

Fingerboards Mineral Sands Project Inquiry and Advisory Committee
Technical note

TN No: TN 015

Date: 26 March 2021

Subject: Response to IAC Second Request for Information — Centrifuges – C11

Introduction

This technical note responds to IAC's second request for information (25 February 2021, Tabled Document 150), question C11.

Question

[The Proponent should provide:]

C11. An assessment of the landscape/visual impacts of the proposed centrifuge buildings.

Response

An assessment of the landscape and visual impacts of the proposed centrifuge buildings, together with series of viewshed maps, is included in Appendix 1.



FINGERBOARDS MINERAL SANDS PROJECT EES LVIA - SUPPLEMENTARY MATERIAL – ASSESSMENT OF CENTRIFUGE PLANTS

26th March 2021

In response to the Fingerboards Mineral Sands Project – Inquiry and Advisory Committee Second Request for Information – Centrifuges, dated 25th February 2021, Item C11 (which requested “An assessment of the landscape/visual impacts of the proposed centrifuge buildings”), the following additional supporting material is provided.

Centrifuge plants

There are two proposed relocatable centrifuge plants being proposed, known as MUP1 and MUP2.

The full extent of the centrifuge plant is measured at 75.6m W x 54.2m D x 12.5m H. This includes all buildings and potential maximum stockpile footprint.

Based on the maximum dimensions listed above, being 75.6m W x 12.5m H and applying the same methodology used in the LVIA – Section 2.2 (degrees of field-of-view occupied), the overall visual prominence of the centrifuge plants are as follows for the worst-case scenario where there is full visibility to the centrifuge plant:

- High Visual Prominence - Potentially dominant at distances of up to 285m
- Moderate Visual Prominence - potentially noticeable at distances of up to 1428m
- Low Visual Prominence - potentially insignificant at distances greater than 1428m

A series of viewshed maps have been prepared to highlight locations from which any part of the centrifuge plants would be visible, based upon topography and proposed project landforms for the given project year. It does not account for any potential screening vegetation. Locations having potential visibility to the centrifuge plants are colour coded as follows:

- MUP1 - red
- MUP2 - blue
- Both MUP1 and MUP2 - violet

Of all the viewpoints assessed in the LVIA, the following viewpoints will have the highest degree of potential visual prominence:

- Viewpoint 17 (Receptor 1) - Potentially noticeable. Moderate level of visual prominence over the life of the project from ~Year 5 onwards.
- Viewpoint RD1 - Potentially noticeable. Moderate level of visual prominence from ~Year 5 onwards.
- Viewpoint RD3 - Potentially noticeable. Moderate level of visual prominence at start and end of project, ~Year 1 and ~Year 12
- Viewpoint RD4 - Potentially noticeable. Moderate level of visual prominence at start of project, ~Year 1

Given the localised distances at which the centrifuge plants will have a moderate to high overall visual prominence, the additional visual impact will be relatively minor compared to the overall extent of the project footprint. The centrifuge plants are located within the project footprint and therefore, in the majority of cases, will have limited visibility due to being partially obscured by overburden and topsoil stockpiles. There would be limited viewpoints where the full extent of the centrifuge plants may be visible.

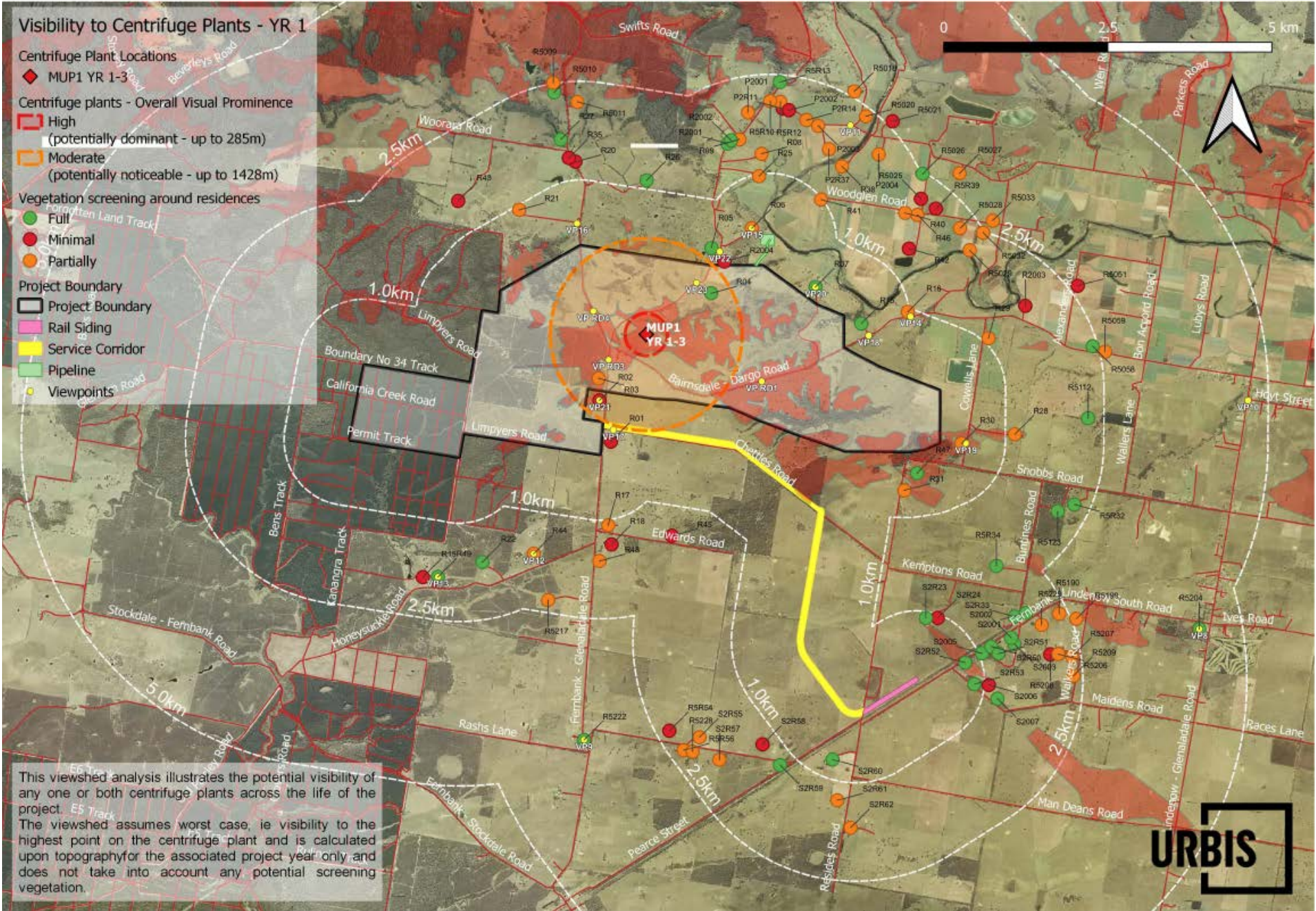
A full summary of the potential overall level of visual prominence to the centrifuge plants, for all assessment viewpoints, is tabled overleaf.

Viewpoint No	Visual Setting	Distance to nearest centrifuge plant (km)	Viewpoint vegetation screening	Potential Overall Visual Prominence (worst case, without screening vegetation)				Overall Potential Visibility
				YEAR 1	YEAR 5	YEAR 8	YEAR 12	
VIEWPOINT 01 Mitchell River	Regional	10.45 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 02 Deadcock Den	Regional	10.42 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 03 Den Of Nargun	Regional	10.32 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 04 Bluff Lookout	Regional	10.25 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 05 Den Of Nargun Car Park and Picnic Area	Regional	10.07 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 06 Farm Resort	Regional	9.29 km	Minimal	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 07 Lindenow Recreation Reserve	Regional	8.47 km	Partial	Non-apparent	Potentially Insignificant (L)	Potentially Insignificant (L)	Potentially Insignificant (L)	Visibility not likely due to distance and surrounding vegetation
VIEWPOINT 08 Lindenow South Recreation Reserve	Regional	7.35 km	High	Non-apparent	Non-apparent	Non-apparent	Potentially Insignificant (L)	Visibility not likely due to distance and surrounding vegetation

Viewpoint No	Visual Setting	Distance to nearest centrifuge plant (km)	Viewpoint vegetation screening	Potential Overall Visual Prominence (worst case, without screening vegetation)				Overall Potential Visibility
				YEAR 1	YEAR 5	YEAR 8	YEAR 12	
VIEWPOINT 09 Bed and Breakfast	Regional	5.33 km	High	Non-apparent	Potentially Insignificant (L)	Potentially Insignificant (L)	Potentially Insignificant (L)	Visibility not likely due to distance and surrounding vegetation
VIEWPOINT 10 Walpa - Intersection Hoyt St/Lindenow-Clevedale Rd	Regional	7.21 km	Minimal	Non-apparent	Potentially Insignificant (L)	Non-apparent	Non-apparent	Visibility not likely due to distance and surrounding vegetation
VIEWPOINT 11 Intersection of Alexanders and Fernbank-Glenaladale Rd	Sub-Regional (Far)	3.73 km	Minimal	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 12 Receptor 0	Sub-Regional (Far)	2.51 km	Partial	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 13 Receptor 19	Sub-Regional (Far)	2.92 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 14 Receptor 16	Sub-Regional (Near)	2.43 km	Partial	Non-apparent	Potentially Insignificant (L)	Non-apparent	Non-apparent	Visibility not likely due to surrounding vegetation
VIEWPOINT 15 Receptor 6	Sub-Regional (Near)	1.84 km	Partial	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 16 Receptor 21	Sub-Regional (Near)	1.99 km	Partial	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography

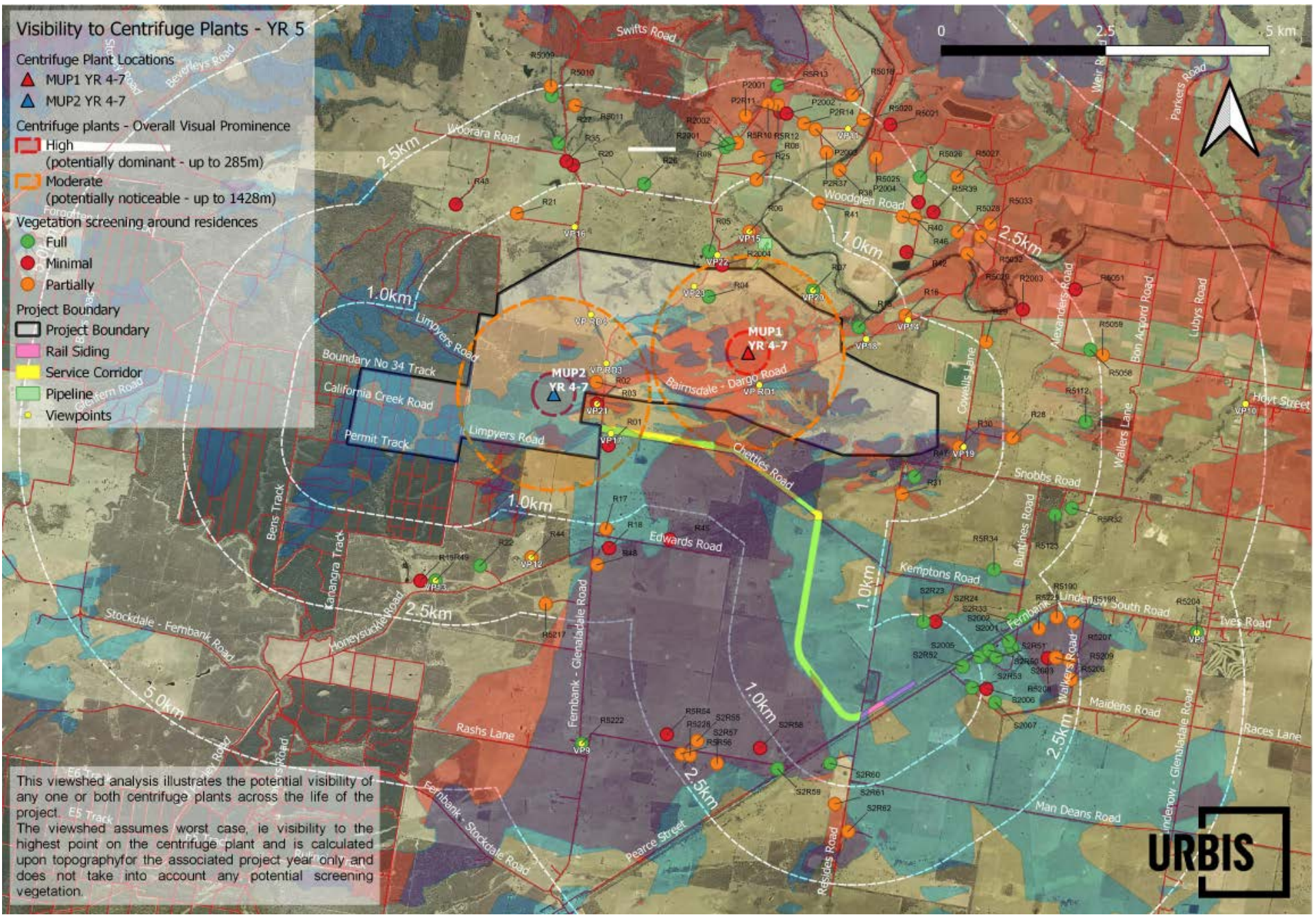
Viewpoint No	Visual Setting	Distance to nearest centrifuge plant (km)	Viewpoint vegetation screening	Potential Overall Visual Prominence (worst case, without screening vegetation)				Overall Potential Visibility
				YEAR 1	YEAR 5	YEAR 8	YEAR 12	
VIEWPOINT 17 Receptor 1	Sub-Regional (Near)	1.06 km	Minimal	Non-apparent	Potentially Noticeable (M)	Potentially Noticeable (M)	Potentially Noticeable (M)	Potential visibility to one centrifuge plant in ~Year 5 and ~Year 12. Potential visibility to both in ~Year 8.
VIEWPOINT 18 Receptor 15	Sub-Regional (Near)	1.74 km	High	Non-apparent	Potentially Insignificant (L)	Non-apparent	Non-apparent	Visibility not likely due to surrounding vegetation
VIEWPOINT 19 Receptor 30	Sub-Regional (Far)	2.99 km	Partial	Potentially Insignificant (L)	Potentially Insignificant (L)	Potentially Insignificant (L)	Potentially Insignificant (L)	Some possible views. Most views likely obscured by surrounding vegetation to the west of the receptor
VIEWPOINT 20 Receptor 7	Sub-Regional (Near)	1.37 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 21 Receptor 2 (Kalbar owned - Uninhabited)								
VIEWPOINT 22 Receptor 5	Sub-Regional (Near)	1.56 km	High	Non-apparent	Non-apparent	Non-apparent	Non-apparent	Non-apparent, obscured by topography
VIEWPOINT 23 Receptor 4 (Kalbar Owned - Uninhabited)								

Viewpoint No	Visual Setting	Distance to nearest centrifuge plant (km)	Viewpoint vegetation screening	Potential Overall Visual Prominence (worst case, without screening vegetation)				Overall Potential Visibility
				YEAR 1	YEAR 5	YEAR 8	YEAR 12	
VIEWPOINT RD1	Local (Near)	0.35 km	Minimal	Potentially Insignificant (L)	Potentially Noticeable (M)	Potentially Noticeable (M)	Potentially Noticeable (M)	Potentially noticeable across life of the project.
VIEWPOINT RD3	Local (Far)	0.69 km	Minimal	Potentially Noticeable (M)	Non-apparent	Non-apparent	Potentially Noticeable (M)	Potentially noticeable ~ Years 1 & 12.
VIEWPOINT RD4	Local (Far)	0.88 km	Minimal	Potentially Noticeable (M)	Non-apparent	Non-apparent	Non-apparent	Potentially noticeable ~Year 1
VIEWPOINT RS1	Sub-Regional (Far)	4.73 km	High	Non-apparent	Potentially Insignificant (L)	Potentially Insignificant (L)	Potentially Insignificant (L)	Visibility not likely due to distance and surrounding vegetation



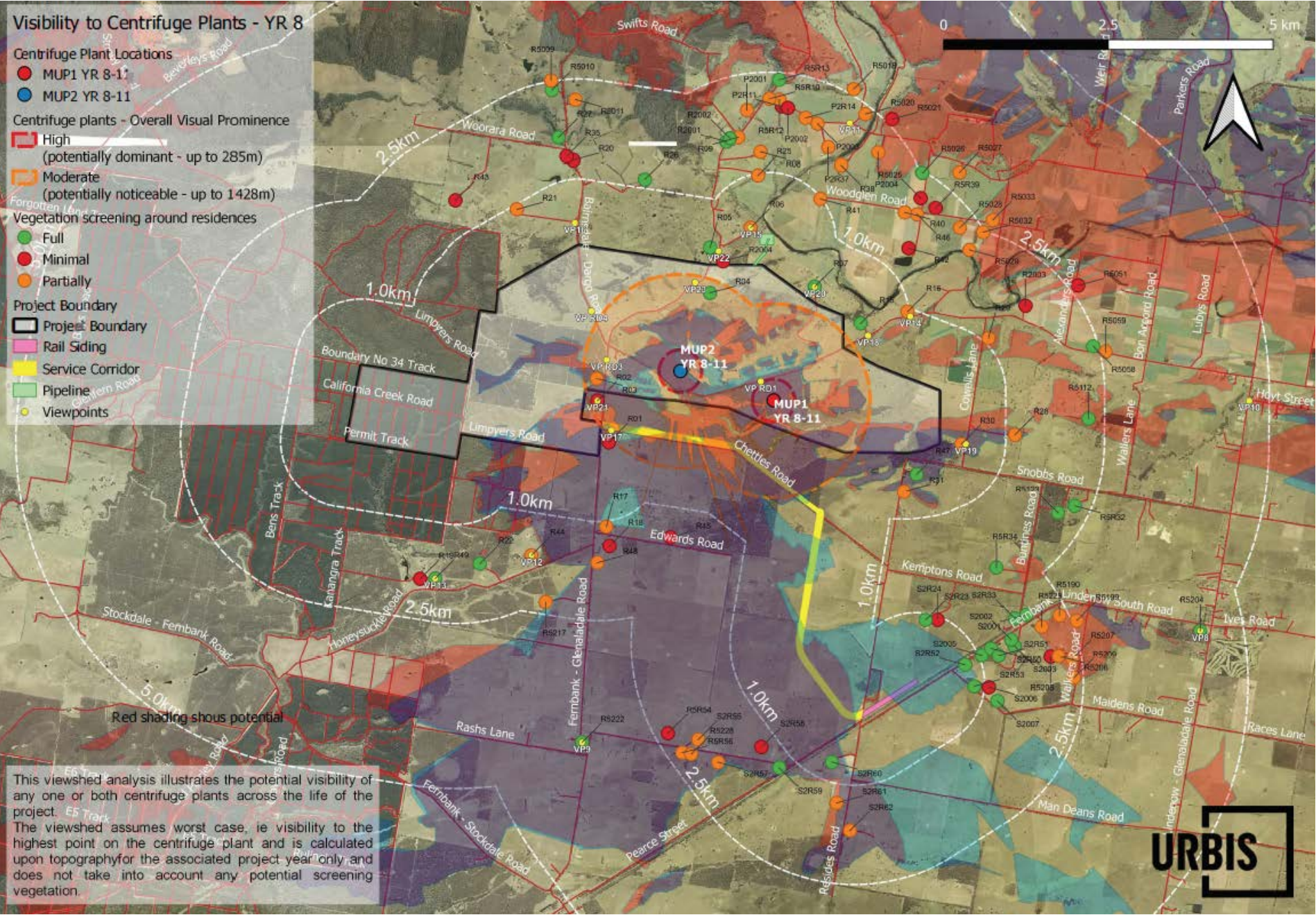
This viewshed analysis illustrates the potential visibility of any one or both centrifuge plants across the life of the project. The viewshed assumes worst case, ie visibility to the highest point on the centrifuge plant and is calculated upon topography for the associated project year only and does not take into account any potential screening vegetation.





Visibility to Centrifuge Plants - YR 8

- Centrifuge Plant Locations**
- MUP1 YR 8-11 (Red dot)
 - MUP2 YR 8-11 (Blue dot)
- Centrifuge plants - Overall Visual Prominence**
- High (potentially dominant - up to 285m) (Red shading)
 - Moderate (potentially noticeable - up to 1428m) (Orange shading)
- Vegetation screening around residences**
- Full (Green circle)
 - Minimal (Red circle)
 - Partially (Orange circle)
- Project Boundary**
- Project Boundary (Black outline)
 - Rail Siding (Pink line)
 - Service Corridor (Yellow line)
 - Pipeline (Green line)
 - Viewpoints (Yellow circle)



Red shading shows potential

This viewshed analysis illustrates the potential visibility of any one or both centrifuge plants across the life of the project. The viewshed assumes worst case, i.e. visibility to the highest point on the centrifuge plant and is calculated upon topography for the associated project year only and does not take into account any potential screening vegetation.



