additional landslides, away from the flight path, were mapped using post-storm imagery captured on various dates in Google Earth. Pre-storm Google Earth imagery of various dates was also used to verify that the landslides mapped were not present before the storm.

This page is intentionally left blank.

4.0 LANDSLIDE EFFECTS

4.1 DISTRIBUTION AND TYPE OF LANDSLIDING

4.1.1 Extent of landsliding

The distribution of mapped landslides triggered by the May 14, 2015 Kapiti Storm is shown in Figure 4.1. A total of 333 landslides were identified from the aerial photographs and Google Earth imagery. The hills between Waikanae and Te Horo as far north as Te Hapua Road marked the northern-most extent of observed landslides. The pasture-forest margin in the foothills of the Tararua Range marked the eastern, inland extent of landslides. The southern extent of landslides was at the head of the Korokoro catchment in the western Hutt hills near Petone, across to Grenada. This distribution roughly matches the 100 mm isohyet on the map of 24-hour rainfall totals provided by the Greater Wellington Regional Council (Figure 2.1).

4.1.2 Severity of landsliding

Overall the severity of landsliding can be described as minor. Many hill slopes had no landslides (Figure 4.2, Figure 4.3 and Figure 4.4) and others only one or two landslides (Figure 4.5, Figure 4.6, Figure 4.7 and Figure 4.8). Only occasionally were there areas with multiple landslides (Figure 4.9). It is likely that this variability in landslide distribution is related to the distribution of the rainfall, where rainfall amount and intensity (cells) in hill country can vary significantly over very short distances. Landslides occurred over a total area of about 220 km² (Figure 4.18). Landslide density within that area was about 1.5 landslide per square kilometre, and was greatest in areas with the highest rainfall, centred on the area between Waikanae and Paekakariki (3.3 landslides per km²).

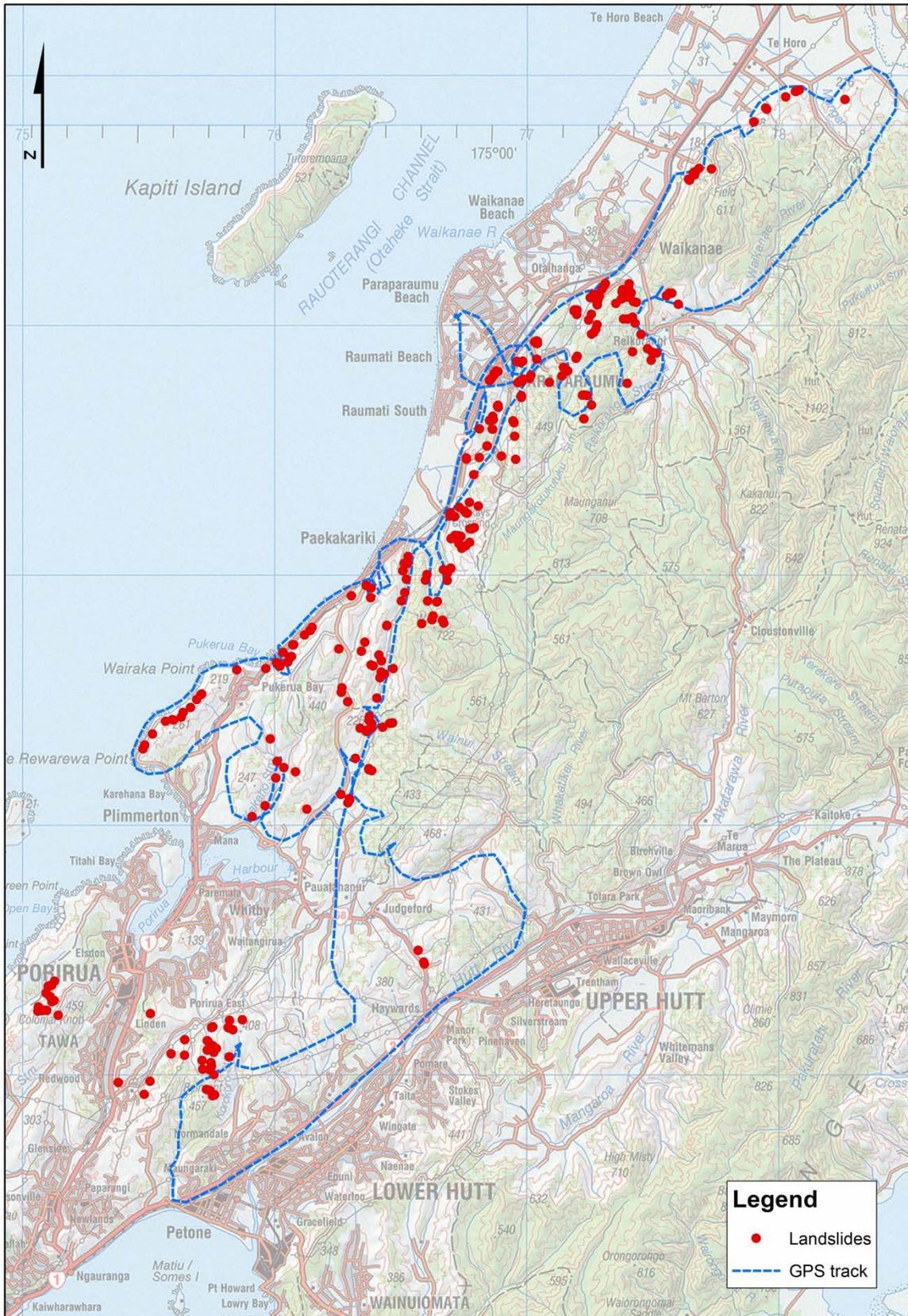


Figure 4.1 The distribution of landslides triggered by the May 14, 2015 rainstorm. Landslides were located from the geo-referenced oblique aerial photographs. Additional landslides away from the flight path were mapped from Google Earth on post-storm imagery captured on multiple dates.



Figure 4.2 Hills at the end of Mickell Road, Te Horo. Note absence of landslides. Transmission Lines rain gauge 1.5 km south, recorded 81.5 mm in 24 hours and a maximum intensity of 19.5 mm in one hour. (GNS Photo: BR_P1140119).



Figure 4.3 Hills south of Otaki Gorge Road. Note absence of landslides. The landslide in centre foreground is not the result of the May 2015 storm. (GNS Photo: BR_P1140130).



Figure 4.4 Low hills of Pleistocene weathered gravels with a loess mantle were unaffected by landslides in the Reikorangi Valley. The Waikanae rain gauge at the Water Treatment Plant recorded 101.5 mm in 24 hours and a maximum of 17.5 mm in one hour. (GNS Photo: MP_6350).



Figure 4.5 Looking northwest along Kakaho Stream. Plimmerton-Pukerua Bay ridge on skyline. Note lack of landslides. Battle Hill rain gauge recorded 144 mm rain in 24 hours and 31.5 mm in one hour. (GNS Photo: BR_P1140367).



Figure 4.6 Landslide on moderate (20-25°) hill slopes, north of Waterfall Road. (GNS Photo: BR_P1140539).



Figure 4.7 Landslides on hills south of Paraparaumu, along Valley Road. (GNS Photo: BR_P1140217).



Figure 4.8 Entrance to Whareroa Station and Queen Elizabeth Park at MacKays Crossing. Landslides among scrub are on the back slope of an old quarry site. (GNS Photo: BR_P1140526).



Figure 4.9 Hills east of SH1 between Waikanae and Otaihang roundabout. The maximum landslide density observed during the helicopter reconnaissance flight occurred in this area. (GNS Photo: BR_P1140075).

4.1.3 Type of landsliding

The majority of landslides were small (<100–500 m³) soil and debris slides and/or flows depending on the nature of the slope and thickness of the regolith (Figure 4.10). In addition there was some channel erosion, where narrow, linear gullies occurred in swales and along channels where the concentration of water was sufficient to incise into the sediments that have accumulated at these sites since the last glaciation (Figure 4.11).



Figure 4.10 Typical shallow landslides on greywacke hills, opposite Poplar Avenue, south of Paraparaumu. (GNS Photo: BR_P1140559).

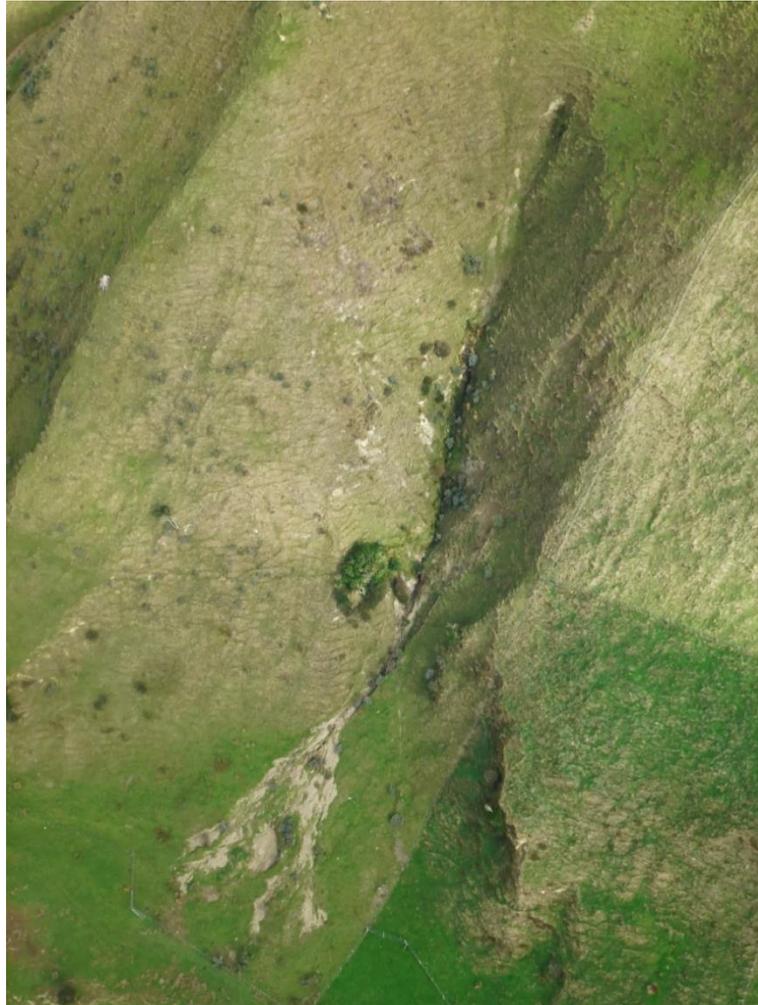


Figure 4.11 Channel-sourced sediment deposited on fan. Note absence of hill slope landslide source. Reikorangi Valley. (GNS Photo: BR_P1140172).

Some of these linear gullies were subsequently found to be pre-existing features. The gully in Figure 4.12 and Figure 4.13 appears to be fresh, but was present on 2013 and 2005 Google Earth imagery (Figure 4.14 and Figure 4.15). However, the gully does appear to have extended headwards as a result of the May 2015 storm. The 2013 Google Earth image shows that small trees/bushes visible on the fan deposit in 2005 were already buried by 2013.



Figure 4.12 Gully erosion along an ephemeral channel in the Reikorangi Valley, 0.5 km south of Water Treatment Plant. This erosion feature was present prior to the 14 May 2015 storm. In the 14 May storm the gully has extended headwards and fresh sediment has been deposited on the fan. (GNS Photo: BR_P1140158).



Figure 4.13 Distant view of gully feature in Figure 4.12. The gully head has extended upslope since 2013 (c.f. Figure 4.14). (GNS Photo: MP_6351).

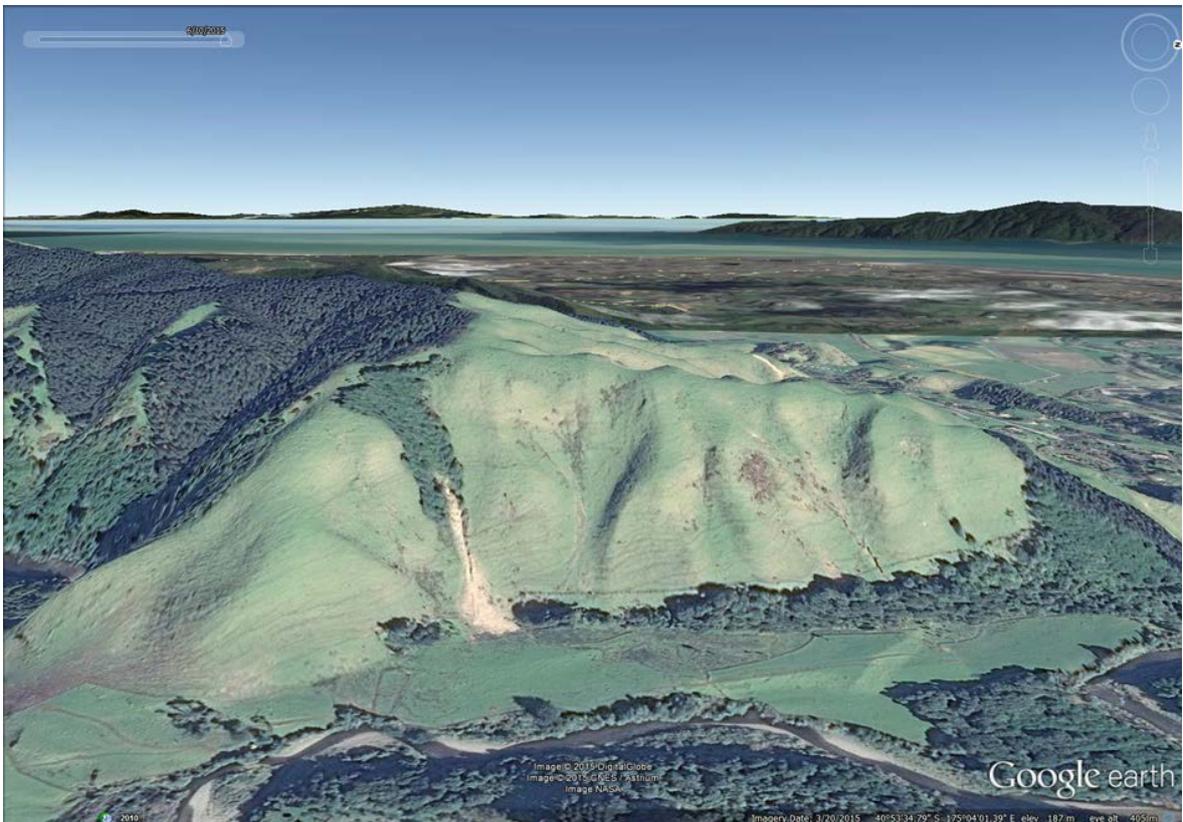


Figure 4.14 Google Earth view of gully feature on 18/8/2013. Small trees/bushes visible on fan deposit in 2005 have now been buried. (GoogleEarth Image).

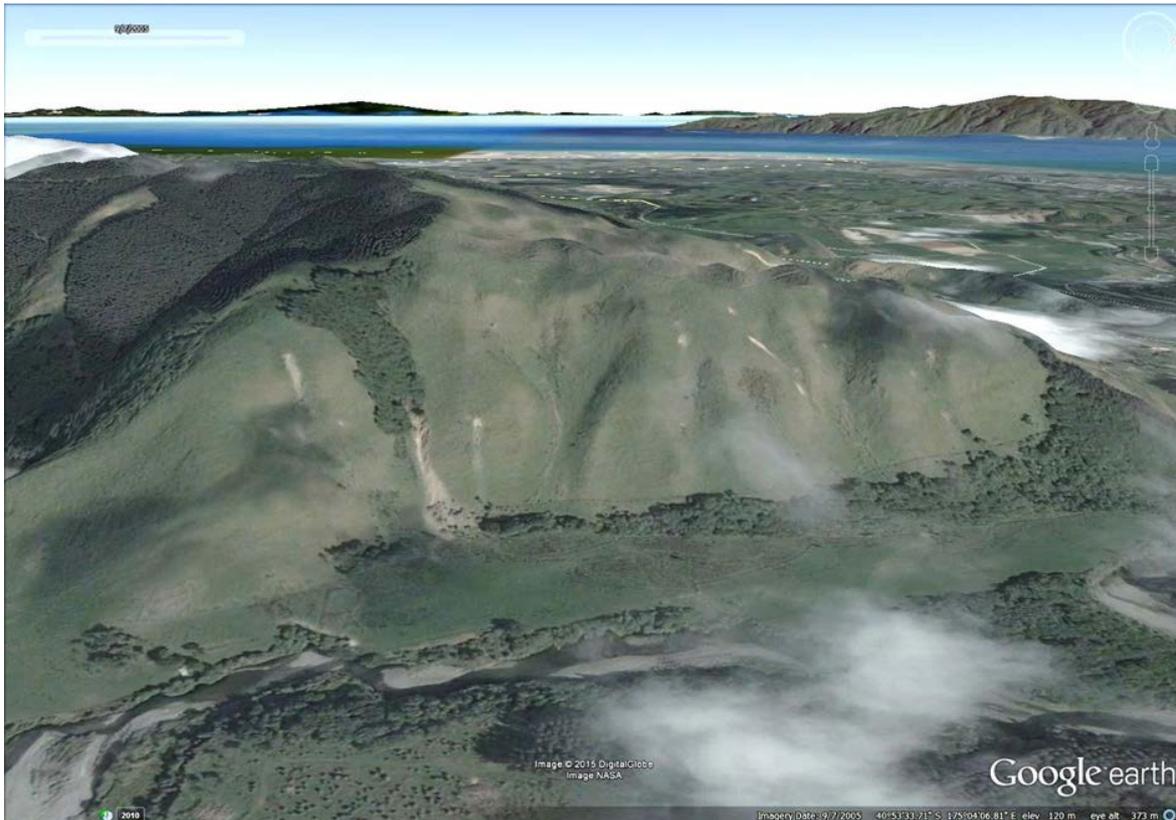


Figure 4.15 Google Earth view of gully feature on 7/9/2005. Note small trees/bushes on fan deposit. (GoogleEarth Image).

4.1.4 Distribution of landsliding in relation to terrain

The hills of the Kapiti Coast, Porirua and Hutt Valley affected by landslides are almost entirely composed of greywacke bedrock overlain by regolith with thin topsoils (Figure 4.16), with small areas of weathered gravels and silts mantled with loess in the Reikorangi Valley and along the Transmission Gully route near Battle Hill (Figure 4.17).

The landslides on greywacke are typically shallow (<1 m – 2 m deep), with the shallower landslides occurring on steeper slopes. Landslides on the weathered gravels tend to be deeper (2-3 m). Landslides occurred on upper, mid and lower slopes, and often in swales (areas of slope convergence where runoff concentrates). Gullies tended to occur along ephemeral (or very low flow) channels on long steep slopes. In some instances there was reactivation or enlargement of existing gully features.

Figure 4.18 shows the location of landslides generated by the Kapiti storm in relation to hill slope angle categories, and Figure 4.19 shows the frequency of landslides in each slope angle category compared to the frequency (by area) of slopes in the study area. The slope at the source area for each landslide was extracted from a slope model generated from LiDAR (with a 1 m cell size). The percentage of landslides falling in each slope angle/landslide susceptibility class is also shown. Landslides generally occurred on steeper slopes (Figure 4.19); 92 % of landslides occurred on slopes greater than 25°, with moderate to very high landslide susceptibility. Landslides preferentially occurred on steeper slopes (compared to slopes available in the study area) (Figure 4.19). The majority (78%) of landslides occurred on slopes between 25° and 45°, and the average slope where landslides occurred was 37°. The threshold for landslide occurrence in the Kapiti storm was about 18°. This agrees well with other reported rainfall induced landslide thresholds for the Wellington region,

that generally range from 19-22° (Eyles et al 1978; Crozier et al 1990; McConchie 1980). Figure 4.18 also shows that there were significant areas of steep slopes inland from the area affected where landslides did not occur. This is because the high intensity rainfall was generally closer to the coast (Figure 2.1), and most of the slopes are forested. As mentioned previously, the rainfall threshold for landsliding on slopes with a woody vegetation cover (forest, scrub) did not appear to be exceeded in this event.



Figure 4.16 Landslide in gorse on hills east of Emerald Glen Road, MacKays Crossing. (GNS Photo: MP_6364).



Figure 4.17 Landslides on undifferentiated, weathered gravels and silts. North of Battle Hill. (GNS Photo: MP_6445).

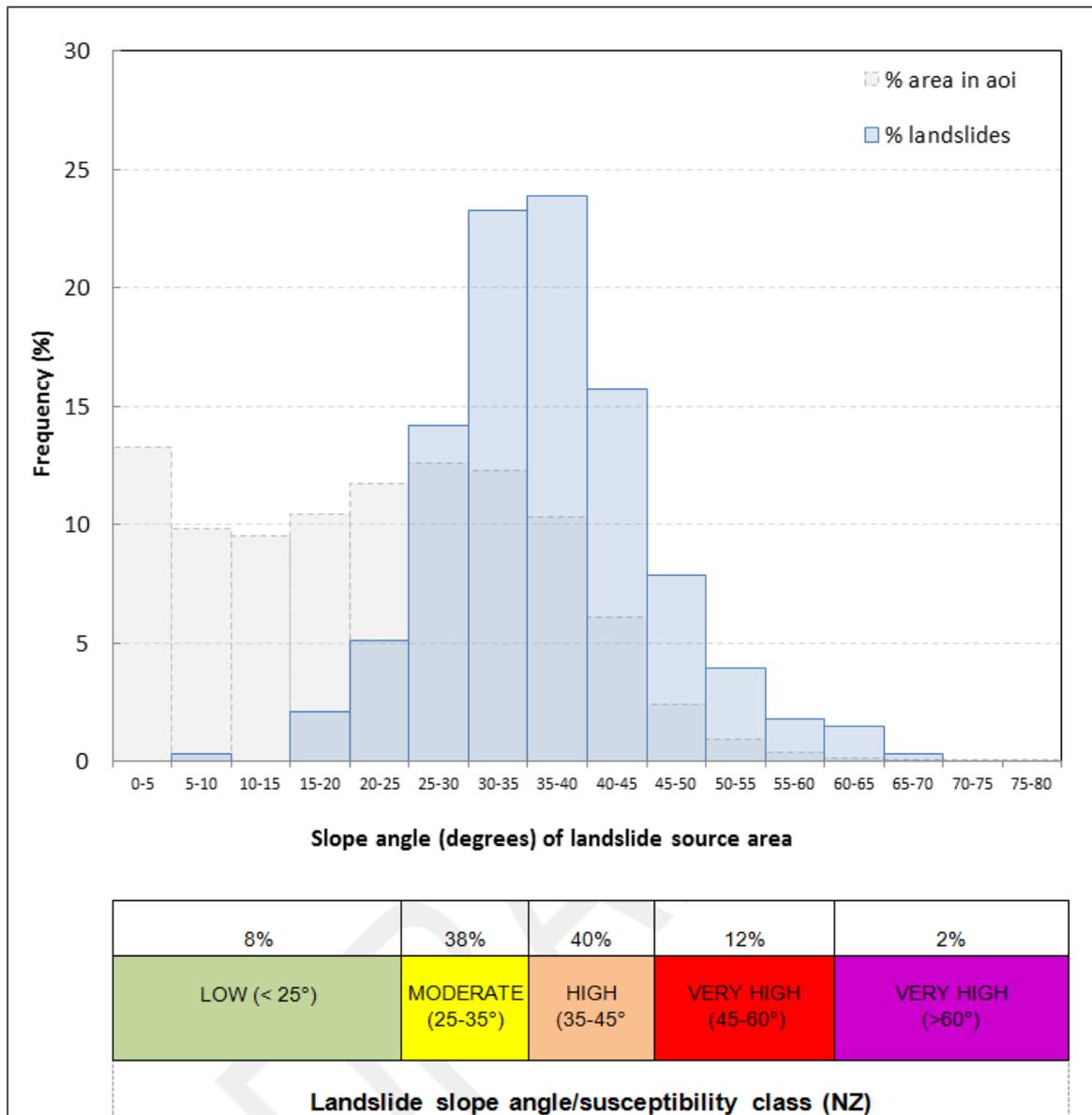


Figure 4.19 Landslide frequency (%) in relation to slope angle at the source areas of landslides generated by the Kapiti storm, slope angle frequency of the study area, and the slope angle/landslide susceptibility classes for the Wellington area (from Hancox et al. 2013).

4.1.5 Distribution of landsliding in relation to vegetation

Almost all observed landslides occurred on hill country in pasture. There were very few landslides on hills with a woody vegetation cover, be it scrub (Figure 4.20), indigenous forest (Figure 4.21) or exotic forest plantations (Figure 4.22 and Figure 4.23). It would appear that the rainfall totals/intensities were below the threshold for landsliding under a woody vegetation cover, and near or just above the threshold under pasture. However, a number of instances were observed in forested catchments lacking landslides, where sediment was derived from in- or near-channel sources where new gullies formed, or existing gullies enlarged along ephemeral channels (Figure 4.24).



Figure 4.20 Landslides on hills south of Paraparaumu, along Valley Road. Raumati in distance. Note absence of landslides in area of scrub to right of photo. (GNS Photo: BR_P1140209).



Figure 4.21 Indigenous forest on slopes of Wainui Hill, near Transmission Gully. This landslide was present prior to the 14 May 2015 storm, and appears to have occurred after January 2013. (GNS Photo: BR_P1140236).



Figure 4.22 Hill slopes east of Valley Road, Paraparaumu. (GNS Photo: MP_6358).



Figure 4.23 Landslide in pasture between pine plantation, above Reikorangi Valley. (GNS Photo: BR_P1140165).



Figure 4.24 Sediment deposited on old, grass-covered debris fans at the base of small, scrub covered catchments. Sediment is derived from channel sources in the absence of landslides. Paekakariki Hill Road.

4.1.6 Recently logged pine plantations

There are a number of recently logged pine plantations in the area affected by the storm. Few landslides occurred on unmodified logged slopes, but landslides related to roads and tracks were more common (Figure 4.25, Figure 4.26, Figure 4.27 and Figure 4.28). Some landslides were initiated at the edge of landings and other sites where earthworks had been carried out. In several instances logs and other woody debris was incorporated in the landslides and entered watercourses at the base of the slope (Figure 4.29 and Figure 4.30).



Figure 4.25 Recently logged forest (2011/2012) at end of Flightys Road. Landslide at bottom right occurred in the May 2015 storm. However, while other landslides and bare areas were present prior to the storm, these surfaces will have been the sources of sediment eroded by sheet wash and rill erosion. (GNS Photo: BR_P1140408).



Figure 4.26 Recently logged forest, in tributary of Horokiri Stream. Note new landslide with debris on the track at right of photo. (GNS Photo: MP_6420).

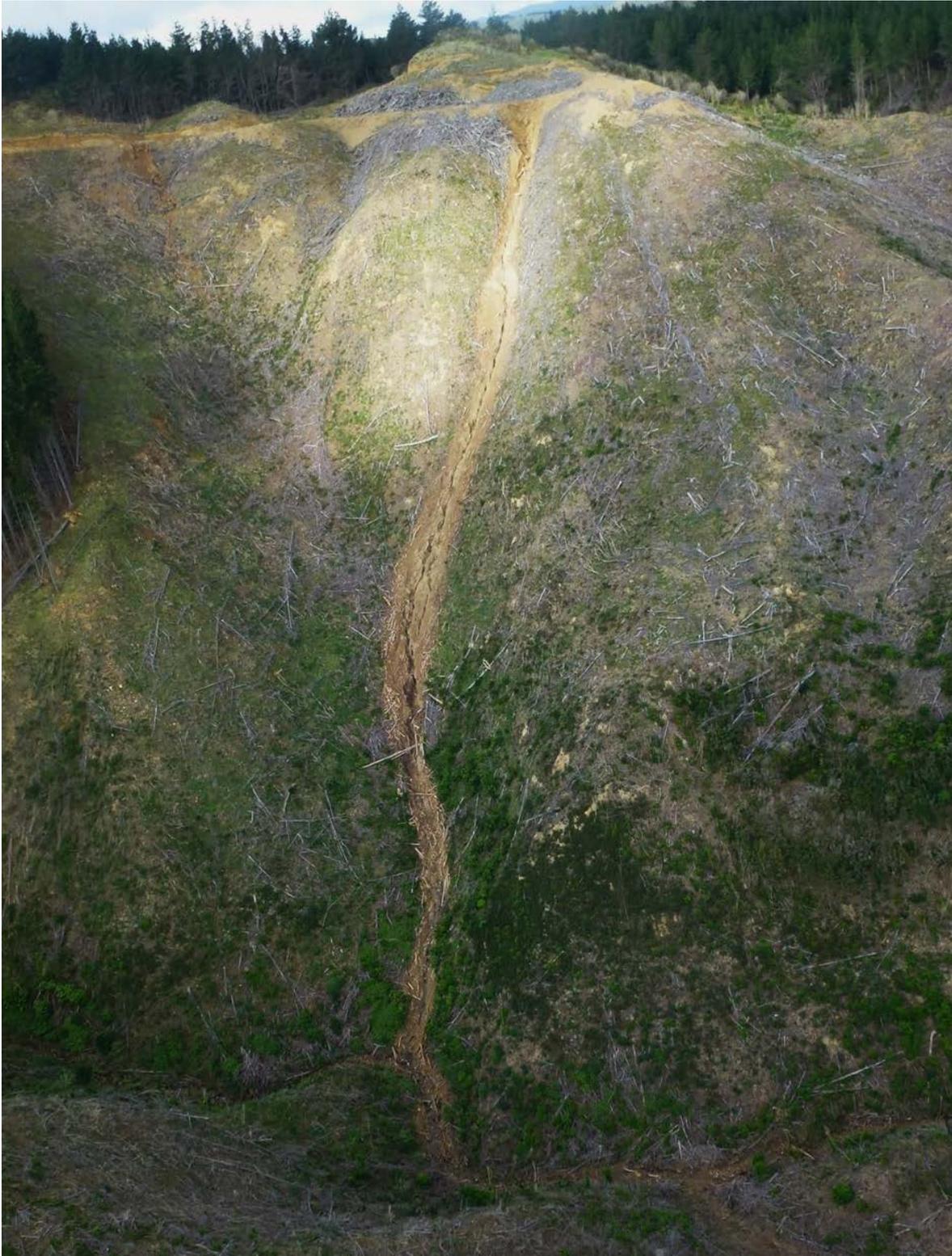


Figure 4.27 Landslide (debris avalanche) in area logged in 2011/2012. Landslide has originated from fill along a forestry track. Note gully within debris tail, indicating concentration of water supplied from track. End of Flightys Road. (GNS Photo: BR_P1140402).



Figure 4.28 Landslides on a scarp where pine trees have recently been logged. Note the association of landslides with the recently formed track. SH1 in foreground at southern entry to Paraparaumu. (GNS Photo: BR_P1140571).



Figure 4.29 Landslide from forestry landing in Maungakotukutuku catchment, south of Nikau Valley. Note large quantity of logs in debris tail. (GNS Photo: MP_6352).

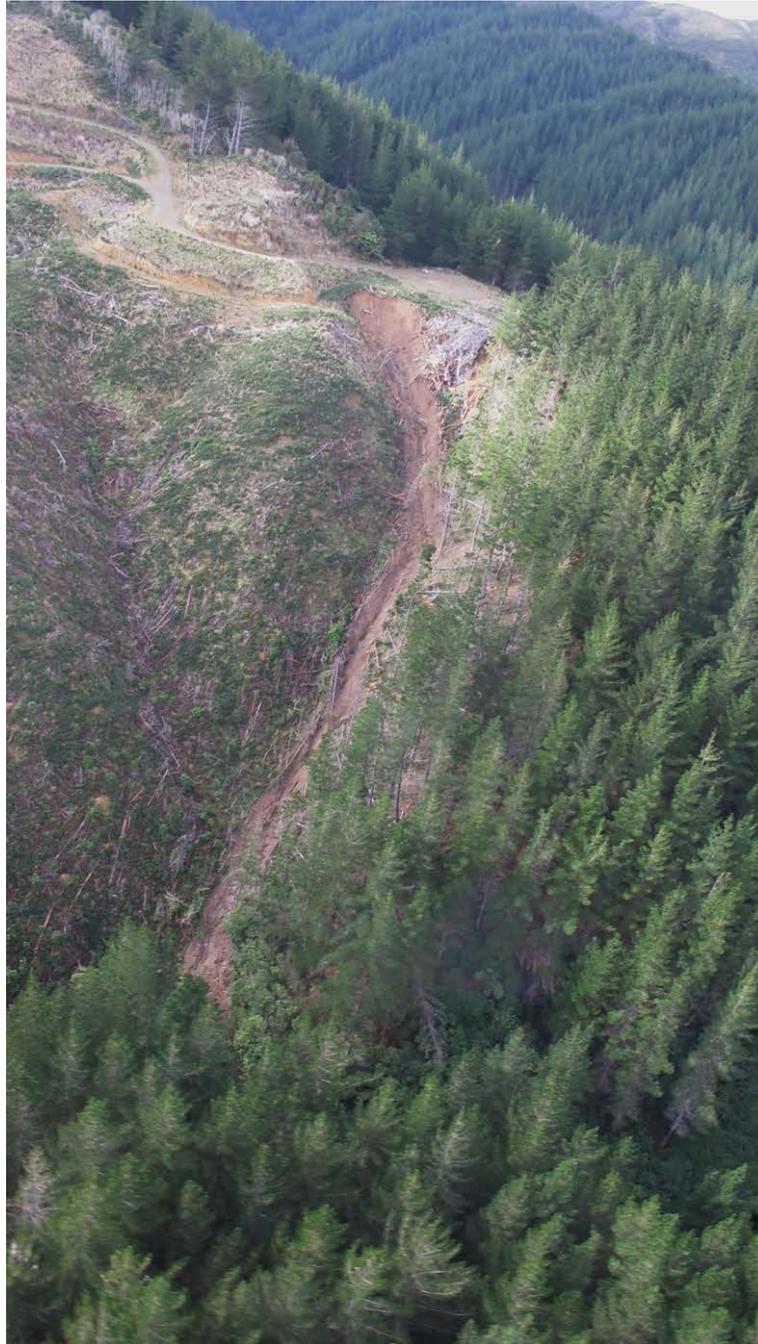


Figure 4.30 Landslide originating from a forestry landing in recently logged forest, Moonshine Valley. (GNS Photo: MP_6428).

4.1.7 Damage to road cuts

Very few landslides related to road cuts were observed anywhere within the area flown. Figure 4.31 shows one such instance on the Paekakariki Hill Road, just north of the Lookout. Another failure occurred on a steep cut on SH1 ~1 km south of Pukerua Bay. More common were minor rock falls and soil falls too small to block the road.



Figure 4.31 Debris from landslide blocking Paekakariki Hill Road, 250 m north of the Lookout. (Dominion Post Photo).

4.2 LANDSLIDE EFFECTS AT SPECIFIC LOCATIONS

4.2.1 Fly-by-Wire and adjacent catchments

The Fly-by-Wire catchment and adjacent catchments near Paekakariki were severely affected by landslides and gully erosion during an intense rainstorm in October 2003. Two debris floods deposited gravel and other material onto SH 1 and the Main Trunk Railway Line (Figure 4.32) (Hancox 2003). Rainstorms in 2004, 2005 and 2006 caused further flooding and sediment deposition in the same location. However, in the May 2015 storm these catchments were largely unaffected (Figure 4.33). There were only a few landslides and minor reactivation of gullies (Figure 4.34, Figure 4.35 and Figure 4.36). A landslide occurred on the Paekakariki Hill Road, just north of the Lookout (Figure 4.37). During the 2003 storm, 119 mm of rain was recorded in the Paekakariki Hill area (3 km southwest of the Fly-by-Wire catchment) in 24 hours, with 82 mm recorded in 4 hours. This equates to an average return interval of about 125 years. Based on the distribution of landsliding and flood damage, rainfall at the Fly-by-Wire catchment was significantly heavier in the 2003 event. In the May 2015 storm, 145 mm of rain was recorded in 24 hours at MacKays Crossing (3.5 km northeast of the Fly-by-Wire catchment). As the incidence of landslides was greater at MacKays Crossing than in the Fly-by-Wire catchment, it is likely that rainfall in the vicinity of the Fly-by-Wire catchment in 2015 was less than in 2003. Another factor influencing the lack of significant erosion in 2015 may be that the most vulnerable sites had already eroded in the 2003 and subsequent storms.

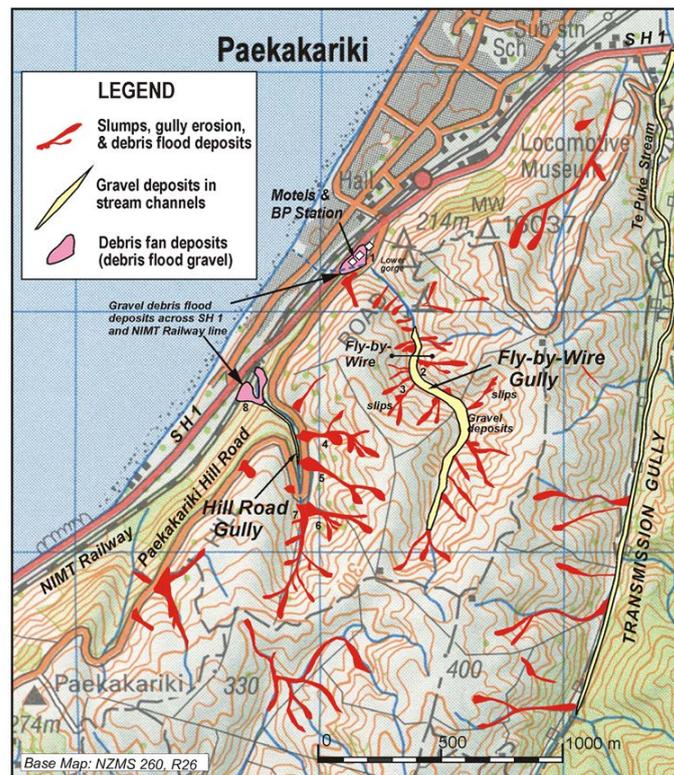


Figure 4.32 Map of the Paekakariki area showing the main landslide, gully erosion features and debris flood deposits resulting from the flood of 3 October 2003 (from Hancox 2003). These catchments were largely unaffected by landslides and gullies during the 2015 storm.



Figure 4.33 The upper Fly-by-Wire catchment, was unaffected by landslides and gullies during the 2015 storm. Gully in foreground has stabilised since formation during 2003 storm. GNS Photo: BR_P1140251).



Figure 4.34 Paekakariki Hill Road, showing 2003 gullies (centre) which were unaffected by the 2015 storm, and gully (far right) showing some reactivation. GNS Photo: BR_P1140236).



Figure 4.35 Accumulation of gravel in hill slope swales above the Paekakariki Hill Road. These deposits date from the 2003 storm. Compare with Figure 4.36, looking upstream. (GNS Photo: BR_P1140261).



Figure 4.36 View from Paekakariki Hill Road, looking upstream. Compare with Figure 4.35, looking downstream. Several small landslides (s) occurred during the 2015 storm, but little or no channel erosion. A debris fence (DF) built at this site after the 2003 flood effectively controlled debris flood gravels during floods in 2004, 2005, and 2006 (Hancox et al. 2005) (GNS Photo: BR_P1140268).



Figure 4.37 Paekakariki Hill Road from the lookout, showing landslide (centre) which blocked the road (compare with Figure 4.31). (GNS Photo: MP_6339).

4.2.2 Centennial Highway/SH 1

Centennial Highway between Pukerua Bay and Paekakariki was blocked at three locations – the major one being ~2.8 km south of Paekakariki where a debris flood deposit from a deeply-incised stream blocked State Highway 1 and the NIMT Railway Line (Figure 2.2). Similar debris floods at this site caused problems for the railway from 1973 to 1981 (Hancox 1981, Hancox et al. 2005). Further south, a debris flood deposit blocked the highway 1 km north of Pukerua Bay, and a small landslide blocked the highway as it climbs towards Pukerua Bay heading south. All these blockages were cleared during the space of several hours. But they caused severe disruption to road and rail traffic, and many commuters had to spend the night in Wellington.

The two debris flood deposits that blocked the highway and railway were only small (~1000 m³), and were comprised of gravel, sand and silt. The catchments from which these deposits were derived were small and contained very few hill slope landslides (Figure 4.38). In fact very few landslides occurred along the escarpment above Centennial Highway during the 14 May 2015 storm (Figure 4.39 and Figure 4.40). Figure 4.41, Figure 4.42 and Figure 4.43 show examples of the landslides that did occur. The source of the material that blocked the highway was mainly in- and near-channel sediment that had built up/accumulated from hill slope sources over hundreds of years. This condition occurs in many catchments in the greywacke hills around Wellington. During the storm, water was observed flowing in swales/ephemeral channels high up in catchments, and cascading over bluffs above Centennial Highway. This concentration of water was sufficient to form the gullies that scoured this in-channel sediment. It was quite revealing that such a small amount of sediment could cause such disruption to road and rail. This highlights again the vulnerability of Wellington's major transport corridors, and the need for the alternative route along Transmission Gully.

The New Zealand Transport Agency estimated that during closure of State Highway 1 between Pukerua Bay and Paekakariki (by landslide debris), road user costs (delays, diversions/fuel costs) would amount to \$13 M for a 20-year return period storm, \$30 M for a 50-year return period storm and \$92 M for a 100-year return period storm. After a major earthquake costs could be >\$1 B (DomPost May 19 2015).

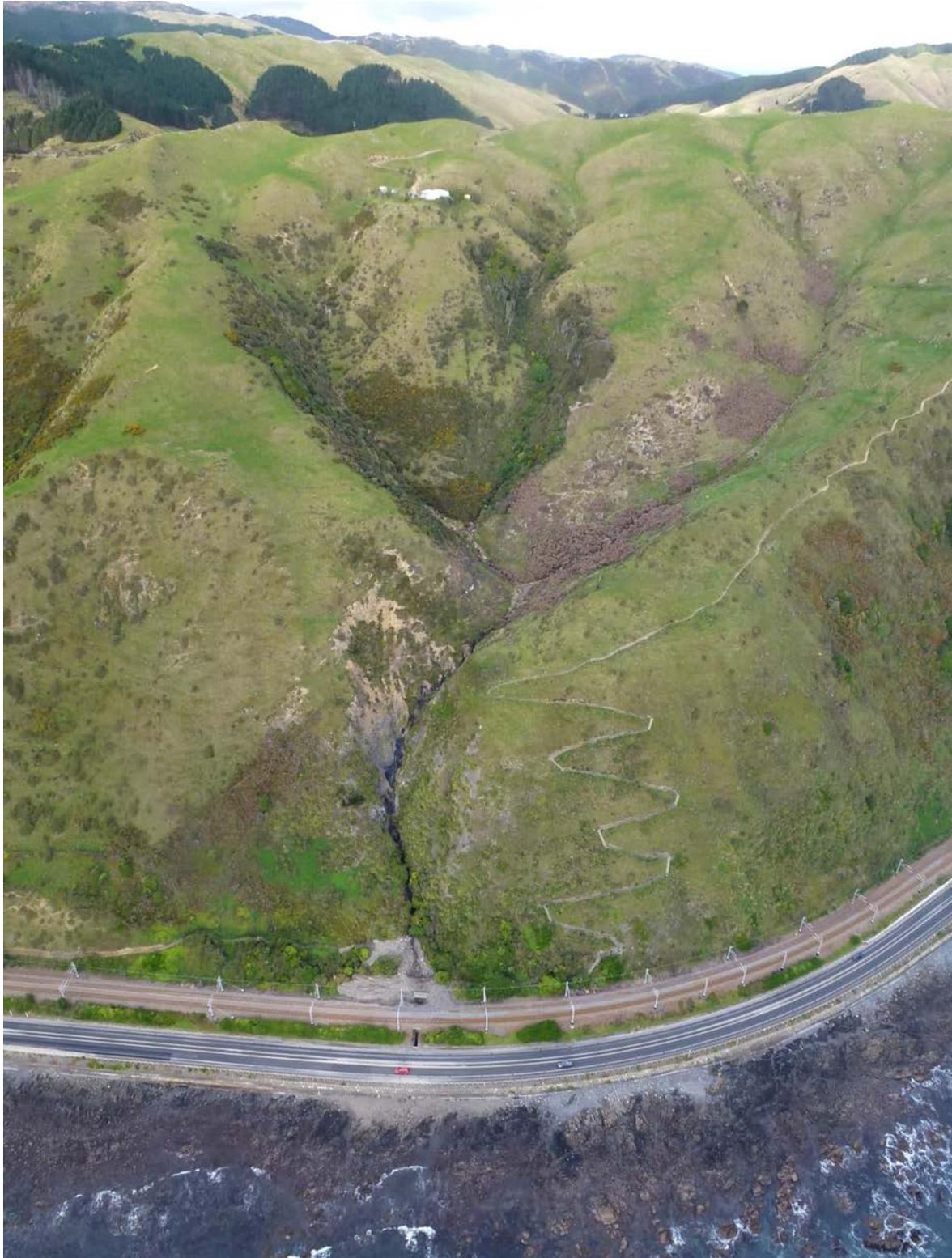


Figure 4.38 Bartons Corner, 2.5 km south of Paekakariki. Site of the debris flood deposit that closed SH1 (see Figure 2.2). Note lack of fresh landslides, indicating the debris flood sediment that closed the road was largely derived from in- or near-channel sources, where the concentration of water was sufficient to incise into the sediments that have accumulated at these sites since the last glaciation. (GNS Photo: BR_P1140274).



Figure 4.39 There was a general absence of landslides along the Pukerua Bay to Paekakariki coastal escarpment. (GNS Photo: BR_P1140283).



Figure 4.40 General absence of landslides along the Pukerua Bay to Paekakariki coastal escarpment. (GNS Photo: MP_6384).

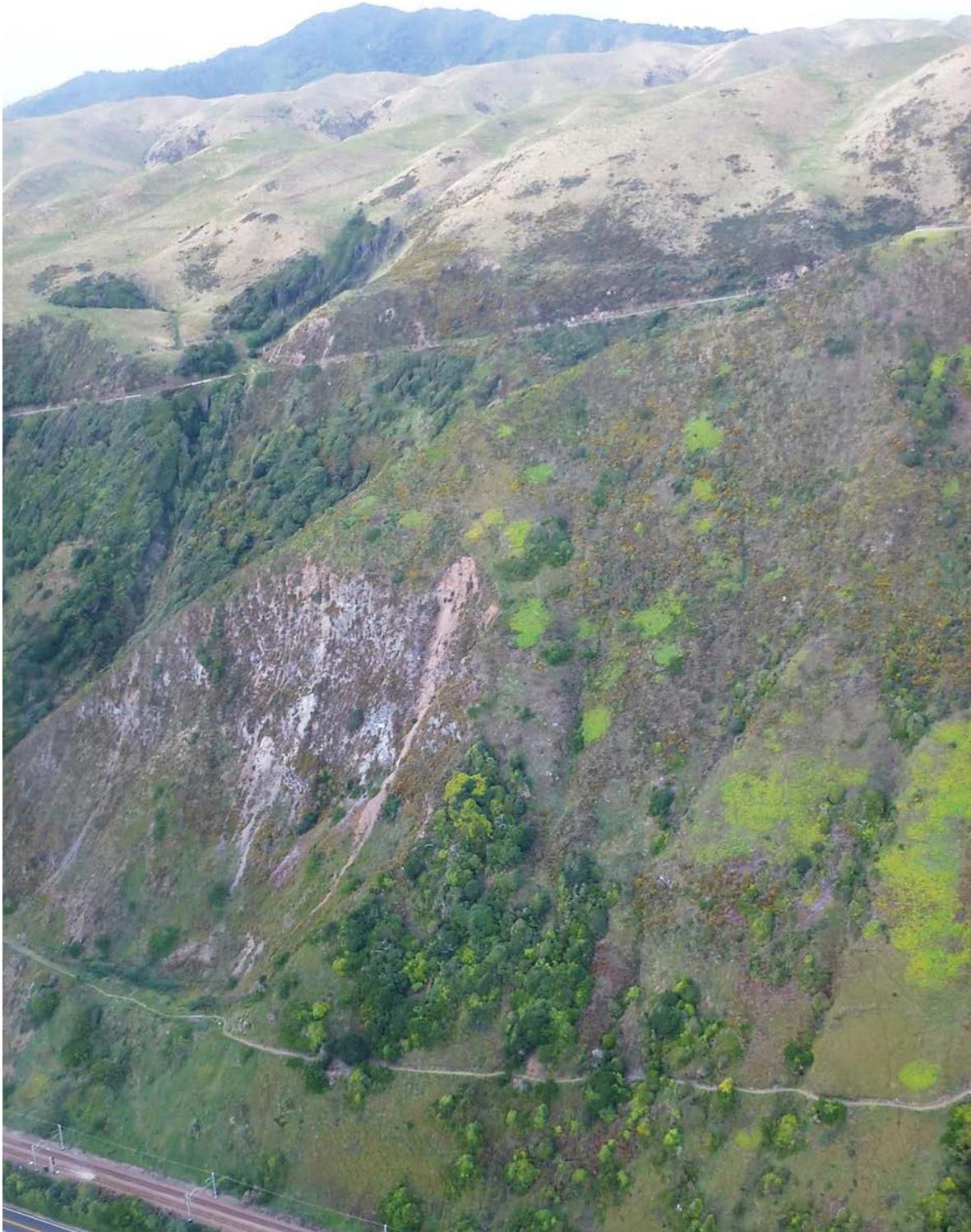


Figure 4.41 Landslide at head of former quarry ~1 km south of Paekakariki. Centennial Highway and North Island Main Trunk Railway (foreground) and Paekakariki Hill Road (background). (GNS Photo: BR_P1140272).



Figure 4.42 Single landslide in catchment above Centennial Highway, just north of Pukerua Bay. Note memorial at crash site, to three NZ Air Force helicopter crew, killed on ANZAC Day 2010. (GNS Photo: BR_P1140301).



Figure 4.43 NIMTL, 1 km north of Pukerua Bay. Landslide debris has accumulated directly above the walking track, possibly caused by constriction of the channel by a culvert under the track. (GNS Photo: BR_P1140297).

4.2.3 Coastal cliffs

There are significant pre-existing areas of scree, gullies and debris avalanches along the coastal cliffs between Pukerua Bay and Plimmerton, especially just north of the quarry at the end of Hongoeka Bay Road. In the May 2015 storm a few of these features were enlarged or reactivated (Figure 4.44, Figure 4.45 and Figure 4.46).



Figure 4.44 Coastal cliffs between Pukerua Bay and Plimmerton. Several pre-existing landslides and screens show minor increase in area and/or activity. (GNS Photo: BR_P1140325).



Figure 4.45 Coastal cliffs between Pukerua Bay and Plimmerton. These landslides (strictly rock avalanches) are pre-existing features that have not significantly increased in area during the 2015 storm, but may have shown minor increase in activity. (GNS Photo: BR_P1140321).



Figure 4.46 Coastal cliffs between Pukerua Bay and Plimmerton. The landslide (bare area in centre of photo) shows some activity (small debris run outs). (GNS Photo: MP_6405).

4.2.4 Porirua City

At Porirua, flooding occurred where culverts carrying water from streams draining the steep hills of Colonial Knob were blocked by debris (gravel and woody material). The flood waters and debris were diverted across fans where houses, industrial and commercial buildings and a school are sited (Raiha Street, Prosser Street, Titahi Bay Road, Wi Neera Drive). Figure 4.47 shows a secondary flow path through the car park off Wi Neera Drive where the flood debris line can be seen about 1.5 m above road level. The outlet to the Porirua Harbour is behind the car, only 100 m away. The flood debris line has a very steep slope, suggesting that the outflow was rapid and high volume. The hills of the catchments are covered in indigenous forest and scrub and had very few landslides. Again the debris mainly came from in- or near-channel sources.

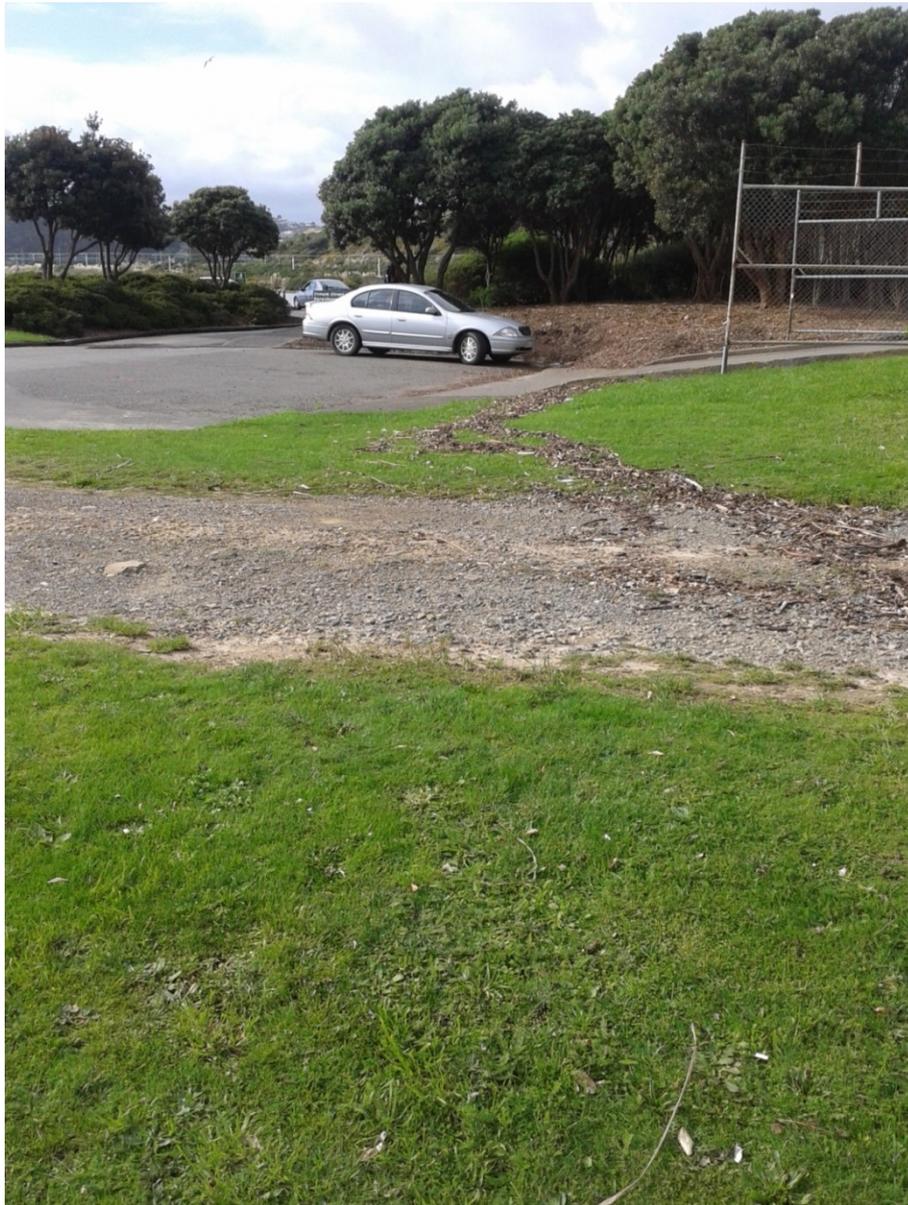


Figure 4.47 Flood debris from streams draining Colonial Knob, Porirua. Following blockage of stream culverts, the secondary flow path was through the car park off Wi Neera Drive where the flood debris line can be seen about 1.5 m above road level. The outlet to the Porirua Harbour is behind the car, only 100 m away. (Photo: Dave Peacock).

4.2.5 Korokoro Catchment

During the reconnaissance flight over the Korokoro Catchment it was noted that practically no hillslope landsliding had occurred during the storm. However, a number of the light industrial buildings located on the fan at the mouth of the catchment had been inundated with flood water and sediment. Observations during the flight indicated that the likely source of this sediment was from the narrow terraces along the valley floor. To investigate this supposition further, on 20 October the authors walked the length of the stream channel from the mouth of the Korokoro Stream to the Korokoro Dam (about 3.5 km upstream). Although a lot of the flood debris had been removed by this stage, trim lines, bank erosion, and sediment deposition were observed.

The Korokoro Catchment had very few hillslope landslides (Figure 4.48). The catchment is entirely in woody vegetation (secondary indigenous forest/scrub and several pine plantations), except for a very small area of pasture at the head of the catchment (Figure 4.49 and Figure 4.50). One of the blocks of pine forest had experienced some wind-throw, probably during a storm in June 2013 (Figure 4.51), and many of these logs were washed into the Horikiwi Stream (a tributary of the Korokoro) and the Korokoro mainstem, causing log jams (Figure 4.52).

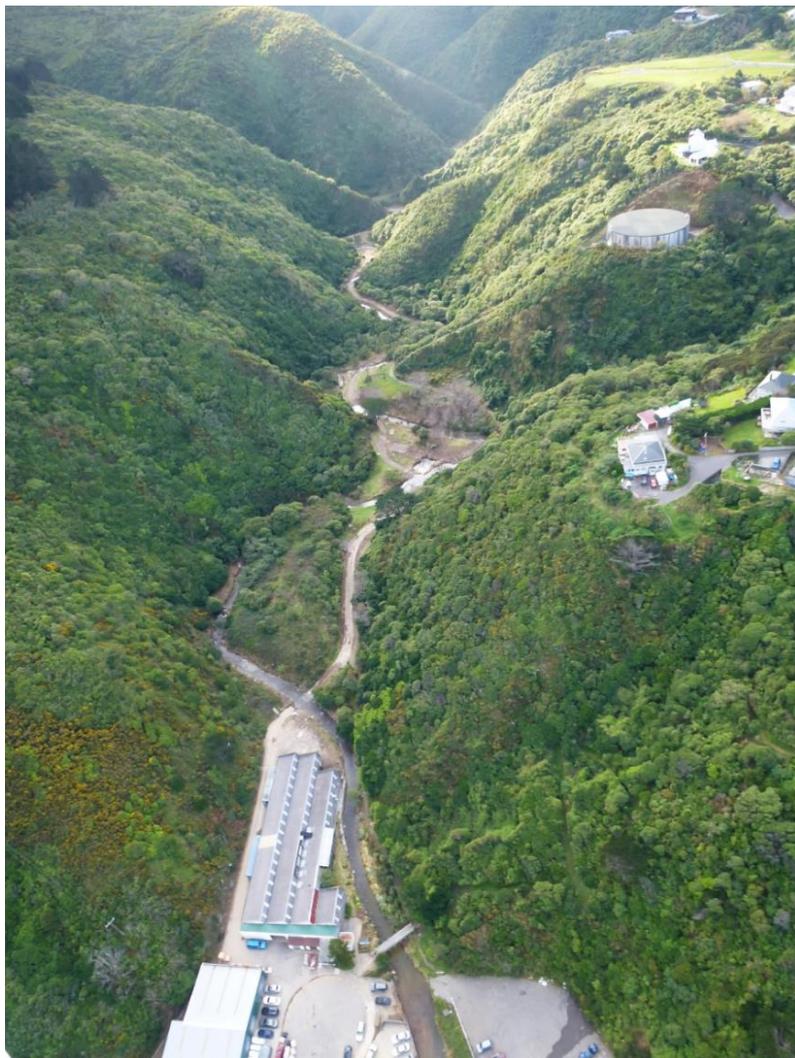


Figure 4.48 Light industrial buildings on the fan at the outlet of the Korokoro Stream. The stream meanders between alluvial terraces which were the source of most of the sediment that was deposited on the fan. Note the bridge across the stream, just upstream of the large industrial building, has collapsed. (GNS Photo: BR_P1140440).



Figure 4.49 One of the few landslides in the Korokoro catchment, all of which were near the head of the catchment, and in pasture. (GNS Photo: BR_P1140464).



Figure 4.50 Landslides at head of Korokoro Stream near Cannons Head Trig. (GNS Photo: MP_6433).

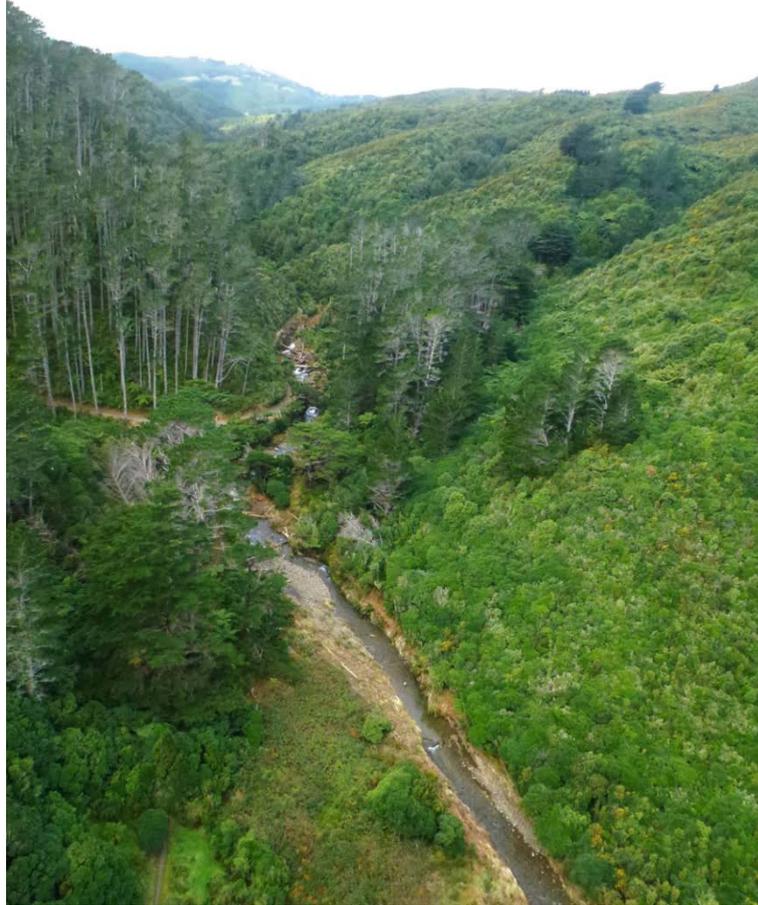


Figure 4.51 Pine plantation, ~2 km upstream of the Korokoro Stream fan. Some wind-throw occurred in 2013, and logs can be seen in several places along the channel. (GNS Photo: BR_P1140455).



Figure 4.52 Log jam in Korokoro stream, 1.8 km upstream of the fan. The log jam filled the entire width of the channel and may have impeded the flow.

The Korokoro Dam Track from Cornish Street up the Korokoro Stream to the Dam suffered severe damage. Three bridges were damaged (Figure 4.53), others loaded with debris, and sections of the track were washed away (Figure 4.54). Stream bank erosion was infrequent and occurred at isolated places along the stream up to the dam (Figure 4.55) but was more frequent near bridges where scour had occurred, and this was likely the source of most of the sediment that was transported to the fan where the industrial buildings are situated. The small terraces bordering the stream were inundated during the storm and a 2-3 cm layer of fine sediment was deposited on most of the terraces (Figure 4.56).



Figure 4.53 Bridge damage and bank erosion. Note build-up of debris behind bridge support.



Figure 4.54 Sections of track washed away.

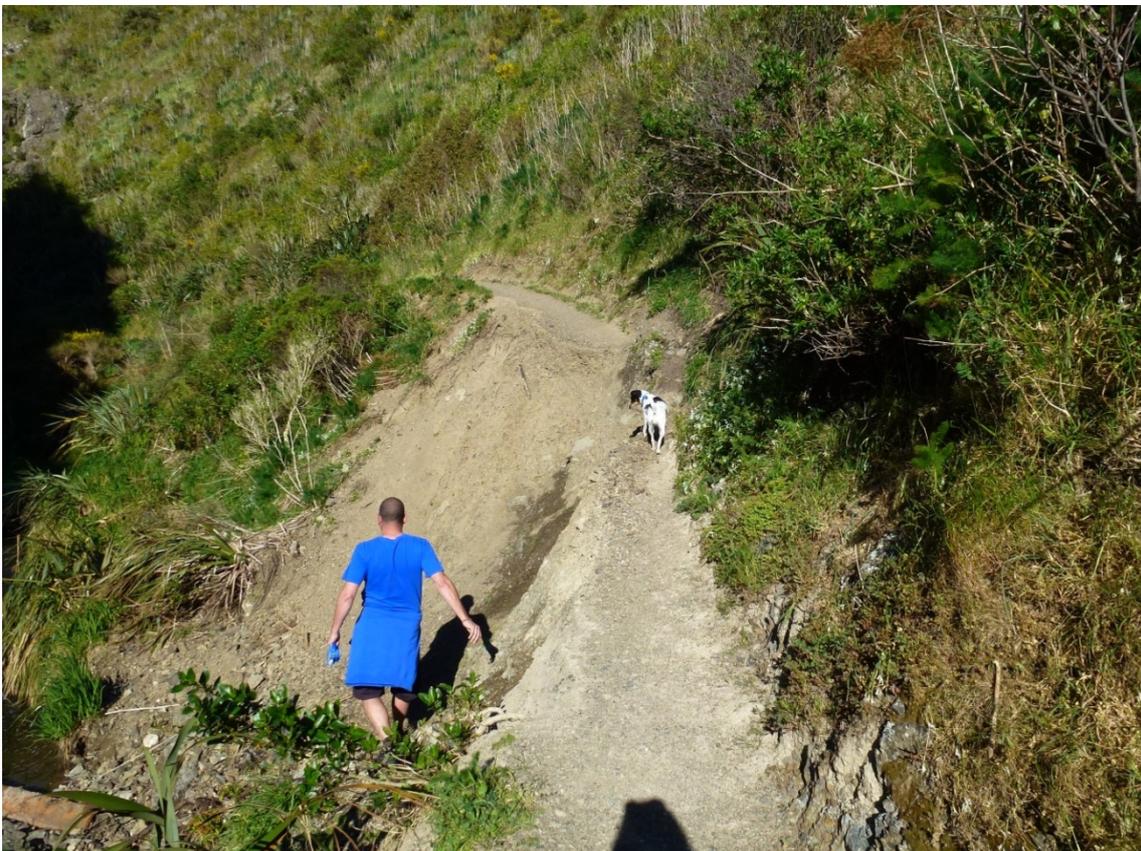


Figure 4.55 Bank erosion or stream-side landslides damaged the walking track in several places (20 October, 2015).



Figure 4.56 Terraces of the Korokoro Stream, 500 m upstream of the fan. Deposition of sediment, and streambank erosion are common in this reach of the stream. (GNS Photo: BR_P1140444).

4.2.6 Battle Hill

At Battle Hill in the Horokiri Valley there is a row of low hills formed on undifferentiated, weathered Pleistocene fan and alluvial gravels and lacustrine silts (eQa) mantled with loess. Landsliding density was greater on these hills than on the surrounding greywacke hills, and the landslides were deeper (>2 m) (Figure 4.57 and Figure 4.58). These landslides appear to be the only failures to have occurred in the recent past, and slope morphology further indicates that landslides are a very infrequently occurrence (Figure 4.59). Rainfall totals at the Battle Hill rain gauge were among the highest recorded in the storm affected area (Table 2.1).



Figure 4.57 Landslides on undifferentiated, weathered gravels and silts. Looking south towards Battle Hill. (GNS Photo: BR_P1140502).



Figure 4.58 Battle Hill Farm Forest Park. Landslide on easy hill slope underlain by undifferentiated, weathered Pleistocene fan and alluvial gravels and lacustrine silts (eQa) mantled with loess. (GNS Photo: BR_P1140391).



Figure 4.59 Landslides on undifferentiated, weathered gravels and silts (foreground), and on greywacke (background). (GNS Photo: MP_6442).

4.2.7 Transmission Gully

Only a small number of landslides occurred along the Transmission Gully route (Figure 4.60). These included several that originated on the upper part of very steep slopes, with the debris tail running the remaining length of the slope (Figure 4.61 and Figure 4.62). There were also a number of instances where narrow, linear gullies had formed in hill slope ephemeral channels. These gullies formed in the absence of landslides when the concentration of water (volume and velocity) shed from the surrounding hill slopes was sufficient to incise into the sediments that have been building up/accumulating in these swales for hundreds of years (Figure 4.63). The 24-hour rainfall total at Battle Hill was 144 mm, with a 6-hour maximum of 65.6 mm and a 1-hour maximum of 29.5 mm.



Figure 4.60 Transmission Gully route looking north. (GNS Photo: BR_P1140499).



Figure 4.61 Debris avalanche on eastern slopes of Transmission Gully. (GNS Photo: BR_P1140511).



Figure 4.62 Debris avalanche on western slopes of Transmission Gully. (GNS Photo: MP_6461).



Figure 4.63 Sediment derived largely from in-channel sources. Western slopes of Transmission Gully. (GNS Photo: MP_6455).

5.0 INTERPRETATION OF THE NATURE OF THE LANDSLIDE RESPONSE

5.1 LANDSLIDE EROSION

Rainfall totals and duration were below the landslide threshold for woody vegetation (forest, scrub), and only just above the landslide threshold for pasture. Much of the rainfall occurred in intense, short bursts (Table 2.1 and Greater Wellington Regional Council rain gauge data) and ran off slopes before it could infiltrate the soil/regolith. This is supported by observations of water flowing along swales and 1st and 2nd order ephemeral channels, and water cascading over bluffs in catchments above centennial Highway.

5.2 GULLY/CHANNEL EROSION

The large quantities of water running off slopes concentrated in swales, where the hydraulic friction was sufficient to scour sediment that has accumulated in these sites during and since the last glaciation. A number of new gullies were formed in this way, usually in the absence of landslides on the surrounding hill slopes. The gullies often extended the length of the hill slope channel, and deposited sediment onto a fan or terrace at the base of the hill slopes. In some instances historic gullies were reactivated in this way.

This page is intentionally left blank.

6.0 CONCLUSIONS

The rainstorm on 14 May 2015 caused landsliding on hills between Te Horo on the Kapiti Coast and Korokoro in the Hutt Valley. Overall the severity of landsliding can be described as minor. Landslides generally occurred on slopes greater than 25°, considered to have moderate to very high landslide susceptibility, with most landslides occurring on slopes between 30° and 40°. There appeared to be a threshold slope angle of about 18° for landslide generation during the storm, and the average slope at the area of initiation of landslides was 37°.

In areas affected by landslides, the observed 24-hour rainfall was mainly between 100 and 150 mm, although one hour maximum intensities of between 20 and 30 mm were recorded in some areas. The variability in landslide distribution is likely related to the distribution of the rainfall, where rainfall amount and intensity (cells) in hill country can vary significantly over very short distances.

Almost all observed landslides occurred on hill country in pasture. There were very few landslides on hills with a woody vegetation cover (scrub, indigenous forest or exotic forest plantations). It would appear that the rainfall totals/intensities were below the threshold for landsliding under a woody vegetation cover, and near or just above the threshold under pasture.

There were also a number of instances where this high intensity-short duration rainfall ran off the hill slopes, before it could infiltrate the soil/regolith. The concentration of this water in swales/ephemeral channels was sufficient to incise into the sediments that have been accumulating along these swales over the previous 100s to 1000s of years. This sediment was transported downstream to form debris flood deposits on fans and terraces at the base of the hill slopes. Two such debris flood deposits blocked Centennial Highway and the NIMT Railway Line between Pukerua Bay and Paekakariki.

In recently logged pine plantations, unmodified slopes were largely unaffected, although some landsliding was associated with tracks and landings. Elsewhere, there were very few landslides associated with road cuts along the region's roading network. Only a small number of landslides occurred along the Transmission Gully route. These included several that originated on the upper part of very steep slopes, with the debris tail running the remaining length of the slope, and several instances where narrow, linear gullies formed in hill slope ephemeral channels.

This page is intentionally left blank.

7.0 REFERENCES

- Begg, J.G.; Johnston, M.R. (compilers) 2000. Geology of the Wellington area. Institute of Geological and Nuclear Sciences 1:250 000 geological map 10. 1 sheet + 64 p. Lower Hutt, New Zealand. Institute of Geological and Nuclear Sciences Limited.
- Crozier, M.J.; Vaughan, E.E.; Tippett, J.M. 1990. Relative instability of colluvium-filled bedrock depressions. *Earth Surface Processes and Landforms*, 15: 329-339.
- Eyles, R.J.; Crozier, M.J.; Wheeler, R.H. 1978. Landslips in Wellington City. *New Zealand Geographer* 34 (2): 58-74. Greater Wellington Regional Council. 2015. Autumn 2015 Regional Climate and Water Resource Extended Summary.
- Hancox, G.T. 1981. Pukerua Bay-Paekakariki coastal stability project—Preliminary engineering geological assessment of the Beanpole Corner Landslide. *DSIR New Zealand Geological Survey Report EG 359, October 1981. NZ Geological Survey Lower Hutt.*
- Hancox, G.T. 2003. Preliminary report on landslides, gully erosion, and debris flood effects in the Paekakariki area as a result of the 3 October 2003 flood. Prepared for Duffill Watts & Tse Ltd. on behalf of the Kapiti Coast District Council. Confidential Institute of Geological & Nuclear Sciences client report 2005/120 (Open File).
- Hancox, G.T.; Dellow, G.D.; Perrin, N.D.; McSaveney, M.J. 2005. Western Corridor Transportation Study: Review of geological hazards affecting the proposed Coastal Highway Upgrade and Transmission Gully Motorway route. *GNS Client Report 2005/161 (for Porirua City Council - Open File).*
- Hancox, G.T.; Perrin, N.D.; Lukovic, B.; Massey, C.I. 2013. Quantifying the seismic response of slopes in Christchurch and Wellington: Wellington slope types and characterisation *GNS Science Report 2013/58*. 106 p.
- McConchie, J.A. 1980: Implication of landslide activity for urban drainage. *Journal of Hydrology (NZ)*, 19 (1): 27-34.

This page is intentionally left blank.

APPENDICES

This page is intentionally left blank.

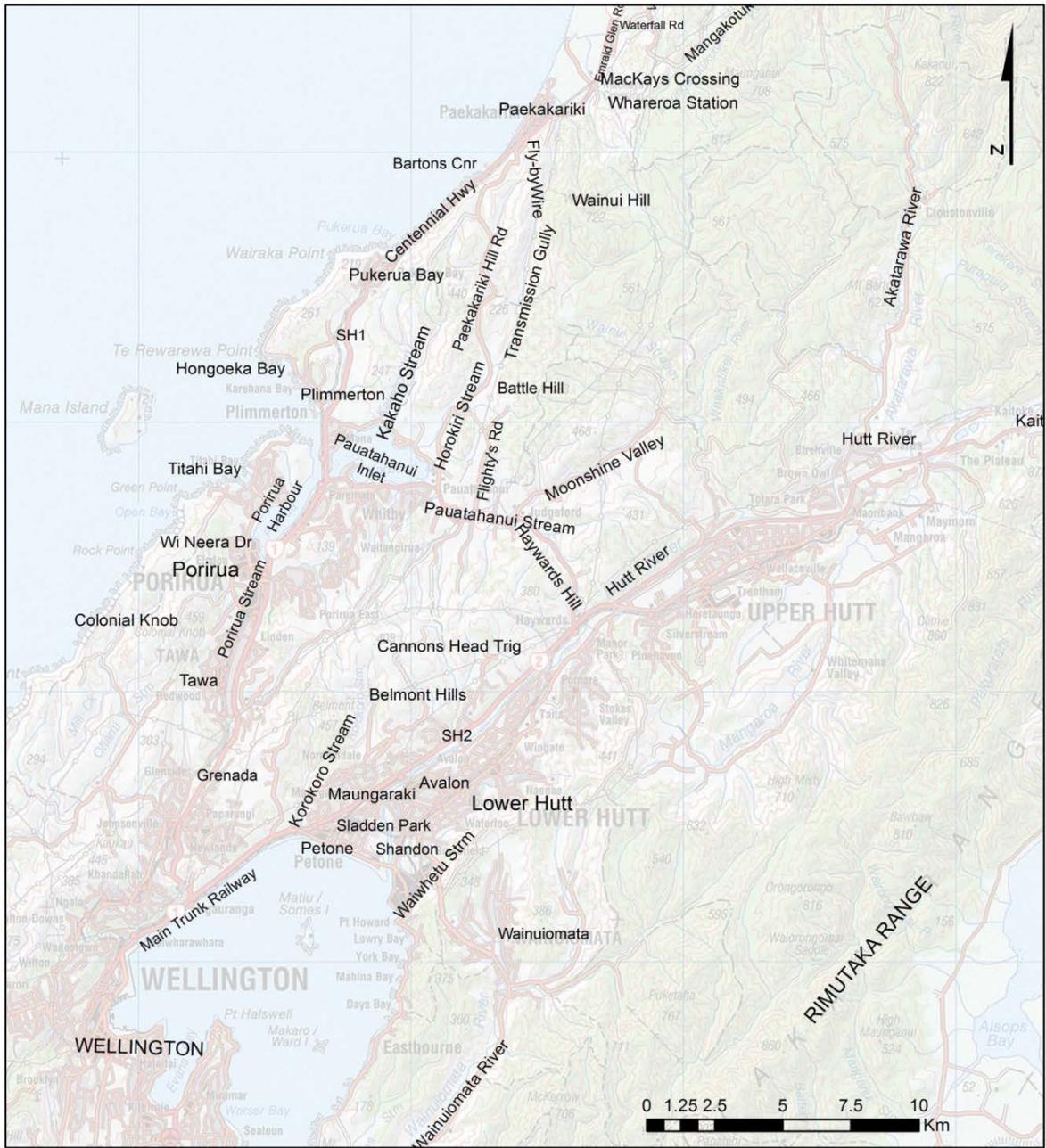


Figure A1.2 Wellington to Paekakariki placenames and locations used in this report.



www.gns.cri.nz

Principal Location

1 Fairway Drive
Avalon
PO Box 30368
Lower Hutt
New Zealand
T +64-4-570 1444
F +64-4-570 4600

Other Locations

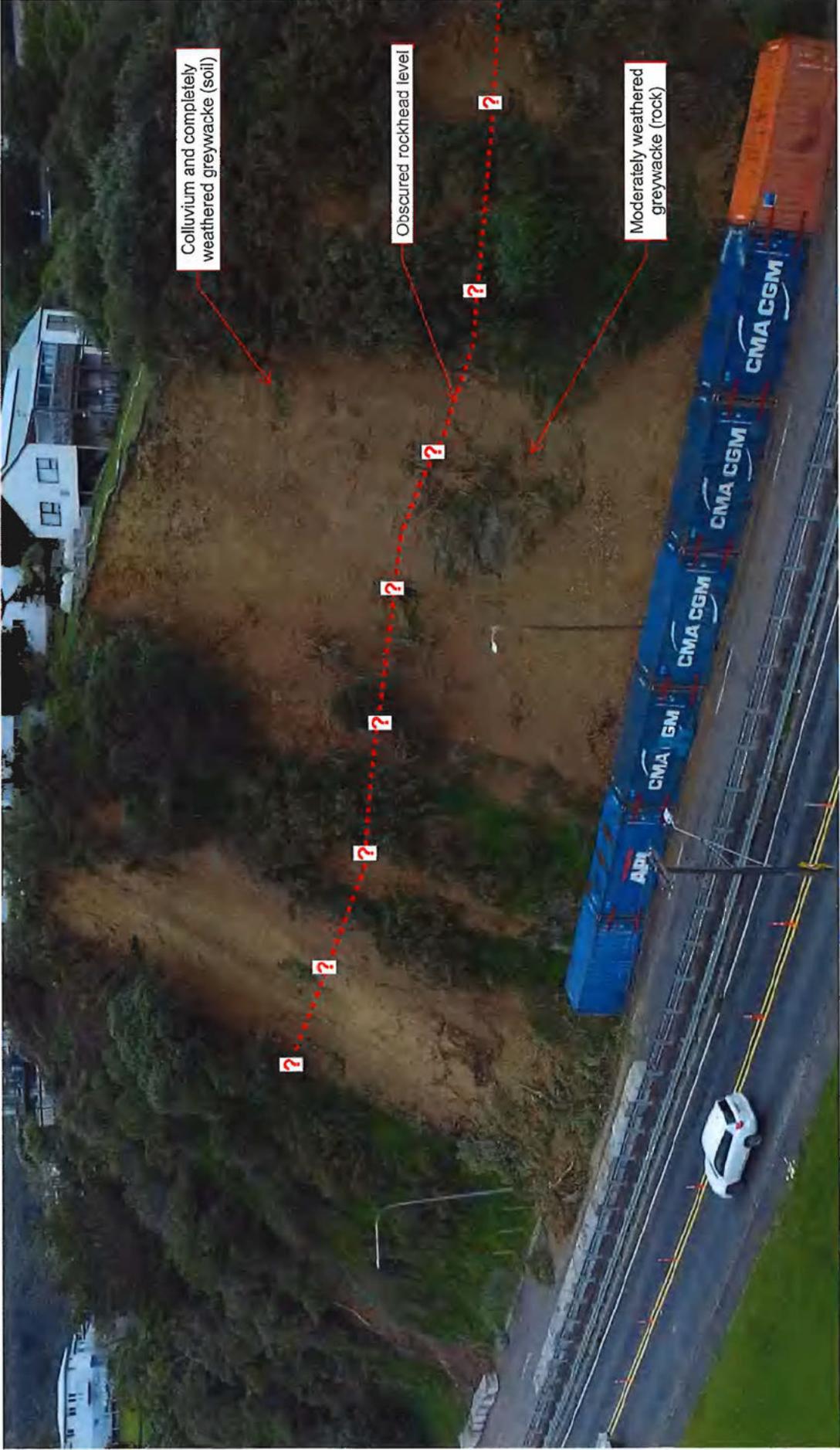
Dunedin Research Centre
764 Cumberland Street
Private Bag 1930
Dunedin
New Zealand
T +64-3-477 4050
F +64-3-477 5232

Wairakei Research Centre
114 Karetoto Road
Wairakei
Private Bag 2000, Taupo
New Zealand
T +64-7-374 8211
F +64-7-374 8199

National Isotope Centre
30 Gracefield Road
PO Box 31312
Lower Hutt
New Zealand
T +64-4-570 1444
F +64-4-570 4657

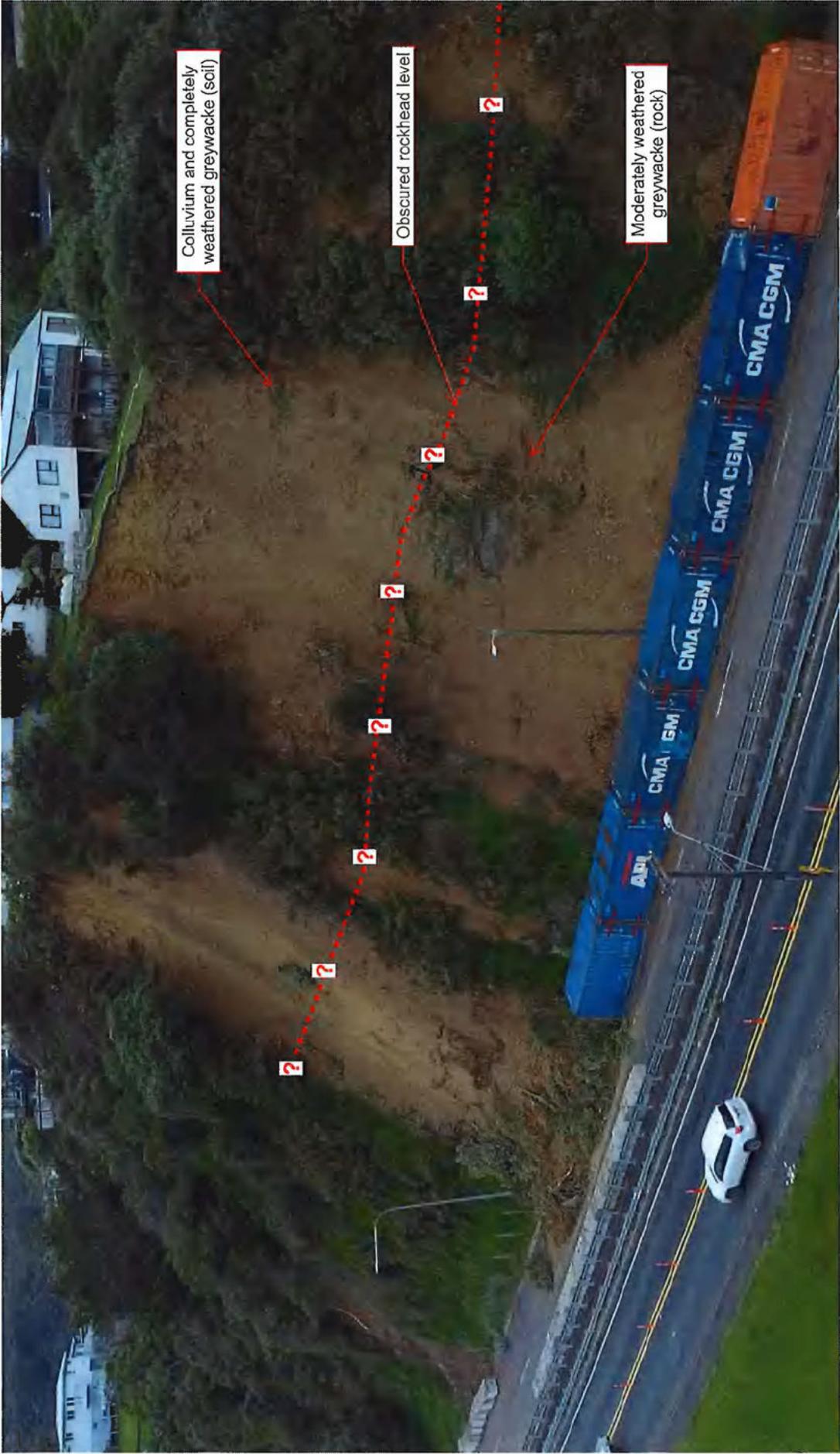
EASTERN HUTT ROAD
(BELOW

s.7(2)
(a)



EASTERN HILL ROAD
(BELOW

57(2)(a)





Resilience of Hutt Valley Road Network

Design Options Report for Eastern Hutt Road Retaining Wall

Design Options Report





Resilience of Hutt Valley Road Network

Design Options Report for Eastern Hutt Road Retaining Wall

Design Options Report

Prepared by

Siva Arumugam
Geotechnical Engineer

Opus International Consultants Ltd
Wellington Civil
L7, Majestic Centre, 100 Willis St
PO Box 12 003, Wellington 6144
New Zealand

Reviewed by

P Brabhakaran
Technical Principal, Resilience
Geotechnical & Earthquake Engineering

Telephone: +64 4 471 7000
Facsimile: +64 4 471 1397

Date: January 2016
Reference: GER 2014/62
Status: Final

Approved for
Release by

P Brabhakaran
Technical Principal, Resilience
Geotechnical & Earthquake Engineering

Contents

1	Introduction.....	2
2	Responsibility under Civil Defence Emergency Management Act	2
3	Risk Management Strategy	3
3.1	Risk Assessment Studies.....	3
3.2	Selection of Priority Risk Mitigation Sites.....	3
4	Site Description.....	4
4.1	Location	4
4.2	Description of Wall.....	4
5	Geology and Seismicity.....	5
5.1	Geological Setting.....	5
5.2	Seismicity.....	5
6	Site Investigations.....	6
6.1	Scope of Investigations	6
6.2	Engineering Geological Mapping.....	6
6.3	Boreholes and Machine Auger Holes.....	6
6.4	Topographic Survey	6
7	Ground and Groundwater Conditions	7
8	Geotechnical Assessment	7
8.1	Stability	7
8.2	Scour Assessment.....	8
8.2.1	Background.....	8
8.2.2	River Channel Alignment.....	8
8.2.3	River Channel Cross-section.....	9
9	Potential Mitigation Measures	10
9.1	Mitigation Options	10
9.2	Option 1: Anchored Soldier Pile Wall with spreader beam and columns	11
9.3	Option 2: Steel grillage support with rock anchors	11
9.4	Option 3: Reinforced earth wall.....	11
9.5	Option 4: Timber pole retaining wall.....	11
9.6	Comparison of Potential Mitigations Options.....	12
10	Scour Mitigation.....	13
10.1	Options.....	13
10.2	Rock Riprap Revetment.....	13
10.3	Gabions	14

10.4	Concrete Blocks	14
10.5	Discussion and Recommendations	14
11	Mitigation Cost Estimate	15
12	Economic Analysis	15
13	Alignment with Funding Criteria.....	17
14	Conclusion	18
15	References	19

List of Figures

Figure 1 - Site Location Plan

Figure 2 - Recommended Design option – Plan

Figure 3 - Recommended Design Option – Section A’- A’

Figure 4 - Recommended Design Option – Section B’- B’

Figure 5 - Recommended Design Option – Section C’-C’

List of Appendices

Appendix A - Engineering Geology Mapping

Appendix B - Borehole and Machine Auger hole logs

Appendix C – Figures A – 1 to A – 5 and Options Comparison

Appendix D - Recommended Remedial Option - Cost Estimate

Appendix E - Benefit – Cost Analyses

Summary

Hutt City Council (HCC) has a strategy to proactively manage the risk to its road network, which has been developed through risk assessment and management studies (Opus International Consultants, 2009). The strategy is to mitigate the risks to its key roads, based on prioritisation using strategic, performance and economic measures, and to put in place emergency response measures. The Council has developed this strategy given the significant natural hazards vulnerability of its road network from earthquake and storm hazards faced by Hutt City. Because of the city location and topography, the city is highly dependent on its road network for transportation within the city, including emergency response in the aftermath of hazard events. The redundancy in the road network is limited. Thus the principal and arterial roads together with the state highway system form vital lifelines for the community.

The Civil Defence Emergency Management Act 2002, and the Local Government Act require the Council to assess the risks and ensure that the road network can function to the fullest possible extent after hazard events. The Council has developed a programme of risk mitigation for incorporation into its asset management.

As part of this programme, on the basis of prioritisation, four walls sites and a slope were selected for detail study and prepare risk options report (Opus, 2013).

Eastern Hutt Road wall was selected as important arterial route for developing further detail design, cost estimate and a strengthening program. Further hydraulic assessment has been carried out for the river bank protection works along the wall.

After a joint meeting with HCC and Greater Wellington Regional Council (GWRC) with the hydraulics assessment and options for river bank protection works along this stretch of the road and cost estimates were updated. The economic analysis has been updated following investigation and assessment of the options and their cost estimates.

An economic analysis has been carried out for the wall in accordance with the Economic Evaluation Manual (NZTA, 2010) and the updates of 2013 with the updated design. The analysis derived benefits as savings in disruption costs from partial or full closure of the road. The benefit /cost ratio for the works are of the order of 4.2.

The mitigation works have high degree of alignment for funding under the funding allocation process.

It is recommended that Hutt City Council pursues mitigation of this site as a priority site.

1 Introduction

Hutt City is located mainly in the Hutt River floodplain, with the remainder on the western and eastern hills and associated valleys. Hence its road network has a significant vulnerability to natural hazards. The city is highly dependent on its principal and arterial roads for transportation within and through the city, including emergency response in the aftermath of natural hazard events. The redundancy in the road network is limited because of the terrain. Thus the principal and arterial roads, together with the state highway system form vital lifelines for the Hutt City community.

The Civil Defence Emergency Management Act 2002 places a responsibility on utility owners to have in place risk management plans to manage the risk to their assets, and be able to demonstrate that the utilities can recover quickly after a major hazard event. Roads are important lifelines, which are also important for the recovery of other utilities and for emergency response.

Hutt City Council (HCC) has a strategy to develop and implement initiatives to manage risks to its road network from primary natural hazards, which have the potential to affect the city's roading system, and to develop policy to deal with such hazards in an integrated manner.

Over the past years the Council has undertaken risk assessment of their roading network and study of mitigation measures (Opus, 2009).

Following the risk assessment, five road sites associated with retaining walls and steep slopes were identified for the first phase of mitigation works and assessed (Opus, 2013). Each site has been considered, and mitigation options have been developed. Rough order cost estimates have been prepared for the selected option without any detail site investigations.

In this assessment, site investigations, geotechnical assessment and development of remedial options has been carried out for Eastern Hutt Road Walls.

Hydraulic assessment has been carried out for the river bank protection works and cost estimates are updated. The previous economic analysis has been updated with cost estimates for Eastern Hutt Road Walls from this assessment and selected option.

This report has been prepared to support the Council's Road Division to seek funds for the mitigation works.

2 Responsibility under Civil Defence Emergency Management Act

The Civil Defence Emergency Management Act, 2002 came into effect on 1 December 2002. The Act places a significant responsibility on utility operators to consider the risk to their facilities and services, and put in place measures to ensure that the utilities can function to the fullest possible level after hazard events. Utility operators can be asked to demonstrate that they have considered the risks and have measures in place to fulfil their statutory requirements under this Act.

Roads are defined as one of the utilities in the Act, and hence "Road Controlling Authorities are responsible as utility operators" under the provisions of the Act.

Therefore, there is a significant responsibility on HCC to ensure that the risks to the road network are identified and actioned to ensure an adequate level of performance after hazard events including a major earthquake.

3 Risk Management Strategy

3.1 Risk Assessment Studies

HCC has identified and assessed the risks to its road network from primary natural hazards. Risk management studies have been carried out for Hutt City Council's road network by Opus (2009) and further assessment of five sites by Opus (2013).

These included:

- Prioritisation of the importance of the road links forming the road network
- GIS Maps showing the risk to the road network from natural hazards
- Impact of the natural hazards on the performance of the roads
- Generic mitigation measures to improve performance and their cost and benefits
- Study report presenting the risk assessment for the road network
- Prioritised recommendations for future work

As part of the risk management strategy, the road links forming the road network have been prioritised considering a range of factors that are important for the community. These factors are:

- a) Emergency Services
- b) Lifelines
- c) Average Annual Daily Traffic
- d) Importance
- e) Heavy Commercial Vehicles
- f) Public transportation routes
- g) Availability and proximity of alternative routes
- h) Commercial use
- i) Overall risk

The risk assessment studies have been used as a basis for prioritising risk mitigation for improving the road network. As part of this plan, the Council is developing risk mitigation for a selected high risk and high priority sites of the road network.

3.2 Selection of Priority Risk Mitigation Sites

Risk mitigation projects have been chosen to improve the resilience of priority routes for Hutt City. This is based on a study of priority routes that can be effectively mitigated to provide routes that would be resilient to natural hazards, and based on feasible mitigation, and potentially high benefit/cost.

Critical retaining walls supporting sections of priority roads with steep slopes below and critical slopes along the sections of the road network have been identified as having a significant vulnerability to natural hazards, and the failure of these could close the road. Failure in an event

would require complete reconstruction and significant disruption with reinstatement taking several weeks to months. This would lead to traffic being diverted to other narrow local roads, if they remain open, and would cause major congestion in these already heavily trafficked roads, or leave residents without any access.

The Eastern Hutt Road section has been selected by HCC as a priority site in the road network. The wall can be effectively mitigated by the proposed strengthening measures.

4 Site Description

4.1 Location

Eastern Hutt Road is a key arterial road running alongside the eastern bank of the Hutt River, and connects Upper Hutt with Lower Hutt. It carries a traffic volume of 2500 vehicles per day. There are three crib walls along this section of the road which have been identified for further evaluation. They are located on the downslope side of Eastern Hutt Road, just north of the Stokes Valley Road roundabout. The locations of the walls are shown on Figure 1.

4.2 Description of Wall

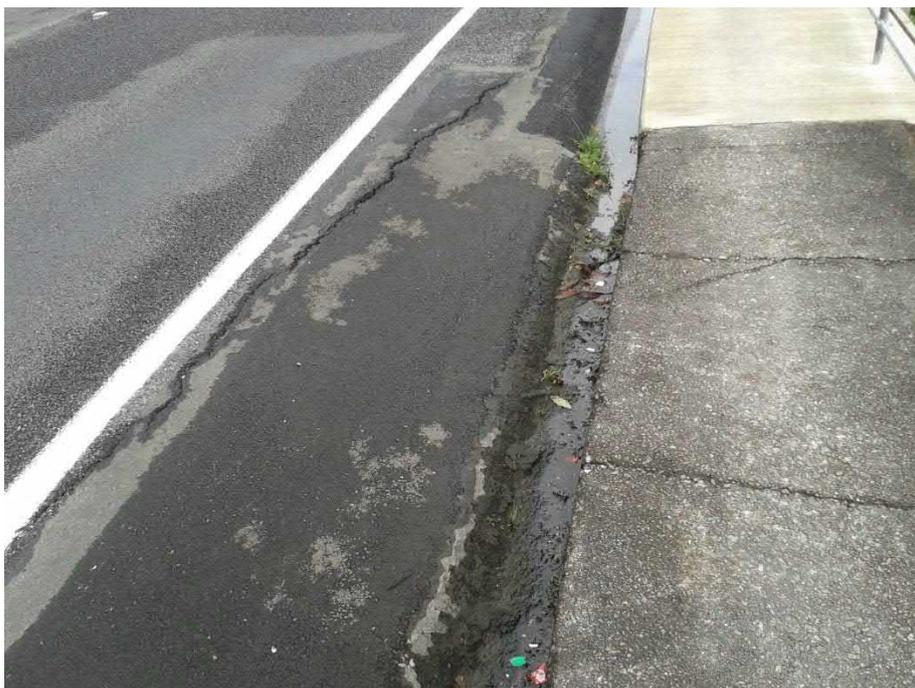
The retaining walls support the road where it crosses gullies, and provide a wider platform for the road. The walls start about 350 m north of the Stokes Valley roundabout, and vary from 3 m to 5 m in height. The walls are all of crib wall construction. The highest and longest crib wall (Wall 1) is 93 m long and 5 m high (Photograph 1), see Figure 1. The other walls (Wall 2 and Wall 3) are less than 3 m in height further north to the highest wall.

The Hutt River bank generally slopes down at an angle of 40° immediately below the walls at the south end, and slopes at an angle of varying up to 20° further north along the walls. The Hutt River is closest to the road and walls, at the southern end of Wall 1.

Minor cracks on the crib wall facing units, and deformation and cracking of the pavement adjacent to the southern end of the wall were observed (Photograph 2).



Photograph 1 – Highest crib wall along Eastern Hutt Road



Photograph 2 – Deformation and cracking on the pavement

5 Geology and Seismicity

5.1 Geological Setting

According to the 1:250,000 geological map 10 of the Wellington Region (Begg and Johnston, 2000), the site is underlain by flood plain deposits and Wellington Belt Greywacke. The flood plain deposits consist of well sorted gravels but can range to boulder size. Wellington Belt Greywacke is formally called the Rakaia Terrane and consists of alternating sandstone and argillite units.

5.2 Seismicity

There is potential for significant ground shaking in the area during large earthquakes. The Bridge Manual (NZTA, 2013) provides an update to seismic design procedures used in the previous edition of the Bridge Manual (Transit New Zealand, 1999). It gives a risk factor of 1.3 for walls supporting roadways carrying more than 2500 vehicles per day.

The derivation of design horizontal peak ground acceleration (PGA) is shown as follows:

$$\text{Design PGA, } C_0 g = C_h(T=0) Z R_u N(T, D) g$$

Where: Spectral shape factor $C_h(T=0)$ at period $T=0$, with site subsoil Class C = 1.33

$$\text{Hazard factor } Z \text{ (Wellington Region)} = 0.4$$

$$\text{Return period factor } R_u \text{ (NZTA Bridge Manual – 3rd Edition)} = 1.3$$

(for 1/1000 years Event).

$$\text{Near-fault factor } N(T, D) = 1.0$$

This results in the peak ground acceleration of 0.7g.

Given the importance of the Eastern Hutt Road in Hutt City road network, and the traffic volume of more than 2500 AADT, a risk factor of at least 1.3 and an associated peak ground acceleration of 0.7g is considered appropriate for a design level earthquake.

6 Site Investigations

6.1 Scope of Investigations

The site investigations programme comprised of:

- Engineering geology mapping of the site;
- 3 boreholes;
- 9 machine auger holes;
- Topographic survey.

6.2 Engineering Geological Mapping

Engineering geological mapping was carried out at the wall site during July 2014. The key features identified at the site were:

- Rock outcrops of moderately weathered to highly weathered rock
- Rock cliff edges along the upslope on the eastern side of the road
- Shallow gullies infilled with colluvium
- Deformation of the road pavement

The engineering geological map is attached in Appendix A.

6.3 Boreholes and Machine Auger Holes

Boreholes and machine auger holes were drilled by Griffiths Drilling Ltd and Geotech Drilling Ltd between August and September, 2014.

Three cored drilling boreholes were drilled out along the slope below the wall by Griffiths Drilling. Standard Penetration Tests were carried out in the boreholes. Logging of boreholes were carried out by an Opus Engineering Geologist.

Eight machine auger holes were drilled on the northbound lane of the road near to the wall and on the other south bound lane of the road by Geotech Drilling Ltd. Logging of machine auger holes were carried out by Opus Engineering Geologists.

The borehole logs and machine auger hole logs are attached in Appendix B.

6.4 Topographic Survey

A detailed topographic survey was carried out to develop cross sections of the wall and the adjacent slope, which were analysed. There are six sections developed considering the geometry and geology.

7 Ground and Groundwater Conditions

The ground conditions at the site consist of layers of fill/colluvium and alluvium overlying sandstone which decreases in weathering with depth. The depth to sandstone varies from 3.2 m to 8.5 m along the retaining wall. The rock is at shallow depth at both ends of the wall. An infilled gully is expected lying between BH 1 and BH 2, where the retaining wall is higher than the ends. Refer to engineering geological sections. The engineering properties of the layers are shown in Table 1.

Table 1 – Engineering Properties of Soils at the wall site

Material	Depth to base of the layer along the wall	SPT “N” Value	Cohesion, c’ (kPa)	Friction Angle, Φ (°)	Unit Weight, γ (kN/m ³)
Fill	4.2 – 4.7	4 - 14	5 - 10	33	19
Colluvium - Medium dense sand with firm silt-	5.5 – 7.0	7 - 42	3 - 10	32	18
EW to VW SANDSTONE	10.5	50+	100	40	24
W-MS SANDSTONE	10.5 +	50+	175	43-45	25

There was no static groundwater noticed in any of the boreholes or machine auger holes. Groundwater was monitored before start of drilling and after finishing of drilling of boreholes and machine auger holes on each day during site investigations. As this site has generally free draining gravels to the depth of rock and the flowing Hutt river adjacent to the site, it is likely that higher groundwater would be expected at site in flood events. Generally, the river level governs the ground water level with a downward gradient towards the river.

8 Geotechnical Assessment

8.1 Stability

The stability of the walls was assessed for static, flood and seismic cases using the SlopeW program. The design parameters were verified with back analysis of the section, where road deformation is visible. They are marginally stable under static conditions, and could fail in design seismic and flood events. The overall stability of the wall and adjacent slope is marginal in storm events and 500 to 600 mm of displacement is expected in design seismic events. This improves towards to the north end of the wall, as the rock is at shallower in depth and the wall height reduces.

The existing Wall 1 along Eastern Hutt Road is vulnerable to failure in earthquake and storm events. The failure is likely due to:

- Elevated groundwater pressures during storms
- Significant additional earth pressures and inertia loads during earthquakes

- Overall failure of the slope encompassing the wall and road above during large storms or earthquakes, which are also possible at the wall sites.
- Undercutting erosion by the Hutt River destabilising the slope below, leading to failure of the slope encompassing the walls.

Corrosion and spalling of concrete from crib elements and successive failures of crib wall elements could exacerbate the failure of the walls.

The consequences of failure will be an important consideration in assessing the impact on the resilience of the road network. Failure of Wall 1 and/or the immediate slope below will remove both lanes of the road and therefore close the road. The other 2 walls, Wall 2 and wall 3 are assessed to be vulnerable to storm and earthquake events, but because of their low heights, their displacement or failure is not likely to affect both lanes of the road. We have therefore considered only Wall 1 for possible mitigation measures as reported in the preliminary assessment report.

Table 2: Design Factors of Safety

Case	Factor of Safety
Normal Conditions	1.5
Storm event	1.25
Earthquake Event	1.1 or maximum 250 mm of displacement in design EQ

8.2 Scour Assessment

Greater Wellington Regional Council (GW) has an ongoing programme of strengthening their river banks and stop banks along the Hutt River. HCC, GW and Opus liaised on the river bank protection works along this stretch along with Hydraulic Engineers from Opus. Initial assessment of scour and erosion along this stretch has been carried out. It is found that the river bank is prone to scour and erosion that will subsequently undermine/affect the proposed wall strengthening works.

8.2.1 Background

Immediately to the north of Stokes Valley the road passes through an area known as Taita Gorge alongside the Hutt River. The road in this area is supported by two cribs wall that sit on the left (east) bank of the Hutt River. Due to the water levels and flow velocities that occur under flood conditions along this section of the Hutt River, the river bank and hence the foundation and stability of the crib walls are at risk from bank erosion and scouring of the river bed.

Our analyses are based on a number of assumptions as only limited investigations have been completed for this preliminary concept design.

8.2.2 River Channel Alignment

The Hutt River is a semi-braided, alternating bar, gravel-bed river (refer Figure 1). The location of the walls are on a confined and relatively straight reach of the river. The deepest part of the river bed is on the left bank (south side) of the river channel adjacent to part of the walls.

The right bank (northern side) of the river channel is vegetated with trees and scrub that protects the Manor Park golf course on a low river terrace. The left bank (southern side) of the river channel is formed by a steep vegetated bank that supports the Hutt River Cycle Trail, the walls and the Eastern Hutt Road. The width of the main river channel near the walls is relatively constant at approximately 80m wide.

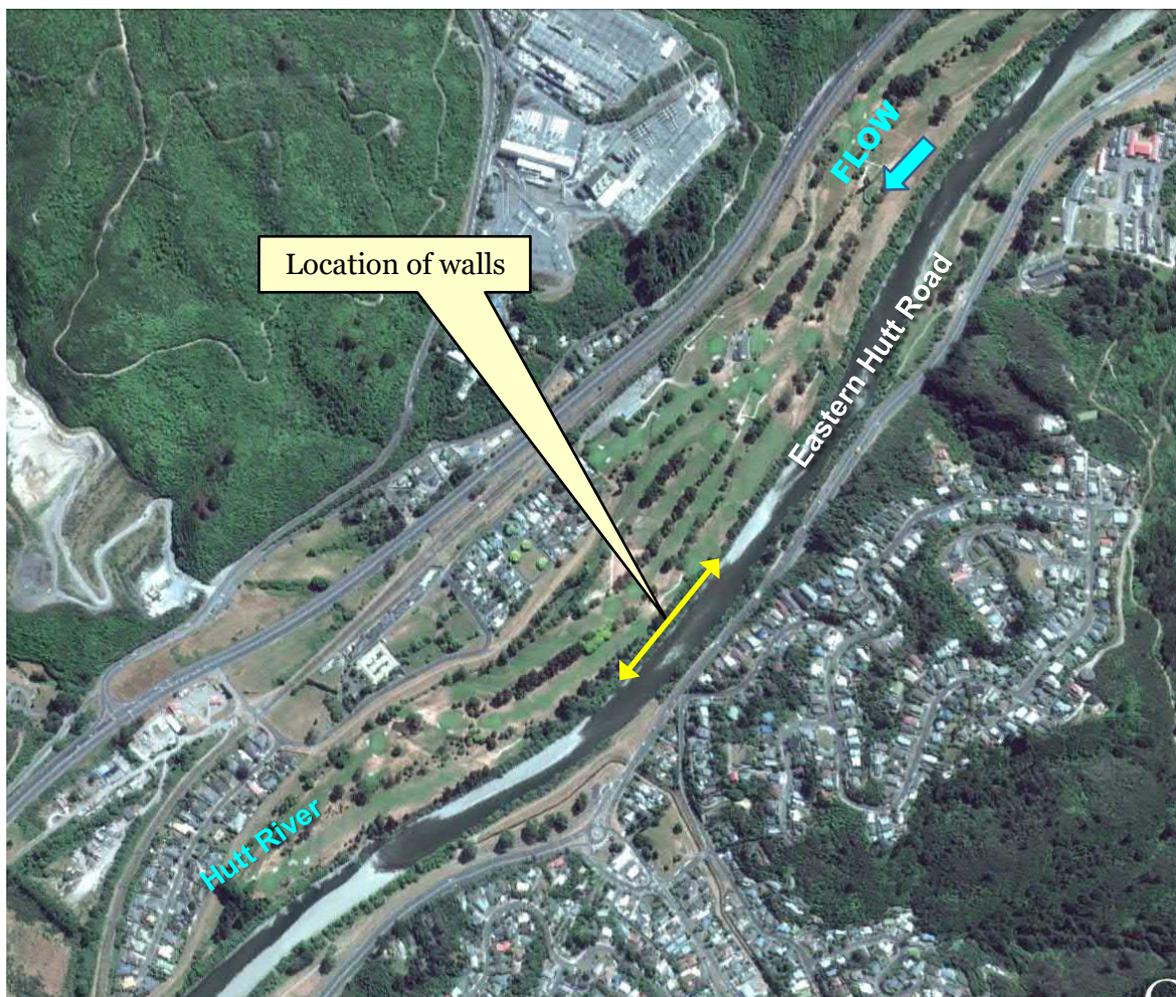


Figure 1 : Hutt River alignment in January 2015 (Source: Google Earth)

8.2.3 River Channel Cross-section

The Greater Wellington Regional Council (GWRC) has a MIKE11 computational hydraulic model of the Hutt River. The cross-sections for this model are re-surveyed on average every 5 to 6 years with the last one being in March 2014. We have used the cross-section data from this survey in our calculations.

There are four cross-sections in the vicinity of the site of the walls (refer Figure A-1) with GWRC cross-section 1210 (Figure A-3) being near the middle of the downstream wall and GWRC cross-section 1220 (Figure A-4) being between the two walls. We have limited our analysis to these two cross-sections.

Opus has resurveyed the banks near the existing walls as well as the walls themselves. Figure A-2 shows the location and approximate extent of the cross-sections of these cross-sections with respect to those by GWRC. We used the Opus cross-sections to augment those by GWRC.

8.2.4 Flood Flow Velocity and Flood Levels

GWRC have provided us with the MIKE11 computational hydraulic model results for the latest (March 2014) cross-section information of the Hutt River. Figure A-1 shows the location of the cross-sections near the location of the crib walls. Table 3 summarises the flood flow velocities and water levels for the various events at the two relevant cross-sections.

Table 3: Hutt River flood flow velocity and water level estimates

AEP ¹	Discharge (m ³ /s)	GWRC Cross-section 1210		GWRC Cross-section 1220	
		Velocity (m/s)	Water Level (m)	Velocity (m/s)	Water Level (m)
1 in 10	1266	3.8	30.30	3.8	30.60
1 in 20	1452	3.9	30.67	3.9	31.00
1 in 50	1695	3.8	31.38	3.5	31.77
1 in 100	1897	4.5	31.14	4.1	31.69
1 in 440	2315	4.7	31.70	4.1	32.31

We have used the data for GWRC cross-section 1210 for our design given the higher velocities for the larger events.

8.2.5 Scour Assessment

In order to carry out a detailed design of scour protection of a bank or structure we would normally first determine the minimum scour level of the channel. In this case we are merely carrying out a concept design for indicative pricing and budgeting purposes. Hence we have not carried out a detailed scour assessment.

9 Potential Mitigation Measures

9.1 Mitigation Options

The following potential options are developed as mitigation measures to remedy the Wall 1, have been considered:

- Drainage measures such as sub-horizontal drainage holes to prevent rise of groundwater pressures during storm events;
- Rock anchoring with spreader beam and columns to support the wall;
- Underpinning the southern end of Wall 1 (about 40 m in length) with reinforced concrete piles with spreader beams and columns;

¹ Annual Exceedance Probability

- Steel grillage support with rock anchoring to support the wall ;
- Reinforced earth buttressing the northern end of the Wall 1 (about 60 m in length) with geogrid reinforced earth buttressing.
- Rip-rap protection of the river bank

The potential options for river bank protection works are discussed in the hydraulics assessment report.

The reinforced soil option will have more disruption to the existing northern corridor of the road and services along the corridor. Where the slope below the wall is gentle and the wall height is less than 4.8 m, the option of reinforced soil option works well with the design requirements. The was considered, but was not considered further due to the greater disruption it would cause to the road access and services along the corridor, and the southern section being undermined by failure of the steep slope and undercutting by the river below.

9.2 Option 1: Anchored Soldier Pile Wall with spreader beam and columns

The performance of the wall in a design earthquake event will be improved by installation of a row of soldier piles with 2 to 3 rows of rock anchors at 2.2 m centres. The existing wall facing will be maintained.

The soldier piles will need to be founded at a minimum of 3 m into bedrock. The piles will be reinforced concrete bored piles of 900 mm diameter at 2.2 m spacing. The ground beam will be cast connecting all the soldier piles. Columns and beams will then be cast with pvc sleeving for two to three rows of rock anchoring. For installation of anchors, a working platform at the base of the existing wall will need to be formed. Following that, the anchors will be installed. The anchors will then be tightened against the steel columns. The spalled breastwork posts will be repaired. This is appropriate for the length of the wall 1, except at the northern end. The northern end of the wall, about 13 m length does not require piling but rock anchored steel grillage support is required for the stability of the wall (Option 2).

9.3 Option 2: Steel grillage support with rock anchors

The wall can be strengthened by two to three rows of rock anchors on the existing wall facing with a grid of steel supports to transfer the loads. This will improve the performance of the wall in sliding and overturning. As the overall slope stability of the wall and adjacent slope is an issue, this solution does not work along the highest southern section of Wall 1.

9.4 Option 3: Reinforced earth wall

Replacement of the existing wall with a reinforced soil wall was considered, but was not considered further due to overall slope stability of the wall and the adjacent slope and the greater disruption it would cause to the road access and services along the corridor. The southern section has the potential to be undermined by failure of the steep slope and undercutting by the river below.

9.5 Option 4: Timber pole retaining wall

We have considered timber pole retaining wall as an option. This is not feasible given the maximum retaining height of 4.8 m and steep slope below the wall. Driving timber poles in hard rock will cause damage to the poles. Holes will need to be drilled and the timber poles concreted into rock. This is not considered to be a feasible solution.

9.6 Comparison of Potential Mitigations Options

The following factors have been considered in the comparison and selection of options.

- Expected performance in an earthquake
- Location of existing buried services in the roadway
- Maintenance requirements and ease of maintenance of solutions
- Disturbance to traffic, bush and vegetation below the slope
- Constructability
- Cost

The options are summarised and compared and summarised in Table 4.

Table 4: Comparison of Potential Mitigation Options

Upgrade Option	Description	Assessment	Relative Cost
Option 1	Rock anchoring with soldier piles, spreader beams and columns	Addresses overall slope stability, overturning and sliding of the wall. Reasonable access to drilling rig, less disturbance to traffic.	High
Option 2	Steel grillage support with rock anchoring	Does not address the overall slope instability but solution for overturning and sliding of the wall. Reasonable access to rock anchor drilling rig. Some of the drilling along the wall has to be carried out from the road. Disturbance to traffic is expected.	Moderate
Option 3	Reinforced earth Wall	Does not address the overall slope instability but solution for overturning and sliding of the wall. Road closure likely to be required for a number of weeks to months to key-in the reinforced block into good ground. As there are underground services like fibre optic cable along the road and will require extensive traffic management and services diversion and relocation.	Low to moderate

Upgrade Option	Description	Assessment	Relative Cost
Option 4	Timber pole retaining wall	For design PGA of 0.7g timber pole retaining walls are not feasible given the height and the ground conditions	N/A
Combined Option 1 & 2	Part rock anchored soldier piles with spreader beam and columns and part steel grillage support with rock anchors	Reasonable access to drilling rig, less disturbance to traffic.	Moderate to high

10 Scour Mitigation

10.1 Options

There are a number of potential options available to protect the bank, each with their own advantages and disadvantages. Each of these briefly discussed below with a summary comparison provided in Appendix C.

10.2 Rock Riprap Revetment

A rock riprap revetment is a flexible channel or bank lining that provides protection from erosion. It consists of a well-graded mixture of rock usually dumped or placed.

We have analysed the cross-sections to determine the median rock size, D_{50} , to resist the erosive and scouring action of the water. We have followed the approach outlined in Melville and Coleman (“Bridge Scour”. Water Resources Publications, 2000). Two design methods were considered; USACE (1994), and Richardson (1995). Each are generally accepted methods and commonly used for such assessments to determine rock rip-rap D_{50} sizing.

From the flow velocities at the cross-sections (Table) the range of velocities is not great and that the highest magnitude is at cross-section GWRC 1210 for a 1 in 50 AEP event. This event is also the design event to protect Eastern Hutt Road against. Consequently we have selected this as the flow velocity to protect the bank against.

Our analysis shows that rock rip-rap with a D_{50} of 1.10m will be required at the site to protect the bank. This would need to be constructed with a side slope of no steeper than 1.5:1 (H:V) in a layer that is at least twice the D_{50} (i.e. 2.2m) thick in accordance with best engineering practice. Table 5 gives the recommended grading envelope, this is roughly equivalent to the standard Class C Rock grading used by GWRC (refer Figure A-5).

Table 5: Recommended rock grading envelope

	Rock Size (mm)
D ₈₅	1570 to 1780
D ₅₀	1000 to 1200
D ₁₅	600 to 810

The foundation level of the toe of the rip-rap needs to be at least 1.8m below the current minimum scoured bed level. Depending on the existing bank material it may need to be underlaid with a suitable filter bedding layer on top of an appropriate geotextile. If scour levels are below the foundation level of the riprap protection then the riprap layer will simply slide down the slope without significant damage occurring.

Depending on the desired level of protection there are two options available in this case:

- a. Protect the bank for the full height from 1.8m below the minimum scoured level to the footing of the retaining wall with rock riprap.
- b. Protect the toe of the bank only bank from 1.8m below the minimum scoured level to 3.5m above the minimum scoured bed level with rock riprap and provide suitable protective vegetative planting (willows) to protect the bank above this level.

10.3 Gabions

The existing bank would need to be reshaped to a slope no steeper than 1.5:1 (H:V) and new gabion mattresses or baskets laid on top of this with an appropriate underlying geotextile. Like with the riprap option the gabion baskets would need to be founded at least 1.8m below the existing channel invert. Alternatively the toe of the structure below the channel invert can be formed out of rock rip rap with the grading specified in Section 3.1.

However we do not recommend the use of gabion baskets as a bank protection measure in this particular high-energy environment. The river bed past the site will be highly mobile under flood conditions and the rolling, sliding and bouncing stones have a strong tendency to damage the wire material holding the gabion baskets together. This is likely to undermine the bottom layer of a gabion basket wall which can lead to catastrophic failure of the whole wall.

10.4 Concrete Blocks

Reshape the bank and form a revetment out of concrete slabs/blocks at a slope no steeper than 1.5:1 (H:V) with a toe embedment of 1.8m below the existing channel invert. These could be cable-tied and may need to be laid on an appropriate underlying filter material and/or geotextile fabric.

The size of the concrete blocks would need to be much larger than large stones of a rock revetment type protection to provide the same level of bank protection

10.5 Discussion and Recommendations

The rock riprap revetment option B is the most economical option. It offers a durable flexible solution that is easy to maintain and inspect.

The options presented in this report are concept options. The selected option will require detailed design in a future stage before it can be constructed.

11 Mitigation Cost Estimate

The rough order construction costs are summarised in Table 6 for the feasible recommended option. The basis for the estimate is presented in Appendix D. The cost for the recommended river bank protection works are included in the overall cost.

Table 6: Eastern Hutt Road Wall 1 Strengthening, Construction Cost Estimates

Estimate Type	Estimate Status	Construction Estimate for stabilising the wall	Construction Estimate for stabilising the slope (Toe buttressing, Option1)	Total Estimate including I&R, Design and Project Management
Base Estimate	FE	\$ 3.01 Million	\$ 0.74 Million	\$ 3.75 Million
Expected Estimate	FE	\$ 3.76 Million	\$ 0.93 Million	\$ 4.69 Million
Funding Estimate	FE	\$ 4.21 Million	\$ 1.04 Million	\$ 5.25 Million

Key:

FE: Funding Estimate; SE: Scheme Estimate, DE: Design Estimate, CE: Construction Estimate, Prices are as at January 2016.

12 Economic Analysis

Economic analysis has been carried out in accordance with the Economic Evaluation Manual (EEM) (NZTA, 2010) and the updates of 2013 are as follows:

- a) The damage costs from natural hazards and consequent traffic disruption costs (including travel time and CO₂ emissions) have been assessed for a range of storm and earthquake events, and their associated annual probabilities of occurrence.
- b) The traffic disruption costs were assessed on a per day basis as part of the road risk study. The disruption costs allow for travel delays and associated costs for travel along alternative routes, with some allowance for the additional costs associated with delays at intersections along the alternative routes, which would have to carry additional traffic volumes.
- c) The damage and disruption costs were also assessed assuming mitigation is implemented. There is some residual risk of wall damage after the strengthening is carried out and this is allowed for in the economic analysis. The difference in the damage and disruption costs with and without mitigation represents the savings from carrying out the mitigation measures.
- d) The sum of the present value of the annual savings was derived to represent the benefit from risk mitigation at the estimated project cost. These are derived for a project life of 30 years in accordance with the EEM and 40 years as per the updates.
- e) With the adoption of the strengthening option, the majority of the work can be carried out from outside the road carriageway. Some work affecting the road traffic would be carried out with minimum disruption, by closing of a single lane during off-peak times, for short periods to install any underpinning piles and bring and remove any plant and materials. The

disruption during the implementation of the mitigation measures is insignificant and has not been assessed in further detail.

- f) Conservatively, the economic analysis excludes consequent economic costs to the community due to the disruption effects.

The following assumptions have been made in the assessment of the damage and disruption costs:

- i. Where a large failure occurs (greater than 50% damage), full road closure is likely.
- ii. Where full road is closed, it has been assumed that a single lane would be able to be opened after a few weeks, and an associated cost of \$100,000 has been assumed (\$ 50,000 for the rural sites) to represent the cost of clearance of the debris and the cost of measures to enable one lane to be opened.
- iii. Where only half the road is closed, a cost of \$ 50,000 is allowed for cleaning the debris and ensuring the security of the remaining one lane before repair work can be implemented.
- iv. Design and contract procurement for restoration of the full road will take a further 30 days after the initial clean up period of few weeks.
- v. Overall, where there is full road closure, it is assumed that disruption is 60 days full closure and 120 days half closure for the long wall; and 30 days full closure during repairs and 90 days half closure for a short wall.
- vi. Repair cost is conservatively assessed as the mitigation costs, although the repair cost could well exceed the mitigation cost as a new wall or probably larger size may have to be re-built.
- vii. No allowance has been made for traffic accidents caused by the failures.

The benefit cost ratios from the economic analyses are summarised in Table 7.

Table 7: Benefit Cost Ratio Summary

Location	Benefit / Cost Ratio
Eastern Hutt Road (North of Stokes Valley Road intersection)	4.2

The detailed benefit cost analysis for the wall is presented in Appendix E.

13 Alignment with Funding Criteria

Hutt City Council seeks funding Subsidy from New Zealand Transport Agency to carry out the programme of strengthening of the walls and the slopes as discussed in this report.

To assist with consideration of the funding allocation, the degree of alignment of the proposed work to NZTA's funding criteria has been considered.

NZTA considers funding based on three areas of alignment, being:

- Seriousness & Urgency
- Effectiveness
- Efficiency

The alignment of the proposed work to the three areas is presented in Table 8.

Table 8: Alignment with Funding Allocation Process

Allocation Criteria	Description of Project	Alignment	Degree of Alignment
Strategic Fit	<p>Strengthening works is proposed to provide a safe and sustainable road link network within the city.</p> <p>The current arterial road is highly vulnerable to moderate to large earthquakes and storm and severely affect the efficiency of the road network.</p> <p>The situation is serious as if there is an event now, the vulnerability of the lifeline roads will severely compromise emergency response, recovery, reinstatement of other lifelines and smooth functioning of the economy and society.</p>	<p>The work is essential for meeting the Council obligations under the CDEM Act, LTMA Act and the Local Government Act, and to meet community expectations.</p> <p>The efficient road network in Hutt City and its suburbs are important for the function of the district and the region.</p> <p>The CDEM Act requires the Council to ensure that roads are able to function to the fullest possible extent.</p> <p>The LTMA requires sustainable transport systems, which cannot be achieved without resilient road links.</p>	High
Effectiveness	<p>The strengthening of the sections will ensure that the road link will be able to be reinstated quickly after an event, through clearance of over slips on the road, by securing the resilience of the road platform.</p> <p>There are significant wider economic benefits of having a reliable road link, particularly after hazard events, and will improve the confidence in operating businesses in the Region.</p> <p>Without the strengthening, the safety and public health could be severely</p>	<p>The strengthening will ensure that the road sections would survive with manageable deformation, and prevent the likelihood of failure of the road link.</p> <p>It will also provide for a secure footpath/cycling link between the Cities</p>	High

Allocation Criteria	Description of Project	Alignment	Degree of Alignment
	compromised due to lack of access for emergency services and lifelines crews after large hazard events.	There is a high degree of confidence that the projected outcomes for the road and the network would be achieved.	
Efficiency	The work has significant economic benefits in terms of reducing significantly potential damage repair costs, travel disruption and congestion costs and consequential social and economic costs.	The benefit/cost ratio is 4.2. These are conservative assessments that do not take into account the potential consequential economic and public safety / health benefits.	High

14 Conclusion

The stability of retaining wall along Eastern Hutt has been assessed. It is considered that the walls and the adjacent slope are vulnerable to the design earthquake and storm events and are considered pose risk to the security and resilience of the road network.

Mitigation options have been considered to improve the earthquake performance of the existing wall and the river bank at this section of the road. The details of the walls, length of treatment, remedial options and expected likely estimates are summarised in Table 9 below.

Table 9: Details of Retaining Walls and Expected Likely Estimates

Location	Wall Type and Max. Height	Location	Length (m)	Remedial Option	Expected Construction Estimate	Expected Project Estimates
Eastern Hutt Road	Crib wall Max. 5 m	near Stokes Valley Round About	93	Rock anchored with beams and columns with part underpinning with soldier piles with river bank toe protection	\$ 4.7 Million	\$ 5.25 Million

15 References

Opus International Consultants (2009). Hutt Valley Road Network Risk Management Study Parts 1 & 2. Prepared by E Hodgkinson and P Brabhaharan for Hutt City Council.

Opus International Consultants (2013). Hutt Valley Road Network, Strengthening of Priority Road Sites. Prepared by Siva Arumugam and P Brabhaharan for Hutt City Council.

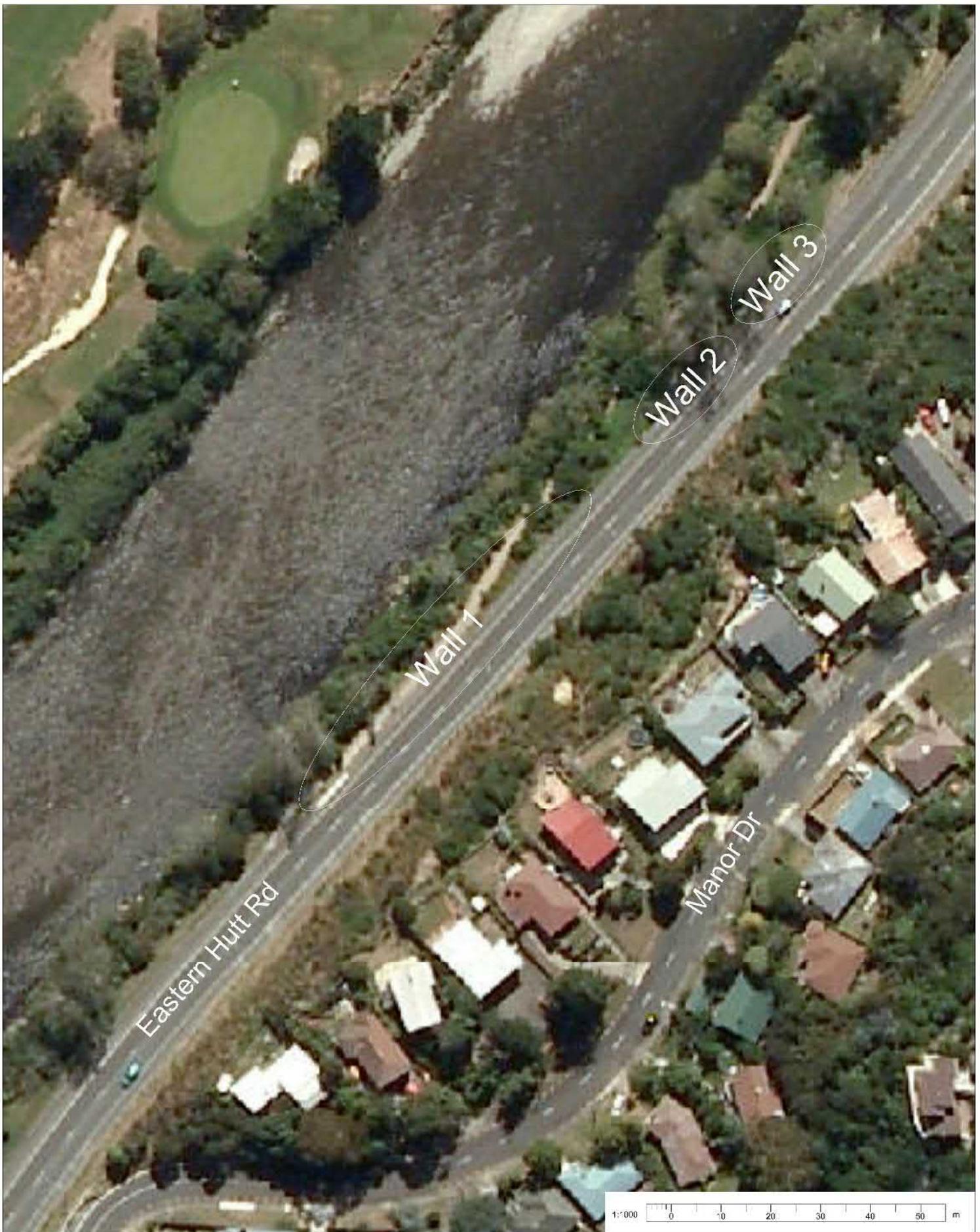
GWRC (2013), "Best Practice Guide - River Erosion Repair", Greater Wellington Regional Council, Version 1, e-doc # 1178292, April 2013.

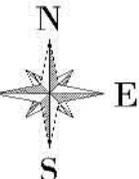
Melville, B. and Coleman, S. (2000) "Bridge Scour", Water Resources Publications.

Richardson, E.V. and Davis S.R. (1995) "Evaluating scour at bridges" Report No. FHWA-IP-90-017, Hydraulic Engineering Circular No. 18 (HEC-18), Third Edition, Office of Technology Application, HTA-22, Federal Highway Administration, U.S. Department of Transportation, Washington, D.C., U.S.A., November, 204PP.

U.S. Army Corps of Engineers (1994) "hydraulic design of flood control channels" EM 1110-2-1601, U.S. Army Corps of Engineers, Washington, D.C., U.S.A.

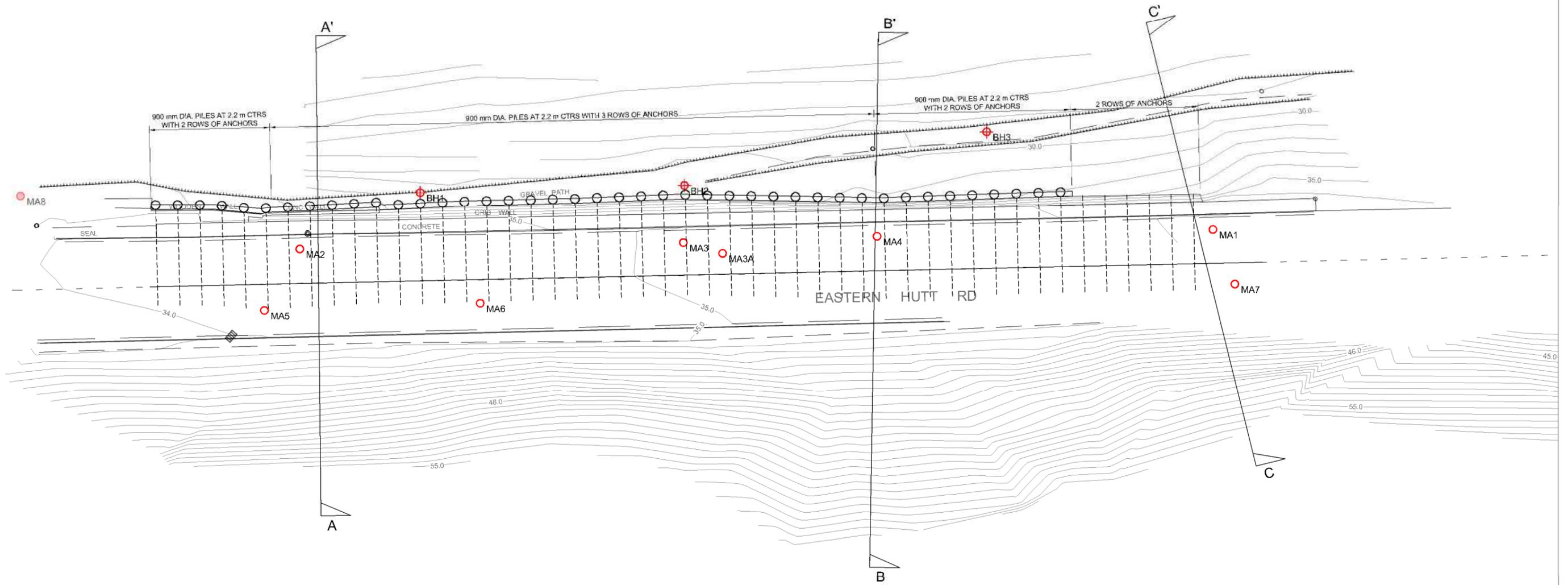
Figures



Prepared for:	Prepared by:	Orientation:	Title:
			Site Location Plan
			Project: Eastern Hutt Road Retaining Walls
Scale:	Date:	Project No:	Figure:
1:1000 (A4)	November 2014	5-C0803.03	1

04/11/2014 16:27

HUTT RIVER



Prepared for:



Prepared by:



Orientation:



Title:

Recommended Design Option Plan

Project:

Eastern Hutt Road Retaining Walls

Scale:

1:400 (A3)

Date:

November 2014

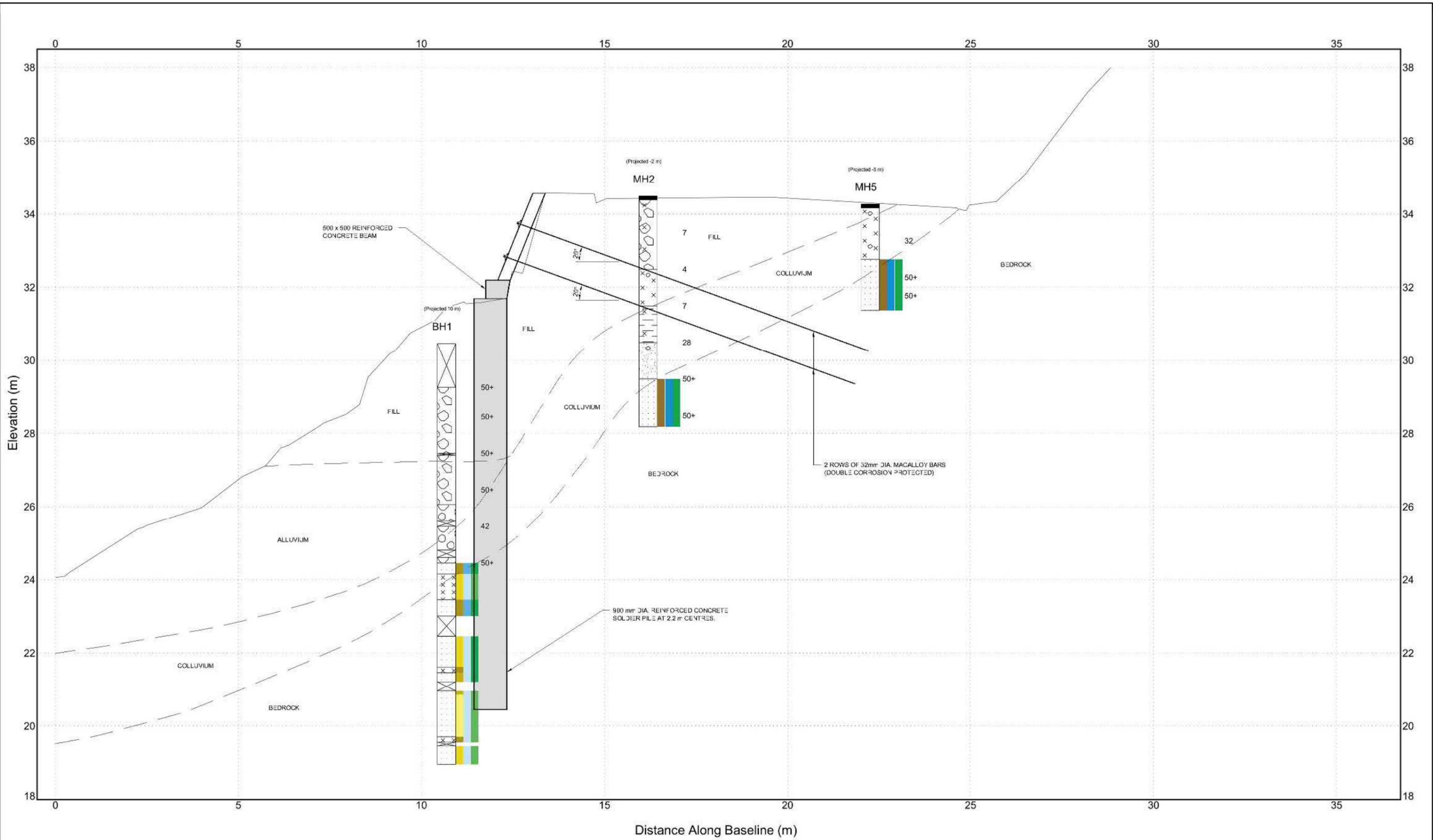
Project No:

5-C0803.03

Figure:

2

04/11/2014 15:53



Prepared for:



Prepared by:



Legend:

Borehole Naming
 BH 20 Borehole No.
 TP 65 Trial Pit No.
 HA 5 Hand Auger Test No.

Boundary Types
 - - - - - Weathered Boundary
 - - - - - Inferred/Assumed Lithological Boundary

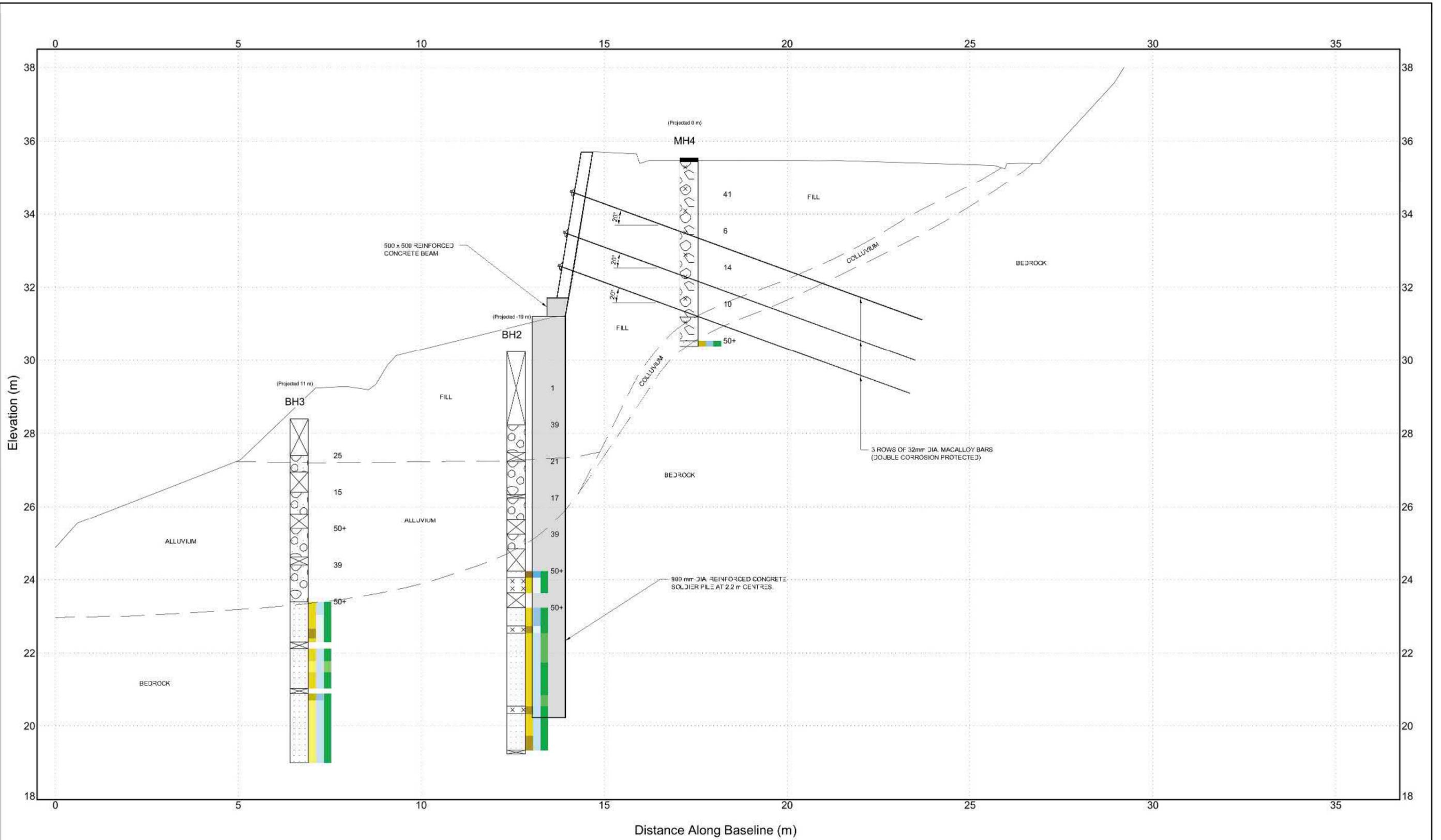
<p>Rock Strength</p> <ul style="list-style-type: none"> ES Extremely Strong VS Very Strong S Strong MS Moderately Strong W Weak VS Very Weak ES Extremely Weak 	<p>Rock Weathering</p> <ul style="list-style-type: none"> UW Unweathered SW Slightly weathered MW Moderately weathered HW Highly weathered CW Completely weathered RS Residual soil 	<p>Defect Spacing</p> <ul style="list-style-type: none"> VW Very wide (>2 m) W Wide (600 mm - 2 m) MW Moderately wide (200 mm - 600 mm) C Close (60 mm - 200 mm) VS Very close (20 mm - 60 mm) ES Extremely close (<20 mm) 	<p>Lithological Graphics</p> <ul style="list-style-type: none"> Zone of no core recovery Sandstone Silty GRAVEL. Angular / subangular gravel Sandy GRAVEL. Angular / subangular gravel Siltstone Gravelly Silt. Angular / subangular gravel Rounded / subrounded gravel Asphalt Silty Clay
--	--	---	--

Title: **Recommended Design Option Section A-A'**

Project: **Eastern Hutt Road Retaining Walls**

Scale: 1:100 (V&H)	Date: 2/10/2014	Project: 5-C0803.03	Figure: 3
--------------------	-----------------	---------------------	------------------

EASTERN HUTT ROAD RETAINING WALLS 5C0803.00 EASTERN HUTT ROAD RETAINING WALL.GPJ OPUS WLG REV230408.GDT 04/11/14



Prepared for:



Prepared by:



Legend:

Borehole Naming
 BH 20 Borehole No.
 TP 65 Trial Pit No.
 HA 5 Hand Auger Test No.

Boundary Types
 - - - - - Weathered Boundary
 - - - - - Inferred/Assumed Lithological Boundary

Rock Strength

ES	Extremely Strong
VS	Very Strong
S	Strong
MS	Moderately Strong
W	Weak
VS	Very Weak
ES	Extremely Weak

Rock Weathering

UW	Unweathered
SW	Slightly weathered
MW	Moderately weathered
HW	Highly weathered
CW	Completely weathered
RS	Residual soil

Defect Spacing

VW	Very wide (>2 m)
W	Wide (600 mm - 2 m)
MW	Moderately wide (200 mm - 600 mm)
C	Close (60 mm - 200 mm)
VS	Very close (20 mm - 60 mm)
ES	Extremely close (<20 mm)

Lithological Graphics

	Zone of no core recovery
	Siltstone

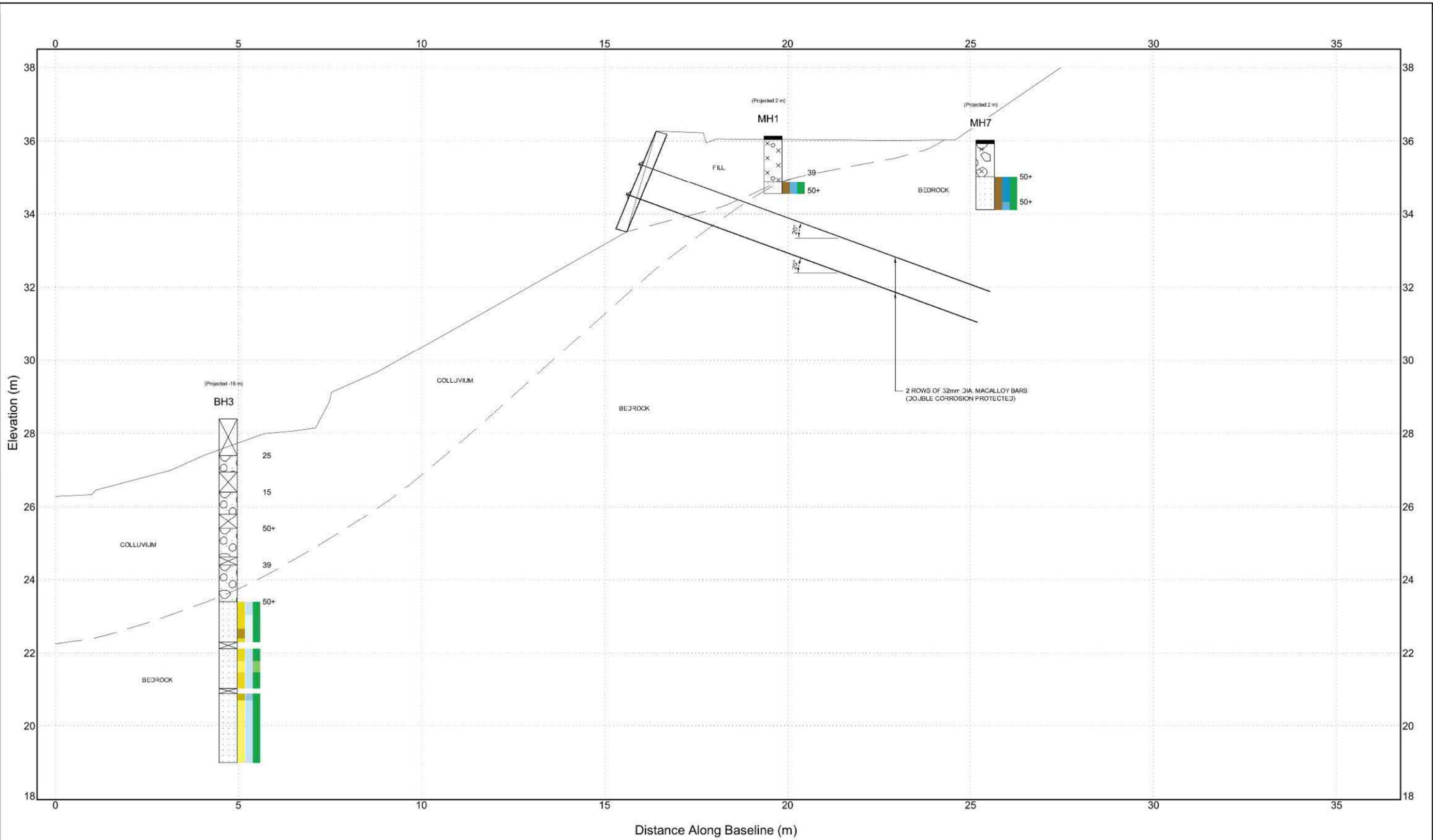
	Sandy GRAVEL. Rounded / subrounded gravel
	Sandstone
	Silty GRAVEL. Angular / subangular gravel
	Asphalt

Title: **Recommended Design Option Section B-B'**

Project: **Eastern Hutt Road Retaining Walls**

Scale: 1:100 (V&H)	Date: 4/11/2014	Project: 5-C0803.03	Figure: 4
--------------------	-----------------	---------------------	------------------

EASTERN HUTT ROAD RETAINING WALLS 5C0803.00 EASTERN HUTT ROAD RETAINING WALL.GPJ OPUS WLG REV230408.GDT 02/10/14



Prepared for:



Prepared by:



Legend:

Borehole Naming
 BH 20 Borehole No.
 TP 65 Trial Pit No.
 HA 5 Hand Auger Test No.

Boundary Types
 - - - - - Weathered Boundary
 - - - - - Inferred/Assumed Lithological Boundary

Rock Strength

- ES Extremely Strong
- VS Very Strong
- S Strong
- MS Moderately Strong
- W Weak
- VS Very Weak
- EW Extremely Weak

Rock Weathering

- UW Unweathered
- SW Slightly weathered
- MW Moderately weathered
- HW Highly weathered
- CW Completely weathered
- RS Residual soil

Defect Spacing

- VW Very wide (>2 m)
- W Wide (600 mm - 2 m)
- MW Moderately wide (200 mm - 600 mm)
- C Close (60 mm - 200 mm)
- VS Very close (20 mm - 60 mm)
- ES Extremely close (<20 mm)

Lithological Graphics

- Zone of no core recovery
- Asphalt

- Sandy GRAVEL. Rounded / subrounded gravel
- Gravelly Silt. Angular / subangular gravel

- Sandstone
- Silty GRAVEL. Angular / subangular gravel

Title: **Recommended Design Option Section C-C'**

Project:

Eastern Hutt Road Retaining Walls

Scale: 1:100 (V&H)

Date: 2/10/2014

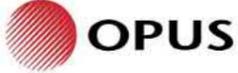
Project: 5-C0803.03

Figure: **5**

Appendix A - Engineering Geology Mapping



07/11/2014 10:42

Prepared for: 	Prepared by: 	Legend:  BH3 Borehole Location  MA4 Machine Auger Hole Location  Extent of Site Investigations  Retaining Wall	Orientation: 	Title: Engineering Geology Mapping Project: Eastern Hutt Road Retaining Walls Scale: 1:400 (A3) Date: November 2014 Project No: 5-C0803.03 Appendix: A
--	---	--	---	--

Appendix B - Borehole and Machine Auger hole logs



BOREHOLE LOG

HOLE No.

BH1

PROJECT

Eastern Hutt Road Retaining Wall

CO-ORD.

317349 E 715688 N

R.L.

30.46 m

SHEET

1 of 2

LOCATION

Southern End of wall

REF. GRID

Wellington Circuit 2000

DATUM

MSL

HOLE LENGTH

11.5 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS			ROCK WEATHERING	DEFECT SPACING	DIP degrees 0 90	DETAILED DESCRIPTION	CORE			DRILLING			PIEZOMETER DETAILS	OTHER INSTRUMENTATION
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	ROCK STRENGTH					RQD (%)	TOTAL CORE RECOVERY (%)	SAMPLE TYPE	DRILLING METHOD	DRILLING FLUID LOSS	CASING		
Fill/Rip Rap	JetVac to 1.2 m		30									0	VE						
	Sandy GRAVEL with minor silt; brown and grey, very dense, dry [cemented AGGLOMERATE].		1		50+	13/37 = 45 mm					Gravel is fine to 4 cm sandstone, subangular to subrounded. Sand is medium. Minor iron staining.	100	SPT						
			2		50+	32/18 = 0 mm					Gravel becomes coarse.	100	HQ						
	3.1 - 3.2 m: More loosely packed.		3		50+	50 = 50 mm						100	SPT						
River Deposits	GRAVEL; grey, very dense, dry. Likely to have a silty/sandy matrix but was washed away during drilling.		28																
	Becomes dense.		5		42	12/27//10/19/6/7					Gravel is subrounded, well graded from 1 cm to 4 cm. Some cobbles up to 10 cm.	78	HQ						
			6		50+	19/50 = 40 mm	VW	HW	EC			100	SPT						
Torlesse Greywacke	Highly weathered, orange-brown and grey SANDSTONE; very weak. 6.115 - 6.3 m: recovered as gravel.		6								6.115 m: Gravel is well rounded sandstone, 2 - 6 cm.	0	90	HQ					
	Slightly weathered, dark grey ARGILLITE; moderately strong. Defects are very closely spaced.		24				MS	SW	VC		6.45 m: thin quartz vein. Joints are very narrow, rough and planar.	90	100	HQ					
	Highly weathered, orange-brown SANDSTONE; very weak.		7				VW	HW	EC			0	100	HQ					

NOTES

No groundwater was encountered in this borehole and no piezometer was constructed.

STARTED	11/09/2014	FINISHED	19/09/2014
DRILLER	B Greene & R Hickling	DRILLING CO.	Griffiths Drilling
INCLINATION/ AZIMUTH	-90°	DRILLING RIG	Helirig/Fraste PLG
LOGGED	E Williamson	CHECKED	D Mason
CLIENT	Hutt City Council	JOB No.	5-C0803.03

BH1



BOREHOLE LOG

HOLE No.

BH2

PROJECT

Eastern Hutt Road Retaining Wall

CO-ORD.

317366 E 715708 N

R.L.

30.24 m

SHEET

1 of 2

LOCATION

Centre of Wall

REF. GRID

Wellington Circuit 2000

DATUM

MSL

HOLE LENGTH

11 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS			ROCK WEATHERING	DEFECT SPACING	DIP degrees 0 90	DETAILED DESCRIPTION	CORE			DRILLING				PIEZOMETER DETAILS	OTHER INSTRUMENTATION
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	ROCK STRENGTH					RQD (%)	TOTAL CORE RECOVERY (%)	SAMPLE TYPE	DRILLING METHOD	DRILLING FLUID LOSS	CASING	BASE OF HOLE & WATER LEVEL		
River Deposits	Jetvac to 1.0 m.	30																		
	Core and sample loss from 1.0 - 2.0 m.	1			1	1/0/0/1						0	VE							
	Sandy GRAVEL with some silt; light brown, dense, moist.	28			2	397/11/11/10/7					Gravel is unweathered and well graded from fine to 6 cm. Subrounded.	73	SPT							
	2.45-2.75 m: recovered as gravel with no matrix.											55	HQ							
	Becomes medium dense.	3			3	21	11/5/6/6/4					67	SPT							
	3.45-3.9 m: recovered as gravel with no matrix.											78	HQ							
Torlesse Greywacke	Becomes dense.	26			4	17	5/4/5/4/4					20	SPT							
	4.45-4.6 m: recovered as gravel with no matrix.										44	HQ								
	Becomes dense.	5			5	39	34/15/9/8/7					53	SPT							
	Highly weathered, dark grey and orange-brown SANDSTONE/ARGILLITE; extremely weak. Band of unweathered, dark grey ARGILLITE; moderately strong.	24			6	50+	14/28/22 = 30 mm	EW MS	HW UW	EC		100	SPT							
	Moderately weathered, light grey SANDSTONE; moderately strong.	7			7	50+	12/14/26/10 = 35 mm	MS	MW	EC		20	63	HQ						
												-	0	HQ						
												-	60	SPT						
												0	100	HQ						

NOTES

No groundwater was encountered in this borehole and no piezometer was constructed.

STARTED	22/09/2014	FINISHED	23/09/2014
DRILLER	R Hickling	DRILLING CO.	Griffiths Drilling
INCLINATION/ AZIMUTH	-90°	DRILLING RIG	Fraste PLG
LOGGED	E Williamson	CHECKED	D Mason
CLIENT	Hutt City Council	JOB No.	5-C0803.03

BH2

LOGGED IN ACCORDANCE WITH NZ GEOTECHNICAL SOCIETY (2005) GUIDELINES

SEE ATTACHED KEY SHEET FOR EXPLANATION OF SYMBOLS

BOREHOLE_LOG_A3 (&PHOTO PAGE) 5C0803.00 EASTERN HUTT ROAD RETAINING WALL.GPJ OPUS_AGS.GDT 8/10/14



BOREHOLE LOG

HOLE No.

BH2

PROJECT

Eastern Hutt Road Retaining Wall

CO-ORD.

317366 E 715708 N

R.L.

30.24 m

SHEET

2 of 2

LOCATION

Centre of Wall

REF. GRID

Wellington Circuit 2000

DATUM

MSL

HOLE LENGTH

11 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS			ROCK WEATHERING	DEFECT SPACING	DIP degrees 0 90	DETAILED DESCRIPTION	CORE			DRILLING				PIEZOMETER DETAILS	OTHER INSTRUMENTATION						
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	ROCK STRENGTH					RQD (%)	TOTAL CORE RECOVERY (%)	SAMPLE TYPE	DRILLING METHOD	DRILLING FLUID LOSS	CASING	BASE OF HOLE & WATER LEVEL								
Torlesse Greywacke	Band of unweathered, dark grey ARGILLITE; moderately strong with very weak zones. Slightly weathered, light grey SANDSTONE; strong to moderately strong.	8	22				VW	UW	EC	0	100	HQ	Triple Tube Wireline Coring Slow Loss													
		9			MS	SW	EC	7	100	HQ																
	Band of unweathered, dark grey ARGILLITE; moderately strong with very weak zones. Slightly weathered, light grey SANDSTONE; strong to moderately strong.	10	20		VW	MS	EC	21	100	HQ	Minor iron staining. Iron staining along defects. Joints are mostly smooth, planar, some rough, stepped.															
		11			VW				0	85	HQ	10.5-10.9 m: shear zone.														
		12	18																							
		13																								
		14	16																							

NOTES

No groundwater was encountered in this borehole and no piezometer was constructed.

STARTED	22/09/2014	FINISHED	23/09/2014
DRILLER	R Hickling	DRILLING CO.	Griffiths Drilling
INCLINATION/ AZIMUTH	-90°	DRILLING RIG	Fraste PLG
LOGGED	E Williamson	CHECKED	D Mason
CLIENT	Hutt City Council	JOB No.	5-C0803.03

BH2



BOREHOLE LOG

HOLE No.

BH3

PROJECT

Eastern Hutt Road Retaining Wall

CO-ORD.

317382 E 715734 N

R.L.

28.4 m

SHEET

1 of 2

LOCATION

Northern End of Wall

REF. GRID

Wellington Circuit 2000

DATUM

MSL

HOLE LENGTH

9.4 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS			ROCK WEATHERING	DEFECT SPACING	DIP degrees 0 90	DETAILED DESCRIPTION	CORE			DRILLING				PIEZOMETER DETAILS	OTHER INSTRUMENTATION
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	ROCK STRENGTH					RQD (%)	TOTAL CORE RECOVERY (%)	SAMPLE TYPE	DRILLING METHOD	DRILLING FLUID LOSS	CASING	BASE OF HOLE & WATER LEVEL		
River Deposits	Jetvac from 0 - 1.0 m.	28																		
	Sandy GRAVEL; brown, medium dense, moist.	1	25	8/6/6/7							Gravel is highly weathered, well graded from fine to 2 cm. Some angular fragments but mostly subrounded. Wood fragments.	0	VE							
		2	15	8/4/3/4/4							Larger, well rounded gravel up to 4 cm, slightly weathered.	67	SPT							
	2.45 - 2.6 m: core recovered as GRAVEL, matrix has been washed out.	26									Gravel and cobbles range between 1 - 8 cm.	27	HQ							
		3	50+	16/10/11/8/21 = 55 mm							Mostly fine, subangular fragments in SPT sample.	80	SPT							
Torlesse Greywacke	3.43 - 3.78 m: core recovered as GRAVEL, matrix has been washed out.																			
	4.45 - 5.0 m: core recovered as GRAVEL, matrix has been washed out.	4	39	17/9/10/9/11							Gravel and cobbles are larger, up to 15 cm.	44	SPT							
		24										100	HQ							
	Slightly weathered, dark grey SANDSTONE; moderately strong. Defects are extremely closely spaced. 5.2 - 5.35 m: recovered as gravel.	5	50+	18/50 = 55 mm	MS	SW	EC				Some iron staining along defect surfaces. Defects are rough to smooth, planar.	-	100	SPT						
	Becomes weak to very weak.	6			VW	UW	EC				5.6 m: minor shearing. 5.67 m: 1 cm thick quartz vein. 5.74 m: crush zone.	10	87	HQ						
6.28 - 6.62 m: recovered as gravel.	22			MS	SW	EC														
6.92 - 7.38 m: recovered as gravel.	7			S	SW	C						0	85	HQ						
				MS		EC														

NOTES

No groundwater was encountered in this borehole and no piezometer was constructed.

STARTED	24/09/2014	FINISHED	25/09/2014
DRILLER	R Hickling	DRILLING CO.	Griffiths Drilling
INCLINATION/ AZIMUTH	-90°	DRILLING RIG	Fraste PLG
LOGGED	E Williamson	CHECKED	D Mason
CLIENT	Hutt City Council	JOB No.	5-C0803.03

BH3

LOGGED IN ACCORDANCE WITH NZ GEOTECHNICAL SOCIETY (2005) GUIDELINES

SEE ATTACHED KEY SHEET FOR EXPLANATION OF SYMBOLS

BOREHOLE_LOG_A3 (&PHOTO PAGE) 5C0803.00 EASTERN HUTT ROAD RETAINING WALL.GPJ OPUS_AGS.GDT 8/10/14



BOREHOLE LOG

HOLE No.

BH3

PROJECT

Eastern Hutt Road Retaining Wall

CO-ORD.

317382 E 715734 N

R.L.

28.4 m

SHEET

2 of 2

LOCATION

Northern End of Wall

REF. GRID

Wellington Circuit 2000

DATUM

MSL

HOLE LENGTH

9.4 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS			DIP degrees 0 90	DETAILED DESCRIPTION	CORE			DRILLING				PIEZOMETER DETAILS	OTHER INSTRUMENTATION	
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	ROCK STRENGTH			ROCK WEATHERING	DEFECT SPACING	RQD (%)	TOTAL CORE RECOVERY (%)	SAMPLE TYPE	DRILLING METHOD	DRILLING FLUID LOSS			CASING
Torlesse Greywacke	Becomes moderately weathered, brown and weak. 7.52 - 7.7 m: recovered as gravel.	8	20					Iron staining along defect surfaces.	0	85	HQ	Triple Tube Wireline Coring	Slow Loss						
									46	100	HQ								
									58	100	HQ								
		10	18																
		11																	
		12																	
		16																	
		13																	
		14																	
		14																	

NOTES

No groundwater was encountered in this borehole and no piezometer was constructed.

STARTED	24/09/2014	FINISHED	25/09/2014
DRILLER	R Hickling	DRILLING CO.	Griffiths Drilling
INCLINATION/ AZIMUTH	-90°	DRILLING RIG	Fraste PLG
LOGGED	E Williamson	CHECKED	D Mason
CLIENT	Hutt City Council	JOB No.	5-C0803.03

BH3

LOGGED IN ACCORDANCE WITH NZ GEOTECHNICAL SOCIETY (2005) GUIDELINES

SEE ATTACHED KEY SHEET FOR EXPLANATION OF SYMBOLS

LOG OF AUGER HOLE



HOLE No.
MH2

SHEET
1 of 1

TOTAL DEPTH
6.3 m

PROJECT
Eastern Hutt Road Retaining Wall

LOCATION
Northbound lane

CO-ORD.
317345 E 715675 N

REF. GRID
Wellington Circuit 2000

R.L.
34.49 m

DATUM
MSL

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			DETAILED DESCRIPTION	SAMPLES
						0 2 4 6 8 10 12 14 16 18 20	SHEAR STRENGTH kPa	OTHER TESTS		
Asphalt				0						
Fill	Silty GRAVEL; dark brown, loose, moist.	-34	1	1					Siltstone gravel sub-angular, fine to medium, unweathered. Poorly graded.	
	Gravelly SILT with minor sand; dark brown, soft, moist, non-plastic.	-32	2	2					1.4 - 1.6m: Auger operator noted zone of harder ground.	
Colluvium	Silty CLAY with some gravel, light orange brown with red brown mottles. Moist, moderate to high plasticity.	-30	3	3					Siltstone gravel sub-angular, fine to medium, moderately weathered.	
	Gravelly SAND with some clay, orangey brown-grey. Moist, poorly graded, low plasticity.	-28	4	4					3.8 - 4 m: Auger operator noted zone of harder ground.	
Torlesse Greywacke	No SPT sample recovered. Highly to completely weathered, light orange brown with red mottles, SANDSTONE. Extremely weak. [Sampled as sandy GRAVEL with minor silt].	-26	5	5					Siltstone gravel sub-angular, fine to coarse, moderately weathered.	
		-24	6	6						
		-22	7	7						

SKETCH OF EXPOSURE



<p>NOTES</p> <p>Hole backfilled to surface level with original material and sand fill. Asphalt placed to fill road surface.</p>	LOGGED	DATE EXCAVATED	
	D Hewitt	26/08/2014	
	OPERATOR	EXCAVATOR	
	Geotech Drilling	B53 Truck Mounted Auger	
<p>Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005)</p> <p>Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2</p> <p>Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)</p>	CLIENT	JOB No.	
	Hutt City Council	5-C0803.03	MH2

LOG OF AUGER HOLE



HOLE No.

MH3

PROJECT

Eastern Hutt Road Retaining Wall

CO-ORD.

317370 E 715704 N

R.L.

35.13 m

SHEET

1 of 1

LOCATION

Northbound lane

REF. GRID

Wellington Circuit 2000

DATUM

MSL

TOTAL DEPTH

6.44 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			DETAILED DESCRIPTION	SAMPLES
						0 2 4 6 8 10 12 14 16 18 20	SHEAR STRENGTH kPa	OTHER TESTS		
Fill	Asphalt			█						
	Sandy GRAVEL with some silt; light grey brown, dense, dry.	34	1	█					Siltstone gravel angular, fine to coarse, unweathered, poorly graded.	
	Becomes GRAVEL with some sand and silt; loose.		2	█						
	Becomes medium dense.	32	3	█						
			4	█					Gravel becomes slightly to unweathered.	
	Becomes very dense.	30	5	█						
			6	█						
		28	7	█						

SKETCH OF EXPOSURE



<p>NOTES</p> <p>Hole backfilled to surface level with original material and sand fill. Asphalt placed to fill road surface.</p> <p>Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005) Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2 Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)</p>	LOGGED	D Hewitt		DATE EXCAVATED	26/08/2014	
	OPERATOR	Geotech Drilling		EXCAVATOR	B53 Truck Mounted Auger	
	CLIENT	Hutt City Council		JOB No.	5-C0803.03	
				MH3		

LOG OF AUGER HOLE



HOLE No.
MH3 (A)

PROJECT
Eastern Hutt Road Retaining Wall

LOCATION
Northbound lane

CO-ORD.
317374 E 715706 N

REF. GRID
Wellington Circuit 2000

R.L.
35.23 m

DATUM
MSL

SHEET
1 of 2

TOTAL DEPTH
10.135 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			DETAILED DESCRIPTION	SAMPLES
						0 2 4 6 8 10 12 14 16 18 20	SHEAR STRENGTH kPa	OTHER TESTS		
Fill	ASPHALT Silty GRAVEL; brown, dry, loosely packed.		1	[Graphic Log: Asphalt]					Gravel is fine to 3 cm, subangular, poorly graded.	
	Silty GRAVEL; orange-brown with minor grey zones, medium dense, dry. Low plasticity silt matrix.	34	2	[Graphic Log: Silty Gravel]					Iron staining throughout. Gravel is fine to 3 cm. Angular, poorly graded.	
	Silty GRAVEL with some sand; sark brown, medium dense, dry. Becomes mottled brown and dark brown.	32	4	[Graphic Log: Silty Gravel]					Gravel is fine, angular, poorly graded. Some iron staining on gravel. Some completely weathered gravel. Gravel up to 3 cm.	
Colluvium	Silty GRAVEL; mottled dark grey and brown, medium dense, dry.	30	5	[Graphic Log: Silty Gravel]					More fragmented gravel, dark grey, fine to 4 cm, well graded. Subangular. Some iron staining.	
			6	[Graphic Log: Silty Gravel]					Some weathering of matrix and gravels. Minor structure observed.	
River Dep.	Silty GRAVEL with some sand; brown, very dense, dry.	28	7	[Graphic Log: Silty Gravel]					Gravel is unweathered, fine to 4 cm. Angular fragments and shards. Gravel is generally well rounded.	

SKETCH OF EXPOSURE



<p>NOTES</p> <p>River Dep. - River Deposits Hole backfilled to surface level with original material and sand fill. Asphalt placed to fill road surface.</p> <p>Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005) Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2 Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)</p>	LOGGED E Williamson	DATE EXCAVATED 28/08/2014
	OPERATOR Geotech Drilling	EXCAVATOR B53 Truck Mounted Auger
	CLIENT Hutt City Council	JOB No. 5-C0803.03

LOG OF AUGER HOLE



HOLE No.
MH3 (A)

PROJECT
Eastern Hutt Road Retaining Wall

CO-ORD.
317374 E 715706 N

R.L.
35.23 m

SHEET
2 of 2

LOCATION
Northbound lane

REF. GRID
Wellington Circuit 2000

DATUM
MSL

TOTAL DEPTH
10.135 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			DETAILED DESCRIPTION	SAMPLES
						0 2 4 6 8 10 12 14 16 18 20	SHEAR STRENGTH kPa	OTHER TESTS		
Torlesse Greywacke	Silty GRAVEL with some sand; brown, very dense, dry.		8	[Graphic Log: Gravel]					Gravel is unweathered, fine to 4 cm. Angular fragments and shards. Gravel is generally well rounded.	
	Completely weathered, grey-brown SANDSTONE; extremely weak		9	[Graphic Log: Sandstone]					Iron staining. Some insitu rock structure observed. Gravel is mostly fine but up to 3 cm. Sample recovered as [gravelly SAND with some silt; medium dense].	
	Moderately weathered, dark grey SILTSTONE; weak.	-26	10	[Graphic Log: Siltstone]					Contacts are approximate.	
	Highly weathered orange-brown SANDSTONE; extremely weak.		10	[Graphic Log: Sandstone]					Sample recovered as [sandy GRAVEL with some silt; very dense, moist].	
			11							
		-24	12							
			13							
		-22	14							

SKETCH OF EXPOSURE



<p>NOTES</p> <p>River Dep. - River Deposits Hole backfilled to surface level with original material and sand fill. Asphalt placed to fill road surface.</p> <p>Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005) Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2 Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)</p>	LOGGED E Williamson	DATE EXCAVATED 28/08/2014
	OPERATOR Geotech Drilling	EXCAVATOR B53 Truck Mounted Auger
	CLIENT Hutt City Council	JOB No. 5-C0803.03

LOG OF AUGER HOLE



<i>PROJECT</i> Eastern Hutt Road Retaining Wall	<i>CO-ORD.</i> 317383 E 715719 N	<i>R.L.</i> 35.54 m	<i>HOLE No.</i> MH4
<i>LOCATION</i> Northbound lane	<i>REF. GRID</i> Wellington Circuit 2000	<i>DATUM</i> MSL	<i>SHEET</i> 1 of 1
			<i>TOTAL DEPTH</i> 5.15 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			DETAILED DESCRIPTION	SAMPLES
						0 2 4 6 8 10 12 14 16 18 20	SHEAR STRENGTH kPa	OTHER TESTS		
Fill	Asphalt Silty GRAVEL; light grey-brown, loose, dry.		0	[Graphic Log: Asphalt]					Gravel is subangular, fine to 4 cm, unweathered. Poorly sorted.	
	Becomes mottled grey and brown. Minor fine sand.		1	[Graphic Log: Silty Gravel]					High SPT value is likely due to boulder in fill	
T. Colluvium	Silty GRAVEL with minor clay orange-brown, loose to medium dense, dry, very low plasticity.		2	[Graphic Log: Silty Gravel]					Gravel is fine to 2 cm, subangular.	
	Moderately weathered, light grey-brown SANDSTONE; weak. * See notes.		3	[Graphic Log: Sandstone]					Material becomes very dense. Auger struggling to penetrate.	
	Auger refusal in very dense material. Augering for 0.5 hours = 0.15 m penetration.		4	[Graphic Log: Refusal]					SPT bouncing. Sample recovered as [gravelly SILT; very dense, dry]	
			5	[Graphic Log: Refusal]						
			6	[Graphic Log: Refusal]						
			7	[Graphic Log: Refusal]						

SKETCH OF EXPOSURE



NOTES

T.G. - Torlesse Greywacke
 * Rock determined due to density of material, rate of penetration. SPT recovery was poor, logged as rock but could be a boulder rather than insitu bedrock. Hole finished at 5.15 m due to time constraints.
 Hole backfilled to surface level with original material and sand fill. Asphalt placed to fill road surface.

Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005)
 Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2
 Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)

<i>LOGGED</i> E Williamson	<i>DATE EXCAVATED</i> 29/08/2014	
<i>OPERATOR</i> Geotech Drilling	<i>EXCAVATOR</i> B53 Truck Mounted Auger	
<i>CLIENT</i> Hutt City Council	<i>JOB No.</i> 5-C0803.03	MH4

LOG OF AUGER HOLE



HOLE No.
MH6

SHEET
1 of 1

TOTAL DEPTH
4.98 m

PROJECT
Eastern Hutt Road Retaining Wall

LOCATION
Southbound lane

CO-ORD.
317361 E 715685 N

REF. GRID
Wellington Circuit 2000

R.L.
34.67 m

DATUM
MSL

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			DETAILED DESCRIPTION	SAMPLES
						0 2 4 6 8 10 12 14 16 18 20	SHEAR STRENGTH kPa	OTHER TESTS		
Fill	ASPHALT Gravelly sandy SILT, light grey-brown, medium dense to dense, dry, non-plastic.		34	1						Siltstone gravel subrounded to subangular, fine to medium, unweathered.
	Gravelly SAND with some silt; light brown with orange brown mottles, medium dense, dry.		2	2						Siltstone gravel subangular, fine to coarse, poorly graded, slightly weathered.
Coll.	Sandy GRAVEL with minor clay, light grey brown with orange brown mottles. Dry, poorly graded.		3	3						Siltstone gravel angular, fine to coarse, slightly weathered.
Torlesse Greywacke	Highly weathered, light grey brown with orange brown mottles, intensely sheared, SILTSTONE; extremely weak.		4	4						Sample recovered as [sandy GRAVEL; very dense, dry]. Siltstone gravel angular, fine to coarse, slightly to moderately weathered, slickensided polished surfaces.
	Becomes moderately weathered, very weak to weak.		5	5						3.5-3.7m: harder ground, auger beginning to grind.
			6	6						
			7	7						

SKETCH OF EXPOSURE



<p>NOTES</p> <p>Coll. - Colluvium. Hole backfilled to surface level with original material and sand fill. Asphalt placed to fill road surface.</p>	LOGGED	DATE EXCAVATED
	D Hewitt	27/08/2014
	OPERATOR	EXCAVATOR
Geotech Drilling	B53 Truck Mounted Auger	
CLIENT	JOB No.	
Hutt City Council	5-C0803.03	MH6

Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005)
 Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2
 Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)

LOG OF AUGER HOLE



HOLE No.

MH7

PROJECT

Eastern Hutt Road Retaining Wall

CO-ORD.

317410 E 715742 N

R.L.

36.03 m

SHEET

1 of 1

LOCATION

Southbound lane

REF. GRID

Wellington Circuit 2000

DATUM

MSL

TOTAL DEPTH

1.91 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			SHEAR STRENGTH kPa	OTHER TESTS	DETAILED DESCRIPTION	SAMPLES
						0	2	4				
Fill	ASPHALT Silty GRAVEL with some sand; brown, loose, dry.			[Graphic Log: Asphalt and Silty Gravel]							Gravel is fine to 3 cm, subangular, iron stained. Sand is fine.	
Torlesse Greywacke	Highly to completely weathered, light yellow brown with red mottles SANDSTONE; extremely weak. Becomes highly weathered, extremely to very weak.		1	[Graphic Log: Torlesse Greywacke]							Sample recovered as [gravelly SAND; very dense, dry]. Sandstone gravel angular, fine to medium, highly weathered. 1.4-1.7m: auger grinding, progress slow, hard ground. Recovered as [SAND with minor gravel; very dense, dry]. Sandstone gravel angular, fine to medium, moderately weathered.	
Torlesse Greywacke		-34	2									
			3									
		-32	4									
			5									
		-30	6									
			7									

SKETCH OF EXPOSURE



<p>NOTES</p> <p>Hole backfilled to surface level with original material and sand fill. Asphalt placed to fill road surface.</p>	LOGGED	DATE EXCAVATED	
	D Hewitt	27/08/2014	
	OPERATOR	EXCAVATOR	
	Geotech Drilling	B53 Truck Mounted Auger	
Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005) Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2 Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)	CLIENT	JOB No.	
	Hutt City Council	5-C0803.03	MH7

LOG OF AUGER HOLE



<i>PROJECT</i> Eastern Hutt Road Retaining Wall	<i>CO-ORD.</i> 317323 E 715658 N	<i>R.L.</i> 33.8 m	<i>HOLE No.</i> MH8
<i>LOCATION</i> Grass Verge, adjacent to northbound lane	<i>REF. GRID</i> Wellington Circuit 2000	<i>DATUM</i> MSL	<i>SHEET</i> 1 of 1
			<i>TOTAL DEPTH</i> 4.11 m

GEOLOGY/UNIT	MAIN DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION	SOIL TESTS			DETAILED DESCRIPTION	SAMPLES
						0 2 4 6 8 10 12 14 16 18 20	SHEAR STRENGTH kPa	OTHER TESTS		
Fill	SILT with some gravel; dark brown, soft, moist, non-plastic.		0	x					Gravel is fine to 3 cm, subrounded. Rootlets throughout.	
	Becomes sandy.		1	x					Gravel is fine, highly weathered, iron stained.	
	Silty GRAVEL; orange-brown, loose, dry, low plasticity silt matrix. 1.25 m: Becomes moist to wet with clay, high plasticity.		2	x					Material becomes more dense at 1.8 m.	
	Becomes medium dense.		3	x					Iron staining throughout. Gravel is fine to 2 cm, well rounded.	
T.G.	Becomes mottled orange-brown and grey, very dense.		3	x						
	Highly weathered, blue-grey and orange brown SANDSTONE; very weak to extremely weak.		4	x						
			5	x						
			6	x						
			7	x						

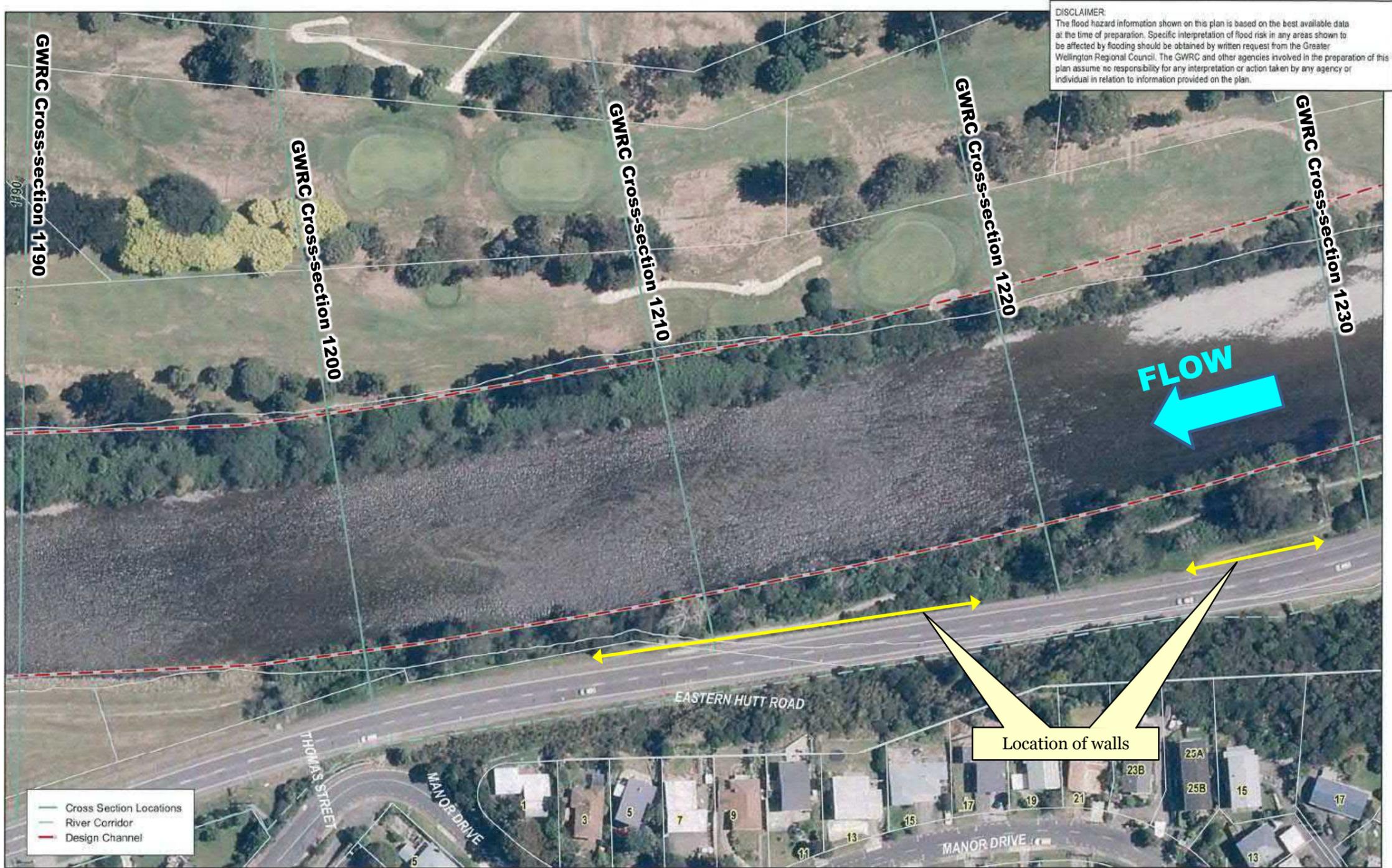
SKETCH OF EXPOSURE



NOTES T.G. - Torlesse Greywacke Hole backfilled to surface level with original material and sand fill.	<i>LOGGED</i> E Williamson	<i>DATE EXCAVATED</i> 29/08/2014
	<i>OPERATOR</i> Geotech Drilling	<i>EXCAVATOR</i> B53 Truck Mounted Auger
	<i>CLIENT</i> Hutt City Council	<i>JOB No.</i> 5-C0803.03

Guideline for the field classification of soil and rock for engineering purposes: NZ Geotechnical Society (2005)
 Determination of penetration resistance of a soil, NZS 4402 : 1988, Test 6.5.2
 Shear strength using a hand held shear vane: NZ Geotechnical Society (8/2001)

Appendix C – Figure A-1, Figure A-2, Figure A3,
Figure A-4, Figure A-5 and Figure A-7



HUTT RIVER

Cross Section Locations

Regional Orthophotography Copyright : GWRC / NZAM 2013
 Topographic and Cadastral data is copyright LINZ
 0 265 9 13.5 18 22.5 Metres
 1:1,000
 greater WELLINGTON REGIONAL COUNCIL
 Te Pane Matua Taiao

Figure A-1 Hutt River cross-section locations in the vicinity of the study site (source: GWRC)





Figure A-2 Location of Opus survey information with respect to the GWRC Hutt River Cross-sections

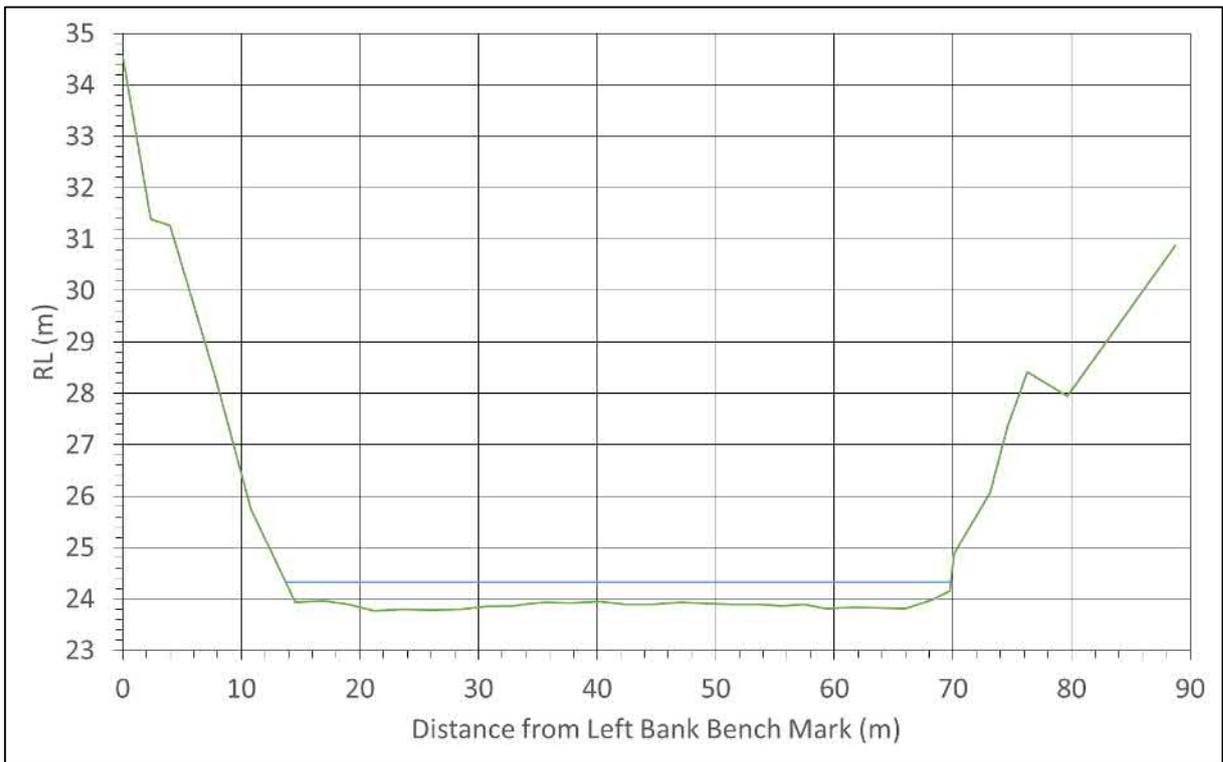


Figure A-3 GWRC cross-section 1210 and water level at time of survey (source: GWRC)

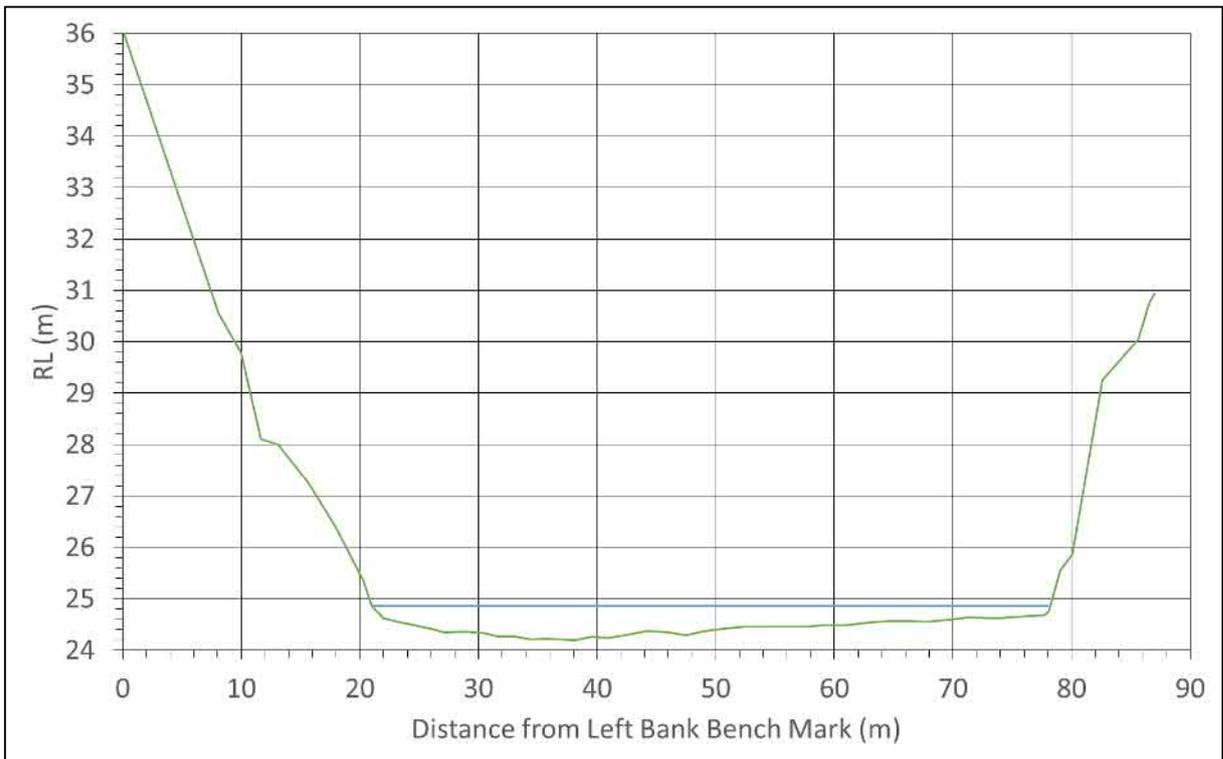


Figure A-4 GWRC cross-section 1220 and water level at time of survey (source: GWRC)



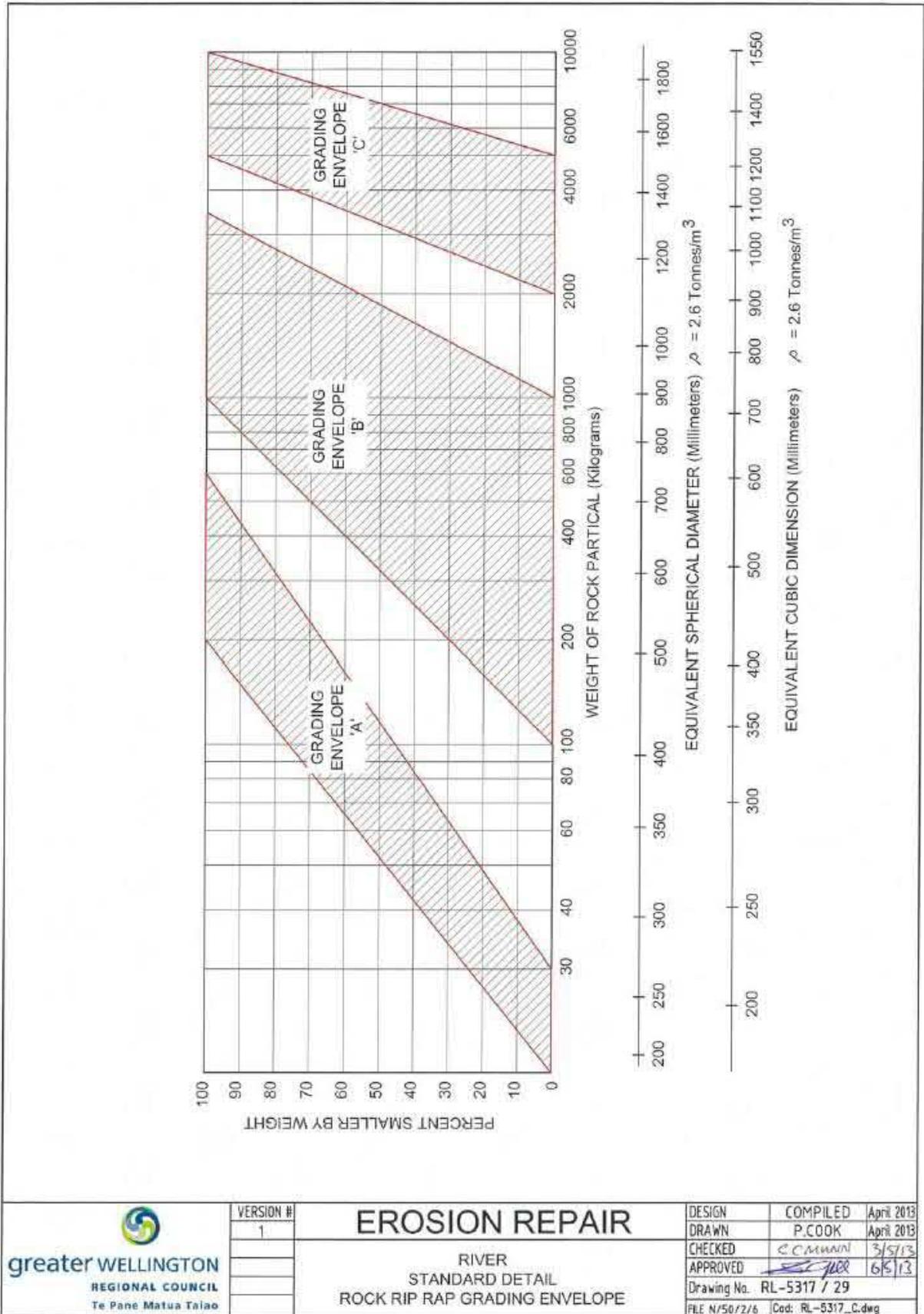
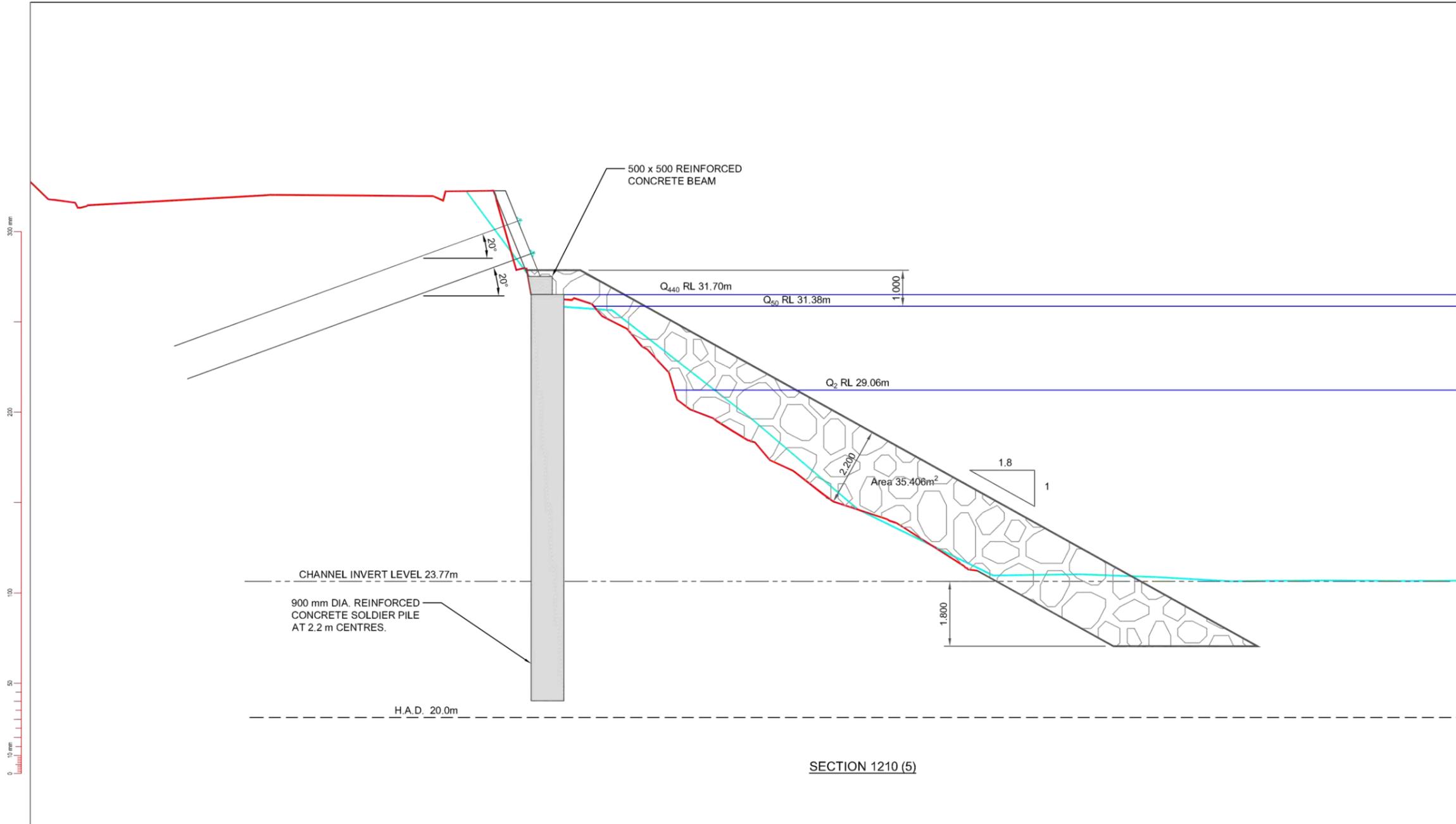


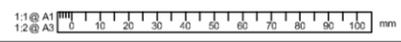
Figure A-5 GWRC standard rock riprap grading envelopes (source: GWRC, 2013)



SECTION 1210 (5)

- Legend**
- Opus bank survey cross section
 - GWRC cross section
 - Bank protection concept
 - Estimated Q₅₀ flood level

DRAWING IN PROGRESS
 PLOTTED ON 2016-1-29 AT 9:23 a.m.



Revisions	Amended	Approved	Revision Date



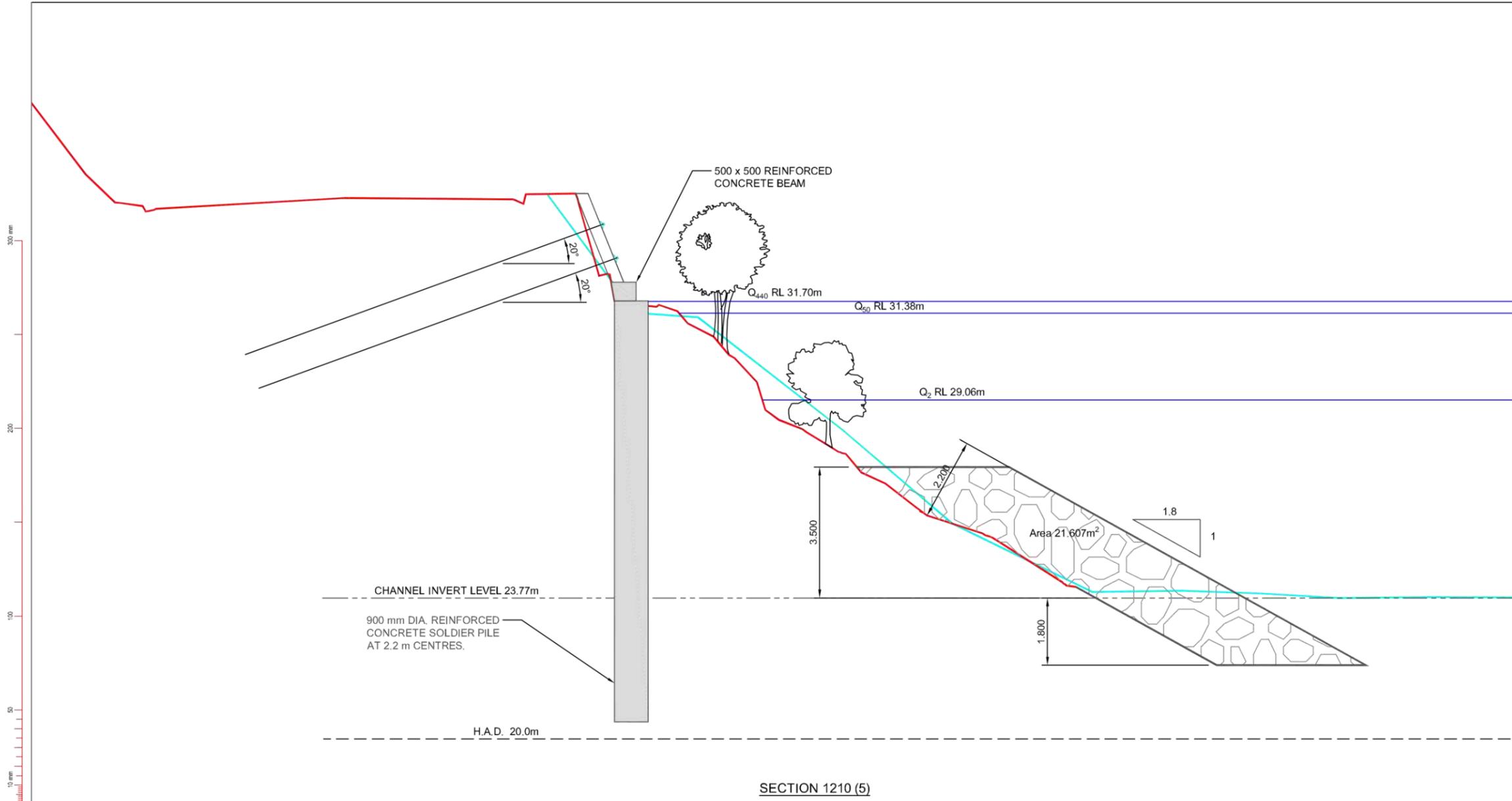
OPUS
 Wellington Office
 +64 4 471 7300
 PO Box 12-503, Thorndon
 Wellington 6144
 New Zealand

Designed	Approved	Approved Date
Kos Mass		
Drawn		
Ken Mercer		

Project	
GREATER WELLINGTON REGIONAL COUNCIL EASTERN HUTT ROAD HUTT RIVER BANK PROTECTION	
Sheet	
TYPICAL SECTION OPTION 1	
Project No.	Sheet No.
5C0803.03	3

Figure A-6 Rock riprap revetment concept design option 1 – full protection of the bank





- Legend**
- Opus bank survey cross section
 - GWRC cross section
 - Bank protection concept
 - Estimated Q_{50} flood level

DRAWING IN PROGRESS

PLOTTED ON 2016-1-29 AT 9:17 a.m.

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Revisions</th> <th>Amended</th> <th>Approved</th> <th>Revision Date</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Revisions	Amended	Approved	Revision Date																	<p>greater WELLINGTON REGIONAL COUNCIL</p>	<p>OPUS Wellington Office +64 4 471 7300</p> <p style="font-size: x-small;">PO Box 12-503, Thorndon Wellington 6144 New Zealand</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Project</td> <td colspan="2">GREATER WELLINGTON REGIONAL COUNCIL EASTERN HUTT ROAD HUTT RIVER BANK PROTECTION</td> </tr> <tr> <td colspan="2">Sheet</td> <td colspan="2">TYPICAL SECTION OPTION 2</td> </tr> <tr> <td>Designed</td> <td>Approved</td> <td>Approved Date</td> <td>Project No.</td> </tr> <tr> <td>Kos Mass</td> <td></td> <td></td> <td>5C0803.03</td> </tr> <tr> <td>Drawn</td> <td>Scale</td> <td></td> <td>Sheet No.</td> </tr> <tr> <td>Ken Mercer</td> <td>1:100(A1), 1:200(A3)</td> <td></td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Revision</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Project		GREATER WELLINGTON REGIONAL COUNCIL EASTERN HUTT ROAD HUTT RIVER BANK PROTECTION		Sheet		TYPICAL SECTION OPTION 2		Designed	Approved	Approved Date	Project No.	Kos Mass			5C0803.03	Drawn	Scale		Sheet No.	Ken Mercer	1:100(A1), 1:200(A3)		4				Revision				
Revisions	Amended	Approved	Revision Date																																																				
Project		GREATER WELLINGTON REGIONAL COUNCIL EASTERN HUTT ROAD HUTT RIVER BANK PROTECTION																																																					
Sheet		TYPICAL SECTION OPTION 2																																																					
Designed	Approved	Approved Date	Project No.																																																				
Kos Mass			5C0803.03																																																				
Drawn	Scale		Sheet No.																																																				
Ken Mercer	1:100(A1), 1:200(A3)		4																																																				
			Revision																																																				

Figure A-7 Rock riprap revetment concept design option 2 – partial protection of the bank combined with vegetation planting

Appendix B – Summary of Possible Protection Options

Option No	Figure	General Description of Option and purpose	Advantages	Disadvantages
1A	Figure A-6	Rock riprap revetment to protect the bank to above the 1 in 440 AEP flow level	<ul style="list-style-type: none"> • Resilient structure that is easy to inspect and maintain • Long expected life (100 years or more) 	<ul style="list-style-type: none"> • Appropriate rock may be harder to source
1B	Figure A-7	Rock riprap revetment protect the bank to 3.5m above the minimum scoured bed level combined with planting of suitable vegetation and/or trees on the banks above this	<ul style="list-style-type: none"> • Resilient structure that is easy to inspect and maintain • Long expected life (100 years or more) • Cheaper than Option 1 	<ul style="list-style-type: none"> • Appropriate rock may be harder to source • More vulnerable to larger events.
2		Gabion baskets/mattress to reinstate and protect the bank	<ul style="list-style-type: none"> • baskets/mattress can be constructed off-site • Quicker to install 	<ul style="list-style-type: none"> • Less resilient structure with a shorter life expectancy (20 years at most) • Prone to damage due to floating debris and entrained sediment/gravel • Harder to maintain
3		Concrete block revetment to reinstate and protect the bank	<ul style="list-style-type: none"> • Long expected life (100 years or more) 	<ul style="list-style-type: none"> • It may be difficult to obtain sufficient concrete blocks to form the revetment • Hard to maintain



Appendix D – Recommended Remedial Option – Cost Estimate

COST ESTIMATE

Opus International Consultants Ltd
P.O.Box 12-003
Wellington

File: 5C 0803.03

Client : Hutt City Council
Project: Road Risk Study
Eastern Hutt Road

	Name	Signature	Date
Prepared :	AS		
Checked :			
Verified :			
Cost Index :	n/a	As of:	January, 2016

Option 1: Rock Anchored soldier pile with spreader beam and columns with rock riprap revetment

Item	Description	Unit	Quantity	Rate	Amount	Amount
1	Preliminary and General					
1.1	Establishment	LS	1	50,000	50,000	
1.2	Installations, dismantlement and hireage of scaffold	LS	1	4,000	4,000	
1.3	Survey and setting out	LS	1	1,700	1,700	
1.4	Traffic Management	LS	1	30,000	30,000	
1.5	Site clearance and reinstatement	LS	1	3,000	3,000	
1.6	As Built drawings	LS	1	1,000	1,000	89,700
2	Reinforced Concrete Piles					
2.1	Excavation in soils	m	350	350	122,500	
2.2	Excavation in rock	m	175	450	78,750	
2.3	Reinforced Concrete	m	525	450	236,250	437,500
3	Rock Anchors					
3.1	Pull-out test	ea	3	7,000	21,000	
3.2	Set up, head plates and other fixed costs per rock anchors	ea	133	800	106,400	
3.3	Supply and install 12 m length rock anchors	m	1600	750	1,200,000	
3.4	On-site suitability tests	ea	14	850	11,900	
3.5	On-site acceptance test	ea	119	650	77,350	1,416,650
4	Reinforced Beams					
4.1	Spreader Beam	m	105	800	84,000	84,000
5	Waler Beam					
5.1	Steel waler beam	m	270	800	216,000	
5.2	Steel columns	m	200	900	180,000	396,000
6	Walkway and handrails					
6.1	Asphaltic concrete walkway	m2	150	150	22,500	
6.2	Pedestrian fencing	m	120	500	60,000	82,500
7	Drainage					
7.1	Supply and installation of sub-horizontal drain	m	100	150	15,000	15,000
8	Rock riprap revetment protection along the bank					
8.1	Supply and place riprap protection	ton	4650	160	744,000	744,000
9	Contingency (10% of cost)					
	Reinstatement of shoulder	LS	1	LS	317,565	317,565
	Reinstatement of kerb and channel					
TOTAL PROJECT (exclusive of G.S.T)					3,582,915.00	
Say						3,600,000.00

The base options estimates are based on the following:-

- The estimates are based on the Engineer's estimate and construction rates for similar works in Wellington Region in 2013.
- It is assumed that all work would be carried out during the daytime off peak hours with one lane closure with STOP/GO sign or traffic signals
- TTM includes temporary lane markings and pedestrian crossing, footpath and shoulder closure, provision of stop/go signal signs during construction, and with STMS full time supervision.
- Consultant fees for engineering detailed design, procurement and MSQA are not included.
- The quantities taken are based on past experience in similar projects
- The quantities may vary depending on the proposal of strengthening and the rock head level encountered

Project Estimate - Form C

FE

Project Name: Eastern Hutt Road Wall

Funding Estimate

Item	Description	Base Estimate	Contingency	Funding Risk
A	Nett Project Property Cost	0	0	0
	Investigation and Reporting	0		
	- Consultancy Fees	0	0	Nil
	- HCC Managed Costs	0	Nil	Nil
B	Total Investigation and Reporting	0	Nil	Nil
	Design and Project Documentation			
	- Consultancy Fees	50,000		
	- HCC Managed Costs	Nil		
C	Total Design and Project Documentation	50,000	12,500	7,500
	Construction			
	MSQA			
	- Consultancy Fees	100,000		
	- WCC Managed Costs	Nil		
	- Consent Monitoring Fees	Nil		
	Sub Total Base MSQA	100,000	25,000	15,000
	Physical Works			
1	Environmental Compliance	0		
2	Earthworks	0		
3	Ground Improvements	0		
4	Drainage	0		
5	Pavement and Surfacing	0		
6	Bridges	0		
7	Retaining Walls	3,510,000		
8	Traffic Services	0		
9	Service Relocations	0		
10	Landscaping	0		
11	Traffic Management and Temporary Works	30,000		
12	Preliminary and General	60,000		
13	Extraordinary Construction Costs	0		
	Sub Total Base Physical Works	3,600,000		
	say	3,600,000	900,000	540,000
D	Total Construction	3,700,000	925,000	555,000
E	Project Base Estimate (A+C+D)	3,750,000		
F	Contingency (Assessed/Analysed) (A+C+D)		937,500	
G	Project Expected Estimate (E+F)		4,687,500	
	Project Property Cost Expected Estimate			
	Investigation and Reporting Expected Estimate		0	
	Design and Project Documentation Expected Estimate			
	Construction Expected Estimate			
H	Funding Risk (Assessed/Analysed) (A+C+D)			562,500
I	95th percentile Project Estimate (G+H)			5,250,000
	Project Property Cost 95th percentile Estimate			
	Investigation and Reporting 95th percentile Estimate			0
	Design and Project Documentation 95th percentile Estimate			
	Construction 95th percentile Estimate			
	say			5,250,000
Date of Estimate	Cost Index (Qtr/Year)	Oct 2014		
Estimate prepared by	Signed			
Estimate internal peer review by	Signed			
Estimate external peer review by	Signed			
Estimate accepted by NZ Transport Agency	Signed			

Note: (1) These estimates are exclusive of escalation and GST.
 (2) I&R Project Phase Estimates are set to Nil as these are now sunk costs.

Appendix E - Benefit – Cost Analyses

Hutt City Council
Eastern Hutt Road : EH1

Length	93	m
Disruption - Full Closure	\$119,457	\$/ day
Disruption - Half Closure	\$2,378	\$/ day
Mitigation	\$3,750,000	\$
Post-event construction cost factor	1.5	
Uniform Cost USPWF (A1.4 of EEM (Jan 2010))	11.258	

Category	Road Type Description	Earthquake		Storm			
		MM8	MM10	10	20	50	100
EH 1	Probability of damage without mitigation	0.5	0.7	0.01	0.03	0.1	0.3
	Probability of damage with mitigation	0.05	0.1	0	0	0.005	0.05
	Damage cost per metre without mitigation	\$15,000	\$21,000	\$300	\$900	\$3,000	\$9,000
	Damage cost per metre with mitigation	\$1,500	\$3,000	\$0	\$0	\$150	\$1,500
	Disruption (days per metre) without mitigation	7.00	7.00	7.00	7.00	7.00	7.00
	Disruption (days per metre) with mitigation	3	3	3	3	3	3
	Total damage cost without mitigation	\$2,192,500	\$3,029,500	\$27,900	\$83,700	\$418,500	\$1,355,500
	Total damage cost with mitigation	\$209,250	\$418,500	\$0	\$0	\$20,925	\$209,250
	Savings in damage cost with mitigation	\$1,983,250	\$2,611,000	\$27,900	\$83,700	\$397,575	\$1,146,250
	Total disruption (days) without mitigation	210	210	7	20	65	210
	Total disruption (days) with mitigation	14	28	0	0	1	14
	Total disruption cost without mitigation	\$11,036,490	\$11,036,490	\$777,665	\$2,332,995	\$7,776,651	\$11,036,490
	Total disruption cost with mitigation	\$33,173	\$66,346	\$0	\$0	\$3,317	\$33,173
	Savings in disruption cost with mitigation	\$11,003,317	\$10,970,144	\$777,665	\$2,332,995	\$7,773,333	\$11,003,317

Expected Economic Value of Damage over 30 years

Event	RP	Ann P P _i	P _{i-1} - P _i	Damage Cost (C)	(C _{i-1} + C _i) / 2	\$/ yr	NPV Cost over 30 yrs
Earthquake							
<MM7	1	1.0000	-	\$0	-	-	-
MM6	20	0.0500	0.9500	\$27,766	\$13,883	\$13,189	
MM7	50	0.0200	0.0300	\$1,388,275	\$694,138	\$20,824	
MM8	150	0.0067	0.0133	\$1,983,250	\$1,685,763	\$22,477	
MM10	600	0.0017	0.0050	\$2,611,000	\$2,297,125	\$11,486	
>MM10		0.0001	0.0016	\$2,872,100	\$2,741,550	\$4,432	
			1.0000			\$72,407	\$815,162
Storm							
<5	1	1.0000	-	\$0	-	-	-
2	2	0.5000	0.5000	\$279	\$140	\$70	
5	5	0.2000	0.3000	\$13,950	\$7,115	\$2,134	
10	10	0.1000	0.1000	\$27,900	\$20,925	\$2,093	
20	20	0.0500	0.0500	\$83,700	\$55,800	\$2,790	
50	50	0.0200	0.0300	\$397,575	\$240,638	\$7,219	
100	100	0.0100	0.0100	\$1,146,250	\$771,913	\$7,719	
>100		0.0001	0.0100	\$1,260,875	\$1,203,563	\$11,975	
			1.0000			\$34,000	\$382,775
							\$1,197,937

Expected Economic Value of Disruption over 30 years

Event	RP	Ann P P _i	P _{i-1} - P _i	Disruption Cost (C)	(C _{i-1} + C _i) / 2	\$/ yr	Cost over 30 yrs
Earthquake							
<MM7	1	1.0000	-	\$0	-	-	-
MM6	20	0.0500	0.9500	\$154,046	\$77,023	\$73,172	
MM7	50	0.0200	0.0300	\$7,702,322	\$3,928,184	\$117,846	
MM8	150	0.0067	0.0133	\$11,003,317	\$9,352,819	\$124,704	
MM10	600	0.0017	0.0050	\$10,970,144	\$10,986,730	\$54,934	
>MM10		0.0001	0.0016	\$12,067,158	\$11,518,651	\$18,622	
			1.0000			\$389,277	\$4,382,484
Storm							
<5	1	1.0000	-	\$0	-	-	-
2	2	0.5000	0.5000	\$7,777	\$3,888	\$1,944	
5	5	0.2000	0.3000	\$388,833	\$198,305	\$59,491	
10	10	0.1000	0.1000	\$777,665	\$583,249	\$58,325	
20	20	0.0500	0.0500	\$2,332,995	\$1,555,330	\$77,767	
50	50	0.0200	0.0300	\$7,773,333	\$5,053,164	\$151,595	
100	100	0.0100	0.0100	\$11,003,317	\$9,388,325	\$93,883	
>100	500	0.0001	0.0100	\$12,103,649	\$11,553,483	\$114,957	
			1.0000			\$557,962	\$6,281,539
							\$10,664,023

Total Benefits	\$10,664,023 (a)	Savings in Disruption Costs
Total Costs	\$2,552,063 (b)	Mitigation Cost - NPV Savings in Future Damage Costs
Benefit / Cost Ratio	4.2	(a) / (b)

After large events, there will be a significant amount of construction work demand which leads to a substantial increase in construction costs. This can be seen from the Manawatu-Wanganui Storm of Feb 2004. Therefore, it would be reasonable to conservatively allow for a construction cost increase for remedial works of 50% . This has been allowed for in large events.



Opus International Consultants Ltd
L7, Majestic Centre, 100 Willis St
PO Box 12 003, Wellington 6144
New Zealand

t: +64 4 471 7000
f: +64 4 471 1397
w: www.opus.co.nz

From: [Gita Jeram \(Jira\)](#)
To: [Dylan Hopkins](#)
Subject: [JIRA] (DPSD-4452) [REDACTED], Stokes Valley (OIA request)
Date: Tuesday, 1 November 2022 3:26:29 pm
Attachments: [atl-generated-b3396a09-e153-4cbc-acca-373595a2da82](#)

Gita Jeram added 1 new comment.

Digital Product Service Desk / DPSD-4452

[REDACTED], Stokes Valley (OIA request)

 Gita Jeram 3:23 PM NZDT

Hi Dylan

We are currently working alongside COG.

We require any reports and correspondence in regards to water, storm water, leaks and sewer on an surrounding [REDACTED], Stokes Valley and land.

Also, any reports and correspondence including maintenance records on water, storm water, leaks and sewer on an surrounding [REDACTED], Stokes Valley and land.

Holly – is searching the information on service request for this location.

Let us know, if you need anything more.

We appreciate your help and look forward to hearing from you.

Nga mihi nui

Gita

[View issue](#)

Get Jira notifications on your phone! Download the Jira Cloud app for [Android](#) or [iOS](#).

[Manage notifications](#) • [Give feedback](#) • [Privacy policy](#)



Released under the Local Government Official Information and Meetings Act

From: [John Baines](#)
To: [Ray Ritchie](#)
Cc: [Dirk Naish](#)
Subject: [REDACTED]
Date: Tuesday, 26 July 2022 12:07:11 pm
Attachments: [image003.png](#)
[image004.png](#)
[image005.jpg](#)

Interesting - [REDACTED] - what pipes

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Sent: Tuesday, 26 July 2022 11:26 am
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: RE: [EXTERNAL] FW: [REDACTED]

Thanks Ray

Could you please arrange for the pipes at [REDACTED] to be cameraed also, as soon as possible.

Thanks
Craig

Craig Ewart
Inspections Team Lead

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: [REDACTED] **M:** [REDACTED] **W:** www.huttcity.govt.nz



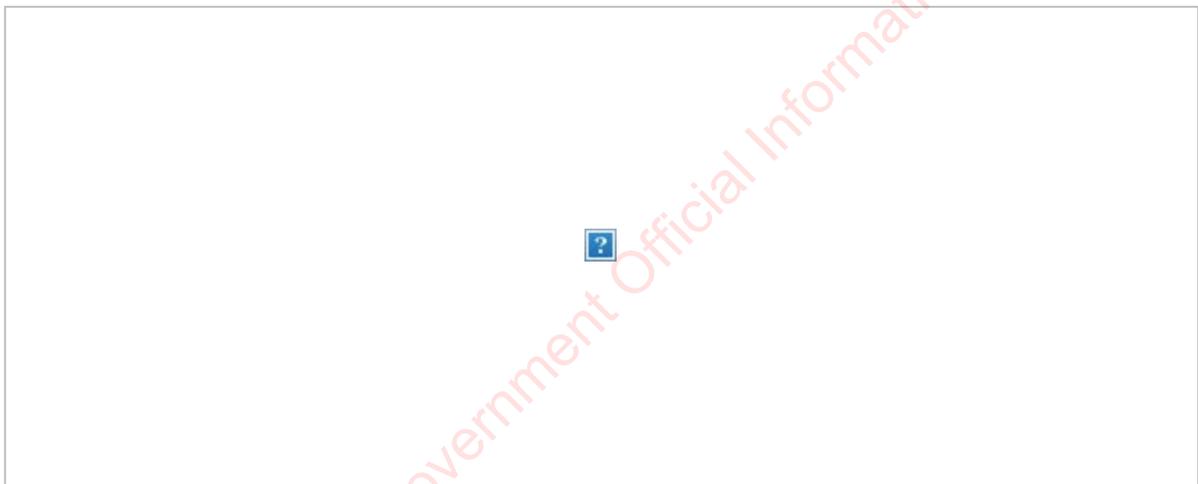
IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Sent: Monday, 25 July 2022 12:41 PM
To: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: [EXTERNAL] FW: [REDACTED]

Afternoon Craig,

Here is the CCTV footage of the stormwater main of [REDACTED],

Cheers



From: Drain Doctor <office@draindoctor.co.nz>
Sent: Monday, 25 July 2022 12:05 pm
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Subject: [REDACTED]

Hi Ray,

Please see link for cctv footage.

https://youtu.be/ZAp_rg1jhcM

[- YouTube](#)

and share it all with friends, family, and the world on YouTube.

youtu.be

From: [John Baines](#)
To: [Jekkie Suwanposee](#)
Cc: [Andrew Curry](#)
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632) - a copy of video of the drain
Date: Thursday, 13 October 2022 3:40:46 pm
Attachments: [image002.png](#)
[image003.png](#)

Hi Jekkie

The CCTV footage is on a USB stick. Happy to drop this to your council reception desk

John Baines
Customer Planning Engineer - Wellington Water

Mob [REDACTED]

From: Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Sent: Wednesday, 12 October 2022 3:28 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>
Subject: RE: [EXTERNAL] [REDACTED], Stokes Valley, Lower Hutt (ARL 221632) - a copy of video of the drain

Hi John,
On behalf of Derek Kerite, can we please have a copy of the video of the drains from your company? Please let us know when you want us to come to collect it.
Many thanks.

Cheers

Jekkie

Jekkie Suwanposee

Team Coordinator

Hutt City Council, 30 Laings Road, Lower Hutt 5040

P: 04 570 6850 **M:** [REDACTED] **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank

you

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Friday, 30 September 2022 3:37 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: [EXTERNAL] [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Derek – an update and close off from Wellington Water.

As advised, Wellington Water CCTVéd the 225mm storm water main and found it to be without fault.

The as-built drawing (long section) would suggest when laid, the drain was approx 1m deep through [REDACTED] Reference manhole 35, 36 & 37 through [REDACTED]

Attached as-builts of the public SW.

Plan S2350 - is the plan drawing. Plan has Lot numbers. [REDACTED]

Plan S2357 - has long section for SW line 8, which runs around the back of [REDACTED].

Plan S2356 - has long section for SW line 6, down to Eastern Hutt Rd

These are typical as-builts from the 1960's and don't have much detail. No construction techniques shown on the drawings.

Construction techniques if such information exists, would be held with HCC as a subdivision file or similar. The drawings are dated 1960's so information may be scarce.

Request	Comment	Action
WSP report prepared for Hutt City Council in 2015 to assess the slope hazard	This report will likely be with HCC	HCC responsibility
How deep the storm water drains are below the surface?	Perhaps the as-built long section may provide or WWL can measure depth to invert	as-built attached
Can copies of any construction records for the storm water system on the property be made available?	Likely any construction records will be with HCC Perhaps a subdivision file or similar	HCC responsibility
Please provide any additional information on the storm water drains - seep stops etc.	May be something on the as-builts but if not then it will be assumed there are none	No construction detail on the as-built

<p>In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?</p>	<p>WWL did CCTV camera a small length of the drain a full camera inspection including the portion of the drain down the slope required.</p>	<p>CCTV inspection completed by Wellington Water. Results advised to HCC.</p>
--	---	---

John Baines

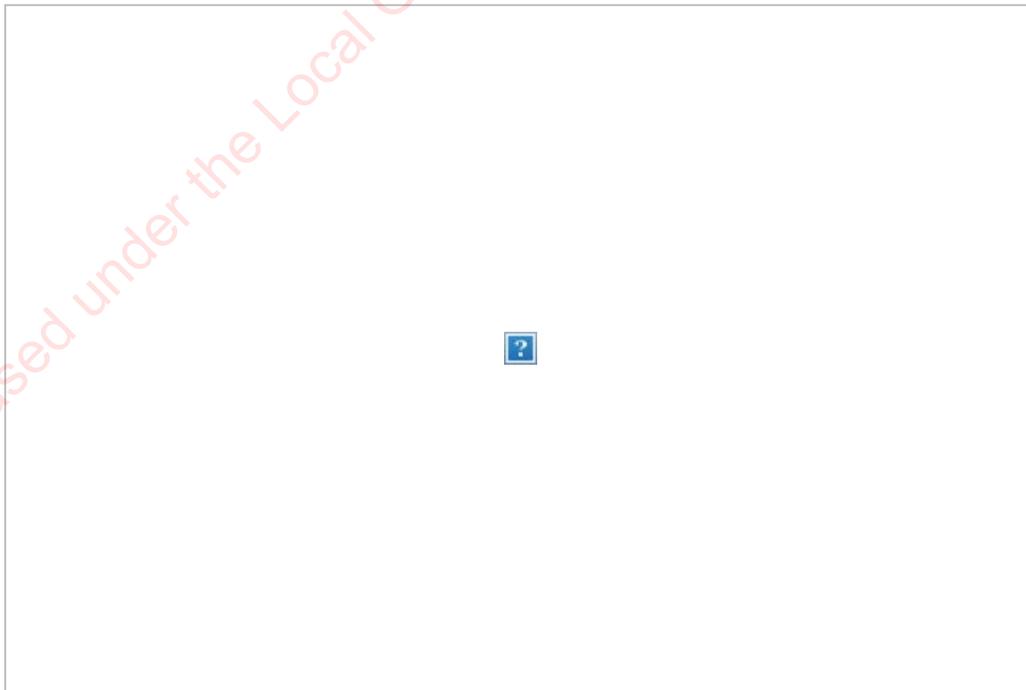
Customer Planning Engineer - Wellington Water

Mob [REDACTED] s 7(2)(a)

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Thursday, 22 September 2022 4:04 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: [EXTERNAL] [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi Derek

CCTV completed. The storm water pipe is without fault.



Released under the Local Government Official Information and Meetings Act

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED] s 7(2)(a)

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED] s 7(2)(a). We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: [REDACTED] s 7(2)(a) **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Clare Stanley [REDACTED] s 7(2)(a) >
Sent: Wednesday, 14 September 2022 5:49 PM

To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <[REDACTED] s 7(2)(a)>
Subject: [EXTERNAL] FW: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**

Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6

Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt

www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>

Sent: Wednesday, 14 September 2022 5:38 PM

To: Clare Stanley <[REDACTED] s 7(2)(a)>

Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>

Subject: RE: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the**

storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED]
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley [REDACTED]
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED] s 7(2)(a)>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the [REDACTED] s 7(2)(a) to the left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED] s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

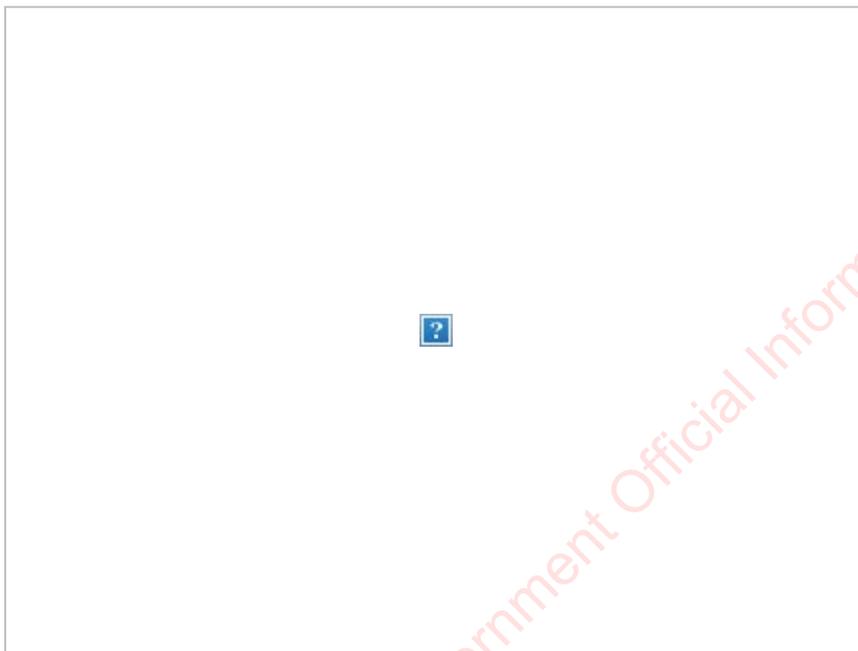
ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: [John Baines](#)
To: [Ray Ritchie](#)
Cc: [Dirk Naish](#); [Andrew Curry](#)
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)
Date: Thursday, 22 September 2022 3:02:45 pm
Attachments: [image002.png](#)
[image003.jpg](#)

Hi Ray

Agree as you mention there is one fault with the benching in the first s/w manhole. How soon can we get a repair



John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: John Baines
Sent: Thursday, 22 September 2022 2:53 pm
To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Subject: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

CCTV completed the storm water pipe is without fault.

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: John Baines

Sent: Wednesday, 21 September 2022 3:54 pm
To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Subject: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

COG – Undertaking CCTV – hopefully this week

Brian has provided as-built plan (attached)

No information has been forwarded

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 1:27 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Could we please discuss the request below concerning [REDACTED] in SV, and whether you have been involved in this earlier.

Many thanks
Diana

From: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:47 am
To: Official Information <official.information@wellingtonwater.co.nz>; Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: RE: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita,

I am forwarding on to [@Diana Isaac](mailto:Diana.Isaac@wellingtonwater.co.nz) and [@Matthew Lillis](mailto:Matthew.Lillis@wellingtonwater.co.nz) to provide the information for this request.

Regards,

FYI I am in a conference on 22 - 23 September and will return to back to work on 27 September.

Uki Dele (she/her)
Chief Advisor, Stormwater & Climate Resilience
Network Development & Delivery
Mob [REDACTED] s 7(2)(a)

From: Official Information <official.information@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:42 am
To: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Cc: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Kia ora Uki

The HCC are seeking help from us for an urgent OIA request.

Can you please assist us with the following information, with regard to storm water drains?

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your help and look forward to hearing from you.

Nga mihi nui
Gita

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>

Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

From: Clare Stanley <[REDACTED]>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <[REDACTED]>
Subject: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <[REDACTED]>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. Our client now has more specific requests relating to the storm water drain, specifically:

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <s 7(2)(a)>
Sent: Tuesday, 13 September 2022 12:07 p.m.

To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley [REDACTED]
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the peak of the [REDACTED] of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED]
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

Clients are required to wear a mask when meeting at our offices.

If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

Released under the Local Government Official Information and Meetings Act

From: [John Baines](#)
To: [Derek Kerite](#)
Cc: [Bradley Cato](#); [Paul Pugh](#); [Jon Kingsbury](#); [Tim Harty](#); [Brian Smith](#)
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)
Date: Thursday, 15 September 2022 3:33:59 pm
Attachments: [image001.png](#)

Hi Derek – noted that additional information is being requested under this OIA

WWL will see if we can locate an as-built of this S/W drain in the HCC system.

Has HCC received the engineers assessment of the slip face and any comment to the position of the public storm water drain in relation to the slip. Would be interested in a copy

My tentative comments at this early stage are

Request	Comment	Action
WSP report prepared for Hutt City Council in 2015 to assess the slope hazard	This report will likely be with HCC	HCC responsibility
How deep the storm water drains are below the surface?	Perhaps the as-built long section may provide or WWL can measure depth to invert	WWL to locate an as-built
Can copies of any construction records for the storm water system on the property be made available?	Likely any construction records will be with HCC Perhaps a subdivision file or similar	HCC responsibility
Please provide any additional information on the storm water drains - seep stops etc.	May be something on the as-builts but if not then it will be assumed there are none	WWL to locate an as-built
In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?	WWL did CCTV camera a small length of the drain but I have requested a full camera inspection including the portion of the drain down the slope as far as practical to camera.	WWL to provide CCTV of the portion we have already CCTV inspected

John Baines
Customer Planning

[REDACTED]
 [REDACTED]

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

Derek Kerite

Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: [REDACTED] **M:** [REDACTED] **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Clare Stanley <[REDACTED]>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <[REDACTED]>
Subject: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <clarestanley@tdsl.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR

Senior Associate

Direct dial [REDACTED]

Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354

Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <[REDACTED]>
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**

Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6

Forsyth Barr Tower (formerly Queensgate Tower)

45 Knights Road

Lower Hutt

www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>

Sent: Tuesday, 13 September 2022 11:46 AM

To: Clare Stanley <[REDACTED]>

Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>

Subject: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the peak of the roof of our client's house to the left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR

Senior Associate

Direct dial: [REDACTED] s 7(2)(a)

Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354

Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

Clients are required to wear a mask when meeting at our offices.

If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: [John Baines](#)
To: [Ray Ritchie](#)
Cc: [Andrew Curry](#)
Subject: ██████████ Stokes Valley, Lower Hutt (ARL 221632)
Date: Friday, 23 September 2022 1:44:00 pm
Attachments: [image003.jpg](#)
[image004.png](#)

Hi Ray

55m from your entry manhole

John Baines
Customer Planning Engineer - Wellington Water

Mob ██████████

From: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Sent: Friday, 23 September 2022 12:54 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; Andrew Curry <Andrew.Curry@wellingtonwater.co.nz>
Subject: RE: ██████████ Stokes Valley, Lower Hutt (ARL 221632)

Morning John,

I will look into it, the manhole is also buried so will have to locate it and dig it up

Cheers

Ray Ritchie Team Leader - Drainage Hutt Valley



Tel 04 912 4400 Mob ██████████

Email Ray.Ritchie@wellingtonwater.co.nz

Private Bag 39804, Wellington Mail Centre 5045

Level 4, 25 Victoria Street, Petone, Lower Hutt

www.wellingtonwater.co.nz

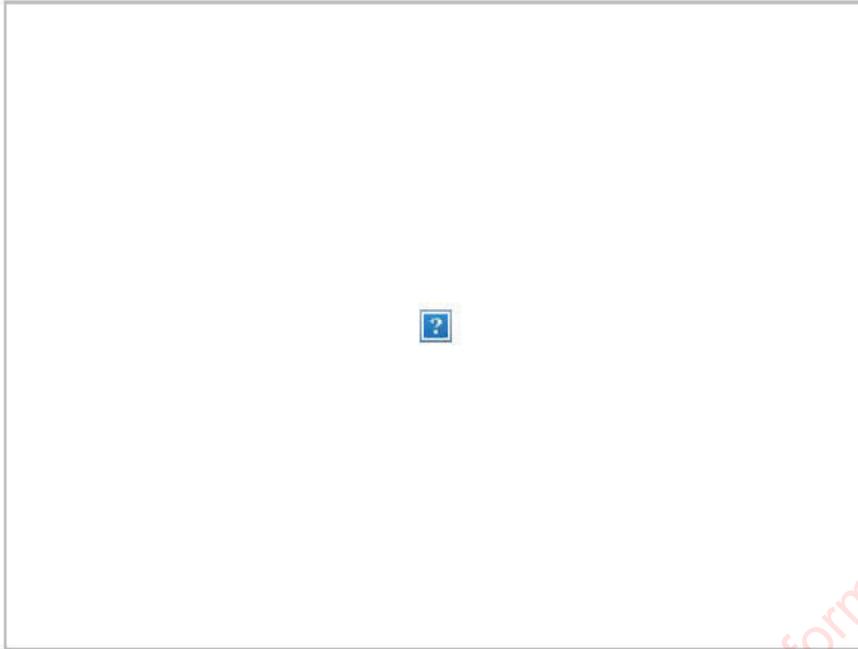
-

Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils, South Wairarapa District Council and Greater Wellington Regional Council. We manage their drinking water, wastewater and stormwater services.

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Thursday, 22 September 2022 3:03 pm
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; Andrew Curry <Andrew.Curry@wellingtonwater.co.nz>
Subject: ██████████ Stokes Valley, Lower Hutt (ARL 221632)

Hi Ray

Agree as you mention there is one fault with the benching in the first s/w manhole. How soon can we get a repair



John Baines

Customer Planning Engineer - Wellington Water

Mob [REDACTED] s 7(2)(a)

From: John Baines

Sent: Thursday, 22 September 2022 2:53 pm

To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>

Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis

<Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>

Subject: HCC OIA-[REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

CCTV completed the storm water pipe is without fault.

John Baines

Customer Planning Engineer - Wellington Water

Mob [REDACTED] s 7(2)(a)

From: John Baines

Sent: Wednesday, 21 September 2022 3:54 pm

To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>

Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis

<Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>

Subject: HCC OIA-[REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

COG – Undertaking CCTV – hopefully this week

Brian has provided as-built plan (attached)

No information has been forwarded

John Baines

Customer Planning Engineer - Wellington Water

Mob [REDACTED] s 7(2)(a)

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>

Sent: Wednesday, 21 September 2022 1:27 pm

To: John Baines <John.Baines@wellingtonwater.co.nz>

Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>

Subject: FW: HCC OIA-[REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Could we please discuss the request below concerning [REDACTED] s 7(2)(a) in SV, and whether you have been involved in this earlier.

Many thanks

Diana

From: Uki Dele <Uki.Dele@wellingtonwater.co.nz>

Sent: Wednesday, 21 September 2022 11:47 am

To: Official Information <official.information@wellingtonwater.co.nz>; Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>

Subject: RE: HCC OIA-[REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita,

I am forwarding on to [@Diana Isaac](#) and [@Matthew Lillis](#) to provide the information for this request.

Regards,

FYI I am in a conference on 22 - 23 September and will return to back to work on 27 September.

Uki Dele (she/her)

Chief Advisor, Stormwater & Climate Resilience

Network Development & Delivery

Mob [REDACTED] s 7(2)(a)

From: Official Information <official.information@wellingtonwater.co.nz>

Sent: Wednesday, 21 September 2022 11:42 am

To: Uki Dele <Uki.Dele@wellingtonwater.co.nz>

Cc: Official Information <official.information@wellingtonwater.co.nz>

Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Kia ora Uki

The HCC are seeking help from us for an urgent OIA request.

Can you please assist us with the following information, with regard to storm water drains?

Further to this matter, our clients have been made aware of a WSP New Zealand report that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. Our client now has more specific requests relating to the storm water drain, specifically:

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your help and look forward to hearing from you.

Nga mihi nui
Gita

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>

Sent: Thursday, 15 September 2022 1:15 pm

To: John Baines <John.Baines@wellingtonwater.co.nz>

Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

Subject: FW: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

From: Clare Stanley <[REDACTED] s 7(2)(a)>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <[REDACTED] s 7(2)(a)>
Subject: [EXTERNAL] FW: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

Redacted under s 7(2)(g) LGOIMA

Nga mihi / Kind regards

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <[REDACTED] s 7(2)(a)>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] s 7(2)(a) Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?

- Can copies of any construction records for the storm water system on the property be made available?

- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards

Brendan

BRENDAN CARR

Senior Associate

Direct dial [REDACTED]

Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354

Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

Clients are required to wear a mask when meeting at our offices.

If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <clarestanley@tdsl.co.nz>

Sent: Tuesday, 13 September 2022 12:07 p.m.

To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>

Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>

Subject: RE: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts

Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011

Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED]>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the peak of [REDACTED] to the left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED]
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: [hubrequest](#)
To: [Ray Ritchie](#)
Subject: 209239 - [REDACTED] Stokes Valley
Date: Friday, 22 July 2022 10:35:48 am
Attachments: [image001.png](#)
[image002.jpg](#)

Hey Ray

Im looking for photos now to attach

209239 - [REDACTED], Stokes Valley

: Please camera the storm water main shown in photo 093201 for possible damage as a result of the landslip next to the man hole cover. Please forward all findings to Craig.Ewart@huttcity.govt.nz ph [REDACTED] - emailing photos to Customer ww

Lauren Calcinai Dispatch Operator



Tel 04 912 4400

**Private Bag 39804, Wellington Mail Centre 5045
Level 4, 25 Victoria Street, Petone, Lower Hutt**

www.wellingtonwater.co.nz



Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils, South Wairarapa District Council and Greater Wellington Regional Council. We manage their drinking water, wastewater and stormwater services.

Released under the Local Government Official Information and Meetings Act

From: [Dylan Hopkins](#)
To: [Gita Jeram](#)
Subject: DPSD-4452 [REDACTED], Stokes Valley (OIA request)
Date: Tuesday, 1 November 2022 2:29:20 pm

Wellington Water Logo



Reply above this line.

Dylan Hopkins commented:

Hi Gita - could you provide a little more direction on what information you would like DPS to dig out. Emails? Work orders? Documents we might have in Woogle? That will help me pass the request onto the right people.

Thanks,
Dylan

Dylan Hopkins changed the status to To Do.

[View request](#) · [Turn off this request's notifications](#)

Nga mihi

Digital Products and Services Team

Released under the Local Government Official Information and Meetings Act

From: [Matthew Lillis](#)
To: [Official Information](#)
Subject: FW: [EXTERNAL] [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)
Date: Tuesday, 27 September 2022 1:25:00 pm
Attachments: [image001.png](#)
[image002.png](#)

Information relating to [REDACTED]

From: Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Sent: Friday, 23 September 2022 8:36 am
To: John Baines <John.Baines@wellingtonwater.co.nz>; Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: RE: [EXTERNAL] [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Thank you in Derek's absence.

Regards
Paul

Paul Pugh

[Building Manager](#)

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: [M:](#) [REDACTED] **W:** www.huttcity.govt.nz



From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Thursday, 22 September 2022 4:04 pm
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: [EXTERNAL] [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Derek

CCTV completed. The storm water pipe is without fault.



John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Clare Stanley <clarestanley@tdsl.co.nz>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <Gerarddewar@tdsl.co.nz>
Subject: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

Redacted under s 7(2)(g) LGOIMA

Nga mihi / Kind regards

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <clarestanley@tdsl.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354

Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <[REDACTED] s 7(2)(a)>
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED] s 7(2)(a)>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the peak of [REDACTED] s 7(2)(a) left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial [REDACTED] s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354

Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

Clients are required to wear a mask when meeting at our offices.

If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

Released under the Local Government Official Information and Meetings Act

From: Official Information
To: Derek.Kerite@huttcity.govt.nz
Cc: Official Information; Josh Chuah; John Baines
Subject: s 7(2)(a)
Date: Wednesday, 2 November 2022 10:22:00 am
Attachments: [image001.png](#)
[image002.png](#)
[image003.jpg](#)

Kia ora Derek

We are currently working on providing the information requested

If you could let us know, when this is required by?

We look forward to hearing from you

Nga mihi

Gita Jeram (she/her)
LGOIMA Administration Assistant - Chief Executive's Office



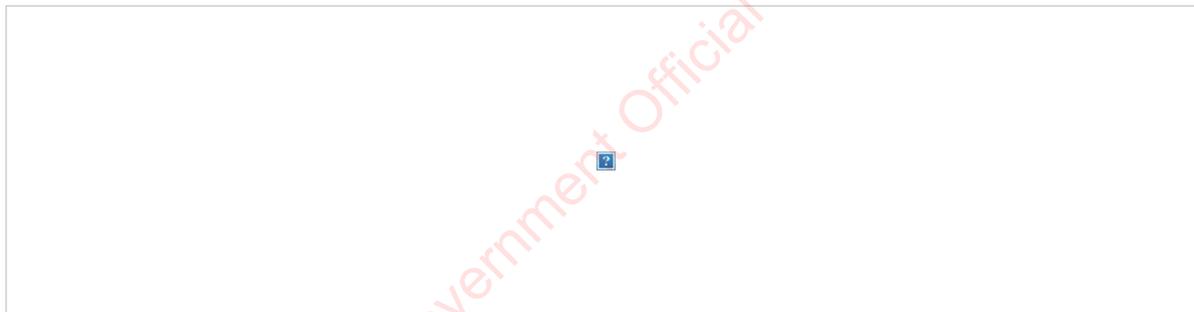
Private Bag 39804 Wellington Mail Centre 5045
Level 4, 25 Victoria Street Petone Lower Hutt

Please note I do not work on Friday

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Monday, 31 October 2022 11:10 am
To: John Baines <John.Baines@wellingtonwater.co.nz>
Subject: s 7(2)(a)

Hi John

We've had a follow up request from the lawyers acting for the owner of s 7(2)(a). Are you able to provide us with comments on the items below:



Regards,

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010
P: M: s 7(2)(a) **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you.

From: [Todd Livingstone](#)
To: [Jeremy Hayes](#)
Subject: FW: 05072021Copy of Combined Wastewater and Stormwater (003).xlsx
Date: Wednesday, 10 November 2021 9:29:34 am
Attachments: [05072021Copy of Combined Wastewater and Stormwater \(003\).xlsx](#)

From: John Scott <John.Scott@wellingtonwater.co.nz>
Sent: Monday, 8 November 2021 2:12 pm
To: Todd Livingstone <Todd.Livingstone@wellingtonwater.co.nz>
Subject: 05072021Copy of Combined Wastewater and Stormwater (003).xlsx

Hi Todd, I found a P1 spreadsheet – which lists asset by asset plus progress – it is very detailed and we will be able to report accurately against this list. There will be potable water one floating around as well but haven't got around to finding this yet.

John

Released under the Local Government Official Information and Meetings Act

FeatId	asset_id	us_node_id	ds_node_id	owner	pipe type	length	width	pipe mater
--------	----------	------------	------------	-------	-----------	--------	-------	------------

89	HCC_WW P009654	HCC_WW 001602	HCC_WW 001606	HVJV	WWTR	55.357	375	RCON
----	-------------------	------------------	------------------	------	------	--------	-----	------

91	HCC_WW P009655	HCC_WW 001606	HCC_WW 001607	HVJV	WWTR	17.088	375	RCON
----	-------------------	------------------	------------------	------	------	--------	-----	------

Released under the Local Government Official Information and Meetings Act

92	HCC_WW P009657	HCC_WW 001607	HCC_WW 001609	HVJV	WWTR	42.499	375 RCON
----	-------------------	------------------	------------------	------	------	--------	----------

**OPEN
WEBMAP OPEN**

ASSET_ID	MAP_URL	FOR ASSET	LOCAL PDF MAP	PRIORITY	OWNER	STATUS	PIPE_TYPE	LENGTH
----------	---------	-----------	---------------	----------	-------	--------	-----------	--------

https://int
ergroupltd
.maps.arc
gis.com/a
pps/weba
ppviewer/
index.html
?id=ad2cf
ac117a64
c19890f54
ba175f75
01&find=

HCC_WW P009654	HCC_WW P009654	Open Web Map		1	HVJV	INUS	WWTR	55.357
-------------------	-------------------	------------------------------	--	---	------	------	------	--------

Released under the Local Government Official Information and Meetings Act

https://int
ergroupltd
.maps.arc
gis.com/a
pps/weba
ppviewer/
index.html
?id=ad2cf
ac117a64
c19890f54
ba175f75
01&find=

HCC_WW HCC_WW [Open Web](#)
P009655 P009655 [Map](#)

1 HVJV INUS WWTR 17.088

https://int
ergroupltd
.maps.arc
gis.com/a
pps/weba
ppviewer/
index.html
?id=ad2cf
ac117a64
c19890f54
ba175f75
01&find=

HCC_WW HCC_WW [Open Web](#)
P009657 P009657 [Map](#)

1 HVJV INUS WWTR 42.499

Released under the Local Government Official Information and Meetings Act

P Criteria	Area_Nam e	Technique	Data received	CCTV Date Asset filmed	CCTV Filmed by who	CCTV Sent to who for coding	Date sent for coding	Coding reports received
------------	---------------	-----------	------------------	------------------------------	--------------------------	-----------------------------------	-------------------------	-------------------------------

P1	WWGP-B	CCTV/Lase r	16/06/21	16/06/21	EF			
----	--------	----------------	----------	----------	----	--	--	--

P1	WWGP-B	CCTV/Lase r	16/06/21	16/06/21	EF			
----	--------	----------------	----------	----------	----	--	--	--

Released under the Local Government Official Information and Meetings Act

Released under the Local Government Official Information and Meetings Act

P1 WWGP-B r CCTV/Lase 16/06/21 16/06/21 EF

WIDTH	PIPE_MA TER	DEPTH	WORK_P ACKA	PROGRA M_GROU P	ROAD_C ORRIDOR	ROTATIO N	PAGENU M	full_addr ess
-------	----------------	-------	----------------	-----------------------	-------------------	--------------	-------------	------------------

375 RCON

0 WWGP-B

HVJV-
WWGP-B

Entirely
Outside

334.4407

113 Hutt



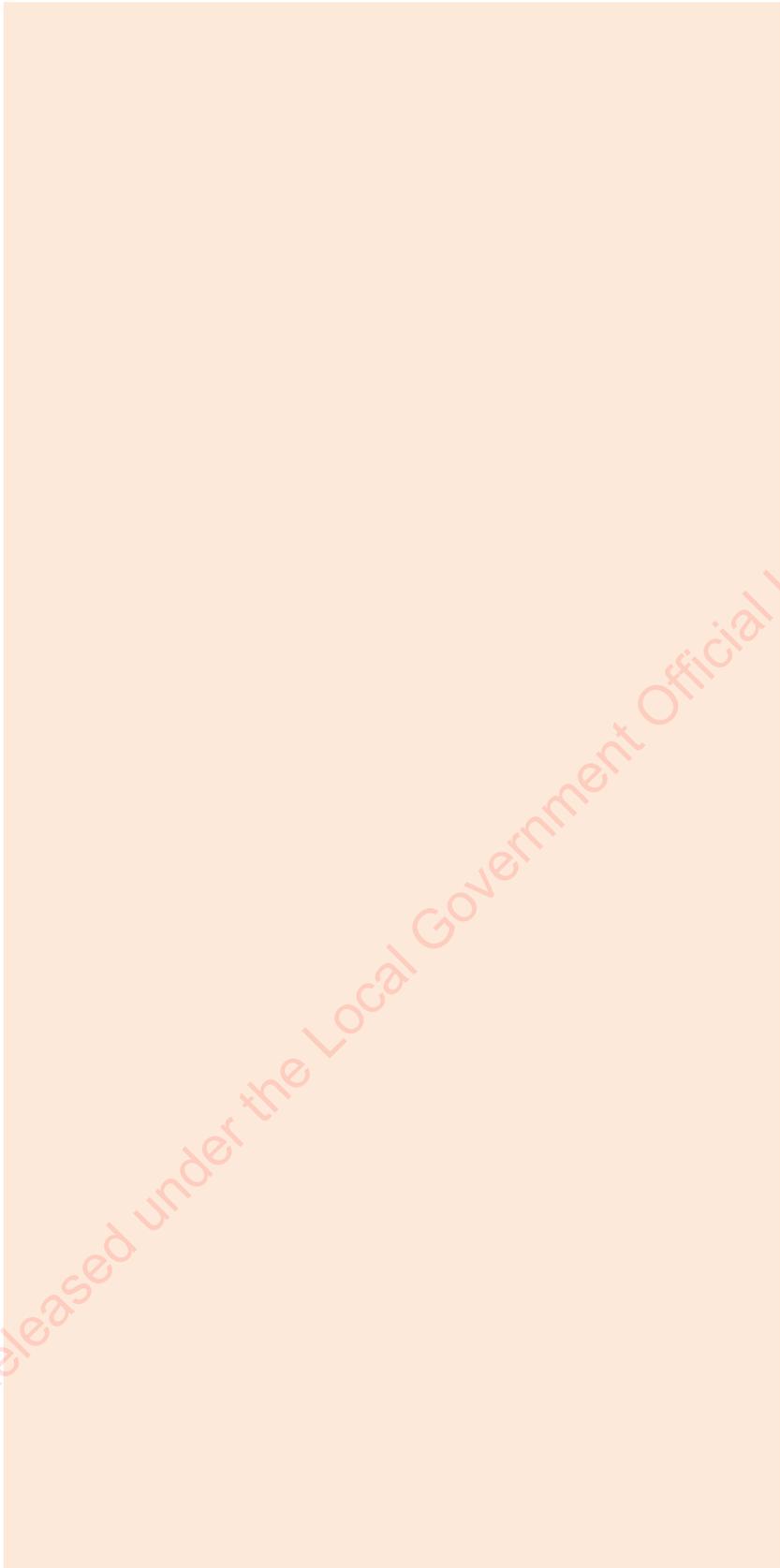
Stokes
Valley,
Lower

375 RCON 0 WWGP-B HVJV- Entirely 334.2449 114 Hutt
WWGP-B Outside
Stokes Valley, Lower
s 7(2)(a)

375 RCON 0 WWGP-B HVJV- Partially 317.9383 115 Hutt
WWGP-B Within
Stokes Valley, Lower
s 7(2)(a)

Released under the Local Government Official Information and Meetings Act

Laser Profiling date	Laser filmed by who	MSI Date	MSI filmed by who	Laser video sent to Redzone	RedZone Reports received	Survey Length	MH Depth	IC/IA
----------------------	---------------------	----------	-------------------	-----------------------------	--------------------------	---------------	----------	-------



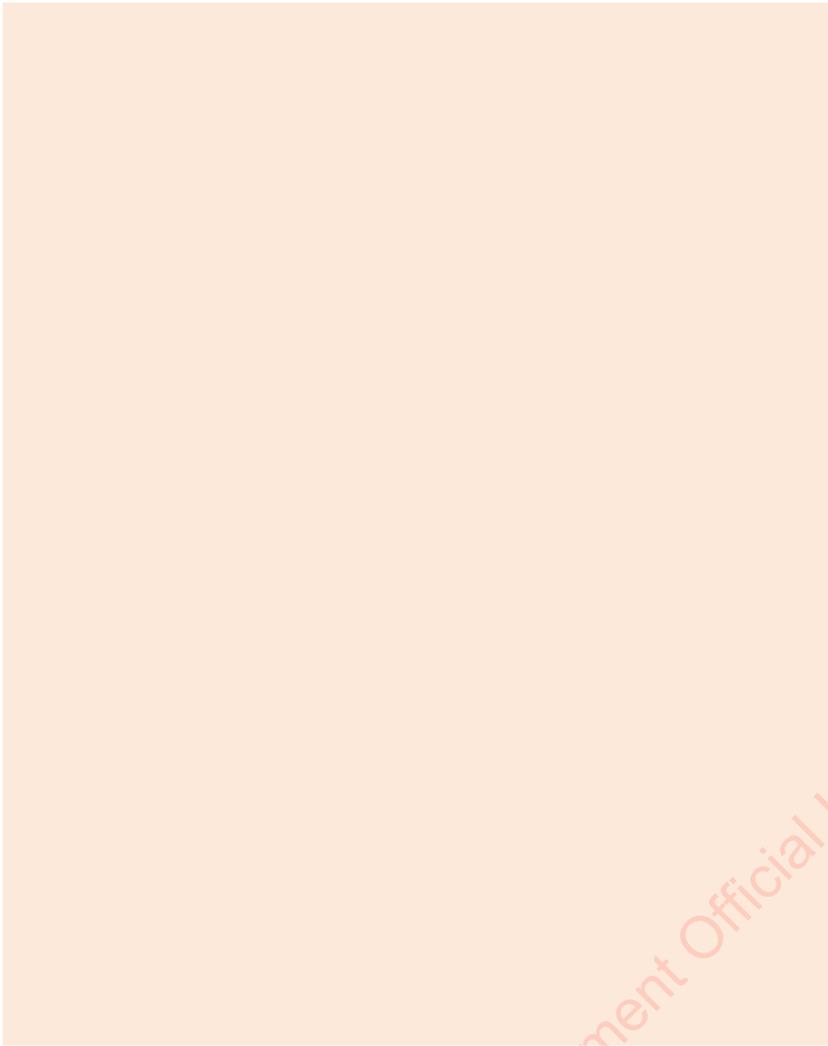
54.80

IC

15.60

IC

Released under the Local Government Official Information and Meetings Act



6.30

IA

DISTANC
E_TO_AD SHAPE_L
DRESS ength

Released under the Local Government Official Information and Meetings Act

77 17.08804

52 42.49891

Released under the Local Government Official Information and Meetings Act

Coded	Batch File No.	Batch file date	Date Batch Sent	Comments	Actions being taken	Closest address	CSE used?	TM used?
-------	----------------	-----------------	-----------------	----------	---------------------	-----------------	-----------	----------

				WWL 1.010 - In the setup page, please consider US Asset ID as HCC_WW 001602 and DS Asset ID as HCC_WW 001606. In the continuous header, please consider Direction as US HCC_WW 001602 to DS HCC_WW 001606.		Stokes Valley, Lower Hutt		
	WWL 1.010			WWL 1.010 - In the continuous header, please consider Direction as US HCC_WW 001606 to DS HCC_WW 001607.		Stokes Valley, Lower Hutt		

Released under the Local Government Official Information and Meetings Act

WWL
1.010

WWL
1.010 - In
the
continuou
s header,
please
consider
Direction
as US
HCC_WW
001607 to
DS
HCC_WW
001609.
Inspection
Abandone
d. Unable
to carry
on with
inspection
as flow is
too high.

§ 7(2)(a)

Stokes
Valley,
Lower
Hutt

From: [Diana Isaac](#)
To: [Matthew Lillis](#)
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)
Date: Thursday, 22 September 2022 8:15:26 am
Attachments: [image002.jpg](#)
[RE \[REDACTED\].Stokes Valley Lower Hutt \(ARL 221632\).msg](#)

Good morning Matthew

Please find the email below from John Baines as the latest correspondence concerning a request for information for [REDACTED] in Stokes Valley.

Many thanks
Diana

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 3:54 pm
To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Subject: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

COG – Undertaking CCTV – hopefully this week

Brian has provided as-built plan (attached)

No information has been forwarded

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 1:27 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Could we please discuss the request below concerning [REDACTED] in SV, and whether you have been involved in this earlier.

Many thanks
Diana

From: Uki Dele <Uki.Dele@wellingtonwater.co.nz>

Sent: Wednesday, 21 September 2022 11:47 am
To: Official Information <official.information@wellingtonwater.co.nz>; Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: RE: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita,

I am forwarding on to [@Diana Isaac](mailto:Diana.Isaac@wellingtonwater.co.nz) and [@Matthew Lillis](mailto:Matthew.Lillis@wellingtonwater.co.nz) to provide the information for this request.

Regards,

FYI I am in a conference on 22 - 23 September and will return to back to work on 27 September.

Uki Dele (she/her)
Chief Advisor, Stormwater & Climate Resilience
Network Development & Delivery
Mob [REDACTED]

From: Official Information <official.information@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:42 am
To: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Cc: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Kia ora Uki

The HCC are seeking help from us for an urgent OIA request.

Can you please assist us with the following information, with regard to storm water drains?

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your help and look forward to hearing from you.

Nga mihi nui
Gita

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

From: Clare Stanley <clarestanley@tdsl.co.nz>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <Gerarddewar@tdsl.co.nz>
Subject: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If

you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <[REDACTED] s 7(2)(a)>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED] s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <[REDACTED] s 7(2)(a)>
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] s 7(2)(a) Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED] s 7(2)(a)>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the [REDACTED] s 7(2)(a) to the left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards

Brendan

BRENDAN CARR

Senior Associate

Direct dial: s 7(2)(e)

Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354

Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

Clients are required to wear a mask when meeting at our offices.

If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

Released under the Local Government Official Information and Meetings Act

From: [Official Information](#)
To: [Josh Chuah](#)
Cc: [Official Information](#)
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)
Date: Monday, 31 October 2022 11:53:21 am
Attachments: [image002.jpg](#)

Hey Josh

Just letting you know, that John ended up providing the information to HCC.

Please refer to him for any further information.

Thanks

Gita

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Friday, 30 September 2022 3:39 pm
To: Official Information <official.information@wellingtonwater.co.nz>
Subject: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita

Information has been advised to HCC (Derek Kerite).
Please close out this OIA

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Official Information <official.information@wellingtonwater.co.nz>
Sent: Wednesday, 28 September 2022 3:54 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>; Official Information <official.information@wellingtonwater.co.nz>
Subject: RE: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Can you please confirm that you will be providing the remaining outstanding information to Derek and we will close this request off at our end?

We look forward to hearing from you.

Many Thanks

Gita

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Wednesday, 28 September 2022 1:00 pm
To: Official Information <official.information@wellingtonwater.co.nz>

Subject: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita

Wellington Water has CCTV'd the 225mm storm water main and found it to be fault free. This has been advised to HCC (Derek Kerite).

The as-built drawing (long section) would suggest the drain when laid, was approx 1m deep through [REDACTED] Reference manhole 35, 36 & 37 through [REDACTED]

Construction techniques if such information exists, would be held with HCC as a subdivision file or similar. The drawings are dated 1963 so information may be scarce.

Request	Comment	Action
WSP report prepared for Hutt City Council in 2015 to assess the slope hazard	This report will likely be with HCC	HCC responsibility
How deep the storm water drains are below the surface?	Perhaps the as-built long section may provide or WWL can measure depth to invert	Brian – if you are able to locate an as-built
Can copies of any construction records for the storm water system on the property be made available?	Likely any construction records will be with HCC Perhaps a subdivision file or similar	HCC responsibility
Please provide any additional information on the storm water drains - seep stops etc.	May be something on the as-builts but if not then it will be assumed there are none	Brian – if you are able to locate an as-built
In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?	WWL did CCTV camera a small length of the drain but I have requested a full camera inspection including the portion of the drain down the slope as far as practical to camera.	Dirk / Ray – can provide CCTV of the portion we have already CCTV inspected

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Official Information <official.information@wellingtonwater.co.nz>

Sent: Wednesday, 28 September 2022 9:07 am
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Morena John

Sorry for any confusion, as we appear to have been caught up in this request.

We understand that you have been dealing with this request and seek clarification, whether you will be providing all related information to Derek Kerite from HCC.

Can you please advise?

We look forward to hearing from you.

Nga mihi nui

Gita Jeram (she/her)
LGOIMA Administration Assistant - Chief Executive's Office



Private Bag 39804, Wellington Mail Centre 5045
Level 4, 25 Victoria Street, Petone, Lower Hutt

From: Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Sent: Tuesday, 27 September 2022 1:28 pm
To: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Information relating to [REDACTED]

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Sent: Thursday, 22 September 2022 8:15 am
To: Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Good morning Matthew

Please find the email below from John Baines as the latest correspondence concerning a request for information for [REDACTED] in Stokes Valley.

Many thanks
Diana

From: John Baines <John.Baines@wellingtonwater.co.nz>

Sent: Wednesday, 21 September 2022 3:54 pm
To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Subject: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

COG – Undertaking CCTV – hopefully this week

Brian has provided as-built plan (attached)

No information has been forwarded

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 1:27 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Could we please discuss the request below concerning [REDACTED] in SV, and whether you have been involved in this earlier.

Many thanks
Diana

From: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:47 am
To: Official Information <official.information@wellingtonwater.co.nz>; Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: RE: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita,

I am forwarding on to [@Diana Isaac](mailto:Diana.Isaac@wellingtonwater.co.nz) and [@Matthew Lillis](mailto:Matthew.Lillis@wellingtonwater.co.nz) to provide the information for this request.

Regards,

FYI I am in a conference on 22 - 23 September and will return to back to work on 27 September.

Uki Dele (she/her)
Chief Advisor, Stormwater & Climate Resilience
Network Development & Delivery
Mob [REDACTED] s 7(2)(a)

From: Official Information <official.information@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:42 am
To: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Cc: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA- [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Kia ora Uki

The HCC are seeking help from us for an urgent OIA request.

Can you please assist us with the following information, with regard to storm water drains?

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your help and look forward to hearing from you.

Nga mihi nui
Gita

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>

Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

From: Clare Stanley <[REDACTED]>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <[REDACTED]>
Subject: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <[REDACTED]>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. Our client now has more specific requests relating to the storm water drain, specifically:

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial [REDACTED] s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley [REDACTED] s 7(2)(a) >
Sent: Tuesday, 13 September 2022 12:07 p.m.

To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED]>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the [REDACTED] left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial [REDACTED]
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

Clients are required to wear a mask when meeting at our offices.

If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

Released under the Local Government Official Information and Meetings Act

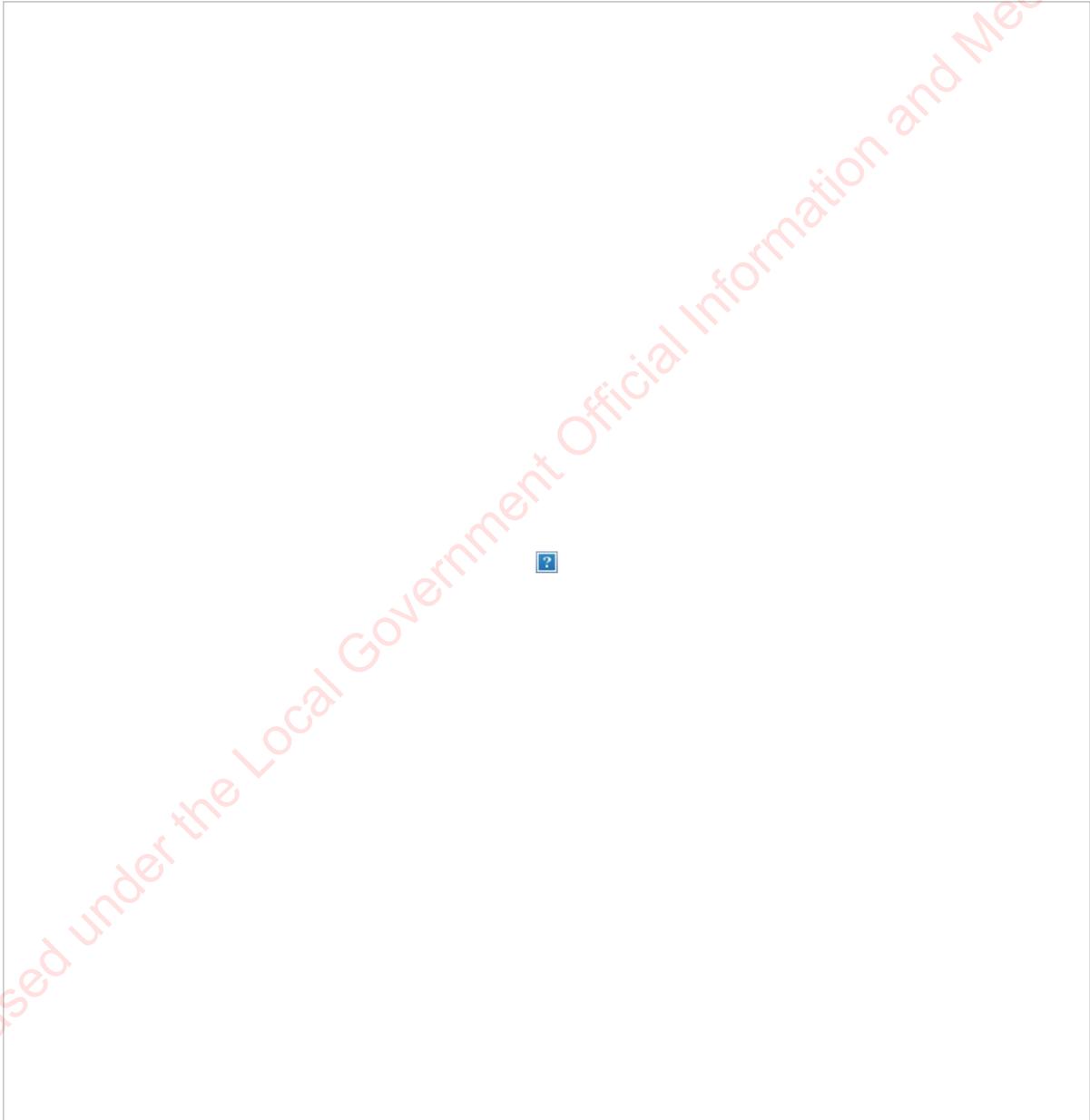
From: [Jane Nichols](#)
To: [Sandro Lopez Fernandez](#)
Subject: HCC Inflow Survey Data in Infoasset
Date: Tuesday, 6 July 2021 5:07:00 pm
Attachments: [image001.jpg](#)
[WW Inflow Catchments Survey 2020_2021.pdf](#)
[image005.png](#)
[RE Inflow survey HCC.msg](#)

Hi Sandro,

The pink catchments (Inflow Surveys Completed as per HCC's Map attached) with no green (drain tests) indicate where we are missing data. I went back to cross check some addresses in the data that PK provided (see attached) and noticed that we haven't imported all the inspections or maybe there was an error with the import. Would appreciate if you can help to import this data set again to see if we can populate the rest. (Not urgent – just when you have time).

Cheers

Jane



Ngā mihi

Jane Nichols Investigations Engineer



Tel 04 912 4400 Mob: 9 7(2)(a)

Private Bag 39804, Wellington Mail Centre 5045

Field1 BWW Area Flag St . Flat Street Name st suffix
HOLBO00 Stokes

60 05.09 Valley N [REDACTED]

Name of Name of
PropPost Property Property

Code Owner Owner 2 ID Date Page

5019 [REDACTED] ##### 0

TCB Fault

Result code C1 C2 C3 C4 C5 C6

PASS

C7 C8

Fault Description Comment Notice Posted 1 suspect repair-revisit Dye test comment Dye Test result Inspections in the rain comment Owners Address

FALSE

Owners
Address 2 City
Stokes
Valley

Owner Legal Reinspect ion 1
Postal Descriptio Reinspect Reinspection 1
City 2 Code n Plan Prop ID ion 1 date Result s

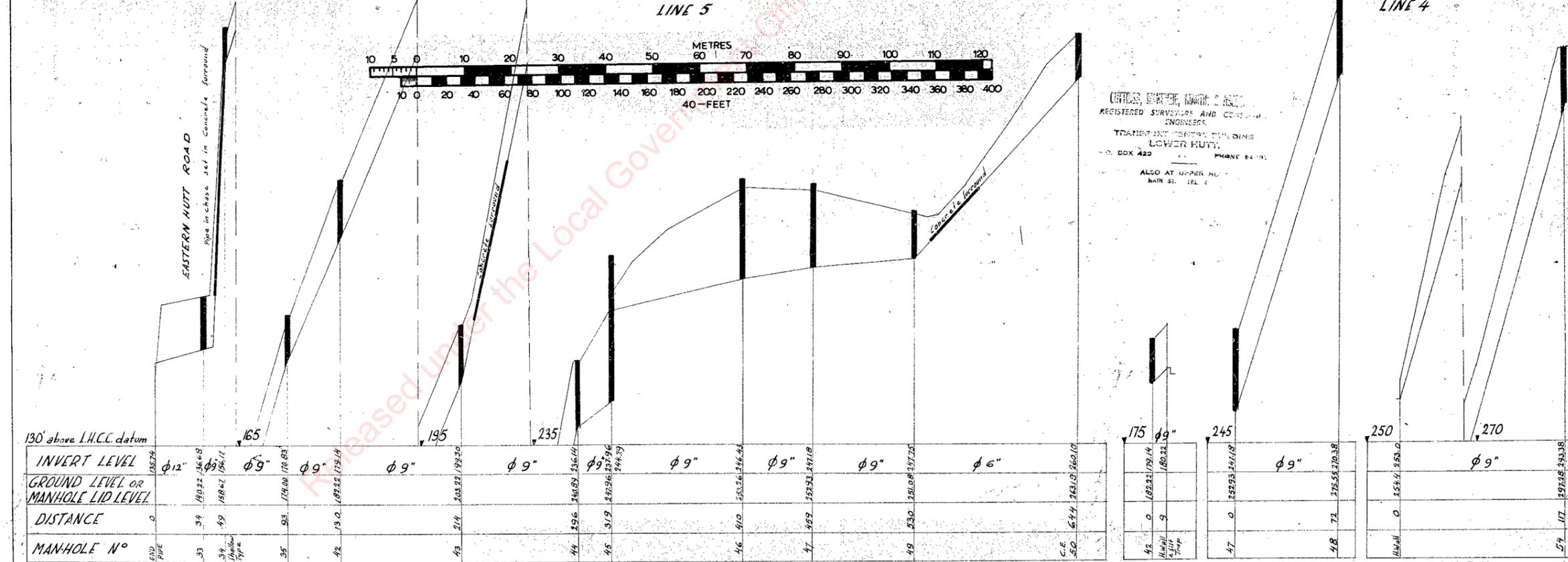
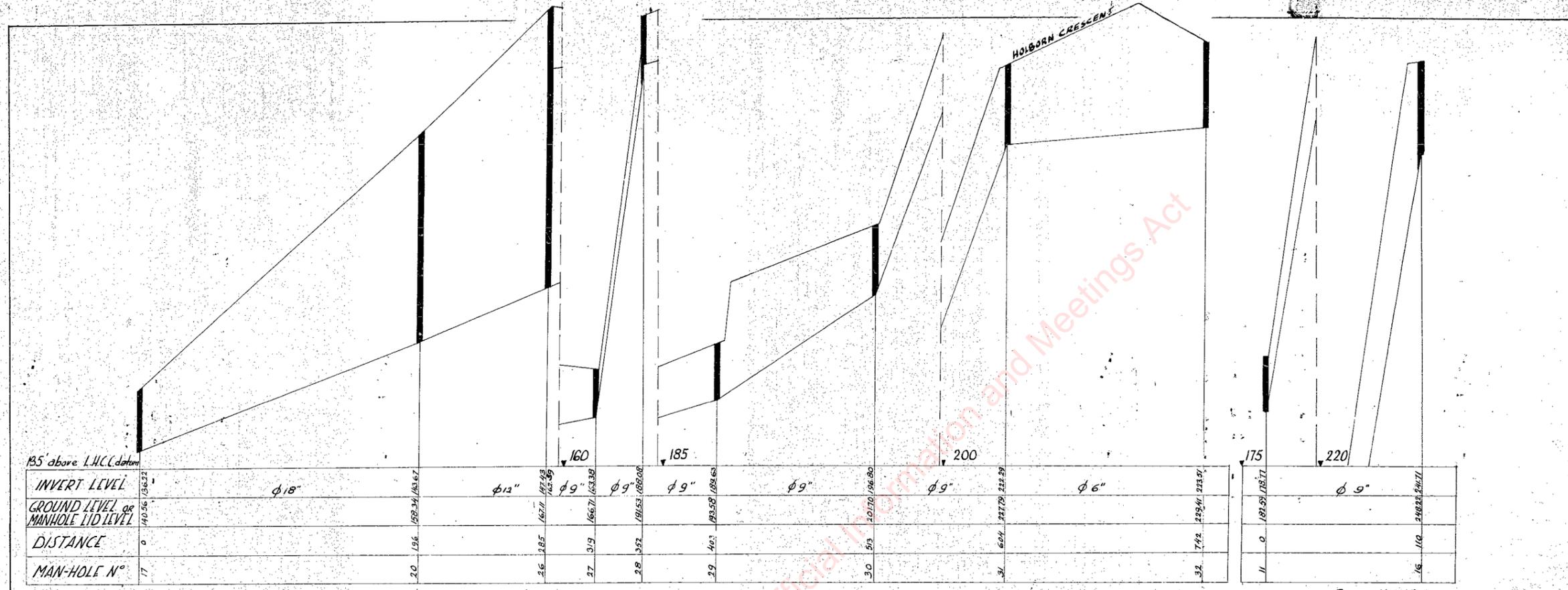
Fault Reinspect ion 2 Fault
Notice Reinspect ion 2 Comment Notice Reinspection 3
Posted 2 ion 2 date Results s Posted 3 Result

Reinspect ion 3 Fault Reinspect ion 4 Location
ion 3 Comment Notice ion 4 Comment plan/sket Fault
Date s Posted 4 Result s ch Fault photo 1 photo 2

Fault photo 3 Fault photo 4
photo 5 pool PVL1 PVL2 PVL3 PVL4 dog HNZ
FALSE FALSE FALSE

WGS84La WGS84Lo
NZTMLat NZTMLon t n F65
FALSE

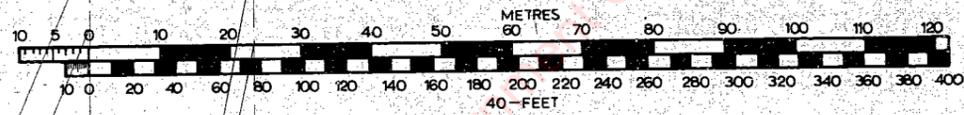
Released under the Official Information and Meetings Act

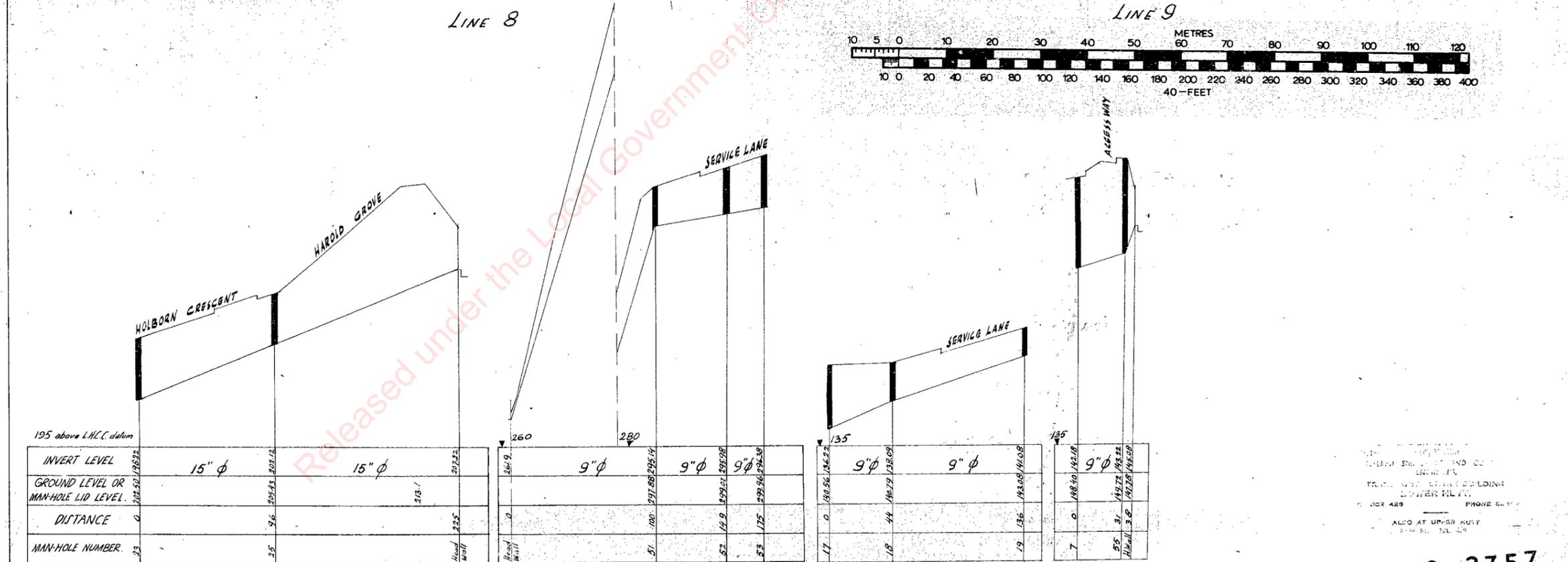
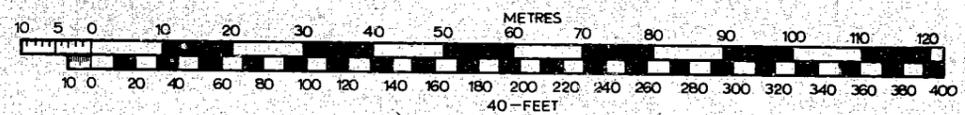
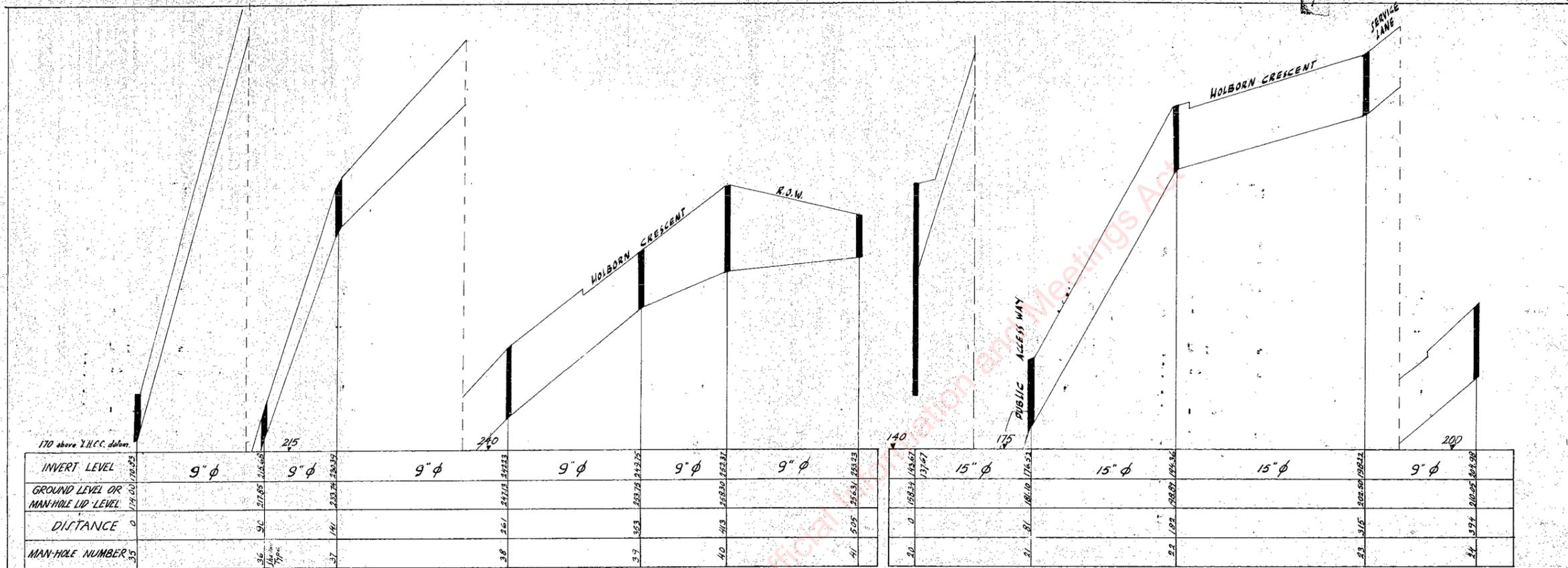


LONGITUDINAL SECTIONS STORMWATER DRAINS
 Scale: Horizontal 40 Feet to an Inch
 Vertical 4 Feet to an Inch

FOR LOWER HUTT CITY COUNCIL STOKES VALLEY DEVELOPMENT SCHEME
 LOWER HUTT SERVICES AS LAID
 Cuttriss, McKenzie, Martin & Associates
 Reg'd Surveyors & Consulting Engineers
 September 1963
 Sheet 8 of 9 Sheets
 456-2

CUTTRISS, MCKENZIE, MARTIN & ASSOCIATES
 REGISTERED SURVEYORS AND CONSULTING ENGINEERS
 TRANSPORT HOUSE, 100, BROADWAY
 LOWER HUTT,
 P.O. BOX 423 PHONE 64 100
 ALSO AT UPPER HUTT
 MAIN ST. TEL 4





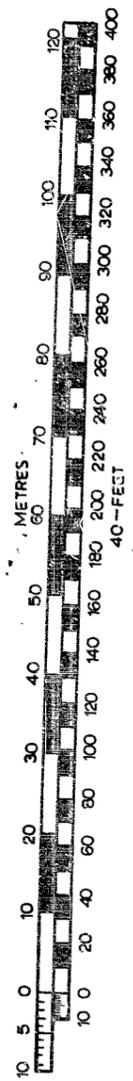
LONGITUDINAL SECTIONS STORMWATER DRAINS

Scales: Horizontal 40 Feet to an Inch
Vertical 4 Feet to an Inch

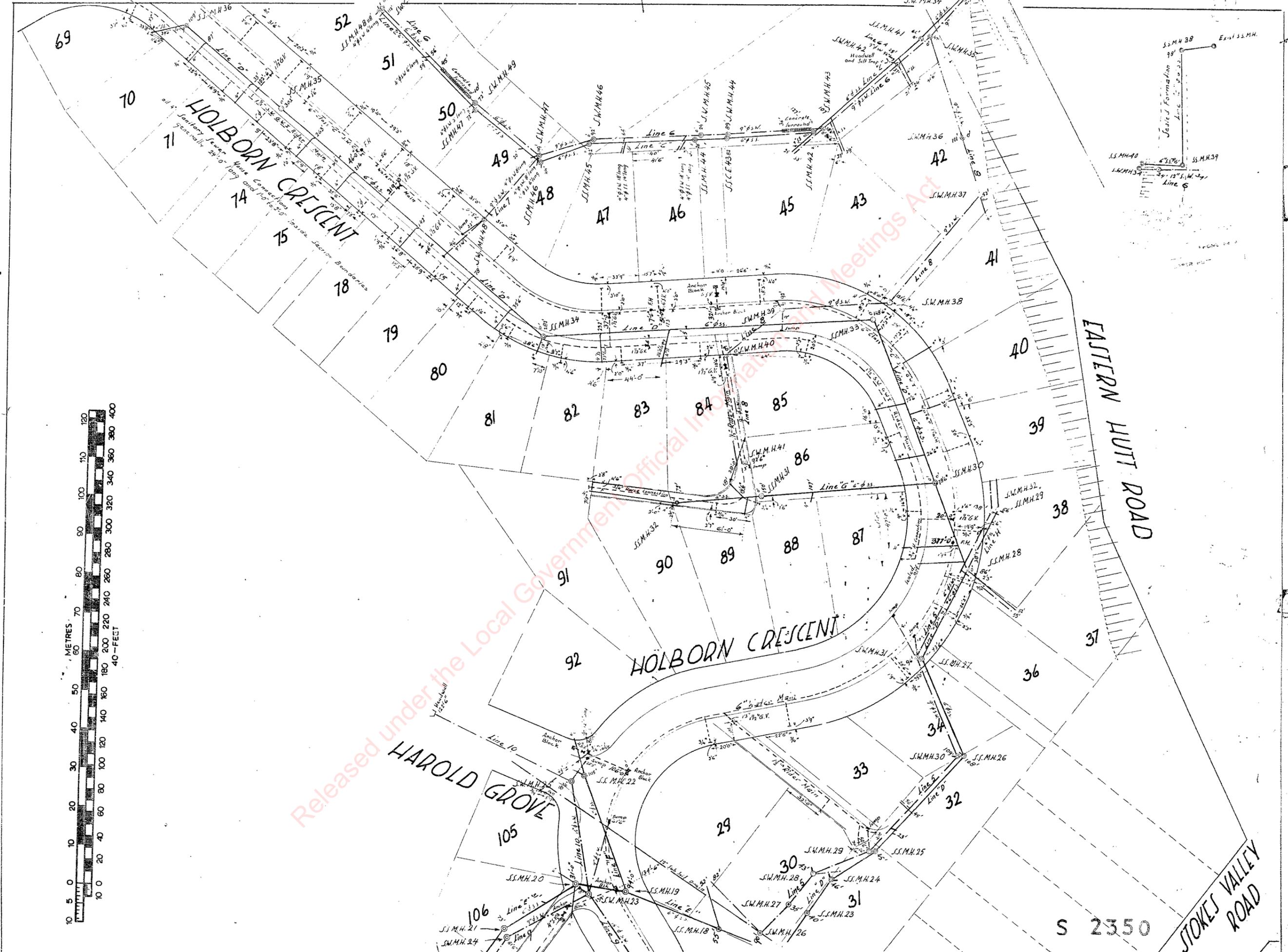
FOR LOWER HUTT CITY COUNCIL LOWER HUTT
STOKES VALLEY DEVELOPMENT SCHEME SERVICES AS LAID
Cuttriss, McKenzie, Martin & Associates
September 1963
Sheet 9 of 9 Sheets
456-2

S 2357

Released under the Local Government Official Information and Meetings Act



Scale: 40 Feet to an Inch



From: [John Scott](#)
To: [Danica Ni](#)
Subject: Intergroup Copy of Wellington Water - Tracker 2021.12.01.xlsx
Date: Friday, 18 February 2022 3:27:00 pm
Attachments: [Intergroup Copy of Wellington Water - Tracker 2021.12.01.xlsx](#)

Released under the Local Government Official Information and Meetings Act

Asset ID	Owner	Criticality	Diameter	Material	Pipe Type	Technique	GIS Length	Survey Length
----------	-------	-------------	----------	----------	-----------	-----------	------------	---------------

HCC_WW P009657	HVJV	P1	375	RCON	WWTR	CCTV	42.499	
-------------------	------	----	-----	------	------	------	--------	--

HCC_WW P009655	HVJV	P1	375	RCON	WWTR	CCTV	17.088	15.6
-------------------	------	----	-----	------	------	------	--------	------

Released under the Local Government Official Information and Meetings Act

Abandoned	Completion Status	Required to	PS SUM REQUESTED	IC/IA	General Comment	Received	CCTV Operator	Filmed
						16/06/21	EF	16/06/21
6.3 REVISIT	Revisit	Revisit		IA	(NEEDS LASER) nightworks	16/06/21	EF	16/06/21
REVISIT	Revisit			IC	(NEEDS LASER) No Access from both US and DS MHs			

Released under the Local Government Official Information and Meetings Act

Coder	Sent for Coding	Coding Received	Laser Profiling	Laser Operator	MSI	MSI Operator	Sent to Redzone	RedZone Received
0			N/A	N/A	N/A	N/A	N/A	
0			N/A	N/A	N/A	N/A	N/A	

Released under the Local Government Official Information and Meetings Act

WinCan Project #	Intergrou p Batch ID	Batch Submissio	Version	Version Date	GHD Review	GHD Review	GHD / Project	Adit
Wellingto n Water 1.010	0							

Wellingto 0
n Water
1.010

Released under the Local Government Official Information and Meetings Act

Adit Date	Adit Comment	WinCan Comment	Comments	Closest address	CSE used?	TM used?	As Built	As Built Drawing
			WWL 1.010 - In the continuous header, please consider Direction as US HCC_WW 001607 to DS HCC_WW 001609. Inspection Abandoned. Unable to carry on with inspection as flow is too high.	[REDACTED] Stokes Valley, Lower Hutt			0	
			WWL 1.010 - In the continuous header, please consider Direction as US HCC_WW 001606 to DS HCC_WW 001607. Inspection Abandoned. Unable to carry on with inspection as flow is too high.	[REDACTED] Stokes Valley, Lower Hutt			0	

Released under the Local Government Official Information and Meetings Act



Drain Doctor NZ Ltd
 95 Belmont Road
 Porirua 5381,
 office@draindoctor.co.nz
 04 566 9252

Hutt: 566 9252 Wgtn: 499 9392 Porirua: 238 9911 office@draindoctor.co.nz 95 Belmont Rd, Porirua

Fulton Hogan (Wgton Water)
 PO Box 38208 WMC
 Lower Hut

Site Address

[Redacted]

Stokes Valley,
 Lower Hutt, 5019

Invoice Number: INV-28312
 Job Number: J-22696
 Invoice Date: 22nd Jul 2022
 Due Date: 20th Aug 2022
 GST Number: 97-103-641
 Order Number: PO:280449 WO209239

Tax Invoice | INV-28312

Payment [Redacted] This is a payment claim under the Construction Contracts Act 2002

Name	Quantity	Price	Total
J-22696a CCTV Stormwater Line			
Arrived on site with ray cc v down on next manhole and recorded on the way back pipes in good condition.			
Caeb Cherrng on 22/07/2022, Trave , Labour and CCTV	1.00	\$180.00	\$180.00
			\$180.00
		Subtotal	\$180.00
		GST Amount	\$27.00
		Total	\$207.00

Terms:

Payment Claim: This is a payment claim under the Construction Contracts Act 2002

1. You must notify Drain Doctor NZ Ltd of any claims within 7 days of completion of the job. Claims may not be accepted after this date.
2. If you do not pay Drain Doctor NZ Ltd on time interest will accrue from that date on any amount outstanding at the rate of 2.5% per month.
3. If full payment is not made Drain Doctor NZ Ltd will seek from you the cost of all debt collection, including legal costs on a solicitor/client basis.

Bank Account **06 0549 0321645 00 Please quote invoice number** Invoice Number **INV-28312**

Released under the Local Government Official Information and Meetings Act 2002

From: [Drain Doctor NZ Ltd](#)
To: fhwf.accpay@fultonhogan.com; [Ray Ritchie](#); [Vanessa Ellis](#)
Subject: Invoice INV-28312 for [REDACTED], Stokes Valley from Drain Doctor NZ Ltd (J-22696)
Date: Monday, 25 July 2022 12:05:39 pm
Attachments: [INV-28312.pdf](#)

Your Invoice from Drain Doctor NZ Ltd (J-22696)

[REDACTED]

INV-28312 is due on 20/08/2022

[Open Invoice](#)

Hi,

Here's your tax invoice INV-28312 for \$ [REDACTED] for work completed at [REDACTED], Stokes Valley.

To view, print, download or pay the invoice, please click the Open Invoice button above.

If you have any questions, please contact us on **04 566 9252**.

Thanks

Drain Doctor NZ Ltd

Released under the Local Government Official Information and Meetings Act

From: [Lauren Calcinai](#)
To: [Kara Scrimgeour](#)
Date: Friday, 22 July 2022 10:25:49 am

hey let me know if you see a job for s 7(2)(a)

Released under the Local Government Official Information and Meetings Act

From: [Lauren Calcinaï](#)
To: [Glenis Bruin](#)
Date: Friday, 22 July 2022 10:37:53 am

hey i have attached the photos for s 7(2)(a) have marked it as done

Released under the Local Government Official Information and Meetings Act

From: [Grant Ngarewa](#)
To: [Bryant, Conor \(KT\)](#)
Subject: Maximo_July2022.xlsx
Date: Monday, 1 August 2022 3:14:00 pm
Attachments: [Maximo_July2022.xlsx](#)

Hi Bryant,

Please find attached July's call list.

Cheers

Grant

Released under the Local Government Official Information and Meetings Act

From: rfshuttcity.govt.nz
To: craig.ewart@huttcity.govt.nz; [hcc Customer](#)
Subject: Problem reported successfully
Date: Friday, 22 July 2022 10:28:21 am

Thank you for bringing this issue/problem to our attention.

We will take the appropriate action to remedy this situation. Your request has been logged as an *Stormwater* with below details

Enquiry Number: 576505

Current Status: *Call Logged*

Logged Date: 2022-07-22T10:28:12

Subject: *SW-P1 Urgent Fault*

Description: : *Please camera the storm water main shown in photo 093201 for possible damage as a result of the landslip next to the man hole cover. Please forward all findings to Craig.Ewart@huttcity.govt.nz ph [REDACTED] - emailing photos to Customer ww*

Location: [REDACTED], *STOKES VALLEY*

Site: [REDACTED]

Customer Contact Name: *Craig Ewert*

Customer Phone: [REDACTED]

Customer Alt Number:

Customer Email: *craig.ewart@huttcity.govt.nz*

Pin location picture:



Released under the Local Government Official Information and Meetings Act

From: [Paul Pugh](#)
To: [John Baines](#); [Derek Kerite](#)
Cc: [Bradley Cato](#); [Jon Kingsbury](#); [Ray Ritchie](#); [Diana Isaac](#); [Matthew Lillis](#)
Subject: RE: [EXTERNAL] [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)
Date: Friday, 23 September 2022 8:36:26 am
Attachments: [image001.png](#)
[image002.png](#)

Hi John

Thank you in Derek's absence.

Regards

Paul

Paul Pugh

[Building Manager](#)

Hutt City Council, 30 Laings Road, Lower Hutt 5010

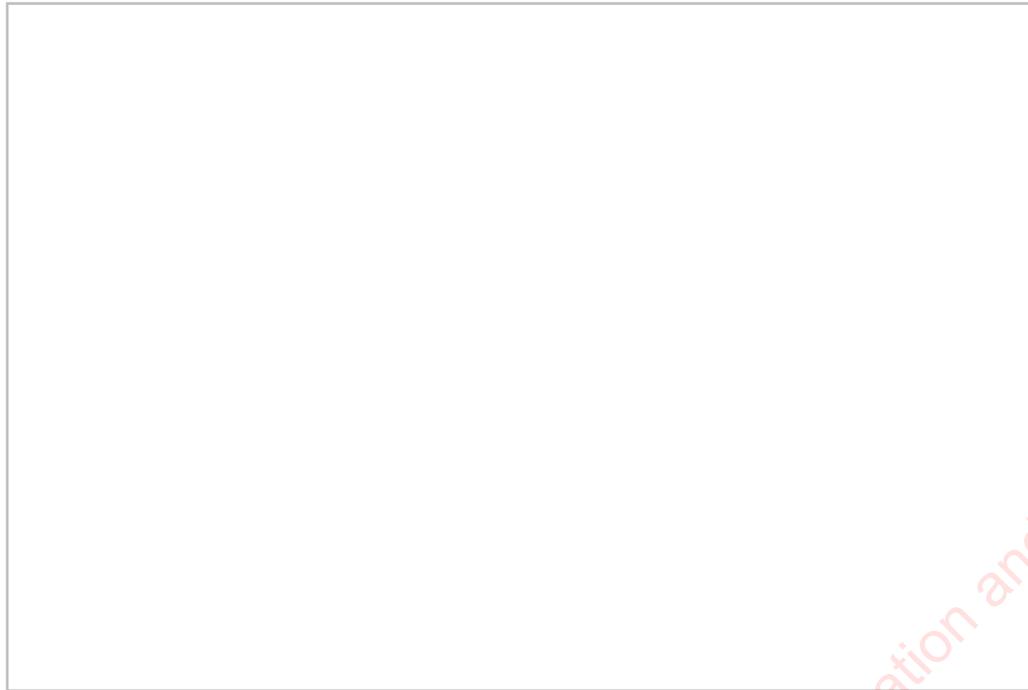
P: [M:](#) [REDACTED] **W:** www.huttcity.govt.nz



From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Thursday, 22 September 2022 4:04 pm
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>; Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: [EXTERNAL] [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Derek

CCTV completed. The storm water pipe is without fault.



John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Clare Stanley <clarestanley@tdsl.co.nz>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <Gerarddewar@tdsl.co.nz>
Subject: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <clarestanley@tdsl.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: **s 7(2)(e)**
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <[REDACTED] s 7(2)(a)>
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley [REDACTED] s 7(2)(a)
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the [REDACTED] s 7(2)(a) to the left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED] s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

Released under the Local Government Official Information and Meetings Act

From: [Ray Ritchie](#)
To: [Craig Ewart](#)
Cc: [Dirk Naish](#); [John Baines](#)
Subject: RE: [EXTERNAL] FW: [REDACTED] s 7(2)(a)
Date: Tuesday, 26 July 2022 2:28:57 pm
Attachments: [image003.jpg](#)
[image004.png](#)
[image005.png](#)
[image006.jpg](#)

Afternoon Craig,

What pipes are we meant to CCTV there are no council assets in the property,

Cheers

Ray Ritchie Team Leader - Drainage Hutt Valley



Tel 04 912 4400 Mob [REDACTED] s 7(2)(a)

Email Ray.Ritchie@wellingtonwater.co.nz

Private Bag 39804, Wellington Mail Centre 5045
Level 4, 25 Victoria Street, Petone, Lower Hutt

www.wellingtonwater.co.nz

-
Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils, South Wairarapa District Council and Greater Wellington Regional Council. We manage their drinking water, wastewater and stormwater services.

From: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Sent: Tuesday, 26 July 2022 11:26 am
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: RE: [EXTERNAL] FW: [REDACTED] s 7(2)(a)

Thanks Ray

Could you please arrange for the pipes at [REDACTED] s 7(2)(a) to be cameraed also, as soon as possible.

Thanks
Craig

Craig Ewart
Inspections Team Lead

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] s 7(2)(a) **W:** www.huttcity.govt.nz



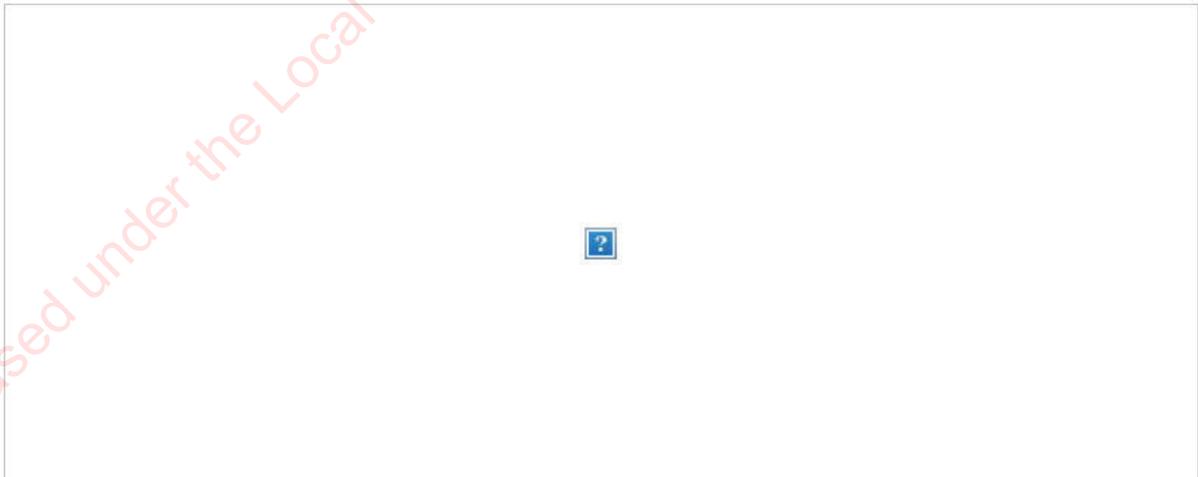
IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Sent: Monday, 25 July 2022 12:41 PM
To: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: [EXTERNAL] FW: [REDACTED]

Afternoon Craig,

Here is the CCTV footage of the stormwater main of [REDACTED]

Cheers



From: Drain Doctor <office@draindoctor.co.nz>
Sent: Monday, 25 July 2022 12:05 pm
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Subject: [REDACTED]

Hi Ray,

Please see link for cctv footage.

https://youtu.be/ZAp_rg1jhcM

[- YouTube](#)

and share it all with friends, family, and the world on YouTube.

youtu.be

Kind Regards



Released under the Local Government Official Information and Meetings Act

From: [Craig Ewart](#)
To: [Ray Ritchie](#)
Cc: [Derek Kerite](#)
Subject: RE: [EXTERNAL] FW: [REDACTED] s 7(2)(a)
Date: Thursday, 28 July 2022 9:46:40 am
Attachments: [image001.jpg](#)
[image002.png](#)
[image003.png](#)
[image004.jpg](#)
[ATT00001.png](#)

Hi Ray

Are you able to camera the private drains on our behalf please just to rule out any damage.

Regards

Craig

Craig Ewart
Inspections Team Lead

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: **M:** [REDACTED] s 7(2)(a) **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Craig Ewart
Sent: Tuesday, 26 July 2022 3:03 PM
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: RE: [EXTERNAL] FW: [REDACTED] s 7(2)(a)

Hi Ray

I had looked over our records and was unable to find anything either. I am glad to see we have the same records. I sincerely apologise if I have wasted your time.

Thanks for your help.

Regards
Craig

From: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Sent: Tuesday, 26 July 2022 2:29 PM
To: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: RE: [EXTERNAL] [REDACTED]

Afternoon Craig,

What pipes are we meant to CCTV there are no council assets in the property,

Cheers

Ray Ritchie Team Leader - Drainage Hutt Valley



Tel 04 912 4400 **Mob** [REDACTED]

Email Ray.Ritchie@wellingtonwater.co.nz

Private Bag 39804, Wellington Mail Centre 5045
Level 4, 25 Victoria Street, Petone, Lower Hutt

www.wellingtonwater.co.nz

-
Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils, South Wairarapa District Council and Greater Wellington Regional Council. We manage their drinking water, wastewater and stormwater services.

From: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Sent: Tuesday, 26 July 2022 11:26 am
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: RE: [EXTERNAL] FW: [REDACTED]

Thanks Ray

Could you please arrange for the pipes at [REDACTED] to be cameraed also, as soon as possible.

Thanks
Craig

Craig Ewart

Inspections Team Lead

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: **M:** s 7(2)(a) **W:** www.huttcity.govt.nz



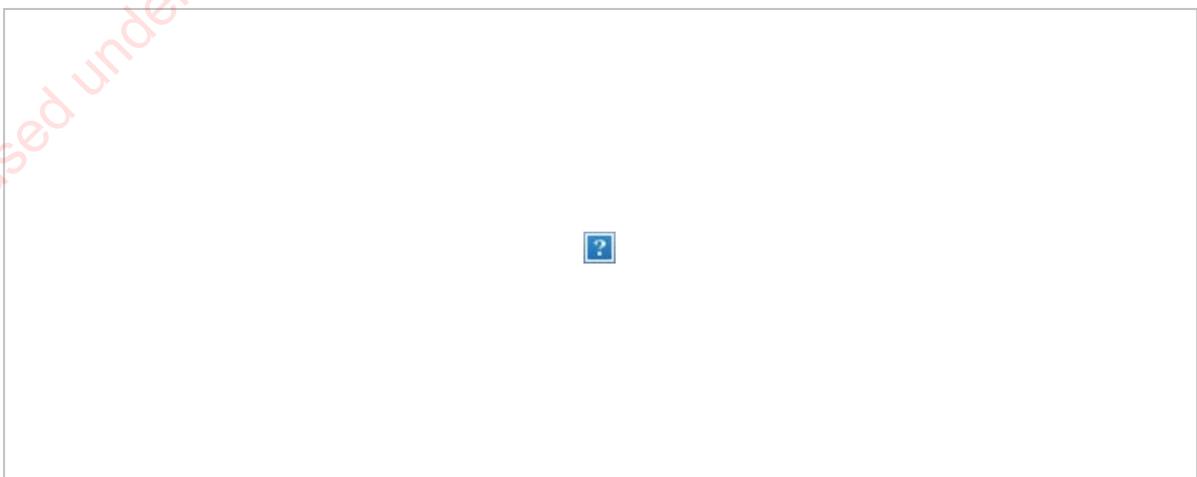
IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Sent: Monday, 25 July 2022 12:41 PM
To: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; John Baines <John.Baines@wellingtonwater.co.nz>
Subject: [EXTERNAL] FW: s 7(2)(a)

Afternoon Craig,

Here is the CCTV footage of the stormwater main of s 7(2)(a),

Cheers



From: Drain Doctor <office@draindoctor.co.nz>
Sent: Monday, 25 July 2022 12:05 pm
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Subject: [REDACTED]

Hi Ray,

Please see link for cctv footage.

https://youtu.be/ZAp_rg1jhcM

[- YouTube](#)

and share it all with friends, family, and the world on YouTube.

youtu.be

Kind Regards



Released under the Local Government Official Information and Meetings Act

From: [Brian Smith](#)
To: [John Baines](#); [Holly MacKay](#); [Josh Chuah](#)
Cc: [Tim Harty](#); [Dirk Naish](#)
Subject: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)
Date: Thursday, 15 September 2022 5:11:00 pm
Attachments: [REDACTED] [Stokes Valley Road Services As-Built S2357.pdf](#)
[REDACTED] [Stokes Valley Road Services As-Built S2356.pdf](#)
[REDACTED] [Services As-Built S2350.pdf](#)
[image001.png](#)

Hi John

Found attached asbuilts of the public SW.

S2350 is the plan drawing. Plan has Lot numbers. [REDACTED]

S2357 has long section for SW line 8, which runs around the back of no [REDACTED]

S2356 has long section for SW line 6, which 66 and down onto Eastern Hutt Rd

They are typical as builts from the 60's and don't have a lot of detail. There is invert levels on the long sections

Thanks

Brian

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Thursday, 15 September 2022 3:28 pm
To: Holly MacKay <Holly.MacKay@wellingtonwater.co.nz>; Josh Chuah <Josh.Chuah@wellingtonwater.co.nz>
Cc: Tim Harty <Tim.Harty@wellingtonwater.co.nz>; Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi All - Additional information being requested under this OIA

Brian – do you know if you can locate an as-built of this S/W drain in the HCC system.

Also I will request from HCC if they have the engineers assessment of the slip face and the position of the public storm water drain in relation to the slip

My comments at this stage are

Request	Comment	Action
WSP report prepared for Hutt City Council in 2015 to assess the slope hazard	This report will likely be with HCC	HCC responsibility
How deep the storm water drains are below the surface?	Perhaps the as-built long section may provide or WWL can measure depth to invert	Brian – if you are able to locate an as-built
Can copies of any construction records for the storm water system on the	Likely any construction records will be with HCC Perhaps a subdivision file or	HCC responsibility

property be made available?	similar	
Please provide any additional information on the storm water drains - seep stops etc.	May be something on the as-builts but if not then it will be assumed there are none	Brian – if you are able to locate an as-built
In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?	WWL did CCTV camera a small length of the drain but I have requested a full camera inspection including the portion of the drain down the slope as far as practical to camera.	Dirk / Ray – can provide CCTV of the portion we have already CCTV inspected

John Baines

Customer Planning Engineer - Wellington Water

Mob [REDACTED] s 7(2)(a)

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>

Sent: Thursday, 15 September 2022 1:15 pm

To: John Baines <John.Baines@wellingtonwater.co.nz>

Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>

Subject: FW: [EXTERNAL] FW: [REDACTED] s 7(2)(a) Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED] s 7(2)(a). We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

Derek Kerite

Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] s 7(2)(a) **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

From: Clare Stanley <clarestanley@tdsl.co.nz>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <Gerarddewar@tdsl.co.nz>
Subject: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Kia Ora Derek

[REDACTED]

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <clarestanley@tdsl.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: **s 7(2)(e)**
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <[REDACTED] s 7(2)(a)>
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED] s 7(2)(a)>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the [REDACTED] s 7(2)(a) to the left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED] s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

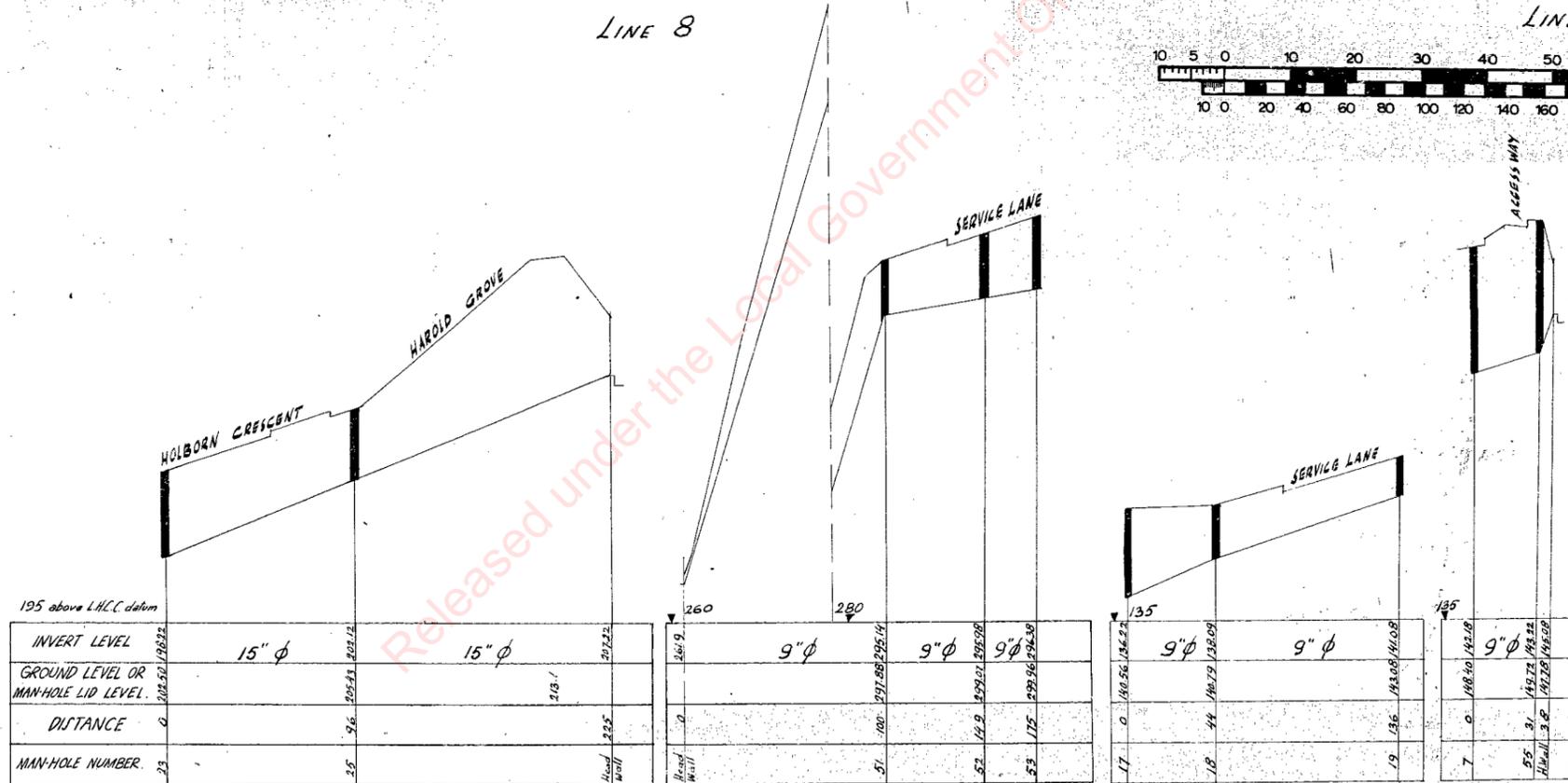
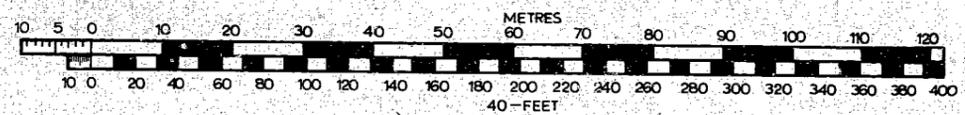
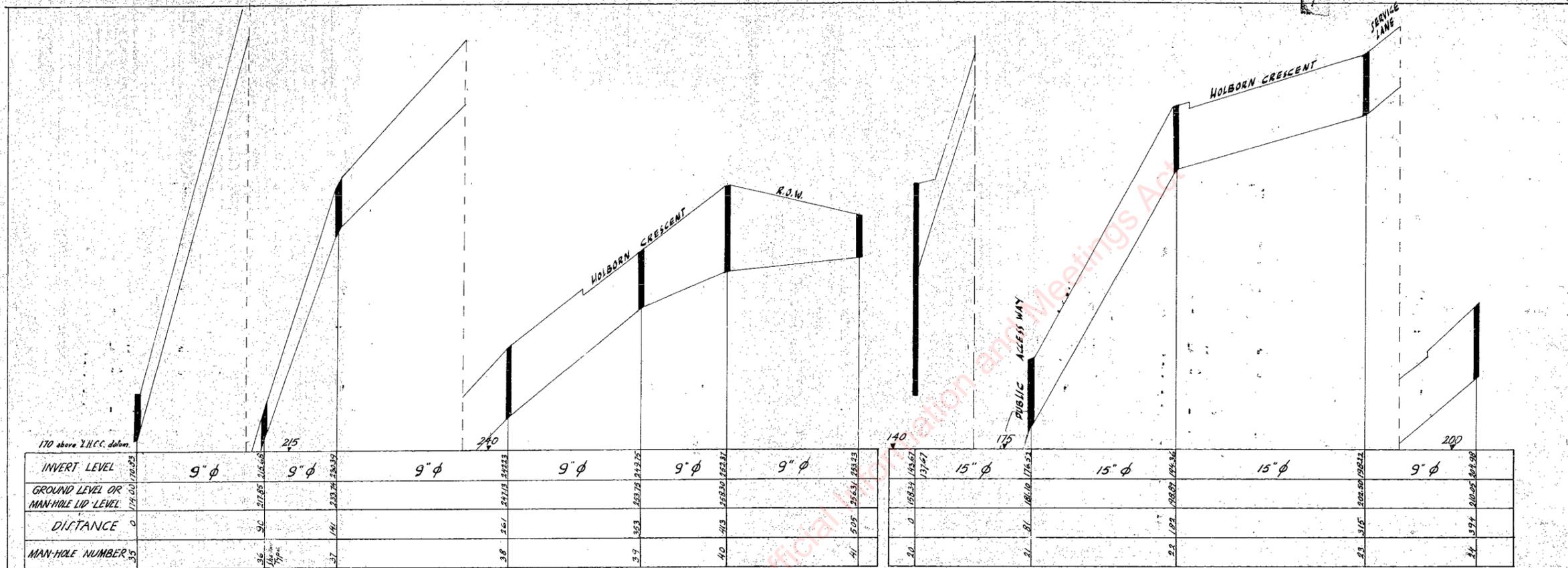
ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

Released under the Local Government Official Information and Meetings Act



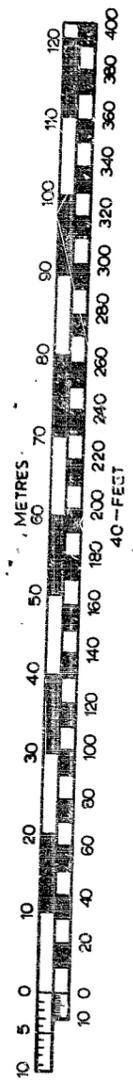
LONGITUDINAL SECTIONS STORMWATER DRAINS

Scales: Horizontal 40 Feet to an Inch
Vertical 4 Feet to an Inch

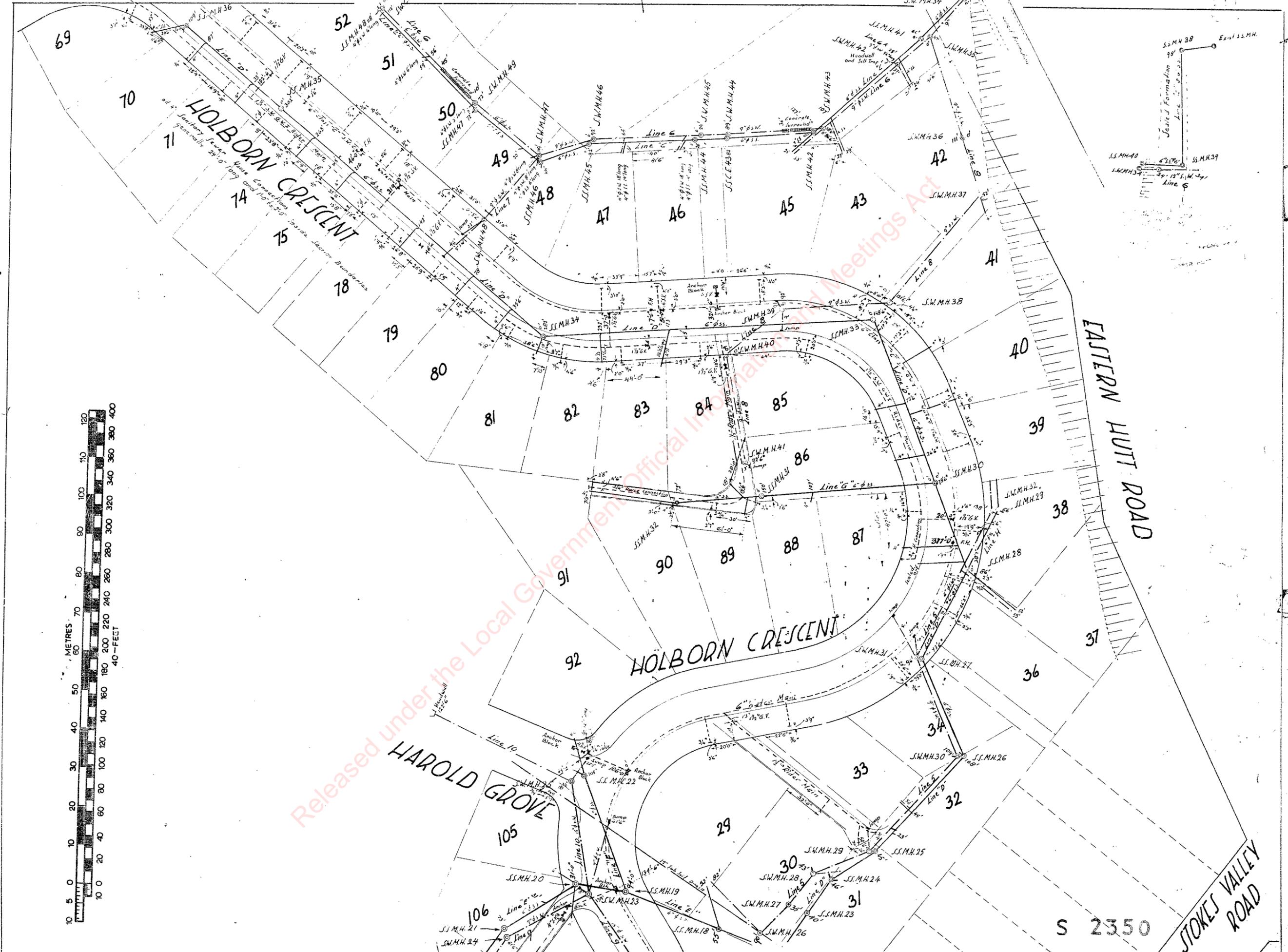
FOR LOWER HUTT CITY COUNCIL LOWER HUTT
STOKES VALLEY DEVELOPMENT SCHEME SERVICES AS LAID
Cuttriss, McKenzie, Martin & Associates
September 1963
Sheet 9 of 9 Sheets
456-2

S 2357

Released under the Local Government Official Information and Meetings Act



Scale: 40 Feet to an Inch



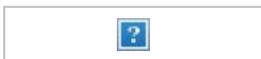
From: [Ray Ritchie](#)
To: [John Baines](#)
Cc: [Dirk Naish](#); [Andrew Curry](#)
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)
Date: Friday, 23 September 2022 12:54:29 pm
Attachments: [image001.jpg](#)
[image002.png](#)

Morning John,

I will look into it, the manhole is also buried so will have to locate it and dig it up

Cheers

Ray Ritchie Team Leader - Drainage Hutt Valley



Tel 04 912 4400 **Mob** [REDACTED]

Email Ray.Ritchie@wellingtonwater.co.nz

Private Bag 39804, Wellington Mail Centre 5045
Level 4, 25 Victoria Street, Petone, Lower Hutt

www.wellingtonwater.co.nz

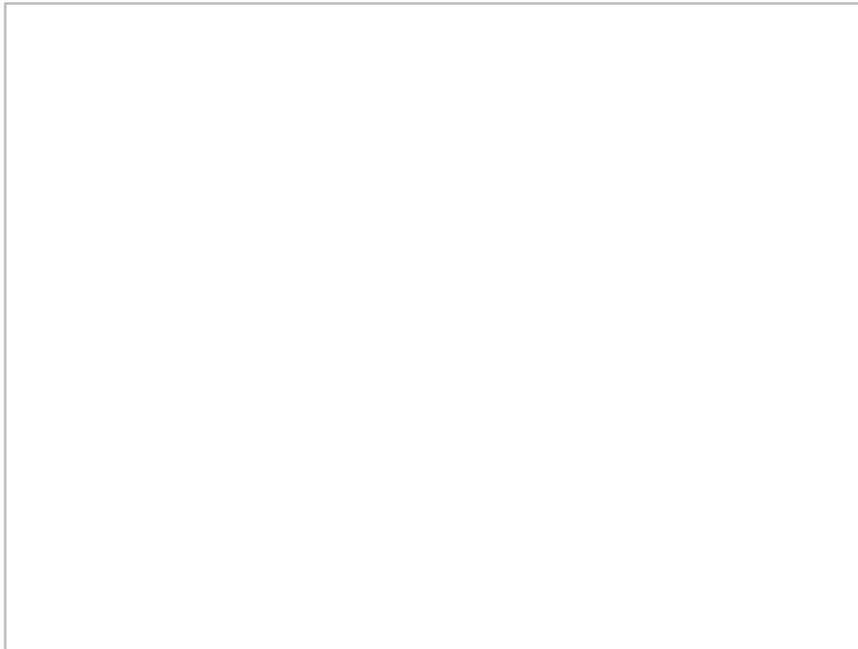
-
Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils, South Wairarapa District Council and Greater Wellington Regional Council. We manage their drinking water, wastewater and stormwater services.

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Thursday, 22 September 2022 3:03 pm
To: Ray Ritchie <Ray.Ritchie@wellingtonwater.co.nz>
Cc: Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; Andrew Curry <Andrew.Curry@wellingtonwater.co.nz>
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Ray

Agree as you mention there is one fault with the benching in the first s/w manhole. How soon can we get a repair

Released under the Local Government Official Information and Meetings Act



John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: John Baines
Sent: Thursday, 22 September 2022 2:53 pm
To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Subject: HCC OIA-[REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

CCTV completed the storm water pipe is without fault.

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: John Baines
Sent: Wednesday, 21 September 2022 3:54 pm
To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Subject: HCC OIA-[REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

COG – Undertaking CCTV – hopefully this week

Brian has provided as-built plan (attached)

No information has been forwarded

John Baines

Customer Planning Engineer - Wellington Water

Mob [REDACTED] s 7(2)(a)

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 1:27 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: FW: HCC OIA-[REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Could we please discuss the request below concerning [REDACTED] s 7(2)(a) in SV, and whether you have been involved in this earlier.

Many thanks
Diana

From: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:47 am
To: Official Information <official.information@wellingtonwater.co.nz>; Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: RE: HCC OIA-[REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita,

I am forwarding on to [@Diana Isaac](#) and [@Matthew Lillis](#) to provide the information for this request.

Regards,

FYI I am in a conference on 22 - 23 September and will return to back to work on 27 September.

Uki Dele (she/her)

Chief Advisor, Stormwater & Climate Resilience

Network Development & Delivery

Mob [REDACTED] s 7(2)(a)

From: Official Information <official.information@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:42 am
To: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Cc: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA-[REDACTED] s 7(2)(a), Stokes Valley, Lower Hutt (ARL 221632)

Kia ora Uki

The HCC are seeking help from us for an urgent OIA request.

Can you please assist us with the following information, with regard to storm water drains?

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your help and look forward to hearing from you.

Nga mihi nui
Gita

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

From: Clare Stanley <[REDACTED]>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <[REDACTED]>
Subject: [EXTERNAL] FW: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Kia Ora Derek

Request for further information below as highlighted. Please do not provide the further information to the owners until Gerard has had a chance to review and consider it. Please provide that to Gerard first and then he will discuss with you as necessary before sending on.

Nga mihi / Kind regards

Clare Stanley | Partner | Thomas Dewar Sziranyi Letts
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <[REDACTED]>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial [REDACTED]
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <[REDACTED]>
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt

www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED] s 7(2)(a)>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the [REDACTED] s 7(2)(a) to the left of the image together with the rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED] s 7(2)(a)
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

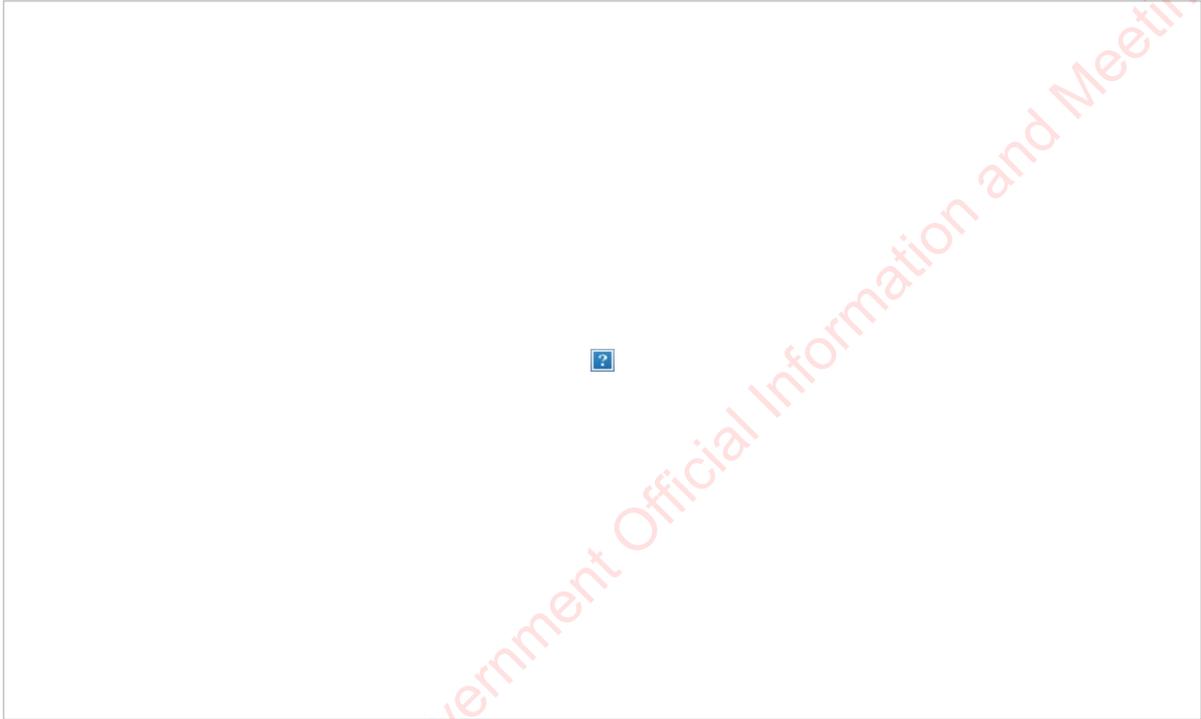
This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: [Derek Kerite](#)
To: [John Baines](#)
Subject: s.7(2)(g)
Attachments: [image001.png](#)

Hi John

We have an urgent OIR we need your assistance with – the request is copied below.

“We also note that a storm water drain flows through the Property and down the hillside where the slip has occurred. We understand that in the past there has been flooding issues at the road level where the storm water drain discharges the water from above. Could you please advise what actions the Council has taken in the past (if any) in relation to that flooding? Please also advise if any investigation has been undertaken regarding the storm water drain to ensure there is no leakage of water from the drain which could have caused increased instability in the hillside around the slip.”



Are you able to investigate and pass on any relevant information. We are on a tight timeframe so would appreciate a quick turnaround

Regards,
DK

Released under the Local Government Official Information and Meetings Act

From: [Chris Newton](#)
To: [John Scott](#)
Cc: [Michael Syred](#); [Kate Hood](#)
Subject: WW:VHCA - PHI ---> Query re "Achieved to 30th June 21"
Date: Monday, 8 November 2021 12:54:20 pm
Attachments: [image001.png](#)
[image002.png](#)
[05072021Copy of Combined Wastewater and Stormwater \(003\).xlsx](#)

Hi John

Attached is the combined spreadsheet we were using to Track progress as at 30th June 21 – it's been updated a lot since those early days but hopefully has some useful info.

Thanks

Chris Newton
Project Manager



Level 1, 91 Main Road, Tawa
Wellington 5028, New Zealand

M s 7(2)(a) // chris@reveal.nz
T 0800 240 340 // www.reveal.nz



Released under the Local Government Official Information and Meetings Act

From: [Kate Hood](#)
To: [Callum Mulligan](#); [Michael Syred](#)
Cc: [Chris Newton](#); [John Scott](#); [Julie Stephenson](#)
Subject: WW:VHCA – PHI - Further to the meeting discussion re providing a spreadsheet to show progress.
Date: Wednesday, 1 December 2021 5:16:29 pm
Attachments: [image001.jpg](#)
[image002.jpg](#)
[Wellington Water - Tracker 2021.12.01.xlsx](#)

Hi Callum/Michael

Please find attached a spreadsheet to show InterGroup's progress in the gravity asset scope up to today, as per discussion at today's meeting.

Please note that it is a work in progress, so it is to be used only as a high level summary of work to date.

Please let me know if you have any queries.

Kind Regards,

Kate Hood

Project Manager – Wellington Water Project



Ph: s 7(2)(a)

Email: kate.hood@intergroup.co.nz **Web:** www.intergroup.co.nz

Physical: 191 Gracefield Rd, Lower Hutt, Wellington

Postal: P.O.Box 39005, Wellington Mail Centre Postal P.O.Box 39005, Wellington Mail Centre



Released under the Local Government Official Information and Meetings Act

From: [Gita Jeram](#)
To: wwdigserv@wellingtonwater.atlassian.net; [Dylan Hopkins](#)
Cc: [Official Information](#)
Subject: RE: DPSD-4452 [REDACTED] Stokes Valley (OIA request)
Date: Tuesday, 1 November 2022 3:37:10 pm

Hi Dylan

Yes, if your team could scan through Woogle to find relevant reports / documents, that would be helpful?

Thanks
Gita

From: Dylan Hopkins <jira@wellingtonwater.atlassian.net>
Sent: Tuesday, 1 November 2022 3:33 pm
To: Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>
Subject: DPSD-4452 [REDACTED] Stokes Valley (OIA request)

Wellington Water Logo



Reply above this line.

Dylan Hopkins commented:

Thanks Gita:

- COG can extract the work order / maintenance records (they usually do this for OIA requests)
- DPS can extract email comms (I will pass request to that team)
- Do you want DPS to scan through Woogle to find relevant reports / documents?

Cheers,
Dylan

[View request](#) · [Turn off this request's notifications](#)

Nga mihi

Digital Products and Services Team

.....

From: [Gita Jeram](#)
To: wwdigserv@wellingtonwater.atlassian.net; jira@wellingtonwater.atlassian.net
Cc: [Official Information](#); [Josh Chuah](#); [Holly MacKay](#)
Subject: RE: DPSD-4452 [REDACTED] Stokes Valley (OIA request)
Date: Tuesday, 1 November 2022 3:23:00 pm

Hi Dylan

We are currently working alongside COG.

We require any reports and correspondence in regards to water, storm water, leaks and sewer on an surrounding [REDACTED] Stokes Valley and land.

Also, any reports and correspondence including maintenance records on water, storm water, leaks and sewer on an surrounding [REDACTED] Stokes Valley and land.

Holly – is searching the information on service request for this location.

Let us know, if you need anything more.

We appreciate your help and look forward to hearing from you.

Nga mihi nui

Gita

From: Dylan Hopkins <jira@wellingtonwater.atlassian.net>
Sent: Tuesday, 1 November 2022 2:29 pm
To: Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>
Subject: DPSD-4452 [REDACTED] Stokes Valley (OIA request)

Wellington Water Logo



Reply above this line.

Dylan Hopkins commented:

Hi Gita - could you provide a little more direction on what information you would like DPS to dig out. Emails? Work orders? Documents we might have in Woogle? That will help me pass the request onto the right people.

Thanks,
Dylan

Dylan Hopkins changed the status to To Do.

[View request](#) · [Turn off this request's notifications](#)

Nga mihi

Digital Products and Services Team

.....

Released under the Local Government Official Information and Meetings Act

From: [Official Information](#)
To: [John Baines](#); [Official Information](#)
Subject: RE: HCC OIA- [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)
Date: Wednesday, 28 September 2022 3:54:27 pm
Attachments: [image001.jpg](#)

Hi John

Can you please confirm that you will be providing the remaining outstanding information to Derek and we will close this request off at our end?

We look forward to hearing from you.

Many Thanks
Gita

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Wednesday, 28 September 2022 1:00 pm
To: Official Information <official.information@wellingtonwater.co.nz>
Subject: HCC OIA- [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita

Wellington Water has CCTVéd the 225mm storm water main and found it to be fault free. This has been advised to HCC (Derek Kerite).

The as-built drawing (long section) would suggest the drain when laid, was approx 1m deep through [REDACTED] Reference manhole 35, 36 & 37 through [REDACTED]

Construction techniques if such information exists, would be held with HCC as a subdivision file or similar. The drawings are dated 1963 so information may be scarce.

Request	Comment	Action
WSP report prepared for Hutt City Council in 2015 to assess the slope hazard	This report will likely be with HCC	HCC responsibility
How deep the storm water drains are below the surface?	Perhaps the as-built long section may provide or WWL can measure depth to invert	Brian – if you are able to locate an as-built
Can copies of any construction records for the storm water system on the property be made available?	Likely any construction records will be with HCC Perhaps a subdivision file or similar	HCC responsibility
Please provide any additional information on the storm water drains - seep stops etc.	May be something on the as-builts but if not then it will be assumed there are none	Brian – if you are able to locate an as-built

<p>In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?</p>	<p>WWL did CCTV camera a small length of the drain but I have requested a full camera inspection including the portion of the drain down the slope as far as practical to camera.</p>	<p>Dirk / Ray – can provide CCTV of the portion we have already CCTV inspected</p>
--	---	--

John Baines

Customer Planning Engineer - Wellington Water

Mob [Redacted]

From: Official Information <official.information@wellingtonwater.co.nz>
Sent: Wednesday, 28 September 2022 9:07 am
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA-[Redacted], Stokes Valley, Lower Hutt (ARL 221632)

Morena John

Sorry for any confusion, as we appear to have been caught up in this request.

We understand that you have been dealing with this request and seek clarification, whether you will be providing all related information to Derek Kerite from HCC.

Can you please advise?

We look forward to hearing from you.

Nga mihi nui

Gita Jeram (she/her)

LGOIMA Administration Assistant - Chief Executive's Office



Private Bag 39804, Wellington Mail Centre 5045
 Level 4, 25 Victoria Street, Petone, Lower Hutt

From: Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Sent: Tuesday, 27 September 2022 1:28 pm
To: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA-[Redacted], Stokes Valley, Lower Hutt (ARL 221632)

Information relating to [REDACTED]

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>

Sent: Thursday, 22 September 2022 8:15 am

To: Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>

Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Good morning Matthew

Please find the email below from John Baines as the latest correspondence concerning a request for information for [REDACTED] in Stokes Valley.

Many thanks

Diana

From: John Baines <John.Baines@wellingtonwater.co.nz>

Sent: Wednesday, 21 September 2022 3:54 pm

To: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>

Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis

<Matthew.Lillis@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>

Subject: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Diana

COG – Undertaking CCTV – hopefully this week

Brian has provided as-built plan (attached)

No information has been forwarded

John Baines

Customer Planning Engineer - Wellington Water

Mob [REDACTED]

From: Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>

Sent: Wednesday, 21 September 2022 1:27 pm

To: John Baines <John.Baines@wellingtonwater.co.nz>

Cc: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Matthew Lillis

<Matthew.Lillis@wellingtonwater.co.nz>

Subject: FW: HCC OIA- [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Could we please discuss the request below concerning [REDACTED] in SV, and whether you have been involved in this earlier.

Many thanks

Diana

From: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:47 am
To: Official Information <official.information@wellingtonwater.co.nz>; Gita Jeram <Gita.Jeram@wellingtonwater.co.nz>; Diana Isaac <Diana.Isaac@wellingtonwater.co.nz>; Matthew Lillis <Matthew.Lillis@wellingtonwater.co.nz>
Subject: RE: HCC OIA-[REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Gita,

I am forwarding on to [@Diana Isaac](#) and [@Matthew Lillis](#) to provide the information for this request.

Regards,

FYI I am in a conference on 22 - 23 September and will return to back to work on 27 September.

Uki Dele (she/her)
Chief Advisor, Stormwater & Climate Resilience
Network Development & Delivery
Mob [REDACTED]

From: Official Information <official.information@wellingtonwater.co.nz>
Sent: Wednesday, 21 September 2022 11:42 am
To: Uki Dele <Uki.Dele@wellingtonwater.co.nz>
Cc: Official Information <official.information@wellingtonwater.co.nz>
Subject: FW: HCC OIA-[REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Kia ora Uki

The HCC are seeking help from us for an urgent OIA request.

Can you please assist us with the following information, with regard to storm water drains?

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?

- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip. Could your client please provide a copy of the video taken by Drain Doctor?

We appreciate your help and look forward to hearing from you.

Nga mihi nui
Gita

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Thursday, 15 September 2022 1:15 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>
Cc: Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>; Jon Kingsbury <Jon.Kingsbury@huttcity.govt.nz>
Subject: FW: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

Hi John

Further to my email on 9 September, there has been more information requested below in relation to drains in and around [REDACTED]. We would like to respond as soon as possible, so would appreciate a quick response.

Regards,

From: Clare Stanley <clarestanley@tdsl.co.nz>
Sent: Wednesday, 14 September 2022 5:49 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Bradley Cato <Bradley.Cato@huttcity.govt.nz>; Jekkie Suwanposee <Jekkie.Suwanposee@huttcity.govt.nz>
Cc: Gerard Dewar <Gerarddewar@tdsl.co.nz>
Subject: [EXTERNAL] FW: [REDACTED] Stokes Valley, Lower Hutt (ARL 221632)

[REDACTED]

[REDACTED]

Nga mihi / Kind regards

Redacted under s 7(2)(g) LGOIMA

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)

45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Wednesday, 14 September 2022 5:38 PM
To: Clare Stanley <[REDACTED]>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hi Clare

Further to this matter, our clients have been made aware of a **WSP New Zealand report** that was prepared for Hutt City Council in 2015 that our clients understand assessed the slope hazard in Stokes Valley. We understand that WSP New Zealand was named Opus at the time the report was prepared.

Could you please provide request a copy of that report from your client and provide it to us?

Also, in our earlier letter dated 30 August 2022 we requested further information from Hutt City Council and understand that information will be provided in due course. One of our requests related to the storm water drain on our client's property. **Our client now has more specific requests relating to the storm water drain, specifically:**

- How deep the storm water drains are below the surface?
- Can copies of any construction records for the storm water system on the property be made available?
- Please provide any additional information on the storm water drains - seep stops etc.

Hopefully specifying the information will assist Hutt City Council staff in compiling their response to our earlier requests. In addition, **on 22 July Hutt City Council had Drain Doctor inspect the storm water pipe that runs pretty much parallel to the slip.** Could your client please provide a copy of the **video taken by Drain Doctor?**

We appreciate your attention to these requests and look forward to hearing from you.

Kind regards
Brendan

BRENDAN CARR
Senior Associate

Direct dial: [REDACTED]
Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Clare Stanley <[REDACTED]>
Sent: Tuesday, 13 September 2022 12:07 p.m.
To: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: RE: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Thanks Brendan, will pass on to Council.

Nga mihi / Kind regards

Clare Stanley | Partner | **Thomas Dewar Sziranyi Letts**
Phone: 04 570 0442 | Fax: 04 569 4260 | PO Box 31 240 Lower Hutt | DX RP42011
Level 6
Forsyth Barr Tower (formerly Queensgate Tower)
45 Knights Road
Lower Hutt
www.tdsl.co.nz

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

From: Brendan Carr <brendan.carr@arl-lawyers.co.nz>
Sent: Tuesday, 13 September 2022 11:46 AM
To: Clare Stanley <[REDACTED]>
Cc: Rebecca Dickie <rebecca.dickie@arl-lawyers.co.nz>
Subject: [REDACTED], Stokes Valley, Lower Hutt (ARL 221632)

Hello Clare

We refer to Gerard Dewar's letter dated 9 September 2022 in relation to the above matter. We understand you are dealing with the matter while Gerard is away.

In his letter, Gerard requested further information regarding the 2018 slip referred to in our earlier letter. We are advised that the slip occurred on or slightly before 9 July 2018. We attach a photograph taken by our client at 9.44am on 9 July 2018 which shows the slip. In the image, you can see the peak of [REDACTED] to the left of the image together with the

rocky outcrop that the Hutt City Council have been using as a reference point on the far left of the image.

Kind regards
Brendan

BRENDAN CARR

Senior Associate

Direct dial [REDACTED]

Email: brendan.carr@arl-lawyers.co.nz

Please note the offices of ARL Lawyers are temporarily located at 8 Raroa Road, Lower Hutt

ARL Lawyers | ARL Lawyers Limited trading as ARL Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354

Temporarily located at 8 Raroa Road | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

**Clients are required to wear a mask when meeting at our offices.
If you are unable to wear a mask, we will be pleased to meet with you by way of a virtual appointment.**

ARL Lawyers Charitable Trust – supporting health and educational opportunities for children in the Hutt Valley

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

Released under the Local Government Official Information and Meetings Act

From: [Jakeb Brownlie](#)
To: [Josh Chuah](#)
Subject: RE: Reso jobs
Date: Thursday, 22 September 2022 2:34:54 pm
Attachments: [Josh's Open Reso Jobs.docx](#)

Hi Josh,

Updated Job list is attached.

Jake

From: Josh Chuah <Josh.Chuah@wellingtonwater.co.nz>
Sent: Tuesday, 20 September 2022 9:33 am
To: Jakeb Brownlie <Jakeb.Brownlie@wellingtonwater.co.nz>
Subject: Reso jobs

Hi Jake – thanks for these docs, they're super helpful. I've added a couple comments and some we can close off,

Thanks
Josh

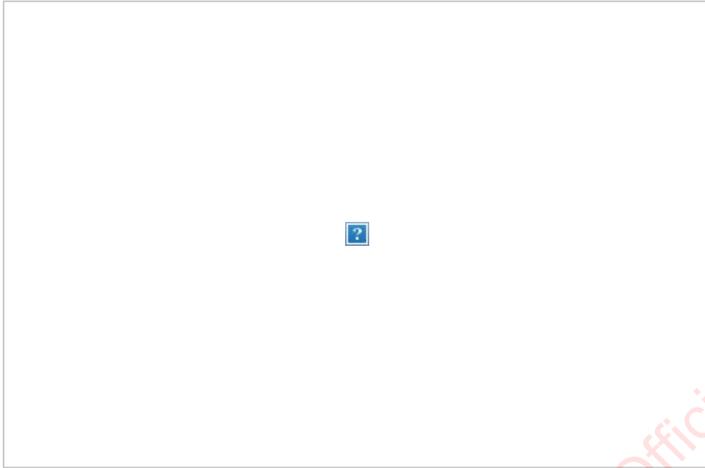
Released under the Local Government Official Information and Meetings Act

From: [Holly MacKay](#)
To: [Official Information; John Baines](#)
Cc: [Dirk Naish](#); [Ray Ritchie](#); [Brian Smith](#); [Josh Chuah](#)
Subject: RE: Stormwater - [s 7\(2\)\(a\)](#) - OIR
Date: Tuesday, 13 September 2022 1:53:29 pm
Attachments: [image001.png](#)
[image002.png](#)
[image003.jpg](#)
[Details - Group by Address.xlsx](#)
[image004.png](#)

Hi team,

We have searched our archives in Tableau for the stormwater main on [s 7\(2\)\(a\)](#) (highlighted below). There were only two service requests that popped up (see attached).

Dirk – Can you please advise about the details and outcome of HCC437245, a job pre Wellington Water Alliance.



Kind Regards,

Holly MacKay – Customer Resolution Officer
Customer Experience Team



Tel **04 912 4400** Mob [s 7\(2\)\(a\)](#)
Private Bag 39804, Wellington Mail Centre 5045
Level 4, 25 Victoria Street, Petone, Lower Hutt
www.wellingtonwater.co.nz

Wellington Water is owned by the Hutt, Porirua, Upper Hutt and Wellington city councils, South Wairarapa District Council and Greater Wellington Regional Council. We manage their drinking water, wastewater and stormwater services.

If you have a complaint, please call 04 912 4470 or email customer@wellingtonwater.co.nz to access our free complaints process. If we cannot resolve your complaint, you can contact Utilities Disputes on 0800 22 33 40 or go to www.utilitiesdisputes.co.nz. Utilities Disputes is a free and independent service for resolving complaints about utilities providers.

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Friday, 9 September 2022 6:37 pm
To: Holly MacKay <Holly.MacKay@wellingtonwater.co.nz>
Cc: Josh Chuah <Josh.Chuah@wellingtonwater.co.nz>
Subject: Stormwater - [s 7\(2\)\(a\)](#) - OIR

Holly – check in with Glenis – she is already looking - cheers

John Baines
Customer Planning Engineer - Wellington Water
Mob [s 7\(2\)\(a\)](#)

From: Josh Chuah <Josh.Chuah@wellingtonwater.co.nz>
Sent: Friday, 9 September 2022 5:11 pm
To: John Baines <John.Baines@wellingtonwater.co.nz>; Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>; Holly MacKay <Holly.MacKay@wellingtonwater.co.nz>

Cc: Tim Harty <Tim.Harty@wellingtonwater.co.nz>; Ian Dennis <Ian.Dennis@wellingtonwater.co.nz>; Glenis Bruin <Glenis.Bruin@wellingtonwater.co.nz>; Official Information <official.information@wellingtonwater.co.nz>
Subject: RE: Stormwater - [REDACTED] - OIR

Kia ora

Just looping in our Official Information Team into this thread.

[@Holly Mackay](#) can you please check our records for any historical flooding reports?

Nga mihi

Josh

From: John Baines <John.Baines@wellingtonwater.co.nz>
Sent: Friday, 9 September 2022 11:37 am
To: Brian Smith <Brian.Smith@wellingtonwater.co.nz>; Dirk Naish <Dirk.Naish@wellingtonwater.co.nz>
Cc: Tim Harty <Tim.Harty@wellingtonwater.co.nz>; Ian Dennis <Ian.Dennis@wellingtonwater.co.nz>; Glenis Bruin <Glenis.Bruin@wellingtonwater.co.nz>; Josh Chuah <Josh.Chuah@wellingtonwater.co.nz>
Subject: Stormwater - [REDACTED] - OIR

Hi Brian / Dirk

Can you please be aware of the OIR and HCC need our assistance. Can you recall flooding issues.

Ian / Glenis – can you please search the HCC CRM's for historic flooding ([REDACTED])

Dirk – can you please arrange with urgency a comprehensive CCTV of both s/w lines and down the bank. It will be best if you (or Andrew Curry) are present so we can see first-hand the CCTV outcome.

John Baines
Customer Planning Engineer - Wellington Water
Mob [REDACTED]

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Friday, 9 September 2022 11:03 am
To: John Baines <John.Baines@wellingtonwater.co.nz>
Subject: Stormwater - [REDACTED]

Hi John

We have an urgent OIR we need your assistance with – the request is copied below.

“We also note that a storm water drain flows through the Property and down the hillside where the slip has occurred. We understand that in the past there has been flooding issues at the road level where the storm water drain discharges the water from above. Could you please advise what actions the Council has taken in the past (if any) in relation to that flooding? Please also advise if any investigation has been undertaken regarding the storm water drain to ensure there is no leakage of water from the drain which could have caused increased instability in the hillside around the slip.”

Released under the Official Information and Meetings Act



Are you able to investigate and pass on any relevant information. We are on a tight timeframe so would appreciate a quick turnaround

Regards,
DK

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] **W:** www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you

Released under the Local Government Official Information and Meetings Act

From: [Erin Robinson](#)
To: [John Scott](#)
Subject: RE: VHCA final trackers
Date: Tuesday, 27 September 2022 9:46:05 am
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[Wellington Water VHCA Project Tracker - FINAL VERSION .xlsx](#)

Hi John – I received a final tracker from Intergroup, see attached.

Thanks
Erin

From: Erin Robinson
Sent: Wednesday, 29 June 2022 2:55 pm
To: John Scott <John.Scott@wellingtonwater.co.nz>
Subject: VHCA final trackers

Hi John,

Here are the final trackers. I'm just going to double check with Kate that this is their final final tracker given that she's called it draft. I'll let you know if there's an updated one to come from her.

Thanks
Erin

ERIN ROBINSON (she/her)
BE (Hons) CEng MICE
Senior Water Engineer - Wellington
GHD
Proudly employee owned | ghd.com
Level 2, Grant Thornton House, 215 Lambton Quay, Wellington 6011
D 64 4 474 8734 E erin.robinson@ghd.com
 The Power of Commitment

Connect



Please consider the environment before printing this email

CONFIDENTIALITY NOTICE: This email, including any attachments, is confidential and may be privileged. If you are not the intended recipient please notify the sender immediately, and please delete it; you should not copy it or use it for any purpose or disclose its contents to any other person. GHD and its affiliates reserve the right to monitor and modify all email communications through their networks.

Asset ID	Owner	Criticality	Interim	Status 20211203	Visited	Surveyed	Batched	Variation	Diameter
_WWP009	HVJV	P1	2	To do	1	1	1		375
_WWP009	HVJV	P1	2	To do	1				375

Released under the Local Government Official Information and Meetings Act

Material	Pipe Type	Technique	GIS Length	Survey Length	Abandoned Length	Completion Status	Required to	IC/IA	General Comment
RCON	WWTR	CCTV	17.088	16.9		COMPLETE	Complete	IC	Unable to measure DS Pipe Depth as DSMH is seized.
RCON	WWTR	CCTV	42.499			REVISIT	Revisit		Water level too high // Needs laser and cctv done on the same day // Heavy cleaning Required // DSMH on the footpath (TM Required)

Released under the Local Government Official Information and Meetings Act

Received	CCTV Operator	Filmed	Coder	Sent for Coding	Coding Received	Laser Profiling	Laser Operator	MSI	MSI Operator
16/06/21	saia Fa'ava	1/02/22	hen Phillip	17/03/22	17/03/22	1/02/22	N/A	N/A	N/A

Released under the Local Government Official Information and Meetings Act

Sent to Redzone	RedZone Received	WinCan Project #	Intergroup Batch	Batch Submissi	Version	Version Date	GHD Review	GHD Review	GHD / Project
16/03/22		Wellington IG	GW C	3/05/22	V1 / V1	3/05/22	plete - No I	10/05/22	0/01/00

Released under the Local Government Official Information and Meetings Act

Adit	Adit Date	Adit Comment	WinCan Comment	Closest address	CSE used?	TM used?	LESS THAN	Technique Used
			Unable to	60 Holborr	YES		YES	CCTV/Laser
				s7(2)(a)	YES		YES	

Released under the Local Government Official Information and Meetings Act

From: [Elliott Kennedy](#)
To: [Alistair Forsyth](#)
Subject: Slightly short list
Date: Thursday, 13 October 2022 1:14:53 pm
Attachments: [Potential Slips.xlsx](#)

Kiaora Alistair

I have pulled all jobs which have the key work ""Slip" in that we reported after the 1st of August. I have added in a few of the fields to enable you to determine what is an actual slip job and what isn't let me know if there is anything else

Cheers

Elliott

Released under the Local Government Official Information and Meetings Act

Work Order ID	_id_comgr	Address	Description	Long Description	Status	Network	Report Date	Completed Date
209239	CSR	[REDACTED] Stokes Valley, Lower Hutt, Wellington, 5040	[REDACTED] STOKES VALLEY	<div>: Please camera the storm water main shown in [REDACTED]	CLOSE	Stormwater	22 July 2022	26 July 2022

Released under the Local Government Official Information and Meetings Act

Road and Traffic After Hours Urgent 19/06/2018 3:43 A large boulder has come down on eastern hutt road, 500m south of roundabout with stokes valley road. It is blocking the south bound lane - and is roughly 1 meter squared. P033879253 Informant is [REDACTED]

Road and Traffic After Hours Urgent 19/12/2017 23:00 A slip has come down over the road on Eastern Hutt Road, between the entrance to Stokes Valley and the Caltex heading south. Unsure how much of the road the slip is covering. The slip consists of rocks, around 300ml wide. The customer is concerned as when the slip came down, some of the rocks hit his vehicle and has caused damage. He said that there is a dent and one of the tyres has popped. He would like to speak to someone to make a claim for the damage to the vehicle. Can he be contacted back to discuss this please.

Released under the Local Government Official Information and Meetings Act

Road
and
Traffic

Street
Cleaning
URGENT

4/09/2018
12:02

big rocks fallen to
middle of road
same place that
contractors were
clearing up this
morning eastern
hutt rd

Released under the Local Government Official Information and Meetings Act

Insignificant

Minor

Major

Unable to classify

ObjectID	Unique Old	Submitter Organisation
#REF!	70726	RFS System Maintenance
#REF!	78074	RFS System Maintenance
#REF!	94423	RFS System Maintenance
#REF!	94504	RFS System Maintenance
#REF!	94515	RFS System Maintenance
#REF!	94621	RFS System Maintenance
#REF!	97248	RFS System Maintenance
#REF!	102932	RFS System Maintenance
#REF!	142447	RFS System Maintenance
#REF!	147781	RFS System Maintenance
#REF!	194436	RFS System Maintenance
#REF!	195902	RFS System Maintenance
#REF!	197774	RFS System Maintenance
#REF!	63130	RFS System Private

Released under the Local Government Official Information and Meetings Act

Slip Classification

Failure reported however has little or no impact on existing infrastructure. In addition evacuated and inundated areas are deemed to be minor in terms of Failure reported with minor impact on existing infrastructure. Simple slope remediation or cleanup of evacuated material required

Failure reported with significant impact on existing infrastructure. In addition, slope remediation works have been required including possible consenting implications. Significant areas of land have either been evacuated or inundated by the reported event.

Insufficient information available to classify into one of the three above categories.

Organisation Comment	No	Unit
	201-221	
	202	

Released under the Local Government Official Information and Meetings Act

Street	Street Type	Suburb	Property ID	Slip Date
Eastern Hutt	Rd	Taita		May-05
Eastern Hutt	Rd	Taita		Oct-05
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Aug-06
Eastern Hutt	Rd	Taita		Nov-06
Eastern Hutt	Rd	Taita		Jul-08
Eastern Hutt	Rd	Taita		Oct-08
Eastern Hutt	Rd	Taita		Jul-10
Eastern Hutt	Rd	Taita		Aug-10
Eastern Hutt	Rd	Taita		Sep-10
Eastern Hutt	Rd	Lower Hutt		Jan-05

Released under the Local Government Official Information and Meetings Act

Classification	Slip Description	Slip Marked	Photo	Notes
Minor	Slip blocking road lane			SI
Minor	Rock fall on road			SI
Minor	Falling debris			Pa
Minor	Slip, partially blocking Southbound lane			Pa
Minor	Slip, partially blocking Southbound lane			Pa
Minor	Large slip partially covering lane			SI
Minor	Small slip			Pa
Minor	Rock fall over road			Cl
Minor	Large slip on road			SI
Minor	Slip			SI
Minor	Rock fall covering road lane			SI
Minor	Slip on bank above road			Fu
Minor	Slip partially covering road			SI
Insignificant	Slip occurred above access.			M

Released under the Local Government Official Information and Meetings Act



Contractor

ip cleared
ip cleared
passed onto Works
passed onto Works
passed onto Works
ip cleared
passed to Excell
leared
ip cleared
ip removed
ip cleared
ulton Hogan have removed any potential damaging mate
ip cleared
aintenance was owners responsibility

Released under the Local Government Official Information and Meetings Act

Additional Comments 1

Council Land
Council Land

Private Land, not Council Responsibility.

Released under the Local Government Official Information and Meetings Act

Insignificant

Minor

Major

Unable to classify

ObjectID	Unique Old	Submitter Organisation
#REF!	70726	RFS System Maintenance
#REF!	78074	RFS System Maintenance
#REF!	94423	RFS System Maintenance
#REF!	94504	RFS System Maintenance
#REF!	94515	RFS System Maintenance
#REF!	94621	RFS System Maintenance
#REF!	97248	RFS System Maintenance
#REF!	102932	RFS System Maintenance
#REF!	142447	RFS System Maintenance
#REF!	147781	RFS System Maintenance
#REF!	194436	RFS System Maintenance
#REF!	195902	RFS System Maintenance
#REF!	197774	RFS System Maintenance
#REF!	63130	RFS System Private

Released under the Local Government Official Information and Meetings Act

Slip Classification

Failure reported however has little or no impact on existing infrastructure. In addition evacuated and inundated areas are deemed to be minor in terms of Failure reported with minor impact on existing infrastructure. Simple slope remediation or cleanup of evacuated material required

Failure reported with significant impact on existing infrastructure. In addition, slope remediation works have been required including possible consenting implications. Significant areas of land have either been evacuated or inundated by the reported event.

Insufficient information available to classify into one of the three above categories.

Organisation Comment	No	Unit
	201-221	
	202	

Released under the Local Government Official Information and Meetings Act

Street	Street Type	Suburb	Property ID	Slip Date
Eastern Hutt	Rd	Taita		May-05
Eastern Hutt	Rd	Taita		Oct-05
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Jul-06
Eastern Hutt	Rd	Taita		Aug-06
Eastern Hutt	Rd	Taita		Nov-06
Eastern Hutt	Rd	Taita		Jul-08
Eastern Hutt	Rd	Taita		Oct-08
Eastern Hutt	Rd	Taita		Jul-10
Eastern Hutt	Rd	Taita		Aug-10
Eastern Hutt	Rd	Taita		Sep-10
Eastern Hutt	Rd	Lower Hutt		Jan-05

Released under the Local Government Official Information and Meetings Act

Classification	Slip Description	Slip Marked	Photo	Notes
Minor	Slip blocking road lane			SI
Minor	Rock fall on road			SI
Minor	Falling debris			Pa
Minor	Slip, partially blocking Southbound lane			Pa
Minor	Slip, partially blocking Southbound lane			Pa
Minor	Large slip partially covering lane			SI
Minor	Small slip			Pa
Minor	Rock fall over road			Cl
Minor	Large slip on road			SI
Minor	Slip			SI
Minor	Rock fall covering road lane			SI
Minor	Slip on bank above road			Fu
Minor	Slip partially covering road			SI
Insignificant	Slip occurred above access.			M

Released under the Local Government Official Information and Meetings Act



Contractor

ip cleared
ip cleared
passed onto Works
passed onto Works
passed onto Works
ip cleared
passed to Excell
leared
ip cleared
ip removed
ip cleared
ulton Hogan have removed any potential damaging mate
ip cleared
aintenance was owners responsibility

Released under the Local Government Official Information and Meetings Act

Additional Comments 1

Council Land
Council Land

Private Land, not Council Responsibility.

Released under the Local Government Official Information and Meetings Act

Slip Classification	
Insignificant	Failure reported however has little or no impact on existing infrastructure. In addition evacuated and inundated areas are
Minor	Failure reported with minor impact on existing infrastructure. Simple slope remediation or cleanup of evacuated material
Major	Failure reported with significant impact on existing infrastructure. In addition, slope remediation works have been required including possible consenting implications. Significant areas of land have either been evacuated or inundated by the
Unable to classify	Insufficient information available to classify into one of the three above categories.

ObjectID	Unique Old	Submitter Organisation	Organisation Comment	No	Street	Street Type	Suburb	Property ID	Slip Date
#REF!	77	IRBA Report			Eastern Hutt	Rd	Wingate	1236973	
#REF!	70726	RFS System Maintenance			Eastern Hutt	Rd	Taita		May-05
#REF!	78074	RFS System Maintenance		201-221	Eastern Hutt	Rd	Taita		Oct-05
#REF!	94423	RFS System Maintenance			Eastern Hutt	Rd	Taita		Jul-06
#REF!	94504	RFS System Maintenance			Eastern Hutt	Rd	Taita		Jul-06
#REF!	94515	RFS System Maintenance			Eastern Hutt	Rd	Taita		Jul-06
#REF!	94621	RFS System Maintenance			Eastern Hutt	Rd	Taita		Jul-06
#REF!	97248	RFS System Maintenance			Eastern Hutt	Rd	Taita		Aug-06
#REF!	102932	RFS System Maintenance			Eastern Hutt	Rd	Taita		Nov-06
#REF!	142447	RFS System Maintenance			Eastern Hutt	Rd	Taita		Jul-08
#REF!	147781	RFS System Maintenance			Eastern Hutt	Rd	Taita		Oct-08
#REF!	194436	RFS System Maintenance			Eastern Hutt	Rd	Taita		Jul-10
#REF!	195902	RFS System Maintenance			Eastern Hutt	Rd	Taita		Aug-10
#REF!	197774	RFS System Maintenance			Eastern Hutt	Rd	Taita		Sep-10
#REF!	63130	RFS System Private		202	Eastern Hutt	Rd	Lower Hutt		Jan-05

Released under the Local Government Official Information and Meetings Act

Classification	Slip Description	Photos Provided	Remedial Works Description
Unable to classify		Jan_15_ [REDACTED]	
Minor	Slip blocking road lane		Slip cleared
Minor	Rock fall on road		Slip cleared
Minor	Falling debris		Passed onto Works
Minor	Slip, partially blocking Southbound lane		Passed onto Works
Minor	Slip, partially blocking Southbound lane		Passed onto Works
Minor	Large slip partially covering lane		Slip cleared
Minor	Small slip		Passed to Excell
Minor	Rock fall over road		Cleared
Minor	Large slip on road		Slip cleared
Minor	Slip		Slip removed
Minor	Rock fall covering road lane		Slip cleared
Minor	Slip on bank above road		Fulton Hogan have removed any potential damaging material
Minor	Slip partially covering road		Slip cleared
Insignificant	Slip occurred above access.		Maintenance was owners responsibility

Released under the Local Government Official Information and Meetings Act

Additional Comments 1

Verified by photo address appears to be [REDACTED]

- Council Land
- Private Land, not Council Responsibility.

Released under the Local Government Official Information and Meetings Act



04 April 2011

Hutt City Council
Private Bag 31912
Lower Hutt

Our ref: 51/29542//Hutt Valley Slip
database.doc

Attn: Sarah Fleet

Dear Sarah

Methodology and Geotechnical Reporting for Hutt City Council Slip Database

1 Introduction and Background

In line with our geotechnical services proposal GHD Limited (GHD) are pleased to present the methodology and deliverables generated during the compilation of the information to be used as a platform to build the proposed Hutt City Council (HCC) Slip Database.

In accordance with instructions the information gathered and assembled into the end deliverable has been kept to factual information only as we understand a possible end use may be within the public domain.

GHD have previously completed a flood database for HCC. The success of this database has in part led to the compilation of a slip database. As a result of this we have as much as possible endeavoured to model the methodology and end deliverables in line with those used to deliver the existing flood database.

2 Database Compilation Methodology

In accordance with our professional services proposal we have completed the compilation of the excel spreadsheet to be used as a platform for the proposed slip database. Specifically this has entailed the following methodology:

Firstly the project involved meeting with various HCC representatives from a variety of disciplines including GIS, Environmental, Planning and Transportation professionals. The principal aim of this stage was to understand the requirements / end use of the database and discuss the project with all appropriate parties to gather as much information as possible.

Information compiled was from a variety of sources however in most instances the majority of slips correlate to significant rainfall events such as the 2004 flood event recorded within the Hutt Valley.

As the spreadsheet is to be used and uploaded into GIS, guidance was provided from HCC GIS representative Mark Justice. This should enable HCC to easily upload the information into the GIS platform.

Along with the collection of raw data, several meetings and discussions were held to ascertain the validity of data sources. This was to vet the information and make sure as much as possible all information presented is factual and in nature as opposed to anecdotal.



Once the base information was compiled, each line item was assessed and allocated one of the following classifications.

1. Insignificant – Failure reported however has little or no impact on existing infrastructure. In addition evacuated and inundated areas are deemed to be minor in terms of plan view.
2. Minor – Failure reported with minor impact on existing infrastructure. Simple slope remediation or cleanup of evacuated material required.
3. Major – Failure reported with significant impact on existing infrastructure. In addition, slope remediation works have been required including possible consenting implications. Significant areas of land have either been evacuated or inundated by the reported event.
4. Unable to classify – Insufficient information available to classify into one of the three above categories.

This system aims to provide a rudimentary understanding of the severity of the slip based on information such as the size, any consenting requirements along with remedial measures implemented. This classification is based purely on factual information provided and has not been verified by onsite inspections. It should be used as a guide only and should be noted that a area of instability (slip) classified as major could also have been stabilised with a geotechnical solution and therefore is no longer at risk of movement. Furthermore an insignificant or minor slip could in the future be subject to further land instability.

3 Project Deliverables

As previously stated to enable the deliverables of this project to be used effectively we have tailored them for the end user. Considering this please find enclosed the following deliverable documentation:

- ▶ A digital and hard copy of the slip database in excel format.
- ▶ A complete hard copy of the information gathered has been compiled and appended to this document for record.

4 Scope and Limitations

This report presents the results of a geotechnical appraisal prepared for the purpose of this commission. The data and advice provided herein relate only to the project described herein and must be reviewed by a competent geotechnical engineer before being used for any other purpose. GHD Limited (GHD) accepts no responsibility for other use of the data.

The advice tendered in this report is based on information provided by HCC. No visual or subsurface investigations have been conducted.

Only desktop assessment has been conducted for the enclosed database. As such, structural and geotechnical analysis, including an evaluation of seismic actions, is required before the enclosed recommendations are implemented.



An understanding of the geotechnical site conditions depends on the integration of many pieces of information, some regional, some site specific, some structure specific and some experienced based. Hence this report should not be altered, amended or abbreviated, issued in part and issued incomplete in any way without prior checking and approval by GHD. GHD accepts no responsibility for any circumstances, which arise from the issue of the report, which have been modified in any way as outlined above.

If you have any further questions please do not hesitate to contact the undersigned.

Yours faithfully
GHD Limited

A handwritten signature in blue ink, appearing to read 'B. Simms', is positioned above the printed name.

Bruce Simms
Geotechnical Team Leader
04 495 5831

Released under the Local Government Official Information and Meetings Act

Insignificant

Minor

Major

Unable to classify

ObjectID	Unique Old	Submitter Organisation	No	Street	Street Type	Suburb	Easting	Northing	Entered in Shapefile	Property ID as in shapefile	Slip Date	Classification
#REF!	70726	RFS System Maintenance		Eastern Hutt	Rd	Taita					May-05	Minor
#REF!	78074	RFS System Maintenance	67(2)(a)	Eastern Hutt	Rd	Taita	1765374.362	5440734.953	√	9005827	Oct-05	Minor
#REF!	94423	RFS System Maintenance		Eastern Hutt	Rd	Taita					Jul-06	Minor
#REF!	94504	RFS System Maintenance		Eastern Hutt	Rd	Taita					Jul-06	Minor
#REF!	94515	RFS System Maintenance		Eastern Hutt	Rd	Taita					Jul-06	Minor
#REF!	94621	RFS System Maintenance		Eastern Hutt	Rd	Taita					Jul-06	Minor
#REF!	97248	RFS System Maintenance		Eastern Hutt	Rd	Taita					Aug-06	Minor
#REF!	102932	RFS System Maintenance		Eastern Hutt	Rd	Taita					Nov-06	Minor
#REF!	142447	RFS System Maintenance		Eastern Hutt	Rd	Taita					Jul-08	Minor
#REF!	147781	RFS System Maintenance		Eastern Hutt	Rd	Taita					Oct-08	Minor
#REF!	194436	RFS System Maintenance		Eastern Hutt	Rd	Taita					Jul-10	Minor
#REF!	195902	RFS System Maintenance		Eastern Hutt	Rd	Taita					Aug-10	Minor
#REF!	197774	RFS System Maintenance		Eastern Hutt	Rd	Taita					Sep-10	Minor
#REF!	63130	RFS System Private	67(2)(a)	Eastern Hutt	Rd	Lower Hutt	1765901.343	5441307.085	√	2465900	Jan-05	Insignificant

Released under the Local Government Official Information and Meetings Act

Slip Description	Remedial Works Description	Additional Comments 1
Slip blocking road lane	Slip cleared	Council Land
Rock fall on road	Slip cleared	Council Land
Falling debris	Passed onto Works	Council Land
Slip, partially blocking Southbound lane	Passed onto Works	Council Land
Slip, partially blocking Southbound lane	Passed onto Works	Council Land
Large slip partially covering lane	Slip cleared	Council Land
Small slip	Passed to Excell	Council Land
Rock fall over road	Cleared	Council Land
Large slip on road	Slip cleared	Council Land
Slip	Slip removed	Council Land
Rock fall covering road lane	Slip cleared	Council Land
Slip on bank above road	Fulton Hogan have removed any potential damaging material	Council Land
Slip partially covering road	Slip cleared	Council Land
Slip occurred above access.	Maintenance was owners responsibility	Private Land, not Council Responsibility.

Released under the Local Government Official Information and Meetings Act

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Saturday, 23 July 2022 9:15 am
To: [REDACTED] s 7(2)(a) >
Cc: Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Subject: RE: [EXTERNAL] RE: Dangerous Building Assessment

Hi Annette

Thanks for your response, much appreciated.

On the basis of our discussions yesterday regarding the uncertainty of further slips and your preliminary findings we have issued a Dangerous Building Notice requiring the owners to vacate the buildings until a Geotech assessment has been worked through next week.

The notice has been issued for a limited period allowing time for the Geotech assessment you have eluded to below. On or before Friday we will need the assessment to be completed giving us direction on whether the current notice can be lifted or a 2nd notice issued requiring further action to be taken.

I have attached a copy of the notices for your information.

Many thanks,

From: [REDACTED] s 7(2)(a)
Sent: Friday, 22 July 2022 5:31 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Subject: [EXTERNAL] RE: Dangerous Building Assessment

Hi Derek,

Thanks for your email.

Please find the site notes from this morning's visit. A geotechnical risk assessment report will be submitted next week based on our visual inspections today and the desktop study of the available data from the NZ Geotechnical database, if there is available, to inform the parameters we require for the assessment. Should further geotechnical investigation will be required, we will advise of this in the report.

[REDACTED] s 7(2)(a)	1. The slope material seems to be saturated. Seepage is visible as marked up in the picture.
	2. The upper part is nearly vertical(80-90 degrees). Lower part of the slope is less steep (around 70 degrees).
	3. Vertical scarp lies below the deck. Appears to be CW weathered rock on the vertical scarp.
	4. As a result of the slip, cracks in the concrete footing are identified.
	5. High possibility of material stored on the slip momentarily can go further down after another rainfall.
	6. Near the toe of the slope, the debris appears to be soils and some medium-sized boulders.

	7. Medium dense vegetation on both sides of the slip.
s 7(2)(a)	1. Slip debris appears to be soil with some rock fragments.
	2. Major rock outcrop is visible which can act as a springboard for potential soil dislodging from the crest of slip.
	3. The upper part of the slip scarp is nearly vertical (80-90 degree).
	4. Tension cracks are notable on the surface about 20-50mm wide. Cracks are only approx.5m away from the building.
	5. Subsidence of ground on the northeastern side of the building and below this area are a couple of overhanging trees.
	6. Underground storm water pipe runs below the property and goes southwest toward the dense vegetation

I have included some photos for your reference.

Ngā mihi | Kind regards,

Annette Cabadonga CMEngNZ/CPEng/IntPE(NZ)
(She/Her/Hers)

Principal Geotechnical Engineer, ANZ NZ, Wellington

s 7(2)(a)

s 7(2)(a)

[Click here to connect with me on LinkedIn](#)

AECOM

171 Featherston Street
Address Line 2
Wellington 6011, New Zealand, New Zealand
T +6421819493
aecom.com

Delivering a better world

[LinkedIn](#) | [Twitter](#) | [Facebook](#) | [Instagram](#)



In AECOM Office = ✓ Working from home = WFH Project office = PO Away = x

Monday	Tuesday	Wednesday	Thursday	Friday
WFH	✓	✓	✓	WFH

Please consider the environment before printing this email.

From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>

Sent: Friday, 22 July 2022 4:11 pm

s 7(2)(a)

Subject: [EXTERNAL] Dangerous Building Assessment

Kia ora Annette

Thanks for completing the site assessment at [REDACTED] s 7(2)(a).

As the building compliance arm of Council we need to make a decision about whether the buildings at these addresses are safe to occupy. As part of this assessment we consider if Dangerous Building Notice needs to be issued under Section 124 of the Building Act. The definition of a Dangerous Building is contained in S121 of the Building Act.

121 Meaning of dangerous building

(1) A building is **dangerous** for the purposes of this Act if,—

(a) in the ordinary course of events (excluding the occurrence of an earthquake), the building is likely to cause—

(i) injury or death (whether by collapse or otherwise) to any persons in it or to persons on other property; or

(ii) damage to other property; or

(b) in the event of fire, injury or death to any persons in the building or to persons on other property is likely.

(2) For the purpose of determining whether a building is dangerous in terms of subsection (1)(b), a territorial authority—

(a) may seek advice from employees, volunteers, and contractors of Fire and Emergency New Zealand who have been notified to the territorial authority by the board of Fire and Emergency New Zealand as being competent to give advice; and

(b) if the advice is sought, must have due regard to the advice

I would appreciate your evaluation of the site, findings and what if any further assessments are needed at either of the sites.

Regards,

Derek Kerite

Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] s 7(2)(a) W: www.huttcity.govt.nz



DANGEROUS BUILDING NOTICE

Issued under sections 121 to 128A of the Building Act 2004

To:

s 7(2)(a)

Owner of the building

Building details

Site Address:

s 7(2)(a)

Legal Description:

Legal Desc:

s 7(2)(a)

Owners:

s 7(2)(a)

Location within site:

Dwelling

Levels:

2 storey dwelling

TAKE NOTICE that Hutt City Council (Council), a territorial authority under the Building Act 2004, is satisfied that the building identified above is 'dangerous' as defined in section 121 of the Building Act 2004 due to the instability of the ground to Eastern Hutt Rd and the consequential risk of further landslip that may undermine the building.

A warranted council officer and structural engineer inspected the building on 22nd July 2022 and a verbal report has advised that there are significant risks caused by the recent slip that require further assessment before the building can be occupied.

You are required to take the following action to reduce or remove the danger:

1. Vacate the property until the Council has advised that the occupation of the building is acceptable.

The Council will be obtaining a written report from its geotechnical engineer in the week of 25 July. Based on that report, a further notice or action to address the risk may be necessary. In the meantime, this notice addresses the immediate risk from occupation of the building.

In accordance with section 128(2) of the Building Act 2004, as a result of this notice:

No person may:

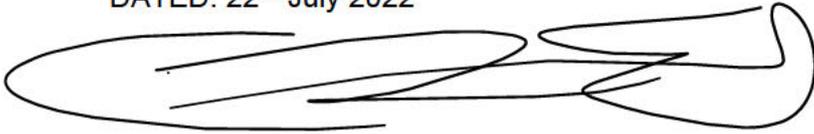
- a) use or occupy the parts of the buildings listed above; or
- b) permit another person to use or occupy them

Restricted entry is granted under Section 124 (2)(d) for persons carrying out an assessment on behalf of the owner, insurer or Council.

WARNING: Failure to comply with the requirements of this notice is an offence against section 128A of the Building Act 2004. The maximum penalty for an offence against that provision is a

fine not exceeding \$200,000 and, in the case of a continuing offence, a further fine not exceeding \$20,000 for every day or part of a day during which the offence has continued.

DATED: 22nd July 2022

A handwritten signature in black ink, appearing to be 'Craig Ewart', written over a horizontal line.

Craig Ewart
Inspections Team Lead
Hutt City Council

Released under the Local Government Official Information and Meetings Act

DANGEROUS BUILDING NOTICE

Issued under sections 121 to 128A of the Building Act 2004

Owner of the building

Building details

Site Address:

Legal Description:

Location within site:

Levels:

Owners:

Dwelling

2 storey dwelling

TAKE NOTICE that Hutt City Council (Council), a territorial authority under the Building Act 2004, is satisfied that the building identified above is 'dangerous' as defined in section 121 of the Building Act 2004 due to the instability of the ground to Eastern Hutt Road and the consequential risk of further landslip that may undermine the building.

A warranted council officer and structural engineer inspected the building on 22nd July 2022 and a verbal report has advised that there are significant risks caused by the recent slip that require further assessment before the building can be occupied.

You are required to take the following action to reduce or remove the danger:

1. Vacate the property until the Council has advised that the occupation of the building is acceptable.

The Council will be obtaining a written report from its geotechnical engineer in the week of 25 July. Based on that report, a further notice or action to address the risk may be necessary. In the meantime, this notice addresses the immediate risk from occupation of the building.

In accordance with section 128(2) of the Building Act 2004, as a result of this notice:

No person may:

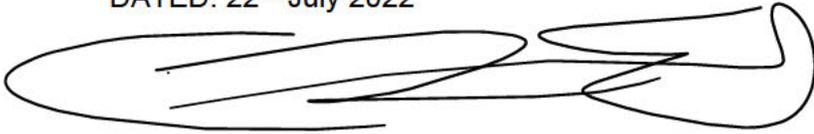
- a) use or occupy the parts of the buildings listed above; or
- b) permit another person to use or occupy them

Restricted entry is granted under Section 124 (2)(d) for persons carrying out an assessment on behalf of the owner, insurer or Council.

WARNING: Failure to comply with the requirements of this notice is an offence against section 128A of the Building Act 2004. The maximum penalty for an offence against that provision is a

fine not exceeding \$200,000 and, in the case of a continuing offence, a further fine not exceeding \$20,000 for every day or part of a day during which the offence has continued.

DATED: 22nd July 2022

A handwritten signature in black ink, appearing to read 'Craig Ewart', written over a horizontal line.

Craig Ewart
Inspections Team Lead
Hutt City Council

Released under the Local Government Official Information and Meetings Act





Released under the Information Access Act



Released under the Local



Released under the Local Government Official Information and Meetings Act





From: Derek Kerite <Derek.Kerite@huttcity.govt.nz>
Sent: Friday, 22 July 2022 1:58 PM
To: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Subject: RE: Slip in close proximity to S/W main - 60 Holborn

Thanks Craig – Did you manage to get through to anyone at WW?

Derek Kerite
Head of Regulatory Services

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] **W:** www.huttcity.govt.nz



From: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Sent: Friday, 22 July 2022 1:44 PM
To: Derek Kerite <Derek.Kerite@huttcity.govt.nz>; Paul Pugh <Paul.Pugh@huttcity.govt.nz>
Cc: Anthony Robinson <Anthony.Robinson@huttcity.govt.nz>; Leanne Kernot <Leanne.Kernot@huttcity.govt.nz>
Subject: FW: Slip in close proximity to S/W main - [REDACTED]

FYI, additional information

Craig Ewart
Inspections Team Lead

Hutt City Council, 30 Laings Road, Lower Hutt 5010

P: M: [REDACTED] **W:** www.huttcity.govt.nz



From: Jason Macnee <Jason.Macnee@huttcity.govt.nz>
Sent: Friday, 22 July 2022 12:40 PM
To: Craig Ewart <Craig.Ewart@huttcity.govt.nz>
Subject: Slip in close proximity to S/W main - 60 Holborn

Hi Craig,

Below is a screen shot with a rough markup of the slip location.

Would be a good idea to have the S/W main checked.

Cheers,



Jason Macnee
Senior Building Officer
Hutt City Council, 30 Laings Road, Lower Hutt 5040
P: M: [REDACTED] s 7(2)(a) W: www.huttcity.govt.nz

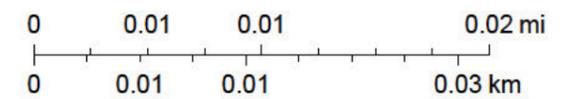
Local Maps Print



November 8, 2022

- | | | | | |
|--|--------------------------|----------------------|----------------------------------|-----------------------------|
| Street / Bridge / Walkway / Subway Names | ● Sewer fixtures | Water Valve | Wastewater Node | Stormwater Node |
| Property Address | - - - Sewer pipes | ⊗ Water Valve | ● Wastewater Node | ○ Manhole |
| ● Water tobies | - - - Sewer lateral pipe | ⊗ Service Valve | Wastewater Pipe | ⊗ Sump |
| + Water fixtures not active | ● Storm Fixtures | Water Pipe | → Wastewater Pipe-Gravity | Stormwater Pipe |
| Private Water Fixture Details (KEEP ON!!!) | - - - Storm Pipes | — Water Pipe | → Wastewater Trunk Main-Gravity | → Stormwater Pipe |
| — Water Pipes - PVT | ⊠ Water Hydrant | — Service Connection | - - - Wastewater Connection Pipe | → Stormwater Sump Lead |
| | | | | □ Property Boundary Outline |

1:500



LIS HCC, Wellington Water Ltd, Greater Wellington Regional Council, Wellington Water Ltd, Hutt City Council, AAM NZ, USGC

14 September 2011

Contact: Helen Oram
Group/Divison: Environmental Consents
Telephone: 04 570 6915
Facsimile: 04 566 7098
Email: helen.oram@huttcity.govt.nz
Our Reference: GEN2327600

s 7(2)(a)
46 Holborn Drive
Stokes Valley
Lower Hutt 5019

Dear s 7(2)(a)

RECENT SLUMP

I am writing to let you know what has happened since you met Dan Kellow, Sarah Clarke, Phil Grace and Leonie Gibb on site on 29 August 2011.

I commissioned a report from an independent Geotechnical engineer to ascertain the reasons & remedy for the slumping.

I have now received that advice and the consultant has found the following:

*"It is considered that the major drivers of the slope failure are;
Uncontrolled stormwater flow from or above; and/or,
Historically, or pre-construction, or during construction over-steepened slope."*

The remedy suggested by the engineer is:

"It is considered that the most appropriate remedial solution is to remove the failed material, place a subsoil drain (that connects to reticulated drainage and not free flowing down a slope), place backfill material - such as 40/20 backfill material or similar.

Control of the overland stormwater flow from above is recommended also. This could be in the form of ensuring that roof drainage drains appropriately to reticulated drainage, and a kerb or lip feature is installed along any hard surfacing to direct water to flow into reticulated drainage.

In order to prevent further failures along this section of steep slope, if considered prudent, it is recommended that the above drainage measures are implemented, and the gap between the (subject) steep slope and the wall of No. 4 be backfilled with 40/20 backfill material or similar. All top soil and vegetation from the areas to be backfilled should be removed before placement of subsoil drainage and backfill material."

The recommendations being:

"If the backfill remedial solution is to be implemented it is recommended that a structural engineer be engaged to:

- 1) check that the wall is able to withstand loads associated with the solution;*
- 2) complete detailed design;*
- 3) carry out construction inspections; and,*
- 4) provide certification."*

I am writing to [REDACTED] ^{s 7(2)(a)} to tell you this information. It appears that there is more than one reason for the slumping. As such, it cannot be solely attributed to the development of the adjacent site.

In terms of any remedial work, the Council's role is to assess whether any consents are required. This can only be done once that work is scoped and designed. The Council cannot be involved in that exercise, beyond the report already obtained at Council's cost. The details of how to undertake that work, site access and matters of cost of completing the work, is a civil matter between you and your neighbour. My advice is that you seek the opinion of a lawyer or technical expert to help you with that process. When this has been sorted out, even if no consent is required then I would like to see the certification from the structural engineer for our records.

I understand that you questioned a sentence I wrote in my previous letter to you, that sentence being: "I have included the filenotes that led to an abatement notice being issued." What this sentence meant, was not that I was including filenotes in the letter, but that these filenotes were included in the previous responses to you. There is nothing further that I can provide to you on that.

Regards,

Helen Oram
Divisional Manager
Environmental Consents

Released under the Local Government Official Information and Meetings Act

Phoned 21/9 @ 3.37. apologised for delay.

ARL | LAWYERS

T +64 4 5666777
F +64 4 5693354

5 September 2011

Chief Executive Officer
Hutt City Council
Private Bag 31 912
Lower Hutt 5040

By email:
tony.stallinger@huttcity.govt.nz

Attention: Tony Stallinger

F

Dear Sir

DEVELOPMENT OF [REDACTED] STOKES VALLEY, LOWER HUTT
OUR CLIENTS - [REDACTED]

1. We refer to our letter dated 10 May 2011 (copy **attached** for your reference). We also **attach** for completeness a copy of the Council's response dated 1 June 2011.
2. Our clients have become aware after personally attending at the offices of the Hutt City Council on or about 19 August 2011, that a resource consent in respect of the above property was granted on 28 June 2011. As a matter of professional courtesy, we expected that a copy of the same would have been provided to us as soon as it had been issued in light of the long standing correspondence between this firm and your Council.
3. In any event, as your Council is aware, as recorded in our letter dated 10 May 2011, our clients were of the view that they are an affected party. As it turns out, our clients have now suffered a second slip to their land as a result of the earthworks on the neighbouring section. Council Officers (at our clients' request) attended the site to inspect the same on 29 August 2011.
4. Clearly the slip requires rectification by the Council in conjunction with the developer. We understand from our client at his meeting with Council Officers on 29 August 2011, he advised that simply backfilling behind the existing retainer wall was an unacceptable solution to our clients. Our clients' independent engineering advice is that if the existing section is simply backfilled behind the existing retaining wall, then the lack of drainage will over time result in a failure of the retaining wall and that over the long term, liability for such will fall on our clients. This is clearly unacceptable.
5. Our clients propose that the Council instruct GHD Engineers to provide a report at the Council's cost which should set out the measures now required to remedy the failure of support to our clients' property as a result of the extensive earthworks on the neighbouring section. Such report should then be provided to our clients, who propose to have Aurecon critique the abovementioned report.

6. Would you please confirm within five working days of the date of receipt of this letter that the Council has taken steps to instruct GHD Engineers and in addition provide us with an estimated time frame for receipt of that report.

Yours faithfully
ARL LAWYERS

BEN SHEEHAN
Partner

☎ DDI [REDACTED] s 7(2)(a)

Email ben.sheehan@arl-lawyers.co.nz

cc: Ms Helen Oram
Divisional Manager Environmental Consent
By email : helen.oram@huttcity.govt.nz

Released under the Local Government Official Information and Meetings Act

5-9-2011

Rosslyn McLachlan
Senior Geotechnical Engineer
G.H.D Lower Hutt

[REDACTED] s 7(2)(a)
[REDACTED] s 7(2)(a)
Stokes Valley

Dear Rosslyn,

Following last Tuesday 30th August site meeting regarding the slip(s) on my property at [REDACTED] s 7(2)(a) I raise the following with you.

The development at [REDACTED] s 7(2)(a) along the [REDACTED] s 7(2)(a) boundary was excavated early December 2010 and has been left largely unsupported. Since then, approximately 9 months, there have been two collapses of this unsupported area to the South. One around the 19 December 2010 and a further collapse in April 2011.

In addition the ground to the North has been slowly receding, meaning that the ground under the concrete drive at [REDACTED] s 7(2)(a) has slumped down approximately 300mm.

LHCC has all necessary documentation including my own correspondence - Photographs including those taken by others, and reports from Tony Mahoney of Aurecon.

The most recent slip which occurred around 30/31 August 2011 is the reason your company was called in by HCC. If you follow the HCC paper trail- ie correspondence and photographs, then you will see that this has been raised months ago. My contention is the Resource Consent of April 2010 requires (along with building consent specifications and the building act) that any cut above 1.5 meters be protected/supported etc to prevent slips occurring. It is because the cut varies in height up to 5.165m at the South end of the retaining wall to 3.24m at location of most recent slip at the North end. These measurements are from the bottom of the footing of the retaining wall.

There is no subsoil drainage along this wall and the wall does not extend fully along the boundary to intersect with the driveway. There is site rubbish back-filling this area between my driveway and the [REDACTED] s 7(2)(a) driveway. Is this acceptable practice?

Aurecon did a report on this area for me on April 13, the most recent I have had done, which was only days before the bank gave way.

Whilst reviewing your peer review of GNS [REDACTED] s 7(2)(a) I ask the following: How does the subsoil drainage behind the lower level (RL44.87) and the lower retaining wall (RL 43.31) drain uphill to RL47.81 so that it can connect to the Storm Water and drain to Stokes Valley Road? Can you please explain to me how this can work?

Did Council make your company aware of my concerns of January 4th 2011

about the backfilling of the lower level retaining wall? The photographs I took at the time of the Christmas rain show the cracks and subsidence in the fill. Would this have an impact on your review of 20 April 2011 if you knew of it?

I have obtained under OIA all documentation from HCC (so I am lead to believe) and raise the following: Harry Adams letter of engagement of 31 March 2010 states that it only requires two items to be inspected by him. The file notes for these inspections say that the piles are down to solid. The drawings for building consent state only onto solid, infact nowhere can I find the term "into solid" as stated in GNS reports of 28 May 2011 and a previous one of January 2011. What, if any are the possible implications of the different positions of the Engineers involved?

I January 2010 GNS/Sawrey consulting Geotechnical reports, peer reviewed by Ian Brown Associates clearly state that the piles must go at "least 2 meters into rock" and clearly define the procedure to obtain the results required. ie dig down to the rock and then drill 2m into it.

If this is required for a 20 ton pole structure then why is it not required for a 250 ton concrete structure?

I raise these points with you because I am concerned that at some stage in the future my driveway will be so undermined that it will collapse if appropriate action to stabilise it isnt taken now. This Stabilisation needs to take into account the actions of others, the ground conditions and if the isnt stabilised and eventually (if it hasnt already) puts a surcharge on [REDACTED] and the possible instability of the fill and lack of drainage.

If this infact happens to eventuate and [REDACTED] road slides down the hill, Is there a chance that responsibility can be reverted back to me?

I suggest that a suitably constructed retaining wall be constructed that ensures that my property is stabilised in such a way that there is no surcharge onto [REDACTED]

If you require supporting verification of any of the above then I suggest you read the Councils file on [REDACTED] It contains information on this site that you may not have previously been aware of, including my reports from Aurecon.

Regards

[REDACTED]

8-9-2011

Tony Stallinger
CEO - Lower Hutt City Council

[REDACTED] s 7(2)(a)
[REDACTED] s 7(2)(a)
Stokes Valley

Dear Sir,

Following a site meeting with Sarah Clark and Dan Kellow, along with GHD Engineers on Tuesday 30th of August I have written to GHD and have included a copy of that letter for you.

The issue I have is that Council were asked to take action to get the developer to stabilise and protect my property - excavated early December 2010. After repeated claims from council (particularly Leone Gibbs report - 7 February 2011) that all conditions of both Resource and Building consent have been complied with, I have now had to endure 9 months of slips on my property, dating from 17 December 2010 (attended by Leone Gibb - predating letter 7 Feb, re RC/BC conditions met) up until this latest slip 27/28 August 2011.

These events have given me the opportunity to raise some of the related issues that have otherwise been ignored by council staff. Namely, what is to stop my driveway collapsing and causing [REDACTED] s 7(2)(a) to slide down the hill? Who is liable in the event that this occurs?

I have had Aurecon prepare reports on my property and Council has been provided with these, hereby placing council on notice of these issues since December 2010. The lack of consideration these reports have received from council, and the recent (9 months) events on the property are both disappointing and alarming.

Hopefully you will see fit to address the problems that the Council has surrounding this issue immediately, as these sort of issues (slips / subsidence) tend to stabilise only when there is no more material left to collapse.

I have repeatedly asked Council for the Surveyors report of January 2011 on [REDACTED] s 7(2)(a) "confirming councils findings" of 7 February 2011. I have requested this report both verbally and in writing. In addition my Solicitor has requested it on no less that two occasions. I have also requested this report under OIA (including paying for the privilege).

I believe that the Council is deliberately withholding from me a report found to be unfavourable from Councils standpoint. I met a surveyor on site and spoke briefly with him, hence I KNOW a survey has been done - Where is this report??

It is clear that this report does infact exist and that it is being withheld from me. My contention along with considerable professional evidence indicate this

IMAGED
27 FEB 2012

fact clearly. The Councils claims of compliance with both RC and BC are blatantly wrong. Reasons for this statement are as follows:

- 1) Why else would a retrospective Resource Consent be required?
- 2) The structure has been substantially altered from what was originally consented in October 2010.
- 3) A large portion of the lower level is still to be demolished as per Developers submission 16 February 2011.
- 4) The altered structure, along with a number of new structures, as well as the drainage all now substantially complete do not have an amended building consent.

As regards the retrospective Resource Consent, I will address this issue with you later. I have however obtained from Council records a figure well in excess of both excavation consents granted to date on the upper site of 4 Stokes Valley Road. This figure is in line (but still manages to exceed) my previous claims to council in November and December 2010, strangely also predating Leone Gibbs letter - 7 February 2011.

There are a raft of issues unaddressed by Council surrounding this development, many of which have been left out of this letter but remain on councils file for your perusal, some dating back to November 2010. Due to the inaction and belligerent attitude of Council staff, I have been forced to consult the Ombudsman who advises me to write to you directly.

If you have any queries regarding this letter or any of the prior correspondence between myself, my solicitor and LHCC please feel free to contact me on [REDACTED]

Kind regards

[REDACTED]



Released under the Official Information and Meetings Act

Maria Tipene

From: Maria Tipene
Sent: Tuesday, 20 September 2011 4:33 p.m.
To: Helen Oram
Subject: RE: Development of [REDACTED] Stokes Valley, Lower Hutt - Our Clients: [REDACTED]

Hi
Can you please advise if a letter was sent back to the lawyers? The draft I received yesterday was for [REDACTED] - is that correct?

Thanks

From: Helen Oram
Sent: Tuesday, 6 September 2011 8:59 a.m.
To: Tony Stallinger
Cc: Joycelyn Foo; Dan Kellow; Jekkie Suwanposee; Leonie Gibb
Subject: Fw: Development of 4 Stokes Valley Road, Stokes Valley, Lower Hutt - Our Clients: Vivian and Janet Haar

You will remember that these lawyers are working for [REDACTED] who is the man who went to Fair Go. There was a small slip on [REDACTED] property, staff have investigated and we decided to employ an independant engineer to assess the cause + the remedy. I am trying to make it clear what we have jurisdiction over and what is a civil matter as I am of the opinion that this is essentially an argument between neighbours that we are being drawn into. We will draft a response for you.
Helen

From: Ben Sheehan [mailto:Ben.sheehan@arl-lawyers.co.nz]
Sent: Tuesday, September 06, 2011 08:35 AM
To: Tony Stallinger
Cc: Helen Oram
Subject: Development of 4 Stokes Valley Road, Stokes Valley, Lower Hutt - Our Clients: [REDACTED]

Dear Sir

Please refer to attached correspondence.

BEN SHEEHAN
Partner

Direct dial: [REDACTED]
Email: ben.sheehan@arl-lawyers.co.nz

Please note our new address - 19 Cornwall Street, Lower Hutt

AVISON REID LOGAN Lawyers | www.arl-lawyers.co.nz | office@arl-lawyers.co.nz | P: 04 5666777 | F: 04 5693354
ARL Lawyers House | 19 Cornwall Street | Lower Hutt 5010 | PO Box 30 430 | Lower Hutt 5040 | DX RP42002 | New Zealand

This email is sent by a law firm and contains information that may be privileged and confidential. If you are not the intended recipient, please delete the email and notify us immediately.

22 September 2011

Contact: Helen Oram
Group/Division: Environmental Consents
Telephone: 04 570 6915
Facsimile: 04 5667098
E.Mail: Helen.Oram@huttcity.govt.nz
Our Reference: 4 Stokes Valley Road

Ben Sheehan
ARL Lawyers
PO Box 30430
Lower Hutt 5040

Dear Mr Sheehan

DEVELOPMENT OF [REDACTED] STOKES VALLEY, LOWER HUTT.

I write in reply to your letter dated 5 September 2011.

Helen Oram has requested a geotechnical report from GHD to find out the cause and the remedy for the recent slumping. The final report has not yet been received, but is expected next week. Until this is received Council is not in a position to speculate about what has caused the slump, nor whom will be involved in remedying it. We do not however accept your statement that 'clearly the slip requires rectification by the Council in conjunction with the developer.' We will await the final report before commenting further in that regard.

When the final report has been received, Ms Oram will write to both [REDACTED] to confirm the next steps.

A copy of the resource consent was provided to your client. I will ensure that a copy is also sent to your office.

Yours sincerely

Tony Stallinger
Chief Executive Officer

14 September 2011

Contact: Helen Oram
Group/Divison: Environmental Consents
Telephone: 04 570 6915
Facsimile: 04 566 7098
Email: helen.oram@huttcity.govt.nz
Our Reference GEN2327600

§ 7(2)(a)
§ 7(2)(a)
Stokes Valley
Lower Hutt 5019

Dear § 7(2)(a)

I am in receipt of two letters from you, one dated 8 September 2011 and the other dated 29 August 2011. This reply is in response to both of these letters.

I have noticed, in the file, that you have raised issues over time and I can see that these have been responded to by council officers. Whilst they may not have provided you with the answers that you wanted, these officers appear to me to be answering your letters, conducting site investigations and talking to people to try to resolve matters. Additionally, we have to remember that the officers can only do what the law gives them the right to do (for example, officers could not issue a notice to fix if a building consent was not required). Much time and energy has been expended to ensure that the consents covered issues involving stability, even now I understand that Helen Oram has commissioned a report from an independent geotechnical expert to provide guidance around the slump that has just occurred. She has written to you separately with regard to this.

In reply to the points you have raised I respond as follows:

- 1) You note that you have continuously requested a copy of a surveyor's report of January 2011 from Council officers, but this hasn't been supplied. There is no surveyors report of January 2011, there is a plan supplied by a surveyor. Helen Oram has told me that this has been supplied in several OIR responses that she has prepared for you. I attach a copy of this plan for your convenience.
- 2) You have asked why Council has claimed compliance with the RC and BC, when a retrospective resource consent was required? You will appreciate that when officers investigated your allegations they assess what is on the ground at that time. At various times during that investigation, the development was found to comply. When the development was found to be non-compliant, Council officers approached § 7(2)(a) and required a retrospective resource consent application to be submitted.
- 3) You assert that the structure has been substantially altered from what was originally consented in October 2010. There have been iterations of plans over time but there is no evidence of substantial alterations. Helen Oram is

happy to meet with you, bringing a building officer, to talk you through the plans.

- 4) You have said that there are a number of new structures as well as drainage which do not have amended building consent. A number of building inspections have been carried out and officers believe that the structure and drainage complies. We have an amendment to the building consent that was submitted on 9 August 2011 which is yet to be determined. All building consents & amendments to them are checked for compliance with the Resource Consents Team officers.
- 5) I understand that you have information regarding excavation volumes, please supply that to us so that we can examine it and provide you with comment.
- 6) The Council cannot address questions of liability in response to your questions. I am satisfied that the Council has adequately carried out its regulatory responsibilities.

I hope that this has satisfied your questions.

Regards,

Tony Stallinger
Chief Executive Officer

Released under the Local Government Official Information and Meetings Act

26 September 2011

Ben Sheehan
ARL Lawyers
PO Box 30430
Lower Hutt 5040

Dear Mr Sheehan

Development of [REDACTED] Lower Hutt

Firstly, I apologise for the delay in getting our response to your letter of 5 September 2011.

I have recently been appointed to the role of General Manager – Governance and Regulatory. Chief Executive, Tony Stallinger has requested that I provide you with this response and that all future correspondence be directed to me.

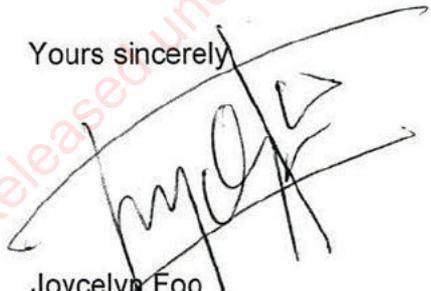
We have requested a geotechnical report from GHD to find out the cause and the remedy for the recent slumping. The final report has not yet been received, but is expected this week. Until this is received Council is not in a position to speculate about what has caused the slump, nor who will be involved in remedying it.

We also do not accept your statement that 'clearly the slip requires rectification by the Council in conjunction with the developer'. We will await the final report before commenting further in that regard.

When the final report has been received, we will write to both [REDACTED] to confirm the next steps.

A copy of the resource consent which was provided to your client is also enclosed for your reference.

Yours sincerely


Joycelyn Foo
General Manager, Governance and Regulatory

Resource consent attached
to original.

30 September 2011

Joycelyn Foo
General Manager
Governance and Regulatory
04 570 6736
joycelyn.foo@huttcity.govt.nz
Our reference:DOC/11/89547

s 7(2)(a)

s 7(2)(a)

Stokes Valley

Dear

s 7(2)(a)

Thank you for meeting with me on 26 September. I have been expecting an email from your sister summarising the matters you wanted clarified but can confirm that I have now received your letter detailing those matters on 27 September 2011.

I will endeavour to clarify these for you as soon as possible.

In the meantime we have received your letter of 29 September 2011 to Tony Stallinger concerning the subsidence and large crack at your property.

I understand that my staff have been out to your property this morning and took photos of the subsidence and crack. They will be assessing these on Monday and we will get back to you next week.

Once again, thank you for your time on Monday.

Yours sincerely

Joycelyn Foo
General Manager
Governance and Regulatory Group

Jekkie Suwanposee

From: Sarah Clarke
Sent: Friday, 18 November 2011 4:07 p.m.
To: Helen Oram
Subject: Email 1 4 Stokes Valley - Minor Slumping
Attachments: Final [REDACTED] Geotech 8 Sept 11.zip

fyi

From: Beverley.Curley@ghd.com [<mailto:Beverley.Curley@ghd.com>]
Sent: Thursday, 8 September 2011 3:19 p.m.
To: Sarah Clarke
Cc: Bruce.Simms@ghd.com
Subject: Re: [REDACTED] Minor Slumping

Hi Sarah

Please find attached our letter regarding the recent slope failure at No. [REDACTED]

Kind Regards

Beverley Curley
Senior Engineering Geologist

GHD

T: 64 4 495 5832 | M: [REDACTED] | E: Beverley.curley@ghd.com
Level 11 Guardian Trust House 15 Willeston Street PO Box 1746 Wellington New Zealand | www.ghd.com

[WATER](#) | [ENERGY & RESOURCES](#) | [ENVIRONMENT](#) | [PROPERTY & BUILDINGS](#) | [TRANSPORTATION](#)

Please consider our environment before printing this email

From: Sarah Clarke <Sarah.Clarke@huttcity.govt.nz>
To: "'Beverley.Curley@ghd.com'" <Beverley.Curley@ghd.com>
Date: 02/09/2011 08:22 AM
Subject: [REDACTED] - Minor Slumping

Hi Beverley,

Was just wondering how you were getting on with your memo? The neighbour is ringing most days so I want to give him a likely timeframe if possible.

Regards,

Sarah Clarke
Senior Planner

From: Beverley.Curley@ghd.com [<mailto:Beverley.Curley@ghd.com>]
Sent: Monday, 29 August 2011 5:02 p.m.

To: Sarah Clarke
Cc: Bruce.Simms@ghd.com
Subject: Re: Fw: 4 Stokes Valley - Minor Slumping

Hi Sarah

Thanks for your well timed call.
Just to confirm I will pick you up at your offices at 1.30pm tomorrow (Tuesday) for the site visit to [REDACTED] s 7(2)(a)
I will be in a small grey GHD car.

Regards

Beverley Curley
Senior Engineering Geologist

GHD

T: 64 4 495 5832 | [REDACTED] s 7(2)(a) E: Beverley.curley@ghd.com
Level 11 Guardian Trust House 15 Willeston Street PO Box 1746 Wellington New Zealand | www.ghd.com

[WATER](#) | [ENERGY & RESOURCES](#) | [ENVIRONMENT](#) | [PROPERTY & BUILDINGS](#) | [TRANSPORTATION](#)

Please consider our environment before printing this email

----- Forwarded by Bruce Simms/Wellington/GHD/AU on 29/08/2011 01:36 PM -----

From: Sarah Clarke <Sarah.Clarke@huttcity.govt.nz>
To: "Bruce.Simms@ghd.com" <Bruce.Simms@ghd.com>
Cc: Dan Kellow <Dan.Kellow@huttcity.govt.nz>, Philip Grace <Philip.Grace@huttcity.govt.nz>
Date: 29/08/2011 12:14 PM
Subject: [REDACTED] s 7(2)(a) Minor Slumping

Hi Bruce,

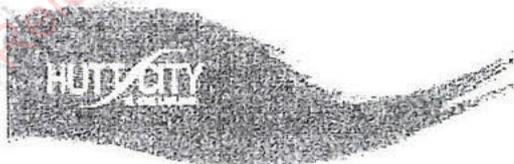
Further to my phone message could you help us with an urgent visit to the above address, there has been a small amount of slumping where the driveway foundations have been constructed to the boundary and there is a void on the neighbours land which is slipping towards the driveway foundation.

We need to determine what the likely cause was and a solution, can you ring to discuss as soon as you are able?

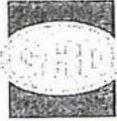
Regards,

Sarah Clarke
Senior Resource Consents Planner

Hutt City Council, 30 Laings Road, Private Bag 31912, Lower Hutt 5040, New Zealand
T 04 570 6729, W www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient named in the e-mail message. If the reader of this e-mail message is not the intended recipient, you are notified that any use, copying or distribution of this e-mail message is prohibited. If you have received this e-mail message in error, please notify the sender immediately. Thank you.



8 September 2011

Environmental Consents
Hutt City Council (HCC)
30 Laings Rd, Private Bag 31912
Lower Hutt

Our ref: 51/29905/[REDACTED]
Geotech 5 Sept 11.doc

Attn: Sarah Clarke

Dear Sarah

Geotechnical Comments on Recent Slope Failure at [REDACTED] Lower Hutt

1 Introduction and Project Brief

Hutt City Council (HCC) requested that GHD Limited (GHD) undertake a site visit in combination with HCC to [REDACTED] to visually examine a slope failure between No [REDACTED] and [REDACTED] and provide comments as to the cause and remedial options.

GHD has previously carried out a peer review (letter dated 20 April 2011) of the geotechnical information provided as part and parcel of the Resource Consent application (RM110055) and also as part of the Building Consent application (BC100951) for [REDACTED] as requested by HCC.

No intrusive investigations were undertaken.

2 Site Observations

On 30 August 2011 a Senior Engineering Geologist along with 2 representatives of HCC carried out a site visit to visually examine the steep slope between No [REDACTED] and the wall beneath the driveway for No [REDACTED].

The house construction is well underway with 3 stories having been built. The dwelling access runs from the shared drive with [REDACTED] on top of the middle story of the house. The 2 driveways deviate in height, with [REDACTED] drive rising up, and [REDACTED] stepping down slightly to level out. Between the driveways/houses is a gently angled slope and a steep slope. A shallow seated failure has occurred in the steep section of slope, with the toe of the material has slumped onto the wall of the middle level of [REDACTED].

The failure is approximately 2m in length by a maximum of approximately 1m wide, and approximately 1.25m in height. The failure has revealed a slope comprising of residual greywacke soil, mantled with top soil. This soil profile is consistent with the observations documented in GHD's letter to HCC dated 20 April 2011, and aligns with the previous geotechnical reports and is typical of the Wellington area.

3 Information Provided on Site

Anecdotal evidence suggests that the steep cut slope was previously existing on site, and only 250mm at the base was cut into for the wall and wall foundations. This gap was then filled with the wall and foundations except for approximately a 5cm gap.



Both parties [REDACTED] indicated that the boundary line was a few millimetres upslope (to the northwest) of the edge of the driveway.

Further anecdotal evidence was presented that no work was undertaken on the property of [REDACTED]

4 Geotechnical Assessment for the Slope Failure

Is it considered that the major drivers of the slope failure are;

- Uncontrolled stormwater flow from above; and/or,
- Historically, or pre-construction, or during construction over-steepened slope.

5 Possible Remedial Solution

It is considered that the most appropriate remedial solution is to remove the failed material, place a subsoil drain (that connects to reticulated drainage and not free flowing down a slope), place backfill material – such as 40/20 backfill material or similar.

Control of the overland stormwater flow from above is recommended also. This could be in the form of ensuring that an roof drainage drains appropriately to reticulated drainage, and a kerb or lip feature is installed along any hard surfacing to direct water to flow into reticulated drainage.

In order to prevent further failures along this section of steep slope, if considered prudent, it is recommended that the above drainage measures are implemented, and the gap between the (subject) steep slope and the wall [REDACTED] be backfilled with 40/20 backfill material or similar. All top soil and vegetation from the areas to be backfilled should be removed before placement of subsoil drainage and backfill material.

The placement of backfill material will mostly be on [REDACTED]

6 Recommendations

If the backfill remedial solution is to be implemented it is recommended that a structural engineer be engaged to:

- 1) check that the wall is able to withstand loads associated with the solution;
- 2) complete detailed design;
- 3) carry out construction inspections; and,
- 4) provide certification.

7 Scope and Limitations of the Geotechnical Assessment

This letter presents the results of a geotechnical appraisal prepared for the purpose of this commission. The data and advice provided herein relate only to the project and structures described herein and must be reviewed by a competent geotechnical engineer before being used for any other purpose. GHD Limited (GHD) accepts no responsibility for other use of the data.

The advice tendered in this report is based on a visual geotechnical appraisal. No subsurface investigations have been conducted. An assessment of the topographical land features have been made based on this information. It is emphasised that Geotechnical conditions may vary substantially across the site from where observations have been made. Subsurface conditions, including groundwater levels



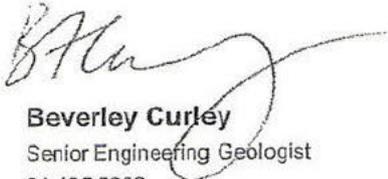
can change in a limited distance or time. In evaluation of this report cognisance should be taken of the limitations of this type of investigation.

An understanding of the geotechnical site conditions depends on the integration of many pieces of information, some regional, some site specific, some structure specific and some experienced based. Hence this report should not be altered, amended or abbreviated, issued in part and issued incomplete in any way without prior checking and approval by GHD. GHD accepts no responsibility for any circumstances, which arise from the issue of the report, which have been modified in any way as outlined above.

I trust the enclosed meets your requirements.

If you have any further questions please do not hesitate to contact the undersigned.

Yours faithfully
GHD Limited



Beverley Curley
Senior Engineering Geologist
04 495 5832

Reviewed by:



Bruce Simms
Geotechnical Team Leader
04 495 5831

Jekkie Suwanposee

From: Sarah Clarke
Sent: Friday, 18 November 2011 4:09 p.m.
To: Helen Oram
Subject: Em [REDACTED] s 7(2)(a) Supplementary Letter
Attachments: Fin [REDACTED] Geotech Additional 28 Sept 11.zip

fyi

From: Beverley.Curley@ghd.com [mailto:Beverley.Curley@ghd.com]
Sent: Wednesday, 28 September 2011 4:16 p.m.
To: Sarah Clarke
Cc: Bruce.Simms@ghd.com
Subject: [REDACTED] s 7(2)(a) Supplementary Letter

Hi Sarah,

We were just scanning in the signed letter as I received your email.

Please find attached our supplementary letter.

If you have any comments please let me know.

Regards

Beverley Curley
Senior Engineering Geologist

GHD

T: 64 4 495 5832 | M: [REDACTED] s 7(2)(a) | E: Beverley.curley@ghd.com
Level 11 Guardian Trust House 15 Willeston Street PO Box 1746 Wellington New Zealand | www.ghd.com

WATER | ENERGY & RESOURCES | ENVIRONMENT | PROPERTY & BUILDINGS | TRANSPORTATION

Please consider our environment before printing this email

From: Sarah Clarke <Sarah.Clarke@huttcity.govt.nz>
To: "Beverley.Curley@ghd.com" <Beverley.Curley@ghd.com>
Date: 28/09/2011 04:10 PM
Subject: RE: RE:

Can we get the letter with urgency please?

From: Beverley.Curley@ghd.com [mailto:Beverley.Curley@ghd.com]
Sent: Wednesday, 28 September 2011 9:22 a.m.
To: Sarah Clarke
Cc: Bruce.Simms@ghd.com
Subject: RE: RE:

Hi Sarah,

I discussed with Bruce last night and I am putting together a letter to you currently. It will be with you today.

Kind Regards

Beverley Curley
Senior Engineering Geologist

GHD

T: 64 4 495 5832 | M: [REDACTED] E: Beverley.curley@ghd.com
Level 11 Guardian Trust House 15 Willeston Street PO Box 1746 Wellington New Zealand | www.ghd.com

[WATER](#) | [ENERGY & RESOURCES](#) | [ENVIRONMENT](#) | [PROPERTY & BUILDINGS](#) | [TRANSPORTATION](#)

Please consider our environment before printing this email

From: Sarah Clarke <Sarah.Clarke@huttcity.govt.nz>
To: "Beverley.Curley@ghd.com" <Beverley.Curley@ghd.com>
Date: 28/09/2011 09:13 AM
Subject: RE: RE:

Hi Bev,

Can I get an urgent response from you on this please?

Regards,

Sarah Clarke
Senior Planner

From: Beverley.Curley@ghd.com [<mailto:Beverley.Curley@ghd.com>]
Sent: Tuesday, 27 September 2011 4:40 p.m.
To: Sarah Clarke
Cc: Bruce.Simms@ghd.com
Subject: RE: RE:

Hi

Was about to email you, you must have know.

It does look like a cut has been made at the base. Just trying to line up the specific area on the oldest photograph.

Will discuss with Bruce and get back to you. Sorry for the delay.

Regards

Beverley Curley
Senior Engineering Geologist

GHD

T: 64 4 495 5832 | M: [REDACTED] E: Beverley.curley@ghd.com
Level 11 Guardian Trust House 15 Willeston Street PO Box 1746 Wellington New Zealand | www.ghd.com

[WATER](#) | [ENERGY & RESOURCES](#) | [ENVIRONMENT](#) | [PROPERTY & BUILDINGS](#) | [TRANSPORTATION](#)

Please consider our environment before printing this email

From: Beverley.Curley@ghd.com [mailto:Beverley.Curley@ghd.com]
Sent: Monday, 26 September 2011 10:07 a.m.
To: Sarah Clarke
Cc: Bruce.Simms@ghd.com
Subject: Re:

Hi Sarah

Hope you had a good weekend?

We'll take a look at the photos and let you know if we can give any more clarity or if more information is required.

Regards

Beverley Curley
Senior Engineering Geologist

GHD

T: 64 4 495 5832 | M: [REDACTED] | E: Beverley.curley@ghd.com
Level 11 Guardian Trust House 15 Willeston Street PO Box 1746 Wellington New Zealand | www.ghd.com

WATER | ENERGY & RESOURCES | ENVIRONMENT | PROPERTY & BUILDINGS | TRANSPORTATION

Please consider our environment before printing this email

From: Sarah Clarke <Sarah.Clarke@huttcity.govt.nz>
To: "Beverley.Curley@ghd.com" <Beverley.Curley@ghd.com>
Date: 23/09/2011 01:41 PM
Subject:

Hi Bev,

After reviewing these monitoring photo's, seems like they did undertake a cut against the boundary see the 25 January photo.

Will send some further photo's in a separate email. Let me know if you want to see the full sequence of 25 January photo's.

Regards,

Sarah Clarke
Senior Planner

Sarah Clarke
Senior Resource Consents Planner

Hutt City Council, 30 Laings Road, Private Bag 31912, Lower Hutt 5040, New Zealand
T 04 570 6729, W www.huttcity.govt.nz



IMPORTANT: The information contained in this e-mail message may be legally privileged or confidential. The information is intended only for the recipient

29 September 2011

Contact: Helen Oram
Group/Divison: Environmental Consents
Telephone: 04 570 6915
Facsimile: 04 566 7098
Email: helen.oram@huttcity.govt.nz
Our Reference GEN2327600

s 7(2)(a)
Stokes Valley
LOWER HUTT 5019

Dear s 7(2)(a)

RECENT SLUMP

I am writing to let you know what has happened since Dan Kellow, Sarah Clarke, Phil Grace and Leonie Gibb visited the site on 29 August 2011.

I commissioned a report from an independent Geotechnical engineer to ascertain the reasons & remedy for the slumping.

I have now received that advice and the consultant has found the following:

"In our opinion the precise cause of the aforementioned failure cannot be definitively quantified however; the most likely "primary cause/s" of the reactivation observed at the above site is as follows:

1. *Over-steeping of the slope due to preconstruction failures and earthworks which were present before the commencement of construction of the new dwelling;*
2. *The residual soil strength materials present (which can be attributed to land movement prior to the construction of the above dwelling); and,*
3. *Uncontrolled stormwater from the above property.*

In addition, considering the additional photographic evidence provided it is also clear that toe support (ie. Excavated material) has been removed from the area as part and parcel of the dwellings construction.

This has also been a contributing factor however does not fall within the 'primary causes' of the observed failure at the above site. In simple terms this means that if the excavation for the dwelling had not been completed in our opinion the failure would still have occurred due to the aforementioned primary causes."

The remedy suggested by the engineer is:

"It is considered that the most appropriate remedial solution is to remove the failed material, place a subsoil drain (that connects to reticulated drainage and not free flowing down a slope), place backfill material – such as 40/20 backfill material or similar.

Control of the overland stormwater flow from above is recommended also. This could be in the form of ensuring that roof drainage drains appropriately to reticulated drainage, and a

kerb or lip feature is installed along any hard surfacing to direct water to flow into reticulated drainage.

In order to prevent further failures along this section of steep slope, if considered prudent, it is recommended that the above drainage measures are implemented, and the gap between the (subject) steep slope and the wall of No. 4 be backfilled with 40/20 backfill material or similar. All top soil and vegetation from the areas to be backfilled should be removed before placement of subsoil drainage and backfill material."

The recommendations being:

"If the backfill remedial solution is to be implemented it is recommended that a structural engineer be engaged to:

- 1) check that the wall is able to withstand loads associated with the solution;*
- 2) complete detailed design;*
- 3) carry out construction inspections; and,*
- 4) provide certification."*

I am writing to both you and [REDACTED] s / (2)(a) to tell you this information. It appears that there is more than one reason for the slumping. As such, it cannot be directly attributed to the development of your site, and, in the engineers opinion, the slumping would have occurred regardless of the earthworks associated with your house development.

In terms of any remedial work, the Council's role is to assess whether any consents are required. This can only be done once that work is scoped and designed. The Council cannot be involved in that exercise, beyond the report already obtained at Council's cost. The details of how to undertake that work, site access and matters of cost of completing the work, is a civil matter between you and your neighbour. My advice is that you seek the opinion of a lawyer or technical expert to help you with that process. When this has been sorted out, even if no consent is required I would like to see the certification from the structural engineer for our records.

Regards,

Helen Oram
Divisional Manager
Environmental Consents



CLIENTS | PEOPLE | PERFORMANCE

28 September 2011

Environmental Consents
Hutt City Council (HCC)
30 Laings Rd, Private Bag 31912
Lower Hutt

Our ref: 51/29905/Final [REDACTED] s 7(2)(a)
Road Geotech Additional 28 Sept 11.doc

Attn: Sarah Clarke

Dear Sarah

Supplementary Geotechnical Comments for [REDACTED] Lower Hutt

In accordance with your instructions, please find enclosed GHD Limited's (GHD) supplementary comments on the causes of the land movement previously documented within our Geotechnical Letter dated 8 September 2011 and depicted with the enclosed photographic plate.

The recent photographic evidence provided has confirmed the following:

1. The above site has been subject to previous earthworks (prior to the construction of the dwelling) including the installation of an access track; and,
2. The natural slope has historically suffered from soil creep and also shallow rotational failures within the soil profile (also prior to the construction of the dwelling).

In our opinion the precise cause of the aforementioned failure cannot be definitively quantified however; the most likely "primary cause/s" of the reactivation observed at the above site is as follows:

1. Over-steeping of the slope due to preconstruction failures and earthworks which were present before the commencement of construction of the new dwelling;
2. The residual soil strength materials present (which can be attributed to land movement prior to the construction of the above dwelling); and,
3. Uncontrolled stormwater from the above property.

In addition, considering the additional photographic evidence provided it is also clear that toe support (i.e. excavated material) has been removed from the area as part and parcel of the dwellings construction.

This has also been a contributing factor however does not fall within the "primary causes" of the observed failure at the above site. In simple terms this means that if the excavation for the dwelling had not been completed in our opinion the failure would still have occurred due to the aforementioned primary causes.

Finally, it is important to understand the irrespective of the primary causes and contributing factor/s for this movement our recommendations remain consistent that the most sensible remediable solution for this failure is to remove the slumped material and backfill behind the existing retaining wall within compacted hardfill to provide additional buttress. These recommendations have been clearly documented in our aforementioned previous provided correspondence. Please note engineering design and certification is recommended for this remedial work.



We trust the enclosed professional opinion clarifies the primary and associated causes for the failure observed at the above site. If you have any further questions, please do not hesitate to contact the undersigned.

Yours faithfully
GHD Limited

Beverley Curley
Senior Engineering Geologist

Reviewed by:

Bruce Simms
Geotechnical Team Leader



Area of Ground Movement / Failure.



CLIENTS | PEOPLE | PERFORMANCE

Photo Plate 1

Received 8.2.12 e
Customer Services Desk

§ 7(2)(a)
§ 7(2)(a)

Stokes Valley

7-2-2012

Tony Stallinger
CEO
Hutt City Council

Dear Sir,

This letter is to summarise the events and circumstances surrounding RM090396 and BC100951 - § 7(2)(a)

As you are aware, in March 2011 I approached the office of the Ombudsman. At that time I had not written to you Directly the Ombudsman was unable to initiate an investigation.

Her reply however did provide some suggestions as to where I should look to in regard to my issues with LHCC. These suggestions were namely to write to you, the Department of Building and Housing, The Minister of Local Government, the Privacy Commissioner, and the Human Rights Commission.

I have had informal meetings with these departments, and at the same time provided them with some of the details of the situation relevant to their area of authority. Any information that I have provided the agencies has come your own Councils file, obtained at length under OIA.

All Survey and/or BC/RM documentation is from your own files.

I havent provided all of the information/documentation refered to in this letter. If you wish to cross reference any documentation supporting my claims, I suggest that you access the file yourself.

IMAGED
27 FEB 2012

From the outset: RM090396 - February 2010.

Not sub zoning medium density Resid
Later amended to non-pole as explained prev.

1) Council agreed to a sub-division that does not comply with the District Plan. The section at § 7(2)(a) is around 760m2 not the required 1000m2 as stated in District Plan.

2) Council allowed a sub-division with supporting Geotechnical reports for a POLE STRUCTURE on the upper level, then allowed for a ground level concrete structure WITHOUT any supporting Geotechnical information. Council and § 7(2)(a) from GNS repeatedly refer to § 7(2)(a) Peer Review of Feb 2010 to support existing structure. § 7(2)(a) report supports a Pole House NOT a ground level concrete structure.

3) Council refutes a) my assessment of December 2010 and b) following Aurecon report, as being "only" desktop studies. This is correct, the report clearly states that it is a desktop study. This was performed using the

information provided by LHCC under OIA. If Council had carried out a similar evaluation of the information provided to them by the Developer and his advisors, then Council would have known that the development did not comply with the District Plan - Specifically the nett site coverage and recession plane requirements.

Does the Council hold the capabilities to undergo a study of this kind? I suggest not, otherwise I am sure the skills would have been utilised. Hereby I wonder why Council did not have Developer PROVE that his plans complied with District Plan, as has been my own experience. As far as I am aware, the Council requires that a "Registered Surveyor" show that a development complies with the District Plan.

Not usual requirements as explained prev

If Council had adhered to its own set of rules in this instance, It would have become apparent to all that nett site coverage for upper house is at 42% (DP - 35%). This figure is from council records - Hobbs to Clark, Aug 2010.

In the event that you decide to investigate this claim of mine, please be on the lookout for the figures relating to excavation. Your own records show a figure of 482m³, a far cry from the 127m³ Council has repeatedly claimed, in accordance with consent Feb 2010. In addition, this figure (councils own) is still well in excess of the further 70% granted retrospective resource consent in June 2011. This latest consent leaves developer in breach by a whopping 270m³.

Building consent was amended following this

4) Councils requirement to Survey before construction.

I contacted [redacted] on October 11 2010, showing him that the Survey information provided to the Council for Resource Consent was wrong. I provided a Surveyors plan in support of my claim.

5) At the same time as I raised the above issue with [redacted] I also raised the issue of the lower level being approximately 2.21m above the ground level, NOT level or below level as shown on the drawings. The reply was " consent has been granted and thereis nothing I (you) can do about it."

6) During October and November 2010 following the commencement of earthworks, my Son contacted [redacted] regarding the volume of excavation, blocking of the driveway, preventing access and the fill and level of the lower level. [redacted] reply is disrespectful at best and screams of laziness and an individual unprepared to work at a level beyond plodding along. This letter unfortunately sets the tone for all correspondence between the Council and Myself.

7) In October 2010 both Lendrums and Aurecon wrote to LHCC on my behalf expressing concerns about site stability. Paticularly in regard the common boundary. History has shown that their concerns were well founded, and the inevitable has happened, there is infact substrate subsidence. Leone Gibb attended the property at approximately 9.30pm on the 19th of December 2010, after a late night phonecall in this regard. I appreciate the prompt service however her failure to follow up the ensuing conversation with the

Leone to respond

promised stopwork, notice to fix etc is somewhat dumbfounding. Why was this not followed through?

Issue between

not council as prev. explained

8) Aurecon did two surveys on the Boundary following the slips. Both of these surveys were given to Council. Council unfortunately ignored its own protocols and neglected to acknowledge or address these reports. Furthermore, no practical action was taken in regard to this issue. Why?

9) True to [redacted] comments regarding correspondence with myself and the issues that I draw to the attention of Council, it is sufficient to say that by and large, my letters to council during the period of October 2010 and March 2011 have gone largely unanswered. The Council staple being "the development of [redacted] complies with the Resource Consent and the Building Consent."

No survey sought as explained previously

10) Attached is an email from Leone Gibb. Along side it is a Council letter confirming the survey "was done." This is the Survey Council was to use to refute my claims and silence me for good. Given the heartache I am lead to believe I cause in your offices, I assume that should the survey infact argue against my claims, council would be more than willing to produce it. Why then have my repeated requests for council survey that "confirms our findings" fallen on deaf ears? I myself have requested this report under OIA and my Lawyers have written asking for the report also. I suggest again, as in previous correspondence that this report has been found to be unfavourable to council. According to your own records Mr Stallinger it does exist, it may be unsavoury, but it DOES exist.

Yourself, Leone Gibb, Helen Oram, and finally Jocelyn Foo have all eloquently denied its existence. Why?

This is the survey I requested

11) Why does Council insist on repeatedly send me DWG 27660voc Cuttriss - copy attached. It does nothing other than create more questions. Why has council allowed filling beyond 200mm for the retaining wall on common boundary under suspended driveway. It clearly states NO FILL. There is a reason for this. I suggest you find it. Please also note that the fill coloured in yellow on the plan (my colouring) for later reference.

Leone to Respond

12) Please refer to my letter attached 4-1-2011. Council have never replied to this letter. It followed a telephone conversation with [redacted] on 30th December 2010. His reply to me was to "go and have a beer with [redacted] and raise your concerns with him" - This is from Council files. Why, you may ask would I not take this advice? The reason is that at this stage the Geotechnical Engineer should have A) signed a site note to be kept on site at all times and available to Building Inspector, and B) Copied this to council. No such record exists because the Geotech has not done their Job properly and completed the assessments. and C) Council should have contacted Geotech to inform him of concerns raised. *for later reference.



Released under the Information and Meetings Act

Since April I have written to you on several occasions. I have received replies from both yourself and your council representatives, which believe me I do appreciate. However, there are two issues that have continually been answered less than adequately and do not meet my satisfaction.

Firstly - Compliance with the Building Consent. I have written on numerous occasions about this along with explanations of my concerns. Yourself, Jocely Foo, Leone Gibb, and Helen Oram have all given eloquent answers - typically involving the phrase - complies with both the building and resource consent - and to quote you, "the builder and building inspector can agree changes to the drawings" (ironic that building inspector has a say in this given council position that site is under engineer oversight, and council only makes irregular "courtesy visits") The changes are minor and are worked out between inspector and builder and require neither a new or amended building consent.

Obviously, the letter claiming "legal privilege" tells you otherwise. Why has council on 20 January 2012 issued a retrospective amended Building Consent - based on a claimed "as built" drawing. (claimed - developer is lacking credibility at this stage, even you must see that) According to your earlier claims, a consent was not required. A puzzling situation indeed. I will cover the issues surrounding the retrospective building consent and its amendments later.

Secondly, is the requirement to comply with NZS4431.

Yourself, Helen Oram, Leone Gibb and Jocelyn Foo, all state that there is no requirement to comply with 4431. There have been some brilliant responses to my questions in this regard, none of which hold water, no matter how elegant they may be.

This is highly important in the grand scheme of things as this issue goes back to October 2010. Lendrum and Aurecon re site stability, Sawrey, GNS and Brown peer review. I draw your attention to my letter to [redacted] 11-1-2012. [redacted] did answer the hours of work section - thanks) The issues raised in this letter follow a telephone conversation between [redacted] and I on the 9th of January 2012.

You and your management team are wrong to state that there is no requirement to comply with 4431. To verify my claim, look no further than the Resource Consent itself. Check with [redacted] he was able to find the appropriate section and I am sure would be willing to assist you if the four of you struggle to do so.

In light of this, why has Council failed to answer my questions surrounding 4431 and 3604 correctly?

A PS4 CANNOT be accepted retrospectively. It must have site notes filed and available (as previously highlighted) on site and copies held at council offices. Council does not have these notes. PS4 cannot be issued. I know you don't have them, otherwise I would have received them under OIA. But again,

cannot be done till works complete

PS4 is a completion certificate for when works are complete

why would notes exist when they are not a requirement? Council is in a position now that a PS4 must be refused. Post dated paperwork, added after the fact is unacceptable. What happens next?

Has Council asked developer for site notes? [REDACTED] s 7(2)(a) is no Layman, as an Engineer himself (he has made you all well aware of this fact - its in the file) he will be fully aware of the rules and regulations in this regard, and also the ramifications of non-compliance.

Dick Beetzun & Norr u Ademe → Who is the Geotech supervising the fill? [REDACTED] s 7(2)(a) did not know when we last spoke on the 12th of January 2012. This is the sort of information that I assume would be on hand for an "engineer supervised" construction. The councils apparent lack of knowlege and understanding of the regulations goes some way toward an answer as to why Council has yet to answer my letter 11-1-2012.

Why can the Council not obtain site notes from the Builder/Developer? Have they been asked for? As mentioned, they are supposed to be kept on site, perhaps a "courtesy visit" is in order.

In regard to the recent ammendments to the Building Consent, retrospectively granted, based on as built drawings. Questions are as follows.

→ 1) Lower level retaining wall. Shown in yellow on drawing. RM states 1.0m high, whereas BC states 1.2m high. Which is it?

Leone Resp. 2) Fill under Lower level. Supportrd by 1.0m high retaining wall. Does wall carry a surcharge? If infact wall does carry a surcharge, then where is the supporting documentation? ie - Engineers design and PS1? Where is the Engineers site notes regarding the fill? Is there a subsoil drain required? How will it drain into main on Stokes Valley Road? Where are the supporting documents, such as the Building Consent, Drawings, and drainage inspection notes?

3) When I requested all of the Structural drawings and PS1 for the alterations to existing structure, I was told that "this is all we have." Where are the Structural drawings for

- a) altering the lower level - including subwall .UB
- b) Same question again regarding the mid-level. 1B
- c) Lowering of the Car Deck.
- d) Retaining wall on boundary [REDACTED] s 7(2)(a)
- e) The Suspended concrete driveway(a substantial structure, I must add)
- f) How will the 1M retaining wall support the lower level fill when [REDACTED] s 7(2)(a) indicates a 35° angle of repose?
- g) How will subsoil drain at (2) drain to Stokes Valley Road?
- h) How will the cavity - Green - comply with trenching rules? Is thhis a Health and Safety issue?
- i) Will the retaining wall supporting the Driveway carry a surcharge?I the environmental report submitted and accepted by Council for retrospective

IMAGED
27 FEB 2012

Resource consent - it states that the Neighbour (me) can backfill against it. What are the requirements for said backfill? Drainage? Consents?
j) in section 2.2 - Green - the retaining wall is greater than 1.2m, plus it has a 1.8m fence on it. Is a Resource Consent required? The Wall and accompanying fence exceed 1.2m on a boundary, therefore must be deemed a structure, does it therefore contribute to nett site coverage (already at 42% I remind you)

4) The Ballustrades shown in drawing indicate Horizontal rails. Is this permitted? I was under the impression that the rules were aimed at preventing climbing injuries (Small children, Family Home etc) am I correct or ill advised?

5) The wing wall / pedestrian barrier should be designated a CAR barrier, aswell as the 1.8m high corrugated iron fence. Am I correct? How was this determination reached, did you take developers word from the get go? In the event I am found to be correct, how does this affect the recession planes?

6) How does the lower level subsoil drian flow into Stokes Valley Road? This is a question raised numerous times over the past 18 months or so and I am yet to recieve an answer.

7) Does LHCC allow someone other than a Registered Drainlayer to lay Sewer, Stormwater, and Subsoil Drains? Who In Council approve the covering of these drains? Has this approval been given? I am as yet unable to find any documentation in regard to this.

8) Did Council have a Registered Surveyor check the plans (desk top Study) prior to granting consent?

9) Did Council Survey of letter 7 February 2010 confirm that the as built complied with the District Plan?

10) I have undertaken a quick visual inspection of the site. It appears that
a) the handrail on top of the lower level is over the recession plane.
b) the roof of the upper level at green marks is above recession planes.
Can Council confirm that these comply with the District Plan?

11) Why did Council not accept my offer to appoint an Independant Building Surveyor to assist Jocelyn Foo at my expense? One can only assume that Council is afraid of the outcome and the repercussions that outcome will bring.

12) Can Council provide a surveyors report confirming compliance with the District Plan, re nett site coverage, recession planes, and that the development is within the legal boundaries of the property? This is a fairly straightforward request given the circumstances surrounding this development.

13) How is it possible for Council to issue a retrospective Building Consent?

If you appoint a Surveyor it is no longer independant
Not our role
onus is on applicant

As I understand it, the Building Act states that you must comply with the Building Consent. Am I correct? If one is allowed to deviate willy nilly, then surely that negates the need for both the Building Act and the Consents process itself.

Council records - photographs and correspondence to me clearly show, along with Beetham statements supporting a retrospective Building Consent, that the structure was complete as at April 2011. In this case one can only conclude that the Building Consent granted on 20-1-2012 is based on as built drawings, and is hereby retrospective.

On that basis, It stands to reason that a Code of Compliance Certificate cannot be issued, as the development did not comply with the original building consent, and cannot be supported by accompanying engineering or documentation based around the original structure!

Council has claimed that they are able to issue a certificate of acceptance upon completion of this development. It is my understanding (and I believe well advised) that a Certificate of acceptance cannot be issued to a development that already holds a building consent.

At a site meeting with both Leone Gibb and Jeff Symonds I raised the subject. I was informed that the Council was able to issue a notice to fix on all and any non-compliance issues. The next step from there I was told, is that Council could order a Demolition of the Building. Both Jeff and Leone have since denied the conversation, yet I am curious, is this a real possibility?

As I write I am clearly an affected party. As I have stated from the beginning, my primary concern is and has been the stability, and integrity of my driveway. It still amazes me that a simple question to council 18 months ago has lead me to here and the realisation that in all probability, Council has systematically lied to me from the start.

Your organisation has at best been guilty of contradicting itself over and over again. The arguments raised here are not due to my own detective work, but are based on the information supplied under OIA. All of my arguments are founded on information that the Council has readily available to it. As opposed to myself, who has had to wait weeks at a time for a reply to my enquiries, some that dont come at all.

Mr Stallinger, I ask you to refer to [REDACTED] Email of January 2011.

You have never accepted my invitation to meet in person to discuss these matters. I would gladly deal with the Mayor, however it seems he has been told by you in no uncertain terms to mind his own business. (internal emails).

** As mention, the meetings with these organisations have been informal, but nonetheless on file. I am advised that there are a number of Human Rights and Privacy Commission issues to answer. Look deeper, the information is all*

IMAGED
27 FEB 2012

in your file. The treatment of myself and my family by Council officers and the legal situation regarding it is non urgent, however that is not to say they will be dealt with in due course. They will not go away.

As yet I have not had a reply from [REDACTED] ^{s 7(2)(a)} (letter 11-1-2012). When can I expect one?

Finally, I would ask that you deal with this matter personally, and promptly (7-10 Days is fine by me) I believe the time has come and the gravity of the situation dictates that you yourself look into my allegations, do your own research, and write you own letters. Lies have been told by the Council Mr Stallinger, as CEO they lead to your office, are your responsibility. Whether Council has made honest mistakes, errors in judgement, broken protocol, or told systematic lies to cover more lies, It is you job to find the problems and fix them.

I look forward to your reply.

Regards

[REDACTED] ^{s 7(2)(a)}

Released under the Local Government Official Information and Meetings Act

4 - APR 2012

1258 pm

s 7(2)(a)

46 Holborn Drive
Stokes Valley

29 March 2012

Jocelyn Foo
Hutt City Council
PO Box
Lower Hutt

Dear Jocelyn

Thank you for meeting with me last week. There now appears to be progress on the matters I have been raising with the Hutt City Council about the development at s 7(2)(a) Stokes Valley. As you are aware, my primary concern relates to the stability of land and its ability to withstand the excavation and building loads that it is being subjected to, and the consequential risk of land slip to my property should there be a failure.

Following our discussion, I understand you have undertaken to:

- Examine the retaining wall adjacent to my eastern boundary, to ensure it meets engineering requirements relating to drainage, specifically that sub-soil drains have been correctly installed;
- Examine the retaining wall on the lower slope, below the new house, to ensure it meets engineering requirements relating to drainage, specially that sub-soil drains have been correctly installed;
- Confirm the developer, s 7(2)(a) will reinstate and strengthen my eastern boundary, where there is already a problem of land slip due to his excavations. Could you also confirm this work would be overseen by a suitably qualified engineer and also the timeline for completion of this work;
- Confirm by survey that recession planes are within limits specified in the resource and building consents.
- Respond to issues raised regarding Clause 10 of the RC as discussed.
- Have a reply to the above within 2 weeks of our on-site meeting.

In respect of Council's process to grant Resource Consent, you also undertook to look at why it took 16 months (from October 2010 to March 2011) to issue retrospective approval for additional earthworks. I first notified Council in October 2010 that the Resource Consent limit of 127³m was being breached; this was within days of work starting on the site. In a series of correspondence with Council, with the latest being February 2010 (one month

before the new consent was issued), I was repeatedly told earthworks complied with all consents. Yet, the issuing of a new consent shows this was clearly not the case. It appears Council took its time in addressing the matter.

I am available to meet or talk with you about any of these matters. I look forward to your response to the issues I raise.

Yours sincerely,


s 7(2)(a)

Released under the Local Government Official Information and Meetings Act

§ 7(2)(a)
§ 7(2)(a)

HUTT CITY COUNCIL
24 APR 2012

Stokes Valley

23-4-2012

Tony Stallinger
CEO
Hutt City Council

Hello Tony,

I have received a reply from Jocelyn Foo regarding the meeting we had on 28 March, and the five points we discussed at length and agreed to address first.

The agreed time frame for this correspondence was 'within 2 weeks' from the date of meeting. As I anticipated the letter took closer to four weeks to arrive (28-3-2012 to 23-4-2012) Considering the delay, it is also a disappointment to read. I raise the following with you.

- A) "soon" is an unsatisfactory answer. The reinstatement of MY PROPERTY needs to be completed immediately. My concrete slab is at present unsupported along its edge. Further slippage has occurred, and we are heading into winter. When will your enforcement officers do their jobs? When can I expect work to be completed?
- B) The retaining wall foundations along the common boundary intrude onto my property. A subsoil drain will intrude further still. I have repeatedly voiced my opinion of this state of affairs. In order to complete the necessary work, it is necessary for contractors to come onto my property. No work is permitted on my property without my prior written agreement. I need to agree with the repairs, time, contractor etc. I will have my engineers review proposed works to ensure they are carried out according to 4431 (any fill over 600mm – appendix A – PS4 etc etc) before any work is to commence.
- C) The existing retaining wall is largely over the 1200mm height allowed by the district plan. Once a "car barrier" has been installed, 1800mm according to the retrospective building consent issued January 2012 will need to be "side yard compliance is 1.00m and recession plane is 42" therefore it will need a resource consent. So, the entire structure will be 3.2m high in some places and will need to comply with the district plan.
- D) When can I expect a reply to my letter of 11-12-12 to § 7(2)(a)? The hours of work have been addressed but the following haven't. 1) Run off from my roof being the primary cause of subsidence. (§ 7(2)(a) knows otherwise, put it in writing) 2) Subsoil drain, yes or no? Council received this letter over 100 days ago and still no reply. Why is this?

E) It seems odd to me that I am unable to get a reply in a timely fashion, yet, Leone Gibb is happy to visit [REDACTED] on a Saturday(31-3-2012). Is this standard procedure? Or is it a friendly heads up to a mate?

I look forward to your timely response.

Regards

[REDACTED]

P.S. Tony.

Over the last 12 months I have made 34 written requests to meet with you & the Mayor. (you please once to tell me why you can't) When will I get a written reply stating the reasons? why you can't meet with me?

✓

Released under the Local Government Official Information and Meetings Act

27 April 2012

§ 7(2)(a)

§ 7(2)(a)

Stokes Valley
Lower Hutt 5019

Joycelyn Foo
Governance and Regulatory Division
04 570 6878
joycelyn.foo@huttcity.govt.nz
Our reference: DOC/12/30371

Dear

§ 7(2)(a)

§ 7(2)(a)

I am writing in reply to your most recent letter received on 24 April 2012. This follows the site visit with Dan Kellow, Leonie Gibb and I on 29 March 2012 and our letter regarding the points raised at the site visit.

At the site visit we agreed to investigate the backfilling against the foundation for the driveway and the drainage coil on the lower retaining wall. Leonie Gibb spoke to § 7(2)(a) about this matter on 31 March 2012. She visited § 7(2)(a) on this date to deal to the issues that we agreed to. Council officers will ensure that this work is completed as part of the site works.

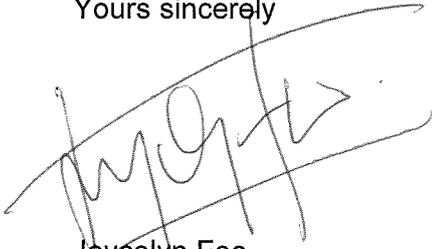
I understand that your permission is required to complete works on your property. As discussed at the site visit, I also understand that you are willing to give this permission. The developer is also aware of this. Should we need access to your site to do an inspection we will contact you to arrange a suitable time.

In terms of paragraph (c) in your letter, the way that the District Plan classifies these matters is different to what may feel intuitive. Where the wall is retaining cut, it is not counted as a building. This means that the height is not part of the equation. The retaining wall with the car barrier on top will comply with the District Plan rules.

In terms of paragraph (d) of your letter, Helen Oram commissioned a report from an independent Geotechnical engineer to ascertain the reasons and remedy for the slumping. That report found that there was more than one reason for the slumping and that it could not be solely attributed to the development of the adjacent site. The remedy is a civil one which needs to be sorted out between you and the developer. Council are not involved in that process, other than determining what consents are required.

I understand that you had a telephone conversation with Tony Stallinger in which he undertook to raise matters with me. This led to our site visit on 29 March. We understood that you were comfortable with this undertaking at that time.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Joycelyn Foo', written over a horizontal line.

Joycelyn Foo

General Manager, Governance and Regulatory

Released under the Local Government Official Information and Meetings Act

8-9-2011

Tony Stallinger
CEO - Lower Hutt City Council

§ 7(2)(a)
§ 7(2)(a)
Stokes Valley

Dear Sir,

Following a site meeting with Sarah Clark and Dan Kellow, along with GHD Engineers on Tuesday 30th of August I have written to GHD and have included a copy of that letter for you.

The issue I have is that Council were asked to take action to get the developer to stabilise and protect my property - excavated early December 2010. After repeated claims from council (particularly Leone Gibbs report - 7 February 2011) that all conditions of both Resource and Building consent have been complied with, I have now had to endure 9 months of slips on my property, dating from 17 December 2010 (attended by Leone Gibb - predating letter 7 Feb, re RC/BC conditions met) up until this latest slip 27/28 August 2011.

These events have given me the opportunity to raise some of the related issues that have otherwise been ignored by council staff. Namely, what is to stop my driveway collapsing and causing § 7(2)(a) to slide down the hill? Who is liable in the event that this occurs?

I have had Aurecon prepare reports on my property and Council has been provided with these, hereby placing council on notice of these issues since December 2010. The lack of consideration these reports have received from council, and the recent (9 months) events on the property are both disappointing and alarming.

Hopefully you will see fit to address the problems that the Council has surrounding this issue immediately, as these sort of issues (slips / subsidence) tend to stabilise only when there is no more material left to collapse.

I have repeatedly asked Council for the Surveyors report of January 2011 on § 7(2)(a) "confirming councils findings" of 7 February 2011. I have requested this report both verbally and in writing. In addition my Solicitor has requested it on no less that two occasions. I have also requested this report under OIA (including paying for the privilege).

I believe that the Council is deliberately withholding from me a report found to be unfavourable from Councils standpoint. I met a surveyor on site and spoke briefly with him, hence I KNOW a survey has been done - Where is this report??

It is clear that this report does infact exist and that it is being withheld from me. My contention along with considerable professional evidence indicate this

fact clearly. The Councils claims of compliance with both RC and BC are blatantly wrong. Reasons for this statement are as follows:

- 1) Why else would a retrospective Resource Consent be required?
- 2) The structure has been substantially altered from what was originally consented in October 2010.
- 3) A large portion of the lower level is still to be demolished as per Developers submission 16 February 2011.
- 4) The altered structure, along with a number of new structures, as well as the drainage all now substantially complete do not have an amended building consent.

As regards the retrospective Resource Consent, I will address this issue with you later. I have however obtained from Council records a figure well in excess of both excavation consents granted to date on the upper site of [REDACTED] [REDACTED]. This figure is in line (but still manages to exceed) my previous claims to council in November and December 2010, strangely also predating Leone Gibbs letter - 7 February 2011.

There are a raft of issues unaddressed by Council surrounding this development, many of which have been left out of this letter but remain on councils file for your perusal, some dating back to November 2010. Due to the inaction and belligerent attitude of Council staff, I have been forced to consult the Ombudsman who advises me to write to you directly.

If you have any queries regarding this letter or any of the prior correspondence between myself, my solicitor and LHCC please feel free to contact me on [REDACTED].

Kind regards
[REDACTED]

TRIMMED

§ 7(2)(a)
§ 7(2)(a)

29-09-2011

Stokes Valley

Tony Stallinger
CEO
Hutt City Council

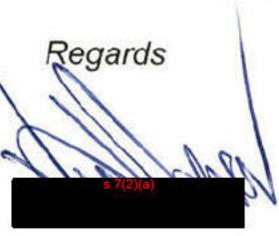
Dear Tony,

This morning I phoned Dan Kellow to report my concerns over subsidence at my property. I left Dan a message and my phone number so that he is able to contact me regarding a meeting.

Since August 29th (my last call to him and following site meeting) I have discovered that there is a large crack along the footing on my crib wall, more land has slipped in previously reported location and there is a massive cavity under my driveway - previously unnoticed.

I request Council get GHD back to meet with me so that they can assess the damage. The crib wall is of particular concern as it is directly behind a 3.2m cut at § 7(2)(a) that has been left unsupported since November/December 2010. When this moves further it will potentially undermine my own properties foundations.

Regards


§ 7(2)(a)

Hi Dan
I called you this morning
I left a message - this is just to
let you know. I've informed Tony.
✓

Released under the Local Government Official Information and Meetings Act

§ 7(2)(a)
§ 7(2)(a)

29-09-2011

Stokes Valley

Tony Stallinger
CEO
Hutt City Council



Dear Tony,

This morning I phoned Dan Kellow to report my concerns over subsidence at my property. I left Dan a message and my phone number so that he is able to contact me regarding a meeting.

Since August 29th (my last call to him and following site meeting) I have discovered that there is a large crack along the footing on my crib wall, more land has slipped in previously reported location and there is a massive cavity under my driveway - previously unnoticed.

I request Council get GHD back to meet with me so that they can assess the damage. The crib wall is of particular concern as it is directly behind a 3.2m cut at § 7(2)(a) that has been left unsupported since November/December 2010. When this moves further it will potentially undermine my own properties foundations.

Regards

§ 7(2)(a)

Released under the Local Government Information and Meetings Act

29 September 2011

Contact: Helen Oram
Group/Divison: Environmental Consents
Telephone: 04 570 6915
Facsimile: 04 566 7098
Email: helen.oram@huttcity.govt.nz
Our Reference: GEN2327600

§ 7(2)(a)

§ 7(2)(a)

Stokes Valley
Lower Hutt 5019

Dear

§ 7(2)(a)

RECENT SLUMP

I am writing to let you know what has happened since you met Dan Kellow, Sarah Clarke, Phil Grace and Leonie Gibb on site on 29 August 2011.

I commissioned a report from an independent Geotechnical engineer to ascertain the reasons & remedy for the slumping.

I have now received that advice and the consultant has found the following:

"In our opinion the precise cause of the aforementioned failure cannot be definitively quantified however; the most likely "primary cause/s" of the reactivation observed at the above site is as follows:

1. *Over-steeping of the slope due to preconstruction failures and earthworks which were present before the commencement of construction of the new dwelling;*
2. *The residual soil strength materials present (which can be attributed to land movement prior to the construction of the above dwelling); and,*
3. *Uncontrolled stormwater from the above property.*

In addition, considering the additional photographic evidence provided it is also clear that toe support (ie. Excavated material) has been removed from the area as part and parcel of the dwellings construction.

This has also been a contributing factor however does not fall within the 'primary causes' of the observed failure at the above site. In simple terms this means that if the excavation for the dwelling had not been completed in our opinion the failure would still have occurred due to the aforementioned primary causes."

The remedy suggested by the engineer is:

"It is considered that the most appropriate remedial solution is to remove the failed material, place a subsoil drain (that connects to reticulated drainage and not free flowing down a slope), place backfill material – such as 40/20 backfill material or similar.

Control of the overland stormwater flow from above is recommended also. This could be in the form of ensuring that roof drainage drains appropriately to reticulated drainage, and a

*fyi
letters different to
each.*

Helen

Released under the Official Information Act

kerb or lip feature is installed along any hard surfacing to direct water to flow into reticulated drainage.

In order to prevent further failures along this section of steep slope, if considered prudent, it is recommended that the above drainage measures are implemented, and the gap between the (subject) steep slope and the wall of [redacted] be backfilled with 40/20 backfill material or similar. All top soil and vegetation from the areas to be backfilled should be removed before placement of subsoil drainage and backfill material."

The recommendations being:

"If the backfill remedial solution is to be implemented it is recommended that a structural engineer be engaged to:

- 1) check that the wall is able to withstand loads associated with the solution;
- 2) complete detailed design;
- 3) carry out construction inspections; and,
- 4) provide certification."

I am writing to both you and [redacted] to tell you this information. It appears that there is more than one reason for the slumping. As such, it cannot be directly attributed to the development of the adjacent site, and, in the engineers opinion, the slumping would have occurred regardless of the earthworks associated with Mr [redacted] house development.

In terms of any remedial work, the Council's role is to assess whether any consents are required. This can only be done once that work is scoped and designed. The Council cannot be involved in that exercise, beyond the report already obtained at Council's cost. The details of how to undertake that work, site access and matters of cost of completing the work, is a civil matter between you and your neighbour. My advice is that you seek the opinion of a lawyer or technical expert to help you with that process. When this has been sorted out, even if no consent is required I would like to see the certification from the structural engineer for our records.

I understand that you questioned a sentence I wrote in my previous letter to you, that sentence being: "I have included the filenotes that led to an abatement notice being issued." What this sentence meant, was not that I was including filenotes in the letter, but that these filenotes were included in the previous responses to you. There is nothing further that I can provide to you on that.

Regards,

Helen Oram
Divisional Manager
Environmental Consents

22 September 2011

Contact: Helen Oram
Group/Division: Environmental Consents
Telephone: 04 570 6915
Facsimile: 04 5667098
E.Mail: Helen.Oram@huttcity.govt.nz
Our Reference: 4 Stokes Valley Road

Ben Sheehan
ARL Lawyers
PO Box 30430
Lower Hutt 5040

Dear Mr Sheehan

DEVELOPMENT OF [REDACTED] STOKES VALLEY, LOWER HUTT.

I write in reply to your letter dated 5 September 2011.

Helen Oram has requested a geotechnical report from GHD to find out the cause and the remedy for the recent slumping. The final report has not yet been received, but is expected next week. Until this is received Council is not in a position to speculate about what has caused the slump, nor whom will be involved in remedying it. We do not however accept your statement that 'clearly the slip requires rectification by the Council in conjunction with the developer.' We will await the final report before commenting further in that regard.

When the final report has been received, Ms Oram will write to both [REDACTED] to confirm the next steps.

A copy of the resource consent was provided to your client. I will ensure that a copy is also sent to your office.

Yours sincerely

Tony Stallinger
Chief Executive Officer



8 September 2011

Environmental Consents
Hutt City Council (HCC)
30 Laings Rd, Private Bag 31912
Lower Hutt

Our ref: 51/29905/[REDACTED]
Geotech 5 Sept 11.doc

Attn: Sarah Clarke

Dear Sarah

Geotechnical Comments on Recent Slope Failure at [REDACTED] Lower Hutt

1 Introduction and Project Brief

Hutt City Council (HCC) requested that GHD Limited (GHD) undertake a site visit in combination with HCC to [REDACTED] to visually examine a slope failure between No [REDACTED] and [REDACTED] and provide comments as to the cause and remedial options.

GHD has previously carried out a peer review (letter dated 20 April 2011) of the geotechnical information provided as part and parcel of the Resource Consent application (RM110055) and also as part of the Building Consent application (BC100951) for [REDACTED] as requested by HCC.

No intrusive investigations were undertaken.

2 Site Observations

On 30 August 2011 a Senior Engineering Geologist along with 2 representatives of HCC carried out a site visit to visually examine the steep slope between No [REDACTED] and the wall beneath the driveway for No [REDACTED].

The house construction is well underway with 3 stories having been built. The dwelling access runs from the shared drive with [REDACTED] on top of the middle story of the house. The 2 driveways deviate in height, with [REDACTED] drive rising up, and [REDACTED] sloping down slightly to level out. Between the driveways/houses is a gently angled slope and a steep slope. A shallow seated failure has occurred in the steep section of slope, with the toe of the material has slumped onto the wall of the middle level of [REDACTED].

The failure is approximately 2m in length by a maximum of approximately 1m wide, and approximately 1.25m in height. The failure has revealed a slope comprising of residual greywacke soil, mantled with top soil. This soil profile is consistent with the observations documented in GHD's letter to HCC dated 20 April 2011, and aligns with the previous geotechnical reports and is typical of the Wellington area.

3 Information Provided on Site

Anecdotal evidence suggests that the steep cut slope was previously existing on site, and only 250mm at the base was cut into for the wall and wall foundations. This gap was then filled with the wall and foundations except for approximately a 5cm gap.



Both parties [REDACTED] indicated that the boundary line was a few millimetres upslope (to the northwest) of the edge of the driveway.

Further anecdotal evidence was presented that no work was undertaken on the property of [REDACTED]

4 Geotechnical Assessment for the Slope Failure

Is it considered that the major drivers of the slope failure are;

- Uncontrolled stormwater flow from above; and/or,
- Historically, or pre-construction, or during construction over-steepened slope.

5 Possible Remedial Solution

It is considered that the most appropriate remedial solution is to remove the failed material, place a subsoil drain (that connects to reticulated drainage and not free flowing down a slope), place backfill material – such as 40/20 backfill material or similar.

Control of the overland stormwater flow from above is recommended also. This could be in the form of ensuring that an roof drainage drains appropriately to reticulated drainage, and a kerb or lip feature is installed along any hard surfacing to direct water to flow into reticulated drainage.

In order to prevent further failures along this section of steep slope, if considered prudent, it is recommended that the above drainage measures are implemented, and the gap between the (subject) steep slope and the wall [REDACTED] be backfilled with 40/20 backfill material or similar. All top soil and vegetation from the areas to be backfilled should be removed before placement of subsoil drainage and backfill material.

The placement of backfill material will mostly be on [REDACTED].

6 Recommendations

If the backfill remedial solution is to be implemented it is recommended that a structural engineer be engaged to:

- 1) check that the wall is able to withstand loads associated with the solution;
- 2) complete detailed design;
- 3) carry out construction inspections; and,
- 4) provide certification.

7 Scope and Limitations of the Geotechnical Assessment

This letter presents the results of a geotechnical appraisal prepared for the purpose of this commission. The data and advice provided herein relate only to the project and structures described herein and must be reviewed by a competent geotechnical engineer before being used for any other purpose. GHD Limited (GHD) accepts no responsibility for other use of the data.

The advice tendered in this report is based on a visual geotechnical appraisal. No subsurface investigations have been conducted. An assessment of the topographical land features have been made based on this information. It is emphasised that Geotechnical conditions may vary substantially across the site from where observations have been made. Subsurface conditions, including groundwater levels



can change in a limited distance or time. In evaluation of this report cognisance should be taken of the limitations of this type of investigation.

An understanding of the geotechnical site conditions depends on the integration of many pieces of information, some regional, some site specific, some structure specific and some experienced based. Hence this report should not be altered, amended or abbreviated, issued in part and issued incomplete in any way without prior checking and approval by GHD. GHD accepts no responsibility for any circumstances, which arise from the issue of the report, which have been modified in any way as outlined above.

I trust the enclosed meets your requirements.

If you have any further questions please do not hesitate to contact the undersigned.

Yours faithfully
GHD Limited

Reviewed by:


Beverley Curley
Senior Engineering Geologist
04 495 5832


Bruce Simms
Geotechnical Team Leader
04 495 5831



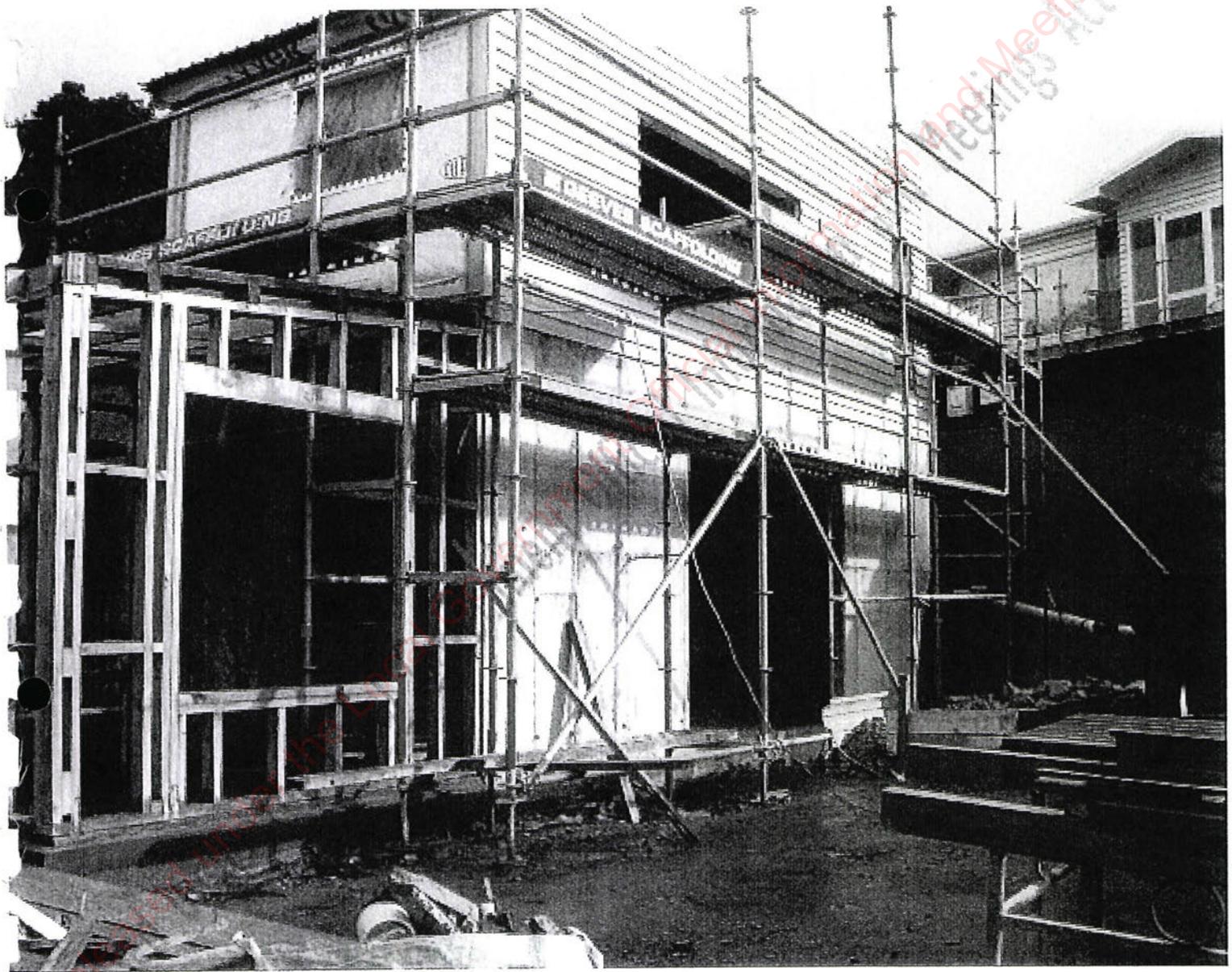


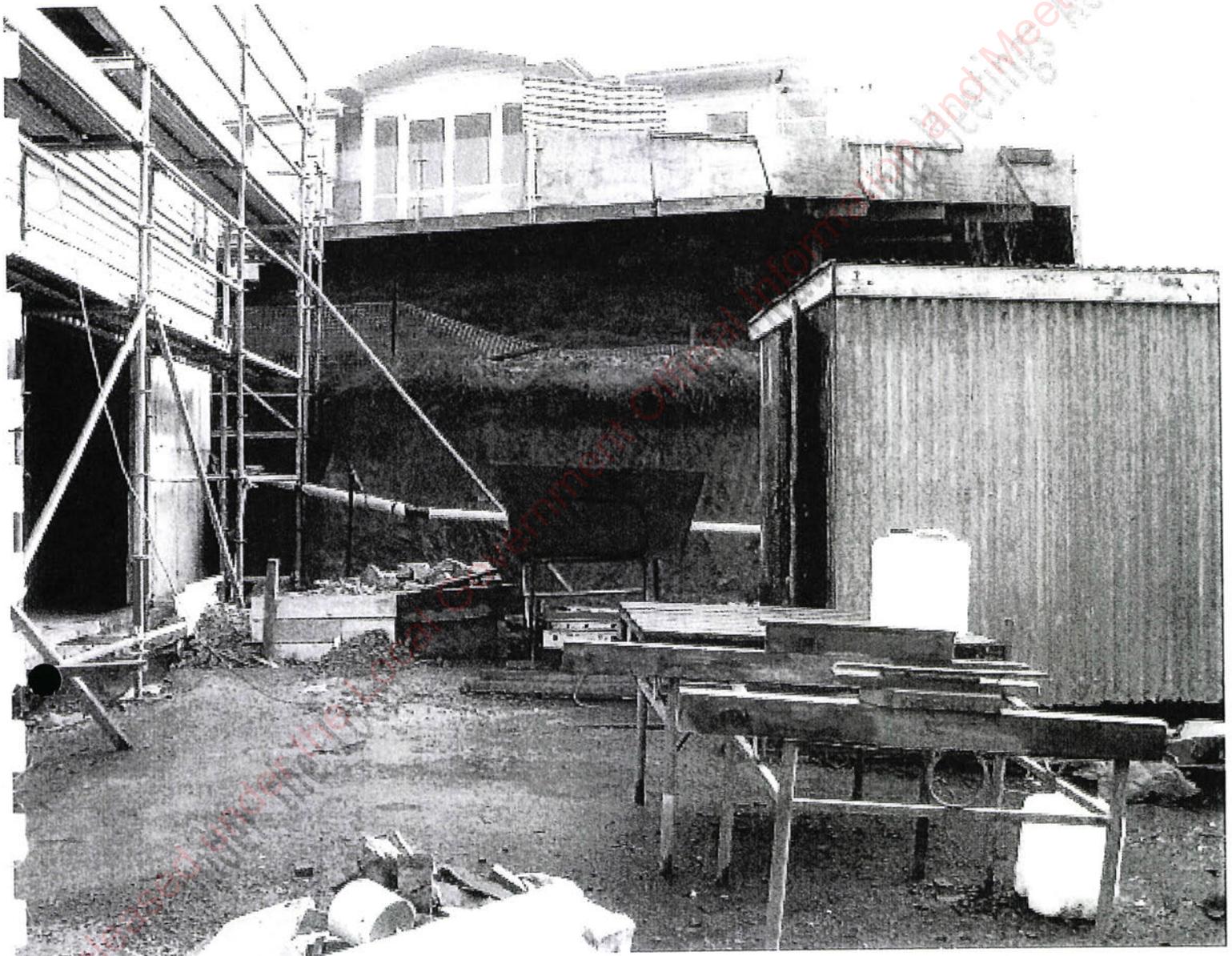


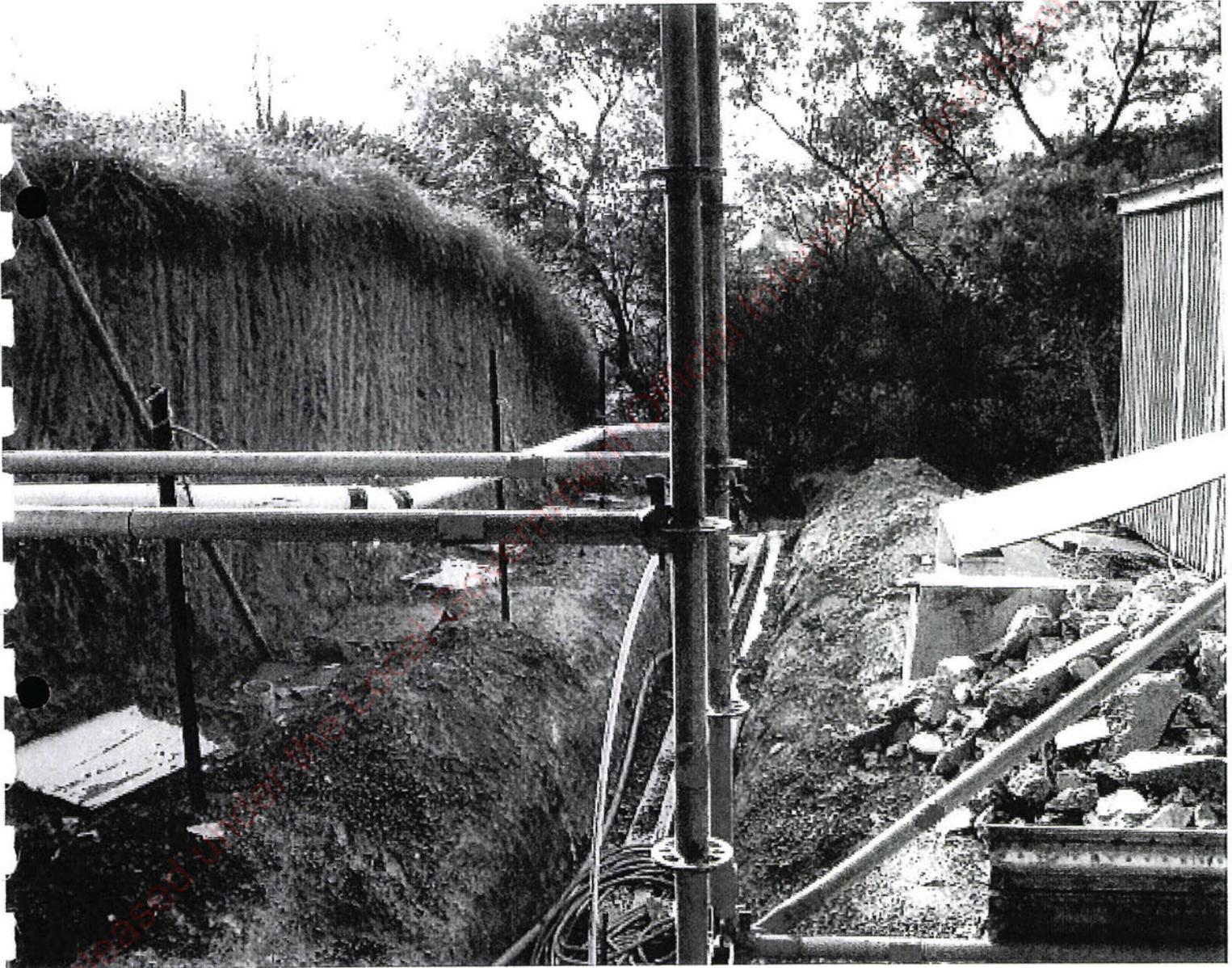




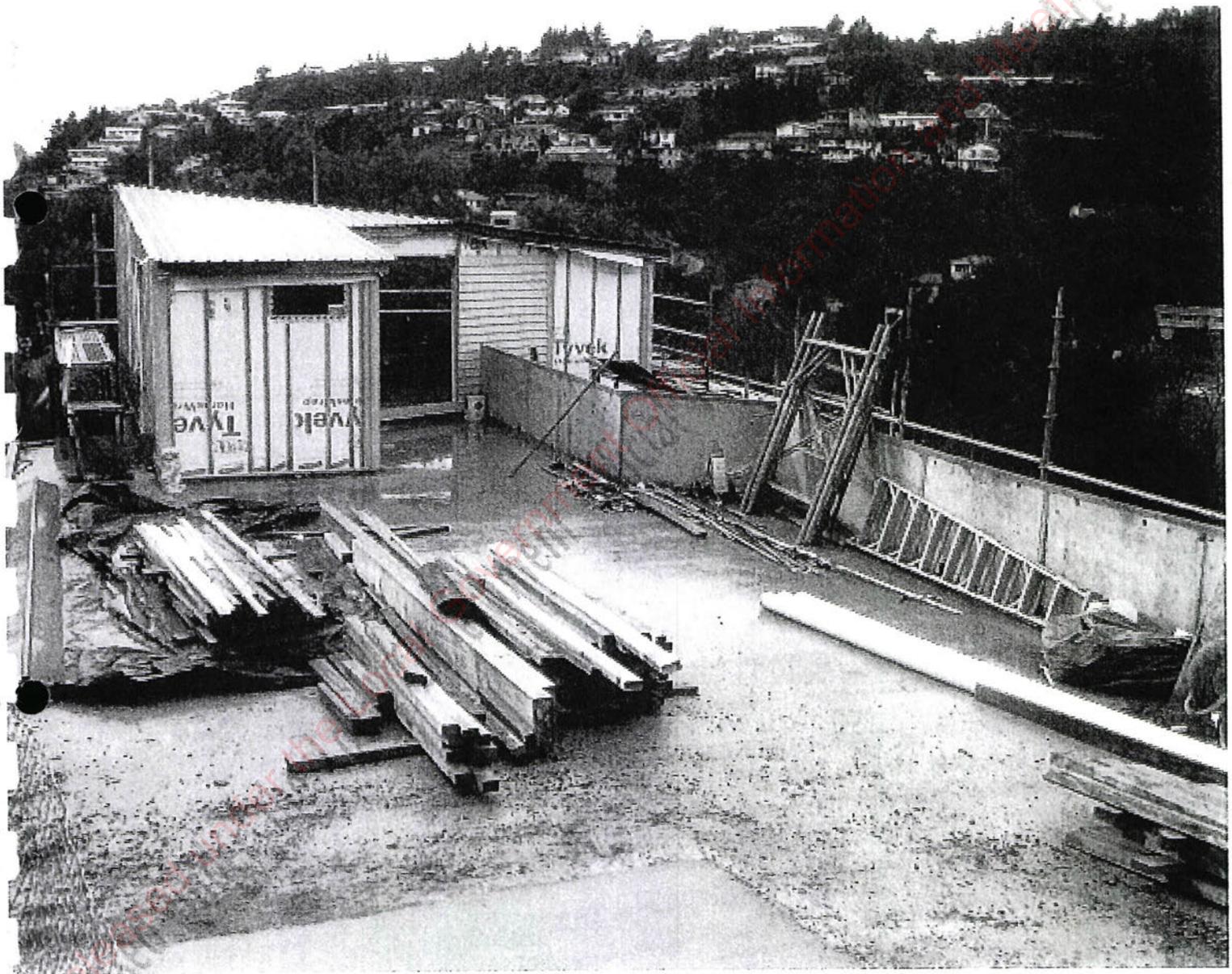














Released under
the President John F. Kennedy
Assassination Records Act



Released under the Local Government Information and Meetings Act





Released under the Local Government Official Information and Meetings Act 1997



Released under the President John F. Kennedy and Meetings Act

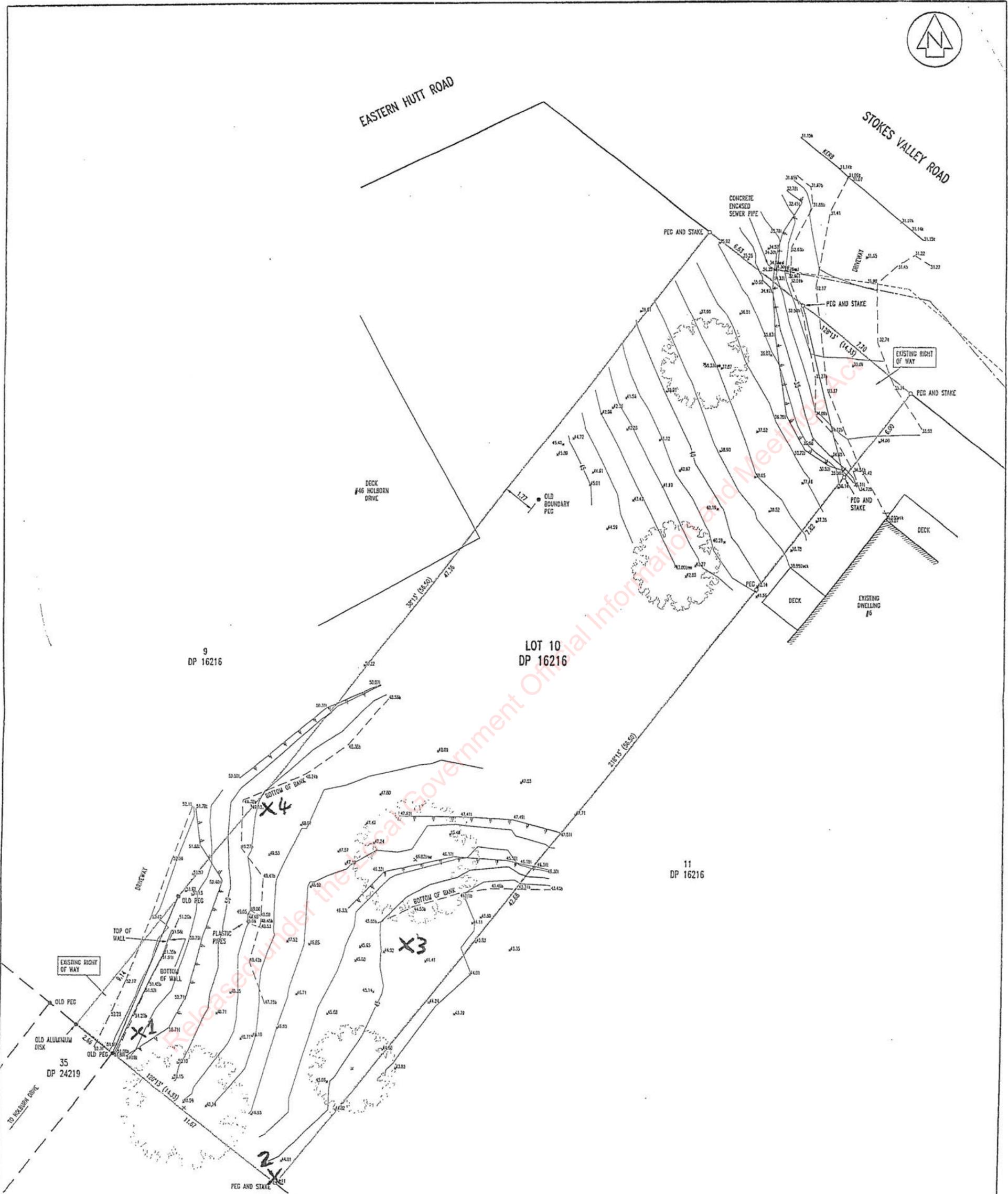






EASTERN HUTT ROAD

STOKES VALLEY ROAD



9
DP 16216

LOT 10
DP 16216

11
DP 16216

EXISTING RIGHT OF WAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

DECK

EXISTING DWELLING #6

CONCRETE ENCASED SEWER PIPE

DRIVEWAY

TOP OF WALL

BOTTOM OF WALL

PLASTIC PIPES

OLD PEG

OLD ALUMINUM DISK

OLD PEG

TO HOLBORN DRIVE

EXISTING RIGHT OF WAY

KEY:
X Penetrometer test by Sawrey Consulting Engineers on 15/12/09

- NOTES:**
- LEVELS ARE IN TERMS OF MEAN SEA LEVEL, WELLINGTON DATUM, 1953. ORIGIN OF LEVELS IS ORMG, SD 20760, RL 30.84. SOURCE OF ORIGIN IS SD 20760.
 - SERVICES LOCATED ON SITE WHERE POSSIBLE, OTHERWISE SHOWN FROM HUTT CITY COUNCIL.
 - CONTOURS SHOWN AT 1m INTERVALS.

LEGEND:

---	BOUNDARY
—	TOP OF BANK
- - -	EXISTING SEWER
- · - · -	EXISTING STORMWATER
- - -	EXISTING WATER TODAY
—	TOP OF BANK/WALL LEVEL
- - -	BOTTOM OF BANK/WALL LEVEL
- · - · -	LEVEL ON TOP OF KEED

Cuttriss
Land Surveyors, Engineers & Resource Managers

Cuttriss Consultants Limited
Hua Valley, Wellington, Kapiti Coast

Level 3 Cheviot House 92 Queens Drive Lower Hut. PO Box 30 429
Telephone (04) 929 9245 Fax (04) 929 9249 Email huc@cuttriss.co.nz

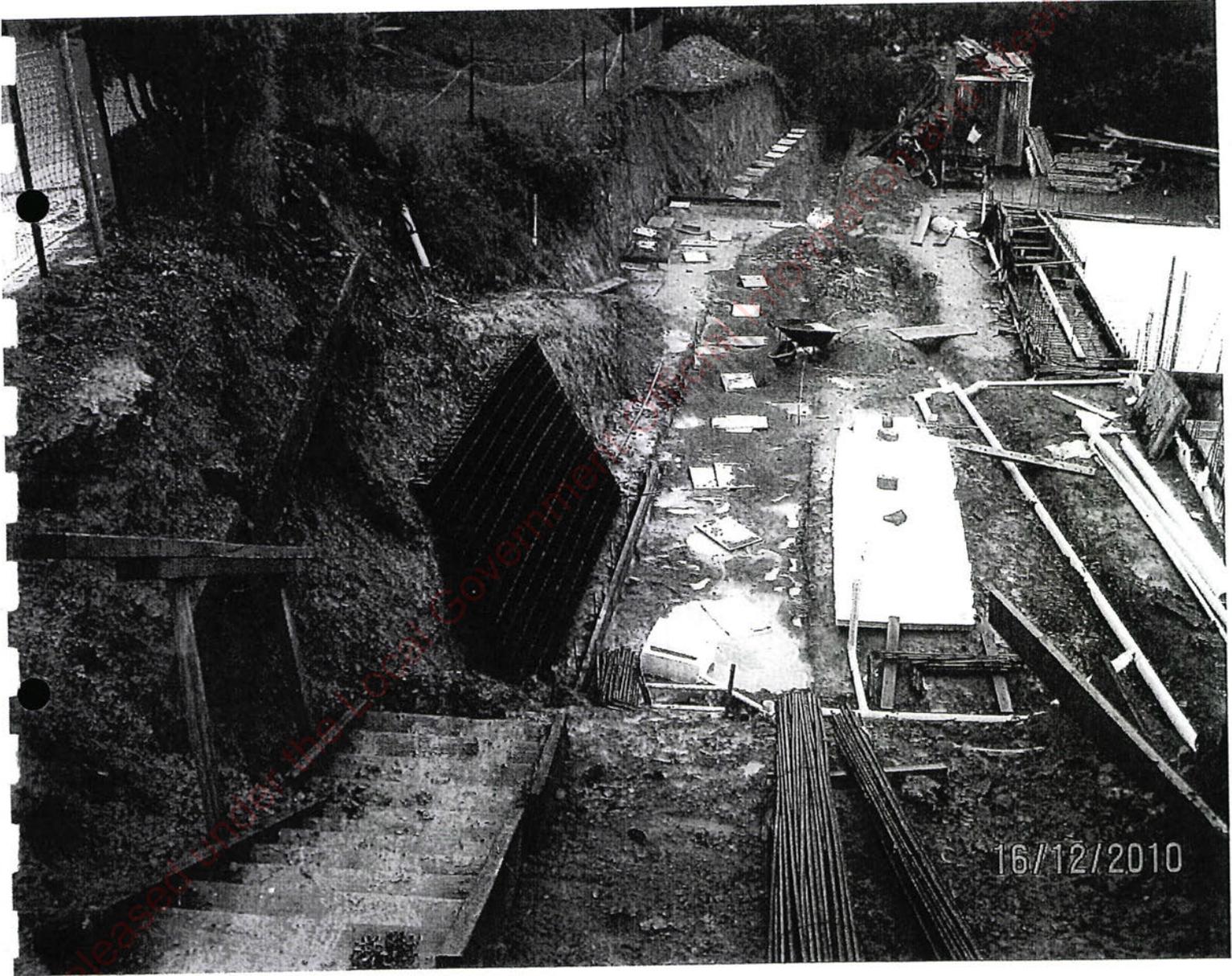
33 Kapiti Road Paraparaumu PO Box 206 Telephone (04) 904 5420
Fax (04) 904 5423 Email hkap@cuttriss.co.nz

TOPOGRAPHIC AND REDEFINITION SURVEY OF LOT 10 DP 16216
4 STOKES VALLEY ROAD, STOKES VALLEY

CLIENT: ALF MOSS

Copyright of this drawing is vested in Cuttriss Consultants Limited

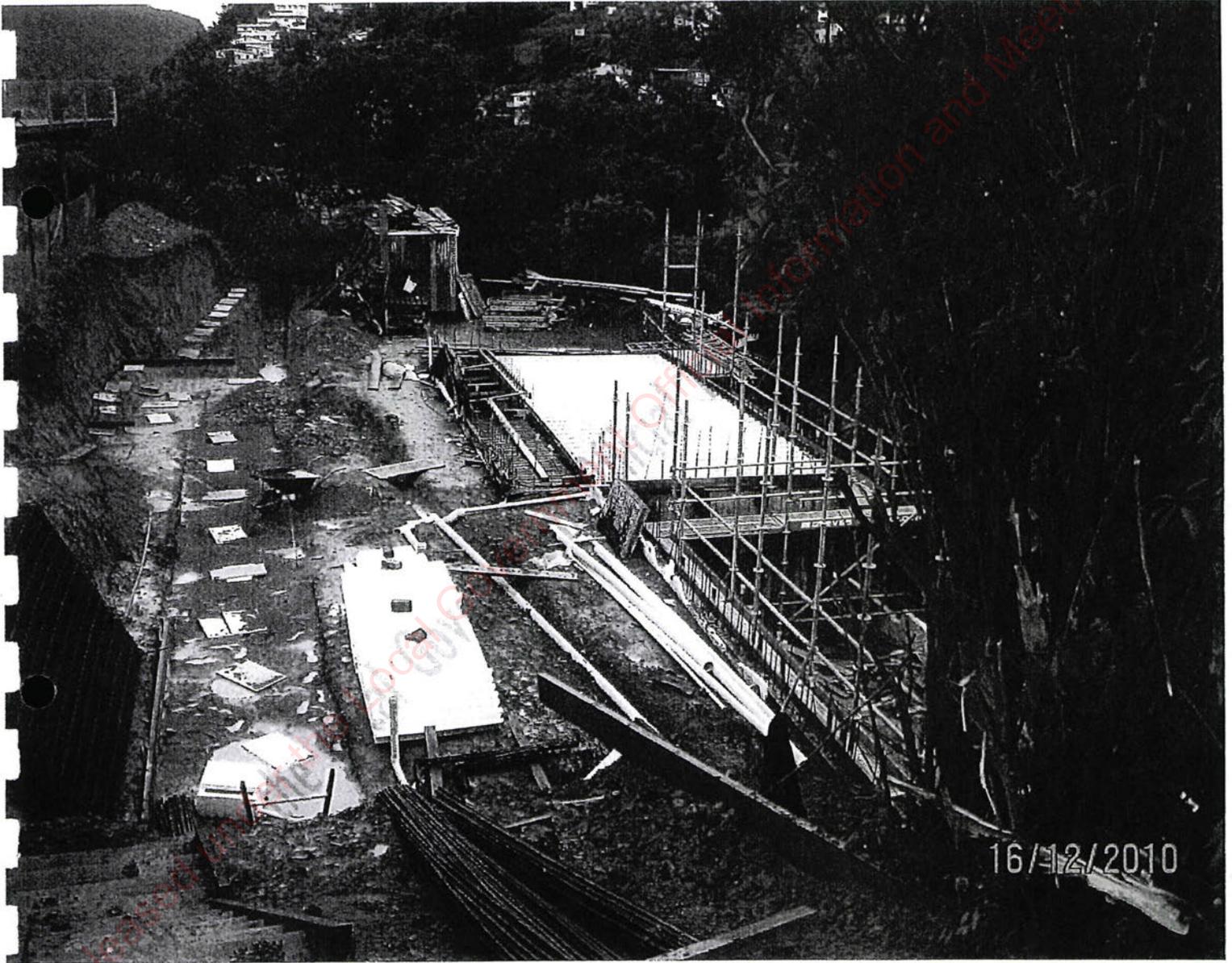
SCALE	1:100 A1
NAME	ALH
DATE	11/09
DRAWING NUMBER	27341TPO
DESIGNED	JAW
CHECKED	11/09
SHEET	1 OF 1 SHEET



16/12/2010



16/12/2010



16/12/2010

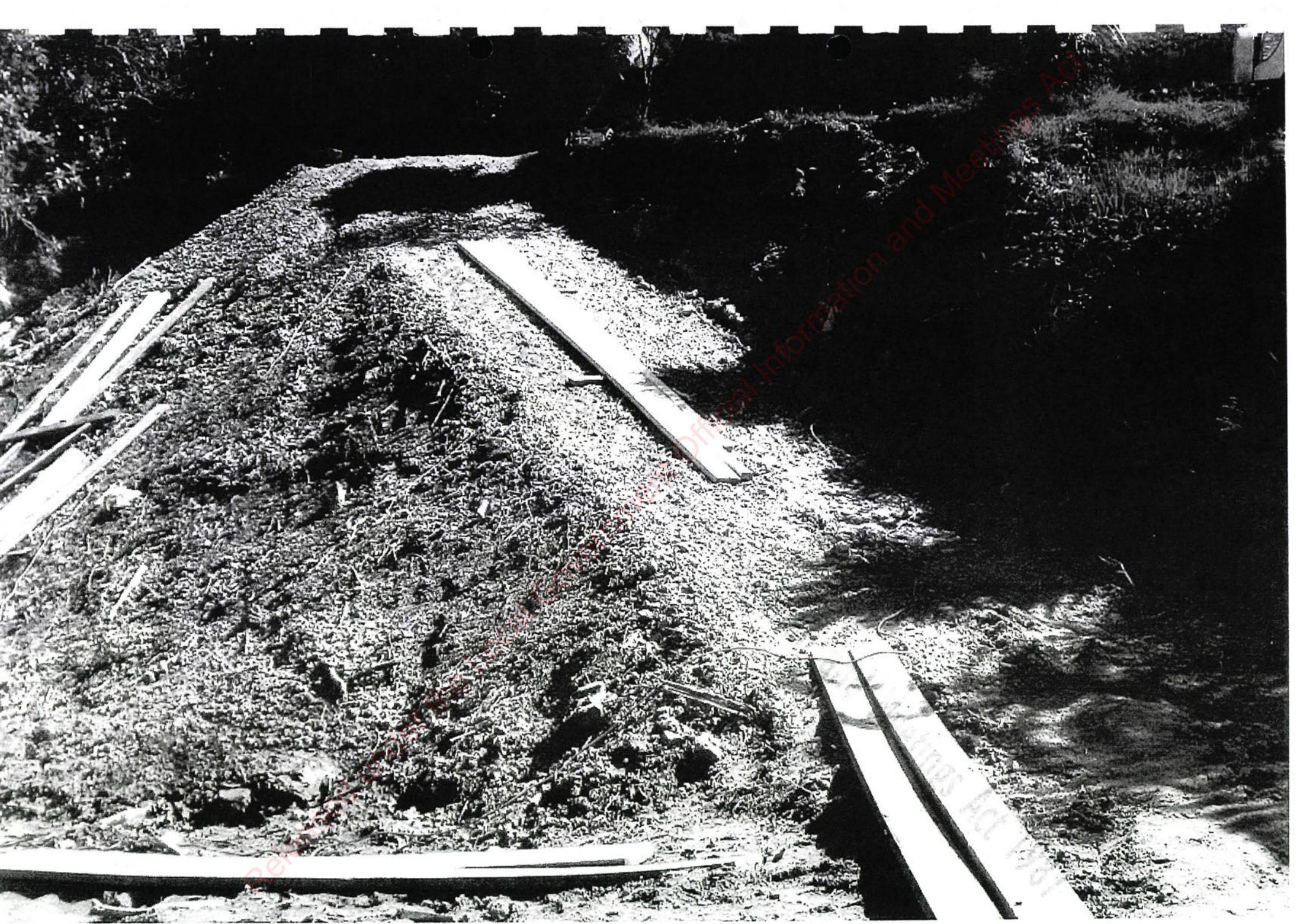


16/12/2010



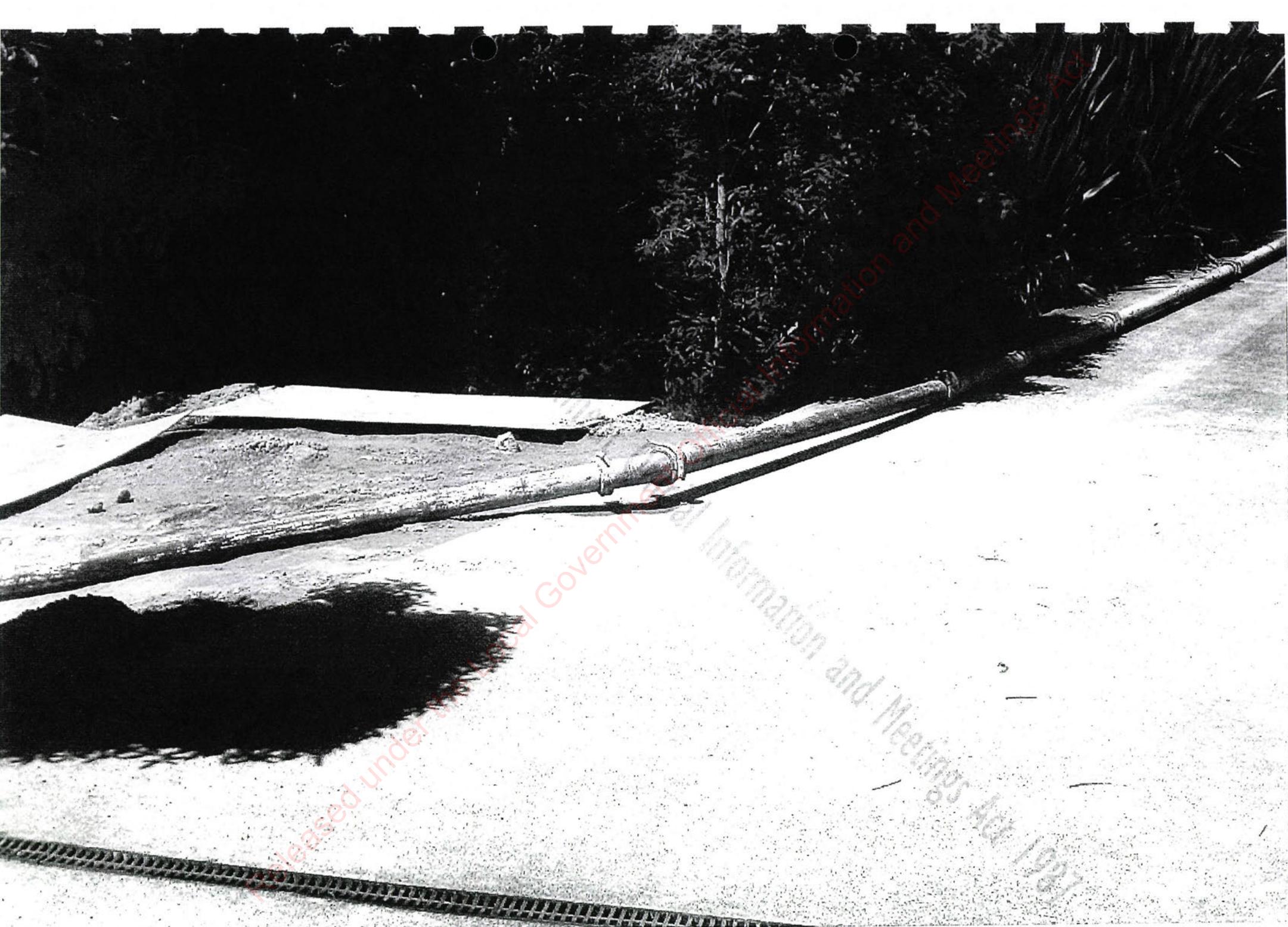
16/12/2010













Released under the
Government Information and Meetings Act 1987













Released Under the Local Government Information and Meetings Act 1992

Slip Classification	
Insignificant	however has little
Minor	with minor impact
Major	with significant
Unable to classify	information

REVIEWED ###

ObjectID	Unique Old	Submitter Organisation	Organisation Comment with	No	Street	Street	Suburb	Easting	Northing	Entered in	Property ID as in	Slip Date	Classification	Slip Description
#REF!	63130	RFS System Private			Eastern Hutt	Rd	Lower Hutt	1765901.343	5441307.085	√	2465900	Jan-05	Insignificant	Slip occurred above access.
#REF!	78074	RFS System Maintenance			Eastern Hutt	Rd	Taita	1765374.362	5440734.953	√	9005827	Oct-05	Minor	Rock fall on road
#REF!	70726	RFS System Maintenance			Eastern Hutt	Rd	Taita					May-05	Minor	Slip blocking road lane
#REF!	94423	RFS System Maintenance			Eastern Hutt	Rd	Taita					Jul-06	Minor	Falling debris
#REF!	94504	RFS System Maintenance			Eastern Hutt	Rd	Taita					Jul-06	Minor	Slip, partially blocking Southbound lane
#REF!	94515	RFS System Maintenance	same slip as 94504		Eastern Hutt	Rd	Taita					Jul-06	Minor	Slip, partially blocking Southbound lane
#REF!	94621	RFS System Maintenance			Eastern Hutt	Rd	Taita					Jul-06	Minor	Large slip partially covering lane
#REF!	97248	RFS System Maintenance			Eastern Hutt	Rd	Taita					Aug-06	Minor	Small slip
#REF!	102932	RFS System Maintenance			Eastern Hutt	Rd	Taita					Nov-06	Minor	Rock fall over road
#REF!	142447	RFS System Maintenance			Eastern Hutt	Rd	Taita					Jul-08	Minor	Large slip on road
#REF!	147781	RFS System Maintenance			Eastern Hutt	Rd	Taita					Oct-08	Minor	Slip
#REF!	194436	RFS System Maintenance			Eastern Hutt	Rd	Taita					Jul-10	Minor	Rock fall covering road lane
#REF!	195902	RFS System Maintenance			Eastern Hutt	Rd	Taita					Aug-10	Minor	Slip on bank above road
#REF!	197774	RFS System Maintenance			Eastern Hutt	Rd	Taita					Sep-10	Minor	Slip partially covering road

Released under the Local Government Official Information and Access Act

Remedial Works Description	Additional Comments 1
Maintenance was owners responsibility	Private Land, not Council Responsibility.
Slip cleared	Council Land
Slip cleared	Council Land
Passed onto Works	Council Land
Passed onto Works	Council Land
Passed onto Works	Council Land
Slip cleared	Council Land
Passed to Excell	Council Land
Cleared	Council Land
Slip cleared	Council Land
Slip removed	Council Land
Slip cleared	Council Land
Fulton Hogan have removed any potential damaging material	Council Land
Slip cleared	Council Land

Released under the Local Government Official Information and Meetings Act