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 RE: Teitei Drive Stream Assessment Report -KH Comments




Sent: 22 June 2023 1:14 PM

From: Katherine Hu

To: Rachel Griffiths;

CC: david ross; Fraser McNutt; Giles Tait; Andrew Rossaak;

 3 Attachments

 image001.png (189 KB);  image002.png (136 KB);  image003.png (344 KB);

Message

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Hi Rachel,

Thanks for this; after a discussion with Giles, please action the following:

So from here (if everyone agrees) I need to:

1. Change the buffer width for effects mitigation 10m either side of the stream (of 2m average width) so it fits within the reserve area.
Yes Please
2. State that restoration/enhancement planting (whatever term is decided) would need to cover almost the entire (27.3m) reserve area, bar some minimum - no more than 2m width - space for grassed areas/walkways/interactive spaces.
Yes please, and please use enhancement
3. Change the wording in S5 recommendations to say 'keep the proposed setback of 27.3m' and reiterating point no' 2 above.
Yes please

Ngā mihi | Kind regards,

Katherine Hu
Senior Urban Designer
s 9(2)(a)
KatherineH@barker.co.nz

barker.co.nz

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From: Rachel Griffiths <rachelg@kahuenviro.co.nz>
Sent: Thursday, 22 June 2023 12:02 pm
To: Katherine Hu <KatherineH@barker.co.nz>
Cc: David Ross <davidr@kahuenviro.co.nz>; Fraser McNutt <FraserM@barker.co.nz>; Giles Tait <Giles.Tait@kaingaora.govt.nz>; Andrew Rossaak <andrew.rossaak@morphum.com>
Subject: Re: Teitei Drive Stream Assessment Report -KH Comments

Kia ora Kath,

Here are my responses to your questions from 20/6 and this morning:

In your opinion, does the current width of 27.3m, which includes the stream and buffer area from stream for riparian planting, be sufficient to mitigate the effects to Low? I need to understand this as according to the recommendation, it says replating of 15m on each bank whereas the proposed reserve area is only 27.3m wide. So my first question (which assume will be Council's processing planner's first question) how can these measurements be aligned?

I have sought some advice from colleagues and the general consensus is 27.3m is just enough - noting that in this 27.3m we are including the stream bed (active + wetted channel) which varies in width but

we have estimated an average width of 2m (due to its channelised nature). This means that the bulk of the proposed reserve area will be taken up with restoration planting but allowing space for the instream restoration elements to improve sinuosity and flow diversity within the stream channel.

Is this wider buffer zone requirement to mitigate the potential of Sediment release due to instream works? or is it a mitigation to all potential adverse effects, such as including the loss of stream extent? I was of the view that generally speaking, if we follow the best practice for sediment and erosion controls, then it should provide a certain level of confidence to Council that such effects can be mitigated. So why do we need to trigger a greater scale of buffer width? If we are using the minimum standards, then 10m on either side plus the stream, then likely the existing 27.3m wide reserve area would be sufficient. Then anything beyond the minimum but within the 27.3m, is an enhancement. I am not against the greater enhancement, but I will need to be clear on what and how much is required as a mitigation, and how much extra is 'additional enhancement'. And if we do require and trigger a wider buffer zone, I need to understand and be clear on why (for example, why it is 15m, not 20m given it is the wider the better).

Stream planting is not for mitigating sediment runoff specifically, because trees/shrubs don't do this well (unless a 2m+ strip from the wetted margin out is planted with various *Carex spp* and other native grasses) - so yes, the bulk of this should be mitigated by the sediment and erosion control methods. However, we also must factor in unavoidable damage/habitat loss and sediment release during the physical installation of the culverts which comes into the restoration recommendations to mitigate effects. The 15m buffer width was chosen as a compromise due to the narrow width of the stream, 20+m buffer width would support self-sustaining native vegetation with far less maintenance requirements and is recommended to maximise the long-term benefits to aquatic AND terrestrial life.

This is an upper catchment/headwater stream and as such is an important part of cumulative water quality and ecological values further down the catchment. Minimising the impacts on this stream will have ongoing benefits downstream (beyond the development site) OR cumulative impacts if not mitigated for.

Additionally, because the stream is well shaded (by blackberry admittedly) the water quality gains related to shade (cool, minimal macrophyte/algal growth etc) are not going to improve greatly, what IS going to improve is the riparian habitat quality and composition/biodiversity. A wider buffer (15m+) would give a higher likelihood of this outcome (i.e self-sustaining, less maintenance, less edge effect etc).

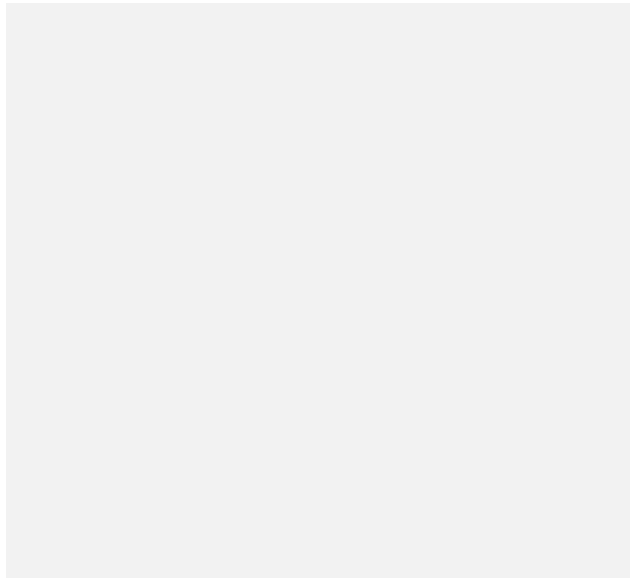
Noted for the two bullet points under Section 4. How about Section 5 General Recommendations? I asked this because I will need to know (and Giles needs to understand and agree) if we are including them as mitigations as part of the Proposal. In particular, under the second bullet point of Section 5, it says "keep the current setback for 'Waterway B' and extend others where possible to incorporate pathways and recreational elements."

Are you referring to the 27.3m width setback as per the existing proposed layout? Or what do you mean by 'current setback'?

For clarity, I think it should say 'proposed setback' (which does refer to the 27.3m) - this needs to be restored with the mitigation measures outlined (for both instream and riparian buffer restoration). So then in S5, the recommendation for a site-wide restoration plan means you can present what is needed for all onsite mitigation integrated way. Plus you can outline any additional enhancement opportunities (realigning and restoring Waterway C etc) that would bring your effects to potential net gain.

2. Further to #1 above, I think we need to be clear on the extent of the mitigation, can you please produce a cross-section indicating the recommended riparian zone and how much area of this riparian zone will require for replanting? I have attached a typical example to better demonstrate what I mean, noting this cross-section is not for this project and is not applicable to copy and paste this.

If we agree to go back to 10m buffer either side of the stream/Waterway B (the minimum buffer width recommended in various design guidelines), all of this buffer area needs to be planted with native riparian plants except for perhaps any grassed areas or walkways/boardwalks that weave through the area which I assume wouldn't be wider than 2m. This should be designed as part of the restoration plan, but I note the cross-sections in the initial scheme/land use consent package already appear to have a fully planted buffer area?



And, again for the completeness and clarity on mitigations, can you please clarify in the report that we are only doing streamwork and planting of the riparian zones 'boundary to boundary'? i.e. we are not required to replant for the stream outside the site boundary. If this is incorrect, I need to understand why we need to go beyond the site.

When you say the boundary of the site, I presume this means the entire development site and not just Stage 1? If we're talking about the entire site then you can mitigate onsite with upstream and downstream restoration of Waterway B, and with additional mitigation/enhancement opportunities with Waterway C (intermittent stream on the western boundary).

3. Suggest we use the phrase 'Planting enhancement' instead of 'Replanting'. Assuming there might be vegetation that we may want to keep/retain and there are exotic we want to get rid of?

Alternatively you can use the term 'restoration planting', but Ngāti Rangī use the term enhancement so that would align better with their values and goals.

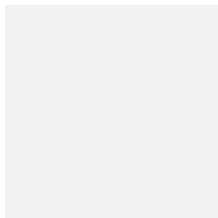
So from here (if everyone agrees) I need to:

1. Change the buffer width for effects mitigation 10m either side of the stream (of 2m average width) so it fits within the reserve area.
2. State that restoration/enhancement planting (whatever term is decided) would need to cover almost the entire (27.3m) reserve area, bar some minimum - no more than 2m width - space for grassed areas/walkways/interactive spaces.
3. Change the wording in S5 recommendations to say 'keep the proposed setback of 27.3m' and reiterating point no' 2 above.

I have yet to read your email regarding Andrew's wetland assessment which I will do asap. Hopefully that covers everything off.

Ngā mihi,

Rachel



Rachel Griffiths

Ecologist

s 9(2)(a)

kahuenvironmental.co.nz

On Thu, 22 Jun 2023 at 09:34, Katherine Hu <KatherineH@barker.co.nz> wrote:

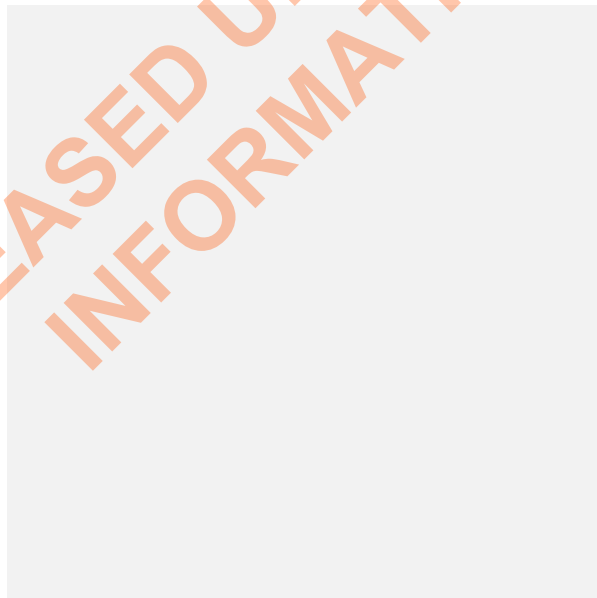
Hi Rachel,

We are heading towards the end of the tunnel for the AEE now. I reviewed Andrew's report yesterday and have also provided some comments to him this morning (have cc'ed you in).

I am keen to close off my questions/comments below re the recommendation in your report; essentially, I will need a confirmation on:

1. Can we use 10m on each bank as per NIWA recommendation in this instance? If not, then what is the reason for the 15m recommendation? Is there a formula referring to the 15m?
2. Further to #1 above, I think we need to be clear on the extent of the mitigation, can you please produce a cross-section indicating the recommended riparian zone and how much area of this riparian zone will require for replanting? I have attached a typical example to better demonstrate what I mean, noting this cross-section is not for this project and is not applicable to copy and paste this.

And, again for the completeness and clarity on mitigations, can you please clarify in the report that we are only doing streamwork and planting of the riparian zones 'boundary to boundary'? i.e. we are not required to replant for the stream outside the site boundary. If this is incorrect, I need to understand why we need to go beyond the site.



3. Suggest we use the phrase 'Planting enhancement' instead of 'Replanting'. Assuming there might be vegetation that we may want to keep/retain and there are exotic we want to get rid of?

Hope this is clear; if not, feel free to give me a call.

Many Thanks!

visibility: PUBLIC

Kath

Ngā mihi | Kind regards,

Katherine Hu

Senior Urban Designer

s 9(2)(a)

KatherineH@barker.co.nzbarker.co.nz

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From: Katherine Hu**Sent:** Tuesday, 20 June 2023 5:57 pm**To:** Rachel Griffiths <rachelg@kahuenviro.co.nz>**Cc:** David Ross <davidr@kahuenviro.co.nz>; Fraser McNutt <FraserM@barker.co.nz>**Subject:** RE: Teitei Drive Stream Assessment Report -KH Comments

Hi Rachel,

Thanks, but I still have a few questions (see highlighted below to your responses)

- For Waterway B's mitigations, it says "Replant with eco-sourced natives along all riparian areas onsite to a buffer width of at least 15m on each bank for the remainder of Waterway B, upstream and downstream (approx. 250m total)"; can you please clarify is 15m width covers both sides of the bank? Or 15m wide on each side? According to the Subdivision Scheme Plan, the width of the riparian area and Waterway B is 27.3m, so if we require 15m on each side, that's 30m width. Why do we need so wide for planting?

The general rule in best practice riparian planting for making improvements in waterway health and habitat provision is 'the wider the better'. NIWA recommends a standard 10m **minimum** width for sustainable riparian zones. Self-sustaining, weed free planted riparian buffers are more likely to be achieved when buffers are wider (10+ m). The width of the bed of the stream plus 10m either side would be the minimum required area to be protected and enhanced with riparian planting, but net gain is more likely to be achieved with more than the minimum buffer width.

In your opinion, does the current width of 27.3m, which includes the stream and buffer area from stream for riparian planting, be sufficient to mitigate the effects to Low? I need to understand this as according to the recommendation, it says replating of 15m on each bank whereas the proposed reserve area is only 27.3m wide. So my first question (which assume will be Council's processing planner's first question) how can these measurements be aligned?

Is this wider buffer zone requirement to mitigate the potential of Sediment release due to instream works? or is it a mitigation to all potential adverse effects, such as including the loss of stream extent? I was of the view that generally speaking, if we follow the best practice for sediment and erosion controls, then it should provide a certain level of confidence to Council that such effects can be mitigated. So why do we need to trigger a greater scale of buffer width? If we are using the minimum standards, then 10m on either side plus the stream, then likely the exiting 27.3m wide reserve area would be sufficient. Then anything beyond the minimum but within the 27.3m, is an enhancement. I am not against the greater enhancement, but I will need to be clear on what and how much is required as a mitigation, and how much extra is 'additional enhancement'. And if we do require and trigger a wider buffer zone, I need to understand and be clear on why (for example, why it is 15m, not 20m given it is the wider the better).

- For Waterway B's mitigations, in order to mitigate the level of effects down to Low/Potential Net Gain, the required and suggested mitigations are the ones listed in Table 2 on pages 26 and 27? So am I correct that the opportunities listed under 'Restoration Opportunities' and the recommendations under Section 5 are not required? i.e. they are good to have, but not essential as part of the mitigation?

The first bullet point in the restoration opportunities is an explanation/commentary the outcomes the mitigation measures in the assessment table. The second bullet point is an opportunity to add to overall ecological outcomes across the wider development through on-site mitigation (off-setting in this case) increasing the likelihood overall net gain.

Noted for the two bullet points under Section 4. How about Section 5 General Recommendations? I asked this because I will need to know (and Giles needs to understand and agree) if we are including them as mitigations as part of the Proposal. In particular, under the second bullet point of Section 5, it says "keep the current setback for 'Waterway B' and extend others where possible to incorporate pathways and recreational elements."

Are you referring to the 27.3m width setback as per the existing proposed layout? Or what do you mean by 'current setback'?

Ngā mihi | Kind regards,

Katherine Hu
Senior Urban Designer
s 9(2)(a)
KatherineH@barker.co.nz

barker.co.nz

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From: Rachel Griffiths <rachelg@kahuenviro.co.nz>
Sent: Tuesday, 20 June 2023 4:31 pm
To: Katherine Hu <KatherineH@barker.co.nz>
Cc: David Ross <davidr@kahuenviro.co.nz>; Fraser McNutt <FraserM@barker.co.nz>
Subject: Re: Teitei Drive Stream Assessment Report -KH Comments

Kia ora Kath,

Here (in the attached document) are my responses to your feedback questions and the updated report with the typo amended - good spotting, apologies for that oversight. Hopefully everything comes through OK as the report is quite a chunky doc.

Ngā mihi,

Rachel

Rachel Griffiths
Ecologist

s 9(2)(a)
kahuenvironmental.co.nz

On Tue, 20 Jun 2023 at 15:27, Katherine Hu <KatherineH@barker.co.nz> wrote:

Hi Rachel and David,

Hope you are well.

Can you please let me know if you have any questions regarding of my comments below and/or if you are working on an updated report to address my comments below? If it is later, can you please let me know when I can expect an updated version?

Ngā mihi | Kind regards,

Katherine Hu
Senior Urban Designer

s 9(2)(a)

KatherineH@barker.co.nz

barker.co.nz

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From: Katherine Hu

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TAX INVOICE

Attention: Giles Tait
Kainga Ora
PO Box 84143
Westgate
Auckland
Auckland 0616
New Zealand

Date
31 May 2023

Invoice Number
INV-3559

Client Order No.
PO 6241764

Kāhu Environmental Limited
P O Box 38
Greytown 5742
Phone: (06) 306 6105

GST number: 97-907-285

Stream assessment - Teitei Drive, Ohakune

Job No: **J000684**

Assess stream permanence and ecological values for proposed housing development, 6 Teitei Drive.

Tasks	Time	Rate	Amount
Admin Organising and sending eDNA samples	s 9(2)(b)(ii)		
Field prep, paperwork			
Field work Site visit and waterway assessment			
Site visit with Ngāti Rangī			
Meetings/hui Meetings/hui with client and/or other parties involved in the project.			
Stormwater team hui			
Phone conversations with Kath, Andres, Giles and colleagues.			
Site visit debrief			
Stream ecology report hui with Katherine and Andrew			
Peer review Internal peer review.			
Report preparation Report drafting and finalising.			
Prepare memo of findings			
Stream assessment report drafting			
Research and investigations Undertake research and background investigations necessary to prepare expert advice.			
Pre-site visit conversation with Morphum briefing them of our initial site/stream assessment			
Prep for stream ecology hui with Kath and Andrew			
Travel Time spent travelling to and from site (Martinborough to Ohakune return trip x2)			

Costs	Quantity	Rate	Amount
eDNA basic freshwater sample pack (field kit and analysis) - per pack	9(2)(b)(ii)		
Accommodation	1.00	128.70	128.70
Equipment Equipment needed to access stream	1.00	69.50	69.50
Mileage Return mileage to Featherston rail station 29/05/23	36.00	0.83	29.88
Trainfare Return fare to Wellington 29/05/23	1.00	13.91	13.91
		Subtotal	9,630.74
		GST	1,440.14
		Total	11,070.88
		Amount Due	11,070.88

Due Date: 20 June 2023

PAYMENT ADVICE

Our bank account details are: ASB, Masterton Branch, Account No 12-3290-0002592-00. Please include the invoice number as the reference.

Customer Kainga Ora
 Invoice Number INV-3559
 Amount Due 11,070.88
 Due Date 20 June 2023
 Amount Enclosed

Enter the amount you are paying above

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