

Eastern Bays Shared Path project

Memorandum 4 – Response to matters requested by HCC under s92(1) RMA

This Memorandum 4 is the fourth memorandum submitted by Stantec, on behalf of Hutt City Council, to respond to the further information request received from Greater Wellington Regional Council and Hutt City Council on 29 May 2019 under section 92(1) of the Resource Management Act 1991. This memorandum specifically responds to matters raised by HCC (consents) relating to a Peer Review by David Wanty, dated 18 August 2019.

1 Introduction

A peer review on traffic safety was prepared by Mr David Wanty of Wanty Transportation Consultancy, dated 9 May 2019 and then revised on 19 August 2019. Dan Kellow, on behalf of HCC consents, has asked that matters raised in the peer review should be taken into account as further detailed design is undertaken. This memorandum responds to the matters raised in the peer review and sets out how key matters have been (or will be) taken into account through the detailed design process.

An overview of the matters raised in the review are briefly as follows:

- Safety barriers
- Path width
- Other matters – concerns that can be dealt with in the detailed design

The matters raised are summarized in the following table and referenced to the chapter number in Mr Wanty's review and discussed in further detail in this memorandum.

Reference in review	Theme/ subject matter	Response
Chapter 2	Options and Safety Audit	<p>"A key matter of concern is that there is no barrier or additional width along the 2.5 m sections of the shared path on the seaward side with a drop of more than a metre to the beach, which means that the design does not meet a key requirement to afford protection to users (even though the existing situation similarly fails)".</p> <p>Noted. Refer to the response in this memorandum (section 2).</p> <p>"The height of the kerb separators... should preferably be lower..."</p> <p>Noted. To be addressed during detailed design.</p>
Chapter 3	Traffic and Safety Review	Refer to Chapter 6 (Mr Wanty's review)
Chapter 4	May 2019 Conclusion and Recommendations	<p>A protective barrier along the seaward edge will be provided. This is detailed in this memo.</p> <p>As a protective barrier will be included in the design there is no need for a monitoring condition for recording incidents.</p>
Chapter 5 5.1 – 5.7	August 2019 Further consideration	<p>5.1 – Relief areas – a condition as recommended by Catherine Hamilton will be included - "As part of detailed design, in consultation with HCC, the consent holder will/shall deliberately design relief areas along the project. Relief areas shall be supported by appropriate modelling to inform both the frequency and size of relief areas."</p> <p>Remaining points raised 5.2 – 5.7 are addressed in sections 2 and 3 of this memo.</p>
Chapter 6 6.1 – 6.7	July 2019 detailed consideration – recommendations and suggestions made	<p>Noted.</p> <p>To be addressed during the detailed design stage (a condition of consent).</p>

2 Safety Barriers

2.1 Context

The Eastern Bays Shared Path application includes Preliminary Design Plans (Appendix N in the application) accompanied by typical design features (outlined in the Design Features Report, Appendix J) with the understanding that the detailed design would be developed during the next stage of design (the preparation of a Detailed Design is a proposed condition of the consent).

The intention was to include safety barriers (along with signage, markings, bus shelters) in the detailed design at which time further input will be obtained from the community given there were mixed views about railings and barriers during feedback at community meetings. This will also be addressed in a Landscape and Urban Design Plan, also a proposed condition of this consent.

However, given that safety issues have been raised in detail by the Hutt City Council peer reviewer, we have responded in greater detail now.

2.2 Building Code requirements for safety barriers

The Building Code sets performance standards for all New Zealand building work¹. The Building Code is contained in Schedule 1 of the Building Regulations 1992. It sets the performance standards that all building work must meet, regardless of whether building consents are required.

With regards to safety barriers, the Building Code, Clause F, Safety from Falling, sets out specific obligations to prevent falls from heights. The objective of Clause F4 is "to safeguard people from injury caused by falling".

In order to achieve that objective, Clause F4 sets the following requirements:

- as a functional requirement, "buildings shall be constructed to reduce the likelihood of an accidental fall";
- as a performance standard (F4.3.1), "where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change in level associated with a building, a barrier shall be provided";
- the more detailed requirements include that such barriers must:
 - "be continuous and extend for the full length of the hazard";
 - "be of appropriate height";
 - "be constructed with adequate rigidity";
 - "be of adequate strength to withstand the foreseeable impact of people, and, where appropriate, the static pressure of people pressing against them";
 - "be constructed to prevent people falling through them";
 - "restrict the passage of children under 6 years of age when provided to guard a change of level in areas likely to be frequented by them"; and
 - "be constructed so that they are not readily able to be used as seats".

It is noted that performance standard F4.3.1 is limited and shall not apply:

- "where such a barrier would be incompatible with the intended use of an area", or
- "to temporary barriers on construction sites where the possible fall is less than 3 metres"; or
- "to buildings providing pedestrian access in remote locations where the route served presents similar natural hazards."

In order to comply with performance standard F4.3.1, if the drop off from a building is:

- less than 1 metre, a barrier is not required.
- 1 metre or more, a barrier must be provided unless one of the three exceptions listed above applies.

The Compliance Document has been prepared under section 22 of the Building Act in order to provide a template for compliance with Clause F4. Paragraphs 1.1 – 2.1 of the Compliance Document prescribe an "acceptable solution" (F4/AS1) in respect of "barriers in buildings".

¹ <https://www.building.govt.nz/building-code-compliance/>

Paragraph 1.2.5 of the Compliance Document specifically provides that barriers on retaining walls should comply with paragraphs 1.1 and 1.2 of the Compliance Document. In order to comply with paragraphs 1.1 – 1.2, and therefore the "acceptable solution":

- the barrier must be at least 1100mm high – this is the default minimum height applying to "all other buildings" at "all other locations";
- if the building is "likely to be frequented by children under 6 years of age", the barrier must be built to stricter standards intended to restrict passage through the barrier by small children, which reflects Clause F4 of the Code. In particular:
 - acceptable construction types are shown at Figures 1 - 4 of the Compliance Document;
 - openings between the rails or posts must be no greater than 100mm in diameter;
- if the building is not "likely to be frequented by children" the construction standards are not as strict. In particular, openings may be:
 - up to 300mm horizontally between vertical balustrades; or
 - 460mm vertically between longitudinal rails.

The construction of barriers in accordance with the acceptable solution will be deemed by section 22 of the Building Act to demonstrate compliance with Clause F4.

2.3 Application to the Project

An assessment of the shared path has been undertaken and the sections of path that are higher than 1m have been identified (see details in section 2.2.2 of this report), but noting that much of the proposed project length is adjacent to beach type environments that are highly dynamic and the level difference between the proposed path elevation and the beach below changes frequently as beach deposits are transported through coastal processes. Equally, the route served presents similar natural hazards.

In order to comply with paragraphs 1.1 – 1.2 of the Compliance Document, and therefore the "acceptable solution", the minimum required height of a barrier along the shared path wall needs to be 1100mm (see below).

Being a pedestrian/cycleway it is reasonable to assume that this area is "likely to be frequented by children under 6 years old" and that "small children will be present on a regular basis" therefore openings between the rails or posts must be no greater than 100mm in diameter. Figures 1- 3 of the Compliance Document set out examples of barriers suitable for this situation.

A summary of proposed safety barriers is included below. While these proposals may change through detailed design, the final design of the barriers will continue to comply with the requirements of the Building Act 2004 and the Building Code.

2.4 Barriers

2.4.1 Full height barrier

A full height barrier of 1100mm is proposed at four locations where the drop-off is greater than 1 metre, which is estimated as a total of between 700-800m of the shared path. The final location and lengths will be confirmed during the detailed design.

- Gill Road to Whiorau Reserve: ST1790-1955 (3.5m wide path)
- York Bay north: ST2330-2420 (3.5m wide path)
- Between Mahina & Sunshine: ST3530-3680 (3.5m wide path)
- Windy Point: ST5050-5395 (3.5m wide path)

The design of the barrier or railing will be confirmed during detailed design. It will meet the Code and will be of a durable material to withstand the coastal conditions.

2.4.2 Low level barrier

A low level wooden barrier (ie. "wheel guard" type barrier) is proposed along other sections where there are drop-offs of less than a metre.

Examples of the "wheel guard" type barrier are illustrated below. There gap underneath the barrier to allows water/small debris to drain back into the sea during/following storms.



Figure 2-1: Pauatahanui Inlet shared path between Motukaraka and Camborne



Figure 2-2: Typical rural bridge

A visual assessment for the purposes of the regional consents is currently being prepared and will be forwarded to GWRC when it is finalized.

3 Path Widths

Mr Wanty's review (Executive Summary) states that *"the minimum 2.5 m be increased to nominally 2.85 m (with associated design changes if needed) to allow for an edge kerb or low level fence (or fall from height barrier) to be incorporated at the onset or potentially retrofitted. This along with the steps/area design (and other matters) can be dealt with at the detailed design stage."*

In response to his concerns around path width, we again refer to the fact that a comprehensive assessment of path width has been carried out in the Alternatives Assessment (refer to section 7.2.1 of Appendix G of the resource consent application). Furthermore, the Shared Path Safety Audit did not raise any issues about the 2.5m path width as a safety concern. It is noted that there will not be any full height barriers along sections of path that are 2.5m in width. The full height barriers are proposed along sections where the path width is 3.5m (as defined in section 2.3.1 above).

An increase in path width to 2.85m as requested by Mr Wanty will defy the objective to limit encroachment onto the beaches. The decision to reduce the path width at certain beach locations is a compromise to maintain a continuous path (northern Lowry Bay, Mahina Bay and Sunshine Bay) but also limit the impact to a highly valued public asset and reduce ecological, landscape and recreation effects.

Rev. No.	Date	Description	Prepared By	Checked By	Reviewed By	Approved By
1	September 2019	Final	Caroline van Halderen	Jamie Povall	Jamie Povall	Jamie Povall