Boffa Miskell

WAITAHA HYDRO

RFI TO FTAA LETTER DATED 19 NOVEMBER 2025

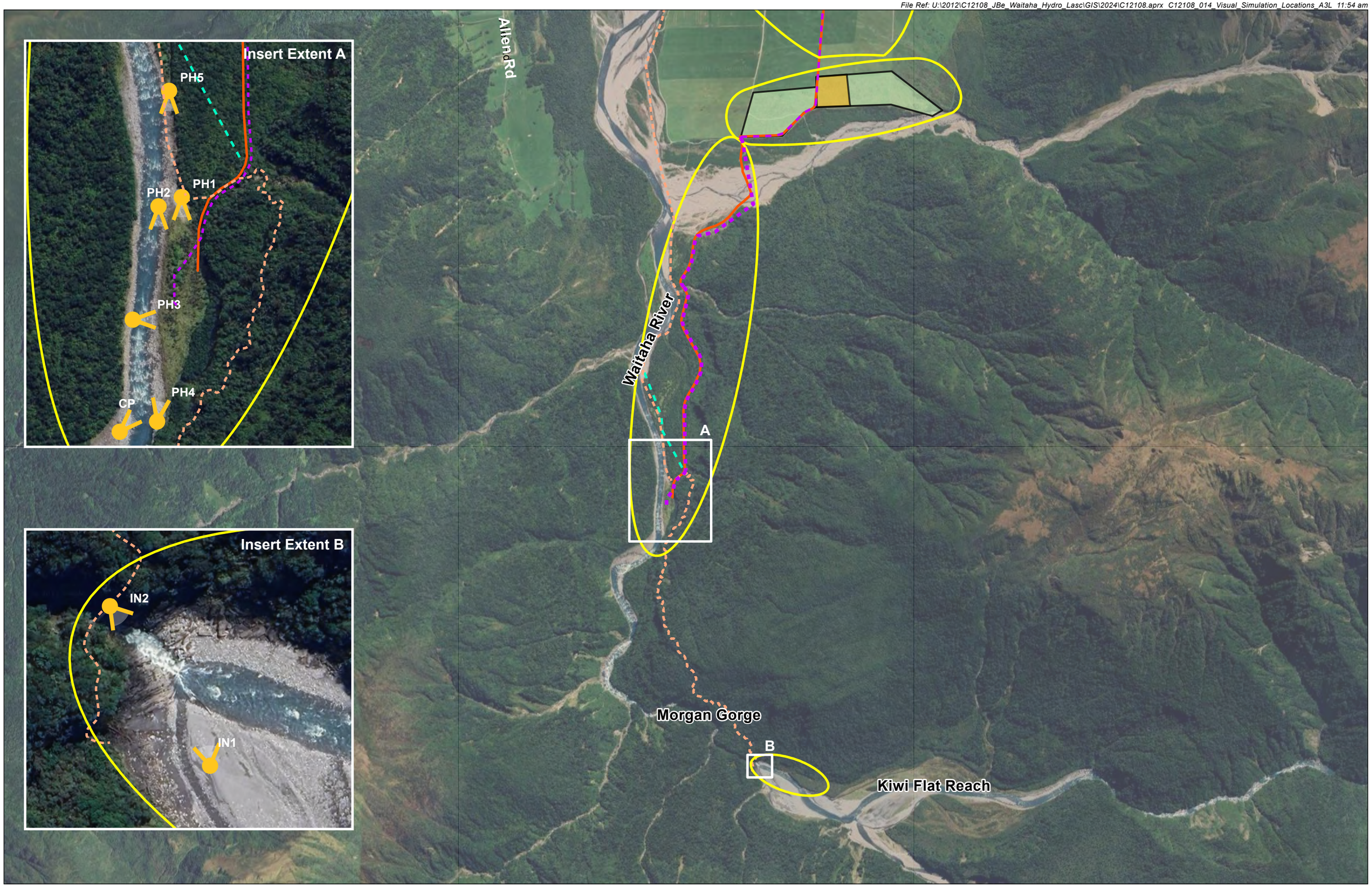
8 DECEMBER 2025

CONTENTS

MAPS:

VISUAL SIMULATIONS

Cover image: Photograph taken from true left of Waitaha River looking towards Power Station Site (Access by helicopter). (Location show as “CP“ on Figure 1: Visual Simulation Location Plan)



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0 520 m

1:20,000 @ A3

Data Sources: Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors., Eagle Technology, Land Information New Zealand, Google, Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

- Scheme Locations
- Visual Simulation IN1-2 & PH1-5
- Access Route
- Alternative Walking Track
- Existing Walking Track
- Proposed Transmission Line
- Spoil Disposal
- Staging Area

WAITAHA HYDRO

Visual Simulation Location Plan

Date: 08 December 2025 | Revision: 0

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: SCh | Checked: JBe

Figure 1

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0 360 m

1:15,000 @ A3

Data Sources: Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors, Eagle Technology, LINZ

Projection: NZGD 2000 Hokitika Circuit

LEGEND

- Visual Simulation TL1
- Indicative Transmission Tower Location
- Indicative Transmission Line Route

WAITAHA HYDRO

Visual Simulation Location Plan - TL1

Date: 04 December 2025 | Revision: 0

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: SCh | Checked: JBe

Figure 2

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Viewpoint Details

Easting	: 380 174 mE	Horizontal Field of View	: 65°
Northing	: 772 715 mN	Vertical Field of View	: 30°
Elevation/Eye Height	: 240.4m / 1.5m	Projection	: NA
Date of Photography	: 1:12pm 8 July 2024 NZST	Image Reading Distance @ A3 is 28 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

WAITAHA HYDRO

Intake Simulation (VS1): IN1 Existing

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe

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Viewpoint Details

Easting	: 380 174 mE	Horizontal Field of View	: 65°
Northing	: 772 715 mN	Vertical Field of View	: 30°
Elevation/Eye Height	: 240.4m / 1.5m	Projection	: NA
Date of Photography	: 1:12pm 8 July 2024 NZST	Image Reading Distance @ A3 is 28 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

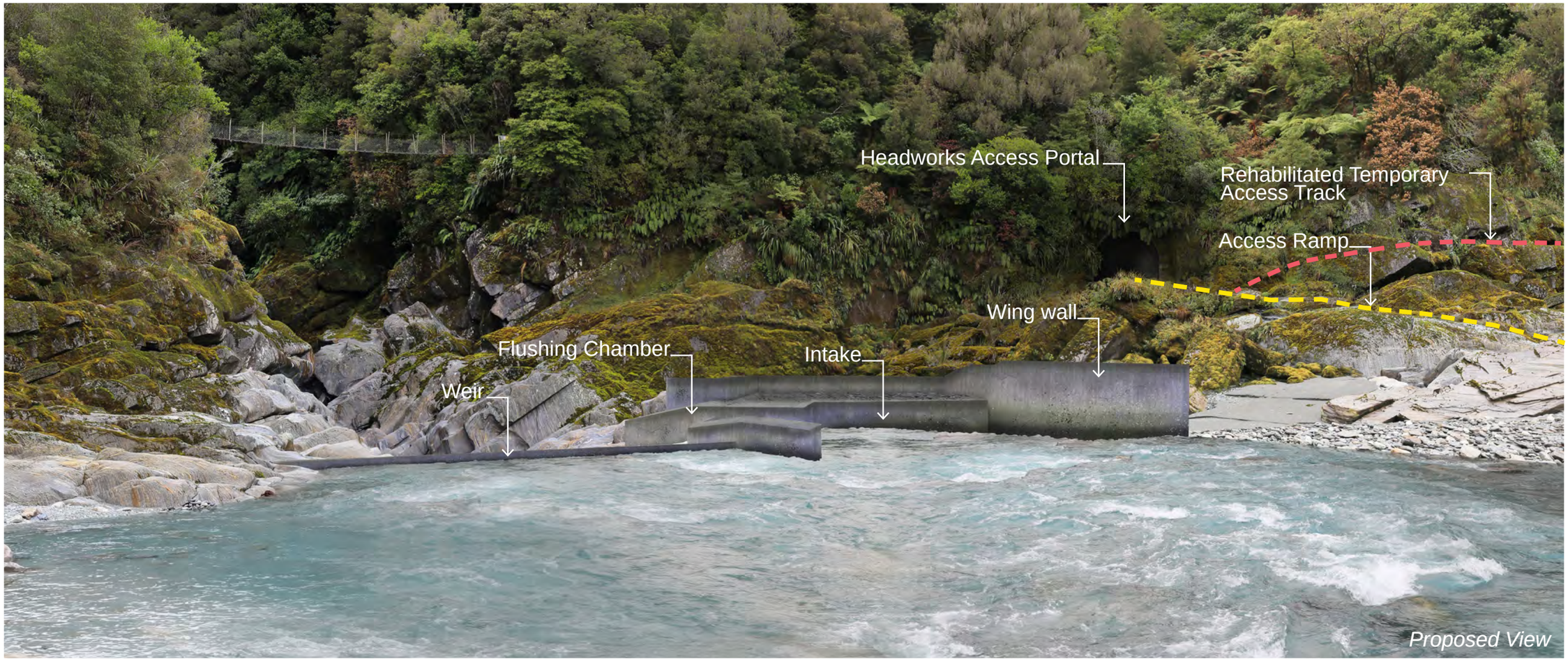
WAITAHA HYDRO

Intake Simulation (VS1): IN1A Proposed View After 1 Year

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe



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Viewpoint Details

Easting	: 380 174 mE	Horizontal Field of View	: 65°
Northing	: 772 715 mN	Vertical Field of View	: 30°
Elevation/Eye Height	: 240.4m / 1.5m	Projection	: NA
Date of Photography	: 1:12pm 8 July 2024 NZST	Image Reading Distance @ A3 is 28 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Intake Simulation (VS1): IN1B Proposed View After 10 Years

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe

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Viewpoint Details

Easting	: 380 133 mE	Horizontal Field of View	: 40°
Northing	: 772 786 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 254.6m / 1.5m	Projection	: NA
Date of Photography	: 1:35pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Intake Simulation (VS2): IN2 Existing

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe

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Viewpoint Details

Easting	: 380 133 mE	Horizontal Field of View	: 40°
Northing	: 772 786 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 254.6m / 1.5m	Projection	: NA
Date of Photography	: 1:35pm 8 July 2024 NZST	Image Reading Distance @ A3 is	50 cm

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Intake Simulation (VS2): IN2 Proposed View After 10 Years

Date: 8 December 2025 | Revision: 3

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Viewpoint Details

Easting	: 379 677 mE	Horizontal Field of View	: 40°
Northing	: 774 428 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 126.9m / 1.5m	Projection	: NA
Date of Photography	: 4:06pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS3): PH1 Existing

Date: 8 December 2025 | Revision: 3

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Viewpoint Details

Easting	: 379 677 mE
Northing	: 774 428 mN
Elevation/Eye Height	: 126.9m / 1.5m
Date of Photography	: 4:06pm 8 July 2024 NZST

Horizontal Field of View	: 40°
Vertical Field of View	: 25°
Projection	: NA
Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS3): PH1 Proposed View After 10 Years

Date: 8 December 2025 | Revision: 3

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Viewpoint Details

Easting	: 379 643 mE	Horizontal Field of View	: 40°
Northing	: 774 415 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 124.2m / 1.5m	Projection	: NA
Date of Photography	: 4:56pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS4): PH2 Existing

Date: 8 December 2025 | Revision: 3

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Viewpoint Details

Easting	: 379 643 mE	Horizontal Field of View	: 40°
Northing	: 774 415 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 124.2m / 1.5m	Projection	: NA
Date of Photography	: 4:56pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS4): PH2 Proposed View After 10 Years

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe

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Viewpoint Details

Easting	: 379 602 mE	Horizontal Field of View	: 40°
Northing	: 774 252 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 127.1m / 1.5m	Projection	: NA
Date of Photography	: 12:14pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS5): PH3 Existing

Date: 8 December 2025 | Revision: 3

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Viewpoint Details

Easting	: 379 602 mE	Horizontal Field of View	: 40°
Northing	: 774 252 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 127.1m / 1.5m	Projection	: NA
Date of Photography	: 12:14pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS5): PH3 Proposed View After 10 Years

Date: 8 December 2025 | Revision: 3

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Viewpoint Details

Easting	: 379 634 mE	Horizontal Field of View	: 40°
Northing	: 774 104 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 133.8m / 1.5m	Projection	: NA
Date of Photography	: 4:41pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS6): PH4 Existing

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

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Viewpoint Details

Horizontal Field of View	: 40°
Vertical Field of View	: 25°
Projection	: NA
Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS6): PH4 Proposed View After 10 Years

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

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Viewpoint Details

Easting	: 379 663 mE
Northing	: 774 582 mN
Elevation/Eye Height	: 125.3m / 1.5m
Date of Photography	: 5:18pm 8 July 2024 NZST

Horizontal Field of View	: 40°
Vertical Field of View	: 25°
Projection	: NA
Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

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Powerhouse Simulation (VS7): PH5 Existing

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe

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Viewpoint Details

Easting	: 379 663 mE	Horizontal Field of View	: 40°
Northing	: 774 582 mN	Vertical Field of View	: 25°
Elevation/Eye Height	: 125.3m / 1.5m	Projection	: NA
Date of Photography	: 5:18pm 8 July 2024 NZST	Image Reading Distance @ A3 is 50 cm	

Data Sources: Engineering models supplied by Aus Hydro. LINZ

WAITAHA HYDRO

Powerhouse Simulation (VS7): PH5 Proposed View After 10 Years

Date: 8 December 2025 | Revision: 3

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe

Existing View

Note: Existing 11kV pole outside field of view, immediately positioned behind photographer.

Proposed View looking south-east along Waitaha Road

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Viewpoint Details

Easting	: 380 503 mE	Horizontal Field of View	: 90°
Northing	: 780088 mN	Vertical Field of View	: 30°
Elevation/Eye Height	: 66.3m / 1.7m	Projection	: Rectilinear
Date of Photography	: 10:03am 9 July 2024 NZST	Image Reading Distance @ A3 is 20 cm	

Data Sources:

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Transmission Line Simulation (VS8): TL1 Waitaha Road

Date: July 2025 | Revision: 2

Plan prepared for Westpower Limited by Boffa Miskell Limited

Project Manager: James.Bentley@boffamiskell.co.nz | Drawn: CMu | Checked: JBe

VISUALISATIONS - METHODOLOGY

SITE VISIT & PHOTOGRAPHY

Site photographs were taken with a Canon digital SLR camera fitted with a 50mm focal length lens, mounted on a tripod and panoramic head. A series of photos were taken at predetermined viewpoints, situated on public land. The locations of each viewpoint were fixed using a hand held GPS Unit.

NZILA GUIDELINES & PANORAMA PREPARATION

The visualisations have been produced in accordance with the Tuia Pito Ora New Zealand Institute of Landscape Architects (NZILA) Best Practice Guidelines for Visual Simulations (BPG 10.2) and also adhere to Boffa Miskell's internal Visualisation Guidelines.

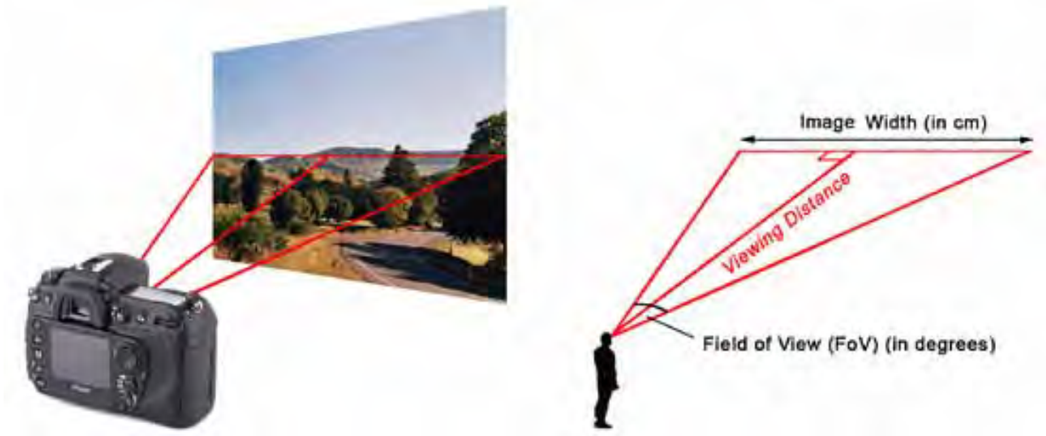
Camera lenses with different focal lengths capture images with differing fields of view. As can be seen below (derived from Fig 9 of the NZILA BPG), a photo taken with a 28mm lens provides a horizontal field of view of 65°. A 50mm lens will provide a cropped (40°) version of the same view. So panoramas can be created by taking multiple 28mm or 50mm photos (in "portrait" mode), and using digital stitching software to merge and crop to create a single panorama. The photographs used in these visualisations have a field of view of 40° (apart from IN1 which is 65°).

3D MODELLING

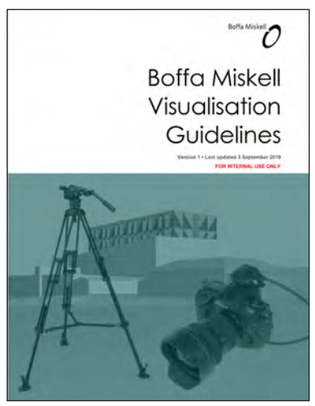
Virtual camera views were then created in 3D modelling software, and 3D terrain data and engineering models were imported. These views were then registered over the corresponding photographs, using identifiable features in the landscape and the characteristics of the camera to match the two together. The visualisations were then assembled using graphic design software.

IMAGE READING DISTANCES

These visualisations have a field of view of 40° and so should be viewed from a distance of 20 cm when printed at A3 (apart from IN1 which is 65° and should be viewed at 28 cm). This will ensure that each simulation is viewed as if standing on-site at the actual camera location, and is in accordance with Section 7.11 of the NZILA BPG. Users are encouraged to print these pages on A3 transparency, go to the viewpoint and hold at the specified reading distance in order to verify the methodology.

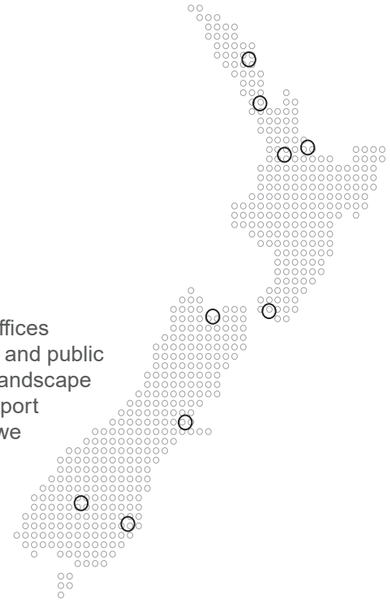


Geometry of Image Reading Distance



Together. Shaping Better Places.

Boffa Miskell is a leading New Zealand environmental consultancy with nine offices throughout Aotearoa. We work with a wide range of local, international private and public sector clients in the areas of planning, urban design, landscape architecture, landscape planning, ecology, biosecurity, Te Hīhiri (cultural advisory), engagement, transport advisory, climate change, graphics and mapping. Over the past five decades we have built a reputation for creativity, professionalism, innovation and excellence by understanding each project's interconnections with the wider environmental, social, cultural and economic context.



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