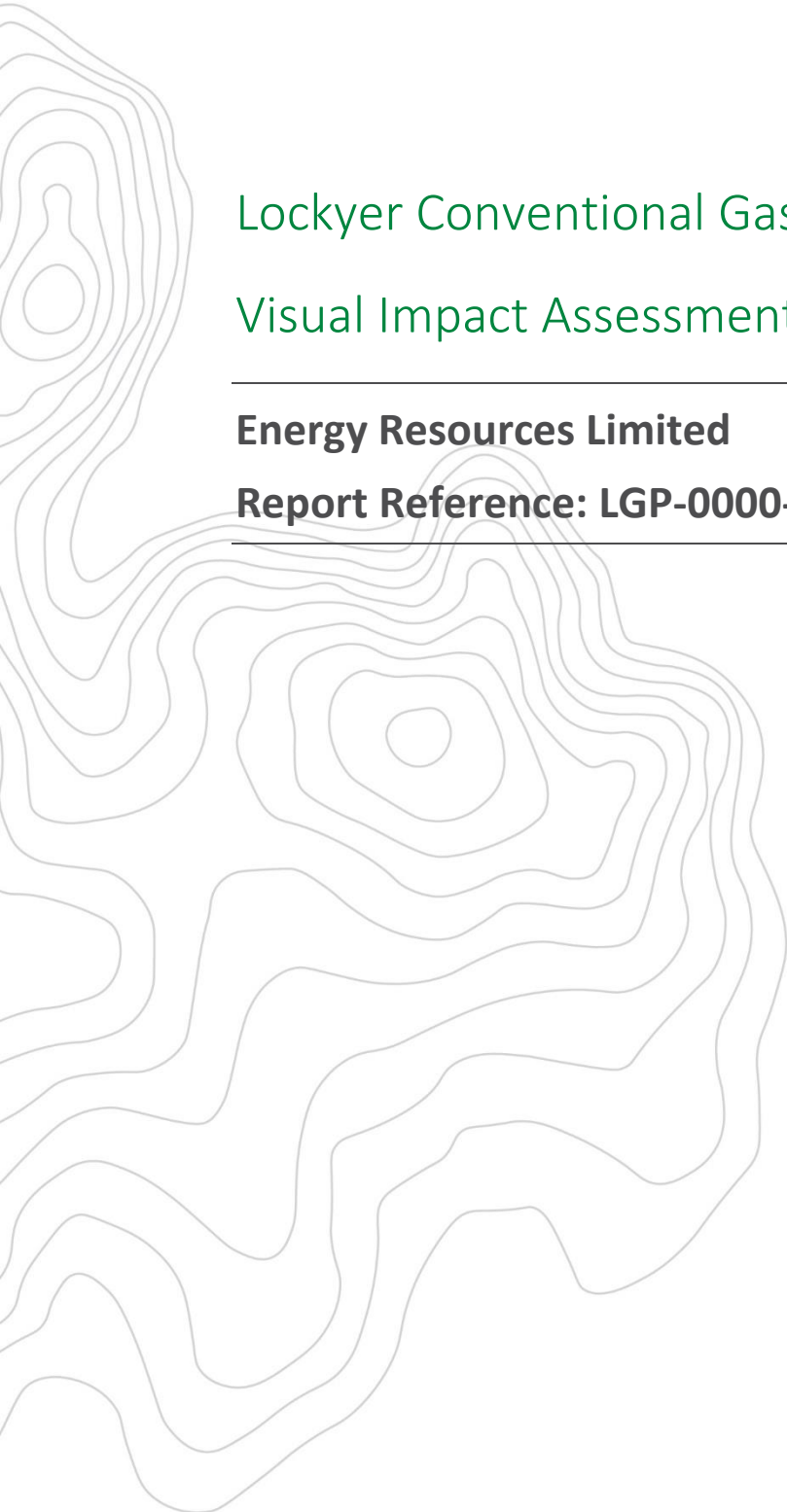




APPENDIX L

**LOCKYER
CONVENTIONAL GAS
DEVELOPMENT VISUAL
IMPACT ASSESSMENT
(ECOLOGICAL
AUSTRALIA 2024)**



Lockyer Conventional Gas Development
Visual Impact Assessment

Energy Resources Limited

Report Reference: LGP-0000-EN-REP-000007

DOCUMENT TRACKING

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Project Manager	Danae Snell
Prepared by	Danae Snell, Liv Sinclair
Reviewed by	Rebecca Ovens
Approved by	Rebecca Ovens
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Contents

- 1. Introduction 1**
- 1.1. Background..... 1
- 1.2. Proposed Development 1
- 1.3. Purpose and Scope 2
- 1.4. Regulatory Context and Published Guidance..... 3
- 1.5. Stakeholder Consultation 3
- 2. Existing Landscape Character 7**
- 2.1. Site Context and Land Use 7
- 2.2. Topography and Soil Landscape Systems 10
- 2.3. Surface Geology 10
- 2.4. Landscape Character Type..... 10
- 2.5. Hydrology 11
- 2.6. Vegetation 11
- 3. Sensitive Receptors 13**
- 4. Visual Impact Assessment 14**
- 4.1. Viewshed Analysis..... 14
- 4.2. Viewpoint Analysis..... 16
- 5. Significance of Likely Impacts 27**
- 6. References 29**

List of Figures

- Figure 1-1: Regional Location of the CPF 4
- Figure 1-2: Conceptual Layout of the CPF – Overview..... 5
- Figure 1-3: Conceptual Layout of the CPF – Detail..... 6
- Figure 2-1: Oblique Aerial View of the CPF Site from the South-East..... 8
- Figure 2-2: Oblique Aerial View of the CPF Site from the South-West..... 9
- Figure 2-3: CPF Surrounds Digital Elevation Model (DEM) 12
- Figure 4-1: Viewshed Analysis Results 15
- Figure 4-2: Indicative CPF Plant Visibility – Strawberry NE Road Viewpoint 1 (2 km from CPF) 18
- Figure 4-3: Indicative CPF Plant Visibility – Strawberry NE Road Viewpoint 2 (850 m from CPF) 19
- Figure 4-4: Indicative CPF Plant Visibility – Strawberry NE Road Viewpoint 3 (1 km from CPF) 20
- Figure 4-5: Indicative CPF Plant Visibility – Strawberry NE Road Viewpoint 4 (2.25 km from CPF) 21
- Figure 4-6: Indicative CPF Plant Visibility – Burma Road Viewpoint 1 (3 km from CPF) 22
- Figure 4-7: Indicative CPF Plant Visibility – Burma Road Viewpoint 2 (3.75 km from CPF) 23
- Figure 4-8: Indicative CPF Plant Visibility – Midlands Road Viewpoint 1 (2 km from CPF)..... 24

Figure 4-9: Indicative CPF Plant Visibility – Midlands Road Viewpoint 2 (2 km from CPF).....25
 Figure 4-10: Indicative CPF Plant Visibility – Midlands Viewpoint 3 (2.5 km from CPF)26

List of Tables

Table 2-1: Surface Geology Surrounding the CPF (DMIRS 2023)10
 Table 3-1: Sensitive Receptors Identified in Proximity to the CPF Site.....13
 Table 4-1: Likely Visibility of the CPF Infrastructure at Selected Locations16

Abbreviations

Abbreviation	Description
CPF	Central Processing Facility
DBNGP	Dampier Bunbury Natural Gas Pipeline
DEM	Digital elevation model
EIA	Environmental impact assessment
ELA	Eco Logical Australia
EPA	Environmental Protection Authority
ERL	Energy Resources Limited
IBRA	Interim-Biogeographic Regionalisation for Australia
LCT	Landscape Character Type
MinRes	Mineral Resources Limited
VIA	Visual Impact Assessment

1. Introduction

1.1. Background

Energy Resources Limited (ERL), a wholly owned subsidiary of Mineral Resources Limited (MinRes) is currently undertaking an environmental impact assessment (EIA) for the Lockyer Conventional Gas Development (the Proposal). The Proposal is to be developed in the mid-west region of Western Australia, approximately 25 km to the east of Dongara and 15 km west of Mingenew (Figure 1-1). The Proposal will collect natural gas from multiple conventional well heads and direct it via an infield gathering system to a Central Processing Facility (CPF) where the gas will be treated and then routed via an export pipeline to the Dampier Bunbury Natural Gas Pipeline (DBNGP) for sale.

The CPF will be located approximately 2 km north of Midlands Road, the main road between Dongara and Mingenew. Due to the height and the bulk of the infrastructure proposed to be constructed at the CPF and location within an otherwise rural landscape, the potential for impacts to visual amenity was recognised. Eco Logical Australia (ELA) has been engaged by ERL to undertake a Visual Impact Assessment (VIA) of the proposed development on the existing views from the surrounding landscape.

The CPF is located within the Shire of Irwin and is within the Bundi Yamatji Aboriginal Corporation representative area. The land surrounding the CPF site is currently used for broadacre agriculture with a mixture of cropping and grazing, with the CPF site intersecting three privately owned agricultural properties.

The nearest populated centres include Mingenew and Dongara. The main economic industry within the Shire of Irwin is agricultural farming, with additional industries including (marine-based) fisheries, mineral sands mining and oil and gas developments (Shire of Irwin 2023).

1.2. Proposed Development

The Proponent is proposing to construct and operate up to six natural gas production wells, pipeline infrastructure, and a CPF located within the Lockyer gas field. The raw gas collected from the wells will be directed via an infield gathering system to the CPF, where it will be treated, and then routed to the DBNGP for sale. Additionally, the CPF will treat any associated condensate liquids to allow for transport off-site. The Proposal will include a consolidated stabilisation, storage, and offloading system to support road transport of liquid product, and additional on-site infrastructure to support the operation phase including power generation, warehousing, workshops, switch-room infrastructure and accommodation buildings.

Infrastructure proposed to be constructed within the CPF includes the following:

- Amine regeneration system (18 m high)
- Amine contractor tower (18 m high)
- Still column tank (18 m high)
- Thermal oxidiser (36.9 m high)
- HP/LP flare (69.7 m high)
- Other infrastructure (average 5 m high).

Heights listed above are the heights that have been used for the purpose of modelling visual impacts. As final engineering design is not yet complete, a worst-case scenario has been assumed for these infrastructure components where the final location or dimensions is not certain.

‘Other infrastructure’ will include but is not limited to:

- Site security including fencing and gates
- Internal roads
- Temporary construction camp with all supporting utilities
- Water bore and bore water storage tank and distribution piping
- Groundwater monitoring bores (multiple)
- Operations camp (required after decommissioning of the construction camp) with utilities supplied from the CPF
- Telecommunications infrastructure
- Construction laydown areas to support CPF construction, pipelines construction and camp construction
- Power station and power distribution
- Workshops, sheds, secure storage, and covered areas between workshops to support construction and operations
- Drainage and stormwater management for CPF and camp areas
- Two 50% produced water evaporation ponds
- Condensate (liquid hydrocarbon) truck loading area
- Operations support buildings and sewage system.

Figure 1-2 provides a conceptual layout for the CPF and Figure 1-3 shows a 3-dimensional conceptual model of the design. This conceptual layout and 3-d render are based on similarly sized gas processing facilities and are intended to present an approximation of the CPF facility, rather than the actual final layout of the proposed CPF. It is also noted that the landscape depicted in Figure 1-3 is not reflective of the actual landscape surrounding the CPF site.

Infrastructure associated with the Proposal to be located outside the CPF (i.e. gas production wells, pipeline infrastructure and hub sites) is either proposed to be buried or is of a small scale relative to the surrounding landscape. The risk of impacts to visual amenity as a result of this infrastructure is anticipated to be low, and therefore is not considered in this VIA.

1.3. Purpose and Scope of this Document

The aim of this VIA is to determine, review and assess the likely visual impact of the proposed development on the existing views from the surrounding landscape, with particular consideration of sensitive receptors and key viewing locations identified by MinRes through stakeholder consultation and a desktop assessment. Specifically, this report:

- Identifies and maps the proposed development design and layout within the CPF (Section 1.3)
- Identifies the existing visual landscape characteristics of the site and surrounds (prior to development) (Section 2)

- Assesses the visual impact of the proposed development from identified key locations, through viewshed and viewpoint analyses (Section 4)

This evaluation of landscape and visual impacts associated with the Proposal will inform an assessment of significance of impacts against the Environmental Protection Authority's objective for the Social Surroundings factor 'to protect social surroundings from significant harm' (EPA 2023).

1.4. Regulatory Context and Published Guidance

The following regulatory and guidance documents were consulted to inform the scope and methodology of this VIA:

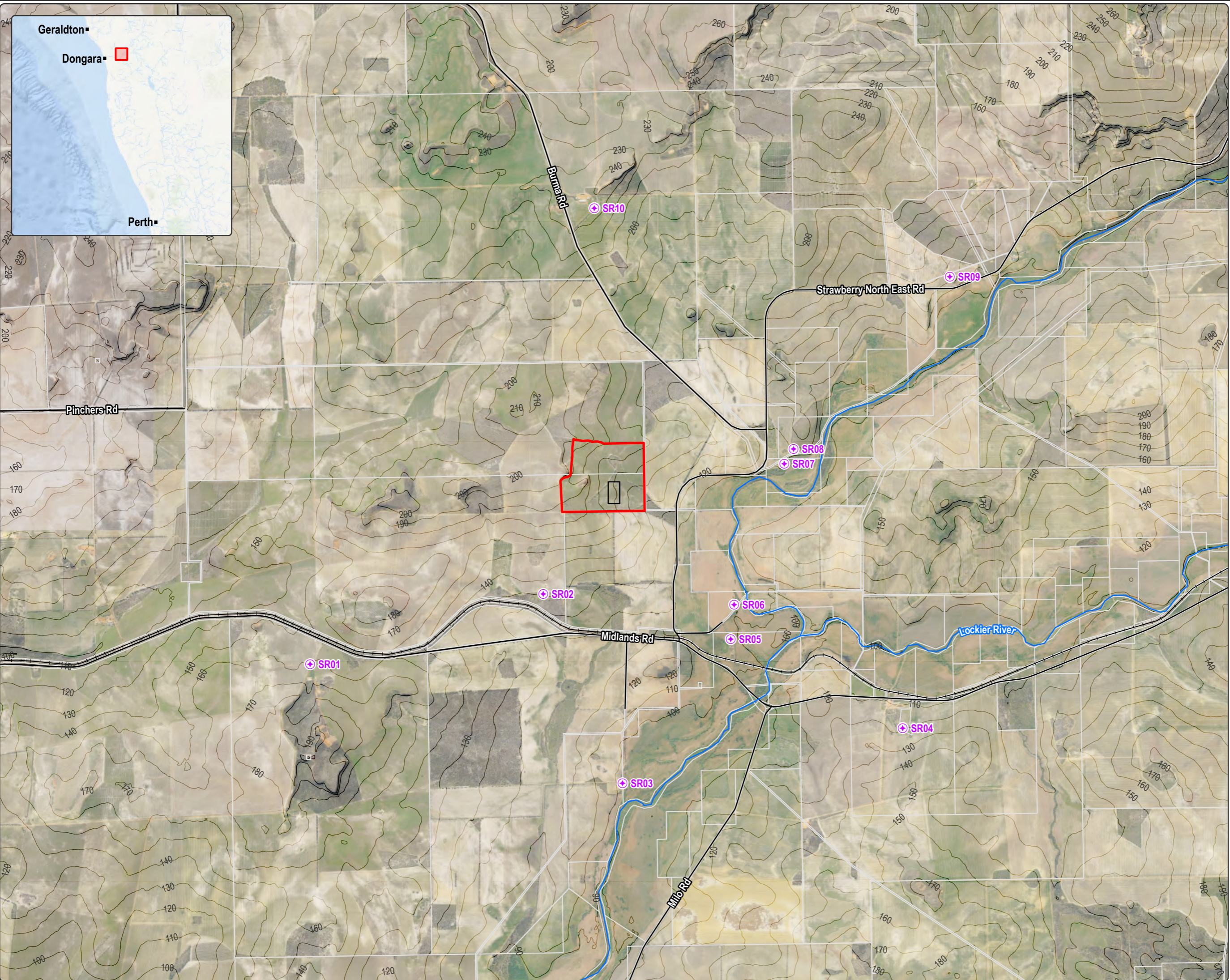
- State Planning Policy No. 2: Environment and Natural Resource Policy for Western Australia (WAPC 2003)
- Visual Landscape Planning in Western Australia: A manual for evaluation, assessment, siting and design (WAPC 2007)
- Environmental Factor Guidelines: Social Surroundings (EPA 2023).

1.5. Stakeholder Consultation

MinRes is actively engaging with major stakeholders with regard to the Lockyer project, including the Shire of Mingenew, the Shire of Irwin, the Southern Yamatji people (Traditional Land Owners), affected land holders, and relevant regulatory agencies. Stakeholders have been provided with all publicly available information and will be updated regularly at key points of the project's development and preliminary works.

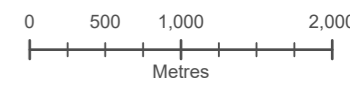
The CPF site crosses three privately owned agricultural properties. MinRes has been engaging in regular consultation with these and other nearby land holders, with the objective to continue open dialogue with property owners and managers. MinRes has held a number of community forums to discuss the project, providing a summary of the proposed works and understand any needs or concerns of the local community.

The figures and information contained in this VIA may be used as a tool for ongoing community engagement. Development within the CPF will also be subject to a Development Approval from the State Development Assessment Unit, and is expected to be advertised for public comment.



- Legend**
- ⊕ Sensitive receptor
 - Road
 - +— Railway
 - ~ Watercourse
 - ▭ Cadastre
 - ~ Contours 10-meter interval (mAHD)
 - ▭ CPF plant boundary
 - ▭ Site boundary

Figure 1-1: Regional Location of the CPF



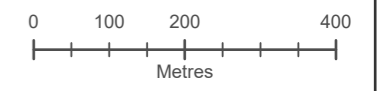
Datum/Projection:
GDA2020 MGA Zone 50
600-23PER5100 Date: 22/11/2023



- Legend**
- Road
 - ~ Contours 10-meter interval (mAHD)
 - ▭ Cadastre
 - ▭ CPF plant boundary
 - ▭ Site boundary



Figure 1-2: Conceptual Layout of the CPF - Overview



Datum/Projection:
GDA2020 MGA Zone 50
600-23PER5100 Date: 22/11/2023

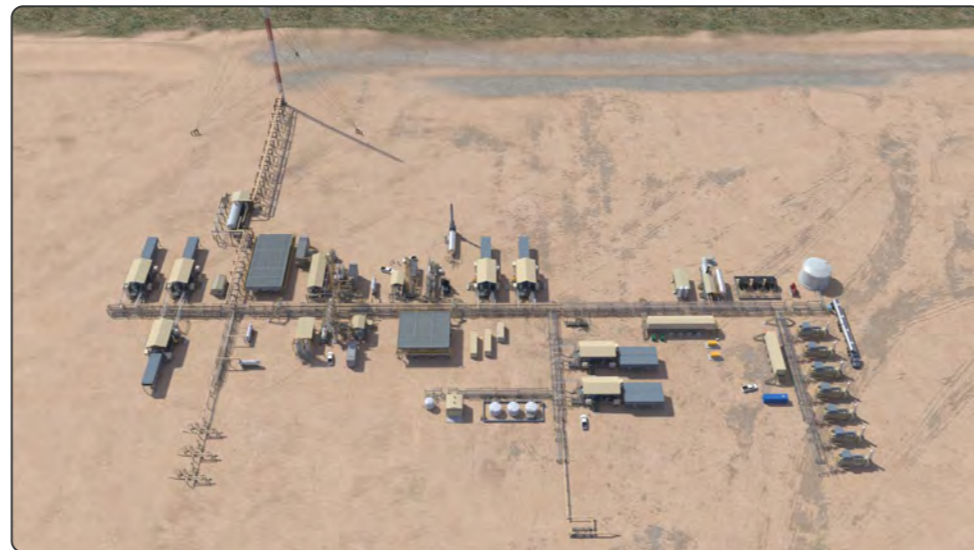


Figure 1-3: Conceptual Layout of the CPF - Detailed

2. Existing Landscape Character

This section describes the visual landscape character of the CPF site and surrounds, including land use, patterns of vegetation and topography.

2.1. Site Context and Land Use

The CPF site is located approximately 25 km east of the Dongara town site and 15 km west of the Mingenew town site. Surrounding land is typical of the north wheatbelt, with broadacre agriculture with a mixture of cropping and grazing interspersed with small and generally isolated stands of remnant vegetation (Figure 2-1 and Figure 2-2). Residential houses are sparsely distributed within the surrounding landscape.

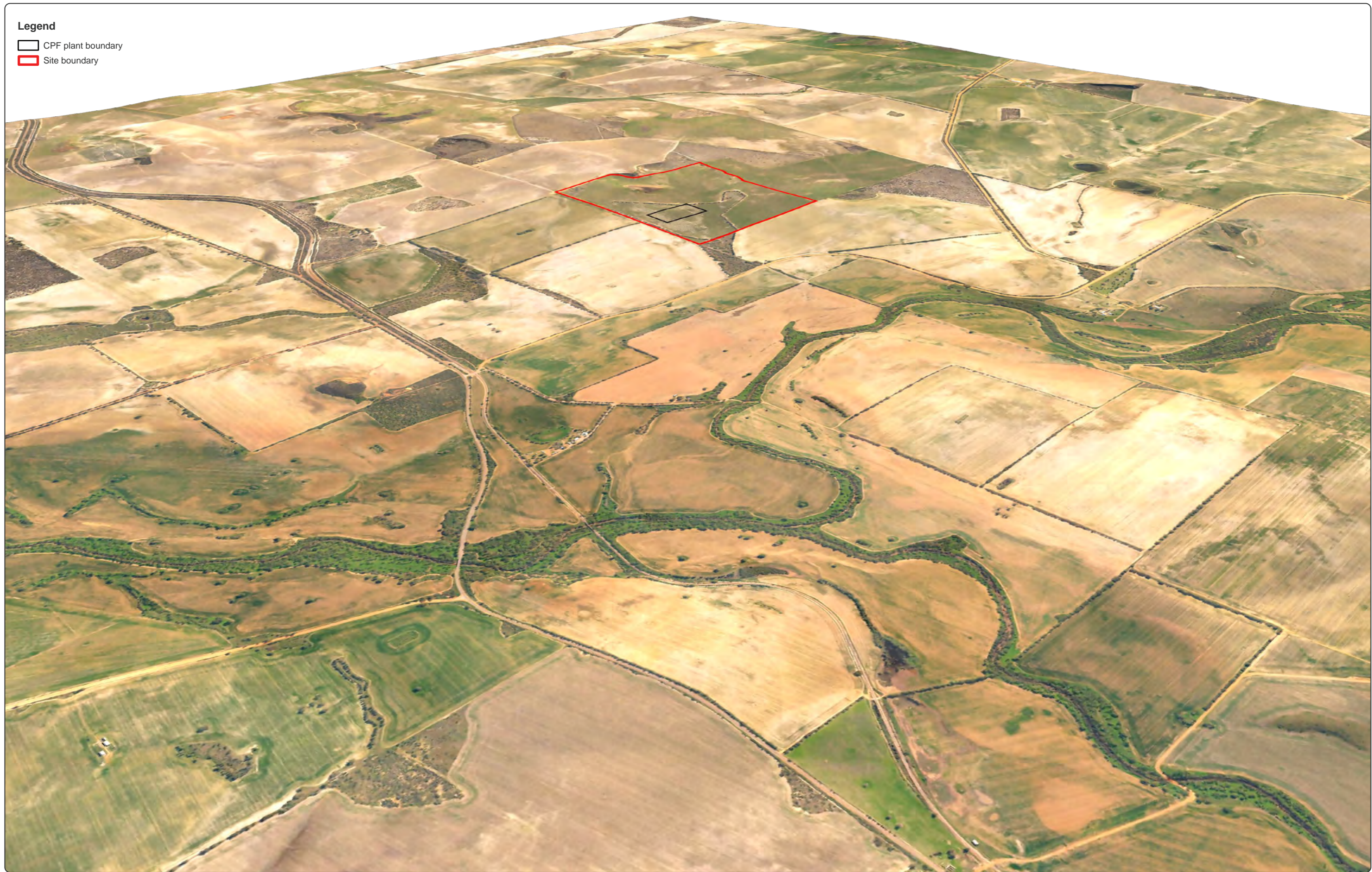
The Interim-Biogeographic Regionalisation for Australia (IBRA) divides Australia into 89 biogeographic regions and 419 subregions based on dominant landscape characteristics of climate, lithology, geology, landform and vegetation (DCCEEW 2022). The CPF is located within the Geraldton Hills subregion of the Geraldton Sandplains bioregion. The Geraldton Hills subregion is characterised by sand heaths of Banksia and Cypresses, York Gum on alluvial plains (NARvis 2021).

The CPF and surroundings are within a landscape that has largely been cleared for agricultural purposes (pastoral and cropping) (JBS&G 2023). These areas are intersected by public roads, private tracks and a freight railway corridor. The average size of the lots within 5 km of the proposed development is 118 ha, with the majority of lots greater than 10 ha in size. There are no National Parks, nature reserves or Environmentally Sensitive Areas identified within 8 km of the proposed development.

The main sealed road in proximity to the CPF is Midlands Road, which runs east-west approximately 1.7 km to the south. All other roads/tracks in proximity to the CPF are unsealed minor roads or access tracks.

Within the Shire of Irwin, the land surrounding the proposed development is entirely zoned as General Farming land (DPLH 2023a). Within the Shire of Mingenew, surrounding land is almost entirely zoned as Rural (DPLH 2023b). There is one 47 ha area approximately 6 km south east of the proposed development that is zoned as a Local Scheme Reserve for Public Purposes.

The rural landscape is typified by clearing of native vegetation and its replacement by pasture grasses or crops. Clearing patterns vary, with some areas of regularity reinforced by windbreaks and shelter planting, while the river stream and tracks introduce 'organic' forms and lines (Figure 2-1 and Figure 2-2). Irrigation for crops and grazing introduces colour variation throughout the area.



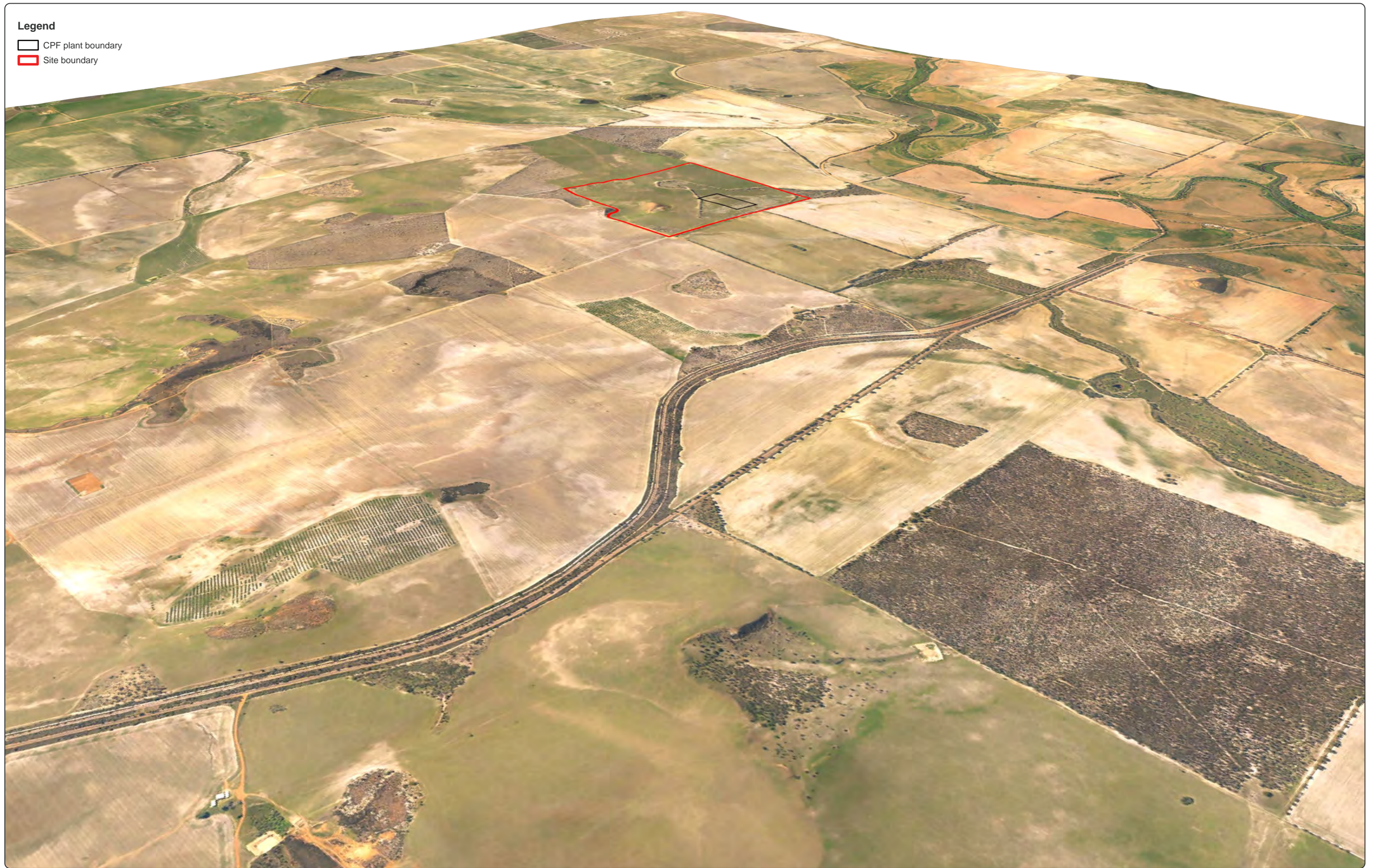
Legend

- CPF plant boundary
- Site boundary

Figure 2-1: Oblique Aerial View of the CPF Site from the South-East

Lockyer Conventional Gas Development
Visual Impact Assessment
600-23PER5100 Date: 18/12/2023

323594_01_GRA003.a_1 | 600-23PER5100_01_F011_GRA



Legend

- ☐ CPF plant boundary
- ☐ Site boundary

Figure 2-2: Oblique Aerial View of the CPF from the South-West

Lockyer Conventional Gas Development
Visual Impact Assessment
600-23PER5100 Date: 18/12/2023

323594_01_GRA003.ai_1 | 600-23PER5100_01_F010_GRA

2.2. Topography and Soil Landscape Systems

The CPF has deliberately been located within a small valley, sloping down to the east towards the Irwin River (Figure 2-1, Figure 2-2 and Figure 2-3). A major ridgeline extends along the western side of the site boundary, with two spurs enveloping the CPF site to the north and south. The landscape is generally undulating, with a number of localised rocky sandstone outcrops to the north-west and west of the CPF site representing distinctive features of the landscape.

The CPF and surrounding area (i.e. within 5 km) is characterised by the following soil landscape systems (DPIRD 2022):

- **Mount Horner System:** Long gentle slopes broken by low gravel ridges and broad open depressions. Some lateritic breakaways with spillway sands
- **Mount Horner Casuarina Subsystem:** Level to gently undulating sandplain; Yellow deep sand and sand over gravel, some pale deep sands, yellow sandy earths and sandy gravels
- **Mount Horner Allanooka Subsystem:** Level to very gently inclined drainage depressions at low positions in the landscape; Grey deep sandy duplexes and pale deep sands
- **Mount Horner Munja Subsystem:** Dissected margin of sandplain, gently inclined long slopes with low gravel ridges and spillway sands below lateritic breakaways
- **Irwin 2 Subsystem:** Level alluvial flats with sandy and loamy duplex soils.

2.3. Surface Geology

The CPF and surrounding area intersects four geological formations (Phoenix 2023; Table 2-1).

Table 2-1: Surface Geology Surrounding the CPF (DMIRS 2023)

Surface Geology	Description
Sand plain 38499	Sand or gravel plains; quartz sand sheets commonly with ferruginous pisoliths or pebbles, minor clay; local calcrete, laterite, silcrete, silt, clay, alluvium, colluvium, aeolian sand
Colluvium 38491	Colluvium, sheetwash, talus; gravel piedmonts and aprons over and around bedrock; clay-silt-sand with sheet and nodular kankar; alluvial and aeolian sand-silt-gravel in depressions and broad valleys in Canning Basin; local calcrete, reworked laterite
Alluvium 38485	Channel and flood plain alluvium; gravel, sand, silt, clay, locally calcreted
Yarragadee formation	Variegated sandstone, feldspathic sandstone, siltstone, shale, conglomerate, coal

2.4. Landscape Character Type

Reading the Remote: Landscape Characters of Western Australia (Reading the Remote) (CALM et al. 1994) provides a regional assessment of the varied and unique landscapes in Western Australia and is a common means of determining the broad landscape character classifications that may be applicable at a regional level. The Landscape Character Type (LCT) identified for the site is the Geraldton Plain, a sub-type of the Wheatbelt Plateau. The Geraldton Plain is a varied landscape, with defining features including the rocky coastline, shrub covered dunes, undulating low hills, open alluvial flats, and steep flat-topped ranges in the east.

The landscape of the CPF and surroundings is consistent with the Geraldton Plains description, characterised by low, undulating hills and scattered flat-topped ranges (Figure 2-3).

2.5. Hydrology

The CPF is within the Greenough Drainage Basin, which is drained by the Chapman, Greenough and Irwin rivers. The basin covers an area of about 1.9 million hectares and over 90% is agricultural land (DPIRD 2005). The CPF is located within the Irwin River catchment, which covers a total area of 6,071 km². The nearest watercourse to the CPF is the Irwin River, approximately 1.3 km to the east. The river channel forms vegetated and organic forms and lines in the landscape.

2.6. Vegetation

Whilst the CPF is located within a heavily cleared and modified agricultural landscape, remnant vegetation stands do remain within paddocks and along roadsides, along with shelter-belts of planted trees. Three broad vegetation units (Beard 1976) occur within the CPF site and surrounding area (i.e. within 5 km):

- **Irwin 352:** Medium woodland; York Gum
- **Tathra 379:** Shrublands; scrub-heath on lateritic sandplain in the central Geraldton Sandplain Region: Mixed heath with scattered tall shrubs *Acacia* spp., Proteaceae and Myrtaceae
- **Tathra 49:** Shrublands; mixed heath: Low shrubs of mixed composition

A vegetation assessment of remnant vegetation within the CPF site and selected surroundings broadly characterised the vegetation as open woodland, open forest, shrublands and grasslands, and identified the following vegetation types (JBS&G 2023):

- *Eucalyptus camaldulensis*, *Casuarina obesa* mid open forest on silty clay loam of the Lockier River
- *Eucalyptus camaldulensis* woodland to open forest on sandy clay loam of the floodplain of the Lockier River
- Samphire shrubland on silty clay loam in minor drainage lines and depressions
- *Allocasuarina huegeliana* low open woodland on sandy clay to sandy slopes and plains
- *Acacia acuminata* tall open shrubland on sandy plains
- *Allocasuarina campestris* tall shrubland on sandy clay to sandy plains
- *Allocasuarina campestris* tall sparse shrubland on gravelly sandy clay loam on laterite/sandstone hills
- *Banksia attenuate*, *B. prionotes* tall, isolated clumps of shrubs on sandy slopes
- *Banksia sessilis* tall, isolated clumps of shrubs to open shrubland on sandy plains and slopes
- *Hakea lissocarpha*, *Melaleuca ?marginata* mid isolated clumps of shrubs on sandy clay slopes with sandstone outcropping
- *Hakea auriculata* low sparse shrubland on clayey sand on lateritic hill tops and slopes
- Planted *Eucalyptus camaldulensis* over planted shrubs of *Callistemon phoeniceus*
- Plantation of **Chamaecytisus palmensis* and *Eucalyptus camaldulensis* on sandy slopes
- *Austrostipa nunaginensis* (P3), **Bromus diandrus*, *Avena barbata* low grassland on sandy slopes.

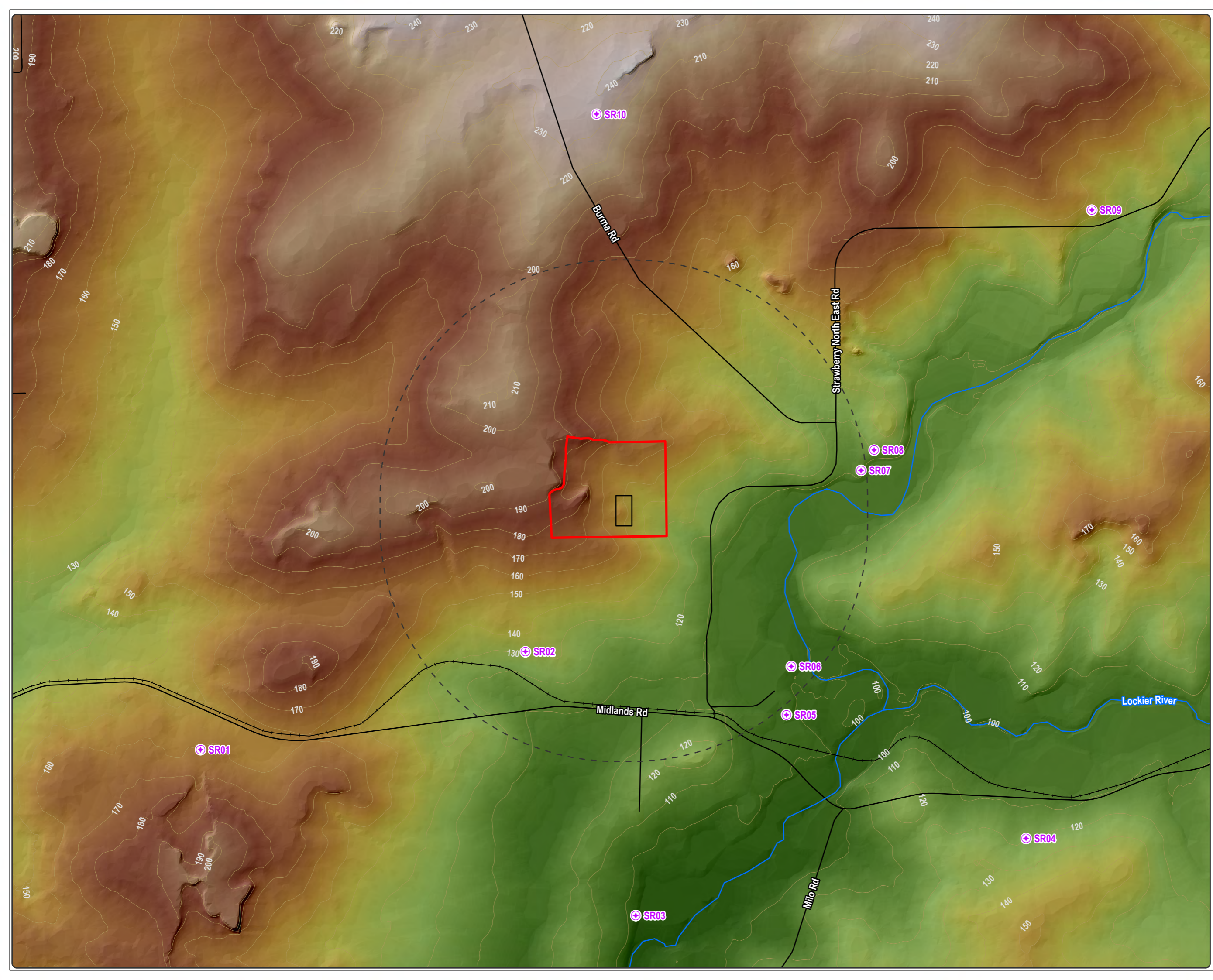
- Legend**
- Sensitive receptor
 - Road
 - Railway
 - Watercourse
- Lockyer DEM (mAHD)**
- 248
 - 92
- Distance from CPF plant boundary**
- 2.5 km
 - CPF plant boundary
 - Site boundary

**Figure 2-3
CPF surrounds
Digital Elevation
Model (DEM)**

0 200 400 800
Metres

Datum/Projection:
GDA2020 MGA Zone 50

600-23PER5100 Date: 19/12/2023



3. Sensitive Receptors

An important aspect in assessing the visual impact of the proposed development is to consider how the landscape is viewed and valued (WAPC 2007). The CPF site occurs in a rural area, with limited public access. Midlands Road is the only sealed main road in proximity to the CPF, from where the public may be able to view infrastructure. This a major road in the Midwest Region, beginning at Gunyidi and continuing north/north-west to Mingenew and west towards Dongara, terminating at Brand Highway. As such, the CPF may be viewed by people travelling along this road between Mingenew and Dongara. There are no designated scenic viewpoints surrounding the CPF site which may be used by travellers in the area, nor are there any recreational land uses in the vicinity. Midlands Road forms a section of the ‘Exploring Wildflower Country - Midlands Route’: a triangular, self-guided wildflower route bound by Coorow, Mullewa and Geraldton (Wildflower Country 2023). The route follows Midlands Road from Coorow through to Mingenew, north of which it follows other main and local roads. As such, the section of Midlands Road in proximity to the CPF does not form part of this tourist route.

The remaining roads surrounding the CPF are local, unsealed roads, with use likely to be restricted predominantly to people accessing the surrounding residences/farming properties. The Shire of Mingenew’s Local Planning Scheme identifies objectives for Rural zoned areas, including ‘to provide for the maintenance or enhancement of specific local character’ (DPLH 2023b). Similarly, the Shire of Irwin’s Local Planning Scheme identifies objectives for General Farming zoned areas, including ‘to ensure the preservation of the rural character and rural appearance of the land within the zone’ (DPLH 2023a).

Local residents are assumed to be the most concerned about the visual amenity of the area, given their daily interaction with the landscape. Ten local residences/farming properties (sensitive receptors) have been identified within approximately 5 km of the CPF (Table 3-1).

Table 3-1: Sensitive Receptors Identified in Proximity to the CPF Site

Sensitive Receptor Number	Description	Distance from CPF
SR01	Shed South of Midlands Rd	4.3 km SW
SR02	Occupied residence North of Midlands Rd	1.2 km S
SR03	Occupied residence South of Midlands Rd	4.0 km S
SR04	Occupied residence South of Midlands Rd	5.0 km SE
SR05	Occupied residence North of Midlands Rd	2.3 km SE
SR06	Shed/derelect house East of Strawberry NE Rd	1.9 km SE
SR07	Shed East of Strawberry NE Rd	2.0 km E
SR08	Unoccupied residence East of Strawberry NE Rd	2.2 km E
SR09	Occupied residence North of Strawberry NE Rd	5.1 km NE
SR10	Occupied residence East of Burma Rd	3.5 km N

4. Visual Impact Assessment

Two methods for modelling and depicting visual impacts at a landscape scale have been used to inform the assessment of impacts to visual amenity likely to result from development within the CPF.

Firstly, the viewshed has been mapped from the point of view of the CPF development itself to assess all locations from which the CPF may be viewed. The methodology and results of this viewshed analysis are presented in Section 4.1.

Secondly, a viewpoint analysis has been undertaken from selected viewing locations corresponding to sensitive receptors and public roads to model the potential views of the CPF development. The methodology and results of this viewpoint analysis are presented in Section 4.2.

4.1. Viewshed Analysis

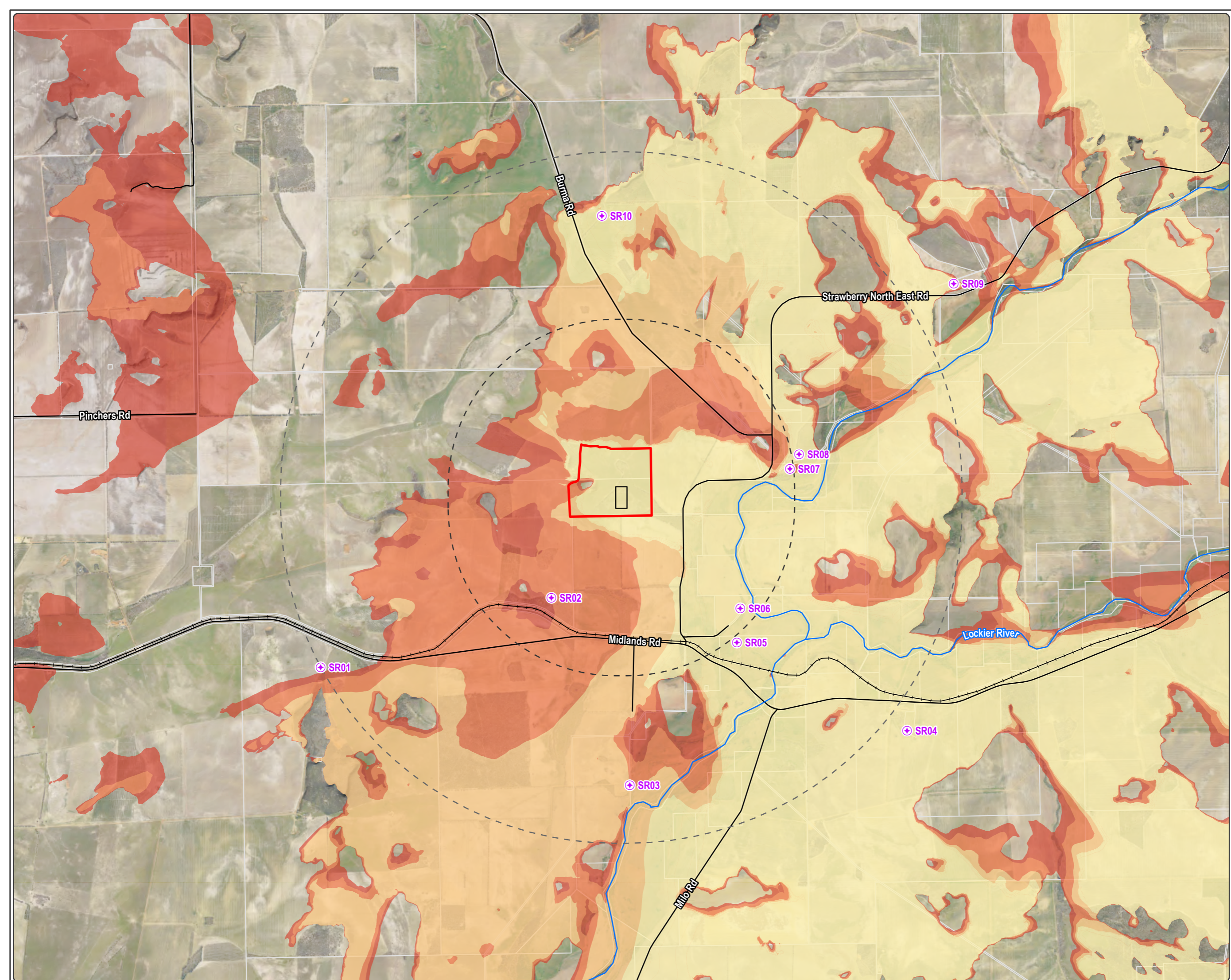
A viewshed analysis was performed using a 3-dimensional digital elevation model (DEM) for the site and visualisation software (3DS Max) to determine which locations within the vicinity of the CPF site would have potential views of the site and to determine the viewshed or 'seen area' of key infrastructure to be located within the CFP, based on proposed maximum heights. A viewshed or 'seen area' is defined as *'a portion of the landscape that can be seen from one or more observer positions. The extent of the area that can be viewed is normally limited by landform, vegetation and distance'* (WAPC 2007).

Sensitive receptors were overlaid with the viewshed to determine whether these locations would have a view of the proposed development. The outcomes of the viewshed analysis for key infrastructure components are shown in Figure 4-1.

The HP/LP flare (height 69.7 m) and thermal oxidiser (height 39.6 m) will be at least partly visible from nine of the ten identified sensitive receptors. Part or all of the amine contractor tower, amine regeneration system and still column tank (height 18 m) will be visible from eight of the ten sensitive receptors. Other CPF infrastructure (average height 5 m) will be visible to varying degrees from seven of the ten sensitive receptors.

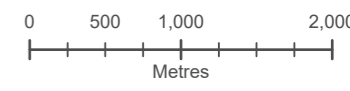
It is noted that vegetation has not been considered in the viewshed analysis and is likely to play a role at a local scale in decreasing the 'seen area.'

Given the fact that infrastructure is likely to be viewed to varying degrees from a number of sensitive receptors and surrounding public roads, further analysis has been completed to assess the extent and nature of visual impacts at various locations within the landscape. Viewpoint analysis is described in the following section.



- Legend**
- ⊕ Sensitive receptor
 - Road
 - +— Railway
 - Watercourse
 - Distance from CPF plant boundary**
 - ⋯ 2.5 km
 - ⋯ 5 km
 - ▭ CPF plant boundary
 - ▭ Site boundary
 - ▭ Cadastre
 - Visibility analysis**
 - ☀ CPF plant boundary visibility (average height 5m)
 - ☀ Amine contactor tower, amine regeneration system and still column tank visibility (height 18m)
 - ☀ Thermal oxidiser visibility (height 40m)
 - ☀ HP/LP flare visibility (height 70m)

Figure 4-1: Viewshed Analysis Results



Datum/Projection:
GDA2020 MGA Zone 50
600-23PER5100 Date: 22/11/2023

4.2. Viewpoint Analysis

Based on the identified sensitive receptors, viewpoints were selected at various locations within approximately 4 km of the site, generally selected to coincide with worst case scenarios including hillcrests or gaps in roadside vegetation. To best capture potential views from the sensitive receptors, photos were taken from the nearest public road to the residences. Photos were taken at each of the viewpoint locations in the direction of the proposed CPF. Using 3-dimensional terral modelling and visualisation software (3DS Max), these photos were overlaid with the location and indicative maximum height of the CPF infrastructure to demonstrate infrastructure visibility from the various viewpoints.

Each viewpoint location and montages of CPF infrastructure is shown in Figure 4-2 to Figure 4-10.

It is noted that apart from key infrastructure at heights of 69.7 m (flare), 39.6 m (thermal oxidiser) and 18 m (amine contractor tower, amine regeneration system and still column tank), other CPF infrastructure has been modelled and displayed in the viewpoint analysis figures a 5 m high rectangular block. This provides an average of the height of the majority of the facility (not including the tall towers shown separately). In reality, this infrastructure will not be a solid block, and therefore likely visibility has been conservatively over estimated in this analysis.

It is also noted that the viewpoint figures show the proposed infrastructure in a dark coloured model which has modelled the worst-case scenario regarding width and height of the various towers. In reality, these towers are likely to be shorter, narrower and a lighter colour (such as silver). Therefore, likely visibility has been conservatively over estimated in this analysis.

Table 4-1 provides a summary of the likely visibility of the proposed development from each of the viewpoints.

Table 4-1: Likely Visibility of the CPF Infrastructure at Selected Locations

Viewpoint Location	Viewpoint Distance from CPF	Summary of Likely Impacts
Strawberry NE Road Viewpoint 1 (Figure 4-2)	2 km	The flare and thermal oxidiser are likely to be visible from this location. Other infrastructure is not likely to be visible as it lies below the tree line.
Strawberry NE Road Viewpoint 2 (Figure 4-3)	0.85 km	The flare and thermal oxidiser are likely to be partially visible from this location above the tree line. The bulk of the CPF is not likely to be visible as it lies below the tree line. This is the closest modelled viewpoint to the CPF.
Strawberry NE Road Viewpoint 3 (Figure 4-4)	1 km	The flare and thermal oxidiser are likely to be visible from this location. Other CPF infrastructure is likely to be partially visible, although it is largely obscured by vegetation or sits in front of the ridgeline, lessening the visual impact.
Strawberry NE Road Viewpoint 4 (Figure 4-5)	2.25 km	This viewpoint is located on the nearest public road to two residences, SR07 and SR08. The flare is likely to be partially visible from this location, with the top protruding above the ridgeline to the northeast of the CPF site. No other CPF infrastructure is likely to be visible above the ridge.

Viewpoint Location	Viewpoint Distance from CPF	Summary of Likely Impacts
Burma Road Viewpoint 1 (Figure 4-6)	3 km	<p>Views of the CPF from Burma Road are largely shielded by the spur that extends along the northern boundary of the site (Figure 2-3).</p> <p>The flare and thermal oxidiser are likely to be partially visible from this location. The thermal oxidiser sits in front of the ridgeline in the horizon, reducing the visual impact. The remainder of the CPF infrastructure is not likely to be visible as it sits within the valley of the undulating surrounding hills, behind the intermediate ridgeline.</p>
Burma Road Viewpoint 2 (Figure 4-7)	3.75 km	<p>This viewpoint is located on the nearest public road to a residence on Burma Road, SR10. Views of the CPF from Burma Road are largely shielded by the spur that extends along the northern boundary of the site (Figure 2-3).</p> <p>The flare and thermal oxidiser are likely to be partially visible from this location. Each of these towers sit in front of the ridgeline in the horizon, reducing the visual impact of these features as they do not extend above the skyline. The remainder of the CPF infrastructure is not likely to be visible as it sits within the valley of the undulating surrounding hills, behind the intermediate ridgeline.</p>
Midlands Road Viewpoint 1 (Figure 4-8)	2 km	<p>Views of the CPF from Midlands Road are largely shielded by the spur that extends along the southern boundary of the site (Figure 2-3).</p> <p>The flare is likely to be partially visible from this location but is mostly obscured by roadside vegetation. The thermal oxidiser and other infrastructure sit behind the ridge/tree line and are unlikely to be visible.</p>
Midlands Road Viewpoint 2 (Figure 4-9)	2 km	<p>This viewpoint is located on the nearest public road to a residence on Midlands Rd, SR02. Views of the CPF from Midlands Road are largely shielded by the spur that extends along the southern boundary of the site (Figure 2-3).</p> <p>The flare is likely to be partially visible from this location but is mostly obscured by roadside vegetation. The thermal oxidiser and other infrastructure sit behind the ridge/tree line and are unlikely to be visible.</p>
Midlands Road Viewpoint 3 (Figure 4-10)	2.5 km	<p>Views of the CPF from Midlands Road are largely shielded by the spur that extends along the southern boundary of the site (Figure 2-3).</p> <p>The flare is likely to be partially visible from this location. The thermal oxidiser and other infrastructure sit behind the ridge/tree line and are unlikely to be visible.</p>

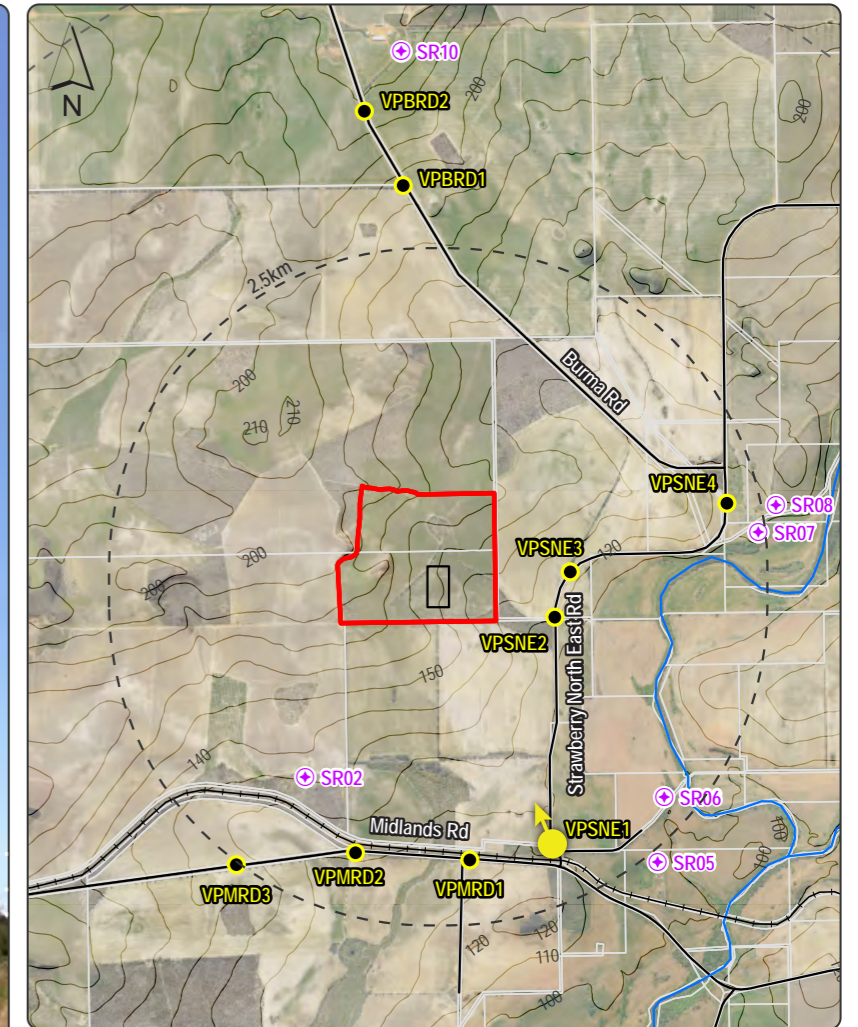


69.7m
39.6m
18m

Thermal oxidizer
(39.6m)

Flare
(69.7m)

┌──────────────────┐
CPF Plant extent
(Average 5m height of infrastructure)



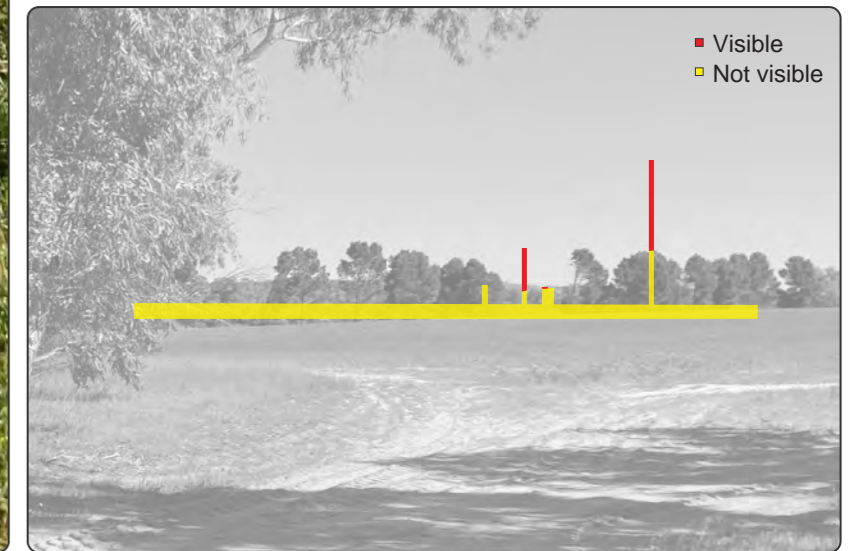
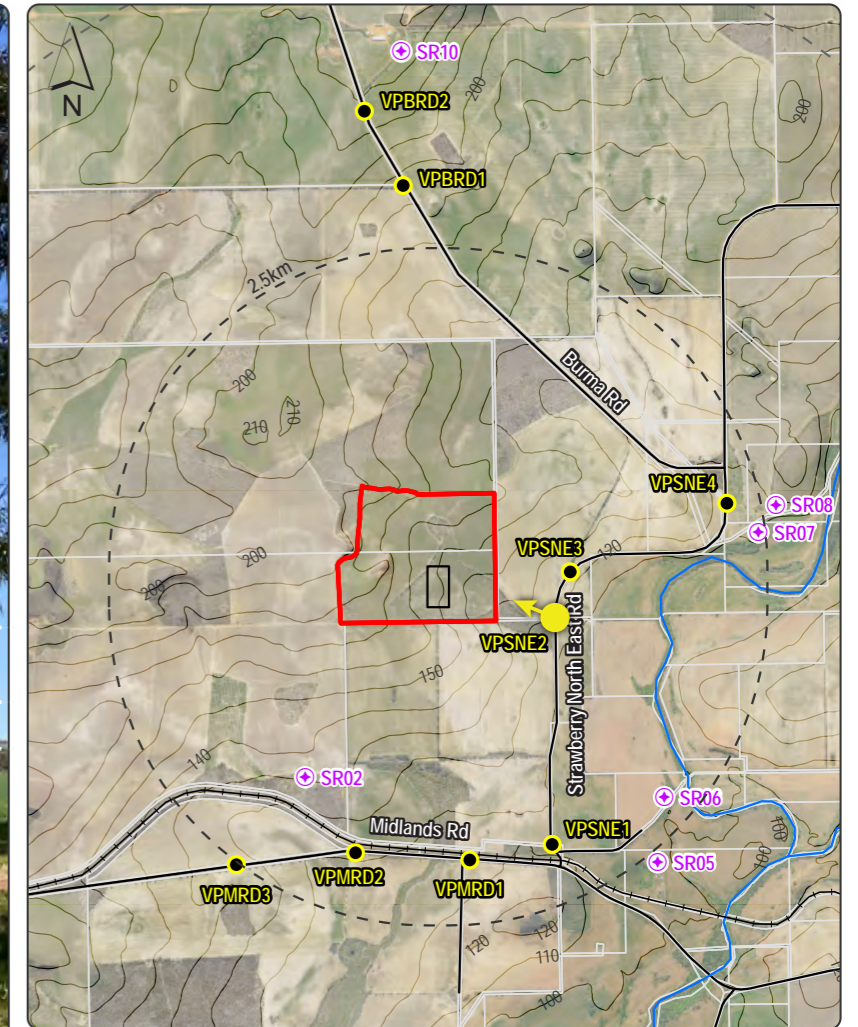
**Figure 4-2: Indicative CPF Plant visibility
Strawberry NE Road Viewpoint 1 (2km from CPF)**



69.7m
 39.6m
 18m

Thermal Flare oxidizer (69.7m)
 (39.6m)

CPF Plant extent
 (Average 5m height of infrastructure)



**Figure 4-3: Indicative CPF Plant visibility
 Strawberry NE Road Viewpoint 2 (850m from CPF)**



Flare (69.7m)
Thermal oxidizer (39.6m)

CPF Plant extent
(Average 5m height of infrastructure)

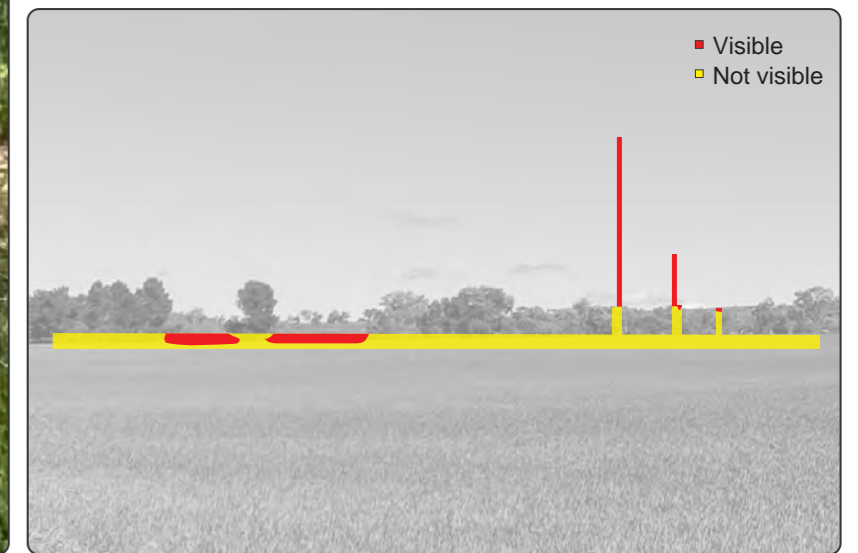
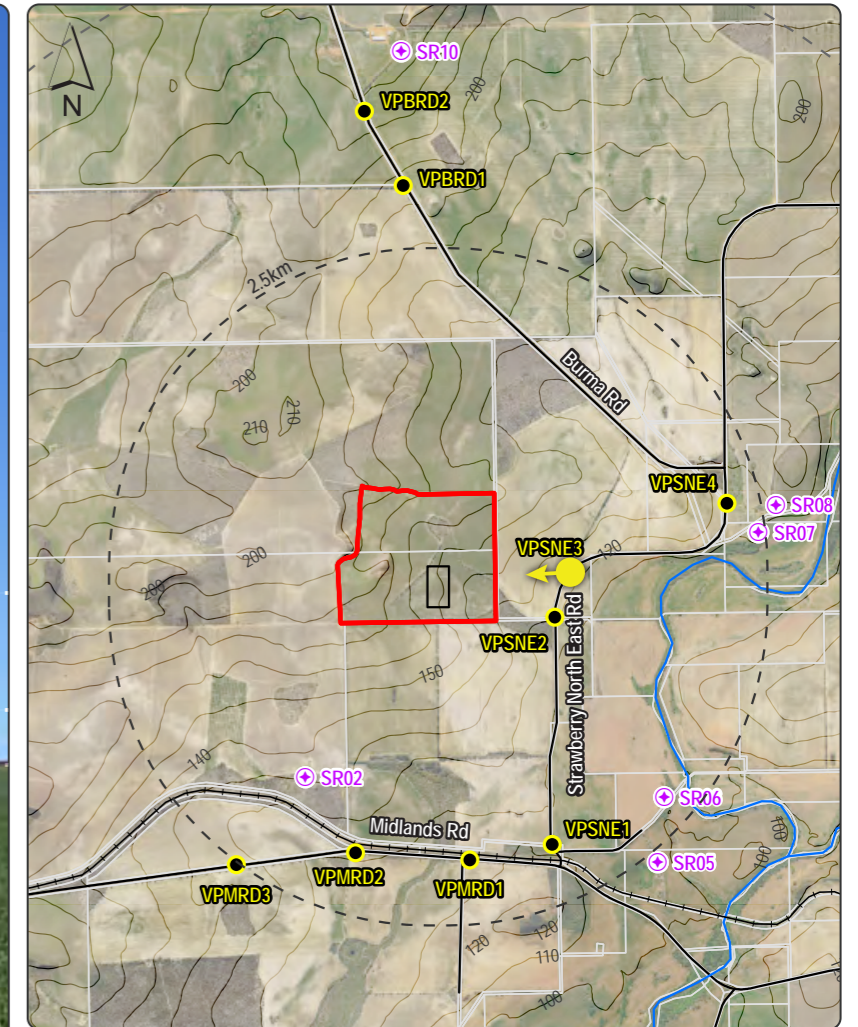


Figure 4-4: Indicative CPF Plant visibility
Strawberry NE Road Viewpoint 3 (1km from CPF)



69.7m
39.6m
18m

Flare
(69.7m)

CPF Plant extent
(Average 5m height of infrastructure)

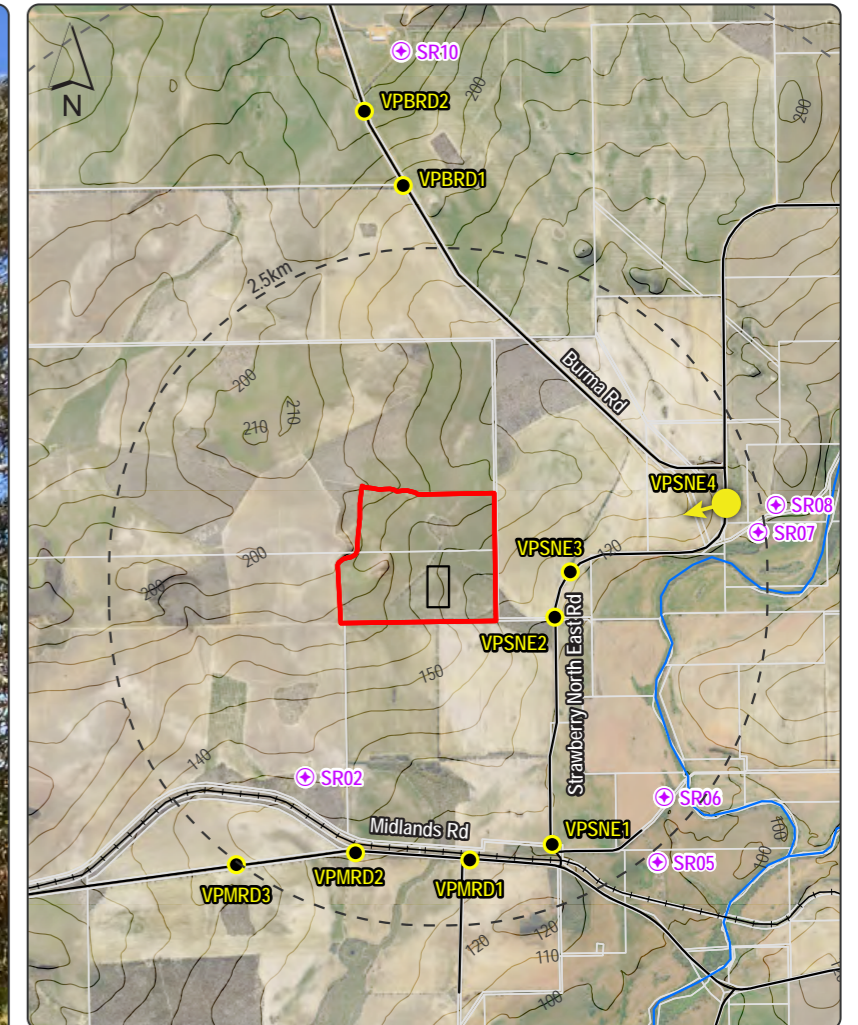


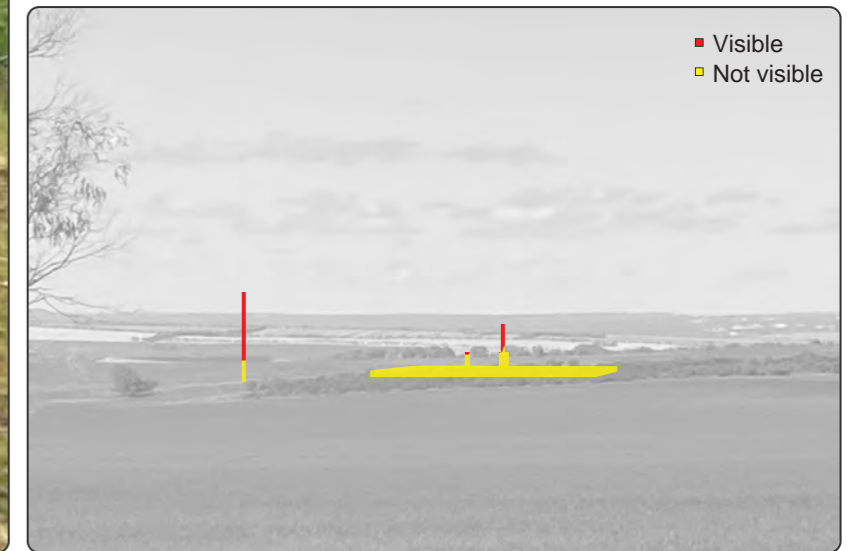
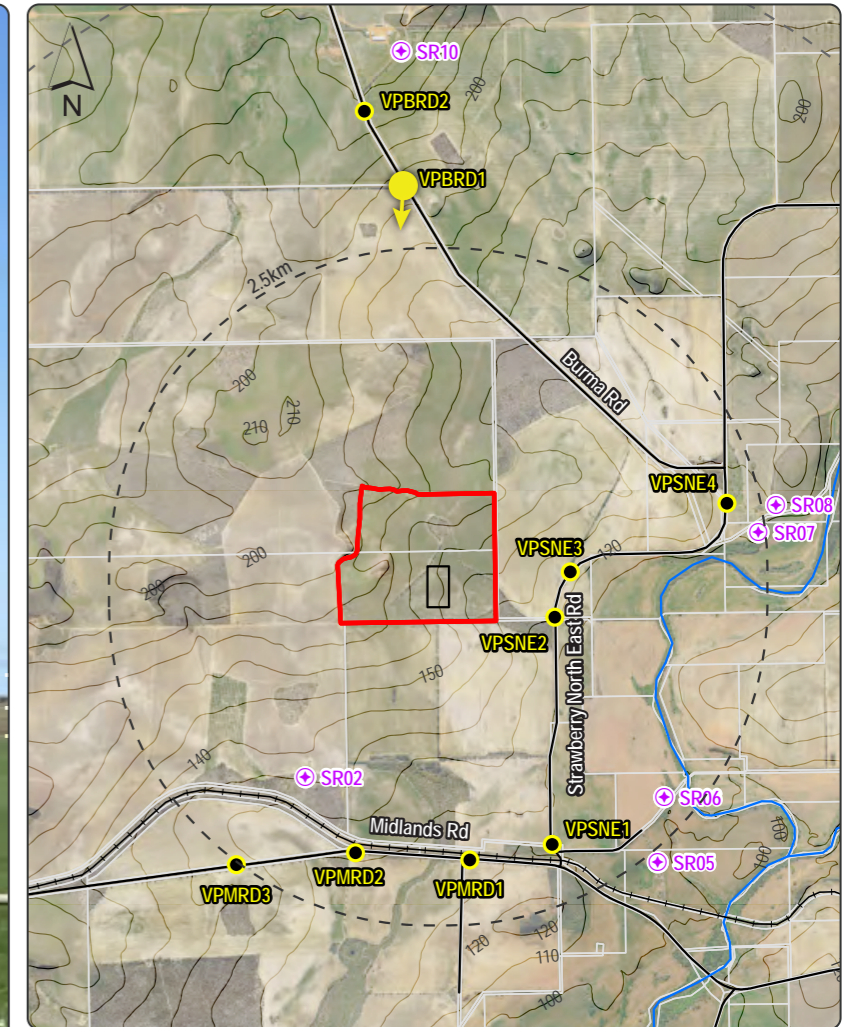
Figure 4-5: Indicative CPF Plant visibility Strawberry NE Road Viewpoint 4 (2.25km from CPF)



Flare
(69.7m)

Thermal
oxidizer
(39.6m)

CPF Plant extent
(Average 5m height of infrastructure)

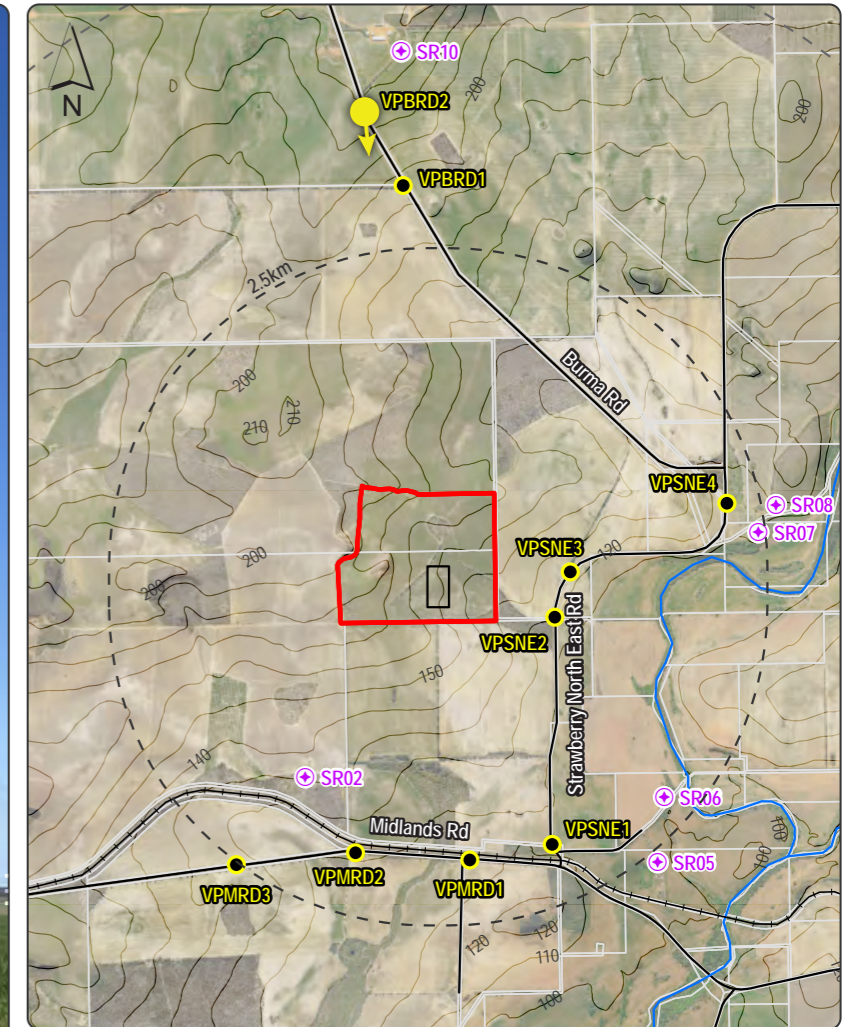


**Figure 4-6: Indicative CPF Plant visibility
Burma Road Viewpoint 1 (3km from CPF)**



Flare (69.7m)
Thermal oxidizer (39.6m)

CPF Plant extent
(Average 5m height of infrastructure)

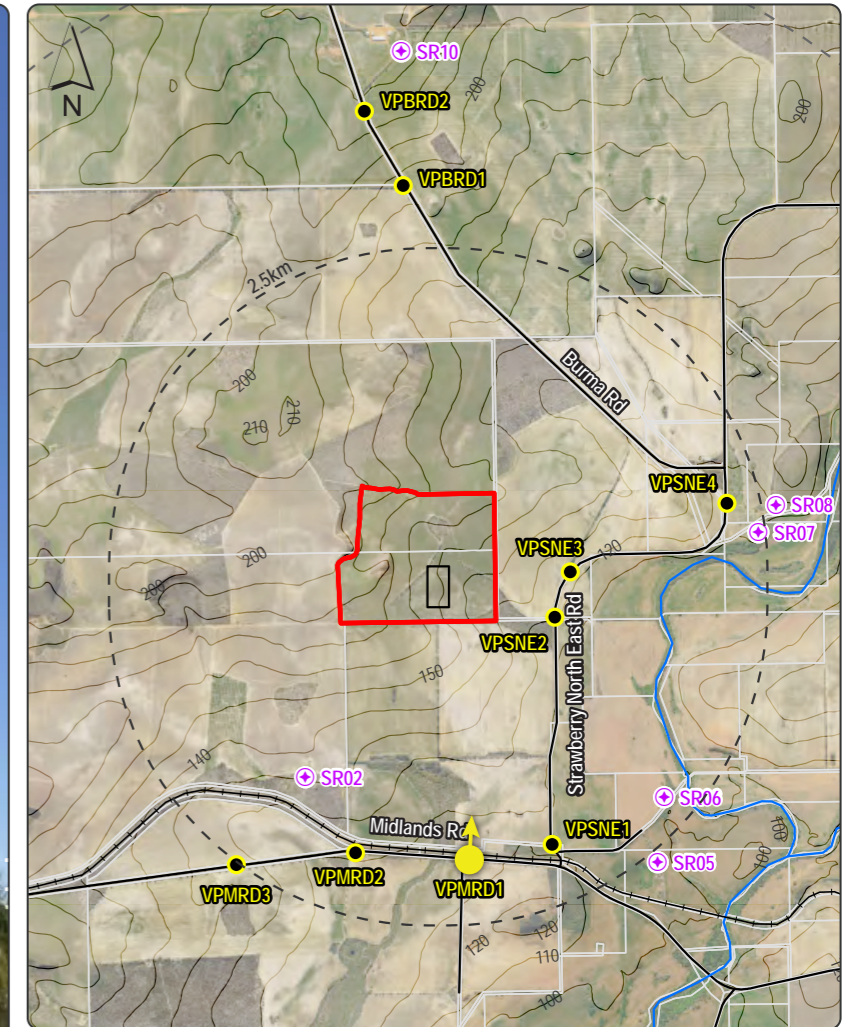


**Figure 4-7: Indicative CPF Plant visibility
Burma Road Viewpoint 2 (3.75km from CPF)**



Thermal oxidizer (39.6m) Flare (69.7m)

CPF Plant extent
(Average 5m height of infrastructure)



**Figure 4-8: Indicative CPF Plant visibility
Midlands Road Viewpoint 1 (2km from CPF)**



Thermal oxidizer (39.6m) Flare (69.7m)

CPF Plant extent (Average 5m height of infrastructure)

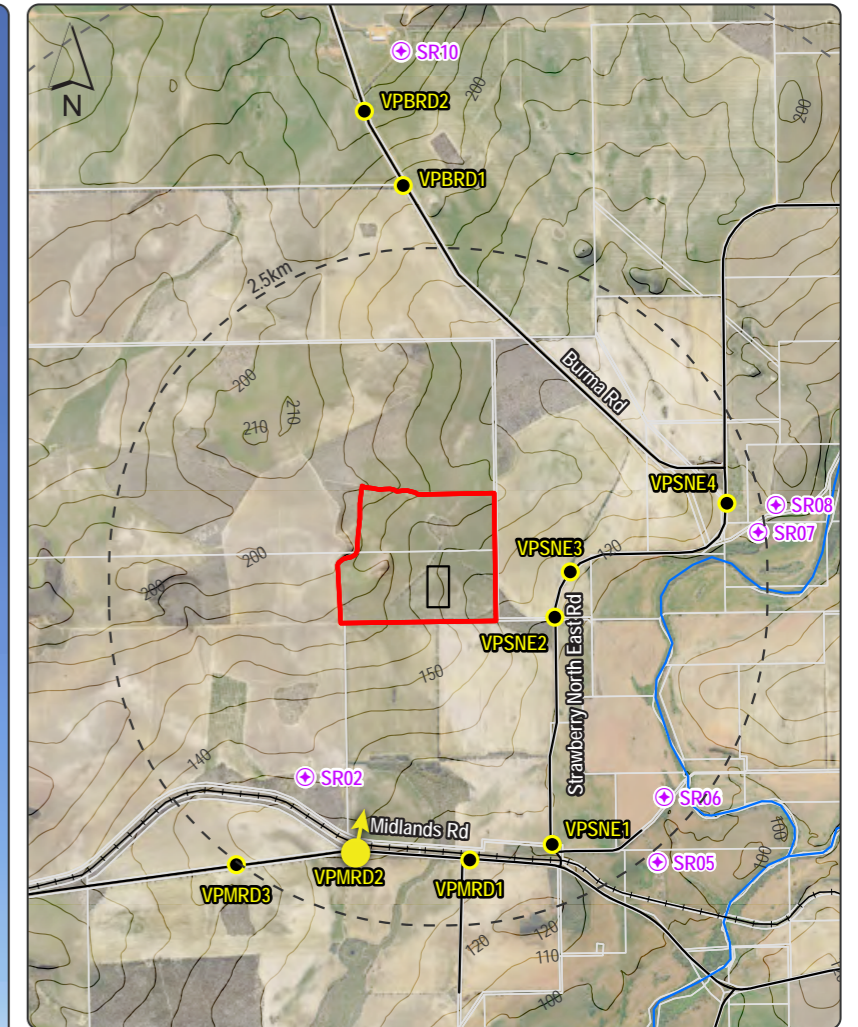


Figure 4-9: Indicative CPF Plant visibility Midlands Road Viewpoint 2 (2km from CPF)



Thermal Flare oxidizer (69.7m)
(39.6m)

CPF Plant extent
(Average 5m height of infrastructure)

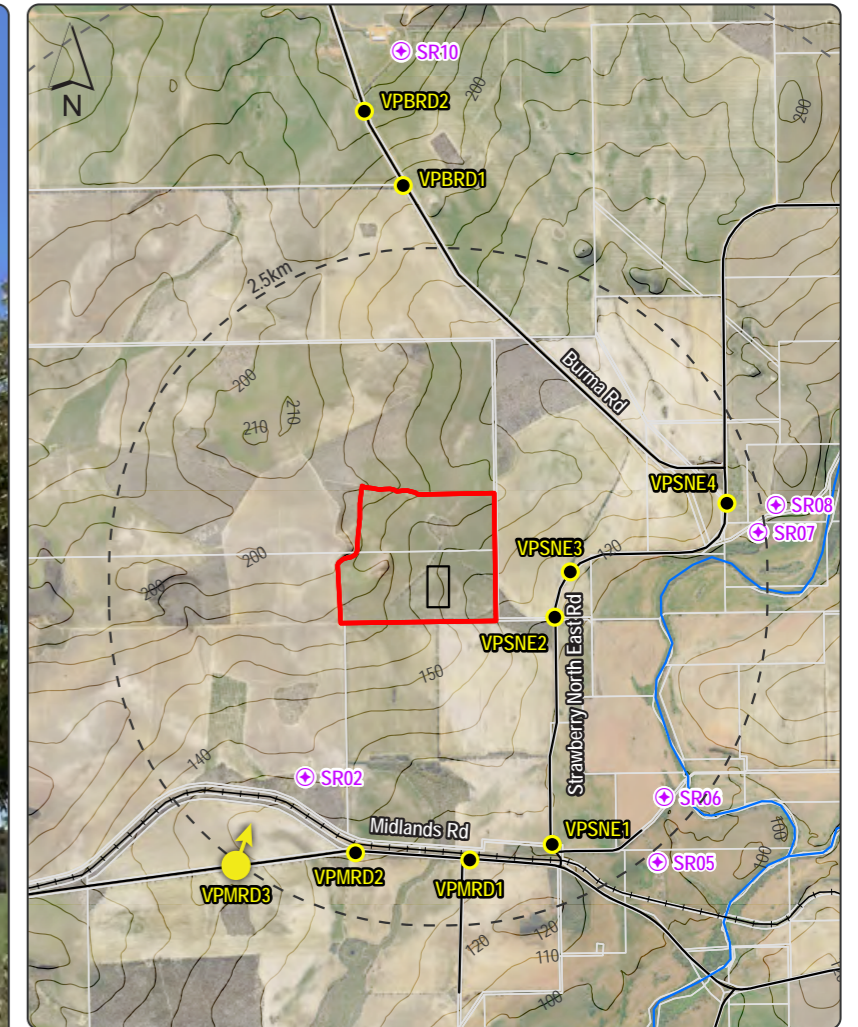


Figure 4-10: Indicative CPF Plant visibility
Midlands Road Viewpoint 3 (2.5km from CPF)

5. Significance of Likely Impacts

Visual impact assessment is used as a tool for understanding the impact of a proposal on visual amenity and its likely acceptability. In Western Australia, amenity is considered by the EPA in environmental impact assessment as a component of the Social Surroundings factor and is described as ‘a broad term that generally means the qualities, attributes and characteristics of a place that make a positive contribution to quality of life’. The EPA’s objective for Social Surroundings is: ‘*To protect social surroundings from significant harm*’ (EPA 2023). The purpose of this VIA is to assess the impact of development within the CPF, proposed in association with the Lockyer Conventional Gas Project, with regards to visual amenity, and to determine the potential significance of these impacts.

The EPA notes that areas of high cultural, heritage or social significance due to scenic quality or natural features may contribute to a place’s visual amenity (EPA 2023). The landscape surrounding the CPF does not include particular scenic or natural features. The proposed development is located in a rural area, surrounded by agricultural properties. Roads are utilised mainly by local traffic, and sensitive receptors in proximity to the proposed development are limited to highly dispersed rural residences. There are limited natural features remaining in the landscape that provide aesthetic value. However, it is recognised that Western Australian community attitudes towards rural landscapes are changing, with greater priority being placed on maintaining rural character (WAPC 2007; DPLH 2023a; DPLH 2023b). In addition, amenity values are highly subjective, as levels of perception, value or tolerance may differ. Consideration of visual impacts of the Proposal is therefore warranted.

Viewshed and viewpoint analysis were utilised to model and depict the impact of the proposed CPF development on the local rural landscape. While the viewshed analysis indicates that the proposed development may be visible at locations throughout the surrounding landscape, including local roads and sensitive receptor locations based on topography alone, the viewpoint analysis demonstrates that existing vegetation and topography largely shields the views of the bulk of the proposed development.

At a number of locations, the tallest infrastructure (flare and thermal oxidiser) will be noticeable above the existing landscape and tree lines. The viewpoint analysis modelled the worst case scenario with regards to this infrastructure, which in reality is likely to be shorter, narrower and lighter in colour. Where more of the proposed development is likely to be visible, the infrastructure is typically far away (i.e. ≥ 2 km) and is generally not an overwhelming feature of the view, blending in with the topographical features of the landscape such as hills and tree lines.

The CPF is proposed to be located within a depression of the surrounding low undulating hills, minimising its height in the landscape and ensuring the infrastructure largely sits below the surrounding ridgelines and vegetation. Furthermore, as the area is zoned as Rural/General farming land, the development of the CPF is not expected to cause significant impacts to any future sensitive receptors not currently present. The majority of roads surrounding the site are unsealed local roads, with limited public use. The nearest main road is Midlands Road, located approximately 1.7 km to the south of the site. As described in Section 4.2, only the flare is likely to be partially visible from this road, and all other infrastructure is likely to sit behind the ridge/tree line. As such, impacts to visual amenity for public users of this road is not considered likely to be significant.

Overall, with respect to visual amenity, the construction of the CPF is expected to be consistent with the EPA's objective for Social Surroundings to protect social surroundings from significant harm. Given the subjective nature of visual amenity, ongoing engagement with the community and consideration of options to address any key issues arising through consultation is recommended.

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