KiwiRail Regional Freight Hub Response to Panel Minute #2 - Dated 8th July 2021 - Para 5(A) Revision C



August 2021

Isthmus.

| Document record | | | | | |
|-----------------|----------|--------|----|------------|--|
| Issue | Revision | Author | QA | Date | |
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Viewpoint Location Map Figure 01

Viewpoint Locations

Designation Extent



Scale: 1:20,000 @ A3

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Viewpoint 23 - 11 Sangsters Road Existing

Figure 02

View from 11 Sangsters Road, looking west towards the site.





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Original Photo Lisa Rimmer | 50mm | DSLR Nikon D700 | 12:34pm 16 June 2021 | N 5536613 E 1823806 (NZTM) Reading distance for correct scale: 400mm | Viewpoint Elevation: 46m : Field of View Approximately 110° horizontal (across 2 x A3 pages)

Viewpoint 23 - 11 Sangsters Road Figure 24 Page 2 of 2 page spread.



Viewpoint 23 - 11 Sangsters Road Proposed 2-3 Years Figure 03

View from 11 Sangsters Road, looking west towards the site. In this location the noise mitigation wall is 3m in height and the sloped embankment 2.5m, The slopes of the embankment are proposed to be planted with River Plains species, shown as established 2-3 years after planting.





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Viewpoint 23 - 11 Sangsters Road Figure 24 Page 2 of 2 page spread.



Viewpoint 23 - 11 Sangsters Road Proposed 5+ Years Figure 04

View from 11 Sangsters Road, looking west towards the site. In this location the noise mitigation wall is 3m in height and the sloped embankment 2.5m, The slopes of the embankment are proposed to be planted with River Plains species, shown as established 5 years+ after planting.





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Original Photo Lisa Rimmer | 50mm | DSLR Nikon D700 | 12:34pm 16 June 2021 | N 5536613 E 1823806 (NZTM) Reading distance for correct scale: 400mm | Viewpoint Elevation: 46m : Field of View Approximately 110° horizontal (across 2 x A3 pages)

Viewpoint 23 - 11 Sangsters Road Figure 03 Page 2 of 2 page spread. PAGE INTENTIONALLY BLANK

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Context Photograph Methodology Statement

- Photos were taken with a fixed lens on DSLR camera. Locations were fixed using a handheld GPS unit with accuracy of 5m. Reference points in the landscape were also located to assist referencing of photo to digital terrain model.
- A sequence of photos was taken from each viewpoint and stitched to form panoramas. Photos were overlapped by approximately 30% and edges cropped prior to stitching to eliminate edge distortion.
- The time and weather when the photo was taken was entered to the programme in order to replicate lighting conditions.
- The completed photomontage is presented over two pages:
 - The photos are produced to replicate correct scale at the nominated reading distance (in this case 400mm).
 - Each photomontage is printed across two facing pages to illustrate a field of view of approximately 110° at a reading distance of 400mm. This approximates the field of human binocular vision. (But not peripheral vision which extends to approximately 200°)

Notes on use of Context Photographs:

- The Context Photographs are a useful tool but they cannot not precisely reproduce real life for the following reasons:
 - 2D Photography flattens an image compared to binocular vision.
 - Photography is static, whereas the human vision can scan and remember information.
 - Photographs are passive, whereas the eye seeks out detail.
 - The human eye can see more contrast than can be reproduced through photography.
 - Physical resolution of photography and printing is less than that of the human eye.



Figure 01: The relationship between reading distance and real life scale.

Figure 02: Binocular vision is approximately 124°. Field of view is approximately 110° across 2 x A3 pages at correct scale image for 400mm reading distance (vertical field of view is approximately 33°)



Figure 03: Comparison of 35mm lens and 50mm lens

Two images from the same location. With 35mm and 50mm lenses perspective is influenced by field of view, not by lens focal length. The overlaid portion is identical.

Figure 04