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Synergy Group Australia Pty Ltd

Reconnaissance Flora and Fauna Survey

King Rocks Development Support: Site Selection for Workforce Accommodation Camp

wsp

October 2024

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Reconnaissance Flora and Fauna Survey
King Rocks Development Support: Site Selection for Workforce Accommodation Camp

Synergy Group Australia Pty Ltd

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Approved by:	[redacted]	10/10/2024	

WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Executive summary

WSP was engaged by SynergyRED to undertake a reconnaissance flora, vegetation, and fauna survey for the proposed development of a new wind energy project. The survey was conducted in two phases. Phase 1 survey was undertaken in September 2023 and the Phase 2 survey was completed during December 2023 and January 2024. The survey area consists of two accommodation sites for workers and twenty-five intersections between the port and the windfarm location. The purpose of the survey was to assess the flora, vegetation, and fauna values within the survey area and to identify any significant flora, vegetation and fauna populations for delivering wind turbines from port to the windfarm. The findings from this survey will be used to support a Works Approval Application to the Department of Water and Environmental Regulation for the construction of accommodation camp and the route alignment options.

In accordance with the *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016a), the reconnaissance flora, vegetation, and fauna survey was conducted in two phases. The *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016a) recommends surveys within the Southwestern Interzone be undertaken in Spring (September-November).

The key findings of the reconnaissance flora, vegetation, and fauna survey include the following:

- Twenty-five relevés were assessed within the survey area. The relevés were chosen in areas of native vegetation in better condition within the survey area. This improved the robustness of the assessment by maximising the opportunity to detect conservation significant flora and to evaluate the presence of threatened ecological communities (TECs).
- A total of 95 native and 16 non-native (weed) flora species were recorded within the survey areas. None of the weed species recorded listed as Weeds of National Significance (WoNS) or as a Declared pest plant in Western Australia.
- No occurrences of threatened or priority flora species were recorded within the survey areas.
- Eucalypt Woodlands of the Western Australian Wheatbelt and Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal plain were assessed in 6 intersections and 1 accommodation site.
- Most of the habitat structure is situated on sandy clay or clay loam flats, comprising *Eucalyptus* open woodlands over *Acacia* shrublands over isolated forblands and sparse open grasslands.
- The survey areas contain no natural waterways or wetlands, therefore potential impacts on the listed birds associated with water bodies are also minimal.
- Potential habitat trees for all three Black Cockatoos were assessed within the survey areas. No evidence of any other conservation significant fauna species was identified in the survey areas.
- EPBC referral will be required if native vegetation clearing is greater than or equal to 1 ha.

1 Introduction

1.1 Project background

Synergy Renewable Energy Developments (SynergyRED) is a wholly owned subsidiary of Synergy (Electricity Retail and Generation Corporation) located in Perth, Western Australia. SynergyRED is currently investigating the development of a new wind energy project (the Project). SynergyRED has engaged WSP to assess the flora, vegetation, and fauna values within the survey area.

The survey area consists of two accommodation sites and 25 intersections (Figure 1.1). The survey area was divided into two Phases. Phase 1 survey was undertaken in September 2023 and the Phase 2 survey was completed in January 2024. Phase 1 survey consisted of two accommodation sites and 15 intersections and Phase 2 survey consisting of 10 intersections (Figure 1.1).

Accommodation sites include:

- Lot 2952 – 35 Aylmore Road, Hyden **(Site 01)**
- Lot 802 – Hyden-Lake King Road, Hyden **(Site 02)**

Intersections include:

- Estuary Dr/Koomnana Dr Intersection **(Phase 2_ Intersection 01)**
- Southwestern Hwy/Coalfields Rd Intersection **(Phase 2_ Intersection 02)**
- Albany Hwy / Collie Lake King Intersection **(Phase 2_ Intersection 03)**
- Albany Hwy /Coalfields Rd Intersection **(Phase 2_ Intersection 04)**
- Albany Hwy /Narrogin Rd Intersection **(Phase 2_ Intersection 05)**
- Williams – Kondinin Rd/McKenzie Rd Intersection **(Phase 2_ Intersection 06)**
- McKenzie Rd /Clayton Rd Intersection **(Phase 2_ Intersection 07)**
- Great Southern Hwy/Kipling St/Narrogin **(Phase 1_ Intersection 08)**
- Collie Lake King Rd/Rabbit Proof Fence Rd Intersection **(Phase 2_ Intersection 09)**
- Rabbit Proof Fence Rd /Dudinin - Jitarning Rd Intersection **(Phase 2_ Intersection 10)**
- Williams – Kondinin Rd / Rabbit Proof Fence Rd Intersection **(Phase 2_ Intersection 11)**
- Williams- Kondinin Rd/Kulin-Lake Grace Rd/Bunbury 5 **(Phase 1_ Intersection 12)**
- Graham Rd./Kondinin Lake Rd. **(Phase 1_ Intersection 13)**
- Corrigin-Kondinin Rd/Kondinin-Narembeen Rd **(Phase 1_ Intersection 14)**
- Kondinin-Narembeen Rd/Billirecay Rd E **(Phase 1_ Intersection 15)**
- N Lake Grace-Karlgarin Rd/Pederah Rd W **(Phase 1_ Intersection 16)**
- Notting-Karlgarin Rd/Pederah Rd **(Phase 1_ Intersection 17)**
- Kondinin-Hyden Rd/Notting-Karlgarin Rd **(Phase 1_ Intersection 18)**
- Lovering Rd/Wave Rock Rd. **(Phase 1_ Intersection 19)**
- Lovering Rd/Sedgwick Rd. **(Phase 1_ Intersection 20)**

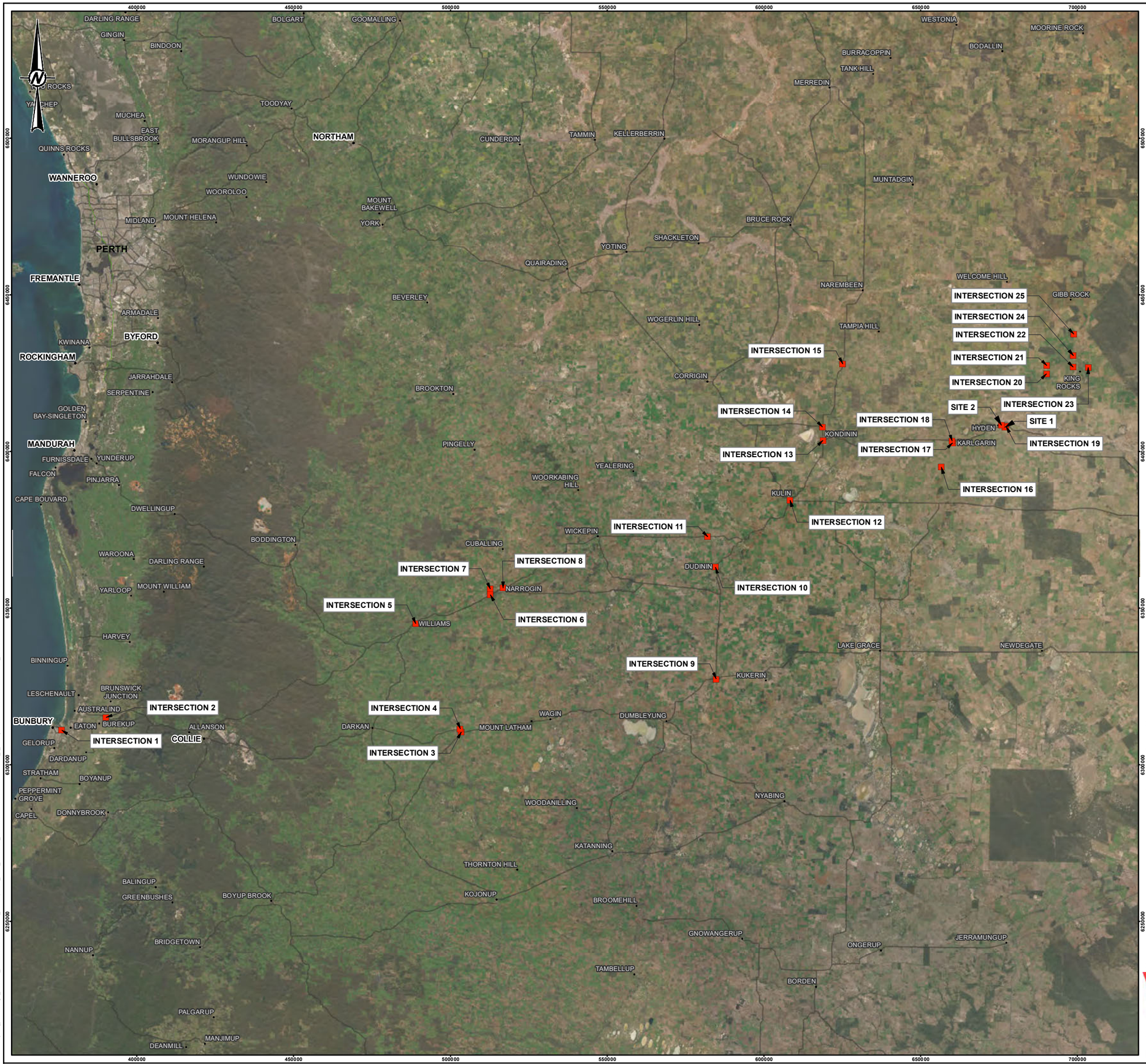
- Sedgewick Rd/Billericay Rd E **(Phase 1_ Intersection 21)**
- Lovering Rd/Williamson Rd. **(Phase 1_ Intersection 22)**
- King Rocks Rd/Lovering Rd. **(Phase 1_ Intersection 23)**
- Williamson Road/Casuarina Rd **(Phase 1_ Intersection 24)**
- Williamson Rd/Woolocutty Soak Rd. **(Phase 1_ Intersection 25)**

1.2 Purpose and scope of work

The purpose of the survey was to assess the flora, vegetation, and fauna values within the survey area and to identify any significant flora, vegetation and fauna populations. As part of this scope of works, WSP have undertaken a desktop Preliminary Environment and Social Land Use Assessment to identify key environmental issues and constraints associated with the Project construction camp and proposed routes (the Project) for delivering wind turbines from port to the windfarm. The findings from this assessment will be used to inform the construction camp, the route alignment options and approval requirements.

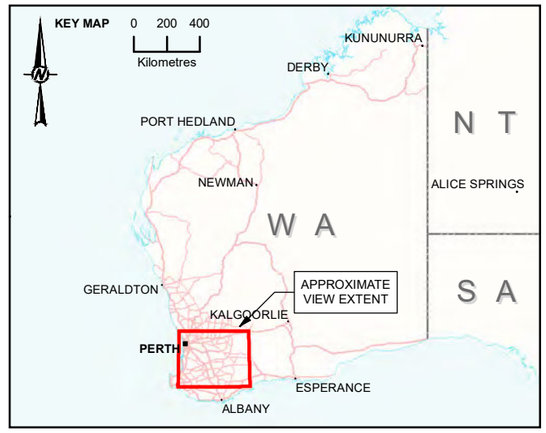
The scope of work included:

- Reconnaissance flora and vegetation survey compliant with the Environmental Protection Authority (EPA) (2016b) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* and other relevant State and Federal guidelines and legislation. The flora and vegetation survey scope included the following:
  - A desktop study of the flora and vegetation of the survey area, with an emphasis on threatened and priority flora and conservation significant ecological communities.
  - Low intensity sampling to collect botanical data from quadrats or relevés in the survey area.
  - Recording visual observations on the fire regimes, grazing pressures and overall health of the vegetation to allow for an assessment of the overall condition of the flora and vegetation communities.
  - Identifying and recording the locations of any declared pest organisms or weed species.
  - Providing advice on the local and regional significance of the vegetation communities; and
  - Documenting the results of the assessment including the preparation of relevant spatial data.
- Basic fauna survey compliant with the EPA (2020) *Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*. The fauna survey scope included the following:
  - A desktop study to gather contextual information using the Department of Biodiversity, Conservation and Attractions' (DBCA's) threatened and priority fauna database, NatureMap, the Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) and other publicly available literature and spatial data.
  - A day-time general fauna survey and habitat assessment to validate the findings from the desktop study, assess habitat types, hollows, scats and condition and record opportunistic sightings of fauna species.
  - Documenting the results of the assessment including the preparation of relevant spatial data.



LEGEND

- PROJECT AREA



0 25,000 50,000

1:1,200,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI BASEMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
SITE LOCATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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Figure 1.1 Site location

2 Environmental context

2.1 Physical environment

2.1.1 Geology, landforms, and soils

Landform and soils influence fauna habitat and species at regional and local scales. The geology bedrock of the survey area forms a wide range from Vasse system to Yilgarn Craton granites and is described as granitic rock, undivided, and metamorphosed (DBCA 2023). The Department of Primary Industries and Regional Development (DPIRD) has compiled data from various surveys to produce a soil landscape mapping dataset for Western Australia; these are outlined in Table 2.1 for the general area near the survey intersections. The landsystems for each intersection are summarised in Appendix H

Table 2.1 Extent of soil landscape from the land system mapping units close to the survey area

Land systems	Description	State-wide Current extent (ha)	Survey area	
			Area of intersection (ha)	Proportion of current extent (%)
211Va - Vasse System	Poorly drained estuarine flats, of the Swan Coastal Plain. Tidal flat soil, saline wet soil and pale deep sand. Samphire, sedges and paperbark woodland.	757	0.72	0.0951
213Pj - Pinjarra System	Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.	114168	1.34	0.0012
250Ho – Hope South System	Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duplexes.	7040	8.10	0.1151
250Hy – Hyden System	Gently undulating mallee, proteaceous, and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the north.	70949	16.68	0.0235
257Ng – Narrogin System	Interfluves with significant gradient, aggressively stripped by headward incision, at the headwaters of the Hotham and Blackwood catchments. Numerous dolerite dyke swarms.	45790	1.72	0.0038
257De - Dellyanine System	Dellyanine System - Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland.	221031	0.77	0.0003
258Wo – Woolocutty System	Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.	124461	4.66	0.0037

Land systems	Description	State-wide Current extent (ha)	Survey area	
			Area of intersection (ha)	Proportion of current extent (%)
258Bn – Bendering System –	Gently and irregularly undulating gneissic terrain with extensive areas of red and brown loams and clays on mafic substrate, duplexes on colluvial slopes and occasional breakaways with extensive sandplain backslopes.	106786	0.41	0.0004
259Cb - Coblinine System	Broad valley floors, with few lakes, in the Southwestern Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils. Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.	141533	0.13	0.0001
259Co – Corrigin System	Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.	65393	1.28	0.0020
259Ki – Kondinin System	Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.	11783	0.87	0.0074
259Kk - Kukerin System	Gently undulating rises, in the Southwestern Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.	249030	0.72	0.0003

2.1.2 *Hydrology and wetlands*

Wetlands are areas of seasonally, intermittently, or permanently waterlogged land, such as poorly drained soils, ponds, billabongs, lakes, swamps, tidal flats, estuaries, rivers, and their tributaries (Wetlands Advisory Committee 1977).

Wetlands can be recognised by the presence of vegetation associated with waterlogging or the presence of hydric soils such as peat, peaty sand, or carbonate mud (Hill *et al.* 1996).

Wetlands of national or international significance may be afforded special protection under Commonwealth or international agreements. The following lists of important wetlands were checked as part of this assessment:

- Ramsar List of Wetlands of International Importance (DCCEEW 2023); and
- A Directory of Important Wetlands in Australia (DBCA 2023).

No internationally or nationally 'important wetlands' or geomorphic wetlands are located within the survey area.

2.2 Biological environment

2.2.1 *Interim biogeographic regionalisation of Australia*

Native vegetation is described and mapped at different scales to illustrate patterns in its distribution. The Interim Biogeographic Regionalisation for Australia (IBRA version 7) divides the Australian continent into 89 bioregions and 419 subregions (Department of the Environment, 2015c). IBRA regions represent a landscape-based approach to classifying the land surface, including attributes of climate, geomorphology, landform, lithology, and characteristic flora

and fauna. Specialist ecological knowledge, combined with appropriate regional and continental scale biophysical datasets were interpreted to define and describe these regions (Thackway and Cresswell 1995). Information about each subregion is used to help determine which ecosystems are adequately protected in the conservation estate.

The Phase 1 survey areas were contained within the Mallee IBRA region (Appendix I) and MAL02 – Western Mallee IBRA subregion (Appendix J). The Phase 2 survey areas spread across between three IBRA regions (Swan Coastal Plain, Avon Wheatbelt, Jarrah Forest) IBRA region (Appendix I) and three IBRA subregions (SWA02-Perth, AVW02-Katanning and JAF01-Northern Jarrah Forest) (Appendix J). The subregion is described as silt and clays underlain by Kankar, 'exposed granite, sandplains and laterite pavements" and a granite basement overlain by Salt Lake systems (Beecham and Danks 2001). Vegetation is characterised by fine-textured soils with Eucalyptus woodlands and 'scrub-heath on sands and laterite' (Beecham and Danks 2001).

2.2.2 *Pre-European vegetation*

The pre-European vegetation in the area was mapped by Beard (1976) on a broad scale (1:1,000,000). The identification of the original pre-European and current extent of each of the vegetation types assist in providing baselines for managing activities such as land clearing. The pre-European mapping for the survey area was summarised in Table 2.2 below and the figures are attached in Appeddix K.

Table 2.2 Extent of Pre-European vegetation associations close to the survey area

Vegetation system association code	Description	Extent remaining (%)	Survey area	
		State level	Area of intersection (ha)	Proportion of current extent (%)
37 - BASSENDEAN	Wattle, *Casuarina* and teatree A*cacia Allocasuarina*-M*elaleuca* alliance.	694	1.96	0.2824
955 - CORRIGIN	*Allocasurina* shrubland	2109	0.20	0.0095
960 - HYDEN	Eucalypt shrubland *Eucalyptus eremophila*, *Eucalyptus redunca*, *Eucalyptus* spp.	21680	1.32	0.0061
968 - PINJARRA	Jarrah, marri and wandoo	2649	0.10	0.0038
1023 - WAGIN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris*, *Eucalyptus* oleosa. Riverine; rivergum *Eucalyptus amaldulensis*. Tropical; messmate, woolyb	132645	0.52	0.0004
7 - WILLIAMS	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris*, *Eucalyptus oleosa*. Riverine; rivergum, *Eucalyptus camaldulensis*. Tropical; messmate, woolyb	7110	0.26	0.0037
947 - NARROGIN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris*, *Eucalyptus oleosa*. Riverine; rivergum *Eucalyptus camaldulensis*. Tropical; messmate, woolyb	813	0.88	0.1082
1023-DUMBLEYUNG	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *Eucalyptus salmonophloia*. Goldfields; gimlet,	227670	0.13	0.0001

Vegetation system association code	Description	Extent remaining (%)	Survey area	
		State level	Area of intersection (ha)	Proportion of current extent (%)
	redwood etc. *Eucalyptus salubris*, *Eucalyptus oleosa*. Riverine; rivergum *Eucalyptus camaldulensis*. Tropical; messmate, woolyb			
945 - MUNTADGIN	Eucalypt shrubland	35629	0.78	0.0022
131 - HYDEN	Wheatbelt and *Eucalytpus* woodland	16509	0.31	0.0019
1023 - CORRIGIN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris*, *Eucalyptus oleosa*. Riverine; rivergum *Eucalyptus camaldulensis*. Tropical; messmate, woolyb	269070	0.52	0.0002
998 - SPEARWOOD	Jarrah, marri and wandoo *Eucalyptus marginata*, *Corymbia calophylla*, *Eucalyptus wandoo*.	20288	0.01	0.0001
945 – HYDEN	Woodland/mallee	51164	24.79	0.0485
960 – HYDEN	Eucalypt shrubland *Eucalyptus eremophila*, *Eucalyptus redunca*, *Eucalyptus* spp.	147548	1.32	0.0009
1023 – HYDEN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris*, *Eucalyptus oleosa*. Riverine;	57479	0.92	0.0016
519 – HYDEN	Eucalypt shrubland *Eucalyptus eremophila*, *Eucalyptus redunca*, *Eucalyptus* spp.	54366	1.89	0.0035
519 – SKELETON ROCK	Eucalypt shrubland *Eucalyptus eremophila*, *Eucalyptus redunca*, *Eucalyptus* spp.	84876	0.85	0.0010
2048– HYDEN	Mixed heath with scattered tall shrubs *Acacia* spp., Proteaceae and Myrtaceae.	9340	1.14	0.0122
1023 – NARROGIN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *E. salmonophloia*. Goldfields; gimlet, redwood etc. *E. salubris*, *E. oleosa*. Riverine; rivergum *E. camaldulensis*. Tropical; messmate, woolyb	188942	0.52	0.0003

2.2.3 Threatened and priority ecological communities

The desktop search results indicate two threatened ecological community (TECs) are recorded within the site. The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) and Protected Matters Search Tool (PMST) identified one TECs as likely to occur near the survey areas. A larger search area (50 km maximum) was used due to the multiple Study areas being spread apart.

Threatened ecological communities (TECs) are ecological communities that are recognised as rare or under threat and therefore warrant special protection. Selected TECs are afforded statutory protection at a Commonwealth level under Section 181 of the EPBC Act. Any action likely to have a significant impact on a community listed under the EPBC Act requires approval from the commonwealth minister for the DCCEEW.

TECs are also listed within Western Australia under Sections 27(1) and 33 of the *Biodiversity Conservation Act 2016* (BC Act) and under the *Biodiversity Conservation Regulations* (BC Regulations). Their conservation significance is also acknowledged through other state environmental approval processes such as 'environmental impact assessment' pursuant to Part IV of the *Environmental Protection Act 1986* (EP Act) and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

The database searches identified the conservation significant ecological community as the Eucalypt Woodlands of the Western Australian Wheatbelt, listed as a Critically Endangered TEC under the EPBC Act and P3 PEC and Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal plain by DBCA are described in Table 2.3.

Table 2.3 TECs likely to occur within the region

Community name	TEC/PEC	Level of significance	
		EPBC Act	State
Eucalypt Woodlands of the Western Australian Wheatbelt	TEC	Critically Endangered	Priority 3
Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal plain	TEC	Critically Endangered	

2.2.3.1 Eucalypt Woodlands of the Western Australian Wheatbelt

Eucalypt Woodlands are situated on the flatter landscapes and lower rises of the Wheatbelt. The woodlands are dominated by a complex mosaic of several eucalypt species with a tree or mallee form over a highly variable understorey (DWER 2023). The Eucalypt species that dominate or co-dominate the WA Wheatbelt Woodlands ecological community are based on the floristic classification of wheatbelt woodlands by Harvey and Keighery (2012). Other eucalypt species may be present in association with these key species but do not occur as dominant or co-dominant species in WA Wheatbelt Woodland.

Woodlands dominated by a mallee form or vegetation with a very sparse eucalypt tree canopy (less than 10%) are not part of the TEC. Nor are woodlands that have the same key eucalypt species but occur in adjacent bioregions (e.g., Coolgardie, Esperance Sandplains, Yalgoo, and Geraldton Sandplains bioregions). Woodlands dominated by eucalypts restricted to granite outcrops and rocky rises are also removed from this TEC (DWER 2023).

2.2.3.2 Tuart woodlands and forests of the Swan Coastal plain

Tuart Woodlands are located on the Swan Coastal Plain from Jurien to the Sabina River (near Busselton) on Spearwood, Quindalup and Bassendean dune systems. The primary definition of the TEC is having the uppermost dominance of Tuart (*Eucalyptus gomphocephala*) with other tree species along with grasses and native understorey. One of the key diagnostic characteristics of the TEC is having least two living established (≥15cm diameter at breast height [DBH]) *Eucalyptus gomphocephala* trees with a gap of no more than 60 m between the outer edges of the canopies of adjacent Tuart trees (DCCEEW 2023).

676000 676500 677000 677500

6408500 6408000 6407500 6407000

SITE 2

SITE 1

INTERSECTION 19

HYDEN-LAKE KING RD

LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 140 280

1:7,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

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Figure 2.1 Ecological communities

675000 675500 676000 676500

6409000 6408500 6408000

SITE 2

SITE 1

MARSHALL ST

HYDEN-LAKE KING RD

LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.2

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25mm

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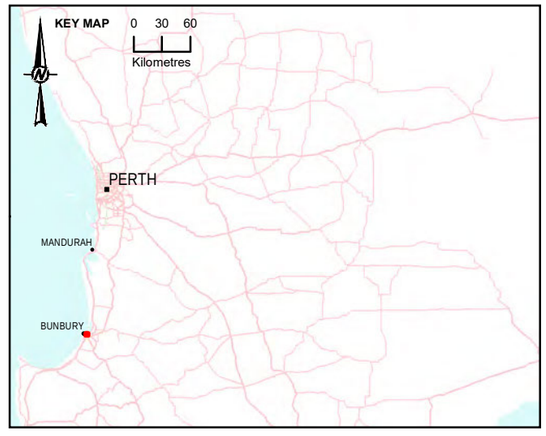


LEGEND

- PROJECT AREA

PECT / TEC

- Tuart (Eucalyptus gomphocephala) woodlands and forests of the Swan Coastal Plain
- Relictual White Mangrove Community (Leschenault Inlet)
- Banksia Woodlands of the Swan Coastal Plain ecological community



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.3

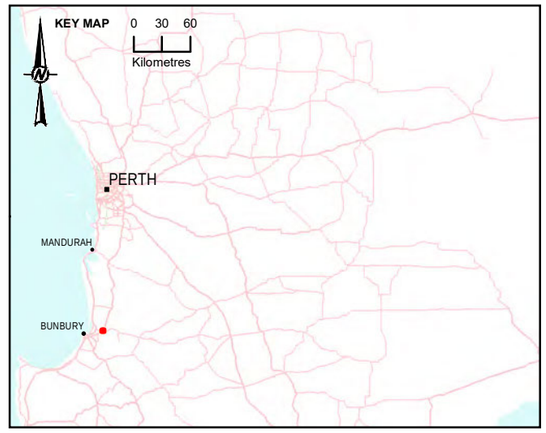
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LEGEND

PROJECT AREA



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.4

25mm

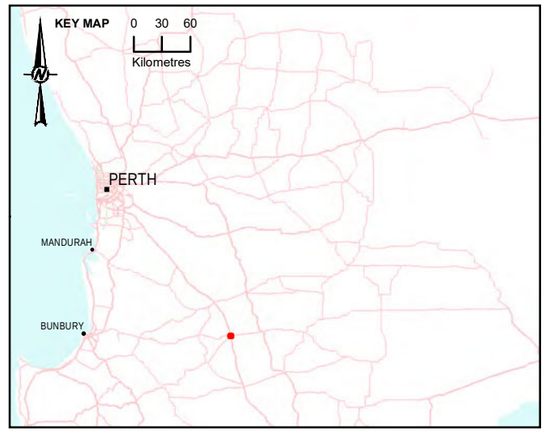
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LEGEND

PROJECT AREA



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
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PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

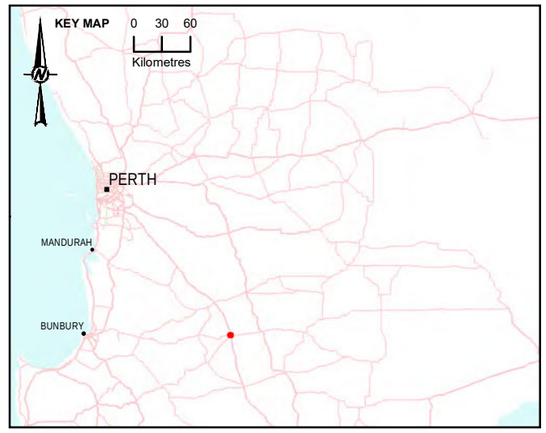
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LEGEND

PROJECT AREA



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.6

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488500 489000 489500

6345600 6345000 6344500

ALBANY HWY

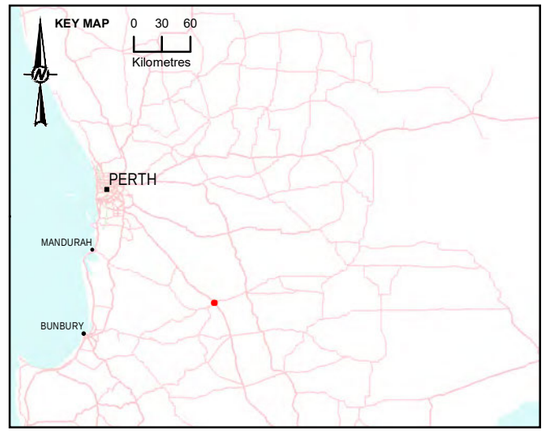
NARROGIN RD

PINJARRA-WILLIAMS RD

INTERSECTION 5

LEGEND

PROJECT AREA



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

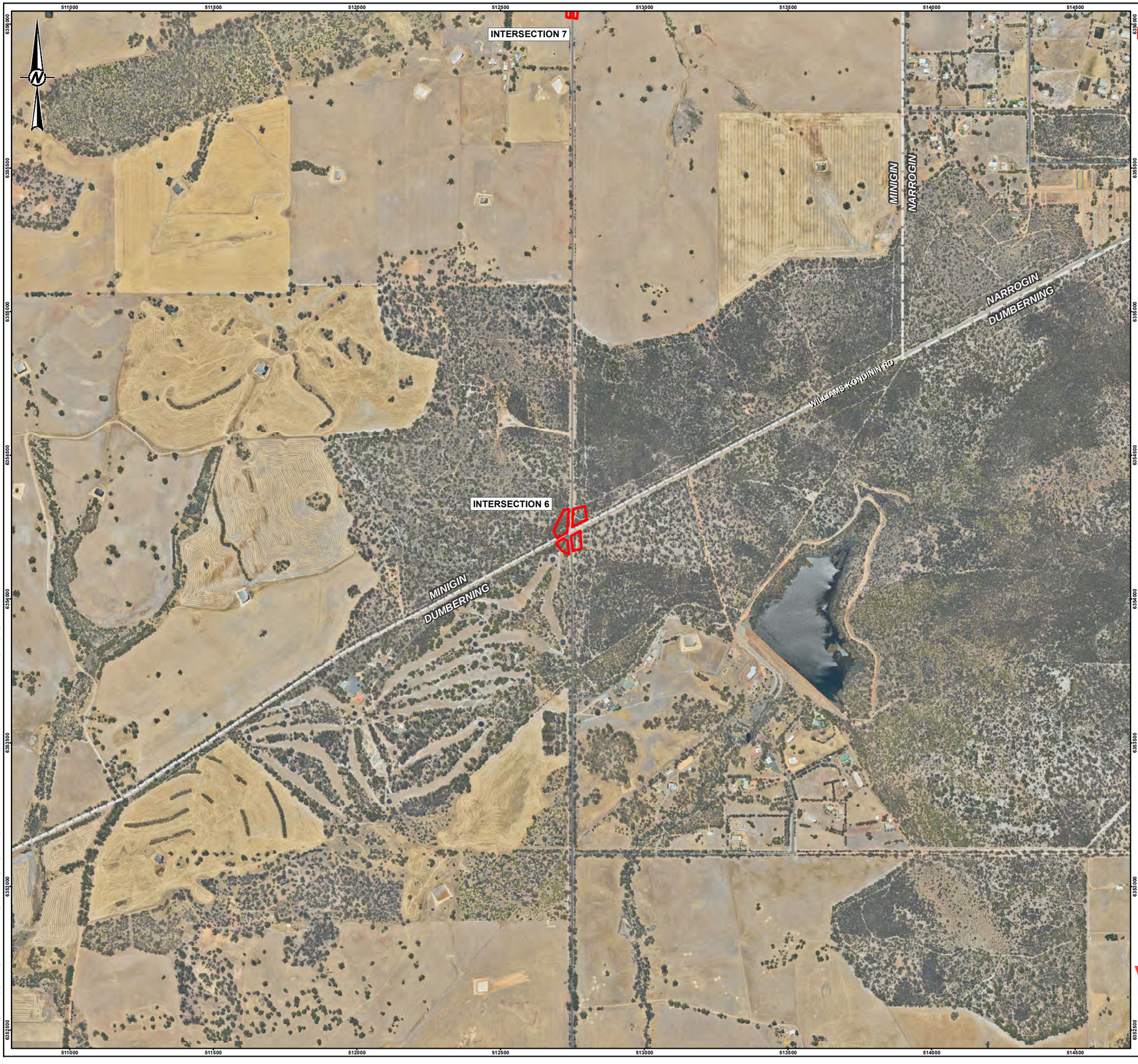
CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.7

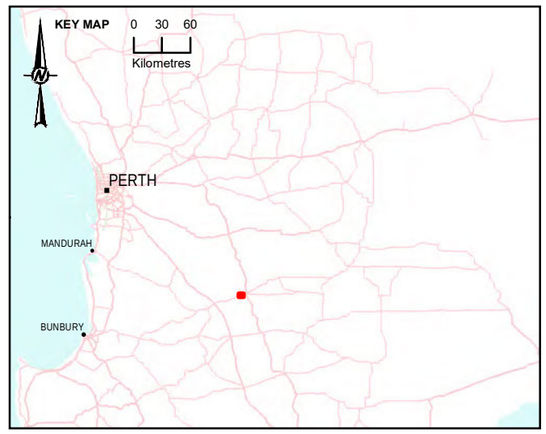
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LEGEND

PROJECT AREA



0 270 540

1:13,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.8

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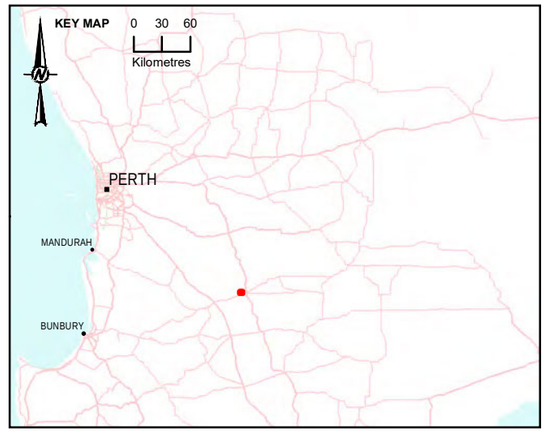
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0 25mm



LEGEND

PROJECT AREA



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

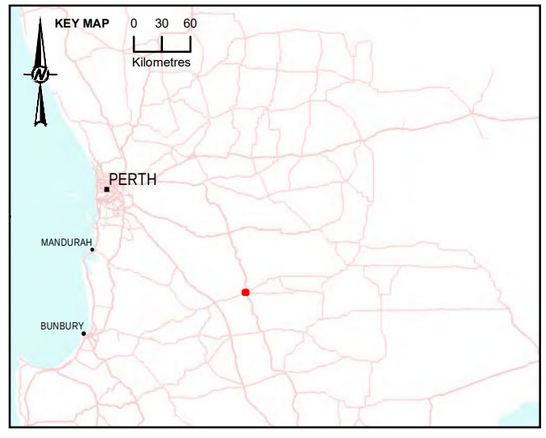
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LEGEND

PROJECT AREA



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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SYNERGY RED

PROJECT
KING ROCKS WIND FARM

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DESIGNED	RD
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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.10

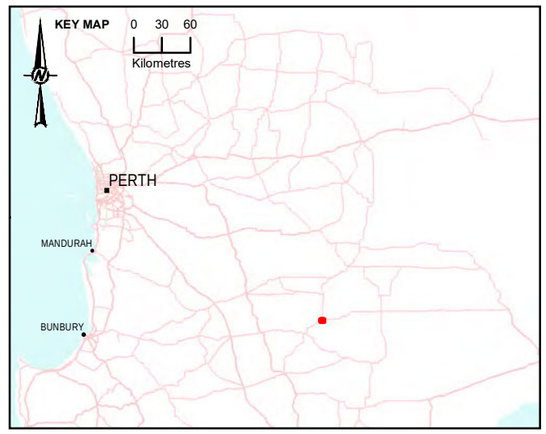
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LEGEND

PROJECT AREA



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.11

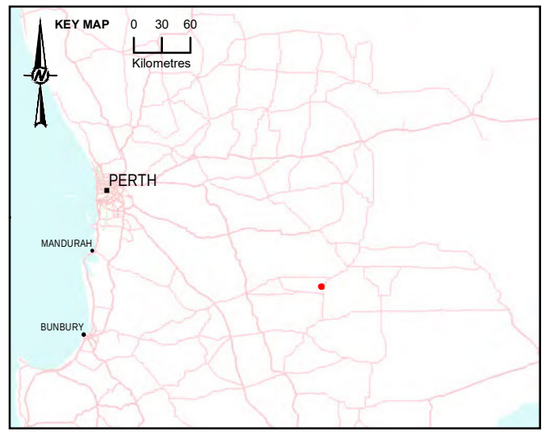
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25mm
0



LEGEND

PROJECT AREA



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.12

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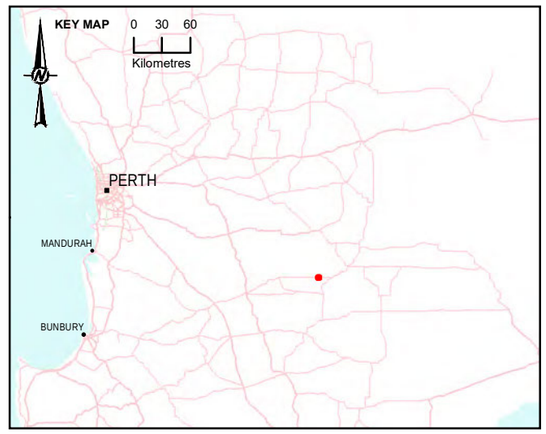
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LEGEND

PROJECT AREA



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.13

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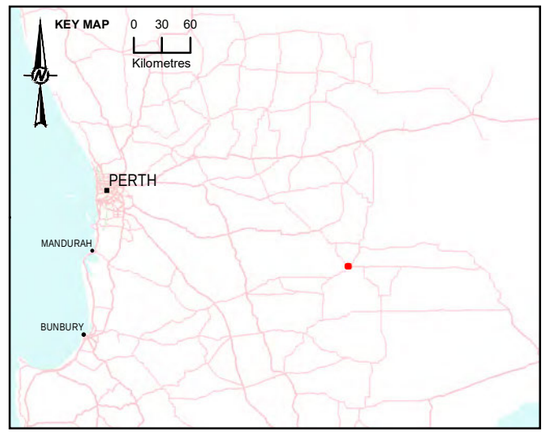
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LEGEND

PROJECT AREA



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

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PREPARED	JE
REVIEWED	RD
APPROVED	

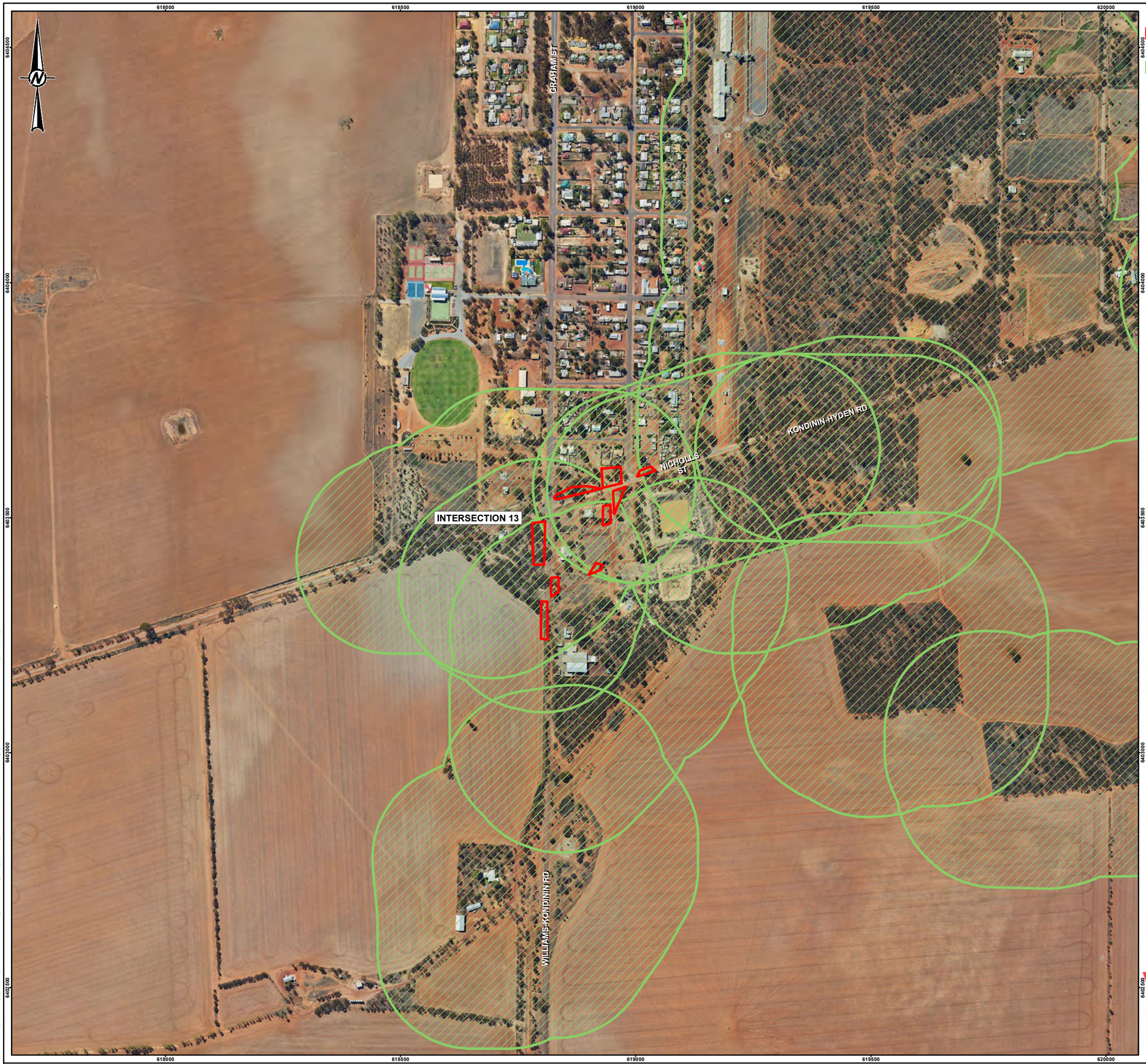
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.14

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25mm

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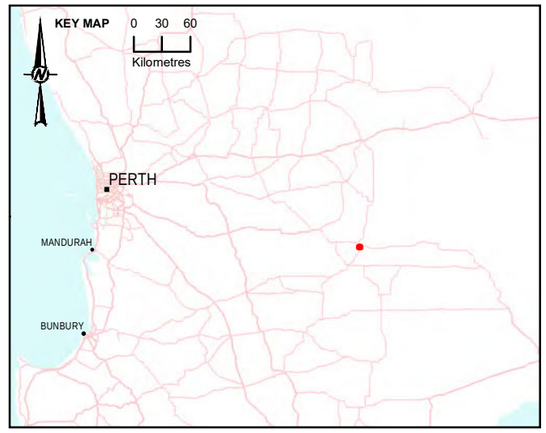


LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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TITLE
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PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.15

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25mm
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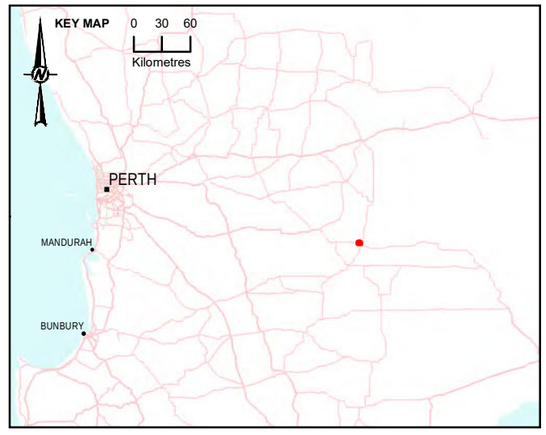


LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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SYNERGY RED

PROJECT
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TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.16

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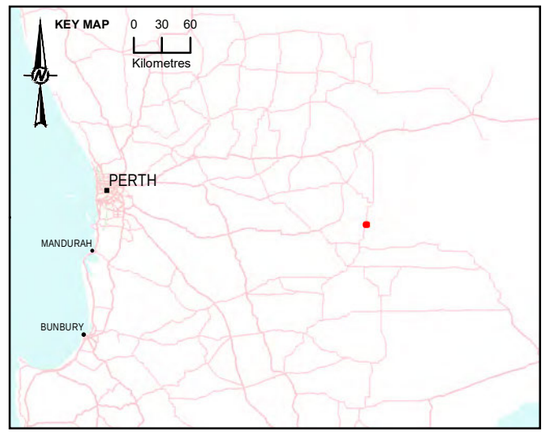
25mm

0



LEGEND

PROJECT AREA



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.17

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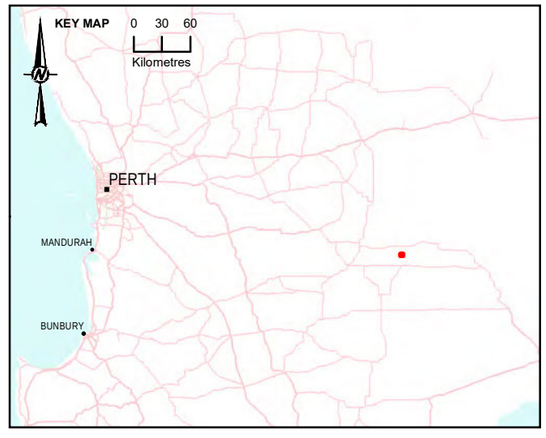
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LEGEND

PROJECT AREA



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

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DESIGNED	RD
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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.18

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25mm

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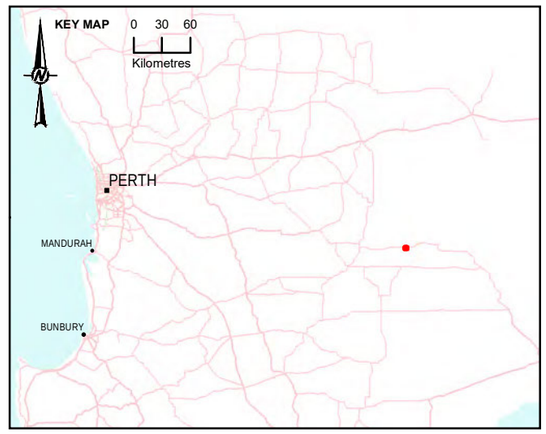


LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	6.19

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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659000 659500 660000 660500 661000

6404000

6403500

6403000

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KONDININ-HYDEN RD

INTERSECTION 18

INTERSECTION 17

NOTTINGHAM-GARIN RD

MELBA ST

PEDERAH RD

LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO. PS204764 | CONTROL 001-R | REV. A | FIGURE 6.20

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6409000 6408500 6408000 6407500 6407000

SITE 2

HYDEN-LAKE KING RD

SITE 1

INTERSECTION 19

LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

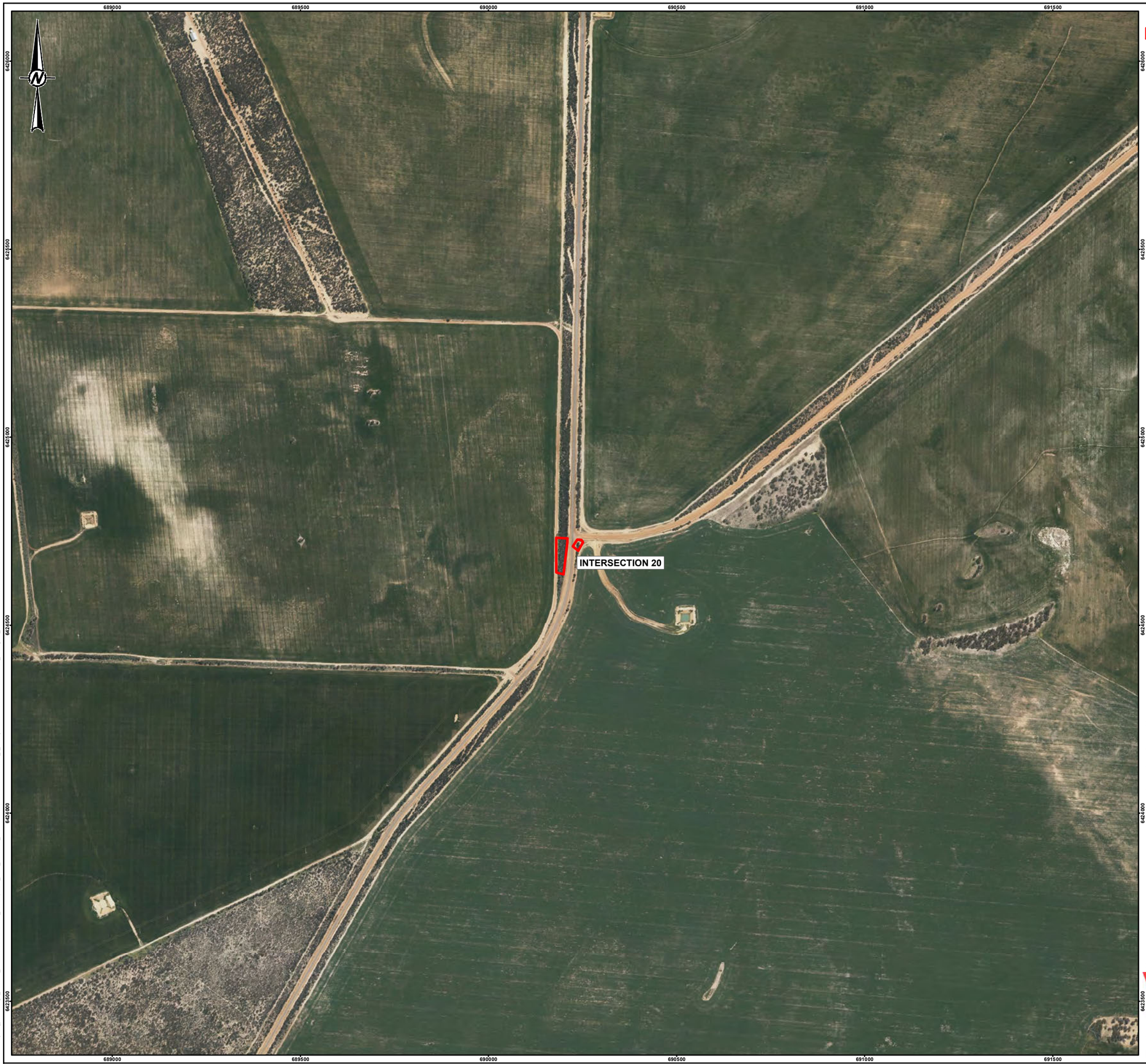
PROJECT NO.	CONTROL	REV.	FIGURE
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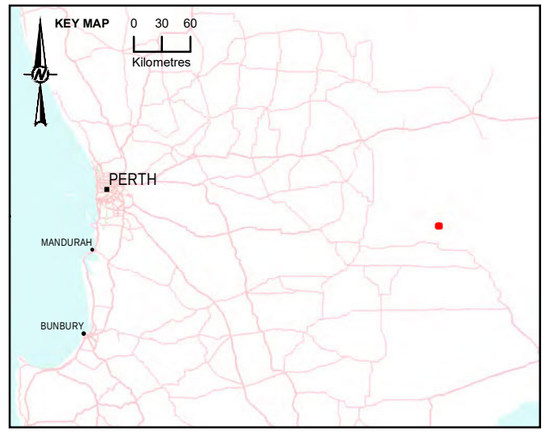
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LEGEND

PROJECT AREA



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

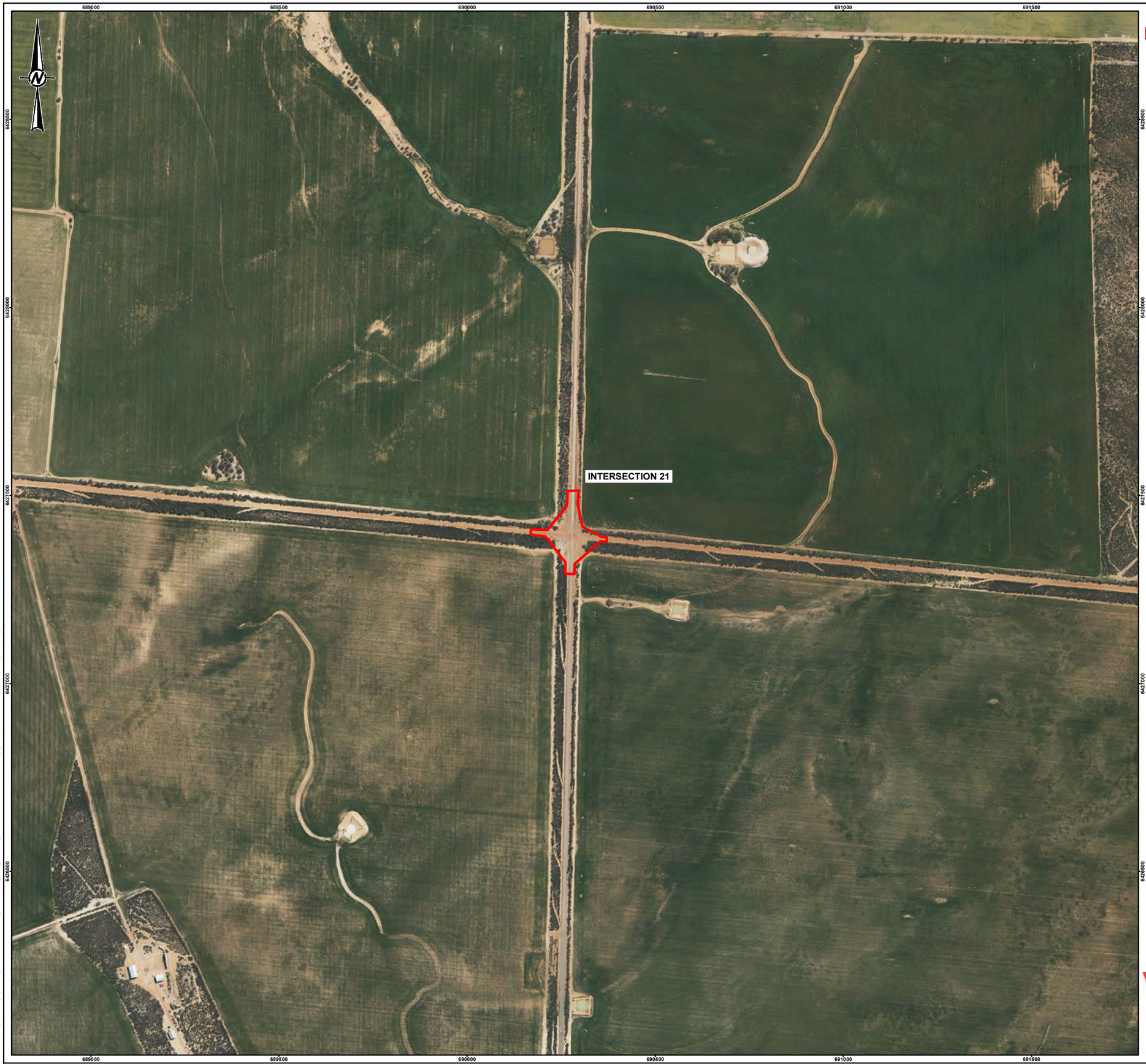
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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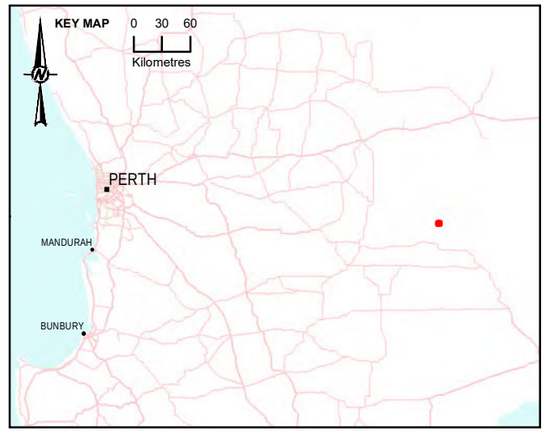
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LEGEND

PROJECT AREA



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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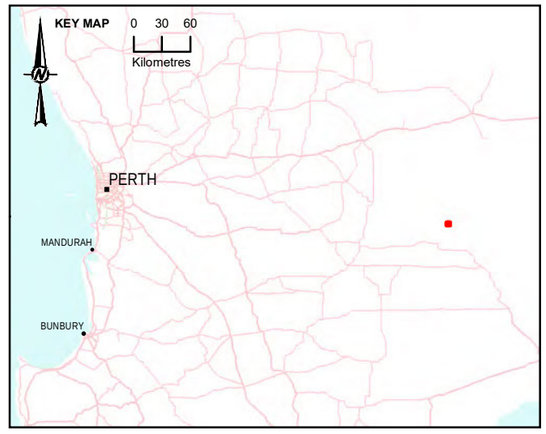


LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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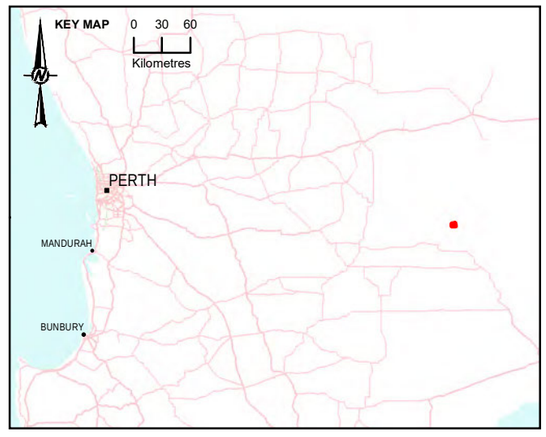
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LEGEND

PROJECT AREA



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
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PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
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REVIEWED	RD
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PROJECT NO.	CONTROL	REV.	FIGURE
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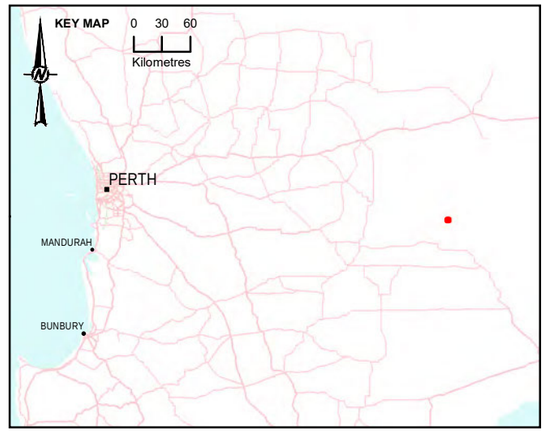


LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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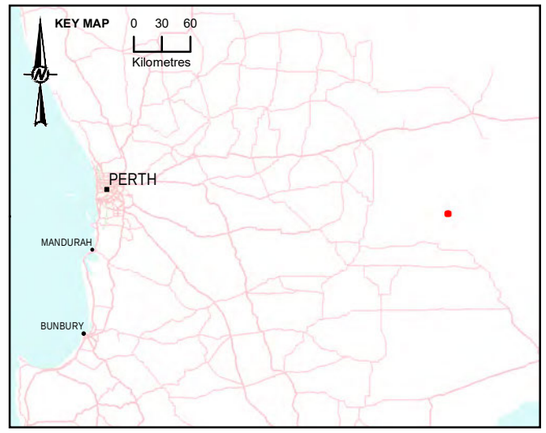


LEGEND

PROJECT AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
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PROJECT NO.	CONTROL	REV.	FIGURE
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2.2.4 Environmentally sensitive areas

Environmentally sensitive areas (ESA) are prescribed under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* and have been identified to protect native vegetation values and areas of interests, such as significant wetlands, threatened flora, threatened communities and Bush Forever sites. Within an ESA none of the exemptions under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* apply to the Project. Eucalypt Woodlands of the Western Australian Wheatbelt intersects with one accommodation site and five intersection and Tuart woodlands and forests of the Swan Coastal plain intersects with one intersection survey area.

3 Survey methodology

The flora and vegetation field survey was conducted by Associate Ecologist Roger Dharmarajan (Flora Permit FB62000412). Phase 1 survey were undertaken on 12–14 September 2023 and Phase 2 survey were undertaken between 05 – 07 December 2023 and 22 – 25 January 2024. The survey was undertaken in accordance with the requirements outlined in the approved scope of work.

3.1 Flora

3.1.1 Desktop assessment

3.1.1.1 Database searches

State and Commonwealth database searches were conducted to identify listed significant flora within, and near, the survey area. Results were interpreted to provide context to the potential values and threats associated with the survey area. Search details are summarised in Table 3.1, with the Australian Government PMST and the Department of Biodiversity, Conservation and Attractions (DBCA) database search conducted within the area of the shapefile provided by SynergyRED with an additional 50 km buffer for survey area (dated 24 October 2023).

ESA are declared by the Minister for Environment under Section 51B of the Environmental Protection Act to prevent incremental degradation of important environmental values such as declared rare (Threatened) flora, threatened ecological communities or significant wetlands. A search for ESAs in the vicinity of the survey area was conducted using Commonwealth and Western Australian government datasets (Department of the Environment and Energy 2008, 2018, Department of the Environment 2015, Department of Biodiversity, Conservation and Attractions 2017).

Table 3.1 Database searches undertaken

Database	Date search results received	Search focus	SEARCH Parameter
Australian Government PMST (Department of Agriculture, Water and the Environment 2023)	24/10/2023	Matters of National Environmental Significance (MNES)	Hyden – 50 km buffer around a centre point of the survey area, defined by the coordinate: GDA94 50H 327863 E 6199805 N
NatureMap (Department of Biodiversity, Conservation and Attractions 2023a)	24/10/2023	Flora of significance	Hyden – 50 km buffer around a centre point of the survey area, defined by the coordinate: GDA94 50H 327863 E 6199805 N
Threatened and Priority Flora Database (TPFL) (Department of Biodiversity Conservation and Attractions 2023b)			
Western Australian Herbarium Flora Database (Department of Biodiversity, Conservation and Attractions 2023b)			
Commonwealth and Western Australian government datasets (Department of the Environment and Energy 2008, 2018, Department of the Environment 2015, Department of Biodiversity, Conservation and Attractions 2017)	24/10/2023	ESAs	Hyden – 50 km buffer around a centre point of the survey area, defined by the coordinate: GDA94 50H 327863 E 6199805 N

3.1.1.2 Likelihood of occurrence assessment – significant flora

Prior to conducting the field survey, aerial imagery was interpreted to identify potential habitat types within and surrounding the survey area. Preferred habitat information for each significant flora species was also compiled using publicly available information from FloraBase (Western Australian Herbarium 2023 and 2024) and Western Australian Herbarium (WA Herbarium) voucher information (obtained using Level 5 access on FloraBase). The distance of the survey area to the nearest records of significant flora was calculated using GIS software and the coordinates provided with database results. The significant flora species returned from the database searches (Appendix A) were then categorised according to the criteria in Table 3.2 for potential occurrence within the survey area.

Table 3.2 Likelihood of occurrence

Likelihood of occurrence	Criteria
Recorded	Species previously recorded within the survey area.
Likely	Species previously recorded within 10 km of the survey area and suitable habitat appears to be present in the survey area.
Potential	Species previously recorded within 10 km to 20 km of the survey area and/or suitable habitat appears to be present in the survey area.
Unlikely	No known occurrence within 20 km of the survey area, and/or suitable habitat appears to be absent in the survey area.

Following the field survey, the significant flora species identified during the desktop assessment were again assessed to determine their likelihood of occurrence within the survey area. Post-field survey likelihood was primarily based on validating the presence (and thorough inspection) of suitable habitats within the survey area, combined with life form, habitat and flowering information for each flora species and site conditions.

3.1.2 Reconnaissance flora and vegetation survey

The methods adopted for the reconnaissance flora and vegetation survey were consistent with *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority, 2016b) and in accordance with the requirements outlined in the scope of works.

Information acquired during the desktop assessment assisted in the design of the field survey. Pre-survey planning involved an examination of aerial imagery to identify potentially different landforms, habitat and vegetation throughout the survey area. The entire survey area was traversed on foot during the field survey, targeting all significant flora species with the potential to occur. Where potential flora of significance was identified, a minimum of a 10 m radius of the surrounding area was also searched. Where any potential flora of significance was identified, the following information was collected:

- location – coordinates measured using a differential global positioning system unit with +/- 0.5 m accuracy (MGA50, GDA94)
- recorder and date – personnel involved in sampling that location and the survey date
- species – representative samples of all suspected significant species were collected for confirmation at the WA Herbarium
- species abundance – a count of the number of individuals, and
- photographs – an in-situ photograph was taken of each significant flora species.

3.1.2.1 Taxonomy and nomenclature

A specimen of each potential significant flora species recorded in the field was collected for confirmation identification. Specimens were initially identified by the ecologist in the field and subsequently taken to the WA Herbarium for

confirmation. The assigned nomenclature is consistent with the current listing of scientific names recognised by the WA Herbarium.

3.1.2.2 Vegetation condition

Vegetation in the survey area were assessed on a scale of 'Completely Degraded' to 'Pristine' using the Keighery (1994) condition rating system. This scale is, as outlined in EPA (2016) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment*, as follows:

Pristine:	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Excellent:	Areas of vegetation where no exploration or drill tracks encroach, typically at least 20m distant from tracks.
Very Good:	Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging, and grazing.
Good:	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback, and grazing.
Degraded:	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback, and grazing.
Completely Degraded:	These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

3.1.2.3 Limitations

Following completion of the desktop assessment and field surveys, a review of any limitations that may have affected a complete assessment of the survey area was conducted. The limitations listed in Table 3.3 are based on those suggested as considerations in *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016b).

Table 3.3 Potential flora and vegetation survey limitations

Potential limitation	Limitation (none/minor/ requires consideration)	Statement regarding potential limitations
Availability of contextual information at a regional and local scale	None	Broad-scale contextual information is available from Beard (1979, 1980b, 1980a, 1990), Beecham (2001) and several Commonwealth and State government departments.
Scope (i.e., what life forms, etc., were sampled)	None	Vascular flora, and weeds, which were the focus of the present survey, were thoroughly sampled and assessed.
Competency/experience of the team carrying out the survey, including experience in the bioregion surveyed	None	The ecologist responsible for undertaking the field surveys has significant experience in conducting flora and vegetation surveys throughout Western Australia, including the Mallee bioregion.
Proportion of flora/fauna recorded and/or collected, any identification issues	None	Adequate time was allowed for a thorough search of the survey area. All specimens collected were able to be identified to species level and confirmed in the WA Herbarium.
Was the appropriate area fully surveyed (effort and extent)	None	The survey area was adequately surveyed for the presence and abundance of significant flora species. Sufficient time was provided to allow a thorough search for the survey area. Track logs demonstrate site coverage.
Access restrictions within the survey area	None	The entirety of the survey area was able to be accessed by vehicle and traversed by foot.
Proportion of flora collected and identified (based on sampling, timing, and intensity)	None/Minor	The Phase 1 survey was conducted during the recommended survey period (Spring) when the highest percentage of flora are flowering and readily identifiable. However, Phase 2 survey was conducted outside the optimum survey period. The botanist was familiar with conservation significant taxa in the vegetation surrounding the survey area. However, while many plants were in flower during the survey, some plants were sterile and may impact the chance of identification of some specimens to species level in Phase 2 survey.
survey timing, rainfall, season of survey	None/Minor	The EPA (2016b) recommends that flora and vegetation surveys in the Warren regions should be undertaken after the main rainfall period in the winter months. The Phase 1 survey were conducted in spring (September), with supplementary Phase 2 survey after the autumn rainfall (December and January).
Disturbance that may have affected the results of survey such as fire, flood or clearing	None	This disturbance did not limit the outcomes of the survey. There was no evidence of recent fire, floods or clearing in the survey area.

3.2 Fauna

3.2.1 Fauna desktop assessment

Prior to the commencement of the fauna field survey, a desktop assessment was undertaken to identify relevant environmental information pertaining to the survey area and to assist in survey design. The desktop assessment involved a review of:

- DBCA NatureMap database for fauna species previously recorded within the subject land (DBCA, 2023) (Appendix B).
- Review of DBCA threatened fauna database (Appendix C).
- DCCEEW Protected Matters Search Tool (PMST) to identify communities and species listed under the EPBC Act (DCCEEW, 2023) (Appendix C).
- Conservation code definitions are included in Appendix D.

3.2.2 Targeted survey

The EPBC, PMST and the DBCA Threatened Fauna Database searches identified three species of Black Cockatoo may occur within the survey area. Based on the desktop assessment and based upon the vegetation types/habitat within the survey area and the range of conservation significant fauna, a targeted survey for the following three species of black cockatoos was conducted:

- *Calyptorhynchus banksii naso* – Forest red-tailed Black Cockatoo;
- *Calyptorhynchus baudinii* – Baudin's Cockatoo; and
- *Calyptorhynchus latirostris* – Carnaby's Cockatoo.

3.2.3 Fauna field survey

3.2.3.1 Fauna habitat assessment

A fauna habitat assessment was undertaken to document the type, condition, and extent of habitats within the survey area. Vegetation, landform, and soil units present at the subject land were used to define broad fauna habitat types. The information below was recorded:

- habitat structure, e.g., vegetation type, presence/absence of structural layers such as ground cover and mid-storey.
- presence/absence of refuge including density of ground covers, fallen timber (coarse woody debris), hollow-bearing trees and stags and rocks/boulder piles, and the type and extent of each refuge.
- presence/absence of waterways including type, extent and habitat quality within any waterway.
- location of the habitat within the survey area in comparison to the habitat within the surrounding landscape.
- habitat connectivity and identification of wildlife corridors within and immediately adjacent to the survey area
- current land use and disturbance history.
- evaluation of key habitat features and types identified during the desktop assessment relevant to fauna of conservation significance.
- evaluation of the likelihood of occurrence of conservation significant fauna within the habitat (based on presence of suitable habitat) and
- vegetation condition based on Keighery (1994).

3.2.3.2 Black cockatoo habitat assessment

Habitat used by black cockatoos can be categorised as Breeding, Foraging and/or Night Roosting Habitat (Department of Agriculture, Water and the Environment, 2022) as presented in

Table 3.4 and following commentary.

Table 3.4 Habitats used by black cockatoos

Habitat	Baudin's	Carnaby's	Forest red-tailed
Breeding	Generally, in woodland or forest, but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Karri (*Eucalyptus diversicolor*), Marri (*Corymbia calophylla*), Wandoo (*E. wandoo*) and Tuart (*E. gomphocephala*).	Generally, in woodland or forest, but also breeds in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Salmon Gum (*E. salmonophloia*), Wandoo, Tuart, Jarrah (*E. marginata*), Flooded Gum (*E. rudis),* York Gum (*E. loxophleba* subsp. *loxophleba*), Powderbark (*E. accedens*), Karri and Marri.	Generally, in woodland or forest, but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Marri, Karri, Wandoo, Bullich (*E. megacarpa*), Blackbutt (*E. patens*), Tuart and Jarrah.
Night roosting	Generally, in or near riparian environments or other permanent water sources. Tall trees that may provide roosting habitat, particularly, Jarrah, Marri, Flooded Gum, Blackbutt (*E. patens*), Tuart, and introduced eucalypts including Blue Gum (*E. globulus*) and Lemon Scented Gum (*Corymbia citriodora*).	Generally, in or near riparian environments or natural and artificial permanent water sources. Tall trees that may provide roosting habitat, particularly Flat-topped Yate (*E. occidentalis*), Salmon Gum, Wandoo, Marri, Karri, Blackbutt, Tuart, introduced *Eucalyptus* species (for example Blue Gum) and introduced Pines.	Tall trees that may provide roosting habitat, particularly Jarrah, Marri, Blackbutt, Tuart and introduced Eucalypt trees within or on the edges of forests.
Foraging and common food items	Primarily seeds of Marri, rarely Jarrah, in woodlands and forest, and seeds of native proteaceous plant species (for example, Banksia spp. (includes Dryandra spp.) and Hakea spp.). During the breeding season feed primarily on native vegetation, particularly Marri (seeds, flowers, nectar and grubs). Also, insects and insect larvae; pith of Kangaroo Paw (*Anigozanthos flavidus*); tips of *Pinus* spp.; *Macadamia* spp., almonds and pecans; seeds of apples and pears; and persimmons.	Native shrubland, kwongan heathland and woodland on seeds, flowers and nectar of native proteaceous plant species (Banksia spp., Hakea spp. and Grevillea spp.), as well as Callistemon spp. and Marri. Also seeds of introduced species including Pinus spp., Erodium spp., wild radish, canola, almonds, macadamia and pecan nuts; insects and insect larvae; occasionally apples and persimmons; and liquidambar.	Primarily seeds of Jarrah and Marri in woodlands and forest, and edges of Karri forests, including Wandoo and Blackbutt. Forages on Allocasuarina cones, fruits of Snottygobble (*Persoonia longifolia*) and Mountain Marri (*C. haematoxylon*). Other less important foods include Blackbutt, Bullich, *Allocasuarina fraseriana*, Hakea spp., Tuart, Redheart Moit (*E. decipiens*) and Bushy Yate (*E. lehmanni*). Also, some introduced eucalypts such as River Red Gum (*E. camaldulensis*) and Rose Gum (*E. grandis*). On the Swan Coastal Plain, often feeds on introduced Cape Lilac (*Melia azedarach*), *E. caesia*, *E. erythrocorys*, Lemon-

Habitat	Baudin's	Carnaby's	Forest red-tailed
			scented Gum and Kaffir Plum (*Harpephyllum caffrum*).

Source: Department of Agriculture, Water and the Environment (2022).

Foraging habitat is scored according to its ability to provide suitable food, its context in the landscape and the likelihood of black cockatoos using the area. The foraging quality will be scored using the criteria outlined in Table 3.5. To support the assessed habitat score, an overall appraisal of the habitat on the impact site including a 20km buffer is required to clearly explain and justify the score. This appraisal must include a discussion on the foraging habitat's proximity to other resources frequency of use of proximate sites, the degree of evidence and description of vegetation type and condition.

Table 3.5 Foraging quality scoring tool template

Starting Score		Budin's Cockatoo	Carnaby Cockatoo	Forest Red-tailed Black-Cockatoo
10		Start at a score of 10 if your site is native eucalypt woodlands and forest, and proteaceous woodland and heath, particularly Marri, within the range of the species, including along roadsides and parkland cleared areas. Can include planted vegetation. This tool only applies to sites equal to or larger than 1 hectare in size	Start at a score of 10 if your site is native shrubland, kwongan heathland or woodland, dominated by proteaceous plant species such as Banksia spp. (including Dryandra spp.), Hakea spp. and Grevillea spp., as well as native eucalypt woodland and forest that contains foraging species, within the range of the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. This tool only applies to sites equal to or larger than 1 hectare in size	Start at a score of 10 if your site is Jarrah or Marri woodland and/or forest, or if it is on the edge of Karri Forest, or if Wandoo and Blackbutt occur on the site, within the range of the subspecies, including along roadsides and parkland cleared areas. This tool only applies to sites equal to or larger than 1 hectare in size
Attribute	**Sub-tractions**	**Context adjuster**		
Foraging	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.
Connectivity	-2	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.
Proximity to breeding	-2	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat
Proximity to roosting	-1	Subtract 1 if you have evidence to conclude that	Subtract 1 if you have evidence to conclude that your	Subtract 1 if you have evidence to conclude that

Starting Score		Budin's Cockatoo	Carnaby Cockatoo	Forest Red-tailed Black-Cockatoo
		your site is more than 20 km from a known night roosting habitat	site is more than 20 km from a known night roosting habitat	your site is more than 20 km from a known night roosting habitat
Impact from significant plant disease	-1	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50%of the preferred food plants present.	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50%of the preferred food plants present.

Source: Department of Agriculture, Water and the Environment (2022).

3.2.3.3 Black cockatoo breeding habitat

Assessment of black cockatoo breeding habitat involves the identification of all suitable breeding trees species within the survey area that have a diameter at breast height (DBH) of over 50 cm. Species such as Wandoo and Salmon Gums are considered potential habitat trees if the DBH is greater than 30 cm. If potential breeding trees are present, the DBH of each tree is measured using a pre-made gauge.

For the purposes of this survey, a tree containing a potential cockatoo nest hollow is defined as:

> *Any tree which is alive or dead that contains one or more visible hollows (cavities within the trunk or branches) suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows that had an entrance greater than about 12cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk, will be recorded as a 'potential nest hollow'. Identified hollows are examined using binoculars for evidence of actual use by black cockatoos (e.g., chewing around hollow entrance, scarring and scratch marks on trunks and branches). The calls of chicks were also listened for, if a suitable hollow is present.*

3.2.3.4 Black cockatoo surveys

The three species of Black cockatoo utilize various habitats throughout the year. Table 3.6 outlines the suggested times of year to conduct targeted Black Cockatoo surveys. Surveys for feeding debris can be conducted year-round, as the foraging debris will remain for up to two years.

Table 3.6 Timing for surveys for black cockatoos

Region	Baudin's Cockatoo	Carnaby's Cockatoo	Forest Red-tailed Black Cockatoo
Swan Coastal Plain	**Foraging habitat** – March to September **Breeding habitat** – may occur in southern Swan Coastal Plain *Note: unlikely to occur in the region.*	**Foraging habitat and night roosts** –January to July **Breeding habitat** –July to December *Note: some individuals inhabit year-round*	**Foraging habitat and night roosts** – any time of the year **Breeding habitat** – may occur in some locations containing suitable breeding tree species
Wheatbelt	**Breeding habitat and foraging habitat** in proximity – October to March *Note: possible on western margins*	**Breeding habitat and foraging habitat** in proximity - July to December *Note: some individuals occur year-round*	**Breeding habitat and foraging habitat** in proximity – year-round *Note: possible presence on margins*

Region	Baudin's Cockatoo	Carnaby's Cockatoo	Forest Red-tailed Black Cockatoo
Jarrah Forest	**Foraging habitat** – February/ March to September **Breeding habitat and foraging habitat** in proximity – August to January	**Breeding habitat and foraging habitat** in proximity – July to December	**Breeding habitat and foraging habitat** in proximity –April to June and August to October *Note: individual occur year-round*
South Coast	**Foraging habitat** – March to September **Breeding habitat and foraging habitat** in proximity – August to January	**Foraging habitat and night roosts** – January to July **Breeding habitat** – breeding activity is July through December	Breeding habitat and foraging habitat in proximity – at any time of the year in the forested areas of the region, with peaks in April to June and August to October

Source: Department of Agriculture, Water and the Environment (2022).

4 Results

4.1 Flora and vegetation

4.1.1 Desktop assessment

Database search results identified 102 significant flora species as potentially occurring within a 50 km radius of the survey area (DCCEEW 2023, DBCA 2023a, 2023b). This included:

- 11 threatened taxa
- 14 Priority 1 (P1) taxa
- 16 Priority 2 (P2) taxa
- 46 Priority 3 (P3) taxa, and
- 15 Priority 4 (P4) taxa.

All the significant flora were considered to have low potential to occur in the survey area due to the absence of suitable habitat and proximity of known locations to the survey area; however, 3 of these were considered 'likely' to occur (Appendix A).

4.1.2 Field survey

23 relevés were assessed within the survey area. The relevés were choose in areas of native vegetation in better condition within the survey area. This improved the robustness of the assessment by maximising the opportunity to detect conservation significant flora and to evaluate the presence of threatened ecological communities (TECs).

4.1.2.1 Flora summary

A total of 95 native and 16 non-native (weed) species were recorded within the survey area during the field survey, representing 33 families and 67 genera. The dominant families containing native taxa were Myrtaceae (38 taxa), Poaceae (13 taxa), Fabaceae (12 taxa) and Asteraceae (8 taxa each). A complete species list is provided in Appendix A.

4.1.2.2 Significant flora

No occurrences of threatened or priority flora species were recorded within the survey area. None of the threatened and priority flora species identified in the desktop assessment are considered likely to occur in the site due to lack of suitable habitat and/or because they were not recorded during the field survey. No locally or regionally significant flora species were recorded within the site. The likelihood of occurrence assessment is provided in Appendix C.

4.1.2.3 Threatened ecological communities

The Eucalypt Woodlands of the Western Australian Wheatbelt and Tuart Woodlands are located on the Swan Coastal Plain are listed as a PEC, pursuant to subsection (1) section 27 of the BC Act and is categorised as a Critically Endangered TEC under the EPBC Act by the Australian Government (DWER 2023).

TEC polygons mapped by the DBCA were found to be intersecting in six intersections (Intersection 1, 13, 17, 18, 19 and 22) and in Site 1 (Accommodation camp). The areas of vegetation assessed for their TEC potential were the remnant vegetation located between the cleared land which formed the road reserve (road running surface, road shoulder, drain, and associated clearing), and the fence line of adjacent farmlands or the contiguous bushland where no fence line was present.

TEC assessment sites are opportunistic in Eucalypt woodland and sites do not correspond to any potential TECs flagged by DBCA. Potential TECs supplied by DBCA were assessed in vegetation adjacent to the survey area where the road reserve had been previously cleared in the intersections. TEC assessment results are summarised in Table 4.1.

Table 4.1 TEC likelihood assessment results for potential TECs within the survey area

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
Site 1		Mallee	Yes	*Eucalyptus salmonophloia* and *Eucalyptus loxophleba* subsp. *loxophleba*	*Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Acacia lasiocalyx* shrubland *Glischrocaryon angustifolium* and *Waitzia acuminata* var. *acuminata* isolated samphire shrubs *Avena barbata* and *Eragrostis curvula* sparse grassland	<5 trees per 0.5 ha	Tree canopy is sparse	Potential
Site 2		Mallee	No	No Vegetation	No vegetation	Not present	No vegetation	Not a TEC
Intersection 01		Swan Coastal Plain	Yes	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis*	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland	2+ trees > 15 cm DBH	No Trees recorded with TEC	Potential
Intersection 02		Swan Coastal Plain	No	No vegetation	No vegetation	Not present	No vegetation	Not a TEC
Intersection 03		Avon Wheatbelt	No	*Melaleuca pauperiflora* subsp. *fastigiata*	*Acacia acuminata* sparse shrubland over *Melaleuca pauperiflora* subsp. *fastigiata* open shrubland over **Hypochaeris glabra* sparse forbland	Not present	No Trees recorded	Not a TEC
Intersection 04		Avon Wheatbelt	No	*Eucalyptus camaldulensis* subsp. *obtusa*	*Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia acuminata* open shrubland over *Hakea undulata* and *Calothamnus* sp. sparse shruband over **Ehrharta longiflora* and **Avena barbata* sparse grassland	<5 trees per 0.5 ha	Tree canopy is sparse	Not a TEC

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
Intersection 05		Jarrah Forest	No	*Eucalyptus incrassate* and *Eucalyptus dorrienii*	*Eucalyptus incrassata*, *Eucalyptus dorrienii* and *Eucalyptus caesia* open woodland over **Ehrharta calycina*, **Avena barbata* and **Lolium rigidum* sparse grassland	<5 trees per 0.5 ha	Tree canopy is sparse	Not a TEC
Intersection 06		Avon Wheatbelt	Yes	*Eucalyptus camaldulensis* subsp. *obtusa* and *Corymbia calophylla*	*Eucalyptus camaldulensis* subsp. *obtusa* and *Corymbia calophylla* open woodland over *Casuarina obesa* and *Hakea prostrata* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland	5+ trees per 0.5 ha		Not a TEC
Intersection 07		Avon Wheatbelt	Yes	*Eucalyptus camaldulensis* subsp. *obtusa*	*Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Casuarina obesa* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland	<5 trees per 0.5 ha		Not a TEC
Intersection 08		Avon Wheatbelt	No	*Eucalyptus rudis* subsp. *rudis*	*Melaleuca rhaphiophylla* and *Acacia saligna* sparse shrubland over *Arctotheca calendula* and *Hypochaeris glabra* isolated forbs	Not present	Tree canopy is sparse	Not a TEC
Intersection 09		Avon Wheatbelt	No	*Eucalyptus myriadena*	*Eucalyptus myriadena* open woodland over *Melaleuca sp.* sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland	<5 trees per 0.5 ha	Tree canopy is sparse	Not a TEC
Intersection 10		Avon Wheatbelt	Yes	*Eucalyptus salmonophloia* and *Eucalyptus myriadena*	*Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over	5+ trees per 0.5 ha		Not a TEC

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
					Maireana brevifolia, *Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland			
Intersection 11		Avon Wheatbelt	No	*Eucalyptus sheathiana*	*Eucalyptus sheathiana* open woodland over *Allocasuarina campestris* open shruband over *Acacia acuminata* sparse shrubland over *Melaleuca acuminata* subsp. *acuminata*, *Melaleuca adnata* and *Gastrolobium bennettsianum* sparse shrubland over **Ehrharta calycina* open grassland	<5 trees per 0.5 ha	Tree canopy is sparse	Not a TEC
Intersection 12		Mallee	No	*Eucalyptus loxophleba* subsp. *loxophleba*	*Acacia lasiocalyx* and *Eremophila drummondii* isolated shrubs over *Avena barbata* sparse grassland	Not present	Tree canopy is sparse	Not a TEC
Intersection 13		Mallee	Yes	*Eucalyptus flocktoniae* subsp. *Flocktoniae* and *Eucalyptus salubris*	*Enchylaena tomentosa* and *Sclerolaena diacantha* isolated clumps of chenopod shrubs over *Lupinus cosentinii* and *Sonchus oleraceus* sparse forbland	5+ trees per 0.5 ha	-	Potential
Intersection 14		Mallee	No	*Eucalyptus sheathiana*	*Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Acacia beauverdiana* open shrubland over E*ragrostis curvula*, *Ehrharta longiflora* and *Avena barbata* sparse grassland	Not present	Tree canopy is sparse	Not a TEC
Intersection 15		Mallee	No	*Calothamnus gilesii*	*Allocasuarina campestris*, *Poa gilesii* and *Hakea meisneriana* open shrubland *Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Gastrolobium bennettsianum* shrubs *Ptilotus polystachyus*, *Hibbertia exasperata* and *Pimelea angustifolia* forbland	Not present	Tree canopy is sparse	Not a TEC

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
Intersection 16		Mallee	No	*Eucalyptus calycogona* subsp. *miraculum*	*Santalum acuminatum* sparse shrubland over *Avena barbata, Lolium rigidum* and Poaceae sp. open grassland	Not present	Tree canopy is sparse	Not a TEC
Intersection 17		Mallee	Yes	*Eucalyptus camaldulensis* subsp. *obtusa*	*Acacia beauverdiana* and *Santalum acuminatum* sparse shrubland over *Avena barbata, Lolium rigidum* and Poaceae sp. open grassland	<5 trees per 0.5 ha	-	Potential
Intersection 18		Mallee	Yes	*Eucalyptus salmonophloia* and *Eucalyptus sporadica*	*Santalum acuminatum*, *Exocarpos aphyllus* and *Acacia lasiocalyx* sparse shrubland over *Enchylaena tomentosa* and *Eremophila drummondii* isolated shrubs over *Poaceae* sp. and V*ulpia myuros* sparse grassland	5+ trees per 0.5 ha	-	Potential
Intersection 19		Mallee	No	*Eucalyptus loxophleba* subsp. *loxophleba*	*Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shrubland over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over *Avena barbata*, *Eragrostis curvula* and *Poaceae* sp. open grassland	<5 trees per 0.5 ha	Tree canopy is sparse	Potential
Intersection 20		Mallee	No	*Allocasuarina acutivalvis*	*Callitris preissii, Allocasuarina acutivalvis* and *Hakea meisneriana* open shrubland over *Erodium botrys* and *Arctotheca calendula* sparse forbland over *Lolium rigidum* and *Poaceae* sp. isolated grassland	Not present	Dominated by non-eucalyptus species Tree canopy is sparse	Not a TEC
Intersection 21		Mallee	No	*Eucalyptus burracoppinensis*	*Callitris preissii*, *Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shrubland over *Gastrolobium bennettsianum* sparse samphire shrubland over *Arctotheca calendula* isolated forbs	Not present	Tree canopy is sparse	Not a TEC

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
					over *Lolium rigidum* and *Poaceae* sp. isolated grassland			
Intersection 22		Mallee	No	*Eucalyptus suggrandis* subsp. *promiscua*	*Callitris preissii* sparse shrubland over *Phebalium filifolium* sparse samphire shrubland over *Lolium rigidum*, *Vulpia myuros* and *Poaceae* sp. isolated grassland	<5 trees per 0.5 ha	Tree canopy is sparse	Potential
Intersection 23		Mallee	No	*Eucalyptus loxophleba* subsp. *loxophleba*	*Callitris preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shrubland over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over *Arctotheca calendula* isolated forbs over *Vulpia myuros* and *Poaceae* sp. isolated grassland	Not present	Tree canopy is sparse	Not a TEC
Intersection 24		Mallee	No	*Eucalyptus dissimulata*	*Callitris preissii*, *Allocasuarina acutivalvis* and *Hakea meisneriana* sparse shrubland over *Adenanthos argyreus*, *Phebalium filifolium* and *Beyeria sulcata* var. *sulcate* sparse samphire shrubland over *Arctotheca calendula* and *Leptospermopsis* sp. isolated forbs over *Austrostipa elegantissima* and **Eragrostis curvula* isolated grassland	Not present	Tree canopy is sparse	Not a TEC
Intersection 25		Mallee	No	*Allocasuarina acutivalvis*	*Acacia lasiocalyx* and *Acacia enervia* subsp. *enervia* sparse shrubland over *Phebalium filifolium* and *Gastrolobium bennettsianum* sparse samphire shrubland over *Arctotheca calendula* and *Hypochaeris glabra*	Not present	Dominated by non-eucalyptus species Tree canopy is sparse	Not a TEC

4.1.2.4 Introduced flora

There were 16 weed species recorded during the survey within the relevé in the survey area:

- * *Aira caryophyllea* (Silvery Hairgrass)
- * *Arctotheca calendula* (Cape Weed)
- * *Avena barbata* (Bearded Oat)
- * *Briza maxima* (Blowfly Grass)
- * *Ehrharta calycina* (Perennial Veldt Grass)
- * *Ehrharta longiflora* (Annual Veldt Grass)
- * *Eragrostis curvula* (African Lovegrass)
- * *Erodium botrys* (Long Storksbill)
- * *Hordeum glaucum* (Northern Barley Grass)
- * *Hypochaeris glabra* (Smooth Cats-ear)
- * *Lolium rigidum* (Wimmera Ryegrass)
- * *Lupinus cosentinii*
- * *Sonchus oleraceus* (Common Sowthistle)
- * *Trifolium arvense* (Hare's Foot Clover)
- * *Ursinia anthemoides* (Ursinia), and
- * *Vulpia myuros* (Rat's Tail Fescue) (Appendix E).

None of the weed species recorded are listed as WoNS (Australian Weeds Committee 2012) or as a Declared pest plant in Western Australia (Department of Agriculture and Food Western Australia, 2016).

4.1.2.5 Vegetation communities

Based on the field survey and with the aerial, sixteen vegetation communities were defined and mapped across the survey area. All the vegetation communities contain multiple native shrub species and non-native species with mostly poor to degraded condition as it is on the road verges. The remainder of the site was mapped as cleared as it comprises roads and bare soil with scattered non-native plants (Figure 4.1)

A description of plant community and representative photographs is provided overleaf. Raw sample data is provided in Appendix F.

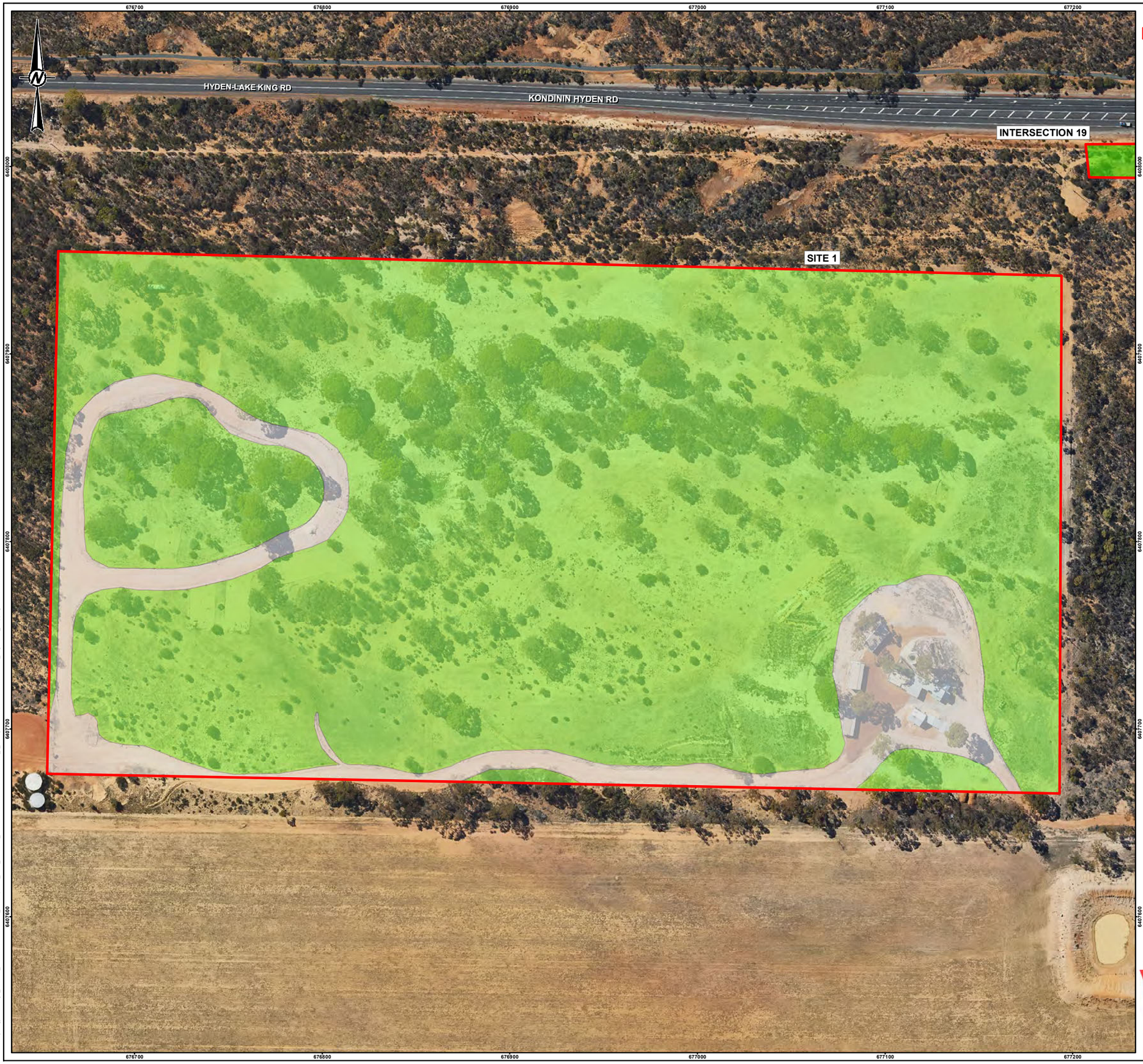
Table 4.2 Extent of vegetation communities within survey area

Locations	Vegetation Communities
Site 01 (Accommodation Site)	*Eucalyptus salmonophloia* and *Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Acacia lasiocalyx* sparse shrubland over *Glischrocaryon angustifolium* and *Waitzia acuminata* var. *acuminata* isolated samphire shrubs over **Avena barbata* and **Eragrostis curvula* sparse grassland on red-brown sandy-loam flats.
Site 02 (Accommodation Site)	The site is completely degraded by farming and infrastructure, no remnant native vegetation present.

Locations	Vegetation Communities
Intersection 01	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats.
Intersection 02	No Species
Intersection 03	*Acacia acuminata* sparse shrubland over *Melaleuca pauperiflora* subsp. *fastigiata* open shrubland over **Hypochaeris glabra* sparse forbland on sandy-loam flats.
Intersection 04	*Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia acuminata* open shrubland over *Hakea undulata* and *Calothamnus* sp. sparse shruband over **Ehrharta longiflora* and **Avena barbata* sparse grassland on sandy-loam flats.
Intersection 05	*Eucalyptus incrassata*, *Eucalyptus dorrienii* and *Eucalyptus caesia* open woodland over **Ehrharta calycina*, **Avena barbata* and **Lolium rigidum* sparse grassland on sandy-loam flats.
Intersection 06	*Eucalyptus camaldulensis* subsp. *obtusa* and *Corymbia calophylla* open woodland over *Casuarina obesa* and *Hakea prostrata* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland on sandy-loam flats.
Intersection 07	*Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Casuarina obesa* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland on sandy-loam flats.
Intersection 08	*Eucalyptus rudis* subsp. *rudis*, *Eucalyptus vegrandis* and *Eucalyptus suggrandis* subsp. *promiscua* open woodland over *Melaleuca rhaphiophylla* and *Acacia saligna* sparse shrubland over **Arctotheca calendula* and **Hypochaeris glabra* isolated forbs on sandy-loam flats.
Intersection 09	*Eucalyptus myriadena* open woodland over *Melaleuca sp.* sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland on sandy-loam flats.
Intersection 10	*Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over *Maireana brevifolia*, *Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland on sandy-loam flats.
Intersection 11	*Eucalyptus sheathiana* open woodland over *Allocasuarina campestris* open shruband over *Acacia acuminata* sparse shrubland over *Melaleuca acuminata* subsp. *acuminata*, *Melaleuca adnata* and *Gastrolobium bennettsianum* sparse shrubland over **Ehrharta calycina* open grassland on sandy-loam flats.
Intersection 12	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.

Locations	Vegetation Communities
Intersection 13	*Eucalyptus flocktoniae* subsp. *flocktoniae*, *Eucalyptus salubris* and *Eucalyptus melanoxylon* open forest over *Enchylaena tomentosa* and *Sclerolaena diacantha* isolated clumps of chenopod shrubs over **Lupinus cosentinii* and **Sonchus oleraceus* sparse forbland on sandy-loam flats.
Intersection 14	*Eucalyptus sheathiana* open woodland over *Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Acacia beauverdiana* open shrubland over **Eragrostis curvula*, **Ehrharta longiflora* and **Avena barbata* sparse grassland on red-brown sandy-loam flats.
Intersection 15	*Eucalyptus capillosa* open woodland over *Allocasuarina campestris*, *Poa gilesii* and *Hakea meisneriana* open shrubland over *Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Gastrolobium bennettsianum* sparse shrubs over *Ptilotus polystachyus*, *Hibbertia exasperata* and *Pimelea angustifolia* sparse forbland on brown sandy-loam flats.
Intersection 16	*Eucalyptus calycogona* subsp. *miraculum* open woodland over *Santalum acuminatum* sparse shrubland over **Avena barbata, *Lolium rigidum* and Poaceae sp. open grassland on sandy-loam flats.
Intersection 17	*Eucalyptus camaldulensis* subsp. *obtusa* and *Eucalyptus sporadica* open woodland over *Acacia beauverdiana* and *Santalum acuminatum* sparse shrubland over **Avena barbata, *Lolium rigidum* and Poaceae sp. open grassland on sandy-loam flats.
Intersection 18	*Eucalyptus salmonophloia* and *Eucalyptus sporadica* closed forest over *Santalum acuminatum*, *Exocarpos aphyllus* and *Acacia lasiocalyx* sparse shrubland over *Enchylaena tomentosa* and *Eremophila drummondii* isolated shrubs over *Poaceae* sp. and **Vulpia myuros* sparse grassland on sandy-loam flats.
Intersection 19	*Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shrubland over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over **Avena barbata*, **Eragrostis curvula* and *Poaceae* sp. open grassland on sandy-loam flats.
Intersection 20	*Callitris preissii, Allocasuarina acutivalvis* and *Hakea meisneriana* open shrubland over **Erodium botrys* and **Arctotheca calendula* sparse forbland over **Lolium rigidum* and *Poaceae* sp. isolated grassland on sandy-loam flats.
Intersection 21	*Eucalyptus burracoppinensis* open woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shrubland over *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* isolated forbs over **Lolium rigidum* and *Poaceae* sp. isolated grassland on sandy-loam flats.
Intersection 22	*Eucalyptus suggrandis* subsp. *promiscua* woodland over *Callitris preissii* sparse shrubland over *Phebalium filifolium* sparse samphire shrubland over **Lolium rigidum*, **Vulpia myuros* and *Poaceae* sp. isolated grassland on sandy-loam flats.
Intersection 23	*Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shrubland over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over **Arctotheca calendula* isolated forbs over **Vulpia myuros* and *Poaceae* sp. isolated grassland on sandy-loam flats.

Locations	Vegetation Communities
Intersection 24	*Eucalyptus dissimulata* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Hakea meisneriana* sparse shrubland over *Adenanthos argyreus*, *Phebalium filifolium* and *Beyeria sulcata* var. *sulcate* sparse samphire shrubland over **Arctotheca calendula* and *Leptospermopsis* sp. isolated forbs over *Austrostipa elegantissima* and **Eragrostis curvula* isolated grassland on sandy-loam flats.
Intersection 25	*Eucalyptus dissimulata* open woodland over *Allocasuarina acutivalvis* sparse shrubland over *Acacia lasiocalyx* and *Acacia enervia* subsp. *enervia* sparse shrubland over *Phebalium filifolium* and *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* and **Hypochaeris glabra*. Isolated forbs on sandy-loam flats.



LEGEND

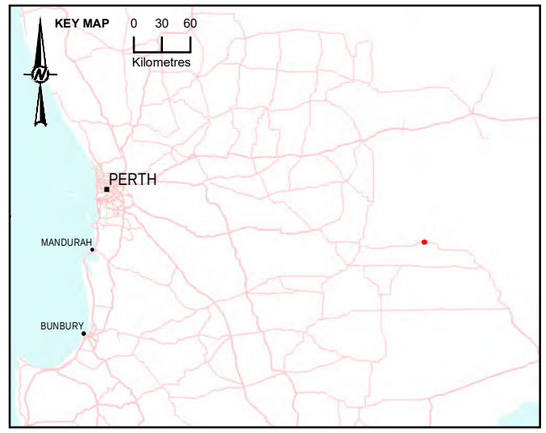
PROJECT AREA

VEGETATION MAPPING

ElAcAbAl - *Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shruband over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over **Avena barbata*, **Eragrostis curvula* and Poaceae sp. open grassland on sandy-loam flats.

EsElAnMh - *Eucalyptus salmonophloia* and *Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Acacia enervia* subsp. *enervia, Melaleuca hamata* and *Acacia lasiocalyx* sparse shrubland over *Glischrocaryon angustifolium* and *Waitzia acuminata var. acuminata* Isolated samphire shrubs over **Avena barbata* and **Eragrostis curvula* sparse grassland on red-brown sandy-loam flats.

CLEARED



0 40 80

1:2,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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Figure 4.1 Vegetation mapping

675600 675700 675800 675900 676000 676100

6409600 6409500 6409400 6409300 6409200

SITE 2

MARSHALL ST

HYDEN-LAKE KING RD

HYDEN LAKE KING RD

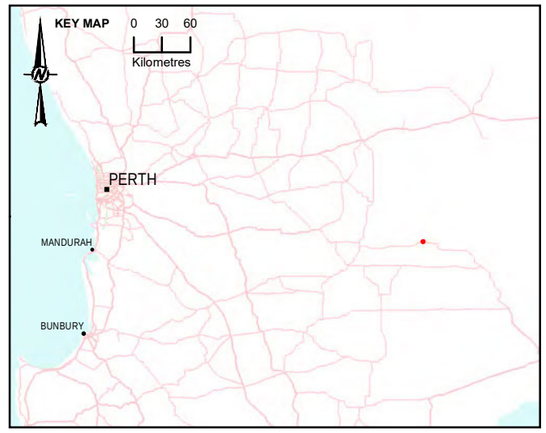
LEGEND

PROJECT AREA

VEGETATION MAPPING

EsElAnMh - The site is completely degraded by farming and infrastructure, no remnant native vegetation present

CLEARED



0 40 80

1:2,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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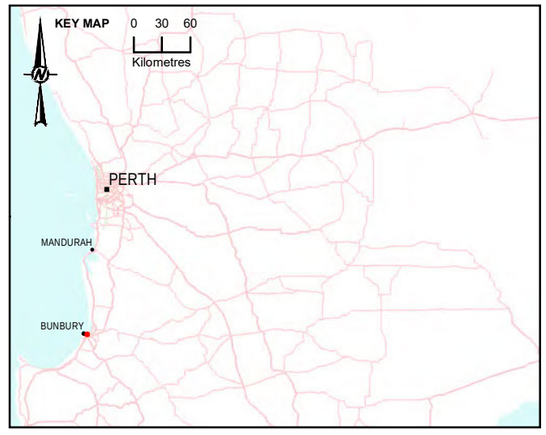
LEGEND

PROJECT AREA

VEGETATION MAPPING

EiErMsLr - *Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats

CLEARED



0 70 140

1:3,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.3

PATH: B:\Synergy\REDI\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:10:00 PM

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25mm

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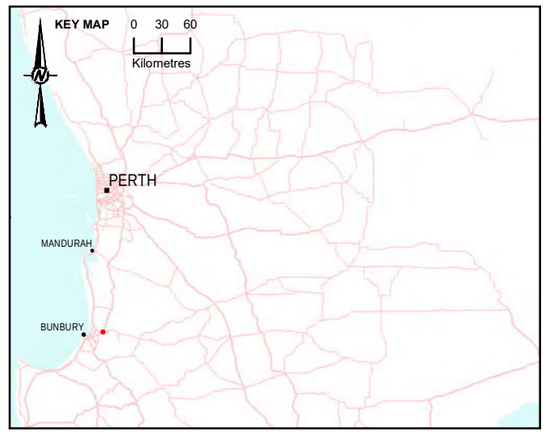


LEGEND

PROJECT AREA

VEGETATION MAPPING

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.4

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0 25mm



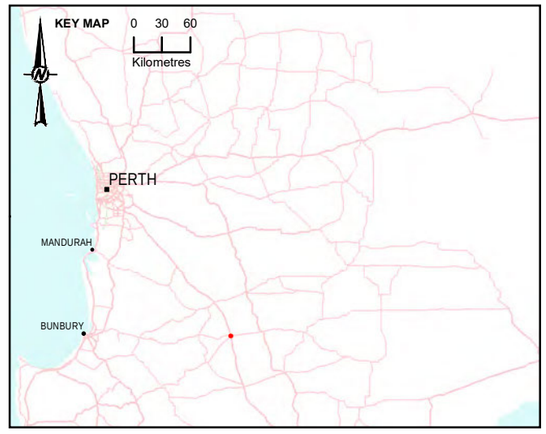
LEGEND

PROJECT AREA

VEGETATION MAPPING

AaMpHg - *Acacia acuminata* sparse shrubland over *Melaleuca pauperiflora* subsp. *fastigiata* open shrubland over **Hypochaeris glabra* sparse forbland on sandy-loam flats

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.5

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THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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503000 503100 503200

6311500 6311400 6311300

INTERSECTION 4

ALBANY HWY

ALBANY HWY

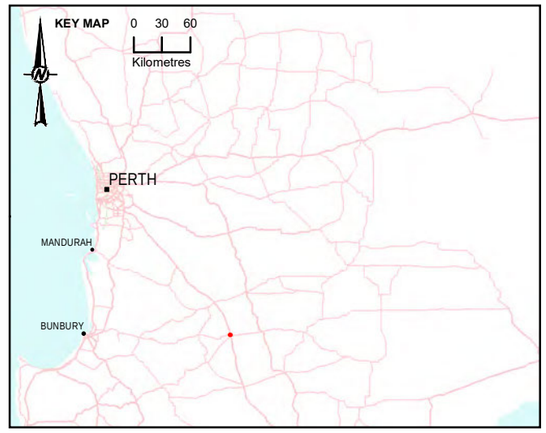
LEGEND

PROJECT AREA

VEGETATION MAPPING

EcAaHuCs - *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia acuminata* open shrubland over *Hakea undulata* and *Calothamnus* sp. sparse shruband over **Ehrharta longiflora* and * *Avena barbata* sparse grassland on sandy-loam flats

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.6

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25mm

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488800
488900
489000
6345100
6345000
6344900

ALBANY HWY
NARROGIN RD
INTERSECTION 5

LEGEND

PROJECT AREA

VEGETATION MAPPING

EiEdEcEc - *Eucalyptus incrassata*, *Eucalyptus dorrienii* and *Eucalyptus caesia* open woodland over **Ehrharta calycina*, **Avena barbata* and **Lolium rigidum* sparse grassland on sandy-loam flats

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH
MANDURAH
BUNBURY

0 20 40
1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO. PS204764 | CONTROL 001-R | REV. A | FIGURE 7.7

PATH: B:\Synergy\RED\Krgs_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:11:35 PM

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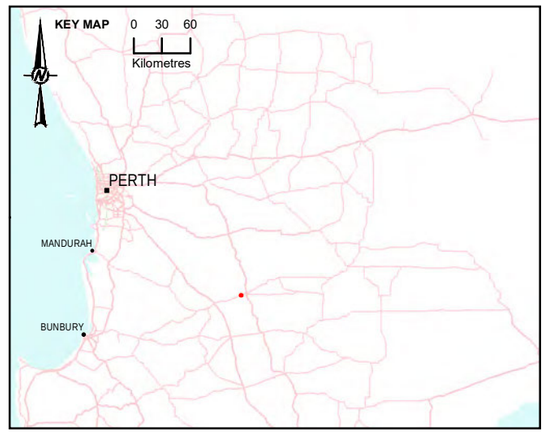
LEGEND

PROJECT AREA

VEGETATION MAPPING

EcCcCoJs - *Eucalyptus camaldulensis* subsp. *obtusa* and *Corymbia calophylla* open woodland over *Casuarina obesa* and *Hakea prostrata* open shrubland over *Jacksonia sternbergiana* sparse shruband over * *Ehrharta calycina* and **Lolium rigidum* sparse grassland on sandy-loam flats

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.8

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25mm
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512600
512700
512800
6356200
6356100
6356000

INTERSECTION 7

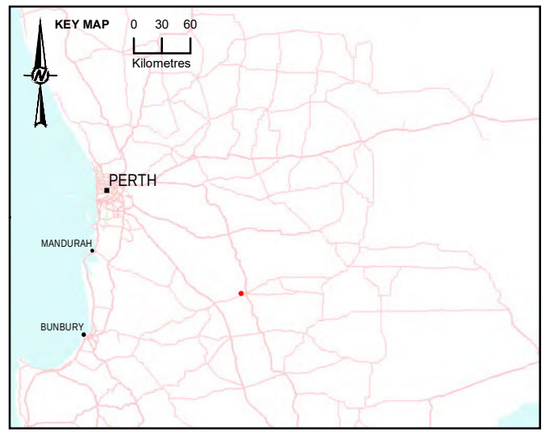
LEGEND

PROJECT AREA

VEGETATION MAPPING

EcCoJsEc - *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Casuarina obesa* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland on sandy-loam flats

CLEARED



0 20 40
1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:12:26 PM

516700 516800 516900

6356400

CLAYTON RD

KIPLING ST

INTERSECTION 8

FEDERAL ST

PIONEER DR

6356300

LEGEND

PROJECT AREA

VEGETATION MAPPING

ErEvEspMr - *Eucalyptus rudis* subsp. *rudis*, *Eucalyptus vegrandis* and *Eucalyptus suggrandis* subsp. *promiscua* open woodland over *Melaleuca rhaphiophylla* and *Acacia saligna* sparse shruband over * *Arctotheca calendula* and **Hypochaeris glabra* Isolated forbs on sandy-loam flats.

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.10

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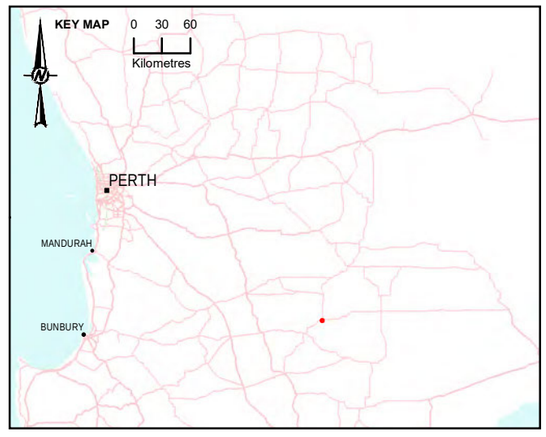
LEGEND

PROJECT AREA

VEGETATION MAPPING

EmDaMbTs - *Eucalyptus myriadena* open woodland over *Melaleuca* sp. sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland on sandy-loam flats

CLEARED



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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DUDINN JITARNING RD

DUDINN JITARNING RD

RABBIT PROOF FENCE RD

RABBIT PROOF FENCE RD

INTERSECTION 10

FORREST ST

LEGEND

PROJECT AREA

VEGETATION MAPPING

EsEmDaAm - *Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over *Maireana brevifolia, Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland on sandy-loam flats

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.12

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:13:24 PM

582000 582100 582200

6372800 6372700 6372600

WILLIAMS-KONDININ RD

WILLIAMS KONDININ RD

INTERSECTION 11

JITARNING

WOGOLIN

LEGEND

PROJECT AREA

VEGETATION MAPPING

EsAcAaMa - *Eucalyptus sheathiana* open woodland over *Allocasuarina campestris* open shruband over *Acacia acuminata* sparse shrubland over *Melaleuca acuminata* subsp. *acuminata*, *Melaleuca adnata* and *Gastrolobium bennettsianum* sparse shrubland over **Ehrharta calycina* open grassland on sandy-loam flats

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.13

25mm

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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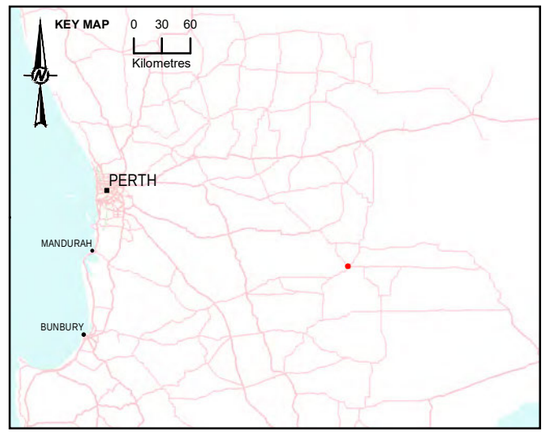
LEGEND

PROJECT AREA

VEGETATION MAPPING

ElEcAlEd - *Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* Isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.

CLEARED



0 80 160

1:4,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.14

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

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618700 618800 618900 619000 619100

6403600 6403500 6403400 6403300

GRAHAM ST

NICHOLLS ST

NICHOLLS ST

INTERSECTION 13

GRAHAM ST

WILLIAMS-KONDININ RD

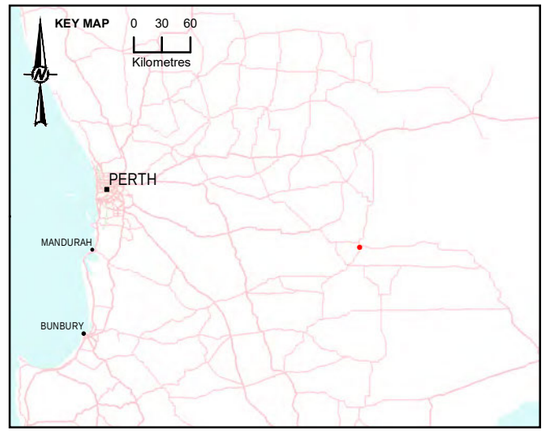
LEGEND

PROJECT AREA

VEGETATION MAPPING

EfEsaEmSd - *Eucalyptus flocktoniae* subsp. *flocktoniae*, *Eucalyptus salubris* and *Eucalyptus melanoxylon* open forest over *Enchylaena tomentosa* and *Sclerolaena diacantha* Isolated clumps of chenopod shrubs over **Lupinus cosentinii* and **Sonchus oleraceus* sparse forbland on sandy-loam flats.

CLEARED



0 30 60

1:1,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

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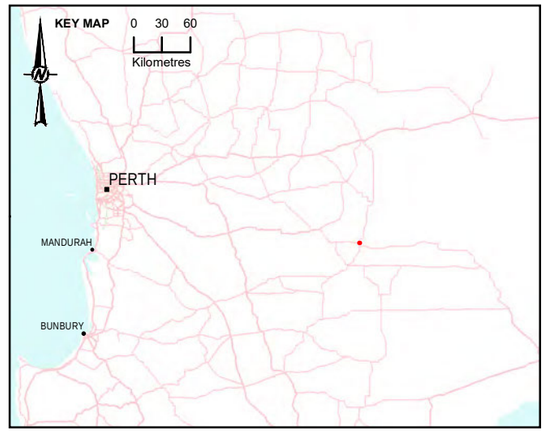
LEGEND

PROJECT AREA

VEGETATION MAPPING

EshAnMhAb - *Eucalyptus sheathiana* open woodland over *Acacia enervia* subsp.*enervia*, *Melaleuca hamata* and *Acacia beauverdiana* open shrubland over **Eragrostis curvula*, **Ehrharta longiflora* and **Avena barbata* sparse grassland on red-brown sandy-loam flats.

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.16

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT: 2:14:32 PM

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0 25mm



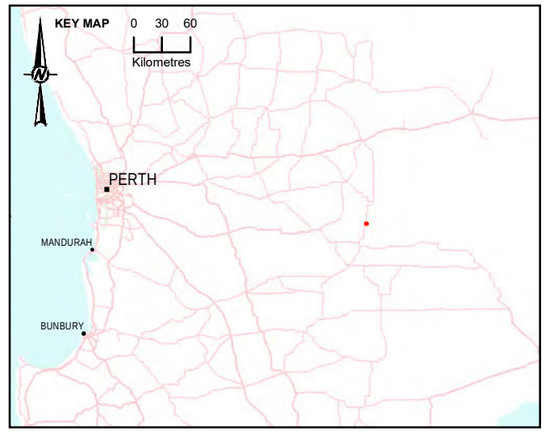
LEGEND

PROJECT AREA

VEGETATION MAPPING

EcAcCgHm - *Eucalyptus capillosa* open woodland over *Allocasuarina campestris*, *Poa gilesii* and *Hakea meisneriana* open shrubland over *Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Gastrolobium bennettsianum* sparse shrubs over *Ptilotus polystachyus*, *Hibbertia exasperata* and *Pimelea angustifolia* sparse forbland on brown sandy-loam flats.

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.17

PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-RP\ase 2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT: 2:14:41 PM
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656500
656600
656700
6395000
6394900

INTERSECTION 16

PEDERAH RD

KARLGARIN
PINGARING

NORTH LAKE
GRADE-KARLGARIN RD

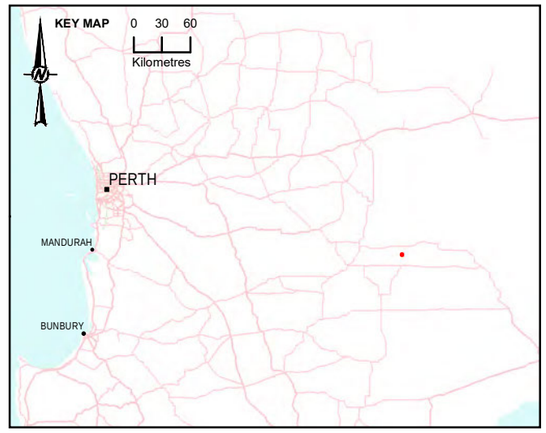
LEGEND

PROJECT AREA

VEGETATION MAPPING

EcmSaPs - *Eucalyptus calycogona* subsp. *miraculum* open woodland over *Santalum acuminatum* sparse shruband over **Avena barbata*, * *Lolium rigidum* and Poaceae sp. open grassland on sandy-loam flats.

CLEARED



0 10 20
1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.18

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25mm
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660200
660300
6402800
6402700
NOTTING-KARLGARIN RD
INTERSECTION 17
MELBA ST
PEDERAH RD

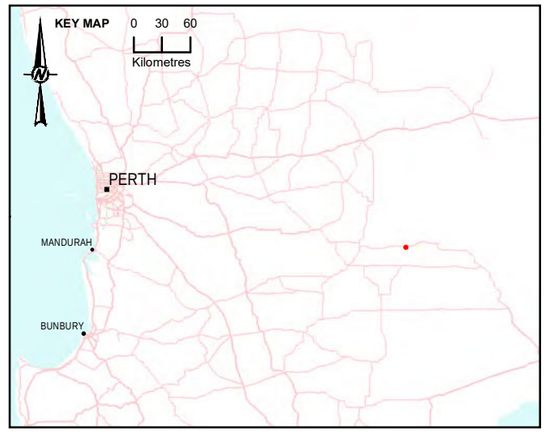
LEGEND

PROJECT AREA

VEGETATION MAPPING

EcEspAbSa - *Eucalyptus camaldulensis* subsp. *obtusa* and *Eucalyptus sporadica* open woodland over *Acacia beauverdiana* and *Santalum acuminatum* sparse shruband over **Avena barbata*, **Lolium rigidum* and Poaceae sp. open grassland on sandy-loam flats.

CLEARED



0 10 20
1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.19

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25mm
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660000
660100
660200
6403300
6403200
INTERSECTION 18
KONDININ-HYDEN RD
NOTTING-KARLGARIN RD

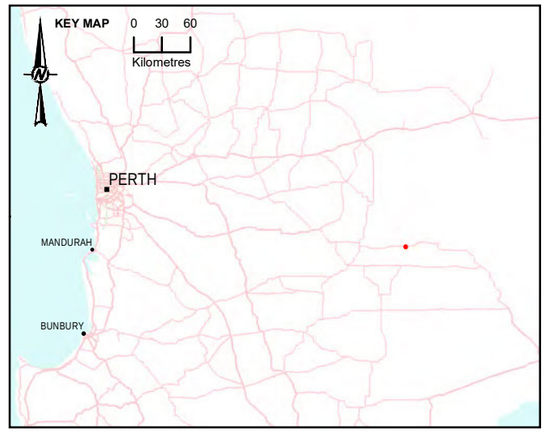
LEGEND

PROJECT AREA

VEGETATION MAPPING

EsEspSaAl - *Eucalyptus salmonophloia* and *Eucalyptus sporadica* closed forest over *Santalum acuminatum*, *Exocarpos aphyllus* and *Acacia lasiocalyx* sparse shruband over *Enchylaena tomentosa* and *Eremophila drummondii* isolated shrubs over Poaceae sp. and * *Vulpia myuros* sparse grassland on sandy-loam flats.

CLEARED



0 10 20
1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.20

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25mm
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677200

677300

6405100

6405100

6405000

6405000

HYDEN-LAKE KING RD

KONDININ HYDEN RD

INTERSECTION 19

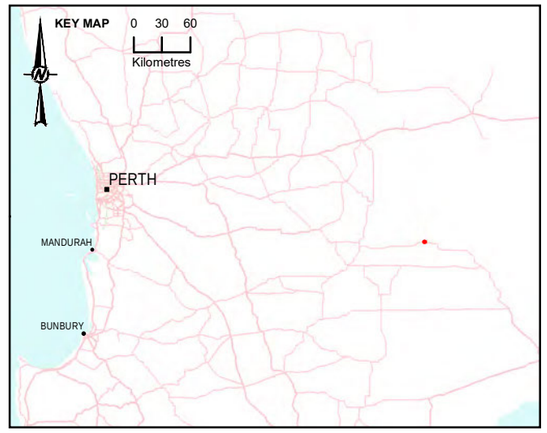
LEGEND

PROJECT AREA

VEGETATION MAPPING

ElAcAbAl - *Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shruband over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over **Avena barbata*, **Eragrostis curvula* and Poaceae sp. open grassland on sandy-loam flats.

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.21

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25mm

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690200

690300

6424700

INTERSECTION 20

690200

690300

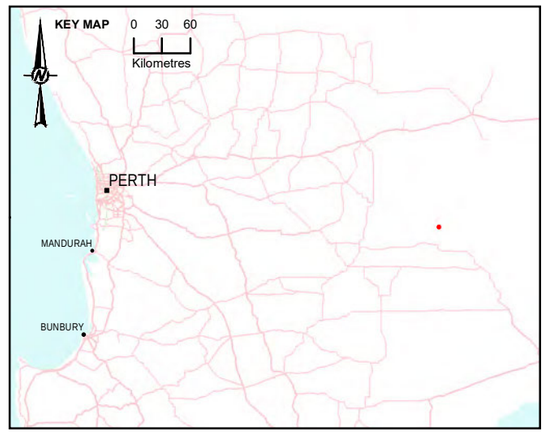
LEGEND

PROJECT AREA

VEGETATION MAPPING

CpAaHmPs - *Callitris preissii*, *Allocasuarina acutivalvis* and *Hakea meisneriana* open shrubland over **Erodium botrys* and **Arctotheca calendula* sparse forbland over **Lolium rigidum* and Poaceae sp. isolated grassland on sandy-loam flats.

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.22

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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690200 690300 690400

6427500 6427400 6427300

INTERSECTION 21

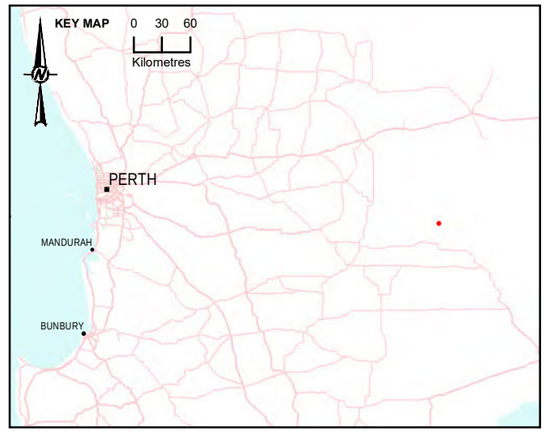
LEGEND

PROJECT AREA

VEGETATION MAPPING

EbCpAaAl - *Eucalyptus burracoppinensis* open woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shruband over *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* Isolated forbs over **Lolium rigidum* and Poaceae sp. isolated grassland on sandy-loam flats.

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.23

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F907_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT: 2:15:30 PM

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25mm

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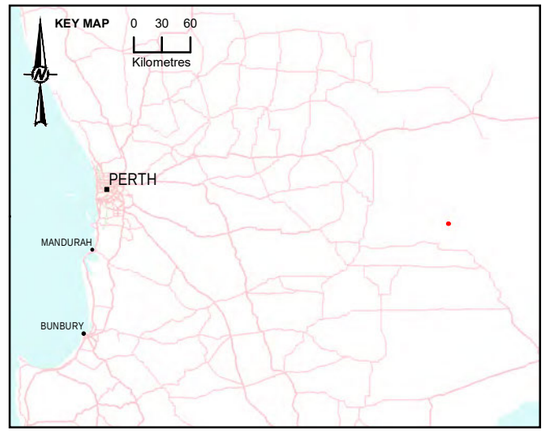
LEGEND

PROJECT AREA

VEGETATION MAPPING

EspCpPfPs - *Eucalyptus suggrandis* subsp. *promiscua* woodland over *Callitris preissii* sparse shruband over *Phebalium filifolium* sparse samphire shrubland over **Lolium rigidum*, **Vulpia myuros* and Poaceae sp. isolated grassland on sandy-loam flats.

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.24

PATH: B:\synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:15:38 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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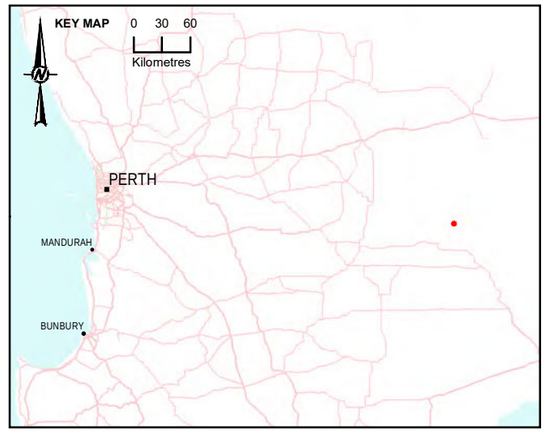
LEGEND

PROJECT AREA

VEGETATION MAPPING

ElCpAaMh - *Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shruband over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over **Arctotheca calendula* Isolated forbs over **Vulpia myuros* and Poaceae sp. isolated grassland on sandy-loam flats.

CLEARED



0 60 120

1:3,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.25

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:15:47 PM

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25mm

0

698700

6435600

INTERSECTION 24

698700

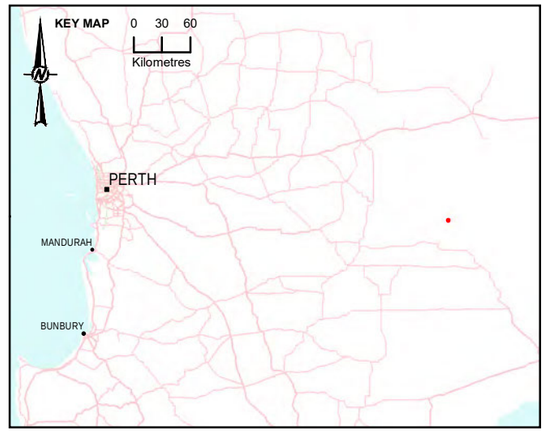
LEGEND

PROJECT AREA

VEGETATION MAPPING

EdCpAaHm - *Eucalyptus dissimulata* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Hakea meisneriana* sparse shruband over *Adenanthos argyreus*, *Phebalium filifolium* and *Beyeria sulcata* var. *sulcate* sparse samphire shrubland over **Arctotheca calendula* and *Leptospermopsis* sp. Isolated forbs over *Austrostipa elegantissima* and * *Eragrostis curvula* isolated grassland on sandy-loam flats.

CLEARED



0 8 16

1:400 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.26

PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:15:55 PM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0



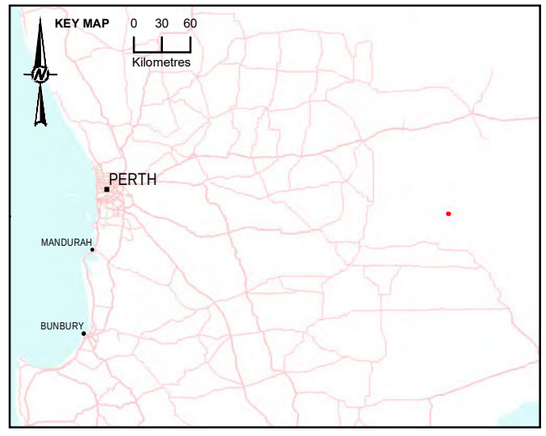
LEGEND

PROJECT AREA

VEGETATION MAPPING

EdAaAlAn - *Eucalyptus dissimulata* open woodland over *Allocasuarina acutivalvis* sparse shruband over *Acacia lasiocalyx* and *Acacia enervia* subsp. *enervia* sparse shrubland over *Phebalium filifolium* and *Gastrolobium bennettsianum* sparse samphire shrubland over * *Arctotheca calendula* and **Hypochaeris glabra* Isolated forbs on sandy-loam flats.

CLEARED



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	7.27

PATH: B:\Synergi\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2024-03-22 AT 2:16:05 PM

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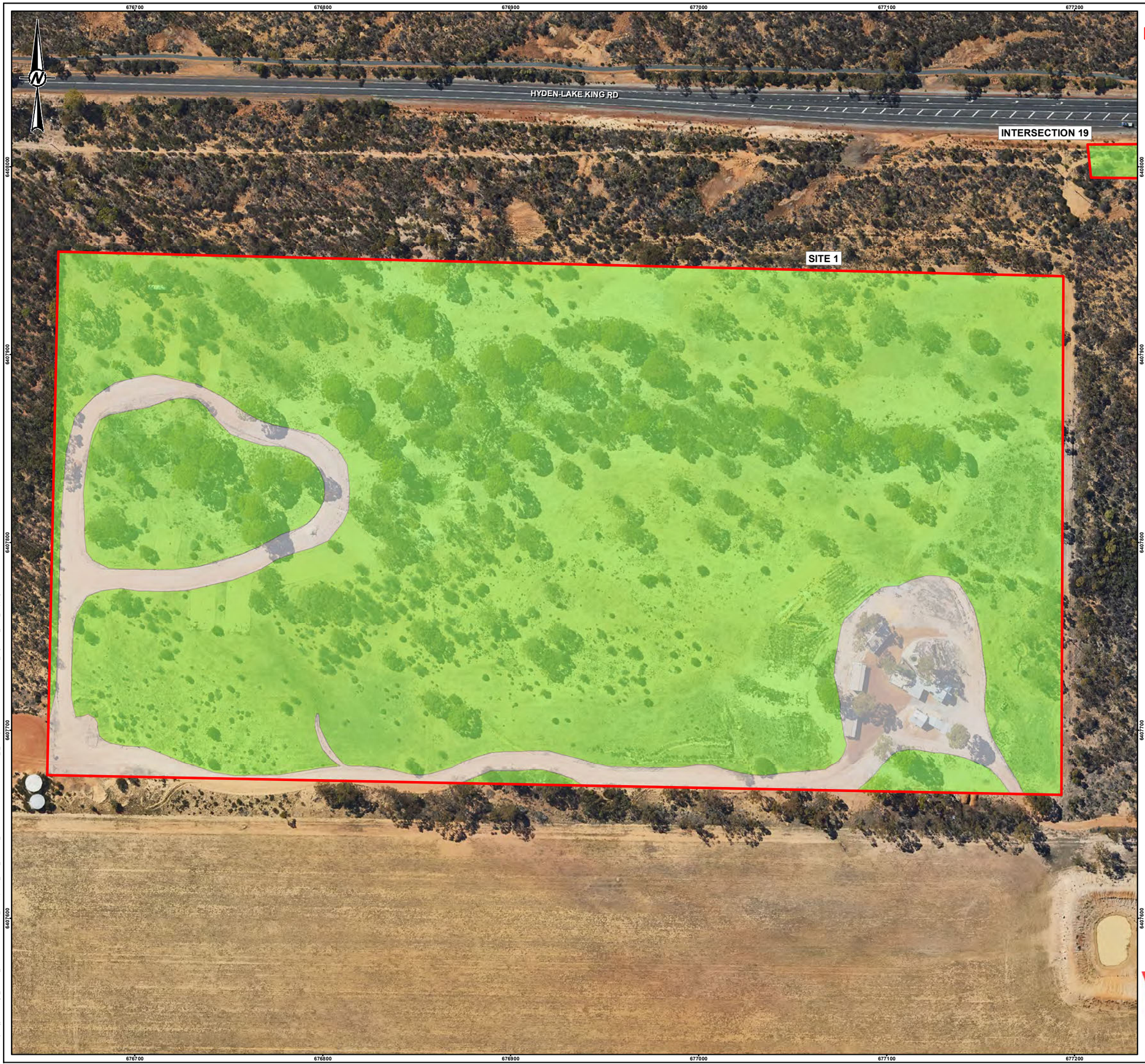
25mm
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4.1.2.6 Vegetation condition

The plant communities at most sites were mapped as being in 'Degraded' condition as it contained fewer native species and more non-native species diversity compared to adjacent woodland or shrubland. Intersection 2 and Site 2 were identified within the survey area contains no native vegetation and area is either cleared or farmed, was mapped as 'completely degraded' condition in Figure 4.2.

Table 4.3 Extent of vegetation condition categories within survey area

Location	Disturbance (in hectares)			
	Good	Degraded	Completely Degraded	Cleared
Site 01 (Accommodation Site)		13.15		1.74
Site 02 (Accommodation Site)			5.99	1.50
Intersection 01		0.57		1.39
Intersection 02				0.10
Intersection 03			0.02	0.12
Intersection 04		0.11		0.25
Intersection 05		0.10		0.15
Intersection 06	0.78			0.10
Intersection 07		0.12		0.23
Intersection 08		0.11		0.36
Intersection 09		0.09		0.02
Intersection 10		0.33		0.17
Intersection 11		0.17		0.02
Intersection 12		0.55		0.35
Intersection 13		0.61		0.26
Intersection 14		0.07		0.29
Intersection 15		0.28		0.12
Intersection 16		0.15		0.46
Intersection 17		0.16		0.53
Intersection 18		0.26		0.70
Intersection 19		0.12		0.02
Intersection 20		0.21		0.06
Intersection 21		0.25		1.29
Intersection 22		0.26		0.51
Intersection 23		0.53		0.32
Intersection 24	0.04			0.02
Intersection 25	0.14			0.99



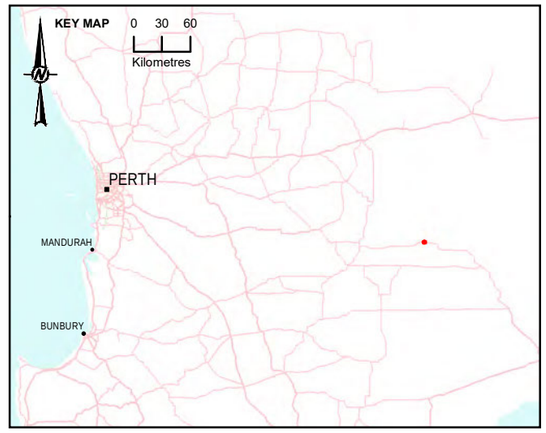
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 40 80

1:2,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.1

PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:28:36 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

Figure 4.2 Vegetation condition mapping

675600 675700 675800 675900 676000 676100

6409600 6409500 6409400 6409300 6409200

SITE 2

MARSHALL ST

HYDEN-LAKE KING RD

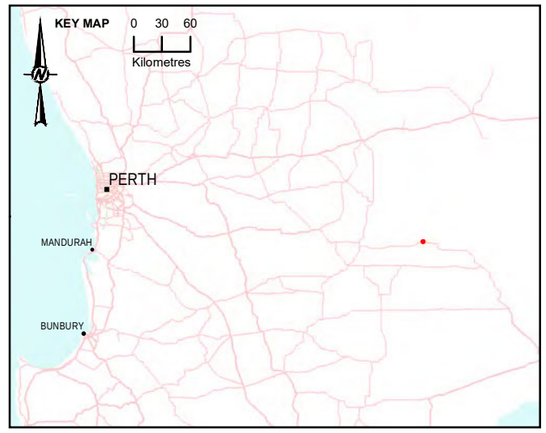
LEGEND

PROJECT AREA

CONDITION

COMPLETELY DEGRADED

CLEARED



0 40 80

1:2,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Dev\6-mmnt_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:28:52 PM



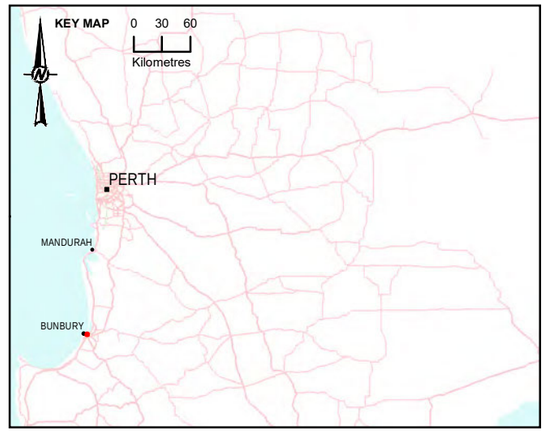
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 70 140

1:3,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.3

PATH: B:\Synergy\REDI\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:29:30 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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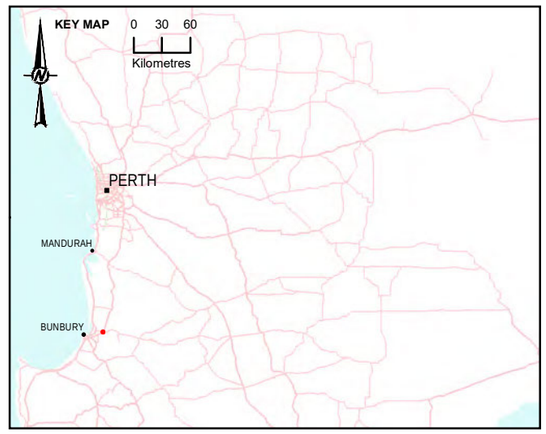


LEGEND

PROJECT AREA

CONDITION

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.4

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-RPhase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:29:48 PM
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0 25mm



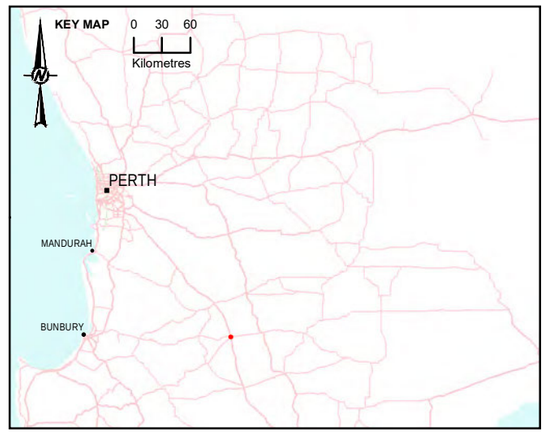
LEGEND

PROJECT AREA

CONDITION

COMPLETELY DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.5

PATH: B:\Synergy\RED\King's Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:30:03 PM

THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

503000
503100
503200
6311500
6311400
6311300

INTERSECTION 4

ALBANY HWY

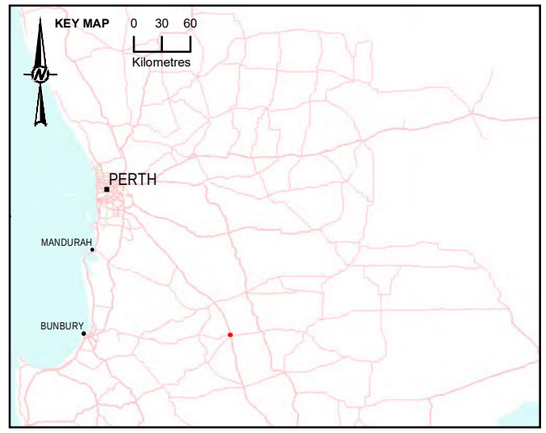
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.6

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Rev A-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:30:17 PM

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25mm

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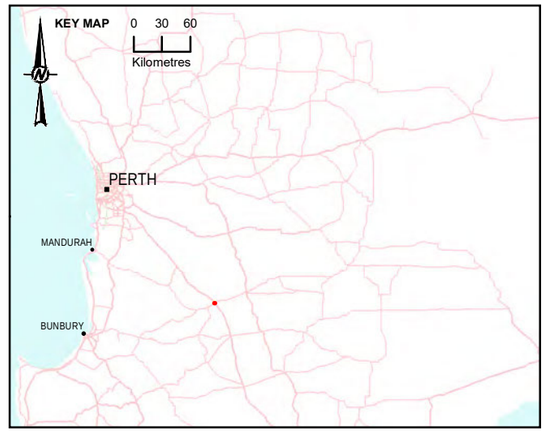
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.7

PATH: B:\Synergi\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:30:36 PM

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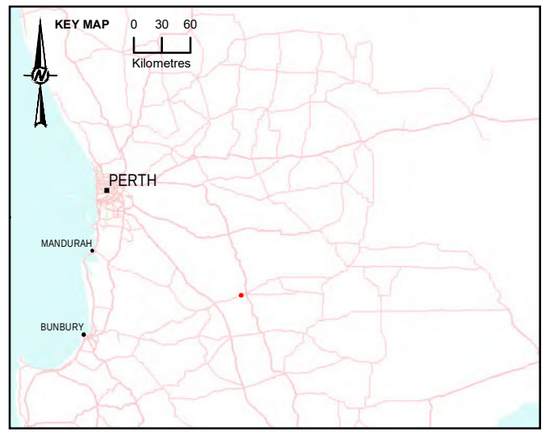
LEGEND

PROJECT AREA

CONDITION

GOOD

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.8

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:30:54 PM

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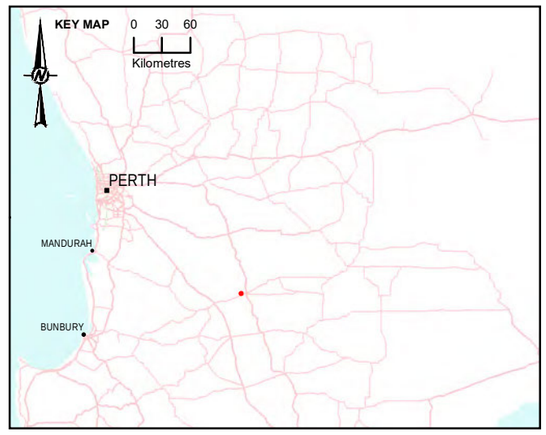
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

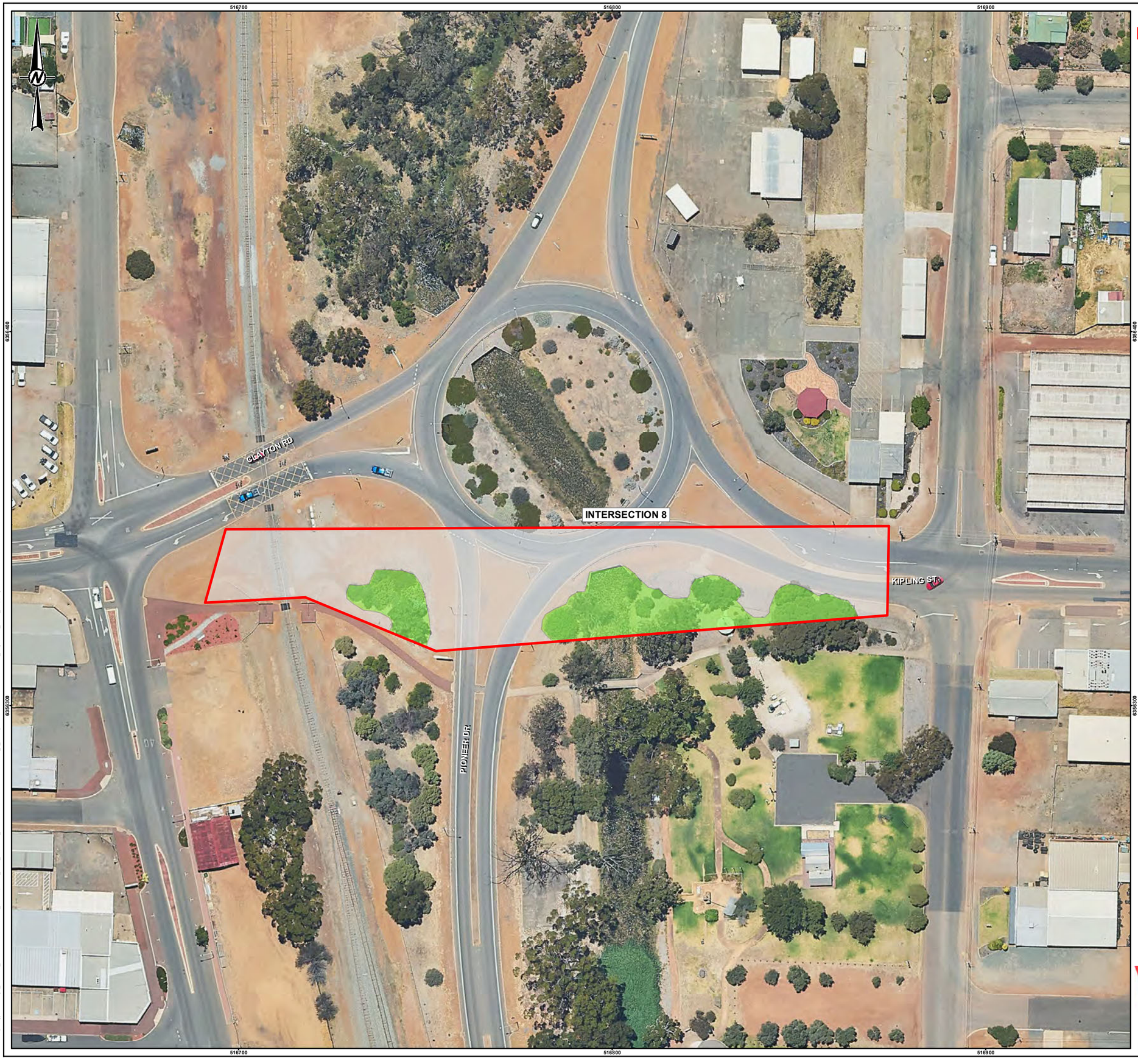
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.9

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:31:11 PM

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25mm

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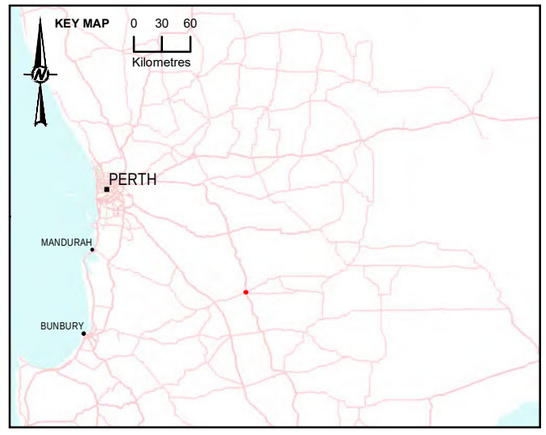
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.10

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:31:29 PM

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25mm

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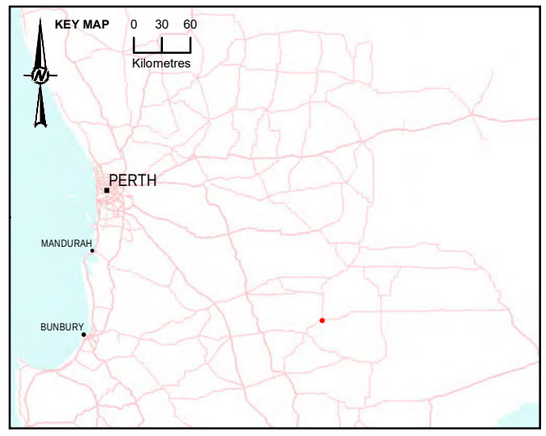
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.11

PATH: B:\Synergy\REDI\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:31:44 PM

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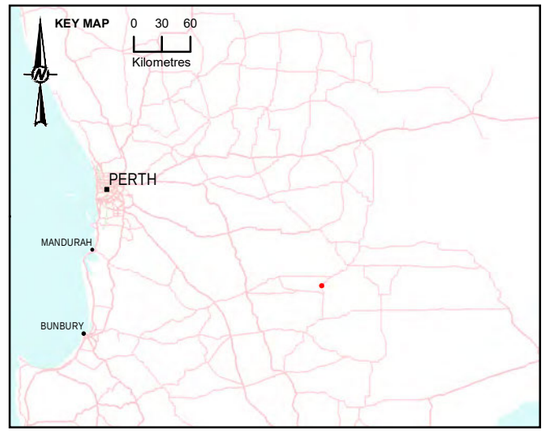
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.12

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:32:01 PM

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6372800 6372700 6372600

WILLIAMS-KONDININ RD

INTERSECTION 11

JITARNING

WOGOLIN

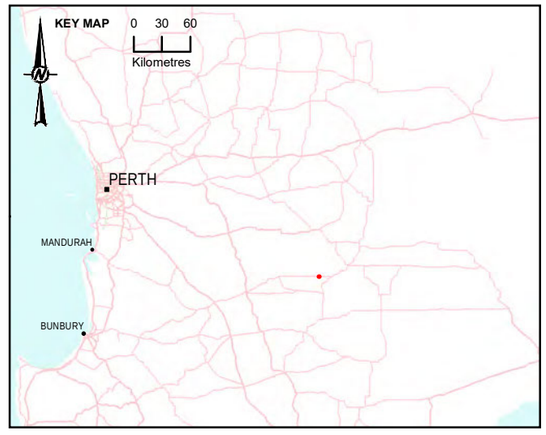
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Dev\4\omnent_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:32:17 PM

607700 607800 607900 608000 608100 608200 608300 608400 608500 608600 608700 608800

6385100 6385000 6384900 6384800 6384700 6384600 6384500 6384400 6384300 6384200 6384100 6384000

HIGH ST

KULIN WEST

KULIN

WILLIAMS-KONDININ RD

KULIN-LAKE GRACE RD

INTERSECTION 12

JOHNSTON ST

KULIN RD KULIN

JITARNING

LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 80 160

1:4,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.14

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:32:35 PM

618700 618800 618900 619000 619100

6403600 6403500 6403400 6403300

GRAHAM ST

NICHOLLS ST

INTERSECTION 13

WILLIAMS-KONDININ RD

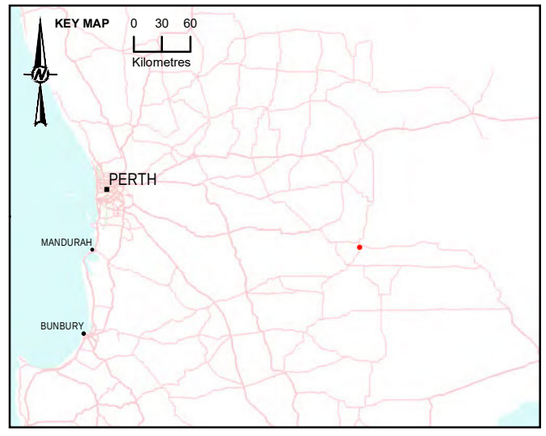
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 30 60

1:1,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.15

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:32:58 PM

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0 25mm



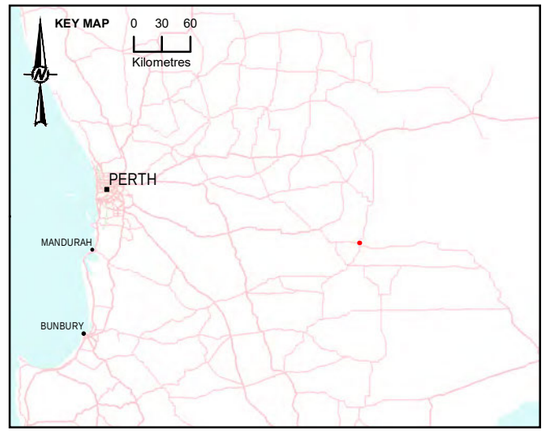
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.16

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:33:11 PM

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0 25mm



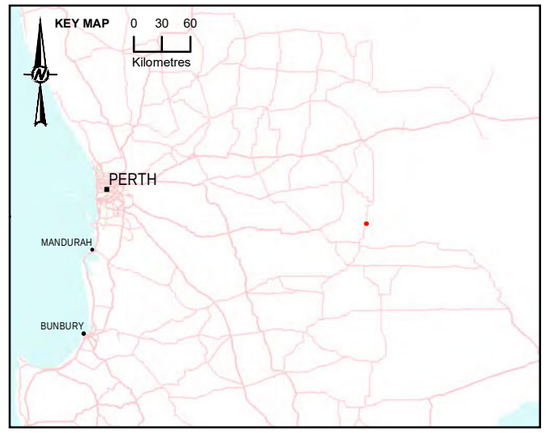
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.17

PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 2_survey\PS204764-001-R-RevA-F09B_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:33:25 PM

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25mm
0



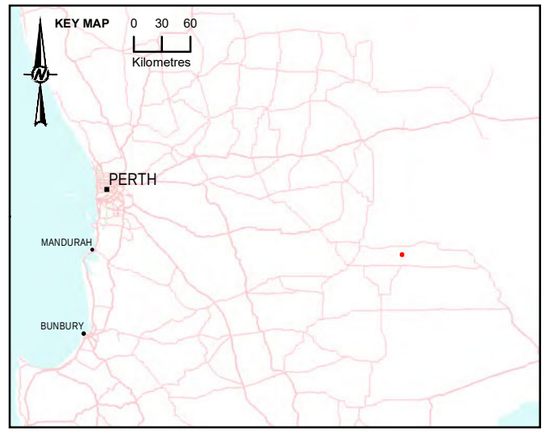
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.18

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:33:41 PM

660200
660300
6402800
6402700
NOTTING-KARLGARIN RD
PEDERAH RD
MELBA ST
INTERSECTION 17

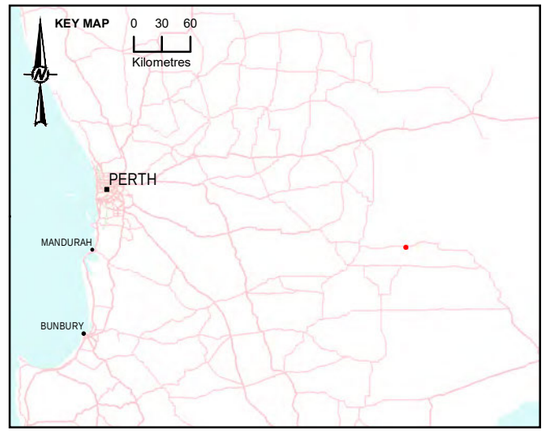
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20
1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.19

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:33:55 PM

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25mm
0

660000 660100 660200

6403300

6403200

INTERSECTION 18

KONDININ-HYDEN RD

NOTTING-KARLGARIN RD

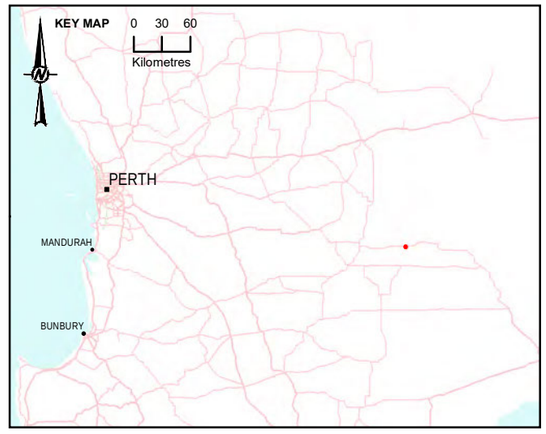
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.20

25mm

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677200

677300

6408100

6408000

HYDEN-LAKE KING RD

INTERSECTION 19

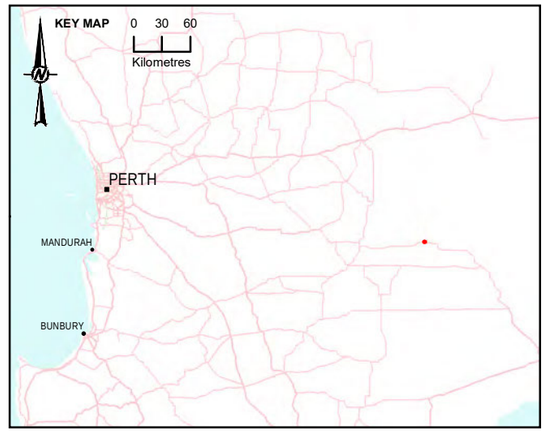
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.21

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

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690200

690300

6424700

INTERSECTION 20

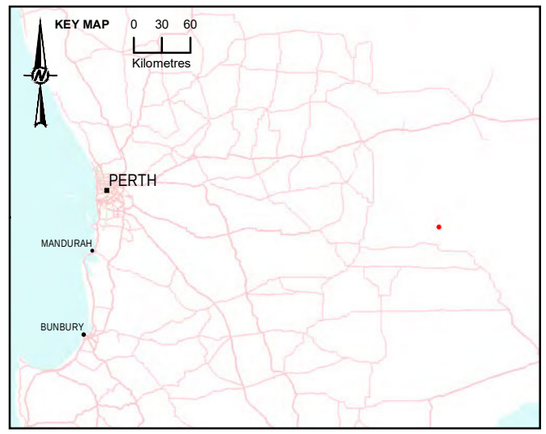
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.22

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

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690200 690300 690400

6427500 6427400 6427300

INTERSECTION 21

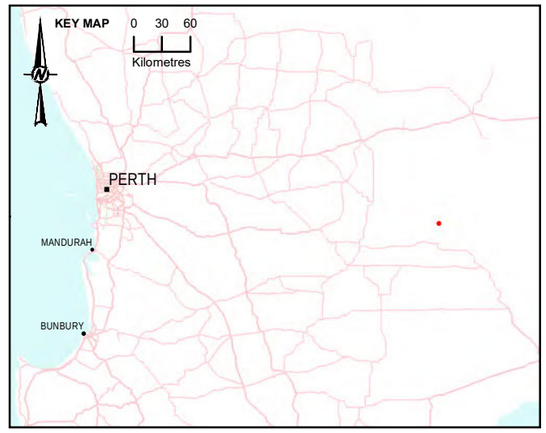
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.23

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

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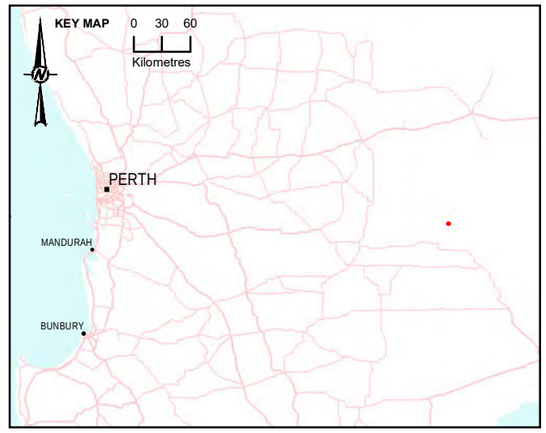
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.24

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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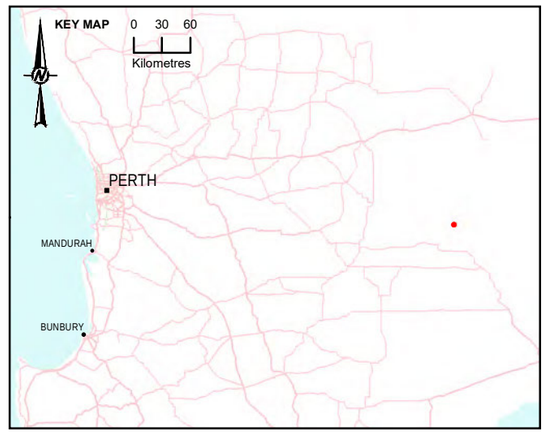
LEGEND

PROJECT AREA

CONDITION

DEGRADED

CLEARED



0 60 120

1:3,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.25

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT 1:35:29 PM

698700

6435600

INTERSECTION 24

698700

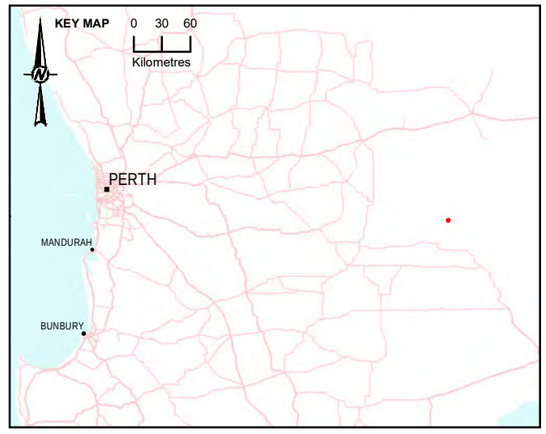
LEGEND

PROJECT AREA

CONDITION

GOOD

CLEARED



0 8 16

1:400 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.26

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25mm
0

PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:35:43 PM



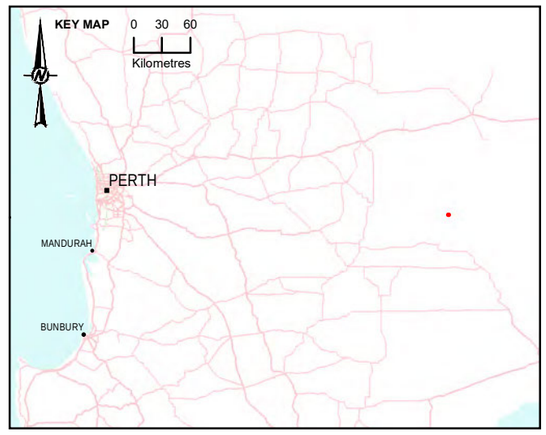
LEGEND

PROJECT AREA

CONDITION

GOOD

CLEARED



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

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KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2024-03-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	8.27

25mm

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F008_Vegetation_Cond_Mapping.mxd PRINTED ON: 2024-03-22 AT: 1:36:00 PM

4.2 Fauna

4.2.1 Desktop assessment

4.2.1.1 NatureMap results

The NatureMap database search identified 33 native fauna species within 50 km of the survey area including: 15 bird species, 13 species of mammals, four species of invertebrate, and one species of reptile. The species list is included in Appendix C.

4.2.1.2 Conservation Significant Fauna

The EPBC Act PMST and the DBCA Threatened Fauna Database (50 km buffer for survey area; Appendix B) was used to compile a list identifying potential the presence of habitat, or potential presence conservation significant fauna species (Appendix C). The list excludes those species that are exclusively marine or migratory. Consideration was given to the likelihood of the species being present based on mapped distribution, specimens formerly identified or presence of suitable habitat present.

Twelve conservation significant fauna were identified as possibly occurring in the survey area (Appendix C). Of these, the following four species were assessed as potentially occurring:

- *Leipoa ocellata* (malleefowl) Critically endangered: Possibly occurs – but unlikely to rely on habitat within the survey area.
- *Calyptorhynchus latirostris* (Carnaby's Cockatoo) Endangered*:* Likely to occur as foraging habitat is present in the survey area.
- *Zanda baudinii.* (Baudin's Cockatoo) – Endangered*:* Likely to occur as foraging habitat is present in the survey area.
- *Zanda latirostris* (Carnaby's Cockatoo) – Endangered. *:* Likely to occur as foraging habitat is present in the survey area.

4.2.1.3 Limitations

The EPBC Act PMST is based on bioclimatic modelling for the potential presence of species. As such, the DCCEEW mapping does not represent actual records of the species in the area. The records from the DBCA searches of threatened flora and fauna provide more accurate information for the general area. However, some records of collections, sightings or trappings cannot be dated and often misrepresent the current range of threatened species.

4.2.2 Field survey

A summary of the fauna habitat types recorded within survey area is included in Table 4.4.

Table 4.4 Fauna habitat summary

Description	Survey area
Habitat Structure	*Eucalyptus camaldulensis* subsp. *obtusa* and *Corymbia calophylla* open woodland over *Casuarina obesa* and *Hakea prostrata* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland on sandy-loam flats. *Eucalyptus* spp. open woodland over *Allocasuarina* sp., *Acacia* sp., *Melaleuca* sp., *Calothamnus* sp., *Hakea* sp., isolated shrubs over Poaceae sp. sparse grassland on red-brown sandy-loam flats.

Description	Survey area
Presence or absence of refugia	Presence. However, open woodland and medium shrubland vegetation with fewer native understorey and more non – native understorey density along the roadside vegetation
Presence of absence of wetlands/waterways	Absent
Habitat connectivity	The habitat was fragmented as the area surrounding the surveyed site is mostly cleared and roadside vegetation.
Current land use and disturbance	Survey areas were mostly in degraded condition, expect intersection 6,24 and 25
Evaluation of likelihood of occurrence of conservation significant fauna	Refer to Appendix C
Vegetation/habitat condition	Poor quality habitat (depending on species)
Photograph of habitat	

The more degraded habitat type (both woodland and shrubland) is similar to habitats found in low-lying areas and along road verges in the area. Ground foraging birds and larger reptiles are likely to utilise this habitat on occasion but are unlikely to breed within it due to the lack of available shelter and the small extent of available habitat.

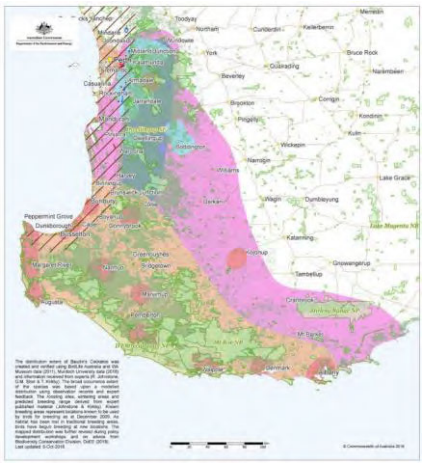
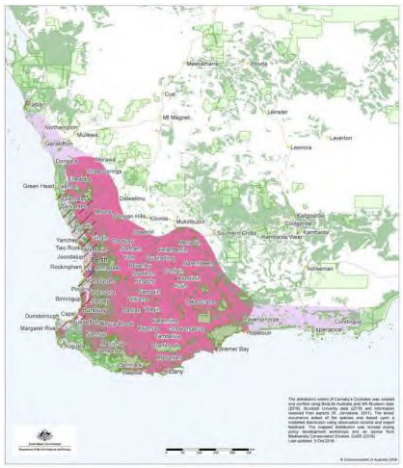
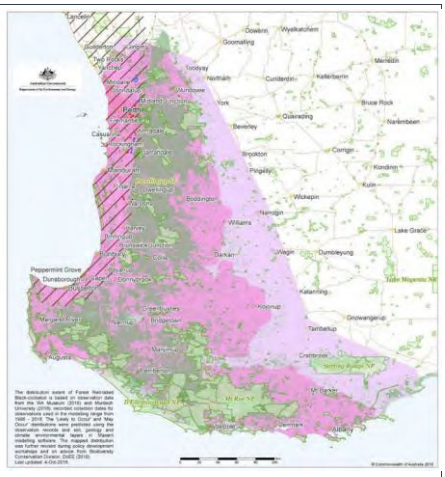


4.2.2.1 Targeted survey for Black Cockatoos

Distribution

All three species of the Black Cockatoo (*Zanda baudinii*, *Zanda latirostris* and *Calyptorhynchus banksii naso*) have been previously observed within the survey areas (Table 4.5). Since the survey area is unlikely to be inhabited by all three species of Black Cockatoos due to the degraded vegetation condition and therefore, the foraging scores in Table 4.6 was based on the preferential habitat of all three Black Cockatoos.

Table 4.5 Black Cockatoos distribution

		
Baudin's Cockatoo	**Carnaby Cockatoo**	**Forest Red-tailed Black-Cockatoo**

Source: Department of Agriculture, Water and the Environment (2022).

Within the survey area, some parts been previously cleared and therefore hold no habitat value. The remaining vegetation within the survey is dominated with *Eucalyptus* spp. open woodland over *Allocasuarina* sp., *Acacia* sp., *Melaleuca* sp., *Calothamnus* sp., *Hakea* sp. This vegetation community is not considered to be suitable foraging habitat for Carnaby's Cockatoo as it contains less mature suitable *Eucalyptus* species and contains no *Banksia* species.

Foraging value scores for all three species of Black Cockatoos are shown in Table 4.5. Habitat values of the survey area are summarised in Table 4.6.

Table 4.6 Foraging value scores

Foraging Attribute	Site score	Justification
Forage potential	10 – 2 = 8	There was no evidence of feeding debris within the survey area, during the site visit
Connectivity	8 – 0 = 8	Known foraging habitat is located within the sites, and in the surrounding areas.
Proximity to breeding	8 – 0 = 8	Intersection 6 is located approximately 10 km from known Carnaby cockatoo roosting sites (SLIP Locate, 2023)
Proximity to roosting	8 – 0 = 8	Intersection 6 is located approximately 5 km from known Black Cockatoo roosting sites (SLIP Locate, 2023)
Impact from significant plant disease	8 – 0 = 8	No plant diseases were found on site.
Final Score	8	

Source: Department of Agriculture, Water and the Environment (2022).

The final foraging value for the survey area is 8. A score of 8 suggests the site provides high-quality native foraging habitat that has the potential to provide significant foraging value and is critical to the survival of any of the species. Although no signs of foraging were observed during the site survey. All other intersections do not provide significant

foraging value and is not critical to the survival of any of the species. The habitat associated with the survey area (except intersection 6) were either not known to be used for foraging and is a considerable distance from known breeding or roosting areas. All the trees recorded in the survey area were summarised in Appendix G

Referral requirement

Referrals to the Minister for the Environment under the EPBC Act are required if the proposed works is likely to have a significant impact on all three Black Cockatoos. There are five attributes that the site is assessed against to determine if the project will require a referral. The referral thresholds regarding this site are outlined in Table 4.7.

Table 4.7 Referral thresholds for black cockatoos

Attribute	Referral threshold	Apply to the project
Breeding	Any loss of/impact upon known, suitable or potential nesting trees, and the habitat around these trees, is highly likely to require a referral to the minister.	No
High-quality native foraging habitat	Loss of greater than or equal to 1 ha of foraging habitat scoring 5–10 using the foraging quality scoring tool is likely to require referral to the minister	Possible
Lower-quality native foraging habitat	Loss of greater than or equal to 10 ha of foraging habitat scoring 0–4 using the foraging quality scoring tool is likely to require referral to the minister.	No
Exotic foraging habitat	Loss of greater than or equal to 1 ha of predominantly exotic habitat (e.g., Cape Lilac trees and pine trees) known to be utilised by Black Cockatoos is likely to require a referral to the minister.	No
Night roosting habitat	Removal of any part of a known night roosting site is likely to require referral to the minister	No

Source: Department of Agriculture, Water and the Environment (2022).

Based on Table 4.5, EPBC referral maybe required. However, if native vegetation clearing is greater than or equal to 1 ha of foraging habitat (as the score is 8), then the project will need to be referred under the EPBC Act.

4.2.2.2 Fauna habitat and revised likelihood assessment

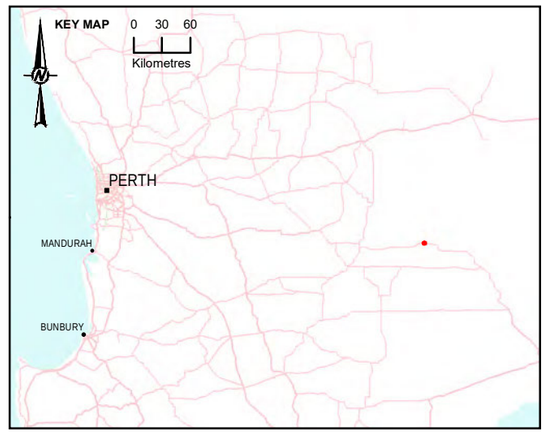
The habitat for Malleefowl (*Leipoa ocellata*) may not be suitably present within the survey area due to its small and fragmented nature mainly around the intersections, subject to periodic heavy vehicle traffic within its bounds, this species is unlikely to be more than a seasonal visitor attracted by spilled grain, if at all. Malleefowl was considered as having a high likelihood of occurring based on the desktop assessment; this likelihood has been revised to low following the field survey.

Most habitat within the survey area is not suitable for all three species of Black Cockatoo as less suitable large trees that could be used for roosting are not present (except Intersection 01, 06 and 13). All three Black Cockatoo's were considered as having a high likelihood of occurring based on the desktop assessment; this likelihood has been revised to Low following the field survey (except Intersection 01, 06 and 13). All the trees recorded in the survey area were summarised in Appendix G

Small native mammals are unlikely to be present due to the small and fragmented nature of the available habitat. Cats are likely present in the area, however no evidence of cats was observed during the daytime field surveys undertaken.



LEGEND



0 40 80

1:2,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.1

PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-RP\Phase 2_survey\PS204764-001-R-RevA-F009_Tree_Locations.mxd PRINTED ON: 2024-03-25 AT: 11:59:31 AM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

Figure 4.3 Tree locations

675600 675700 675800 675900 676000 676100

6409600 6409500 6409400 6409300 6409200

SITE 2

MARSHALL ST

HYDEN-LAKE KING RD

LEGEND

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 40 80

1:2,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

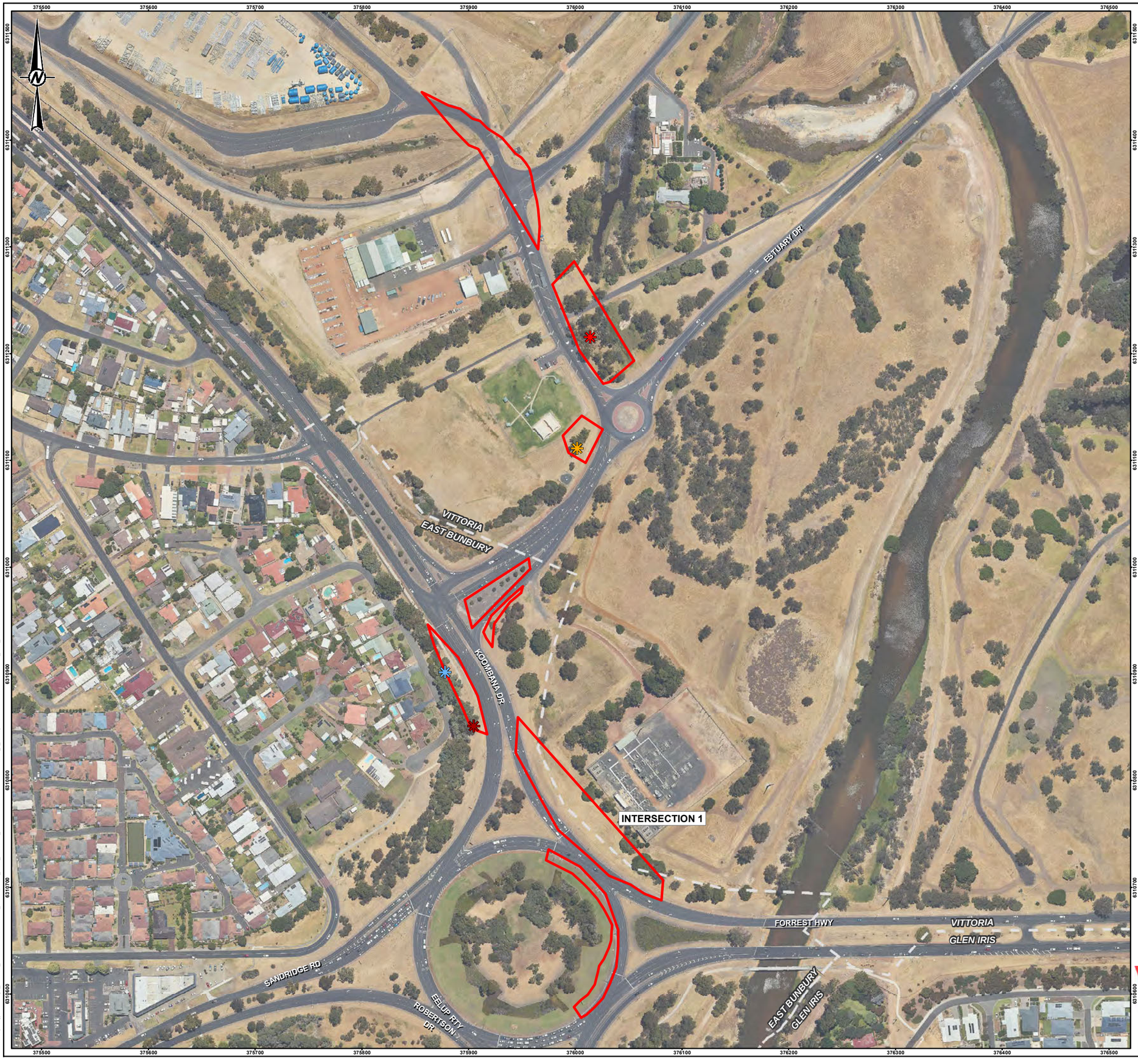
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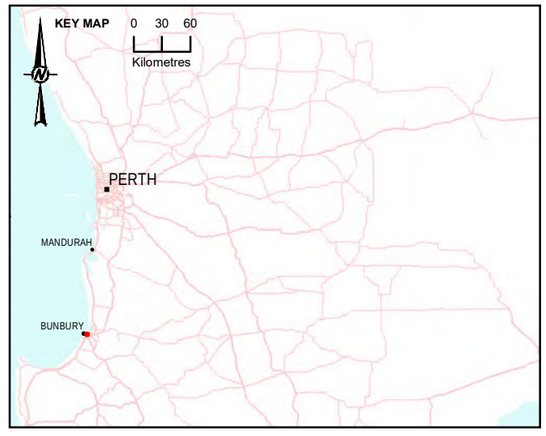
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LEGEND

TREE SPECIES - DBH (cm)

- *Eucalyptus camaldulensis* subsp. obtusa (DBH 20-120 cm)
- *Eucalyptus incrassata* (DBH 50-60 cm)
- *Eucalyptus rudis* subsp. rudis (DBH 20-55 cm)
- *Eucalyptus* sp. (DBH 30-45 cm)



0 70 140

1:3,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.3

PATH: B:\Synergy\REDI\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F009_Tree_Locations.mxd PRINTED ON: 2024-03-25 AT: 11:59:58 AM

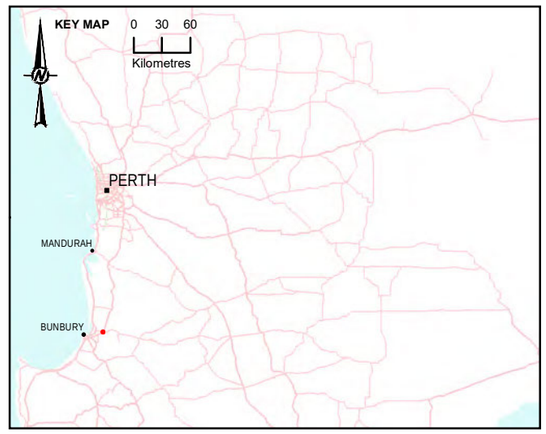
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25mm

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LEGEND



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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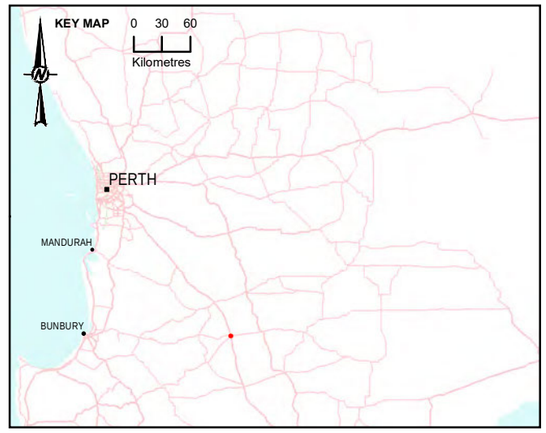
6310600 6310400

INTERSECTION 3

ALBANY HWY

ARTHUR RD

LEGEND



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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6311500 6311400 6311300

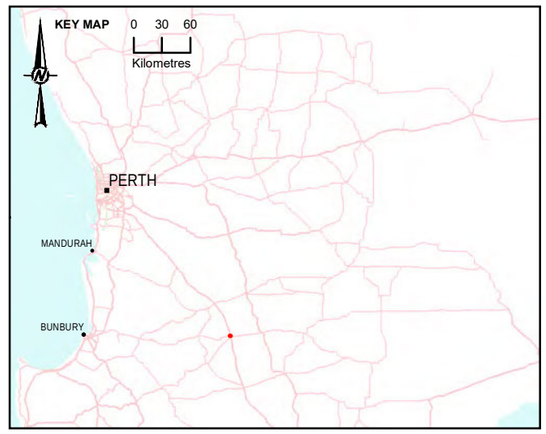
INTERSECTION 4

ALBANY HWY

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus camaldulensis subsp. obtusa (DBH 38.5 cm)



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.6

25mm

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

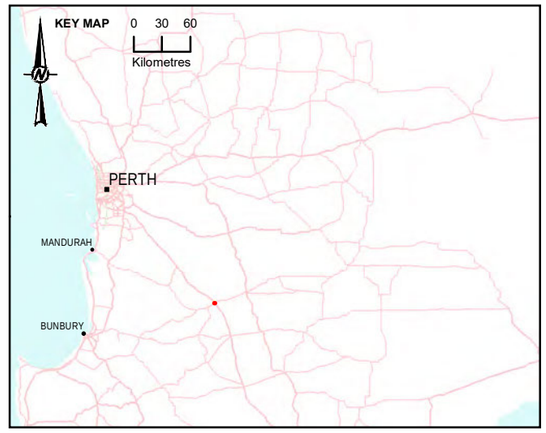
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LEGEND

TREE SPECIES - DBH (cm)

- *Eucalyptus caesia* (DBH 15 cm)
- *Eucalyptus camaldulensis* subsp. obtusa (DBH 16 cm)
- *Eucalyptus dorrienii* (DBH 29 cm)
- *Eucalyptus incrassata* (DBH 38 cm)
- *Eucalyptus* sp. (DBH 27 cm)



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.7

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

512600 512700 512800

6354300 6354200

INTERSECTION 6

WILLIAMS-KONDININ RD

MINGIN

DUMBERNING

0 20 40

1:1,000 METRES

LEGEND

TREE SPECIES - DBH (cm)

- *Corymbia calophylla* (DBH 40 cm)
- *Eucalyptus camaldulensis* subsp. obtusa (DBH 55 cm)

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm 0

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512600 512700 512800

6356200 6356100 6356000

INTERSECTION 7

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus camaldulensis subsp. obtusa (DBH 51 cm)

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

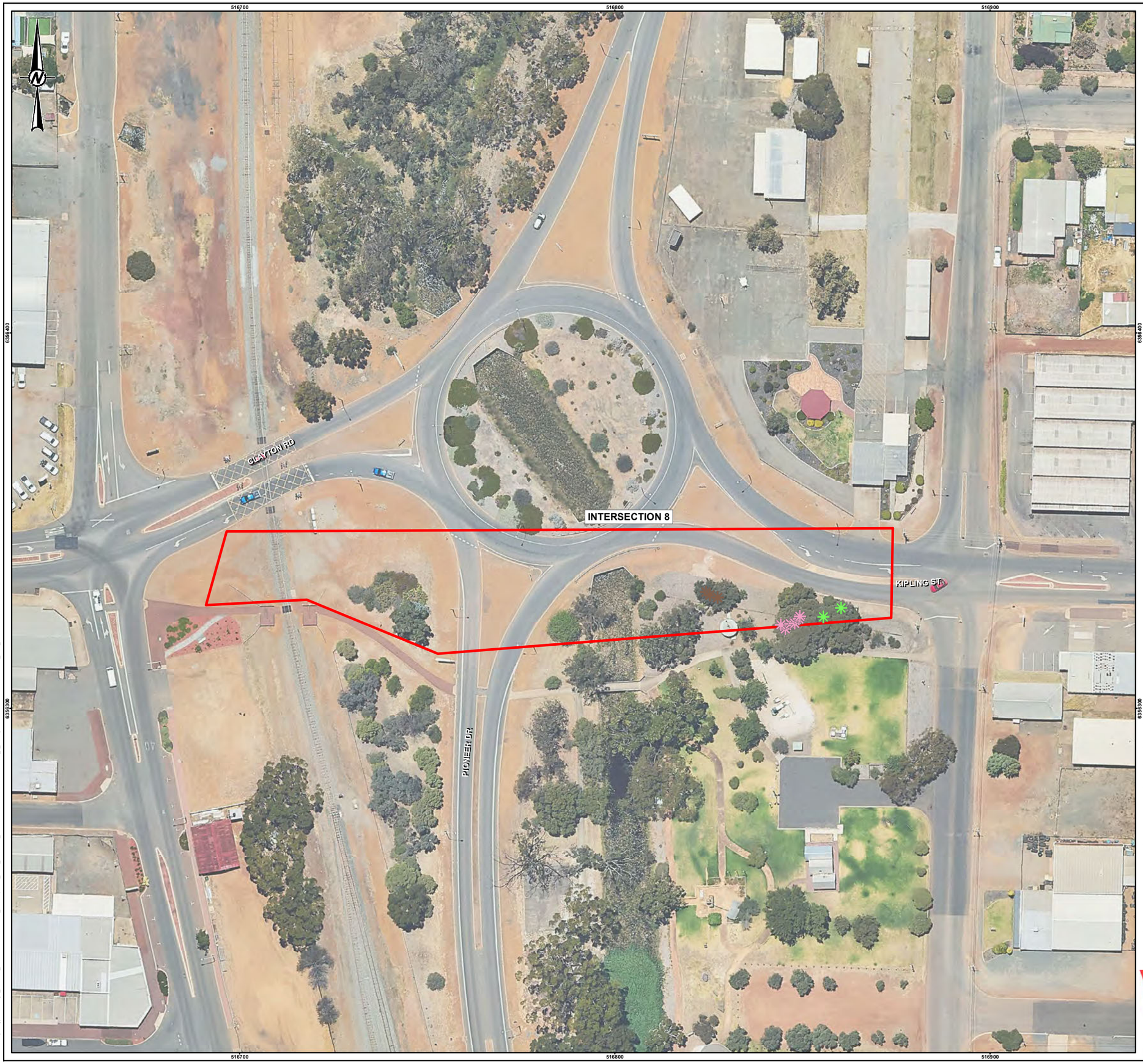
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.9

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25mm

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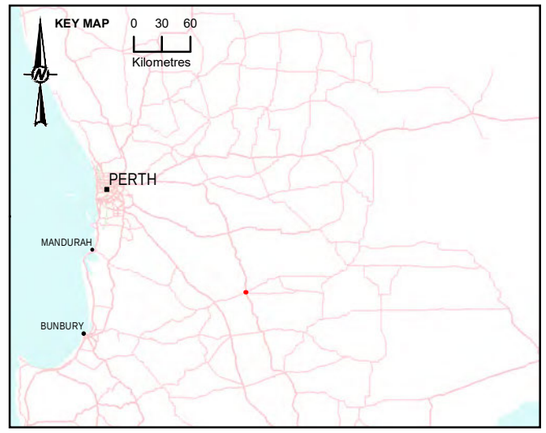
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LEGEND

TREE SPECIES - DBH (cm)

- *Eucalyptus camaldulensis subsp. obtusa* (DBH 35 cm)
- *Eucalyptus rudis subsp. rudis* (DBH 60 cm)
- *Eucalyptus suggrandis subsp. promiscua* (DBH 30 cm)
- *Eucalyptus vegrandis* (DBH 20 cm)



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.10

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584700

584800

6327600

6327400

6327200

RABBIT PROOF FENCE RD

DUMBLEYUNG-LAKE GRACE RD

INTERSECTION 9

NORTH MOULYINNING

MOULYINNING

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus myriadena (DBH 18 cm)

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

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584500 584600 584700

6383100

6383000

DUDININ TJARLING RD

RABBIT PROOF FENCE RD

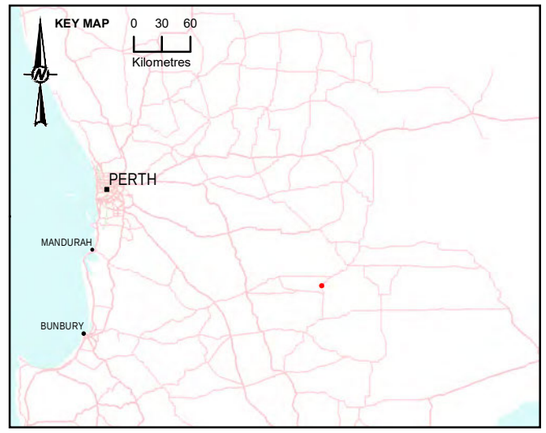
INTERSECTION 10

FORREST ST

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus salmonophloia (DBH 55 cm)



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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582000 582100 582200

6372800 6372700 6372600

WILLIAMS-KONDININ RD

INTERSECTION 11

JITARNING WOGOLIN

LEGEND

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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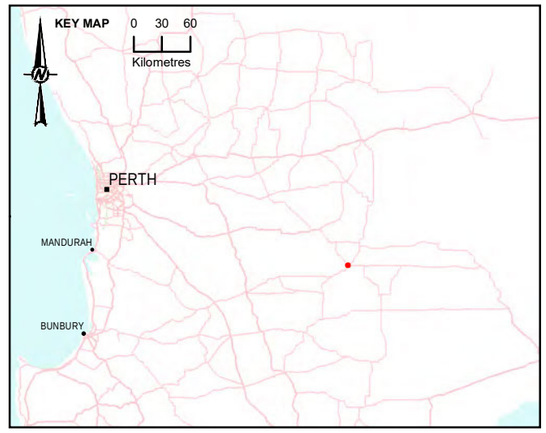
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LEGEND

TREE SPECIES - DBH (cm)

- *Eucalyptus camaldulensis subsp. obtusa* (DBH 35 cm)
- *Eucalyptus loxophleba subsp. loxophleba* (DBH 25 cm)



0 80 160

1:4,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.14

PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development Flora Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F009_Tree_Locations.mxd PRINTED ON: 2024-03-25 AT: 12:03:04 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

618700 618800 618900 619000 619100

6403600 6403500 6403400 6403300

GRAHAM ST

NICHOLLS ST

INTERSECTION 13

WILLIAMS-KONDININ RD

LEGEND

TREE SPECIES - DBH (cm)

- *Eucalyptus flocktoniae subsp. flocktoniae* (DBH 15 cm)
- *Eucalyptus melanoxylon* (DBH 65 cm)
- *Eucalyptus salubris* (DBH 25 cm)

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 30 60

1:1,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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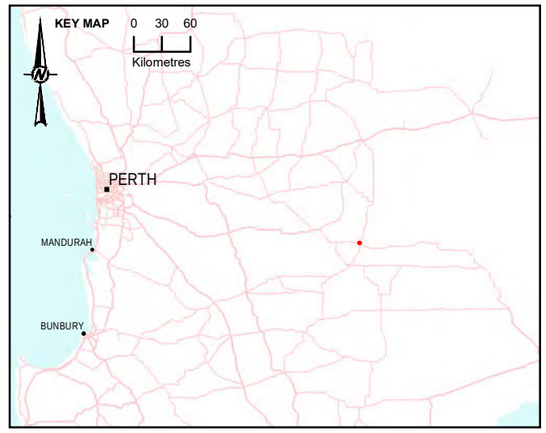
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LEGEND

TREE SPECIES - DBH (cm)

<ITA>Eucalyptus sheathiana</ITA> (DBH <25 cm)



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.16

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25mm
0

625100

625200

6428100

6428000

INTERSECTION 15

KONDININ-MAREMBEEN RD

LEGEND

TREE SPECIES - DBH (cm)

<ITA>Eucalyptus capillosa</ITA> (DBH <25 cm)

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.17

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 2_survey\PS204764-001-R-RevA-F009_Tree_Locations.mxd PRINTED ON: 2024-03-25 AT: 12:04:00 PM

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0 25mm

656500 656600 656700

6395000 6394900

INTERSECTION 16

PEDERAH RD

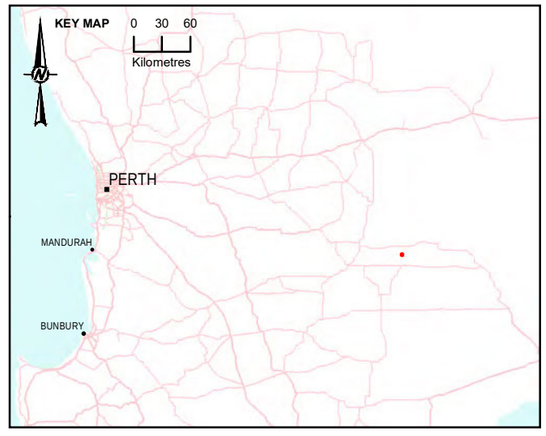
KARLGARIN
PINGARING

NORTH LAKE
GRACE-KARLGARIN RD

LEGEND

TREE SPECIES - DBH (cm)

* *Eucalyptus calycogona subsp. miraculum* (DBH 20 cm)



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.18

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

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660200
660300
6402800
6402700

NOTTING SAR LGA RNI RD

INTERSECTION 17

MELBA ST

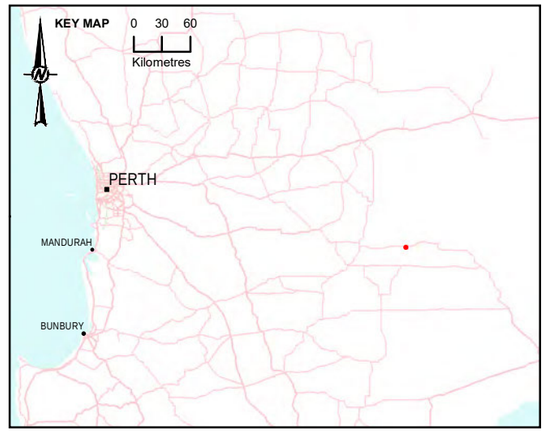
PEDERAH RD

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus camaldulensis subsp. obtusa (DBH 40 cm)

Eucalyptus sporadica (DBH 20 cm)



0 10 20
1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.19

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

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660000
660100
660200
6403300
6403200
INTERSECTION 18
KONDININ-HYDEN RD
NOTTING-KARLGARIN RD

LEGEND

TREE SPECIES - DBH (cm)

- *Eucalyptus sporadica* (DBH 25 cm)
- *Eucalyptus salmonophloia* (DBH 45 cm)

KEY MAP 0 30 60 Kilometres

PERTH
MANDURAH
BUNBURY

0 10 20
1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.20

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
0 25mm

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677200

677300

6409100

6408000

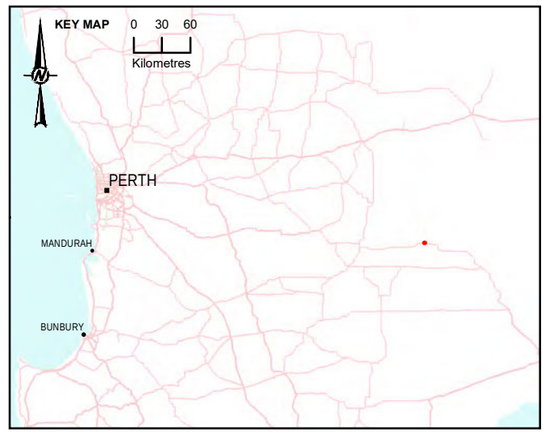
HYDEN-LAKE KING RD

INTERSECTION 19

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus loxophleba subsp. loxophleba (DBH 20 cm)



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.21

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25mm

0

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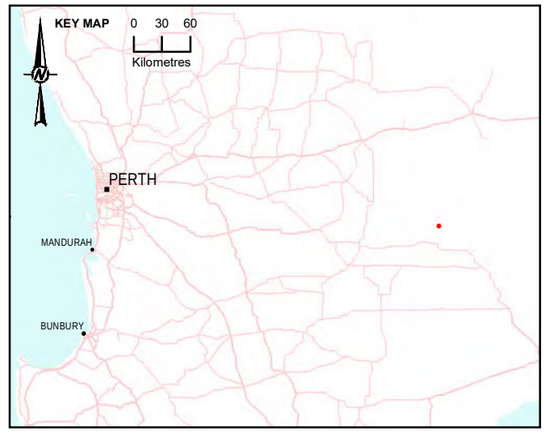
690200

690300

6424700

INTERSECTION 20

LEGEND



0 10 20

1:600 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.22

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F009_Tree_Locations.mxd, PRINTED ON: 2024-03-25 AT: 12:05:12 PM

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25mm

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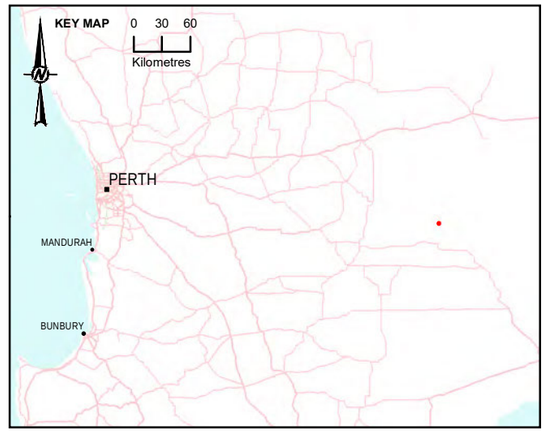
690200
690300
690400
6427500
6427400
6427300

INTERSECTION 21

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus burracoppinensis (DBH 10 cm)



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.23

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F09_Tree_Locations.mxd PRINTED ON: 2024-03-25 AT: 12:05:26 PM

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25mm

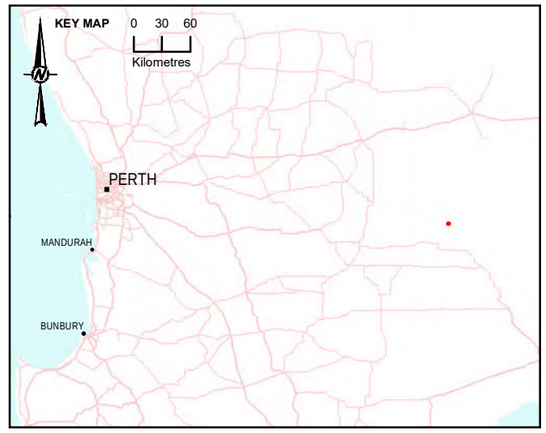
0



LEGEND

TREE SPECIES - DBH (cm)

✱ *Eucalyptus suggrandis subsp. promiscua* (DBH 10 cm)



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.24

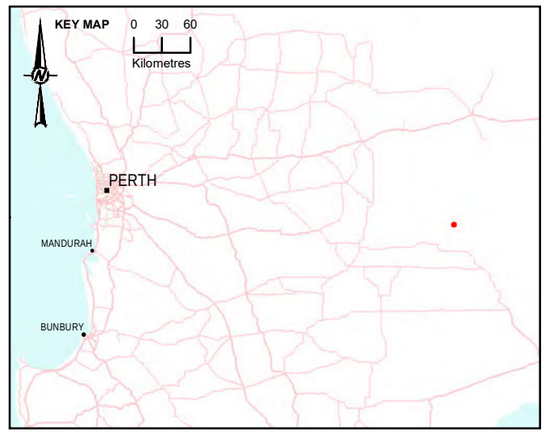
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0



LEGEND

TREE SPECIES - DBH (cm)

✱ *Eucalyptus loxophleba subsp. loxophleba* (DBH 10 cm)



0 60 120

1:3,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.25

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F009_Tree_Locations.mxd, PRINTED ON: 2024-03-25 AT: 12:05:56 PM

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25mm
0

698700

6435600

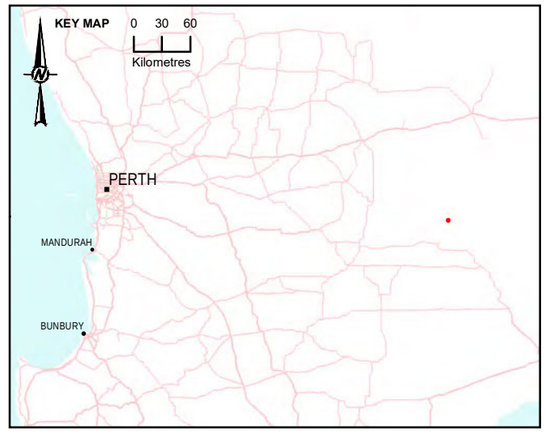
INTERSECTION 24

698700

LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus dissimulata (DBH 10 cm)



0 8 16

1:400 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.26

PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F09_Tree_Locations.mxd PRINTED ON: 2024-03-25 AT: 12:08:10 PM

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25mm

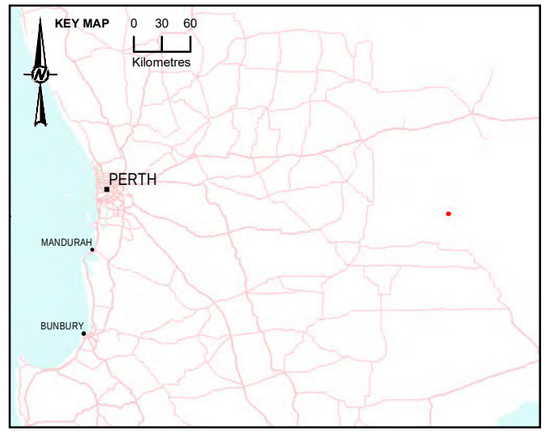
0



LEGEND

TREE SPECIES - DBH (cm)

Eucalyptus dissimulata (DBH 15 cm)



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2024-03-25
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	9.27

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F099_Tree_Locations.mxd PRINTED ON: 2024-03-25 AT: 12:08:23 PM

4.2.2.3 Other conservation significant species

No evidence of other conservation significant species was identified in the survey area. Given the intersections on roadsides are relatively small survey area, potential impacts are considered minimal. Likewise, no wetland habitats are present within the survey area, therefore potential impacts on the listed birds associated with water bodies (sandpipers, Australasian Bittern, Australian Painted Snipe, and Common Greenshank) are also minimal.

4.2.2.4 Other species

Species that were detected as part of the survey are included in Table 4.8.

Table 4.8 Fauna species observed during survey

Species	Common name	Evidence
Mammals		
Macropus fuliginosus melanops	Western Grey Kangaroo	Scats (old)
Oryctolagus cuniculus	European Rabbit (introduced)	Sighted
Birds		
Barnardius zonarius	Australian Ringneck (Twenty-eight Parrot)	Sighted
Cacatua roseicapilla	Galah	Sighted
Columba livia	Feral Pigeon (introduced)	Sighted
Corvus coronoides	Australian Raven	Sighted
Gavicalis virescens	Singing Honeyeater	Heard
Grallina cyanoleuca	Magpie-lark	Sighted
Gymnorhina tibicen	Australian Magpie	Sighted
Hirundo neoxena	Welcome Swallow	Heard
Rhipidura leucophrys	Willie Wagtail	Sighted
Tadorna tadornoides	Australian Shelduck	Sighted
Reptiles		
Tiliqua rugosa	*Blue-tongue Lizard*	Sighted

4.2.2.5 Limitations

The EPBC Act PMST is based on bioclimatic modelling for the potential presence of species. As such, the DCCEEW mapping does not represent actual records of the species in the area. The records from the DBCA searches of threatened flora and fauna provide more accurate information for the general area. However, some records of collections, sightings or trappings cannot be dated and often misrepresent the current range of threatened species.

Seasonal sampling has not been carried out as part of this fauna assessment. The conclusions presented are based on information from Western Australian and Commonwealth databases, field data, and the field survey carried out over a limited period of time. Therefore, the data and interpreted outcomes are considered indicative of the environmental conditions on the survey areas at the time of the field assessment. It is recognised that site conditions may change over time.

The EPA (2020) Technical Guidance *Terrestrial vertebrate fauna surveys for environmental impact assessment* requires fauna assessment reports contain a section describing the limitations of the survey methods used. The limitations and constraints associated with this field survey are discussed in Table 4.9. The survey effort has not been subject to any constraints which may affect the thoroughness of the assessment, and the conclusions that have been provided.

Table 4.9 Limitations

Aspect	Limitation	Comment
Sources of information and availability of contextual information	Nil	Adequate information is available for the survey area, this includes broad scale (1:250,000) mapping by Beard (1979) and digitised by Shepherd *et al*., (2002) and other information (DBCA database, NatureMap, ALA).
Scope (what life forms were sampled etc.)	Nil	Following desktop review, reconnaissance and field surveys targeted conservation significant fauna unlikely to be present within the survey area.
Proportion of fauna identified, recorded and/or collected	Nil	Following desktop review, the fauna assessment was aimed at identifying habitat types and conservation significant terrestrial vertebrate fauna unlikely to be utilising the survey area.
Completeness and further work which might be needed (e.g., was the relevant area fully surveyed)	Nil	Adequate coverage of the survey area was undertaken.
Mapping reliability	Nil	The vegetation was mapped using high-resolution ESRI aerial imagery obtained from Landgate, topographical features, previous broad scale mapping (Beard, 1979) and field data and more detailed vegetation mapping, where available. Data was recorded in the field using hand-held GPS tools. Certain atmospheric factors and other sources of error can affect the accuracy of GPS receivers. The GPS units used for this survey was a hand-held GPS which is accurate to within ±4 metres on average. Therefore, the data points consisting of coordinates recorded from the GPS may contain slight inaccuracies.
Timing/weather/season/cycle	Nil	The survey was undertaken in spring and the weather was fine.
Disturbances (e.g., fire, flood, accidental human intervention)	Nil	The survey area was partially disturbed but also contained vegetation in relatively intact condition.
Intensity (in retrospect, was the intensity adequate)	Nil	The survey area was sufficiently covered by foot during the survey.
Resources	Nil	Adequate resources were employed during the field survey.
Access restrictions	Nil	The survey area was accessed on foot.

5 Discussion

5.1 Flora and vegetation

The survey area consisted of a number of small parcels of bushland and previously cleared areas separated by roads and infrastructure. Flora, including native vegetation occurs across most of the site. The vegetation shows no evidence of alteration from fire, but this is not considered to be a sign of degradation. The vegetation recorded within the survey area were consistent with the historical mapping of Beard (1972 and 1990).

5.1.1 Threatened and priority flora

Based on background information, 102 significant flora species potentially occurring within a 50 km radius of the survey area (DCCEEW 2023, DBCA 2023a, 2023b) were considered to potentially occur within the survey area. No Threatened and Priority flora listed for protection under the Commonwealth EPBC Act or Western Australian BC Act were identified from the survey area. The field survey (Phase 2) was undertaken in September (Spring) and was considered sufficient to determine that these species are unlikely to occur. The Phase 1 field survey was undertaken outside the spring season. However, none of the conservation significant flora species were not recorded during traverses within potentially suitable habitat.

5.1.2 Eucalypt Woodlands of the Western Australian Wheatbelt

Assessments of the potential Eucalypt woodlands of the Wheatbelt Threatened Ecological Community (TECs) were conducted primarily from the road reserve. Potential TEC (DBCA 2023b) that overlapped with the survey area often extended into the adjacent private property and could not be accessed due to lack of access. Some potential TECs were in very good condition in the adjacent private land but were mostly in degraded condition within the survey area.

5.1.3 Tuart woodlands and forests of the Swan Coastal plain

Tuart Woodlands are located on the Swan Coastal Plain from Jurien to the Sabina River (near Busselton) on Spearwood, Quindalup and Bassendean dune systems. The primary definition of the TEC is having the uppermost dominance of Tuart (*Eucalyptus gomphocephala*) with other tree species along with grasses and native understorey. One of the key diagnostic characteristics of the TEC is having least two living established (≥15 cm diameter at breast height [DBH]) *Eucalyptus gomphocephala* trees with a gap of no more than 60 m between the outer edges of the canopies of adjacent Tuart trees (DCCEEW 2023).

Assessments of the potential Tuart Woodlands and forests of the Swan Coastal plain was conducted in intersection 1 from the road reserve. Potential TEC that overlapped within intersection 1, does not have *Eucalyptus gomphocephala* (Tuart) that are ≥15 cm DBH to consider as a TEC.

Remnant vegetation located between the areas cleared for the road reserve (being the road running surface, road shoulder, drain and associated clearing), and farmland fence lines, or the contiguous vegetation where no fence line was present, was assessed for TEC potential. The process of delivering wind turbines from port to the windfarm is proposed to be within the cleared section of the road reserve.

5.1.4 Plant communities

23 vegetation communities were identified and mapped across the survey area. The majority of survey area is situated on sandy clay or clay loam flats, supporting *Eucalyptus* open woodlands over *Acacia* shrublands over isolated forblands and sparse open grasslands. The identification of some of the species in these areas was problematic due to the absence of sufficient fertile material to enable accurate identification. Consequently, impacts resulting to identify key environmental issues and constraints associated with the Project construction camp (Sites) and proposed routes (Intersections) for

delivering wind turbines from port to the windfarm would have a minimal impact on the vegetation present given that the open woodlands and species present are well represented both at the local and regional scale.

5.1.5 Vegetation condition

A significant portion (12.19 ha, 32.6%) of the survey area did not have native vegetation as it corresponded with roads, completely cleared areas and some farming. A further 18.23 ha (48.7%) had some native vegetation present, however, was in Degraded condition and is not considered to represent extant native vegetation. Vegetation in Good condition corresponded only 0.96 ha (2.5%) and had a significantly lower weed cover. All of the weeds occur commonly in the agricultural region of Western Australia.

5.1.6 Invasive species

Sixteen introduced species (weeds) were recorded from the survey area, all of which are common within the agricultural region of Western Australia. None of the weed species recorded are listed as WoNS (Australian Weeds Committee 2012) or as a Declared pest plant in Western Australia (Department of Agriculture and Food Western Australia, 2016). Assessment to identify key environmental issues and constraints associated with the Project construction camp (Sites) and proposed routes (Intersections) for delivering wind turbines from port to the windfarm is unlikely to significantly increase the weed cover or result in additional weed species in the survey area or its surrounds.

5.2 Fauna

The desktop investigation identified 33 native fauna species within 50 km of the survey area including: 15 bird species, 13 species of mammals, four species of invertebrate and one species of reptile. No conservation significant fauna species were recorded within the survey area, but potential habitat for all three Black Cockatoo species were observed.

None of the trees have hollows for potential roosting or breeding was located within the survey area. The intersection 6 contained marri trees, which produce seeds that are eaten by all three species of Black Cockatoo. A foraging score for the survey areas were calculated to be high-quality native foraging habitat, however, if native vegetation clearing is greater than or equal to 1 ha of foraging habitat (as the score is 8), then the project will need to be referred under the EPBC Act.

Considering the size and scale of the survey areas, if a small amount (i.e., <1 ha) of vegetation clearing is required, it is unlikely that this will have a significant impact on all three Black Cockatoo species.

The survey area contains no natural waterways or wetlands. No evidence of other conservation significant species was identified in the survey area. Likewise, no wetland habitats within the survey area, therefore potential impacts on the listed birds associated with water bodies are also minimal.

6 Conclusions

The key findings of the reconnaissance flora, vegetation and fauna survey include the following:

- A total of 95 native and 16 non-native (weed) flora species were recorded within the survey areas. None of the weed species recorded are listed as Weeds of National Significance (WoNS) or as a Declared pest plant in Western Australia.
- No occurrences of threatened or priority flora species were recorded within the survey areas.
- Most of the vegetation communities are in degraded condition and contains high percentage of non-native species.
- Most of the habitat structure is situated on clay loam brown flats, comprising *Eucalyptus* sp. open forest over *Allocasurina* sp. and *Acacia* sp. shrublands over non-native flora species.
- The survey areas contain no natural waterways or wetlands, therefore potential impacts on the listed birds associated with water bodies are also minimal.
- No evidence of other conservation significant species was identified in the survey areas.
- From a preliminary review of all three species of Black Cockatoo habitat, an EPBC referral will be required as the maximum potential clearing requirement for the Project is not yet confirmed for the project. However, if native vegetation clearing requirements are determined to be greater than or equal to 1 ha of foraging habitat (as the score is 8), then the project will need to be referred under the EPBC Act.
- If native vegetation within the survey areas is proposed to be cleared as part of the Project, a Native Vegetation Clearing Permit (NVCP) Application (i.e., in addition to the Works Approval Application) would be required.

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Appendix A

Likelihood occurrence of conservation significant flora species within survey area

Taxon	Status BC Act	Status EPBC Act	Habitat
Acacia anarthros	Priority 3		Low shrubland and sedges
Acacia arcuatilis	Priority 2		tall scrub *Casuarina* and Mallee
Acacia caesariata	Threatened	Vulnerable	
Acacia campylophylla	Priority 3		With *Grevillea scapigera*.
Acacia concolorans	Priority 2		Brown sandy clay over granite. Open mallee woodland.
Acacia deflexa	Priority 3		Light yellowish brown, fine sandy loam, well-drained.
Acacia inophloia	Priority 3		Centre creek mallee.
Acacia kulinensis	Priority 1		Low shrubland. With Sheoaks, Melaleucas.
Acacia lanei	Priority 3		Mid-slope along old drainage line. Red-brown sandy loam over granite. Low woodland over open scrub.
Acacia obesa	Priority 3		Sandy soils.
Acacia phaeocalyx	Priority 3		Occasional shrubs.
Acacia sclerophylla var. *pilosa*	Priority 2		Shrubland to 4 m
Acacia sclerophylla var. *teretiuscula*	Priority 1		Dark brown clay. Open site with samphires on slightly elevated ground adjacent to a salt lake.
Acacia tetraneura	Priority 1		Heath to 1 m with open shrubland.
Acacia tuberculata	Priority 2		Disturbed site. Dry (stony), yellow/brown coarse granitic sands over granite/sandy clay loam. Graded road verge.
Acacia undosa	Priority 3		On causeway through low areas - near Salt Lake. The soil was not really saline
Amanita inculta	Priority 2		*Acacia acuminata*, *Eucalyptus* sp (mallee)
Andersonia carinata	Priority 2		Low Heath
Banksia dallanneyi subsp. *agricola*	Priority 2		In kwongan with *Eucalyptus macrocarpa*.
Banksia densa	Priority 2		Heath on road verge.
Banksia erythrocephala var. *inopinata*	Priority 3		With large shrubs including *Dryandra ferruginea*
Banksia fasciculata	Priority 3		Associated with *Lambertia* and *Leptospermum*.
Banksia horrida	Priority 3		Heath, Shrubs, Mallees

Taxon	Status BC Act	Status EPBC Act	Habitat
Banksia meganotia	Priority 3		In low heath.
Banksia rufa subsp. *chelomacarpa*	Priority 3		In sand and gravel.
Banksia rufa subsp. *flavescens*	Priority 3		Damp (rain), white-yellow sand over laterite.
Banksia rufa subsp. *obliquiloba*	Priority 3		Dense low scrub.
Banksia shanklandiorum	Priority 4		Sandy creek. Damp yellow sand. Small stone conglomerate sheet.
Banksia sphaerocarpa var. *dolichostyla*	Threatened	Vulnerable	
Banksia subpinnatifida var. *subpinnatifida*	Priority 2		Tall shrubland with *Gompholobium scabrum*
Banksia xylothemelia	Priority 3		With *Dryandra cirsioides*
Beaufortia burbidgeae	Priority 3		Mixed heath.
Bossiaea atrata	Priority 3		Upland. Dry, brown sandy loam over clay.
Brachyloma delbi	Priority 1		Degraded open mallee woodland.
Brachyloma elusum	Priority 2		
Brachyloma mogin	Priority 3		*Grevillea hookeriana*, Mallee, Capeweed, grasses.
Caladenia x *triangularis*	Priority 4		Open wandoo woodland
Calothamnus brevifolius	Priority 4		Heath and *Eucalyptus macrocarpa*.
Chamelaucium sp. Parker Range (B.H. Smith 1255)	Priority 1		
Dampiera triloba	Priority 3		
Darwinia sp. Corrigin (T. Erickson TEE 308)	Priority 2		
Daviesia implexa	Priority 3		*E. loxophleba* scrub mallee.
Daviesia nudiflora subsp. *drummondii*	Priority 3		Very Open Tree Mallee
Daviesia oxylobium	Priority 4		Road verge shrubs
Daviesia tortuosa	Priority 3		

Taxon	Status BC Act	Status EPBC Act	Habitat
Daviesia uncinata	Priority 3		Mixed shrubland with *Allocasuarina*
Dicrastylis reticulata	Priority 3		With other shrubs *Dodonaea viscosa* subsp. *spatulata* and perennial herbs and annuals.
Eremophila biserrata	Priority 4		Dry, brown coarse sand over fine clay on rise in saline swamp. Moderately drained subsaline flat sandy loam. Adjacent to Salt Lake.
Eremophila caerulea subsp. *merrallii*	Priority 4		
Eremophila rarissima	Priority 1		
Eremophila veneta	Priority 4		Mallee; degraded shrubland and introduced grasses.
Eremophila verticillata	Threatened	Vulnerable	Bare areas.
Eucalyptus caesia subsp. *caesia*	Priority 4		Growing in damp granitic loam in pocket at top of valley, soil very shallow. Gentle, granite outcrop.
Eucalyptus dissimulata subsp. *dissimulata*	Priority 4		Mallees.
Eucalyptus eremophila subsp. *pterocarpa*	Priority 1		In argillaceis.
Eucalyptus erythronema subsp. *inornata*	Priority 3		Disturbed woodland
Eucalyptus loxophleba x *wandoo*	Priority 4		
Eucalyptus ornata	Priority 3		Gently undulating, high in landscape. Brown sandy loam, some ironstone gravel overlying laterite.
Eucalyptus spathulata subsp. *salina*	Priority 3		With *Eucalyptus flocktoniae*, *E*. **salubris** and *Melaleuca lateriflora*.
Frankenia drummondii	Priority 3		Adjacent to Salt Lake. Dry, brown sand.
Gastrolobium densifolium	Priority 4		Heath with Hakea sp., *Petrophile* sp., some Wandoo.
Grevillea asteriscosa	Priority 4		Undulating, top of rise; sandy soil with lateritic gravel and stony clay.
Grevillea dryandroides subsp. *hirsuta*	Threatened	Vulnerable	Almost bare apart from introduced species
Grevillea scapigera	Threatened	Vulnerable	Heath.

Taxon	Status BC Act	Status EPBC Act	Habitat
Guichenotia impudica	Priority 3		
Guichenotia seorsiflora	Threatened	Vulnerable	*Allocasuarina* shrubland
Hemigenia sp. Newdegate (E. Bishop 75)	Priority 1		Mallee.
Hibbertia sp. Bendering (J.W. Horn 4101)	Priority 1		Soil is laterite, with duricrust not far from the soil surface.
Inocybe sinuospora	Priority 1		Planted *Eucalyptus* and sheoak bushes.
Lasiopetalum fitzgibbonii	Priority 3		
Lechenaultia pulvinaris	Priority 4		Shrubland, *Banksia attenuata, Banksia prionotes*.
Leucopogon amplectens	Priority 2		Salmon Gum Forest
Melaleuca grieveana	Priority 1		Associated vegetation: medium trees, tall shrubland.
Microcorys cephalantha	Priority 3		Open woodland.
Myriophyllum petraeum	Priority 4		In rock pools on top of granite rock.
Oxymyrrhine cordata	Priority 2		Closed heath
Phebalium brachycalyx	Priority 3		Flat plateau, dry, brown clay/loam over granite.
Phebalium drummondii	Priority 3		Remnant bushland shrubs and small trees.
Prostanthera nanophylla	Priority 3		Near hilltop, dry yellow-light brown sand
Pterostylis echinulata	Priority 3		Dense tall *Melaleuca* shrubs.
Pterostylis elegantissima	Priority 1		Inland wandoo, Mallee woodland. No sign of fire.
Rhizanthella gardneri	Threatened	Vulnerable	Thickets of *Melaleuca uncinata*
Rinzia affinis	Priority 4		Associated vegetation *Kunzea*, *Verticordia*.
Rinzia torquata	Priority 3		SE slope. Damp (rain) yellow sandy creek below.
Roycea pycnophylloides	Threatened	Vulnerable	Salt Lake edge. White sand over moist grey-brown clay.
Stylidium applanatum	Threatened	Vulnerable	*Banksia* and *Allocasuarina* Woodland.

Taxon	Status BC Act	Status EPBC Act	Habitat
Stylidium rhipidium	Priority 3		Moist sandy soil at the base of granite rock.
Stypandra jamesii	Priority 2		Alluvial plain at the foot of the granite rocks. In deeper soil of fissures and edge of outcrop.
Styphelia papillosa	Priority 3		Low Shrubland over mixed annual Open Herbland over Very Open Grassland
Styphelia sp. Dumbleyung (A.J.G. Wilson 146) PN	Priority 3		*Allocasuarina* sp., *Acacia* sp.
Symonanthus bancroftii	Threatened	Vulnerable	Mixed *Eucalyptus salmonophloia* and *Melaleuca* woodland.
Synaphea drummondii	Priority 3		Shrubland.
Thelymitra stellata	Threatened	Vulnerable	Medium height dense shrubland
Thysanotus brachiatus	Priority 2		Mallee.
Thysanotus sabulosus	Priority 1		Closed heath
Thysanotus tenuis	Priority 3		Open woodland over Jam Rock sheoak low woodland
Urodon capitatus	Priority 3		Heath.
Verticordia setacea	Priority 2		Mainly gravel.
Verticordia stenopetala	Priority 3		Hillside, dry yellow sandy slope above creek.
Xanthoparmelia nashii	Priority 3		On granite rocks.
Xanthoparmelia subbarbatica	Priority 1		Outcrop-ridge, bare dry brown clay over granite
Xanthoparmelia subimitatrix	Priority 3		*Allocasuarina campestris* and *Santalum acuminatum* shrubland.

Appendix B

Fauna species list

CLASS	Scientific Name	Common Name	Count of Taxon
BIRD	*Actitis hypoleucos*	common sandpiper	1
	Apus pacificus	fork-tailed swift	1
	Cacatua pastinator pastinator	Muir's corella	3
	Calidris ferruginea	curlew sandpiper	1
	Calidris ruficollis	red-necked stint	1
	Calyptorhynchus latirostris	Carnaby's cockatoo	105
	Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	12
	Falco peregrinus	peregrine falcon	1
	Leipoa ocellata	malleefowl	404
	Ninox connivens connivens (southwest subpopulation)	barking owl (southwest subpopulation)	2
	Oxyura australis	blue-billed duck	1
	Pezoporus flaviventris	western ground parrot	1
	Platycercus icterotis xanthogenys	western rosella (inland)	2
	Stercorarius longicaudus	long-tailed jaeger, long-tailed skua	1
	Tringa nebularia	common greenshank	1
INVERTEBRATE	*Branchinella simplex*	a fairy shrimp (inland WA)	1
	Daphnia jollyi	a water flea (inland south west)	5
	Parartemia contracta	a brine shrimp (Wheatbelt)	1
	Westralunio carteri	Carter's freshwater mussel	1
MAMMAL	*Bettongia penicillata ogilbyi*	woylie, brush-tailed bettong	1
	Dasyurus geoffroii	chuditch, western quoll	10
	Isoodon fusciventer	quenda, southwestern brown bandicoot	1
	Lagostrophus fasciatus fasciatus	banded hare-wallaby, mernine	2
	Macrotis lagotis	bilby, dalgyte, ninu	3

CLASS	Scientific Name	Common Name	Count of Taxon
	Myrmecobius fasciatus	numbat, walpurti	7
	Notamacropus eugenii derbianus	tammar wallaby	1
	Notamacropus irma	western brush wallaby	8
	Perameles bougainville	Shark Bay bandicoot, western barred bandicoot, little marl	1
	Phascogale calura	red-tailed phascogale, kenngoor	67
	Phascogale tapoatafa wambenger	south-western brush-tailed phascogale, wambenger	1
	Pseudomys occidentalis	western mouse	71
	Pseudomys shortridgei	heath mouse, heath rat, Dayang	2
REPTILE	*Paroplocephalus atriceps*	Lake Cronin snake	2

Appendix C

Likelihood of occurrence of conservation significant fauna within survey area

Appendix C: Habitat Description of Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Cacatua pastinator pastinator (Muir's corella)		Critically Endangered	In Australia, Curlew Sandpipers occur around the coasts and are also quite widespread inland, though in smaller numbers. Records occur in all states during the non-breeding period, and also during the breeding season when many non-breeding one year old birds remain in Australia rather than migrating north. In Western Australia, they are widespread around coastal and subcoastal plains from Cape Arid to south-west Kimberley Division but are more sparsely distributed between Carnarvon and Dampier Archipelago. They occur in large numbers, in thousands to tens of thousands, at Port Hedland Saltworks, 80 Mile Beach, Roebuck Bay and Lake Macleod. They are rarely recorded in the north-west Kimberley, around Wyndham and Lake Argyle, and occasionally they occur inland, in areas south of 26° S. Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (http://www.environment.gov.au/cgi- bin/sprat/public/publicspecies.pl?taxon_id=856)	Highly Unlikely - unlikely to rely on the survey area.
Zanda sp. (white-tailed black cockatoo)	Endangered	Endangered	This Cockatoo is found only in the south-west of Western Australia and generally bounded by the 750mm rainfall isohyet (Albany, Gidgegannup and up to Mundaring and inland to the Stirling Ranges and Boyup Brook). Breeding has been recorded between Nornalup, northward to near Bridgetown, Lowden and Harvey (Department of the Environment, 2021a). Habitat comprises heavily forested areas dominated by Marri and other *Eucalyptus* species (particularly Karri and Jarrah). The distribution of the species comprises 40,000km^2.	Likely – however, foraging habitat does not present within the project area.
Zanda latirostris (Carnaby's Cockatoo)	Endangered	Endangered	Carnaby's Cockatoo is found in the south-west of Australia from Kalbarri through to Ravensthorpe. It prefers feeding on the seeds of *Banksia, Dryandra, Hakea, Eucalyptus, Grevillea, Pinus* and Allocasuarina spp. It is nomadic often moving toward the coast after breeding. The birds breed in tree hollows that are 2.5 – 12m above the ground and have an entrance 23-30cm with a depth of 1-2.5m. Nesting mostly occurs in smooth-barked trees (e.g., Salmon Gum, Wandoo, Red Morrell) (DSEWPaC, 2012).	Likely – foraging habitat present on the subject land.
Falco peregrinus (Peregrine Falcon)	Other specially protected fauna		The Peregrine Falcon is found in a variety of habitats but nests on high cliff ledges or artificial structures. It feeds primarily on small-medium sized birds, but occasionally taking insects, such as moths, cicadas and locusts (Birdlife, 2012).	Unlikely – may fly over but unlikely rely on the survey area.
Leipoa ocellata (Malleefowl)	Vulnerable	Vulnerable	The Malleefowl occurs in scrubland and woodland dominated by mallee and wattle species (Department of the Environment, http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=934).	Highly unlikely – Not suitable habitat in the survey area.

Appendix C: Habitat Description of Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Dasyurus geoffroii (Chuditch, Western Quoll)	Endangered	Vulnerable	It is now largely restricted to the south-west of Western Australia, with small numbers in the Midwest, Wheatbelt and South Coast Regions. Historically, chuditch inhabited a wide range of habitats, but today it survives mostly in Jarrah Eucalyptus marginata forests and woodlands, mallee shrublands and heathlands (https://www.dpaw.wa.gov.au/images/documents/plants-animals/animals/animal_profiles/chuditch_fauna_profile.pdf).	Highly Unlikely - There have not been any records of Chuditch in the Survey area
Isoodon fusciventer (Kwernt, Quenda, Southwestern Brown Bandicoot)	Priority 4	Not listed	Southern Brown Bandicoots are small grey marsupials that prefer dense scrub (up to one metre high), often in or near swampy vegetation. Their diet includes invertebrates (including earthworms, adult beetles and their larvae), underground fungi, subterranean plant material, and very occasionally, small vertebrates (Department of Environment and Conservation, 201 2). The preferred habitat for this species is scrubby, often swampy, vegetation with dense cover up to 1 m high	Highly Unlikely due to Limited distribution and lack of suitable habitat.
Notamacropus eugenii derbianus (Tammar wallaby)	Priority 4	Not listed	The species inhabits dense, low vegetation for daytime shelter and open grassy areas for feeding. This species inhabits coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland.The Tammar Wallaby is currently known to inhabit three islands in the Houtman Abrolhos group (East and West Wallabi Island, and an introduced population on North Island), Garden Island near Perth, Middle and North Twin Peak Islands in the Archipelago of the Recherche, and several sites on the mainland - including, Dryandra, Boyagin, Tutanning, Batalling (reintroduced), Perup, private property near Pingelly, Jaloran Road timber reserve near Wagin, Hopetoun, Stirling Range National Park, and Fitzgerald River National Park. The Tammar Wallaby remains relatively abundant at these sites which are subject to fox control (https://www.dpaw.wa.gov.au/images/documents/conservation- management/pests-diseases/tammar-wallaby_2012.pdf).	Highly Unlikely due to Limited distribution and lack of suitable habitat.
Notamacropus irma (Western Brush Wallaby)	Priority 4	Not listed	Preferred habitat is open forest or woodlands with seasonally wet sites and low vegetation. This species is often found in dry schlerophyll forests, such as jarrah, and areas of mallee and heathland scrub. It is rarely found in wet schlerophyll forests and is not found in ecosystems characterized by a thick understory, such as karri forests.	Highly Unlikely as the area of vegetation is relatively isolated in a highly cleared landscape.

Appendix C: Habitat Description of Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Pseudomys occidentalis (Western Mouse)	Priority 4	Not listed	The distribution range once extended across Southwest Australia and into the arid interior, this became restricted to a few areas near the Ravensthorpe Range, at Fitzgerald River National Park, and several isolated populations in the southern wheatbelt. This mouse lives in loamy soils in areas that have not been burnt recently, and not known at any location that has been subjected to fire in the preceding 30 to 50 years. The terrain has climax vegetation, especially the desert quandong Santalum acuminatum and sedge-like plants. The substrate of the ecological communities in which they are known to remain is sandy or sandy-clay soil that is often intermixed with gravel. Plant genera associated with their remnant sites are Eucalyptus, Acacia, Isopogon, Allocasuarina and Melaleuca, and the vegetation of their habitat is highly variable, including open woodlands, low and tall shrubland, mallee and heath in open to dense arrangements of plants	Highly unlikely as the area lacking understory and is relatively isolated in a highly cleared landscape.
Pseudomys shortridgei (Heath mouse, heath rat and Dayang)	Endangered	Endangered	Preferred vegetation type in southwest Australia is taller scrubland associated with mallee trees and climax heath assemblages in undisturbed areas	Highly unlikely - There are no records of the species for the Survey area
Phascogale calura (red-tailed phascogale, kenngoor)	Species of special conservation interest	Critically Endangered	This subspecies has been observed in dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover. It has a highly fragmented distribution across the southwest of WA (https://en.wikipedia.org/wiki/Brush-tailed_phascogale).	Highly unlikely to persist within the Survey area

Appendix D

Conservation code definitions



Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

THREATENED AND PRIORITY FLORA INFORMATION

Conditions with Respect to the Supply of Information

- The data supplied may not be provided to any other organisations, nor be used for any purpose other than for the project for which it has been originally provided for; without the prior consent of the Executive Director, Department of Biodiversity, Conservation and Attractions.
- Specific locality information for threatened flora is regarded as confidential, and should be treated as such by receiving organisations. Specific locality information for threatened flora may not be used in reports without the written permission of the Executive Director, Department of Biodiversity, Conservation and Attractions. Reports may only show generalised locations at a low resolution or, where necessary, show specific locations without identifying species. Species and Communities Branch is to be contacted for guidance on the presentation of threatened flora information.
- The Department of Biodiversity, Conservation and Attractions respects the privacy of private landowners who may have threatened and priority flora on their property. Threatened and priority flora locations identified in the data as being on private property should be treated in confidence, and contact with property owners must only be made through the Department of Biodiversity, Conservation and Attractions.
- The development of the Perth Herbarium database was not originally intended for electronic mapping (eg. GIS ArcView). The latitude and longitude coordinates for each entry are not verified prior to being data based. It is only in recent times that collections have been submitted with GPS coordinates. Therefore, be aware when using this data in GIS software that some records may not plot to the locality description given with each collection.
- Acknowledgment of the Department Biodiversity, Conservation and Attractions as the source of data is to be made in any published material and cited as Biodiversity, Conservation and Attractions (2018) Threatened and Priority Flora Database Search for [search area] accessed on the [date of search]. Prepared by the Species and Communities program for [Requesters name and company] for [purpose of search].
- Copies of all such publications are to be forwarded to the Department of Biodiversity, Conservation and Attractions, Attention; the Manager, Species and Communities program.

Disclaimers with Respect to the Supply of Information

- Receiving organisations should note that while every effort has been made to prevent errors and omissions in the data, they may be present. The Department of Biodiversity, Conservation and Attractions accepts no responsibility for this.
- Receiving organisations must also recognise that the database is subject to continual updating and amendment, and such considerations should be taken into account by the user.
- It should be noted that the supplied data does not necessarily represent a comprehensive listing of the threatened flora of the area in question. Its comprehensiveness is dependent on the amount of surveys carried out within a specified area. The receiving organisation should consider engaging a botanist, if required, to undertake a survey of the area under consideration.



ABBREVIATIONS USED IN THREATENED AND PRIORITY FLORA DATABASE

VESTING

AAP	Aboriginal Planning Authority
AGR	Chief Executive, Dep. of Agriculture
ALT	Aboriginal Land Trust
APB	Agricultural Protection Board of WA
BGP	Botanical Gardens & Parks Authority
BSA	Boy Scouts Association
CC	Conservation Commission – NPNCA - LFC
CGT	Crown Grant in Trust
COM	Commonwealth of Australia
CRO	Crown Freehold-Govt Ownership
CRW	Crown
DAG	Dep. of Agriculture
DOW	Dep. of Water
DPI	Dep. of Planning
EXD	Exec Direc CALM
FES	Fire and Emergency Services Aust.
HOW	Dep. of Housing/State Housing Commission
ILD	Industrial Lands Develop. Auth
LAC	LandCorp
LGA	Shire/LGA
MAG	Minister for Agriculture
MCB	Metropolitan Cemeteries Board
MED	Ministry of Education
MHE	Minister for Health
MIN	Minister for Mines
MPL	Ministry for Planning
MPR	Minister for Prisons
MRD	Main Roads WA
MTR	Minister for Transport
MWA	Minister for Water Resources
MWO	Minister for Works
NAT	Natural Trust of Australia WA
NON	Not Vested
PLB	Pastoral Lands Board
PRI	Private/Freehold
RAI	Public Transport Authority
REL	Religious Organisation
SPC	State Planning Commission
SYN	Synergy (ex Western Power)
SWA	State of Western Australia
TEL	Telstra
UNK	Unknown
WAT	Water Corporation
WEL	Minister Community Welfare
WRC	Water & Rivers Commission
XPL	Ex-Pastoral Lease

PURPOSES

ABR	Aboriginal Reserve
ACC	Access Track
AER	Aerodrome
AIR	Airport
ARS	Agricultural Research Station
BAP	Baptist Union of WA
CAM	Camping
CAR	Caravan park
CEM	Cemetery
CFA	Conservation of Fauna
CFF	Conservation Of Flora & Fauna
CFL	Conservation of Flora
CHU	Church
CMN	Communications
COM	Common
CON	Conservation Park
CPK	Car Park
CRM	Conservation & Resource Management
DEF	Defence
DRA	Drain
EDE	Educational Endowment
EDU	Educational purposes
UWA	
ENE	Enjoyment of Natural Environ.
EPL	Ex-pastoral Lease (Sect 33(2) CALM Act)
EPS	Explosives
EXC	Excepted from sale
EXL	Exploration Lease
EXP	Experimental Farm
FIR	Firing Range
FOR	State Forest
FP	Foreshore Purposes
GE	General Lease
GHA	Grain Handling
GOL	Golf
GRA	Gravel Pit
GVT	Government Requirements
HAR	Harbour Purposes
HEP	Heritage Purposes
HER	Heritage trail
HOS	Hospital
KEN	Kennels
LGA	LGA/Shire Requirements
LPR	Landscape Protection
MIN	Mining lease
MUN	Municipal Purposes
NPK	National Park
NRE	Nature Reserve
OTH	Other
PAR	Parkland (& Recreation)
PAS	Pastoral lease
PCR	Proposed for Conservation
PFF	Protection of Flora & Fauna
PFL	Protection of Flora
PIC	Picnic ground
PLA	Plantation
PMC	Protection of Meteorite Crater
POS	Public Open Space
PPA	Public parkland
PRS	Prison site
PUR	Purchase Lease
PUT	Public Utility
QUA	Quarry
RAC	Racecourse
RAD	Radio Station
REC	Recreation
REH	Rehabilitation/Re-establish Native Plants
RRE	Railway Reserve
RUB	Rubbish
SAL	Saleyards
SAN	Sand
SCH	School-site
SET	Settlers requirements
SHO	Showgrounds
SNN	Sanitary
SOI	Soil Conservation
STO	Stopping place
STK	Stock Route
TIM	Timber
TOU	Tourism
TOW	Town-site
TRA	Training Ground
TRI	Trig station
UCL	Unallocated Crown Land
UNK	Unknown
VER	Road Verge
VPF	Vermin Proof Fence
WAT	Water
WLS	Wildlife Sanctuary
WOO	Firewood

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ABBREVIATIONS USED IN THE WESTERN AUSTRALIAN HERBARIUM DATABASE

Geocode Method - The method that was used to record the latitude and longitude.

Auto - Indicates that the coordinate data in the record was created automatically (i.e. by software), usually by creating a coordinate from information provided in the Nearest Named Place or Locality textual description fields.

GAP - Acronym for "Generalised Arbitrary Point" as used in HISPID. GAP indicates that the coordinate data was obtained manually from the Nearest Named Place or Locality textual description fields.

GPS - Acronym for "Global Positioning System". GPS indicates that the coordinate data in the record was obtained from a GPS unit by the collector of the specimen.

MAN - Shorthand for manual. MAN indicates that the coordinate data was created by hand using some method not allowed for by one of the other manual Geocode Method values, in particular, TOPO, GAP, or GPS.

TOPO - Shorthand for topographic map. TOPO indicates that the coordinate data was obtained by plotting textual locality details against a topographic map.

None - Indicates that no coordinate data has been supplied by the collector.

Unknown - Indicates that there is no known method for determining the coordinate data. Should be used if the collector provided no indication of how they sampled the specimen's coordinate data.

PREC (Precision) - precision ratings for coordinates.

Precision 1: Absolutely precise (to nearest 100m or nearest second) and must be GPS determined. For example 35°26'42"S 123°40'26"E

Precision 2: Falling within a diameter of 3km (ca 2 minutes) or if no GPS mentioned in collecting notes. (The location must be able to be pinpointed on a 1:250 000 map, a spot locality. For example 35°26'42"S 123°40'26"E

Precision 3: Falling within a diameter of 10km (ca 7 minutes) or for degrees and minutes, where seconds have not been given. For example 35°26'_"S 123°40'_"E

Precision 4: Falling within a diameter of ca 50km (30 minutes). For example 35°26'_"S 123°40'_"E

Precision 5: Where a location is a prescribed large geographical area within a state or only the state is given. Diameter is greater than 50km. For example 35°_'_"S 123°_'_"E

Precision 6: used when localities are New Holland, Eastern Australia or Not given. Fields will be left blank.

Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

CONSERVATION CODES

For Western Australian Flora and Fauna

Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016.*

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T **Threatened species**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).
Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.
Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.
The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**

Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX Extinct species

Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).
Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.
Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).
Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).
Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).
Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

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P **Priority species**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.
Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.
Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

1 **Priority 1: Poorly-known species**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

2 **Priority 2: Poorly-known species**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

3 **Priority 3: Poorly-known species**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

4 **Priority 4: Rare, Near Threatened and other species in need of monitoring**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

[1] The definition of flora includes algae, fungi and lichens
[2]Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Appendix E

Vegetation summary within the survey area

APPENDIX E: Vegetation Summary Within the Kings Rock Development Support

Accommodation Site 1

Type: quadrat

Date: 14/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	2	0.1
**Avena barbata*	Poaceae	5	0.6
**Eragrostis curvula*	Poaceae	1.5	0.3
**Vulpia myuros*	Poaceae	0.5	0.1
Acacia enervia subsp. *enervia*	Fabaceae	1	1.5
Acacia lasiocalyx	Fabaceae	1.5	1.3
Alyxia buxifolia	Apocynaceae	0.1	2
Carpobrotus modestus	Aizoaceae	0.1	0.2
Dianella revoluta	Hemerocallidaceae	0.1	0.8
Enchylaena tomentosa	Chenopodiaceae	0.1	0.6
Eremophila drummondii	Scrophulariaceae	0.5	0.9
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	8.5	5.5
Eucalyptus salmonophloia	Myrtaceae	5	10
Glischrocaryon angustifolium	Haloragaceae	0.5	0.4
Hakea meisneriana	Proteaceae	0.2	2
Melaleuca hamata	Myrtaceae	2	1.3
Poaceae sp.	Poaceae	0.1	0.1
Santalum acuminatum	Santalaceae	0.1	1.7
Waitzia acuminata var. *acuminata*	Asteraceae	0.5	0.1

Accommodation Site 2

Type: quadrat

Date: 14/09/2023

MGA zone: 50 H

[redacted]

Vegetation condition: Completely Degraded



Species List

Name	Family	Cover (%)	Height (m)
No Species Recorded	-	-	-

Intersection 01

Type: quadrat

Date: 06/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
Eucalyptus incrassata	Myrtaceae	22.5	10
Eucalyptus rudis subsp. *rudis*	Myrtaceae	45	9
Eucalyptus sp.	Myrtaceae	15	8
**Lolium rigidum*	Poaceae	1	0.2
Melaleuca sp.	Myrtaceae	2.5	4
Poaceae sp.	Poaceae	70	0.1

Intersection 02

Type: quadrat

Date: 06/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Completely Degraded



Species List

Name	Family	Cover (%)	Height (m)
No Species Recorded	-	-	-

Intersection 03

Type: quadrat

Date: 06/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Hypochaeris glabra*	Asteraceae	0.1	0.1
Acacia acuminata	Fabaceae	1.5	4
Melaleuca pauperiflora subsp. *fastigiata*	Myrtaceae	10	1.8
Poaceae sp.	Poaceae	0.1	0.1

Intersection 04

Type: quadrat

Date: 06/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Avena barbata*	Poaceae	0.1	0.2
**Ehrharta longiflora*	Poaceae	0.5	0.3
**Sonchus oleraceus*	Asteraceae	0.5	0.1
Acacia acuminata	Fabaceae	7.5	7
Acacia lasiocalyx	Fabaceae	0.5	0.2
Calothamnus sp.	Myrtaceae	1	1
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	3.5	12
Hakea undulata	Proteaceae	1	1
Juncus sp.	Juncaceae	1	0.6
Melaleuca sp.	Myrtaceae	1	1
Poaceae sp.	Poaceae	0.1	0.1

Intersection 05

Type: quadrat

Date: 06/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Avena barbata*	Poaceae	0.5	0.4
**Ehrharta longiflora*	Poaceae	1	0.6
**Hypochaeris glabra*	Asteraceae	0.1	0.1
**Lolium rigidum*	Poaceae	0.1	0.2
**Sonchus oleraceus*	Asteraceae	0.1	0.5
Eucalyptus caesia	Myrtaceae	2.5	5
Eucalyptus dorrienii	Myrtaceae	5	5.5
Eucalyptus incrassata	Myrtaceae	1.5	9
Eucalyptus sp.	Myrtaceae	6.5	9
Orobanche minor	Orobanchaceae	0.1	0.1

Intersection 06

Type: quadrat

Date: 06/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Briza maxima*	Poaceae	0.1	0.2
**Ehrharta calycina*	Poaceae	5	0.7
**Lolium rigidum*	Poaceae	0.1	0.2
Bossiaea eriocarpa	Fabaceae	0.5	0.3
Casuarina obesa	Casuarinaceae	15	6
Corymbia calophylla	Myrtaceae	10	12
Desmocladus fasciculatus	Restionaceae	0.1	0.1
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	8	13
Hakea prostrata	Proteaceae	2.5	3
Jacksonia sternbergiana	Fabaceae	1	2
Lepidosperma sp.	Cyperaceae	0.1	0.3
Neurachne alopecuroidea	Poaceae	0.1	0.4
Patersonia occidentalis	Iridaceae	0.1	0.2
Poaceae sp.	Poaceae	0.1	0.1
Thysanotus dichotomus	Asparagaceae	0.1	0.3

Intersection 07

Type: quadrat

Date: 06/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Ehrharta calycina*	Poaceae	12.5	0.7
**Lolium rigidum*	Poaceae	0.5	0.2
**Lupinus cosentinii*	Fabaceae	0.1	0.2
Casuarina obesa	Casuarinaceae	10	5
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	15	15
Jacksonia sternbergiana	Fabaceae	2.5	2.5

Intersection 08

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia saligna	Fabaceae	1	3
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	2	9
Eucalyptus rudis subsp. *rudis*	Myrtaceae	5	10
Eucalyptus suggrandis subsp. *promiscua*	Myrtaceae	2.5	8
Eucalyptus vegrandis	Myrtaceae	5	9.5
Melaleuca rhaphiophylla	Myrtaceae	1.5	3

Intersection 09

Type: quadrat

Date: 05/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Ehrharta calycina*	Poaceae	1.5	0.6
**Vulpia myuros*	Poaceae	0.5	0.2
Austrostipa sp.	Poaceae	0.5	0.3
Daviesia aphylla	Fabaceae	0.1	0.75
Eucalyptus myriadena	Myrtaceae	15	12
Maireana brevifolia	Chenopodiaceae	5	0.6
Melaleuca sp.	Myrtaceae	1	3
Poaceae sp.	Poaceae	0.5	0.2
Tecticornia sp.	Chenopodiaceae	2	0.6

Intersection 10

Type: quadrat

Date: 05/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Vulpia myuros*	Poaceae	0.05	0.2
Acacia merrallii	Fabaceae	0.1	1.1
Austrostipa sp.	Poaceae	1	0.6
Daviesia aphylla	Fabaceae	2.5	2.5
Dianella revoluta	Hemerocallidaceae	1	0.3
Dodonaea pinifolia	Sapindaceae	0.5	0.6
Eucalyptus myriadena	Myrtaceae	45	10
Eucalyptus salmonophloia	Myrtaceae	10	15
Maireana brevifolia	Chenopodiaceae	2.5	0.7
Ozothamnus lepidophyllus	Asteraceae	0.5	0.3
Poaceae sp.	Poaceae	0.1	0.1

Intersection 11

Type: quadrat

Date: 05/12/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Ehrharta calycina*	Poaceae	10	0.7
**Sonchus oleraceus*	Asteraceae	0.1	0.3
Acacia acuminata	Fabaceae	1.5	3.2
Acacia merrallii	Fabaceae	0.5	2.5
Allocasuarina campestris	Casuarinaceae	12.5	5
Calothamnus sp.	Myrtaceae	0.1	1.5
Comesperma scoparium	Polygalaceae	0.1	0.3
Dittrichia graveolens	Asteraceae	0.1	0.3
Dodonaea pinifolia	Sapindaceae	0.5	0.5
Eucalyptus sheathiana	Myrtaceae	12.5	5
Gastrolobium bennettsianum	Fabaceae	1.5	2
Jacksonia sternbergiana	Fabaceae	8	4.5
Leptospermopsis erubescens	Myrtaceae	4	3
Melaleuca acuminata subsp. *acuminata*	Myrtaceae	10	2
Melaleuca adnata	Myrtaceae	5	1.1
Melaleuca atroviridis	Myrtaceae	0.5	3
Melaleuca sp.	Myrtaceae	7.5	2.1
Poaceae sp.	Poaceae	0.1	0.1
Ptilotus polystachyus	Amaranthaceae	0.01	0.4

Intersection 12

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Avena barbata*	Poaceae	0.5	0.3
**Vulpia myuros*	Poaceae	0.2	0.2
Acacia lasiocalyx	Fabaceae	0.1	1.8
Allocasuarina campestris	Casuarinaceae	0.5	3
Austrostipa elegantissima	Poaceae	0.1	0.3
Banksia cirsioides	Proteaceae	3	0.4
Calothamnus gilesii	Myrtaceae	0.5	3
Dianella revoluta	Hemerocallidaceae	0.1	0.6
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	1	6
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	1	7
Eucalyptus sp.	Myrtaceae	1.5	5
Eucalyptus tenera	Myrtaceae	10	7
Eucalyptus torquata	Myrtaceae	2	6
Gastrolobium bennettsianum	Fabaceae	0.5	0.2
Goodenia berardiana	Goodeniaceae	0.5	1
Hakea meisneriana	Proteaceae	0.75	3
Leptospermopsis erubescens	Myrtaceae	3	2
Melaleuca pungens	Myrtaceae	1	0.8
Melaleuca scalena	Myrtaceae	10	3
Melaleuca tuberculata var. *arenaria*	Myrtaceae	8.5	1.5
Petrophile seminuda	Proteaceae	2.5	2
Phebalium filifolium	Rutaceae	3.5	1.5
Poaceae sp.	Poaceae	0.1	0.2
Stylidium caricifolium	Stylidiaceae	0.5	0.3

Intersection 13

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	0.2	0.1
**Hordeum glaucum*	Poaceae	0.1	0.2
**Hypochaeris glabra*	Asteraceae	0.1	0.1
**Lupinus cosentinii*	Fabaceae	0.5	0.2
**Sonchus oleraceus*	Asteraceae	0.1	0.4
**Trifolium arvense*	Fabaceae	0.1	0.1
**Ursinia anthemoides*	Asteraceae	0.1	0.1
**Vulpia myuros*	Poaceae	0.1	0.2
Enchylaena tomentosa	Chenopodiaceae	0.5	0.5
Eucalyptus flocktoniae subsp. *flocktoniae*	Myrtaceae	25	12
Eucalyptus melanoxylon	Myrtaceae	7.5	9
Eucalyptus salubris	Myrtaceae	18	10
Poaceae sp.	Poaceae	0.3	0.1
Sclerolaena diacantha	Chenopodiaceae	0.2	0.1

Intersection 14

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	0.2	0.1
**Avena barbata*	Poaceae	1	0.2
**Ehrharta longiflora*	Poaceae	5	0.6
**Eragrostis curvula*	Poaceae	20	0.6
**Erodium botrys*	Geraniaceae	0.1	0.1
**Hypochaeris glabra*	Asteraceae	1	0.1
**Lolium rigidum*	Poaceae	1	0.3
**Lupinus cosentinii*	Fabaceae	0.5	0.2
**Sonchus oleraceus*	Asteraceae	0.1	0.1
**Trifolium arvense*	Fabaceae	0.1	0.1
**Ursinia anthemoides*	Asteraceae	1	0.1
**Vulpia myuros*	Poaceae	1	0.1
Acacia beauverdiana	Fabaceae	1	1.5
Acacia enervia subsp. *enervia*	Fabaceae	4	2.5
Eucalyptus sheathiana	Myrtaceae	20	5
Melaleuca hamata	Myrtaceae	0.5	1.8
Portulaca oleracea	Portulacaceae	0.1	0.1
Ptilotus polystachyus	Amaranthaceae	0.1	0.1

Intersection 15

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	0.1	0.1
**Vulpia myuros*	Poaceae	0.1	0.2
Acacia enervia subsp. *enervia*	Fabaceae	0.5	3
Allocasuarina campestris	Casuarinaceae	7.5	4
Calothamnus gilesii	Myrtaceae	10	3
Cassytha pomiformis	Lauraceae	0.2	0.5
Dodonaea viscosa subsp. *angustissima*	Sapindaceae	0.1	0.6
Eucalyptus capillosa	Myrtaceae	2.5	9
Gastrolobium bennettsianum	Fabaceae	1	0.4
Goodenia berardiana	Goodeniaceae	0.1	0.2
Hakea meisneriana	Proteaceae	10	4
Hibbertia exasperata	Dilleniaceae	0.1	0.3
Melaleuca hamata	Myrtaceae	0.5	3
Neurachne alopecuroidea	Poaceae	0.1	0.1
Pimelea angustifolia	Thymelaeaceae	0.1	0.3
Ptilotus polystachyus	Amaranthaceae	1	0.3

Intersection 16

Type: quadrat

Date: 13/09/2023

MGA zone: 50 H

[redacted]

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	1.5	0.1
**Avena barbata*	Poaceae	0.1	0.5
**Eragrostis curvula*	Poaceae	0.5	0.6
**Lolium rigidum*	Poaceae	1	0.2
Eucalyptus calycogona subsp. *miraculum*	Myrtaceae	10	12
Poaceae sp.	Poaceae	2.5	0.3
Santalum acuminatum	Santalaceae	8	3

Intersection 17

Type: quadrat

Date: 13/09/2023

MGA zone: 50 H

[redacted]

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Aira caryophyllea*	Poaceae	0.1	0.1
**Arctotheca calendula*	Asteraceae	3	0.1
**Avena barbata*	Poaceae	15	0.4
**Eragrostis curvula*	Poaceae	1	0.2
**Lolium rigidum*	Poaceae	10	0.2
Acacia beauverdiana	Fabaceae	1.5	3
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	5	9
Eucalyptus sporadica	Myrtaceae	6.5	5
Poaceae sp.	Poaceae	2	0.2
Santalum acuminatum	Santalaceae	1	1.5

Intersection 18

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	2	0.2
**Ursinia anthemoides*	Asteraceae	0.1	0.1
**Vulpia myuros*	Poaceae	0.2	0.1
Acacia lasiocalyx	Fabaceae	2	1.2
Enchylaena tomentosa	Chenopodiaceae	0.5	0.6
Eremophila drummondii	Scrophulariaceae	0.5	0.6
Eucalyptus salmonophloia	Myrtaceae	75	10
Eucalyptus sporadica	Myrtaceae	5	6
Exocarpos aphyllus	Santalaceae	1.5	1.3
Poaceae sp.	Poaceae	0.5	0.2
Santalum acuminatum	Santalaceae	0.1	1.8

Intersection 19

Type: quadrat

Date: 14/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	1.5	0.1
**Avena barbata*	Poaceae	10	0.5
**Eragrostis curvula*	Poaceae	1	0.6
**Trifolium arvense*	Fabaceae	1.5	0.1
Acacia enervia subsp. *enervia*	Fabaceae	0.5	1
Acacia lasiocalyx	Fabaceae	1	1.5
Allocasuarina acutivalvis	Casuarinaceae	12.5	3
Alyxia buxifolia	Apocynaceae	1	2.2
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	7.5	6
Neurachne alopecuroidea	Poaceae	0.5	0.1
Phebalium filifolium	Rutaceae	0.5	0.6
Poaceae sp.	Poaceae	0.1	0.1
Ptilotus polystachyus	Amaranthaceae	0.1	0.6

Intersection 20

Type: quadrat

Date: 13/09/2023

MGA zone: 50 H

Vegetation condition: Poor/Degraded

[redacted]



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	1	0.1
**Erodium botrys*	Geraniaceae	0.1	0.2
**Lolium rigidum*	Poaceae	0.1	0.1
Allocasuarina acutivalvis	Casuarinaceae	10	2.5
Callitris preissii	Cupressaceae	15	3
Hakea meisneriana	Proteaceae	5	2
Poaceae sp.	Poaceae	0.1	0.1

Intersection 21

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	0.2	0.2
**Lolium rigidum*	Poaceae	0.1	0.2
Acacia lasiocalyx	Fabaceae	5	2
Allocasuarina acutivalvis	Casuarinaceae	4	2
Callitris preissii	Cupressaceae	6	3
Eucalyptus burracoppinensis	Myrtaceae	7.5	4
Gastrolobium bennettsianum	Fabaceae	2	1

Intersection 22

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor/Degraded



Species List

Name	Family	Cover (%)	Height (m)
**Lolium rigidum*	Poaceae	6.5	0.2
**Vulpia myuros*	Poaceae	2.5	0.1
Austrostipa sp.	Poaceae	0.1	0.6
Callitris preissii	Cupressaceae	5	4
Eucalyptus suggrandis subsp. *promiscua*	Myrtaceae	20	5
Phebalium filifolium	Rutaceae	5	0.7
Poaceae sp.	Poaceae	1	0.1

Intersection 23

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Poor



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	1	0.1
**Vulpia myuros*	Poaceae	0.1	0.1
Acacia lasiocalyx	Fabaceae	2	0.6
Allocasuarina acutivalvis	Casuarinaceae	1	2
Callitris preissii	Cupressaceae	10	3
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	20	7
Melaleuca hamata	Myrtaceae	1	2
Phebalium filifolium	Rutaceae	8	0.7
Poaceae sp.	Poaceae	0.1	0.1
Portulaca oleracea	Portulacaceae	0.1	0.1
Sclerolaena diacantha	Chenopodiaceae	0.1	0.1

Intersection 24

Type: quadrat

Date: 13/09/2023

[redacted]

MGA zone: 50 H

Vegetation condition: Good



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	1.5	0.1
**Eragrostis curvula*	Poaceae	0.2	0.6
**Vulpia myuros*	Poaceae	0.1	0.1
Acacia enervia subsp. *enervia*	Fabaceae	0.75	1
Acacia lasiocalyx	Fabaceae	0.5	1.5
Adenanthos argyreus	Proteaceae	3	0.7
Allocasuarina acutivalvis	Casuarinaceae	1	3
Allocasuarina campestris	Casuarinaceae	0.5	2
Austrostipa elegantissima	Poaceae	0.5	0.6
Beyeria sulcata var. *sulcata*	Euphorbiaceae	2.5	0.7
Callitris preissii	Cupressaceae	1	3
Eucalyptus dissimulata	Myrtaceae	20	4
Gastrolobium bennettsianum	Fabaceae	0.5	0.3
Hakea meisneriana	Proteaceae	2	2
Lepidosperma sp.	Cyperaceae	0.1	0.3
Leptospermopsis sp.	Myrtaceae	0.1	0.2
Neurachne alopecuroidea	Poaceae	0.1	0.1
Phebalium filifolium	Rutaceae	3	0.7
Poaceae sp.	Poaceae	0.1	0.1
Santalum acuminatum	Santalaceae	0.5	2
Waitzia acuminata var. *acuminata*	Asteraceae	0.1	0.1

Intersection 25

Type: quadrat

Date: 13/09/2023

MGA zone: 50 H

Vegetation condition: Good

[redacted]



Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	0.1	0.1
**Hypochaeris glabra*	Asteraceae	0.1	0.1
Acacia enervia subsp. *enervia*	Fabaceae	0.5	1.5
Acacia lasiocalyx	Fabaceae	1	1.8
Allocasuarina acutivalvis	Casuarinaceae	2.5	4
Eucalyptus dissimulata	Myrtaceae	1	2
Gastrolobium bennettsianum	Fabaceae	0.1	0.6
Phebalium filifolium	Rutaceae	0.2	0.6
Poaceae sp.	Poaceae	0.1	0.2

Appendix F

Vegetation communities within the survey area

Site	Vegetation Community Description	Representative Plate of Community
Site 01	*Eucalyptus salmonophloia* and *Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Acacia lasiocalyx* sparse shrubland over *Glischrocaryon angustifolium* and *Waitzia acuminata* var. *acuminata* Isolated samphire shrubs over **Avena barbata* and **Eragrostis curvula* sparse grassland on red-brown sandy-loam flats. **Code:** EsElAnMh **Soils and Landforms:** red-brown sandy-loam flats **Vegetation condition:** Poor	
Site 02	The site is completely degraded by farming and infrastructure, no remnant native vegetation present. **Code:** Farming **Soils and Landforms:** orange clayey sand on flats **Vegetation condition:** Completely Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 01	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats **Code:** EiErMsLr **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 02	The site is completely degraded, no remnant native vegetation present. **Code:** CL **Soils and Landforms:** orange clayey sand on flats **Vegetation condition:** Completely Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 03	*Acacia acuminata* sparse shrubland over *Melaleuca pauperiflora* subsp. *fastigiata* open shrubland over **Hypochaeris glabra* sparse forbland on sandy-loam flats. **Code: AaMpHg** **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Completely Degraded	
Intersection 04	*Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia acuminata* open shrubland over *Hakea undulata* and *Calothamnus* sp. sparse shruband over **Ehrharta longiflora* and **Avena barbata* sparse grassland on sandy-loam flats. **Code:** EcAaHuCs **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 05	*Eucalyptus incrassata*, *Eucalyptus dorrienii* and *Eucalyptus caesia* open woodland over **Ehrharta calycina*, **Avena barbata* and **Lolium rigidum* sparse grassland on sandy-loam flats. **Code:** EiEdEcEc **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 06	*Eucalyptus camaldulensis* subsp. *obtusa* and *Corymbia calophylla* open woodland over *Casuarina obesa* and *Hakea prostrata* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland on sandy-loam flats. **Code:** EcCcCoJs **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Good	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 07	*Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Casuarina obesa* open shrubland over *Jacksonia sternbergiana* sparse shruband over **Ehrharta calycina* and **Lolium rigidum* sparse grassland on sandy-loam flats. **Code:** EcCoJsEc **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 08	*Eucalyptus rudis* subsp. *rudis, Eucalyptus vegrandis* and *Eucalyptus suggrandis* subsp. *promiscua* open woodland over *Melaleuca rhaphiophylla* and *Acacia saligna* sparse shruband over **Arctotheca calendula* and **Hypochaeris glabra* Isolated forbs on sandy-loam flats. **Code:** ErEvEspMr **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 09	*Eucalyptus myriadena* open woodland over *Melaleuca sp.* sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland on sandy-loam flats. **Code:** EmDaMbTs **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 10	*Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over *Maireana brevifolia*, *Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland on sandy-loam flats. **Code:** EsEmDaAm **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 11	*Eucalyptus sheathiana* open woodland over *Allocasuarina campestris* open shruband over *Acacia acuminata* sparse shrubland over *Melaleuca acuminata* subsp. *acuminata*, *Melaleuca adnata* and *Gastrolobium bennettsianum* sparse shrubland over **Ehrharta calycina* open grassland on sandy-loam flats. **Code:** EsAcAaMa **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 12	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* Isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats. **Code:** ElEcAlEd **Soils and Landforms:** Sandy loam on flats **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 13	*Eucalyptus flocktoniae* subsp. *flocktoniae*, *Eucalyptus salubris* and *Eucalyptus melanoxylon* open forest over *Enchylaena tomentosa* and *Sclerolaena diacantha* Isolated clumps of chenopod shrubs over * *Lupinus cosentinii* and * *Sonchus oleraceus* sparse forbland on sandy-loam flats. **Code:** EfEsaEmSd **Soils and Landforms:** Sandy-loam flats **Vegetation condition:** Degraded	
Intersection 14	*Eucalyptus sheathiana* open woodland over *Acacia enervia* subsp. *enervia*, *Melaleuca hamata* and *Acacia beauverdiana* open shrubland over **Eragrostis curvula, *Ehrharta longiflora* and **Avena barbata* sparse grassland on red-brown sandy-loam flats. **Code:** EshAnMhAb **Soils and Landforms:** brown sandy-loam flats **Vegetation condition:** Poor/Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 15	*Eucalyptus capillosa* open woodland over *Allocasuarina campestris*, *Calothamnus gilesii* and *Hakea meisneriana* open shrubland over *Acacia enervia* subsp. *enervia, Melaleuca hamata* and *Gastrolobium bennettsianum* sparse shrubs over *Ptilotus polystachyus*, *Hibbertia exasperata* and *Pimelea angustifolia* sparse forbland on brown sandy-loam flats. **Code:** EcAcCgHm **Soils and Landforms:** brown sandy-loam flats **Vegetation condition:** Poor/Degraded	
Intersection 16	*Eucalyptus calycogona* subsp. *miraculum* open woodland over *Santalum acuminatum* sparse shruband over **Avena barbata, *Lolium rigidum* and Poaceae sp. open grassland on sandy-loam flats. **Code:** EcmSaPs **Soils and Landforms:** sandy-loam flats **Vegetation condition:** poor/degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 17	*Eucalyptus camaldulensis* subsp. *obtusa* and *Eucalyptus sporadica* open woodland over *Acacia beauverdiana* and *Santalum acuminatum* sparse shruband over **Avena barbata, *Lolium rigidum* and Poaceae sp. open grassland on sandy-loam flats. **Code:** EcEspAbSa **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** poor/degraded	
Intersection 18	*Eucalyptus salmonophloia* and *Eucalyptus sporadica* closed forest over *Santalum acuminatum, Exocarpos aphyllus* and *Acacia lasiocalyx* sparse shruband over *Enchylaena tomentosa* and *Eremophila drummondii* isolated shrubs over Poaceae sp. and * *Vulpia myuros* sparse grassland on sandy-loam flats. **Code:** EsEspSaAl **Soils and Landforms:** sandy-loam flats **Vegetation condition:** poor/degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 19	*Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shruband over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over **Avena barbata, * Eragrostis curvula* and Poaceae sp. open grassland on sandy-loam flats. **Code:** ElAcAbAl **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** poor/degraded	
Intersection 20	*Callitris preissii, Allocasuarina acutivalvis* and *Hakea meisneriana* open shrubland over **Erodium botrys* and **Arctotheca calendula* sparse forbland over **Lolium rigidum* and Poaceae sp. isolated grassland on sandy-loam flats. **Code:** CpAaHmPs **Soils and Landforms:** sandy-loam flats **Vegetation condition:** poor/degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 21	*Eucalyptus burracoppinensis* open woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shruband over *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* Isolated forbs over **Lolium rigidum* and Poaceae sp. isolated grassland on sandy-loam flats. **Code:** EbCpAaAl **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** poor/degraded	
Intersection 22	*Eucalyptus suggrandis* subsp. *promiscua* woodland over *Callitris preissii* sparse shruband over *Phebalium filifolium* sparse samphire shrubland over **Lolium rigidum*, **Vulpia myuros* and Poaceae sp. isolated grassland on sandy-loam flats. **Code:** EspCpPfPs **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** poor/degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 23	*Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shruband over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over **Arctotheca calendula* Isolated forbs over **Vulpia myuros* and Poaceae sp. isolated grassland on sandy-loam flats. **Code:** ElCpAaMh **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Poor	
Intersection 24	*Eucalyptus dissimulata* woodland over *Callitris preissii, Allocasuarina acutivalvis* and *Hakea meisneriana* sparse shruband over *Adenanthos argyreus, Phebalium filifolium* and *Beyeria sulcata* var. *sulcate* sparse samphire shrubland over **Arctotheca calendula* and *Leptospermopsis* sp. Isolated forbs over *Austrostipa elegantissima* and * *Eragrostis curvula* isolated grassland on sandy-loam flats. **Code:** EdCpAaHm **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Good	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 25	*Eucalyptus dissimulata* open woodland over *Allocasuarina acutivalvis* sparse shruband over *Acacia lasiocalyx* and *Acacia enervia* subsp. *enervia* sparse shrubland over *Phebalium filifolium* and *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* and **Hypochaeris glabra* Isolated forbs on sandy-loam flats. **Code:** EdAaAlAn **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Good	

Appendix H

Land systems

676000 676500 677000 677500

6409500 6408500 6408000 6407500 6407000

SITE 2

SITE 1

INTERSECTION 19

HYDEN-LAKE KING RD

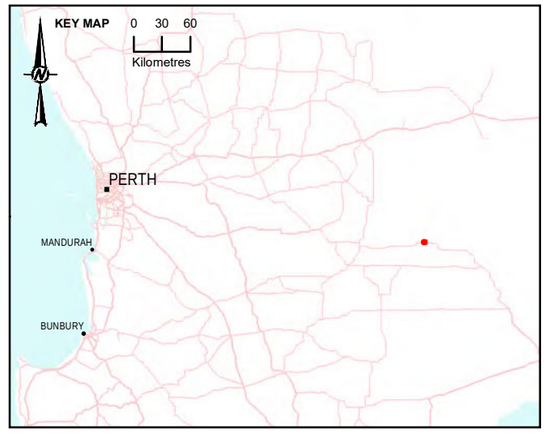
LEGEND

PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor



0 140 280

1:7,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F002_Land_Systems.mxd PRINTED ON: 2024-03-21 AT: 3:29:56 PM

THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm 0

675000 675500 676000 676500

6409000 6408500 6408000

SITE 2

SITE 1

MARSHALL ST

HYDEN-LAKE KING RD

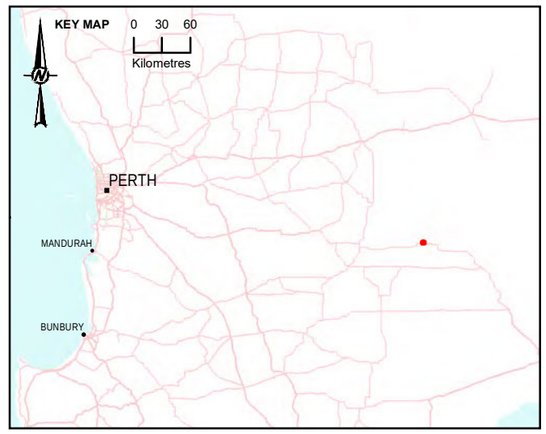
LEGEND

PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

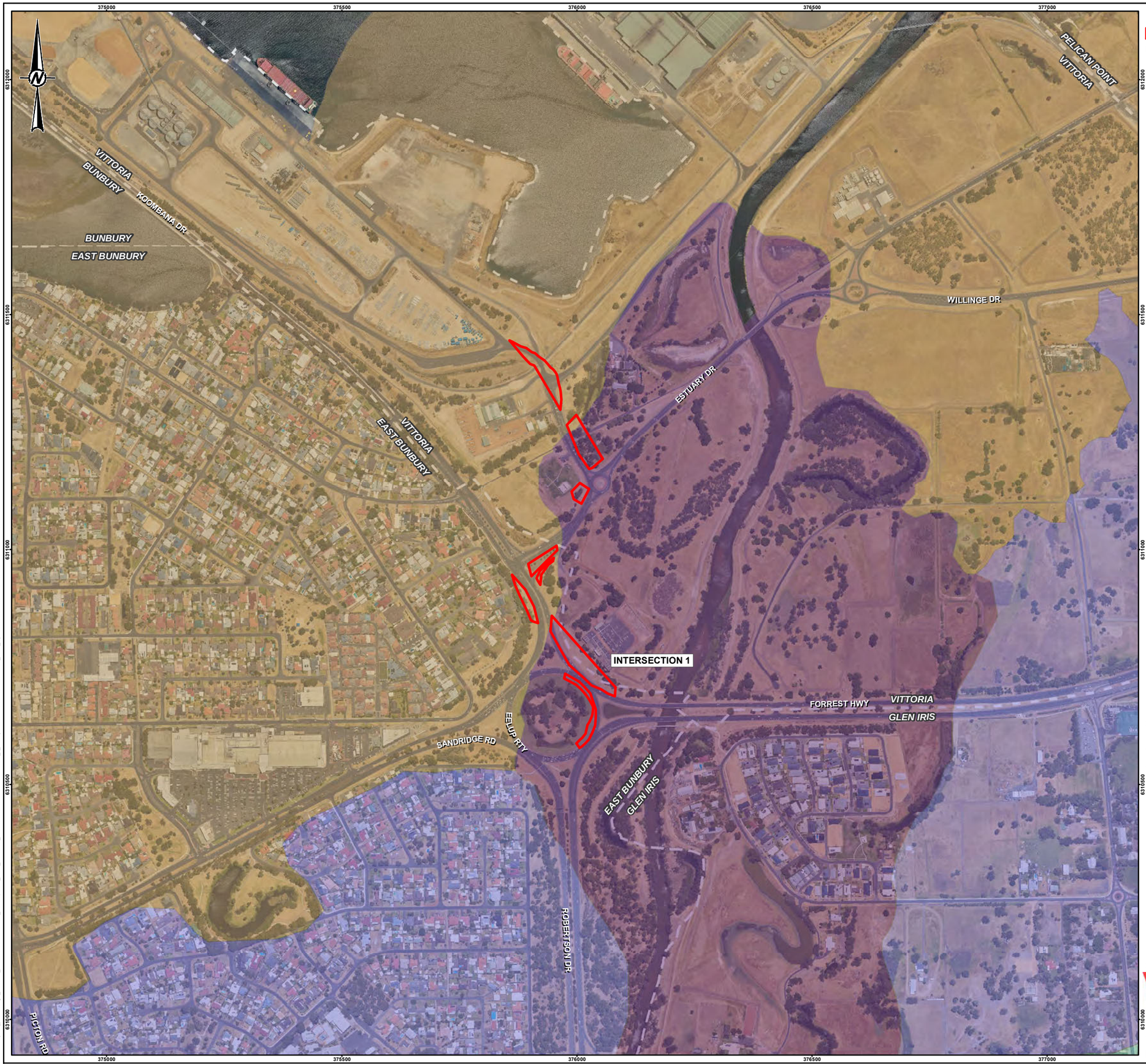
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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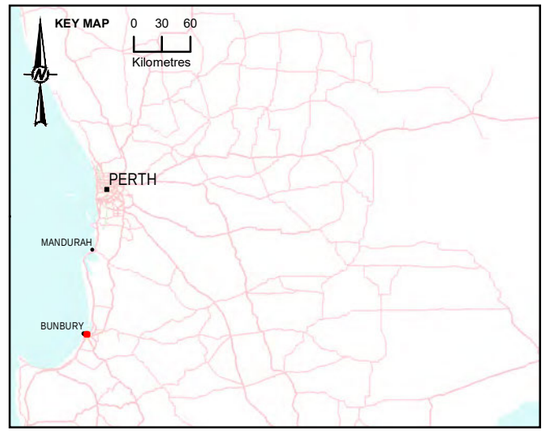


LEGEND

PROJECT AREA

LAND SYSTEM

- 211Sp - Spearwood System - Sand dunes and plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands.
- 211Va - Vasse System - Poorly drained estuarine flats, of the Swan Coastal Plain. Tidal flat soil, saline wet soil and pale deep sand. Samphire, sedges and paperbark woodland.
- 212Bs - Bassendean System - Swan Coastal Plain from Busselton to Jurien. Sand dunes and sandplains with pale deep sand, semi-wet and wet soil. Banksia-paperbark woodlands and mixed heaths.
- 213Pj - Pinjarra System - Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.3

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25mm
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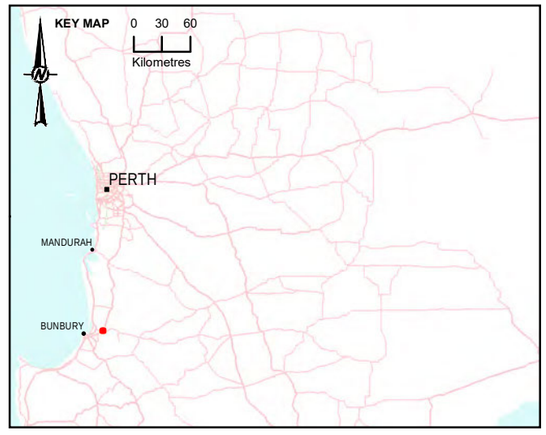
PROJECT AREA

LAND SYSTEM

213Fo - Forrestfield System - Undulating foot slopes of the Darling and Whicher Scarps. Duplex sandy gravels, pale deep sands and grey deep sandy duplexes. Woodland of E.marginata, calophylla and wandoo and some B.grandis.

213Pj - Pinjarra System - Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.

255Lv - Lowden Valleys System - Deep gneissic valleys, in the south of the Western Darling Range. Loamy earth, loamy duplex, gravel and stony soils. Jarrah-marri forest.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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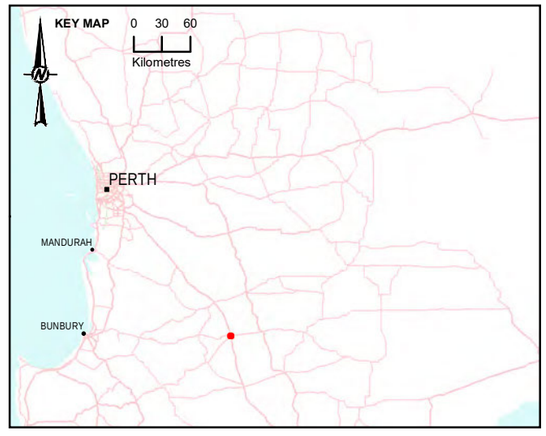


LEGEND

PROJECT AREA

LAND SYSTEM

257De - Dellyanine System - Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT
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YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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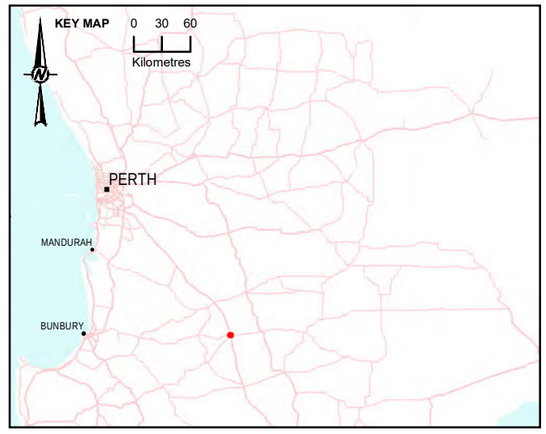


LEGEND

PROJECT AREA

LAND SYSTEM

257De - Dellyanine System - Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

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PREPARED	JE
REVIEWED	RD
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PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.6

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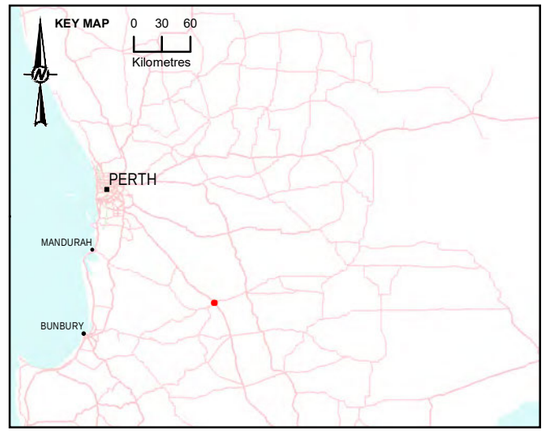
LEGEND

PROJECT AREA

LAND SYSTEM

253Qd - Quindanning System - Deep granitic valleys, in the northern and central Eastern Darling Range, with deep sandy duplex soils, shallow sand, loamy duplex and bare rock. Marri-wandoo-york gum-jam woodland.

257De - Dellyanine System - Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
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REVIEWED	RD
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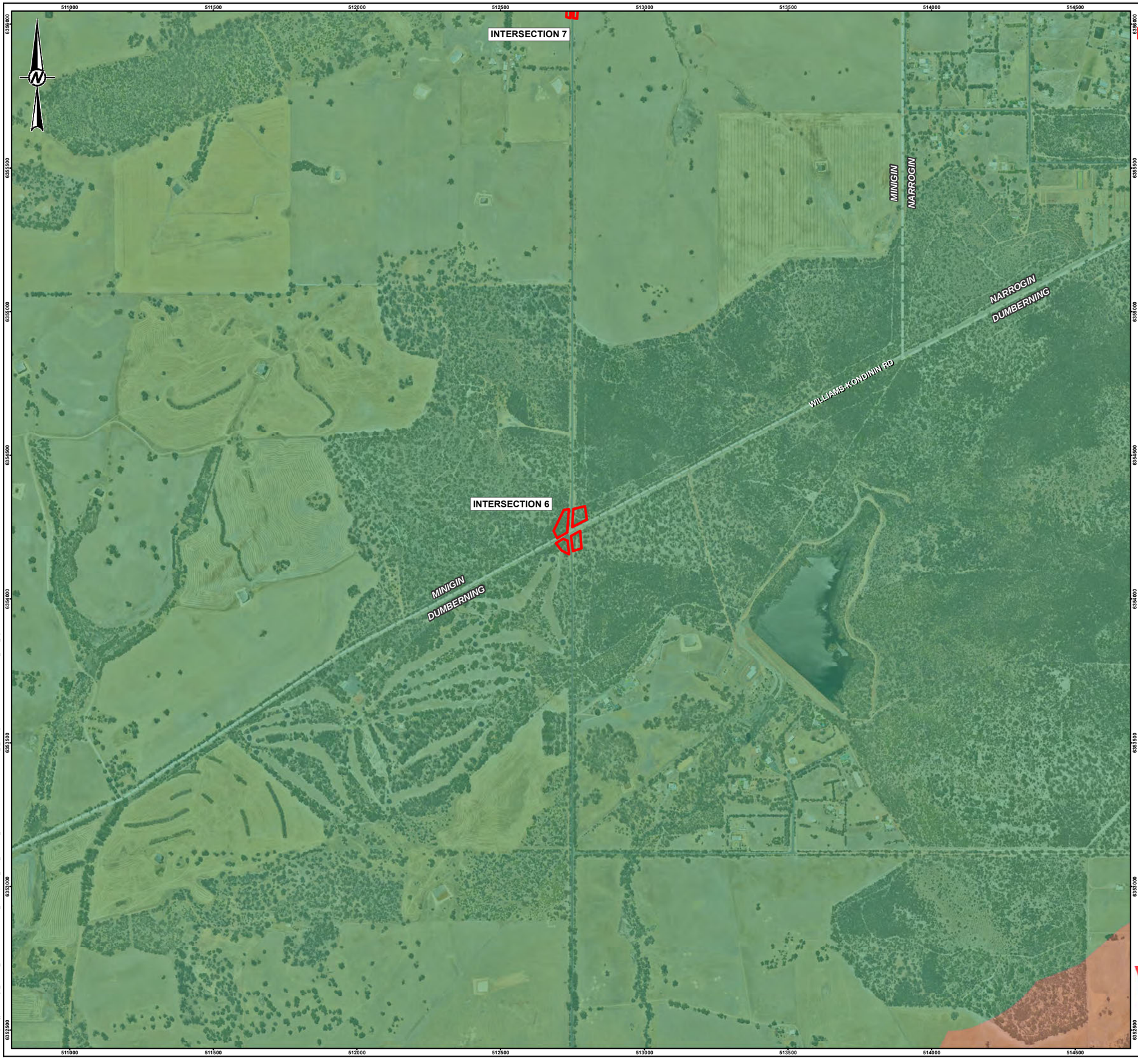
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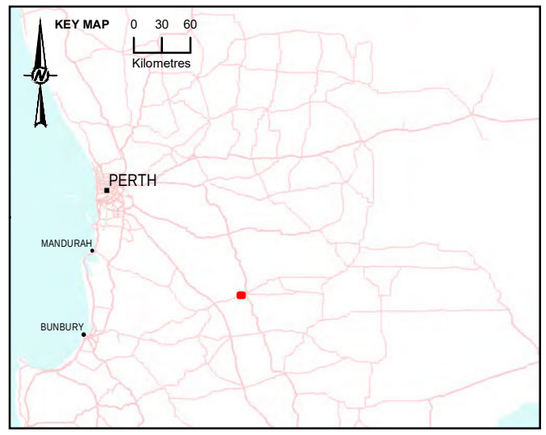
LEGEND

PROJECT AREA

LAND SYSTEM

257De - Dellyanine System - Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland.

257Ng - Narrogin System - Interfluves with significant gradient, aggressively stripped by headward incision, at the headwaters of the Hotham and Blackwood catchments. Numerous dolerite dyke swarms.



0 275 550

1:13,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

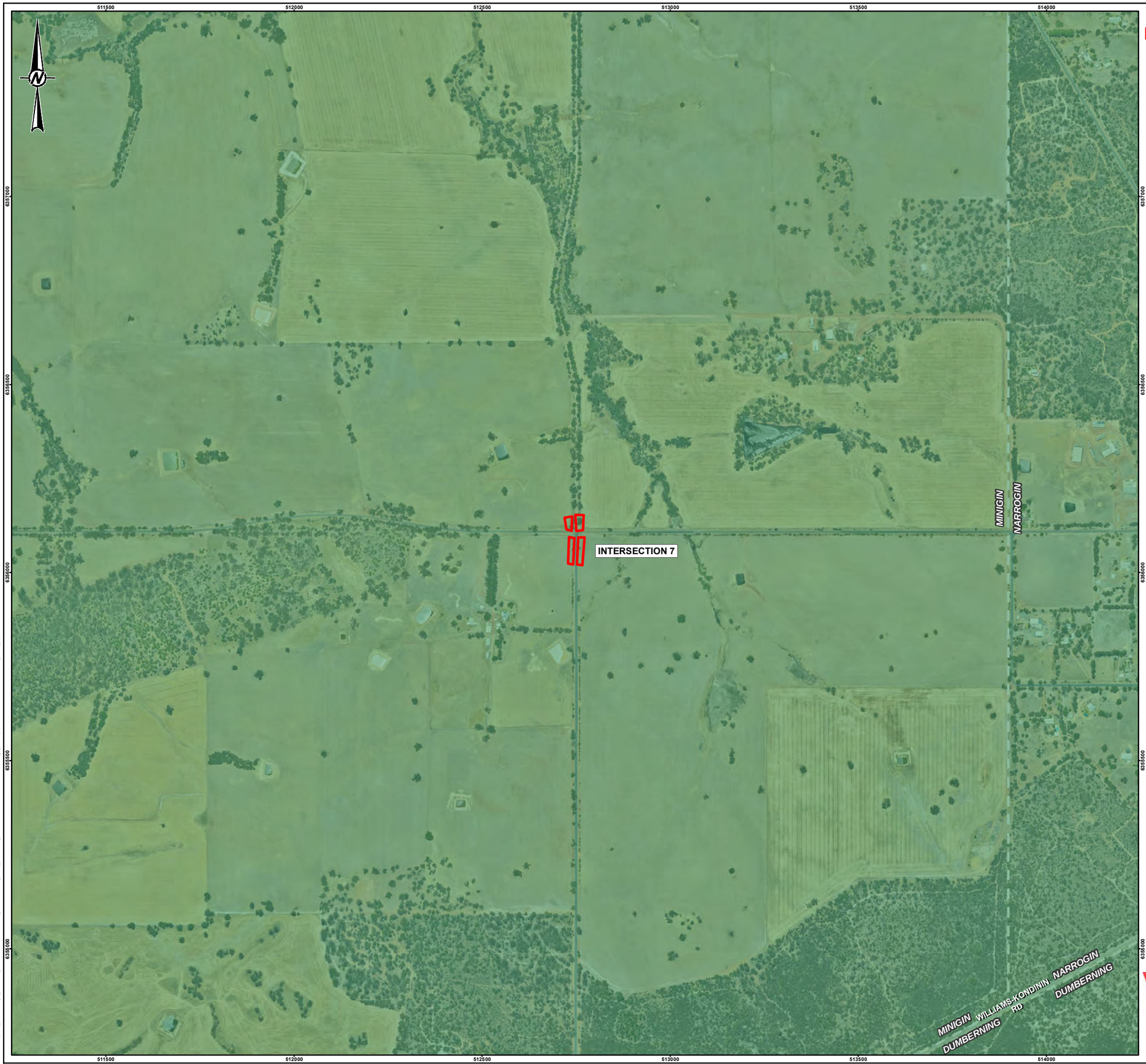
YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.8

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F002_Land_Systems.mxd PRINTED ON: 2024-03-21 AT: 3:31:06 PM

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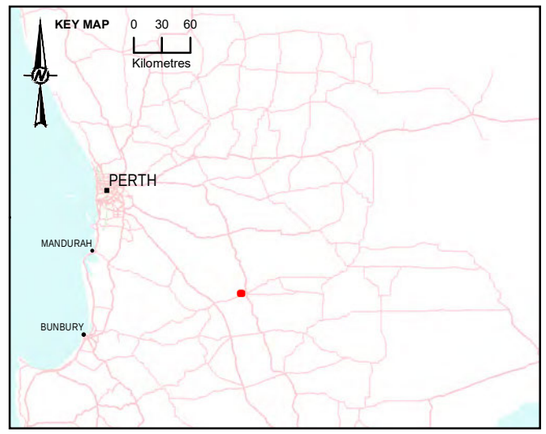


LEGEND

PROJECT AREA

LAND SYSTEM

257Ng - Narrogin System - Interfluves with significant gradient, aggressively stripped by headward incision, at the headwaters of the Hotham and Blackwood catchments. Numerous dolerite dyke swarms.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.9

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F002_Land_Systems.mxd PRINTED ON: 2024-03-21 AT: 3:31:17 PM

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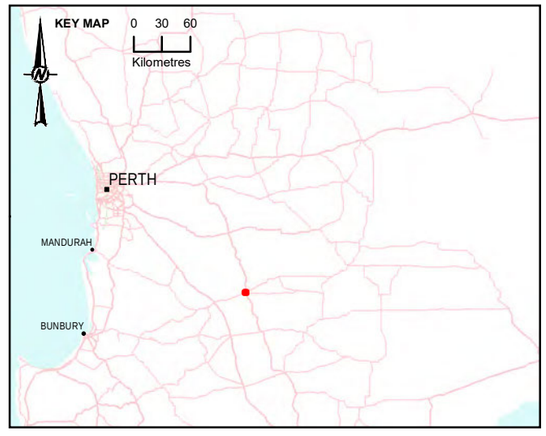


LEGEND

PROJECT AREA

LAND SYSTEM

257Ng - Narrogin System - Interfluves with significant gradient, aggressively stripped by headward incision, at the headwaters of the Hotham and Blackwood catchments. Numerous dolerite dyke swarms.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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583500 584000 584500 585000 585500 586000

6328500 6328000 6327500 6327000 6326500 6326000

RABBIT PROOF FENCE RD

INTERSECTION 9

DUMBLEYUNG-LAKE GRACE RD

NORTH MOULYINNING

MOULYINNING

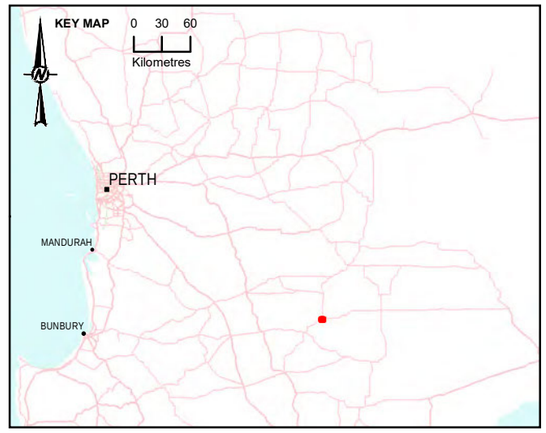
LEGEND

PROJECT AREA

LAND SYSTEM

259Cb - Coblinine System - Broad valley floors, with few lakes, in the South western Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils. Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.

259Kk - Kukerin System - Gently undulating rises, in the South western Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.11

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584500
585000
6365500
6364000
6362500
6363500
6363000
6362500

DUDININ-JITARNING RD
INTERSECTION 10
DUDININ WOGOLIN
FORREST ST
FOX ST

LEGEND

PROJECT AREA

LAND SYSTEM

259Cb - Coblinine System - Broad valley floors, with few lakes, in the South western Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils. Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.

259Do - Dongolocking System - Gently undulating to undulating rises and low hills, in the south-western Zone of Ancient Drainage (Blackwood Catchment). Grey deep sandy duplex, sandy gravel and shallow sandy duplex. Wandoo-Sheoak woodland and Mallee.

259Kk - Kukerin System - Gently undulating rises, in the South western Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.

KEY MAP 0 30 60 Kilometres

PERTH
MANDURAH
BUNBURY

0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.12

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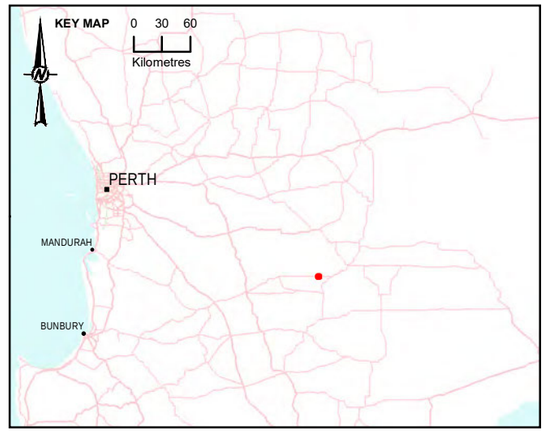
LEGEND

PROJECT AREA

LAND SYSTEM

259Cb - Coblinine System - Broad valley floors, with few lakes, in the South western Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils. Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.

259Kk - Kukerin System - Gently undulating rises, in the South western Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.13

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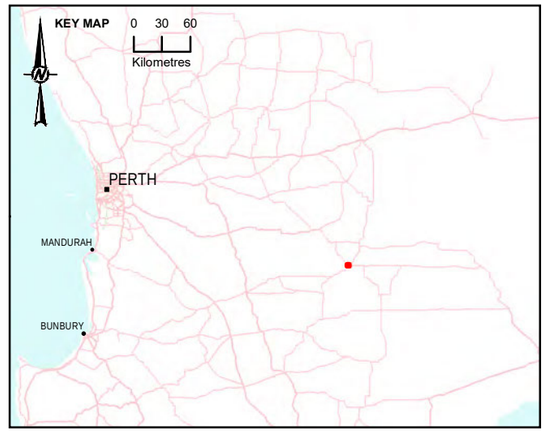
LEGEND

PROJECT AREA

LAND SYSTEM

259Co - Corrigin System - Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.14

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618000 618500 619000 619500 620000

6404500 6404000 6403500 6403000 6402500

GRAHAM ST

KONDININ-HYDEN RD

NICHOLLS ST

INTERSECTION 13

WILLIAMS-KONDININ RD

LEGEND

PROJECT AREA

LAND SYSTEM

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.15

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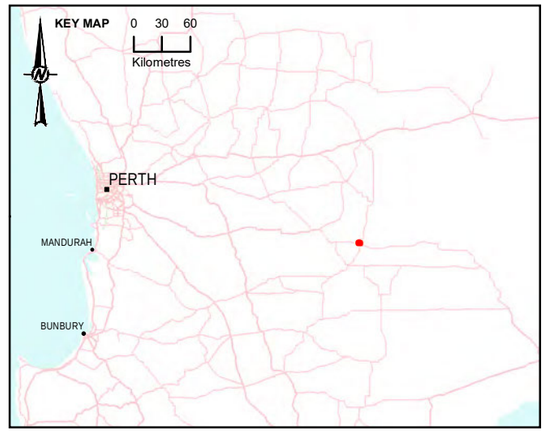
LEGEND

PROJECT AREA

LAND SYSTEM

259Co - Corrigin System - Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.16

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25mm
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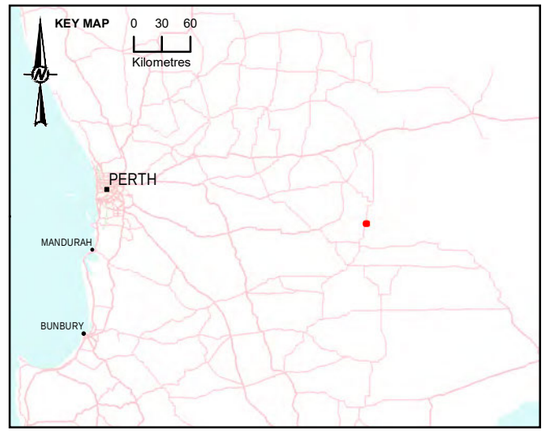
LEGEND

PROJECT AREA

LAND SYSTEM

258Bn - Bendering System - Gently and irregularly undulating gniessic terrain with extensive areas of red and brown loams and clays on mafic substrate, duplexes on colluvial slopes and occasional breakaways with extensive sandplain backslopes. Tammar, Kwongan and Ma

258Kb - Kellerberrin System - Valley floors, in the central Zone of Ancient Drainage, with alkaline red shallow loamy duplex, alkaline grey sandy duplexes mainly in branch valleys (shallow and deep), calcareous loamy earth and hard cracking clay. Salmon Gum-Gimlet-Wand



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.17

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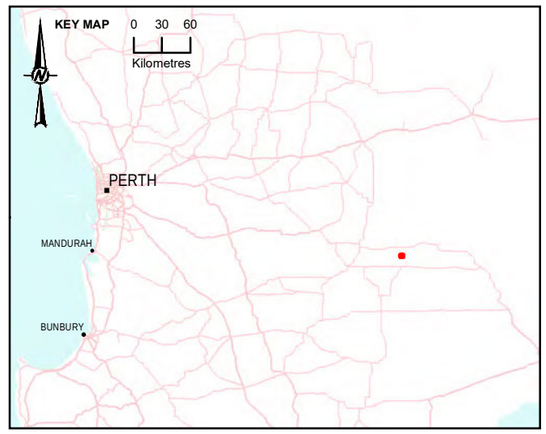
PROJECT AREA

LAND SYSTEM

250Ck - Conraking System - Gently undulating rises to undulating low hills in the southern wheatbelt. Pale yellow sandplain dominated by gravel and interspersed with pale surfaced duplexes, red rocky soils and numerous siliceous and mafic outcrops.

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

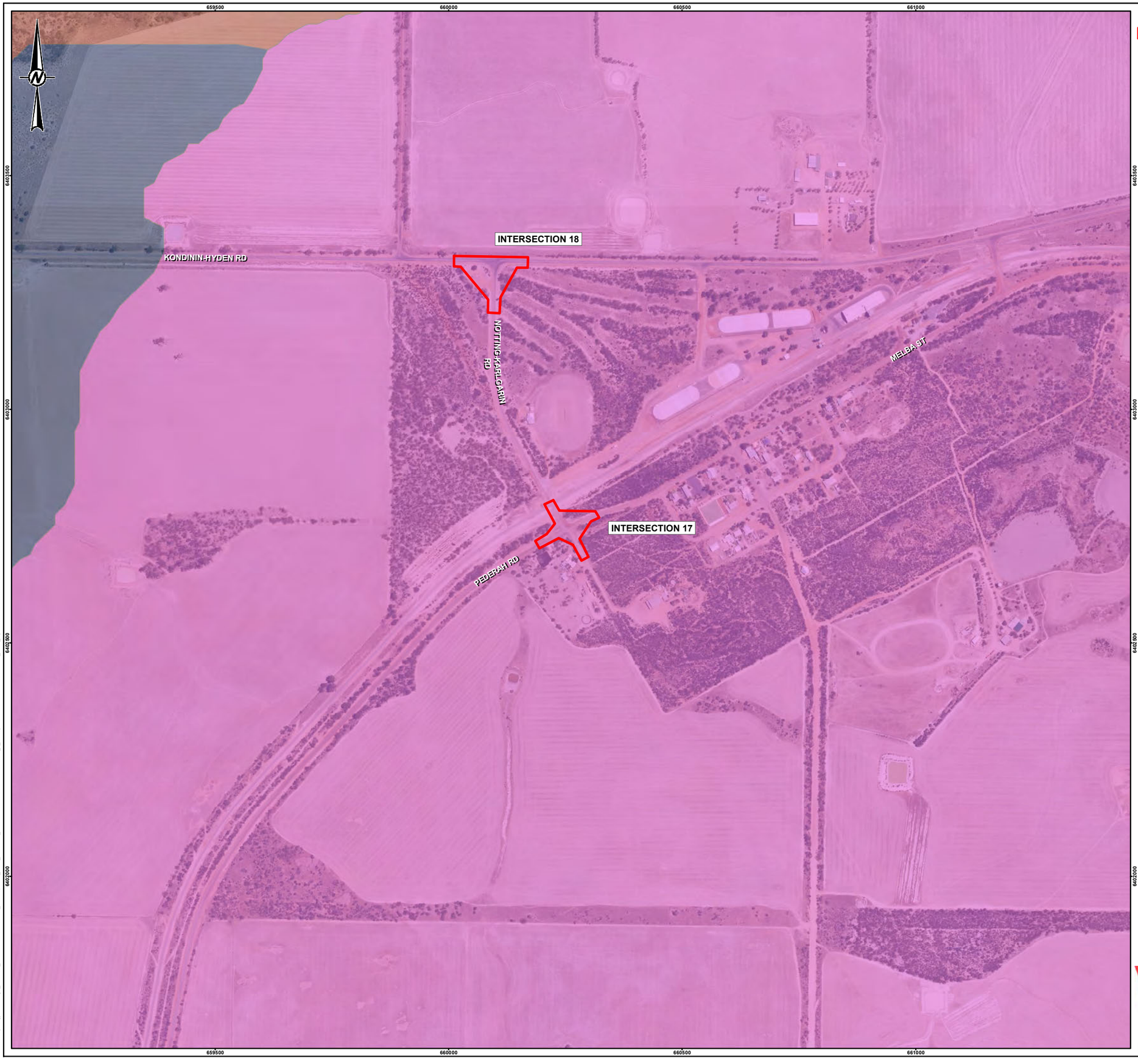
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.18

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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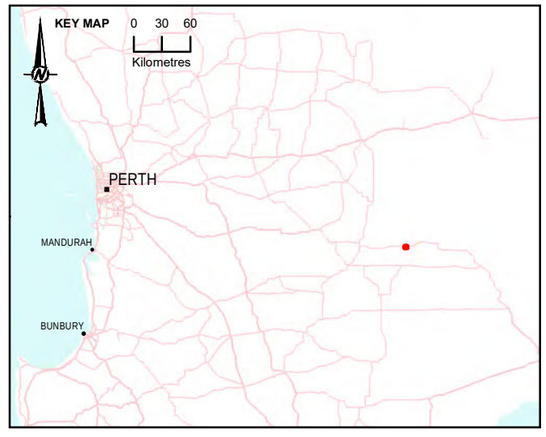
PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor

250La - Lagan System - Chains of large salt lakes, saline valley floors and lunettes in the South-eastern Zone of Ancient Drainage. Salt lake soils, saline wet soils and calcareous loamy earths. Mallee, Morrel woodland and saltbush-bluebush-samphire flats.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.19

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25mm

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659000 659500 660000 660500 661000

6404000 6403500 6403000

KONDININ-HYDEN RD

INTERSECTION 18

INTERSECTION 17

NOTTING-KARLGARIN RD

MELBA ST

PEDERAH RD

LEGEND

PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor

250La - Lagan System - Chains of large salt lakes, saline valley floors and lunettes in the South-eastern Zone of Ancient Drainage. Salt lake soils, saline wet soils and calcareous loamy earths. Mallee, Morrel woodland and saltbush-bluebush-samphire flats.

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
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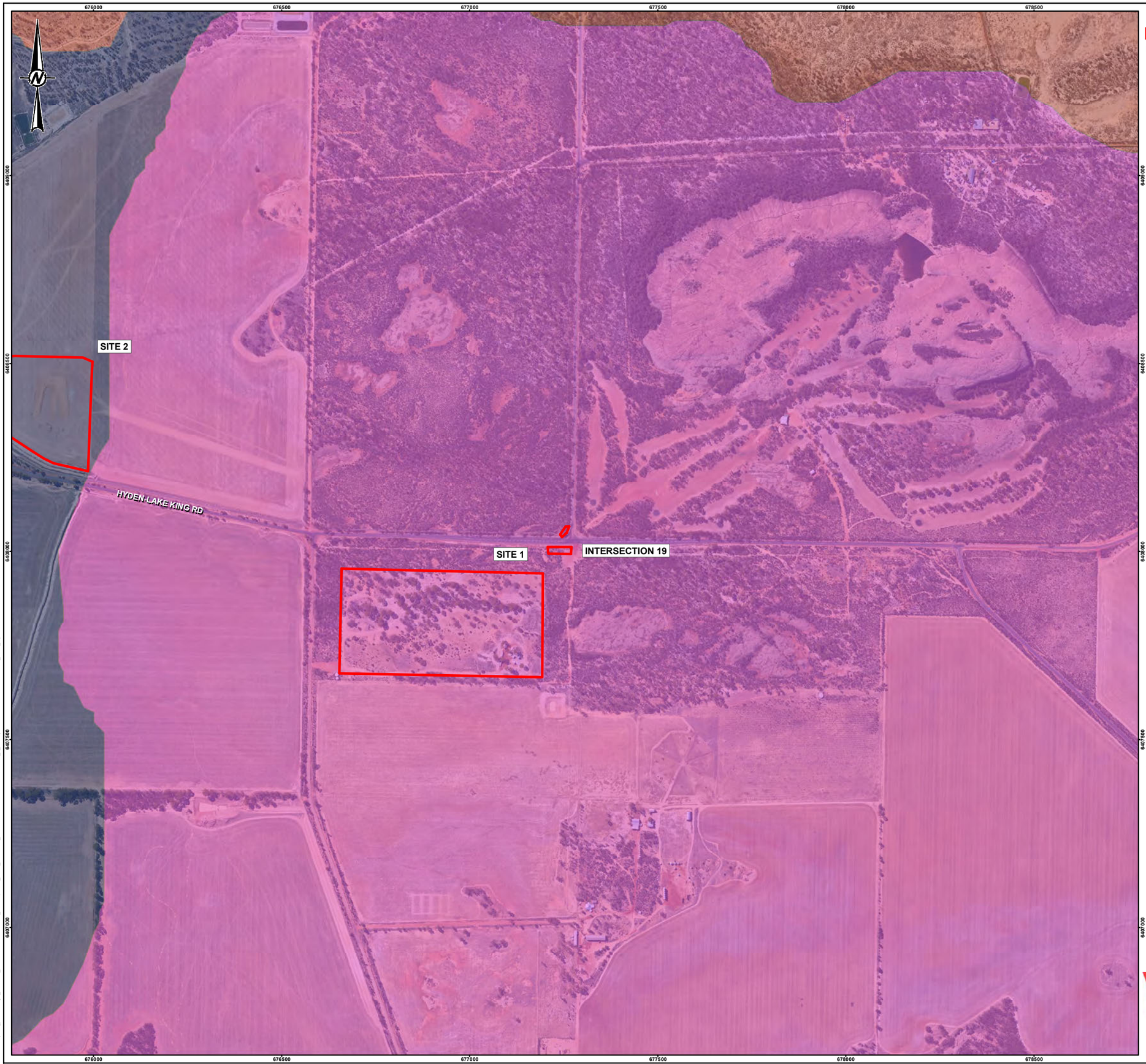
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.20

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25mm

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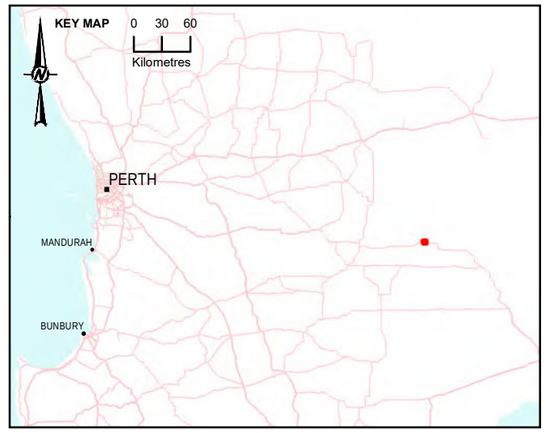
PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor

250La - Lagan System - Chains of large salt lakes, saline valley floors and lunettes in the South-eastern Zone of Ancient Drainage. Salt lake soils, saline wet soils and calcareous loamy earths. Mallee, Morrel woodland and saltbush-bluebush-samphire flats.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.21

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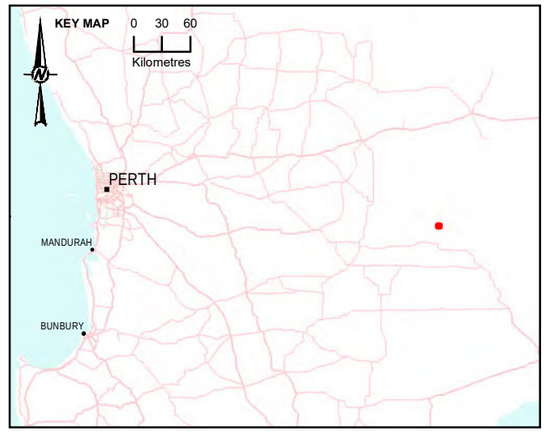
INTERSECTION 20

LEGEND

PROJECT AREA

LAND SYSTEM

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

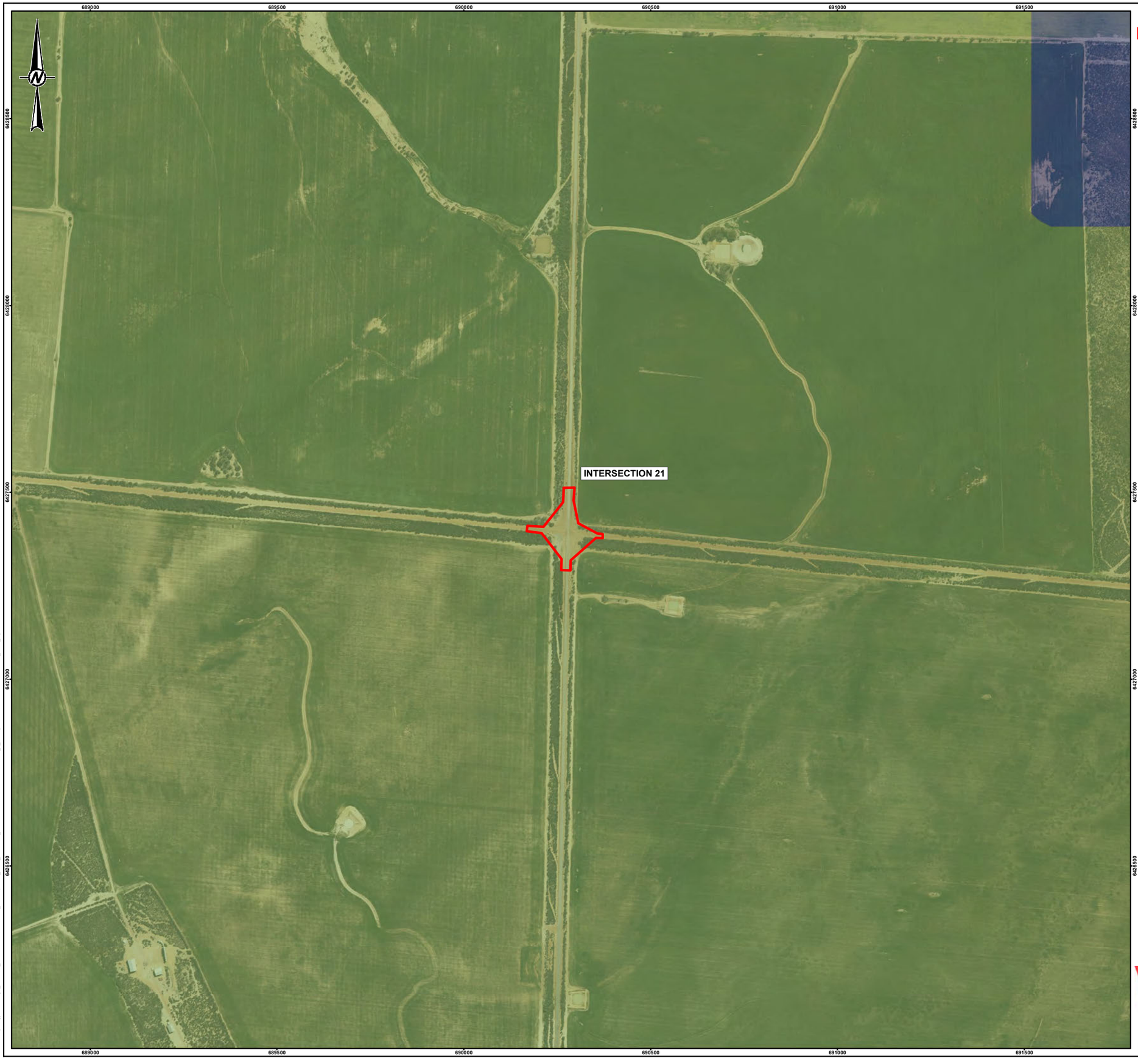
YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.22

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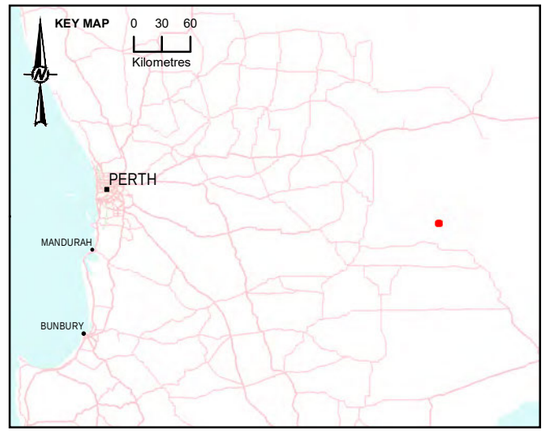
LEGEND

PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.23

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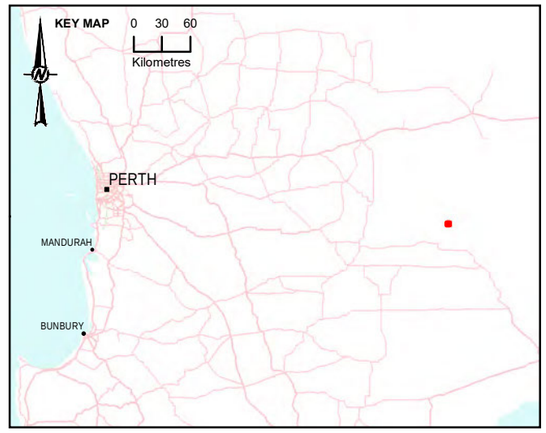
PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250La - Lagan System - Chains of large salt lakes, saline valley floors and lunettes in the South-eastern Zone of Ancient Drainage. Salt lake soils, saline wet soils and calcareous loamy earths. Mallee, Morrel woodland and saltbush-bluebush-samphire flats.

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.24

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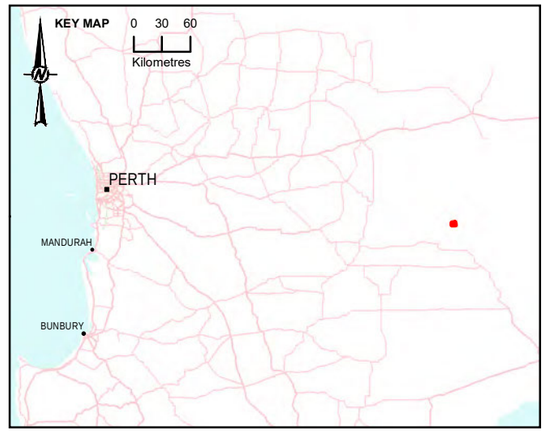


LEGEND

PROJECT AREA

LAND SYSTEM

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.25

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F002_Land_Systems.mxd PRINTED ON: 2024-03-21 AT: 3:33:46 PM

THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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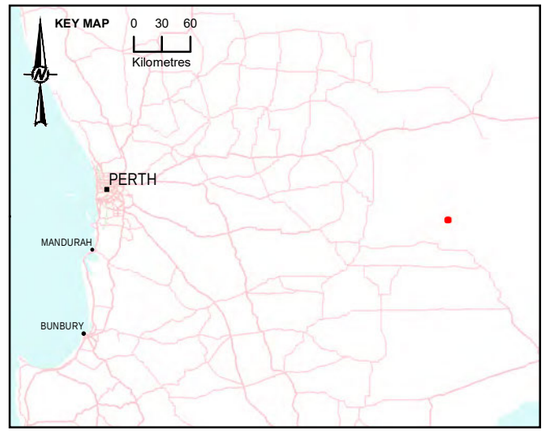
LEGEND

PROJECT AREA

LAND SYSTEM

250La - Lagan System - Chains of large salt lakes, saline valley floors and lunettes in the South-eastern Zone of Ancient Drainage. Salt lake soils, saline wet soils and calcareous loamy earths. Mallee, Morrel woodland and saltbush-bluebush-samphire flats.

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.26

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F002_Land_Systems.mxd PRINTED ON: 2024-03-21 AT: 3:33:57 PM

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0 25mm



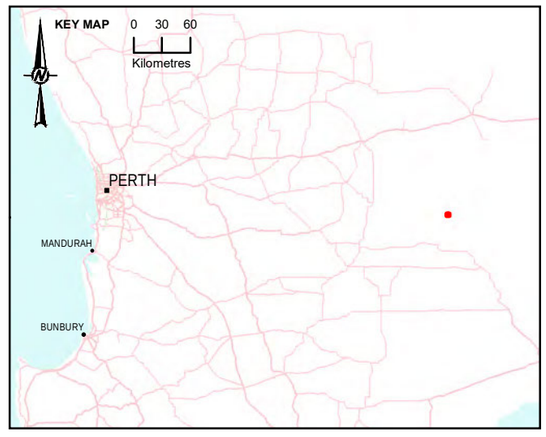
LEGEND

PROJECT AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 170 340

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.27

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

Appendix I

IBRA Regions

676000
676500
677000
677500

6409500
6408500
6408000
6407500
6407000

SITE 2

HYDEN LAKE KING RD

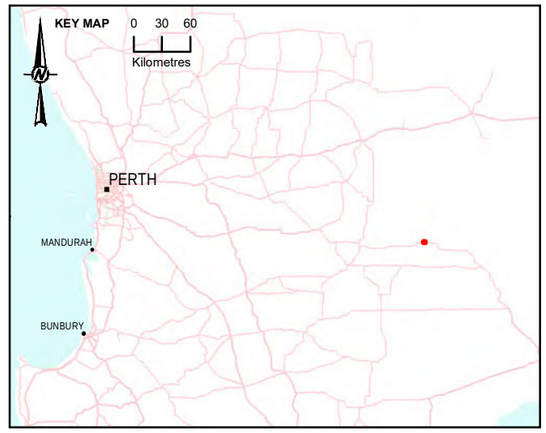
KONDININ HYDEN RD

INTERSECTION 19

SITE 1

LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 130 260

1:7,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.1

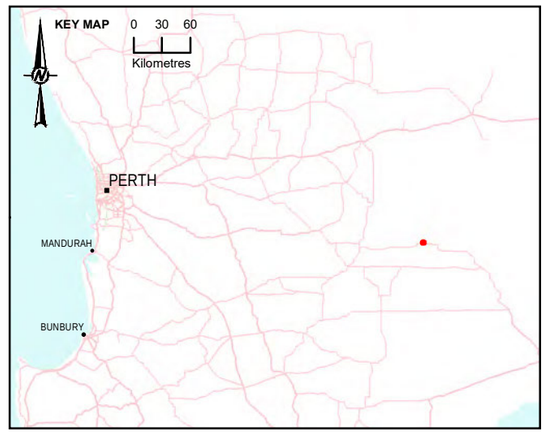
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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 110 220

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.2

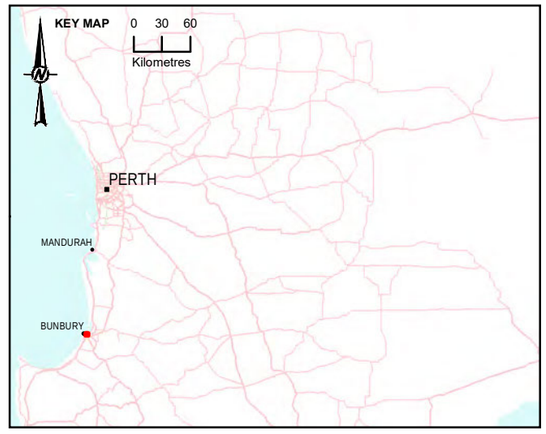
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25mm
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LEGEND

- PROJECT AREA
- SWAN COASTAL PLAIN IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.3

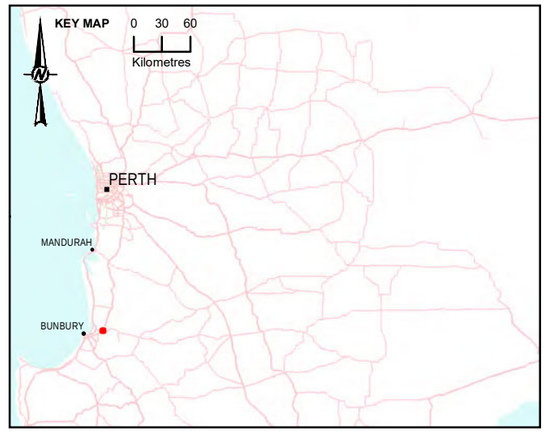
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
0 25mm

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LEGEND

- PROJECT AREA
- SWAN COASTAL PLAIN IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.4

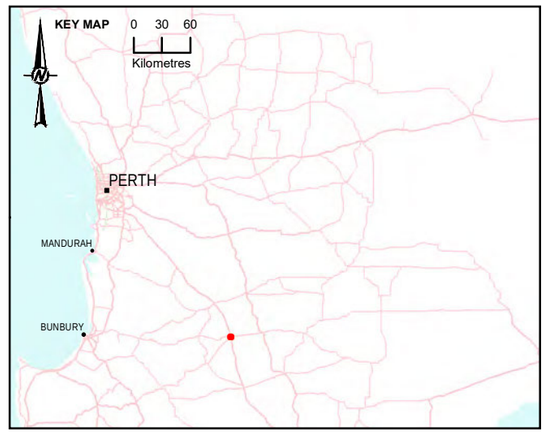
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LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION
- JARRAH FOREST IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.5

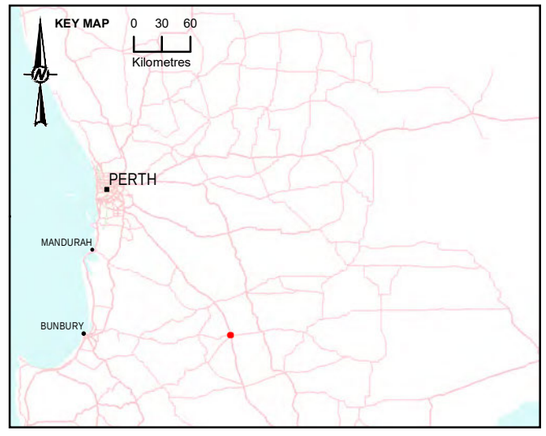
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25mm
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LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION



0 110 220

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ISO A3

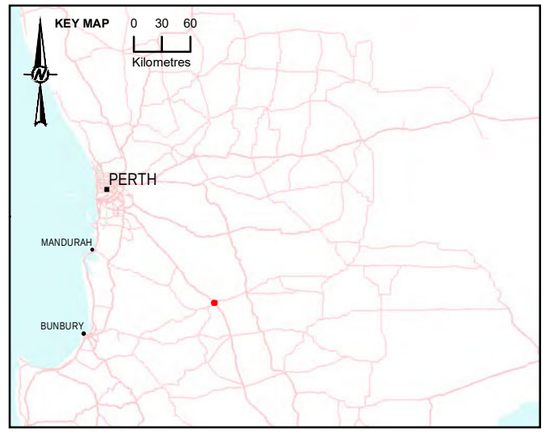
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LEGEND

- PROJECT AREA
- JARRAH FOREST IBRA REGION



0 110 220

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

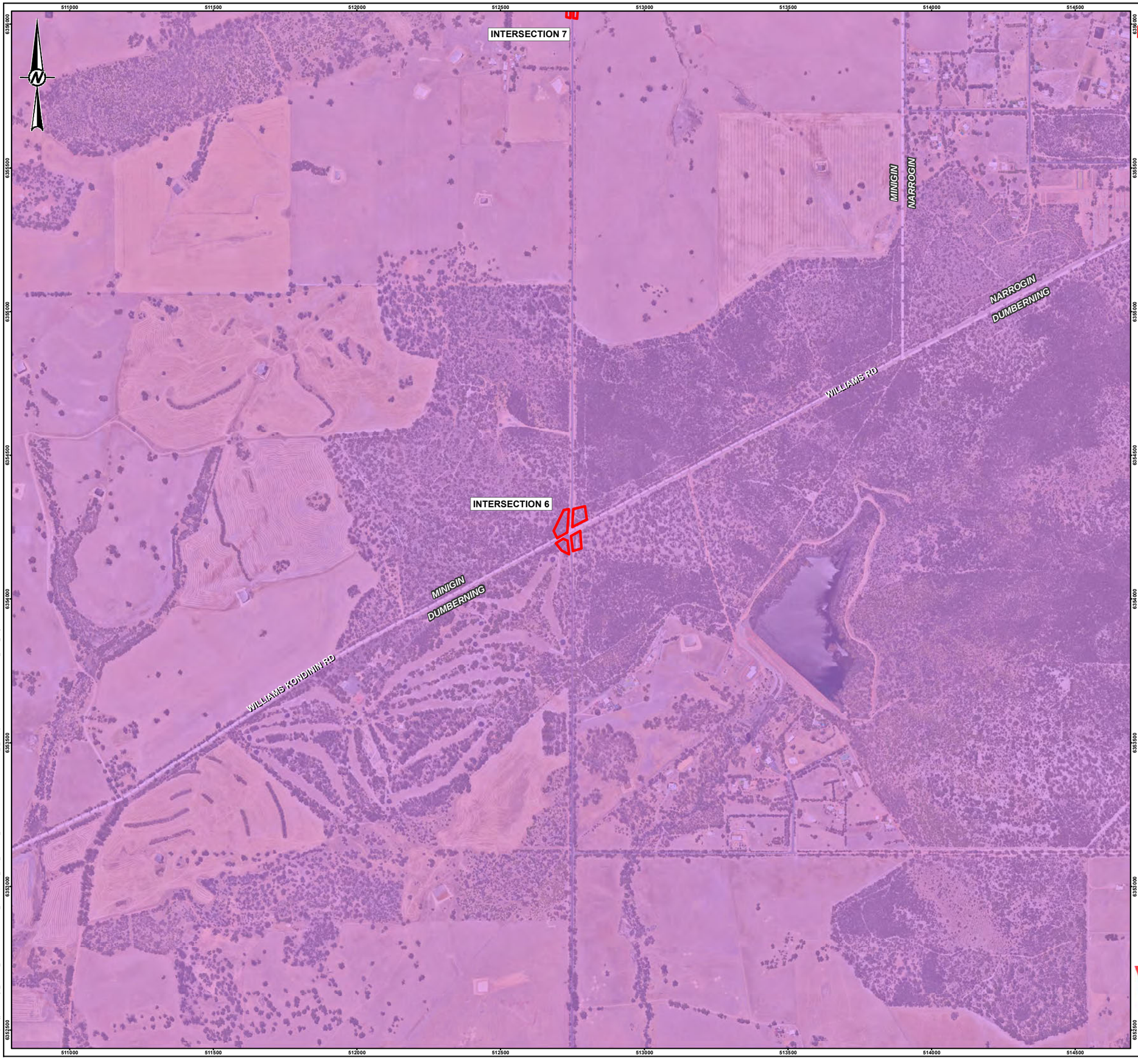
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.7

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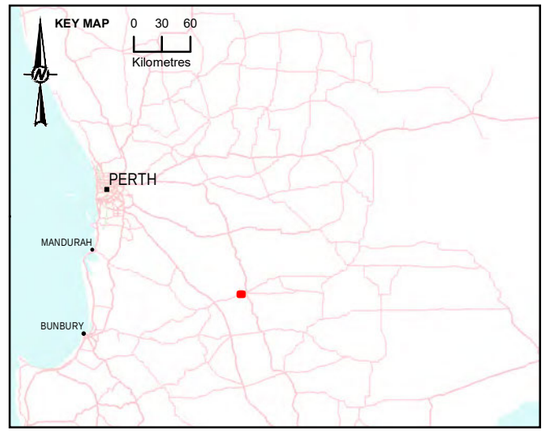
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LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION



0 240 480

1:13,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

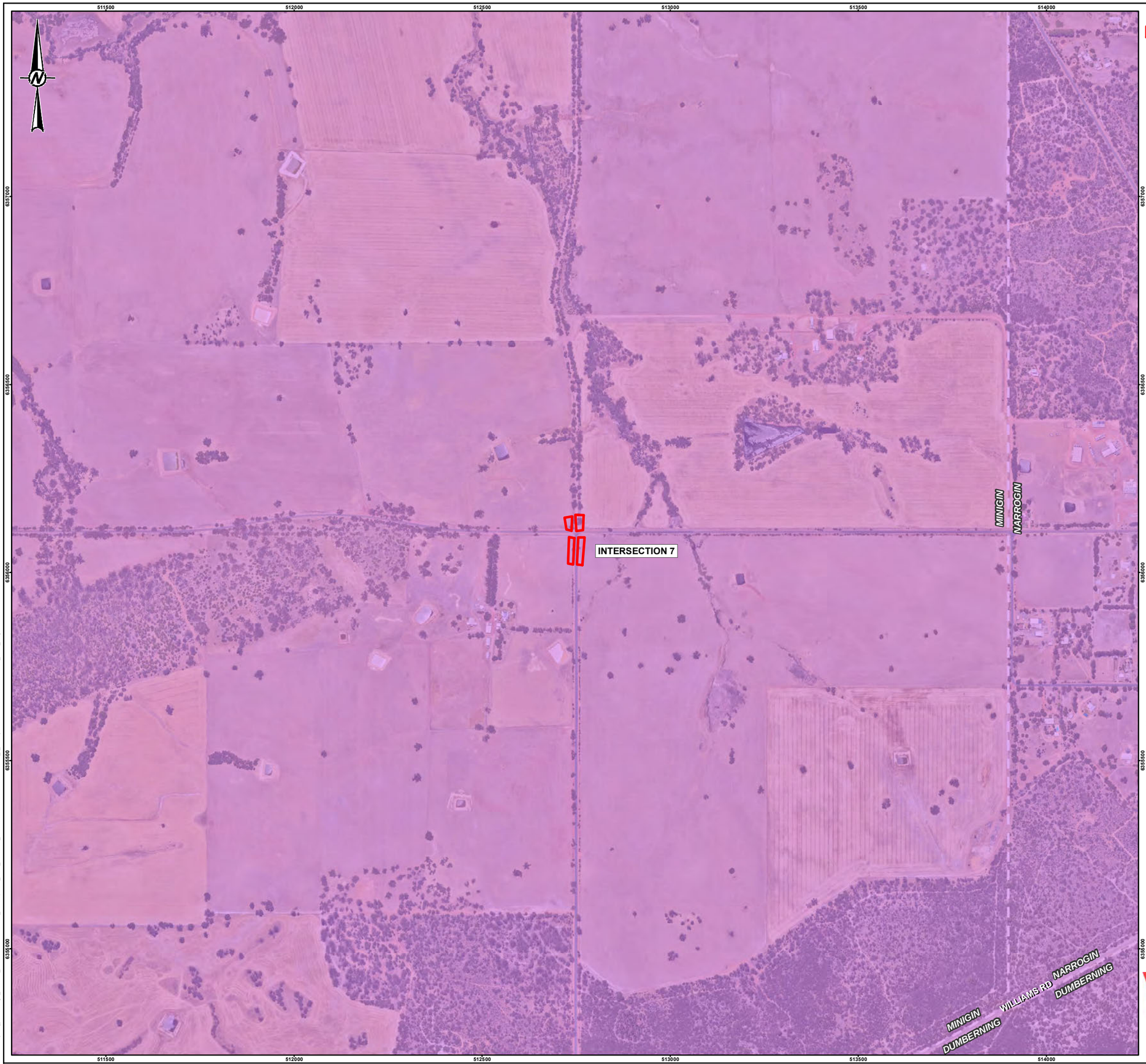
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PS204764	001-R	A	3.8

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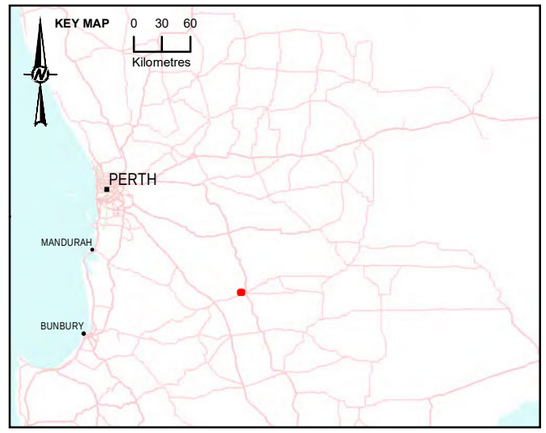
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LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION



0 190 380

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

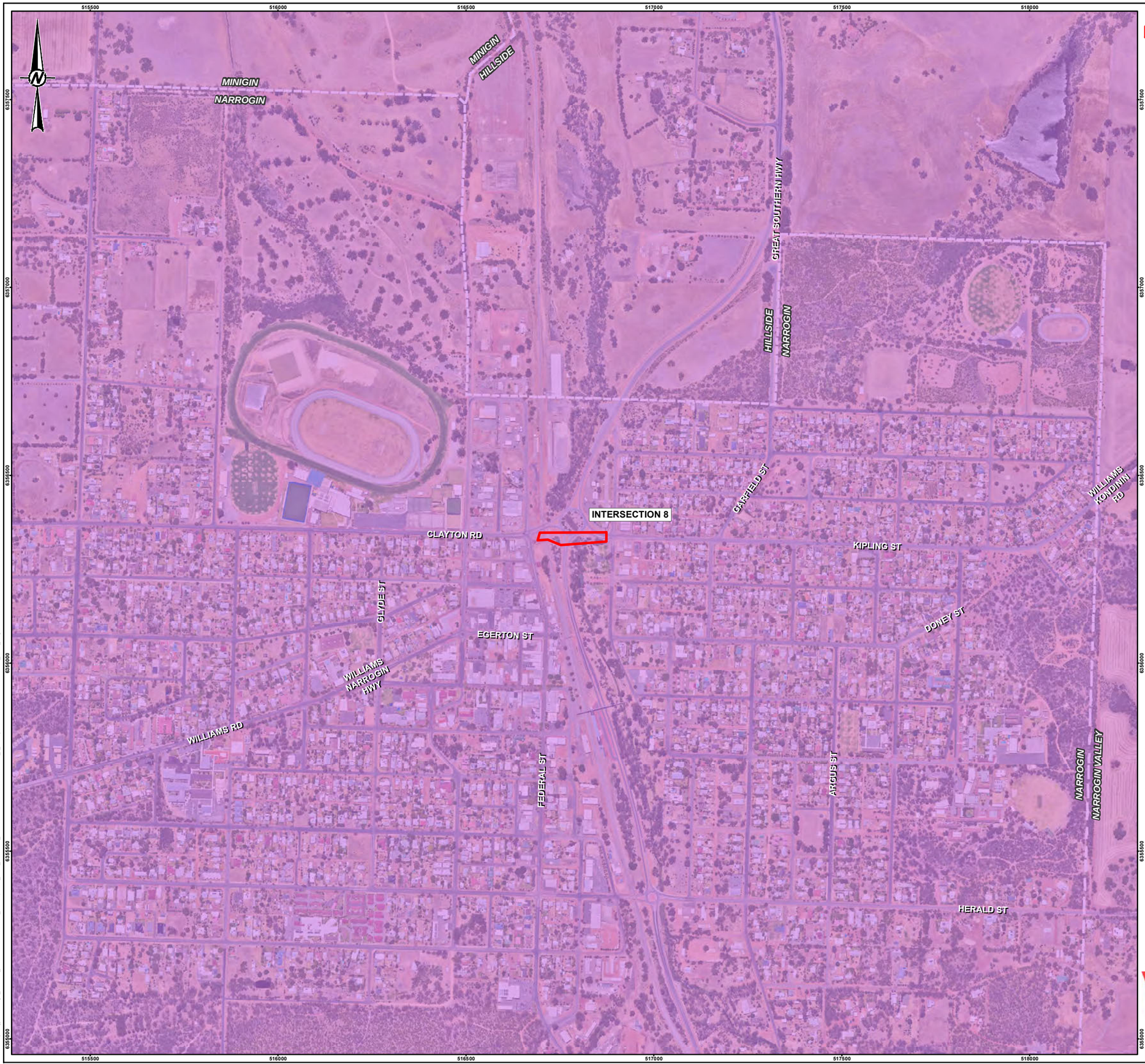
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.9

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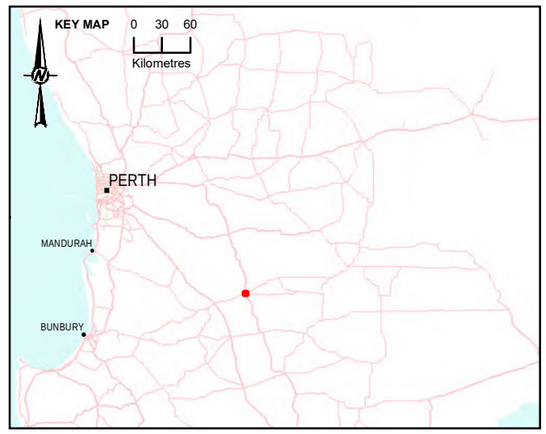
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LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION



0 190 380

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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583500 584000 584500 585000 585500 586000

6328500 6328000 6327500 6327000 6326500 6326000

RABBIT PROOF FENCE RD

INTERSECTION 9

NORTH MOULYINNING

MOULYINNING

DUMBLEYUNG LAKE GRACE RD

LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION
- MALLEE IBRA REGION

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 190 380

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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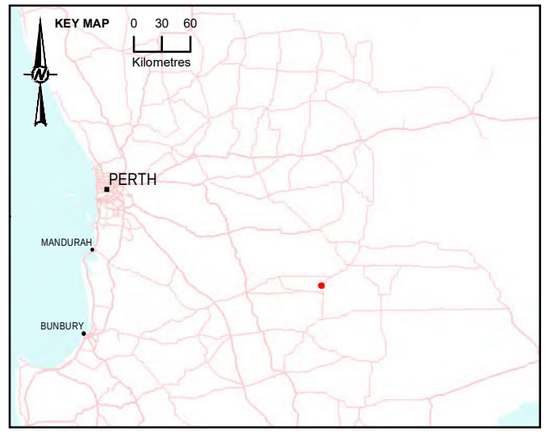
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584000
584500
585000
6365500
6365000
6364500
6364000
6363500
6363000
6362500
6362000

DUDININ JITARNING RD
DUDININ WOGOLIN
FORREST ST
FOX ST
INTERSECTION 10

LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION



0 110 220
1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.12

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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6373500 6373000 6372500 6372000

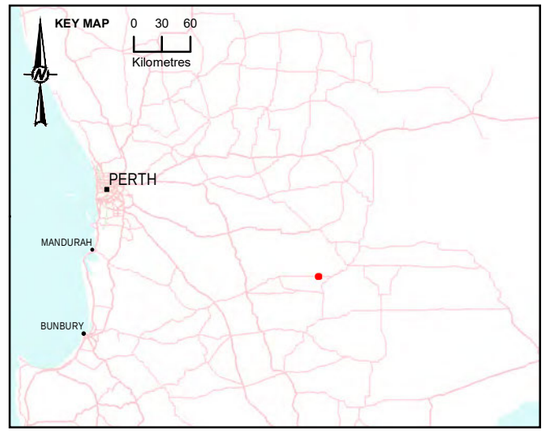
INTERSECTION 11

WILLIAMS KONDININ RD

JITARNING WOOLIN

LEGEND

- PROJECT AREA
- AVON WHEATBELT IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.13

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON: 2024-03-21 AT 3:31:04 PM

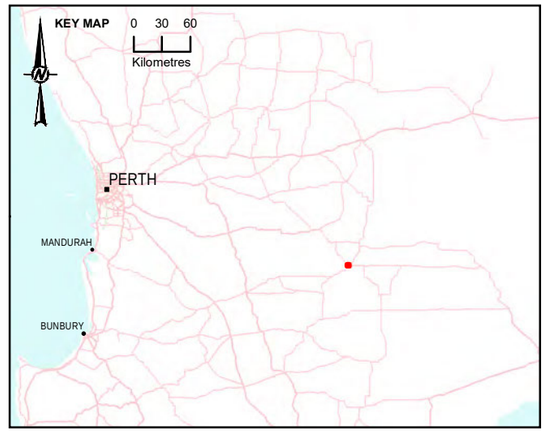
THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm 0



LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.14

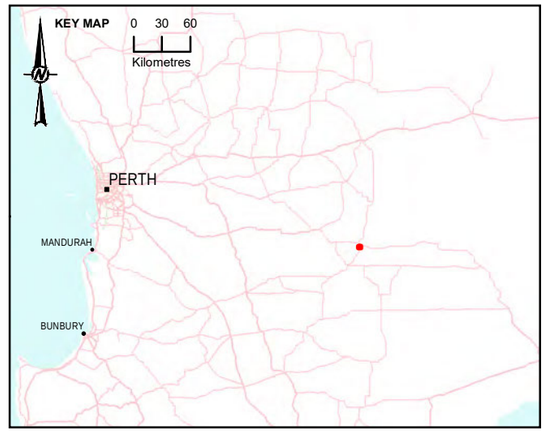
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0 25mm

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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.15

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON: 2024-03-21 AT 3:32:10 PM

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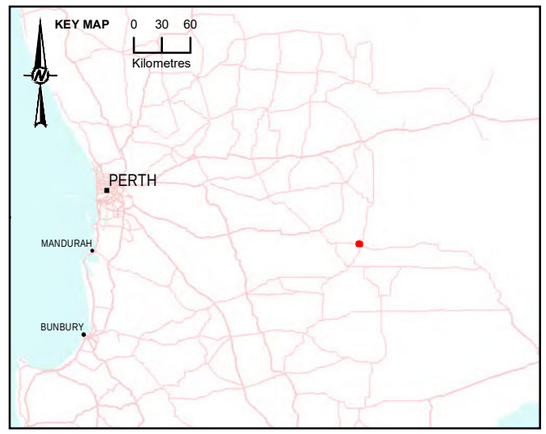
25mm

0



LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.16

25mm

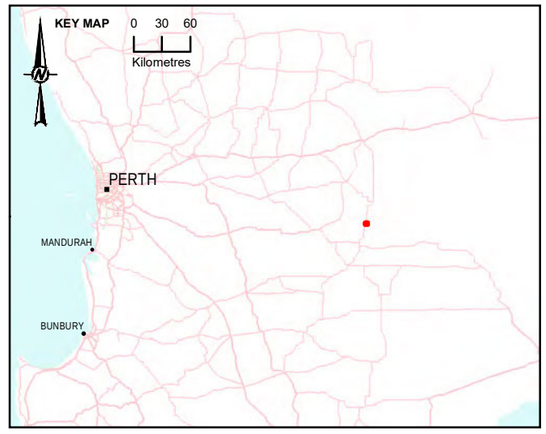
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.17

PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON: 2024-03-21 AT 3:33:28 PM

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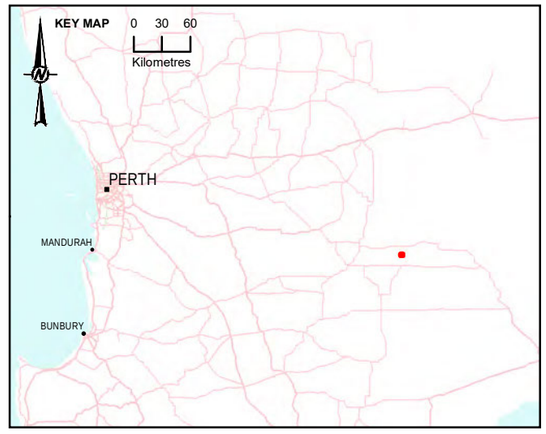
25mm

0



LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT
WSP

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.18

THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

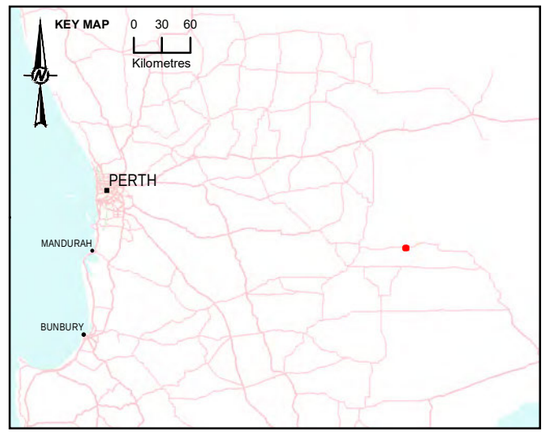
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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.19

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON 2024-03-21 AT 3:34:22 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm
0

659000 659500 660000 660500 661000

6404000

6403500

KONDININ HYDEN RD

INTERSECTION 18

INTERSECTION 17

LEGEND

PROJECT AREA

MALLEE IBRA REGION

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.20

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON: 2024-03-21 AT: 3:34:42 PM

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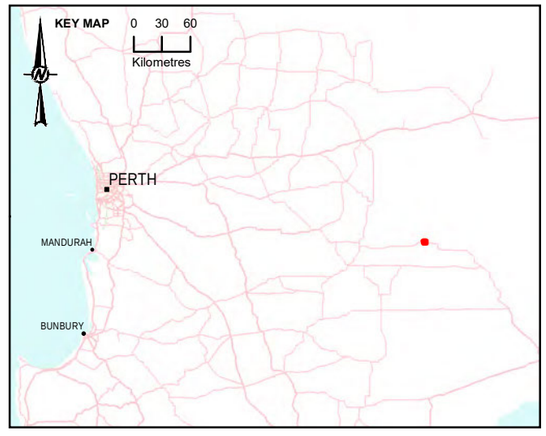
25mm

0



LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 190 380
1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

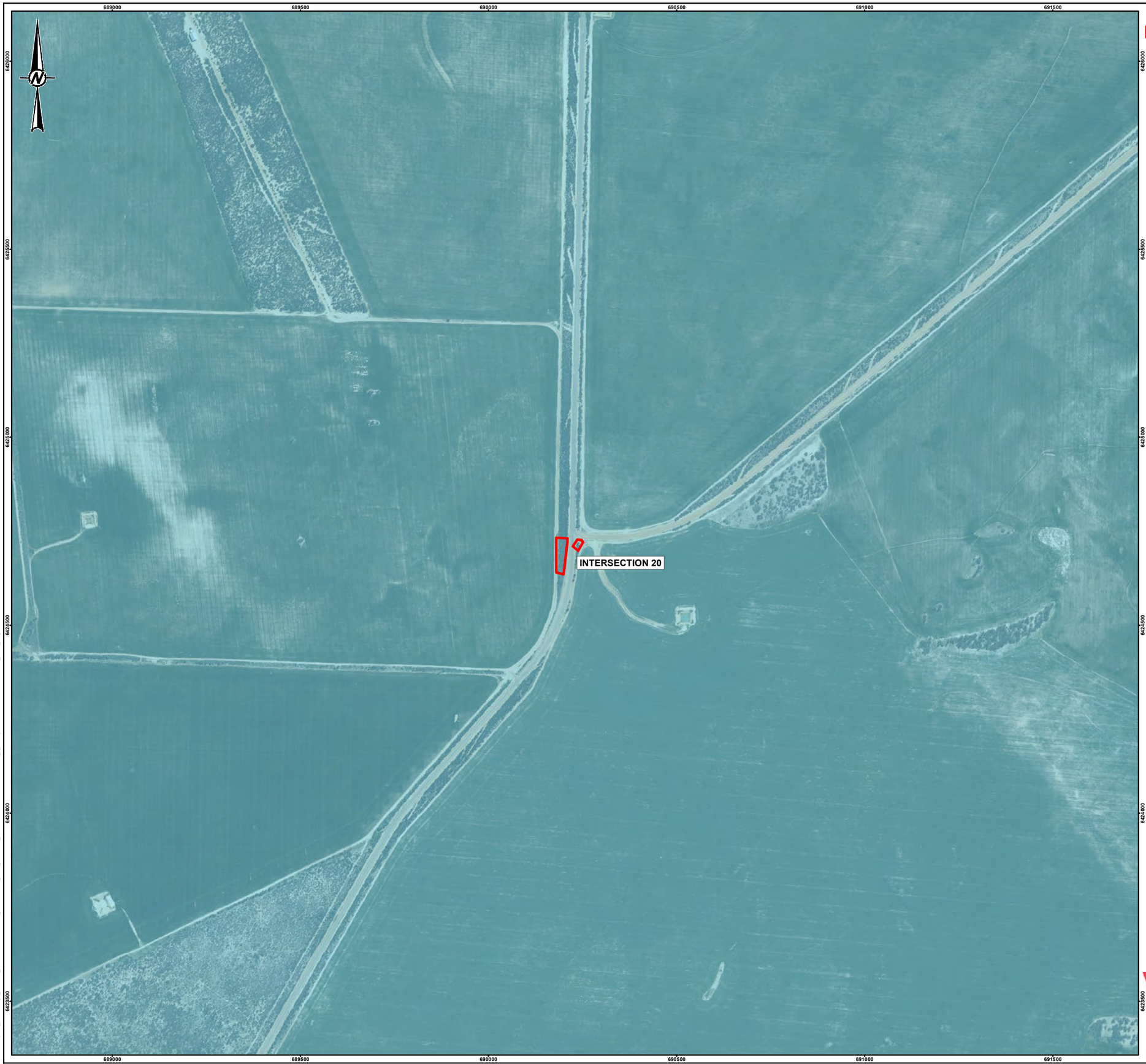
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.21

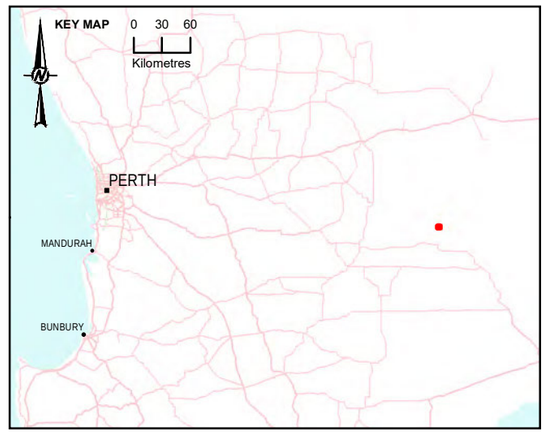
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 190 380

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

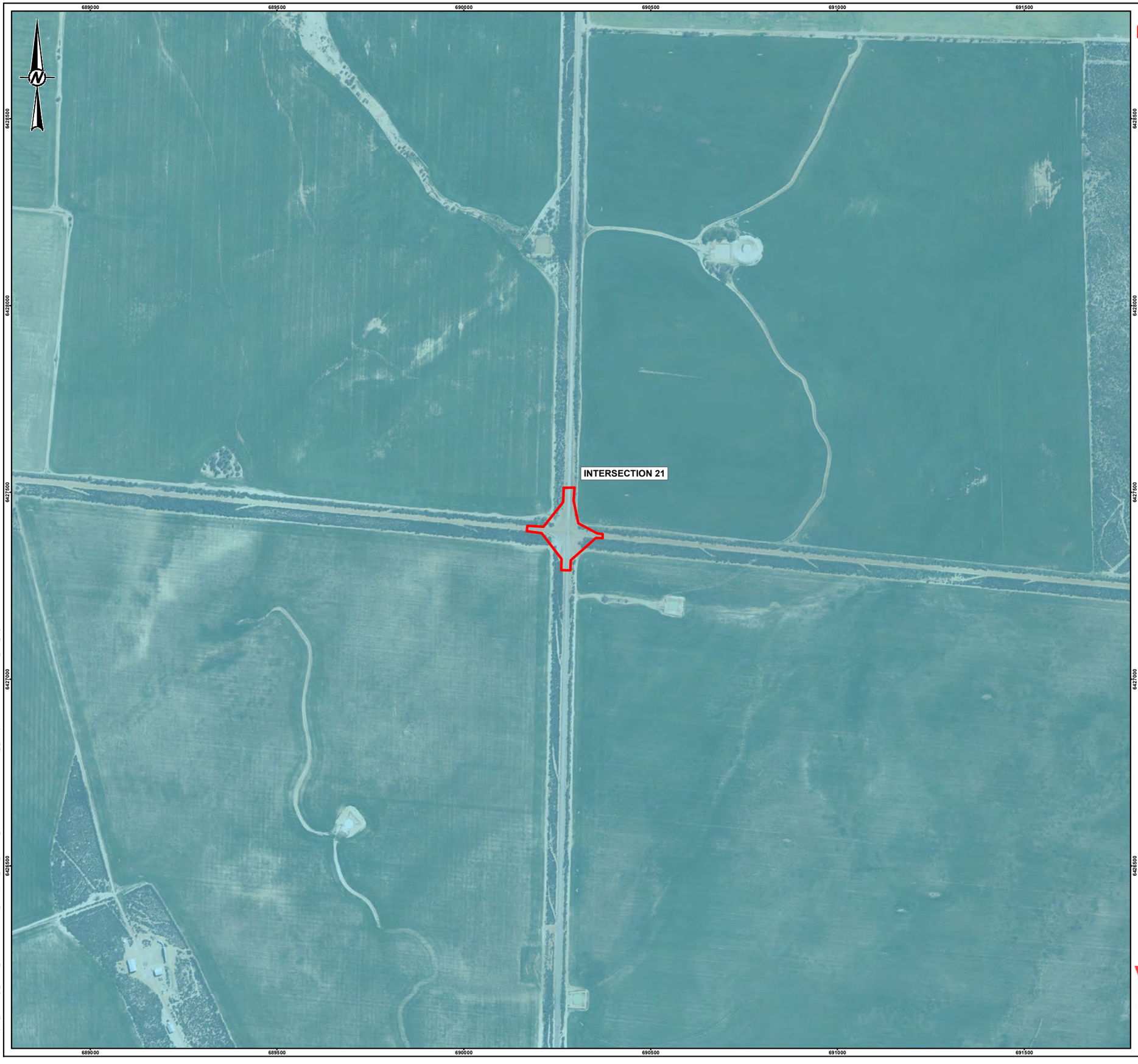
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.22

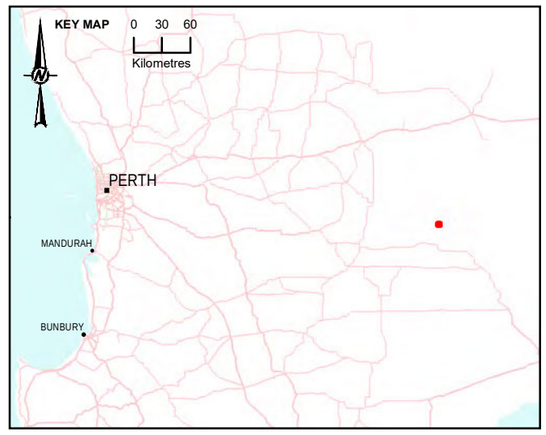
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 190 380

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.23

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON: 2024-03-21 AT 3:35:54 PM

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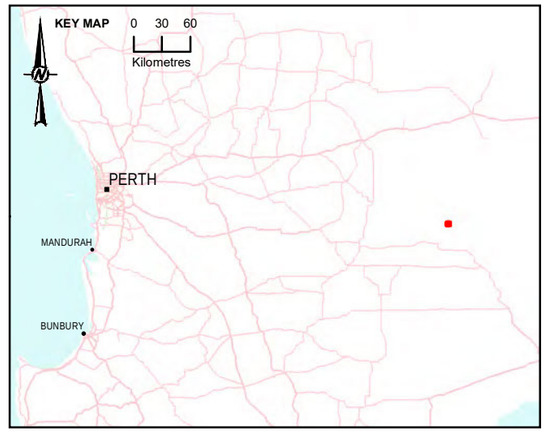
25mm

0



LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 190 380

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.24

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© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

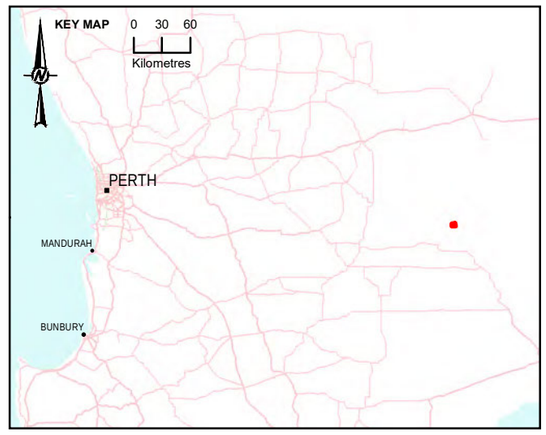
25mm

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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 190 380

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

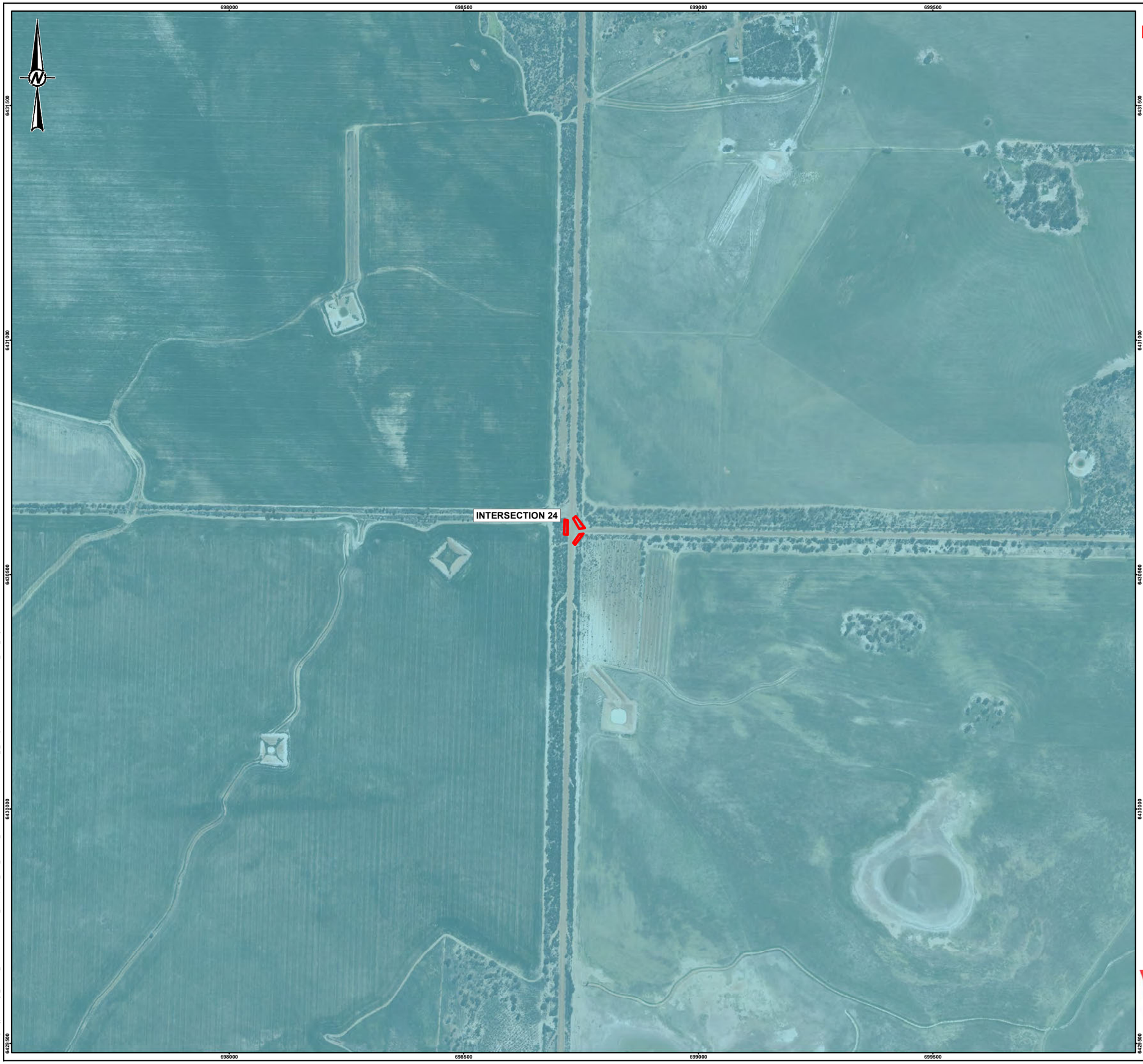
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.25

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON: 2024-03-21 AT: 3:37:03 PM

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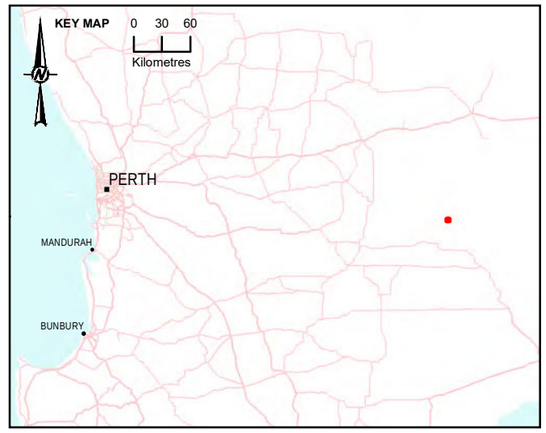
25mm

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LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.26

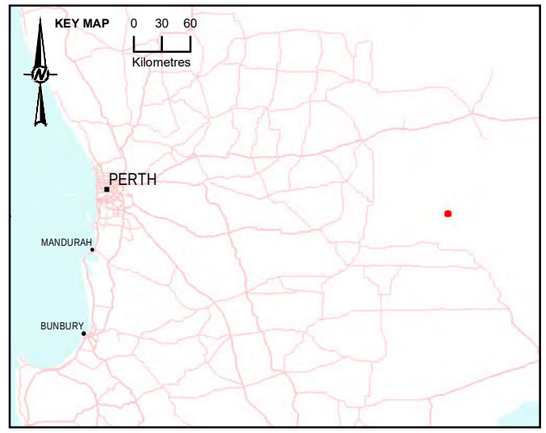
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON: 2024-03-21 AT 3:37:31 PM



LEGEND

- PROJECT AREA
- MALLEE IBRA REGION



0 150 300

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.27

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 2_survey\PS204764-001-R-RevA-F003_IBRA_Regions.mxd PRINTED ON 2024-03-21 AT 3:37:59 PM

THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

Appendix J

IBRA SubRegions

676000 676500 677000 677500

6408500 6408000 6407500 6407000

SITE 2

HYDEN LAKE KING RD

KONDININ HYDEN RD

INTERSECTION 19

SITE 1

LEGEND

PROJECT AREA

MAL02 - WESTERN MALLEE

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 140 280

1:7,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2024-03-21 AT: 3:38:43 PM

675000 675500 676000 676500

6409000 6408500 6408000

SITE 2

SITE 1

HYDEN LAKE KING RD

KONDININ HYDEN RD

MARSHALL ST

LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 120 240

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

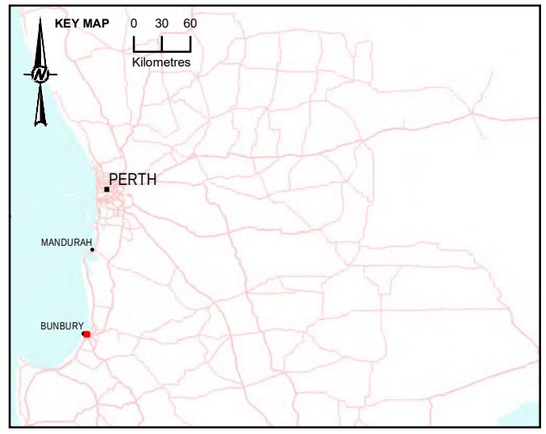
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LEGEND

- PROJECT AREA
- SWA02 - PERTH



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.3

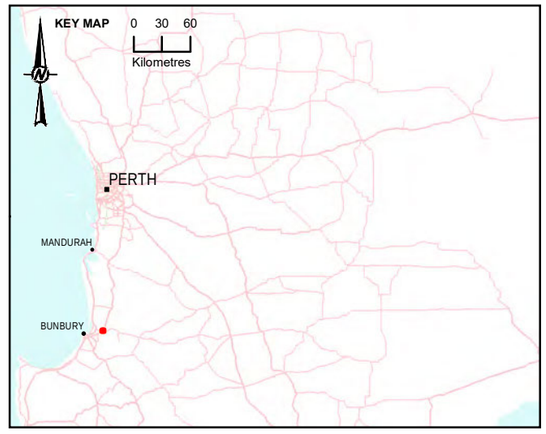
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LEGEND

- PROJECT AREA
- SWA02 - PERTH



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

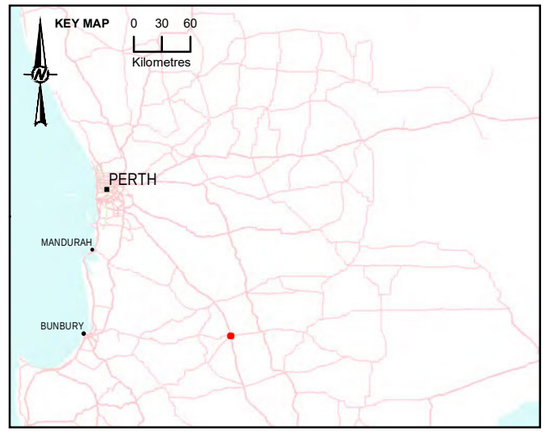
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.4

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25mm
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LEGEND

- PROJECT AREA
- AVW02 - KATANNING
- JAF01 - NORTHERN JARRAH FOREST



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.5

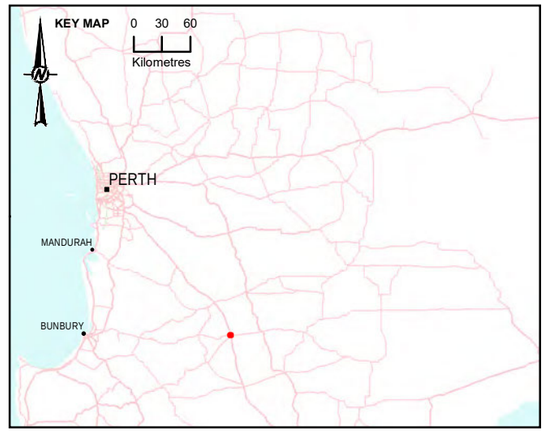
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25mm
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LEGEND

- PROJECT AREA
- AVW02 - KATANNING



0 120 240

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.6

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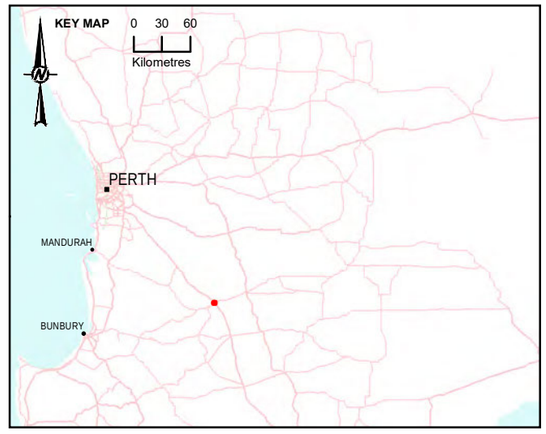
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25mm
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LEGEND

- PROJECT AREA
- JAF01 - NORTHERN JARRAH FOREST



0 120 240

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

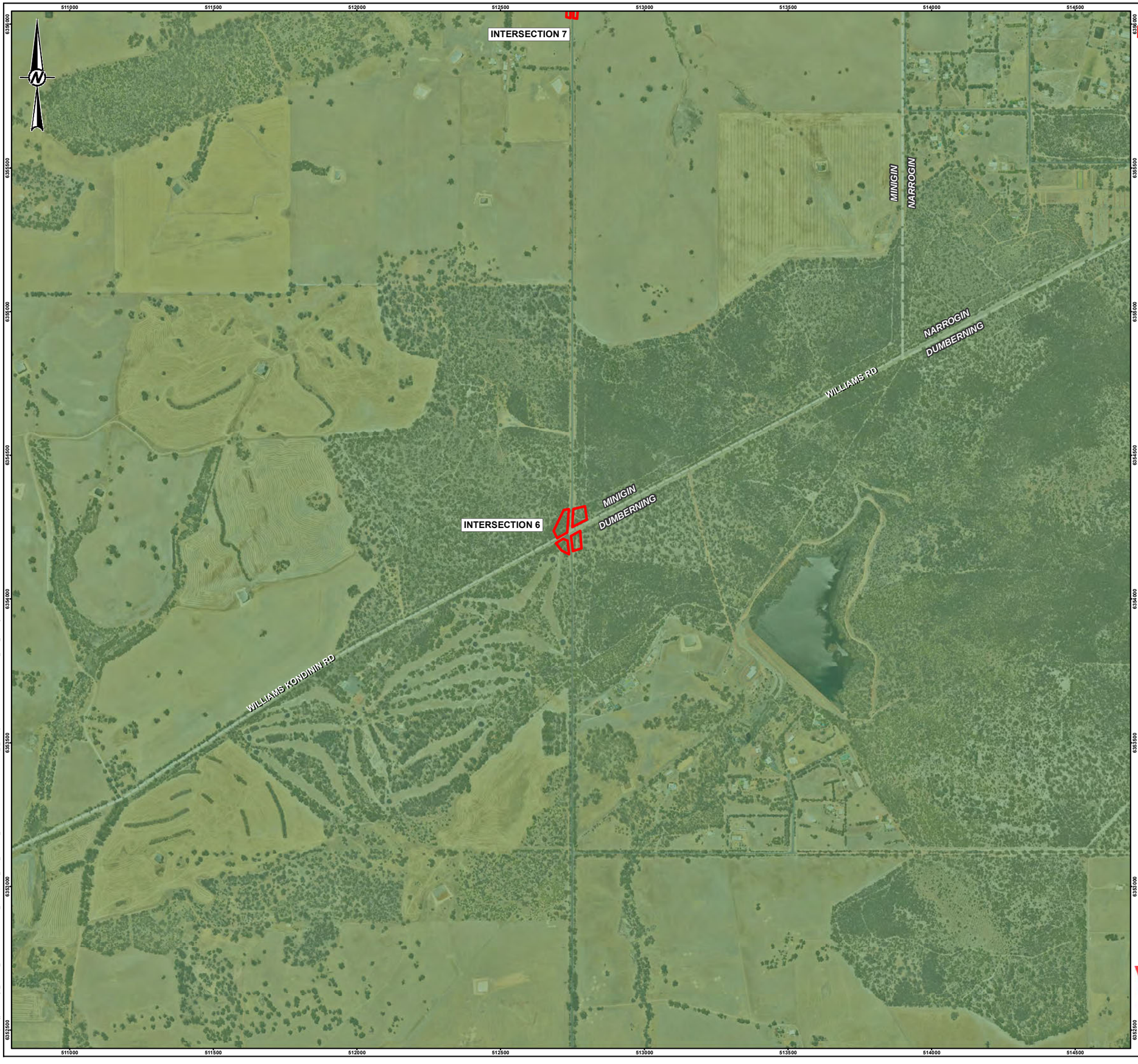
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.7

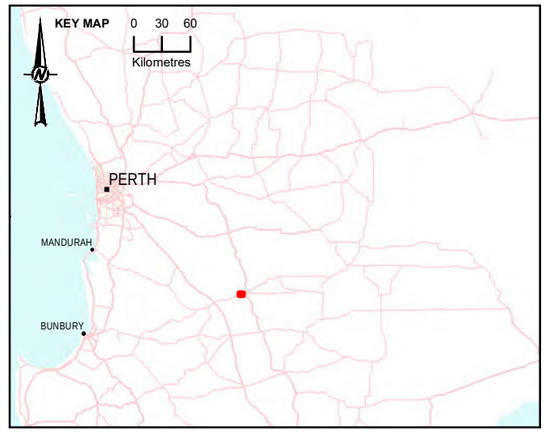
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25mm
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LEGEND

- PROJECT AREA
- AVW02 - KATANNING



0 260 520

1:13,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

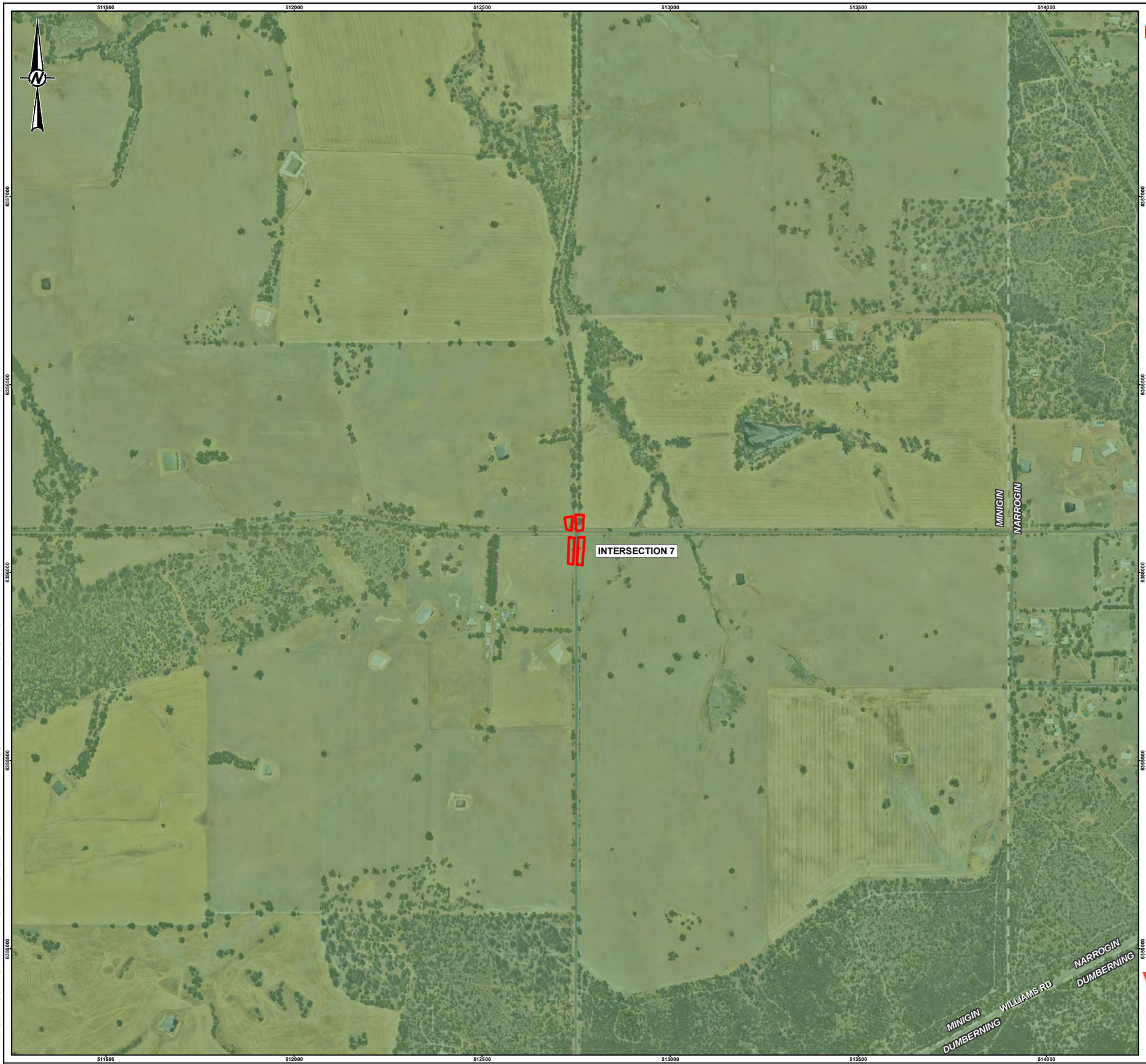
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YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.8

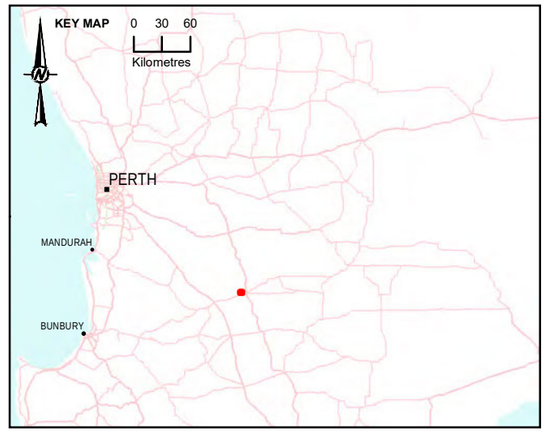
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25mm
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LEGEND

- PROJECT AREA
- AVW02 - KATANNING



0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
0 25mm

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515500 516000 516500 517000 517500 518000

6357500 6357000 6356500 6356000 6355500 6355000

MINIGIN NARROGIN

MINIGIN HILLSIDE

GREAT SOUTHERN HWY

HILLSIDE NARROGIN

GARFIELD ST

WILLIAMS KONDININ RD

INTERSECTION 8

CLAYTON RD

KIPLING ST

GLYDE ST

EGERTON ST

DONEY ST

WILLIAMS RD

FEDERAL ST

ARGUS ST

NARROGIN

NARROGIN VALLEY

HERALD ST

LEGEND

PROJECT AREA

AVW02 - KATANNING

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2024-03-21 AT 3:44:46 PM

583500 584000 584500 585000 585500 586000

6328500 6328000 6327500 6327000 6326500 6326000

RABBIT PROOF FENCE RD

NORTH MOULYINNING

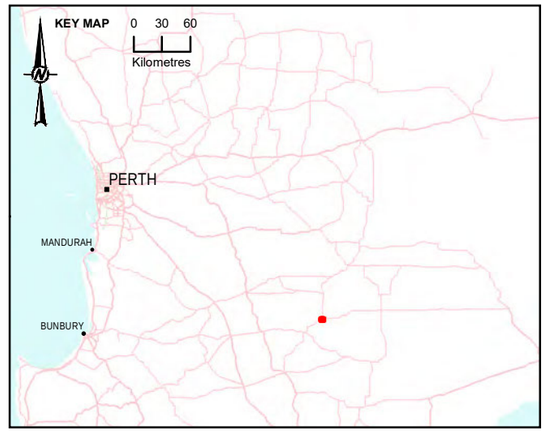
MOULYINNING

INTERSECTION 9

DUMBLEYUNG LAKE GRACE RD

LEGEND

- PROJECT AREA
- AVW02 - KATANNING
- MAL02 - WESTERN MALLEE



0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.11

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25mm

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584000
584500
585000
6365500
6365000
6364500
6364000

DUDININ JITARNING RD
INTERSECTION 10
DUDININ WOGOLIN
FORREST ST
FOX ST

LEGEND

- PROJECT AREA
- AVW02 - KATANNING

KEY MAP 0 30 60 Kilometres

PERTH
MANDURAH
BUNBURY

0 120 240
1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.12

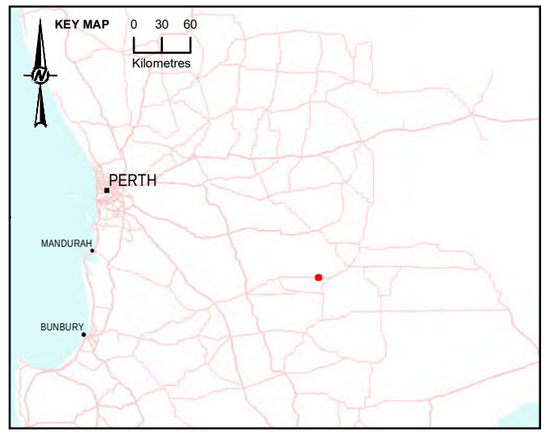
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LEGEND

- PROJECT AREA
- AVW02 - KATANNING



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.13

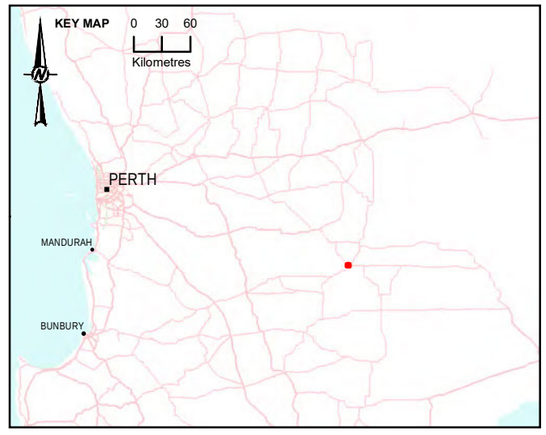
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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.14

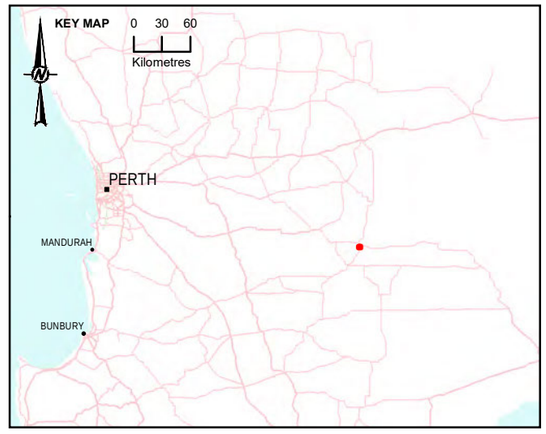
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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

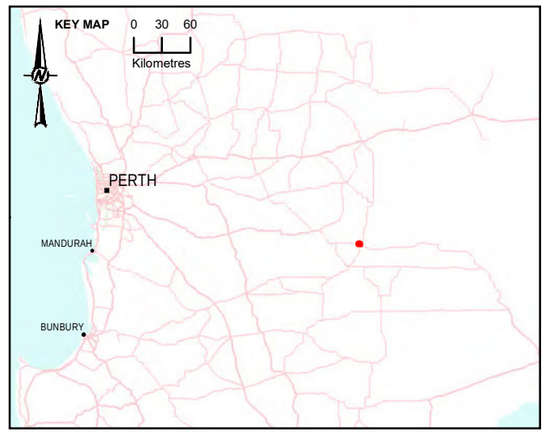
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PS204764	001-R	A	4.15

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25mm
0



LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.16

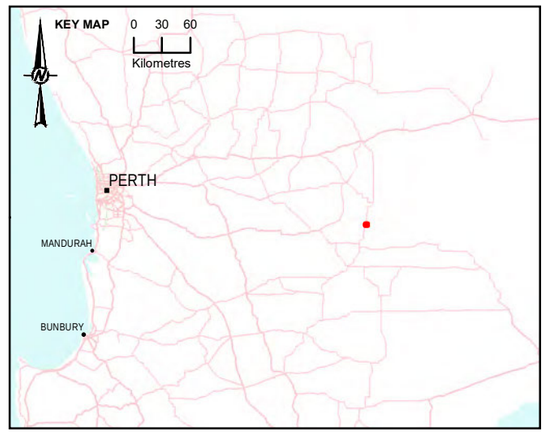
© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.17

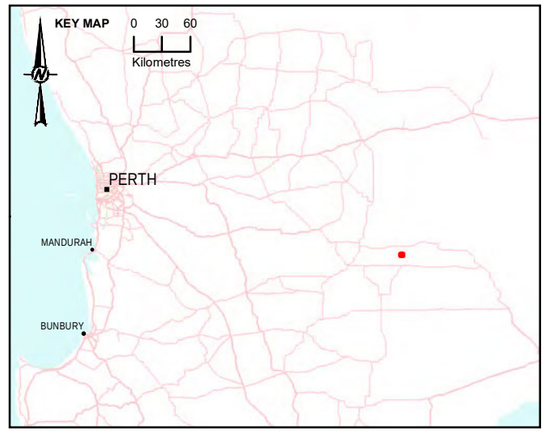
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0 25mm

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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.18

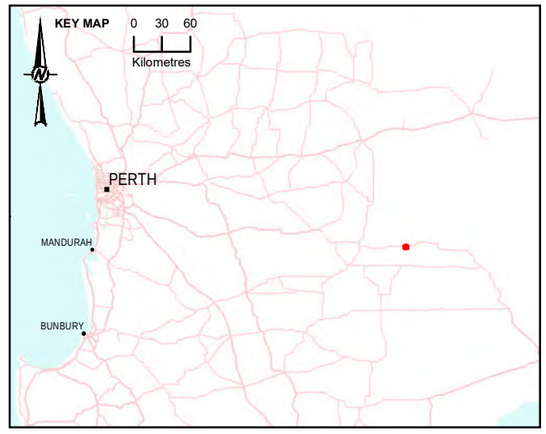
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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.19

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2024-03-21 AT: 3:49:18 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

659000 659500 660000 660500 661000

6404000

6403500

6403000

6402500

KONDININ HYDEN RD

INTERSECTION 18

INTERSECTION 17

LEGEND

PROJECT AREA

MAL02 - WESTERN MALLEE

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.20

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

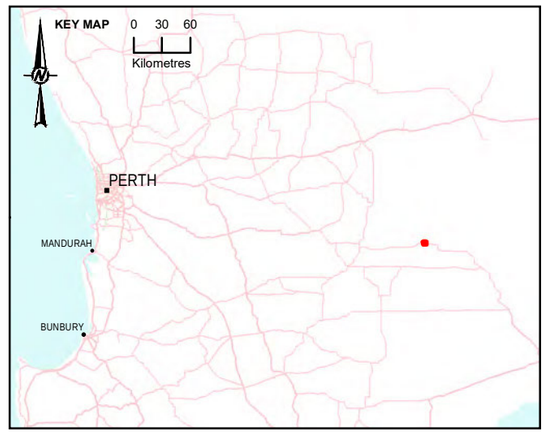
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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

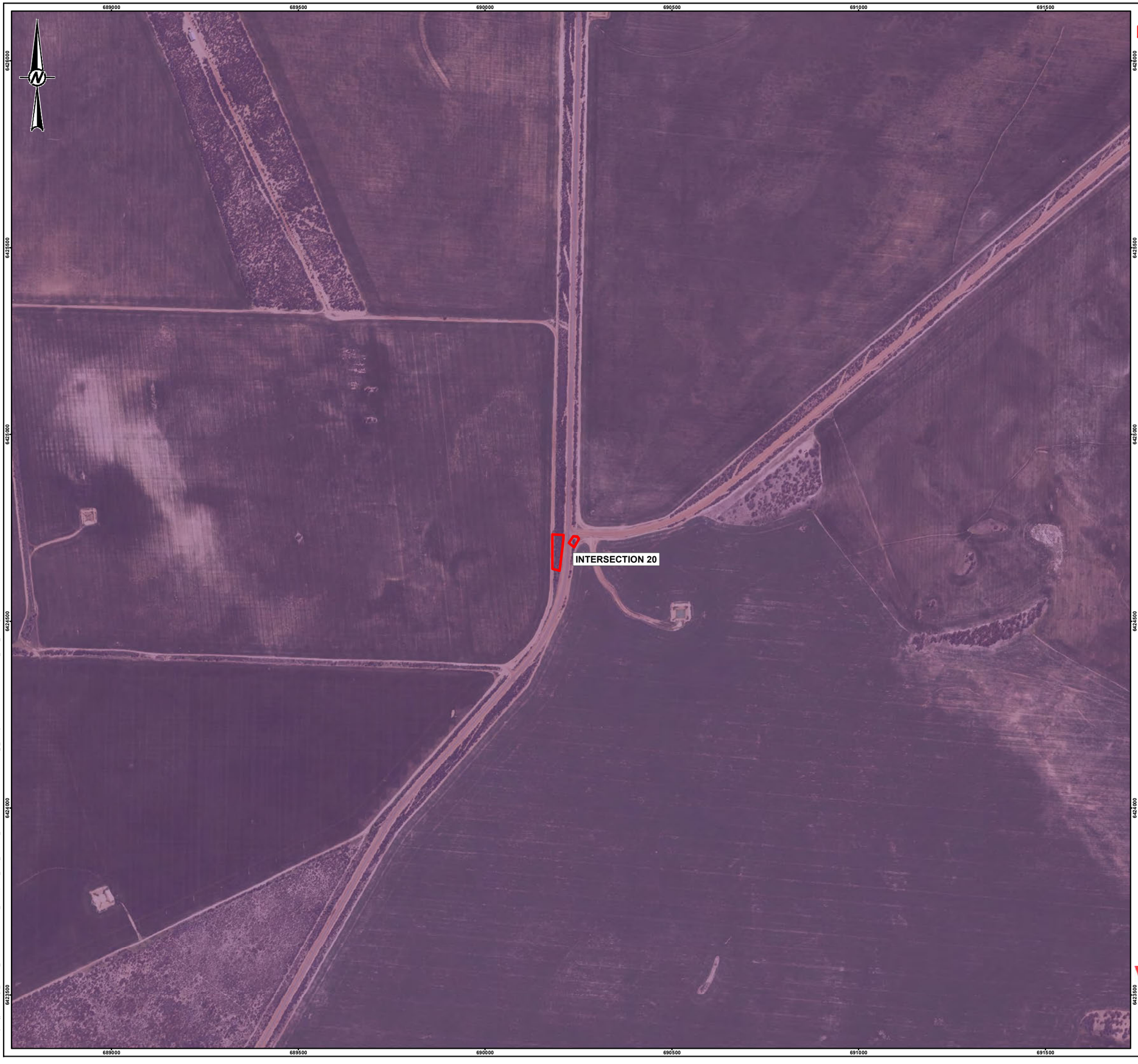
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.21

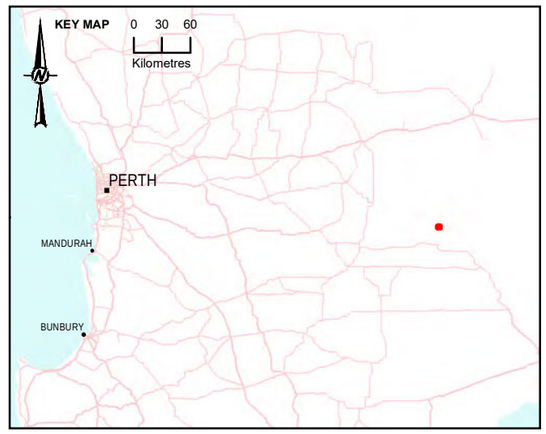
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F004 IBRA_SubRegions.mxd, PRINTED ON: 2024-03-21 AT: 3:50:11 PM



LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.22

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-RP\Phase 2_survey\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2024-03-21 AT: 3:50:35 PM

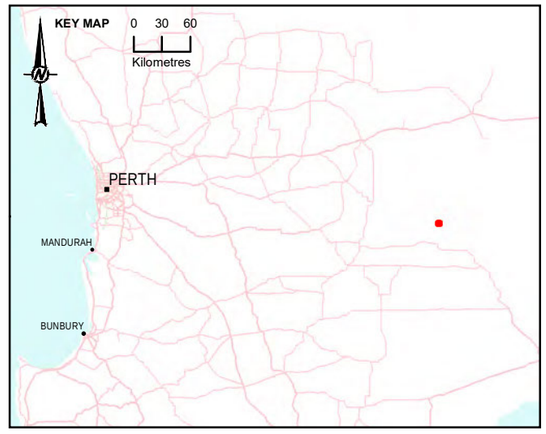
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6428500 6428000 6427500 6427000 6426500

INTERSECTION 21

LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

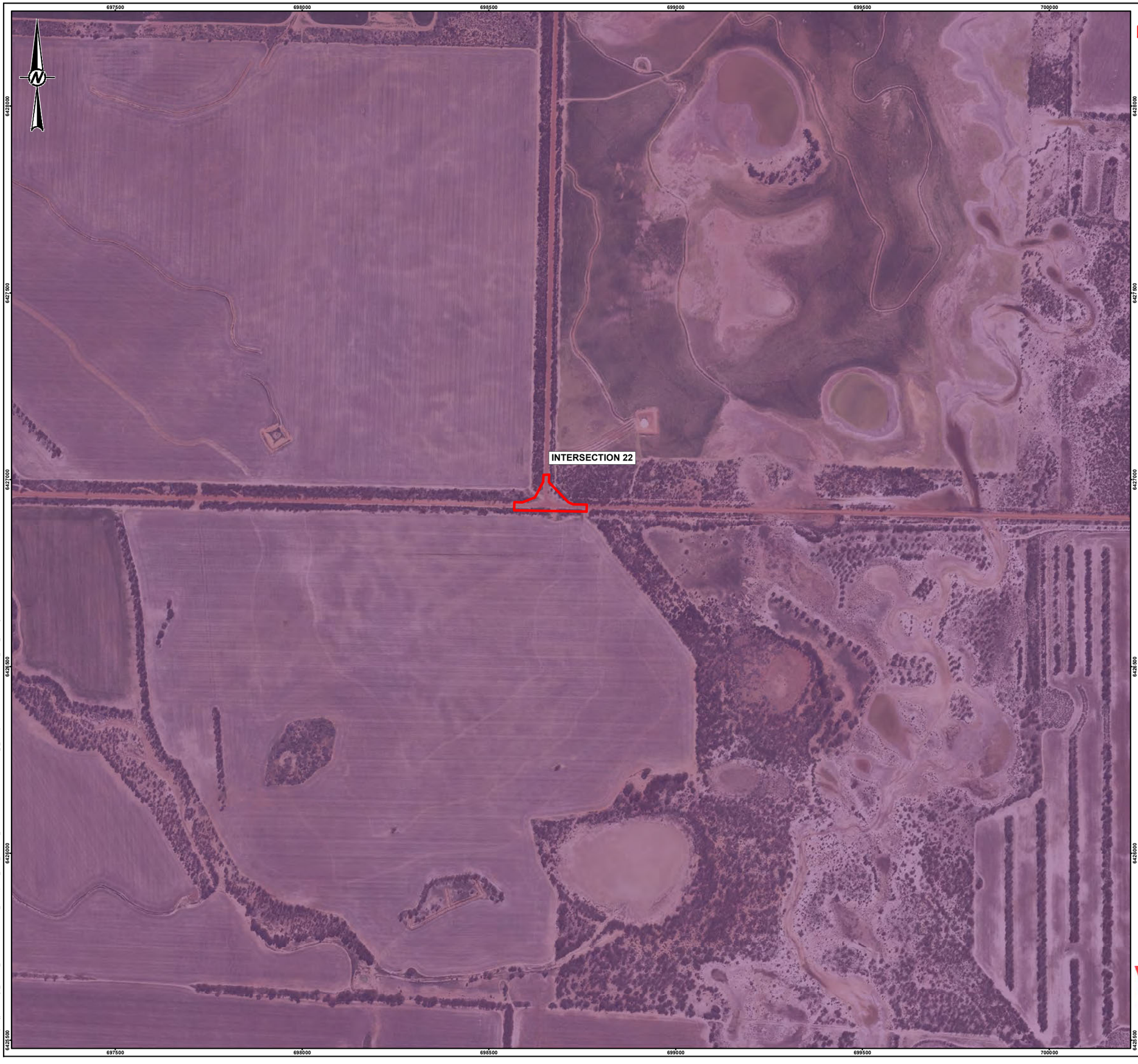
YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.23

0 25mm

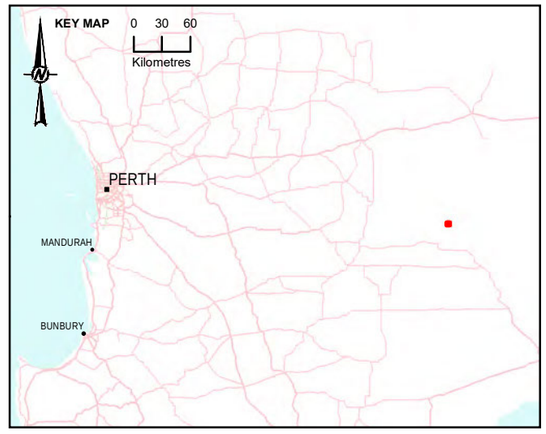
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.24

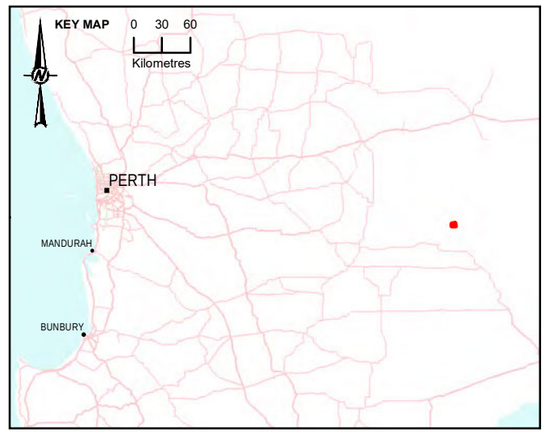
THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2024-03-21 AT: 3:51:28 PM



LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 200 400

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.25

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2024-03-21 AT: 3:51:48 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ISO A3

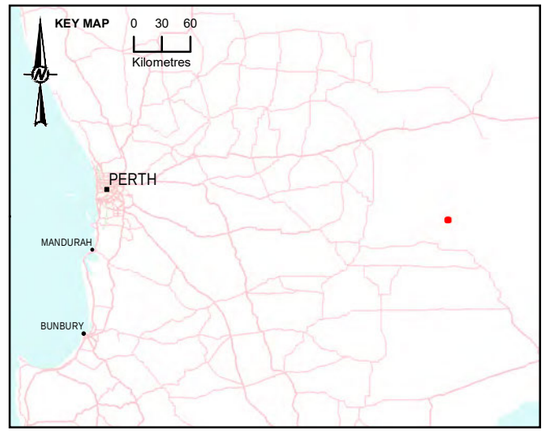
25mm

0



LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.26

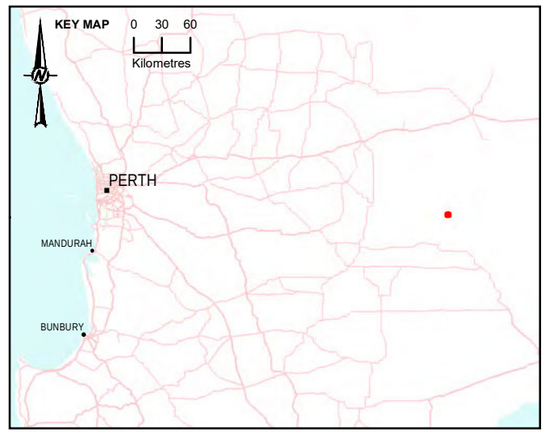
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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LEGEND

- PROJECT AREA
- MAL02 - WESTERN MALLEE



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.27

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
0 25mm

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2024-03-21 AT: 3:52:31 PM

Appendix K

Pre-European vegetation



676000 676500 677000 677500

6408500 6408000 6407500 6407000

SITE 2

SITE 1

INTERSECTION 19

HYDEN-LAKE KING RD

LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

945 - HYDEN -

128 - HYDEN -

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 140 280

1:7,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:39:00 PM

675000
675500
676000
676500
6409000
6408500
6408000

SITE 2

SITE 1

MARSHALL ST

HYDEN-LAKE KING RD

LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

945 - HYDEN -

KEY MAP 0 30 60
Kilometres

PERTH

MANDURAH

BUNBURY

0 125 250
1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

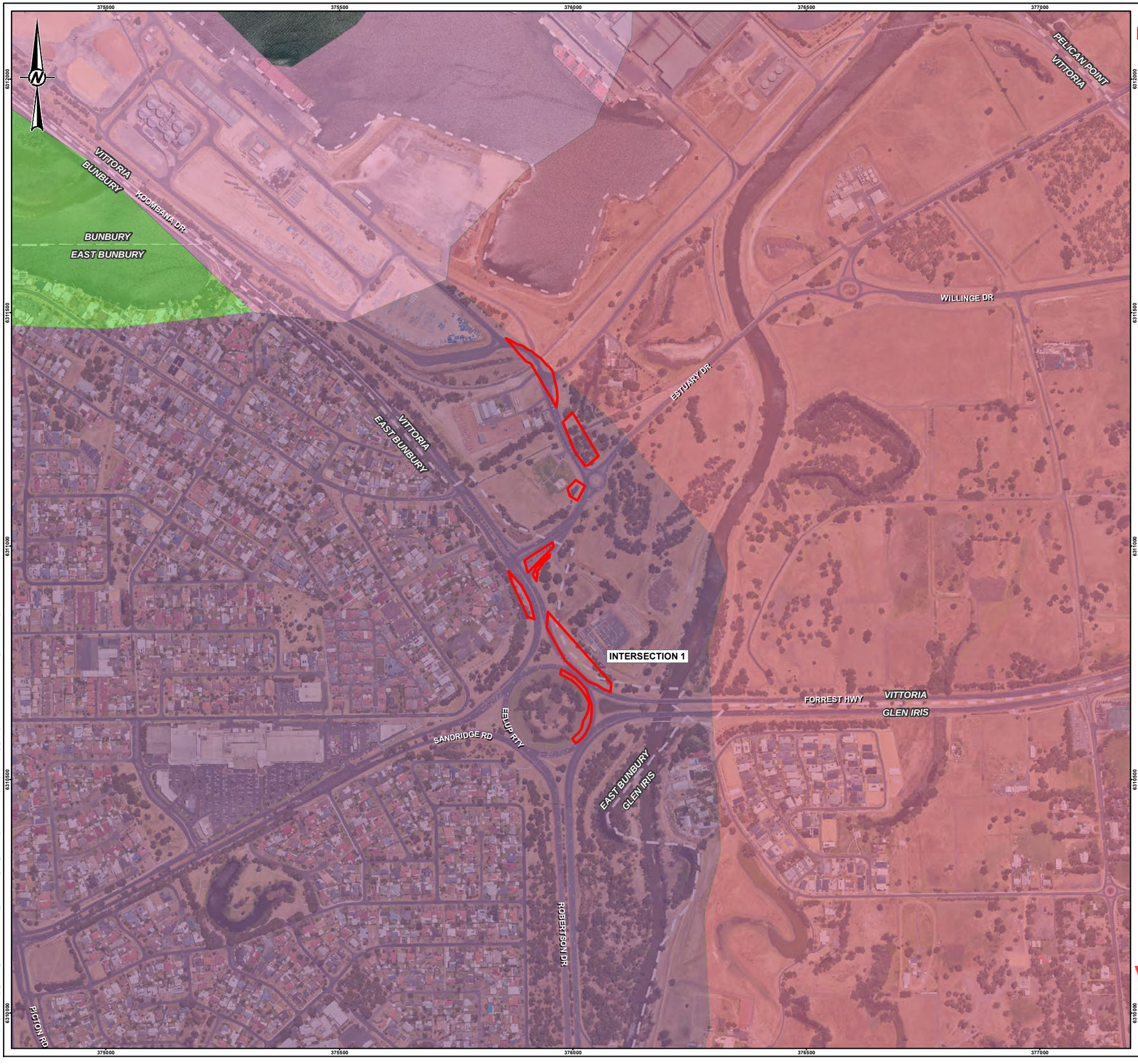
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT: 4:39:18 PM

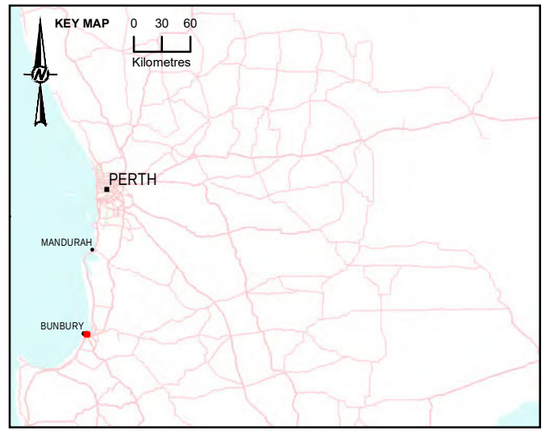


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

- 998.1 - SPEARWOOD - Jarrah, marri and wandoo Eucalyptus marginata, Corymbia calophylla, E. wandoo.
- 43.4 - BASSENDEAN - Low forest (Kimberley) or thicket (Pilbara) mangroves Avicennia marina, Rhizophora stylosa, Bruguiera exaristata.
- 37.5 - BASSENDEAN - Wattle, casuarina and teatree acacia-allocasuarina-melaleuca alliance.
- 3 - SPEARWOOD - Mainly jarrah and marri Eucalyptus marginata, Corymbia calophylla



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:39:35 PM

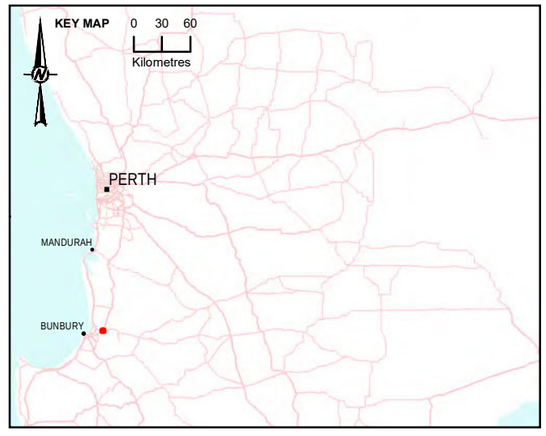


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

- 1182 - PINJARRA - Jarrah, marri and wandoo Eucalyptus marginata, Corymbia calophylla, E. wandoo.
- 968.3 - PINJARRA - Jarrah, marri and wandoo Eucalyptus marginata, Corymbia calophylla, E. wandoo.
- 4.4 - WEST DARLING - Jarrah, marri and wandoo Eucalyptus marginata, Corymbia calophylla, E. wandoo.



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

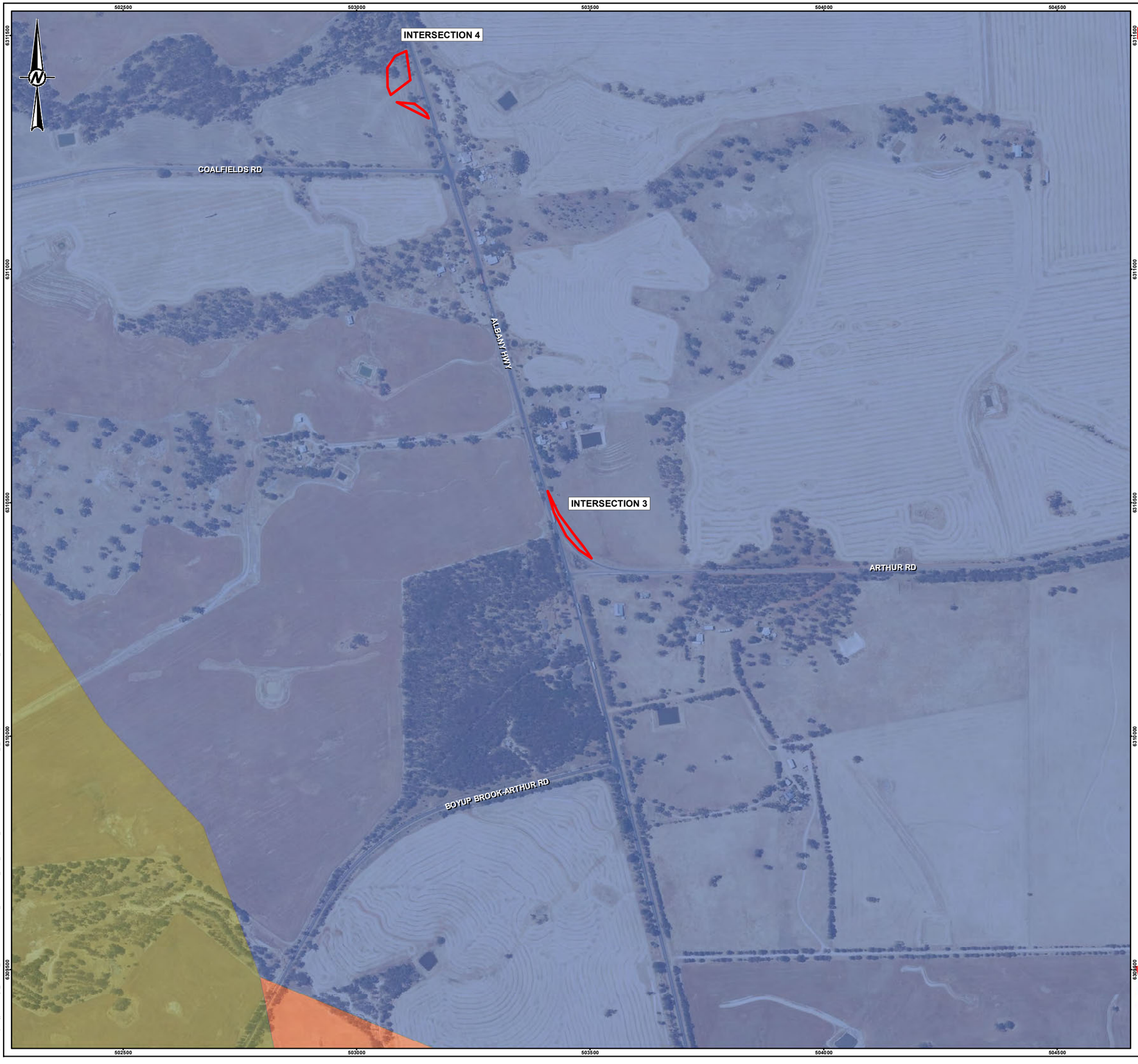
CONSULTANT
wsp

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.4

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:39:51 PM

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LEGEND

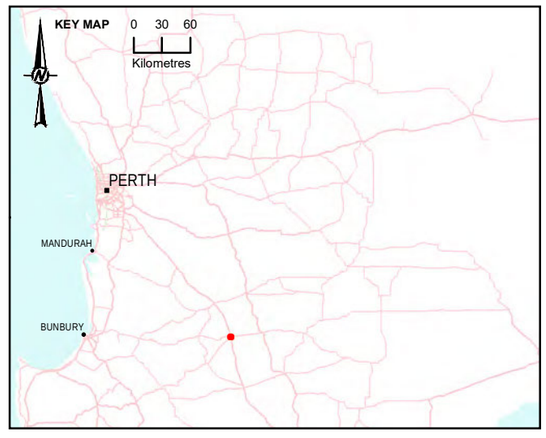
PROJECT AREA

PRE-EUROPEAN VEGETATION

1023 - WAGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

1023 - WILLIAMS - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

4.4 - WILLIAMS - Jarrah, marri and wandoo Eucalyptus marginata, Corymbia calophylla, E. wandoo.



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:40:09 PM

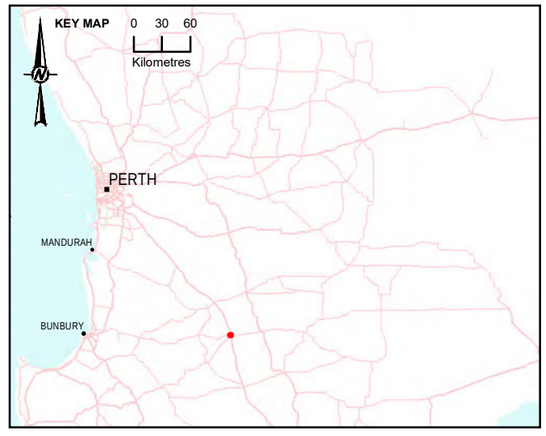


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

1023 - WAGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:40:27 PM

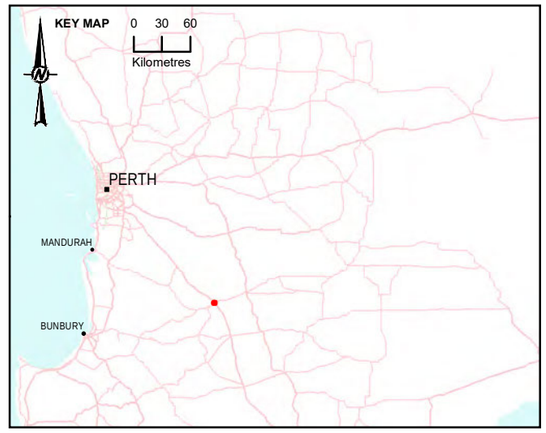


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

7 - WILLIAMS - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.7

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 2_survey\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT: 4:40:44 PM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

INTERSECTION 7

INTERSECTION 6

MINIGIN

NARROGIN

NARROGIN

DUMBERNING

WILLIAMS-KONDININ RD

MINIGIN

DUMBERNING

511000 511500 512000 512500 513000 513500 514000 514500

6356000 6355500 6355000 6354500 6354000 6353500 6353000 6352500

LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

1023 - NARROGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

947.3 - NARROGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 270 540

1:13,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.8

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:40:59 PM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

511500 512000 512500 513000 513500 514000

6357000 6356500 6356000 6355500 6355000

INTERSECTION 7

MINIGIN NARROGIN

MINIGIN WILLIAMS-KONDININ NARROGIN DUMBERNING RD DUMBERNING

LEGEND

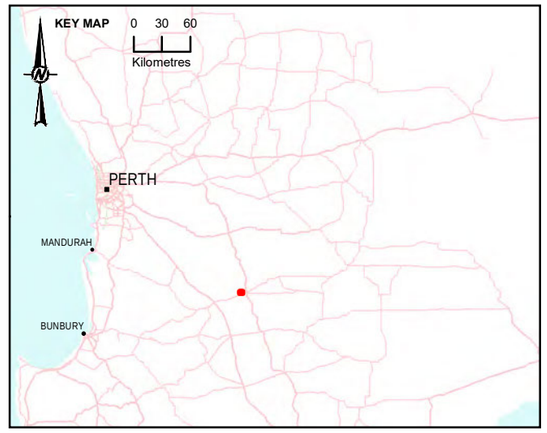
PROJECT AREA

PRE-EUROPEAN VEGETATION

1023 - NARROGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

947.3 - NARROGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

352 - NARROGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

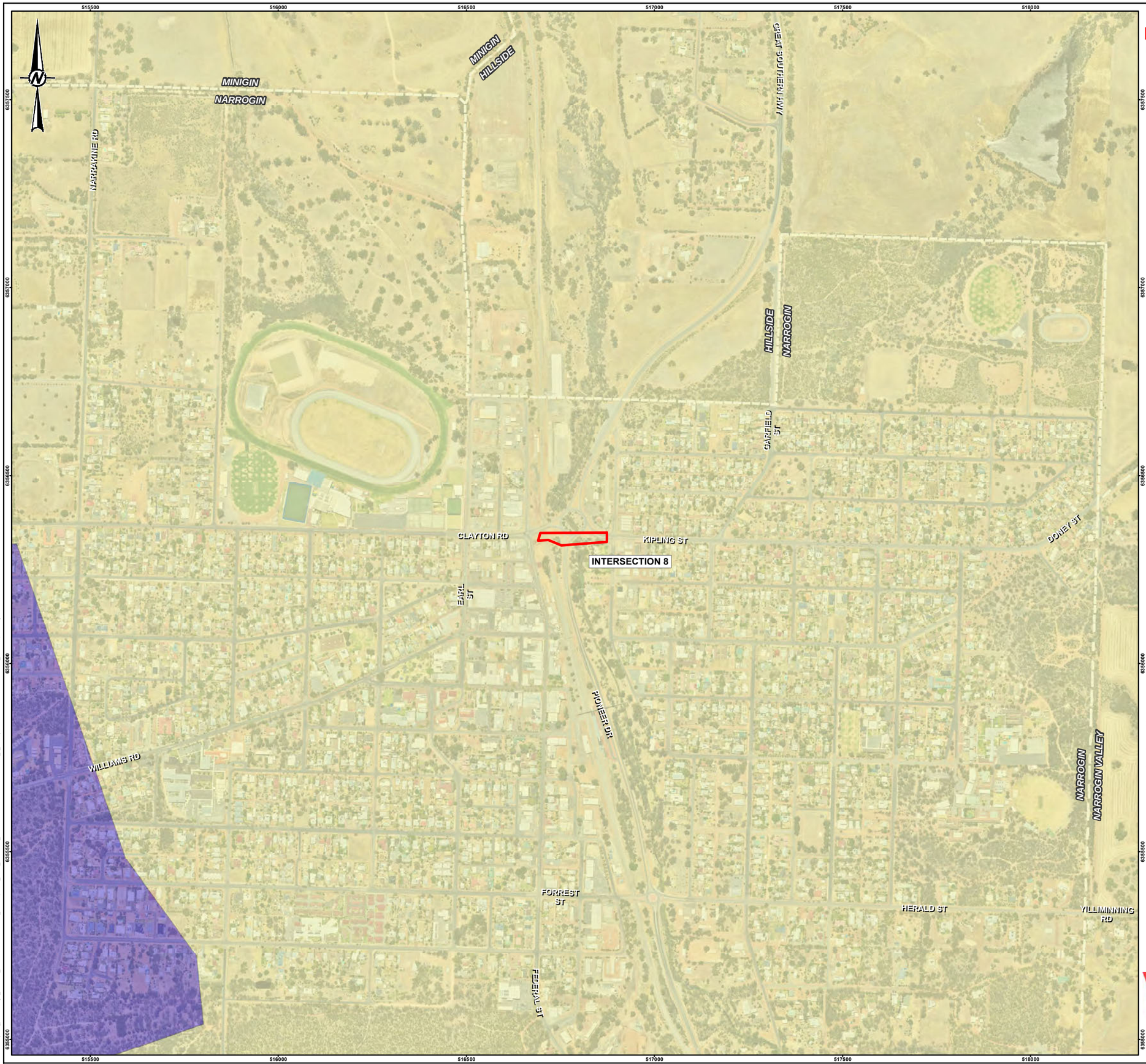
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.9

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

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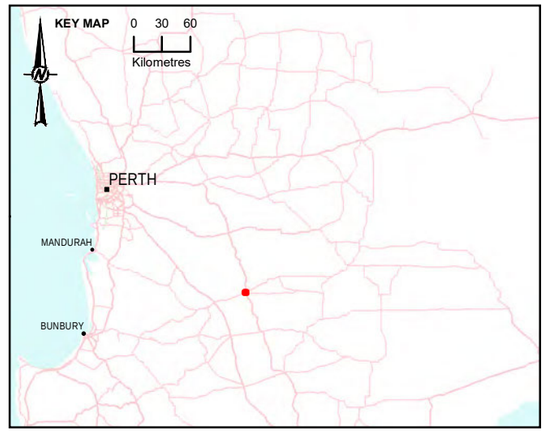
LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

1023 - NARROGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

947.3 - NARROGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

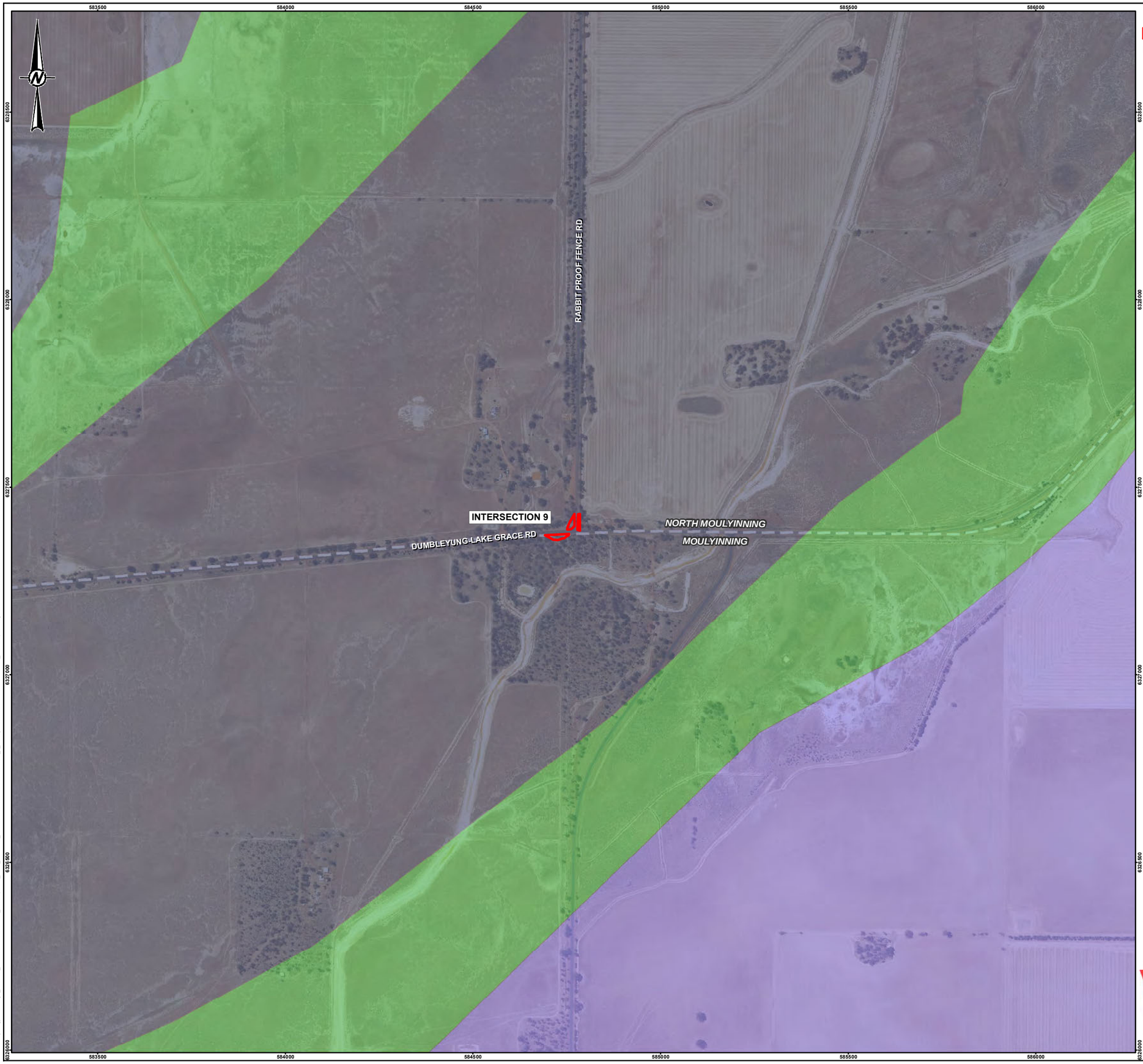
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.10

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F005 PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:41:34 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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LEGEND

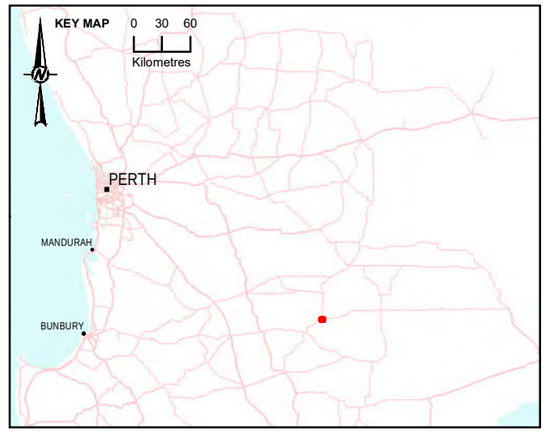
PROJECT AREA

PRE-EUROPEAN VEGETATION

1094 - HYDEN -

1093 - DUMBLEYUNG - Tea tree with York gum, casuarina Tecticornia spp. Melaleuca spp. Eucalyptus loxophleba, Casuarina obesa

1023.1 - DUMBLEYUNG - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.11

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT: 4:41:51 PM
© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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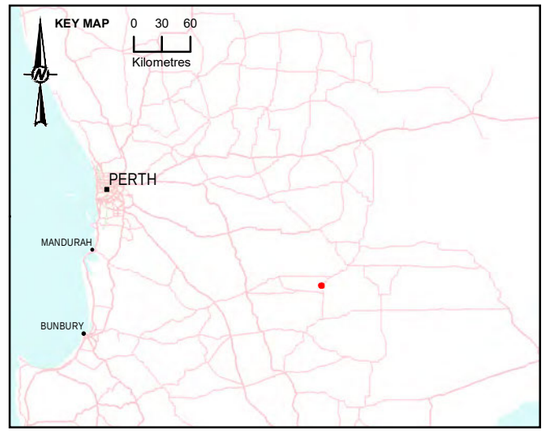


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

1023.3 - CORRIGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

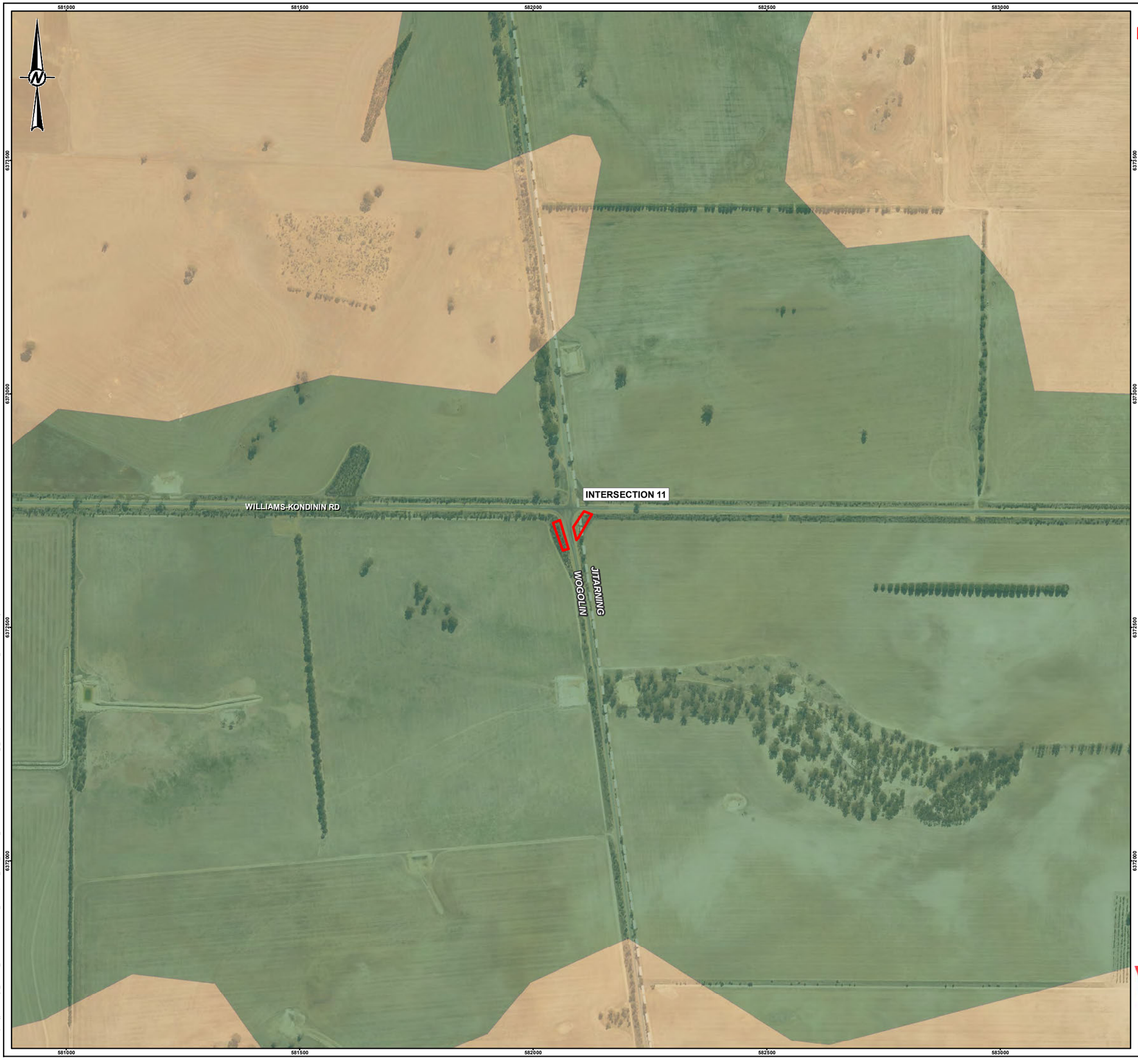
YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.12

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:42:07 PM



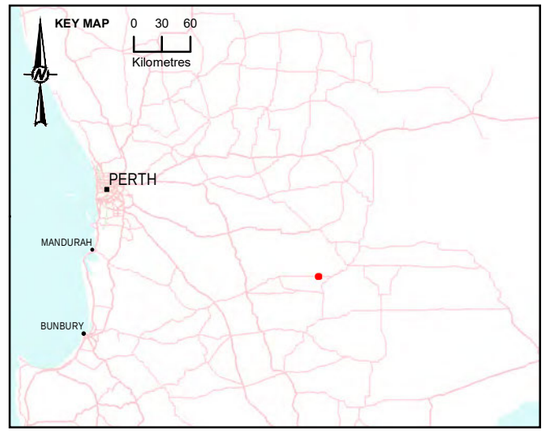
LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

1023.3 - CORRIGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

955 - CORRIGIN -



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT: 4:42:25 PM



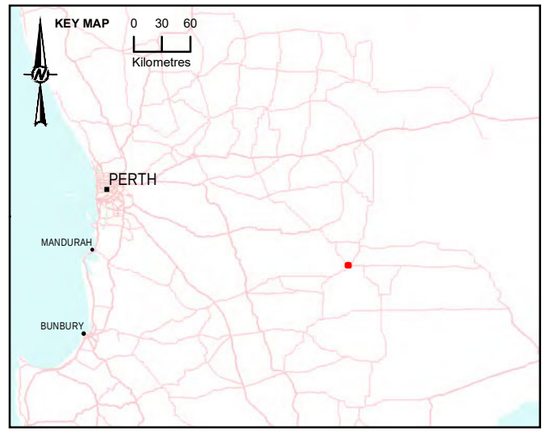
LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

960.2 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.

8.1 - HYDEN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.14

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:42:40 PM

THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm



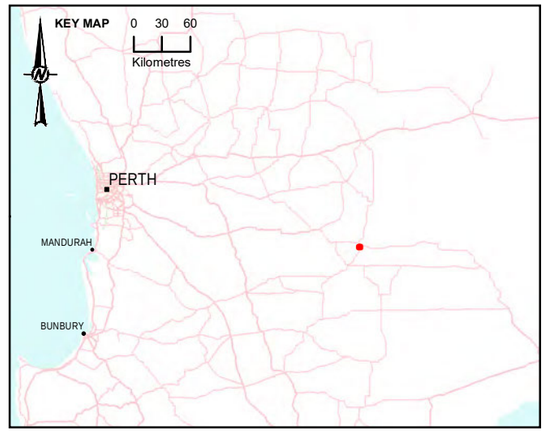
LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

1023 - HYDEN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

131.1 - HYDEN -



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

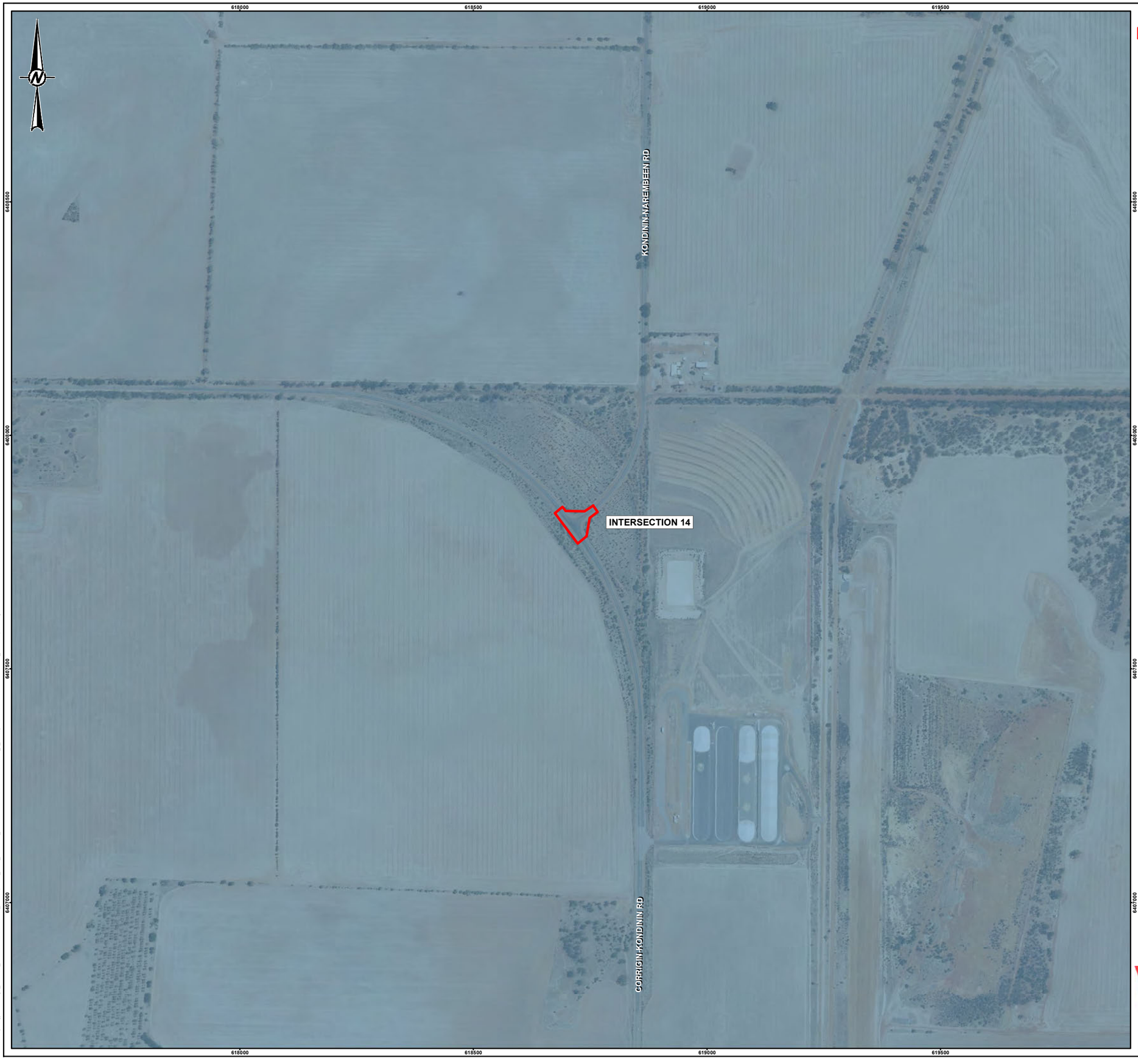
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.15

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:42:57 PM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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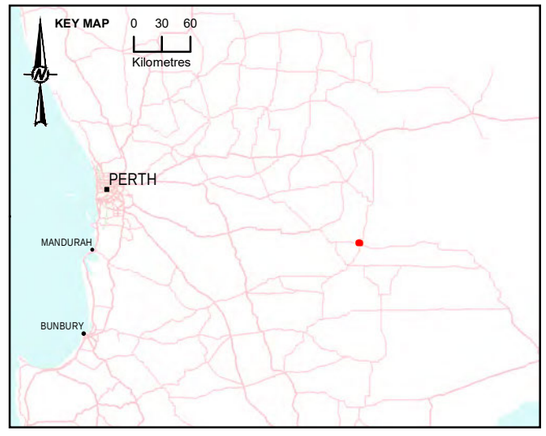


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

1023 - HYDEN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

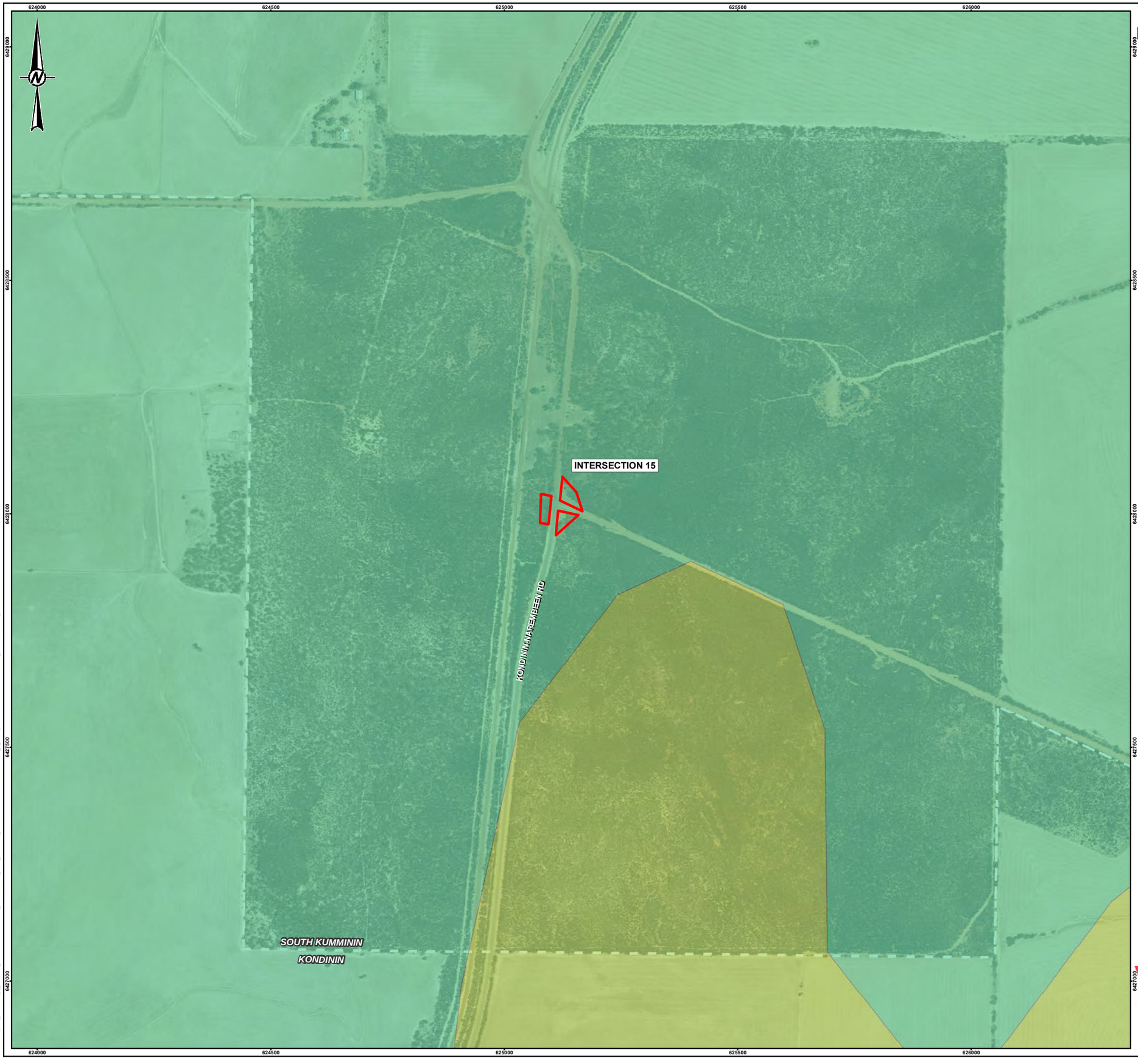
CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.16

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT: 4:43:13 PM



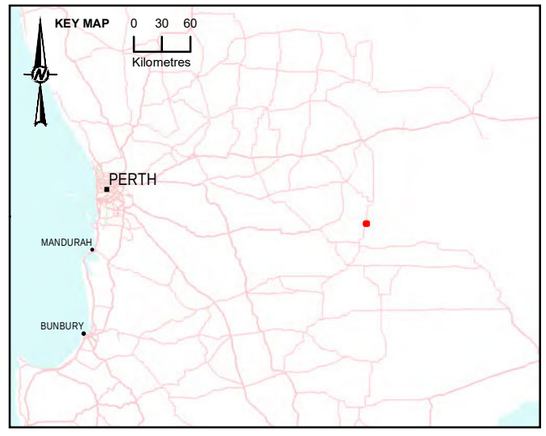
LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

961.1 - HYDEN -

960.2 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.17

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F006_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:43:29 PM



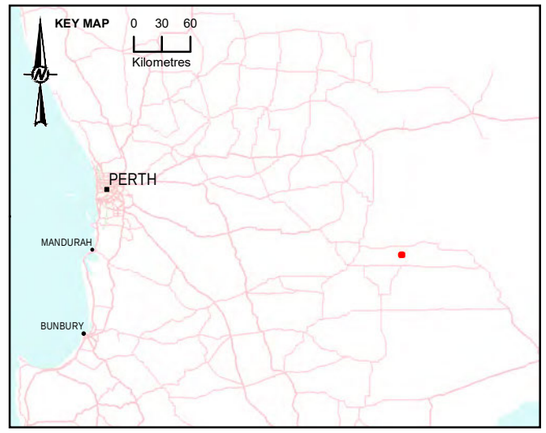
LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

945 - HYDEN -

519.3 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.18

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase_2_survey\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2024-03-21 AT 4:43:47 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

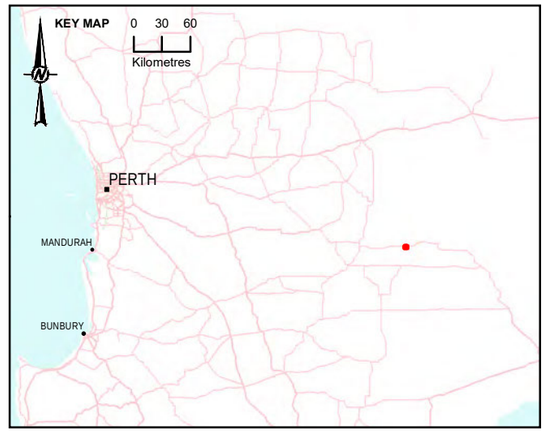


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

945 - HYDEN -



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-03-21
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.19

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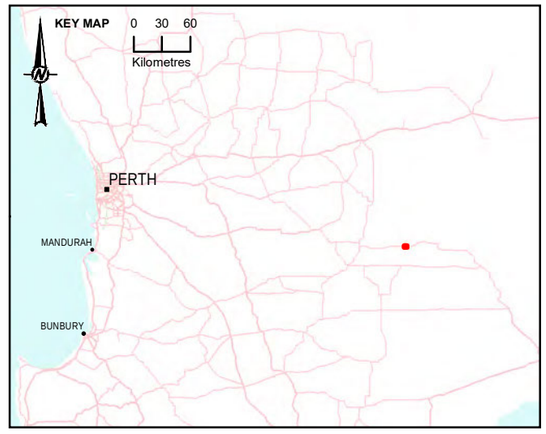


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

945 - HYDEN -



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

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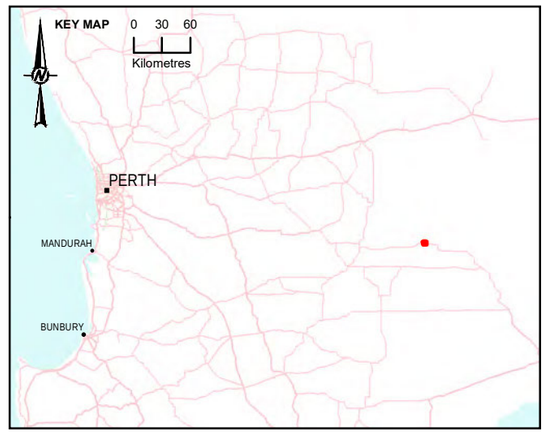
PROJECT AREA

PRE-EUROPEAN VEGETATION

945 - HYDEN -

128 - HYDEN -

41.2 - HYDEN - Wattle, teatree & other species Acacia spp. Melaleuca spp.



0 210 420

1:10,000 METRES

NOTE:
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REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

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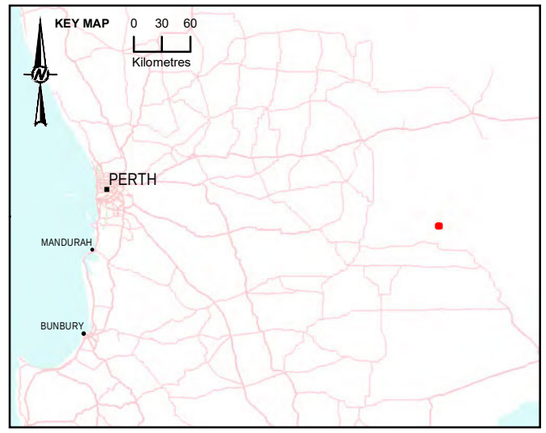
INTERSECTION 20

LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

519.3 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
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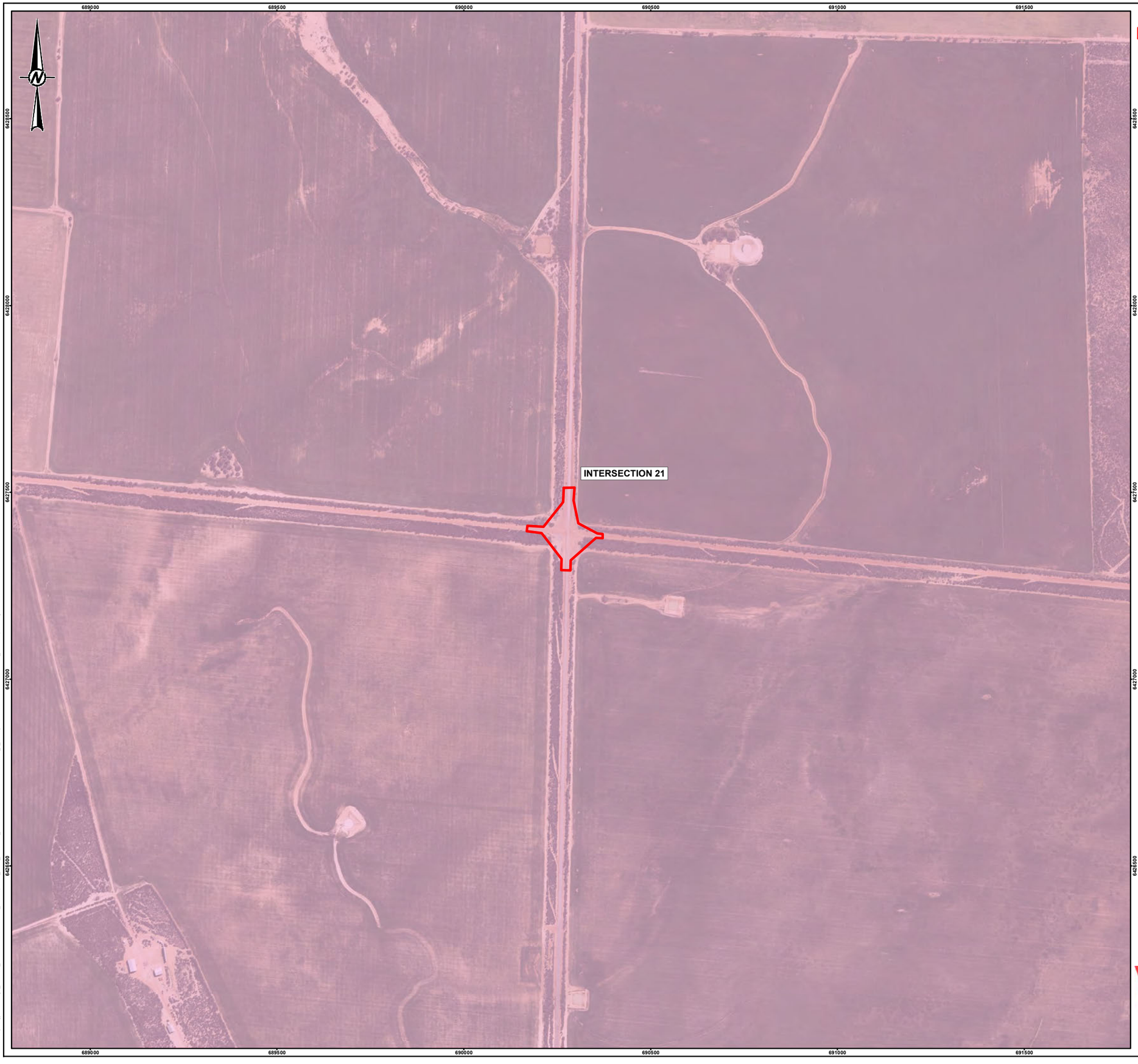
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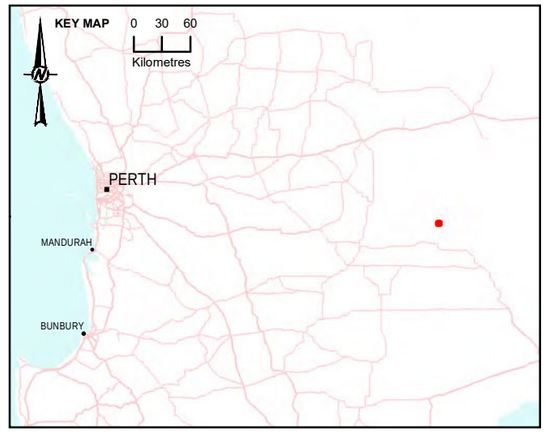


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

519.3 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
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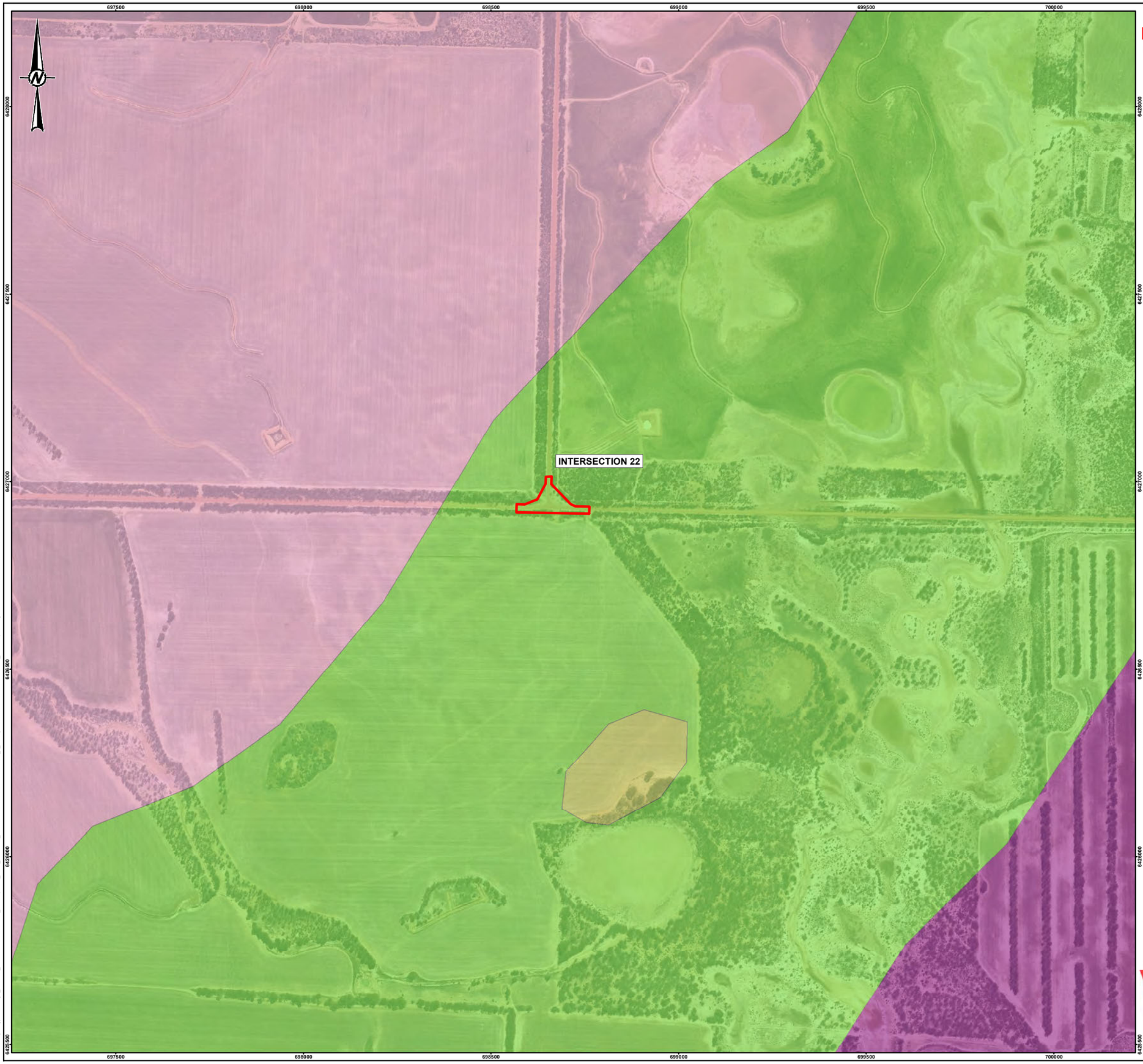
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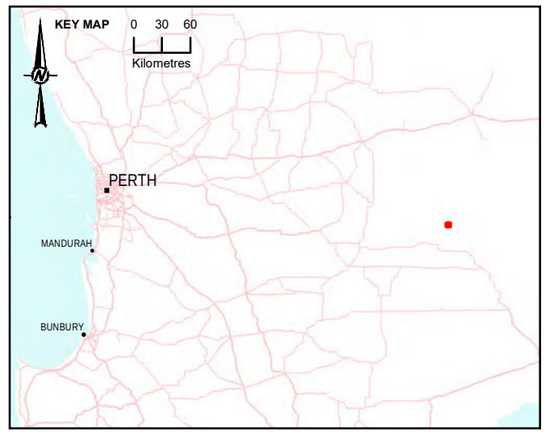


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

- 945 - MUNTADGIN -
- 519.4 - SKELETON ROCK - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.
- 519.3 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.
- 125 - MUNTADGIN -



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

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1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT NO.	CONTROL	REV.	FIGURE
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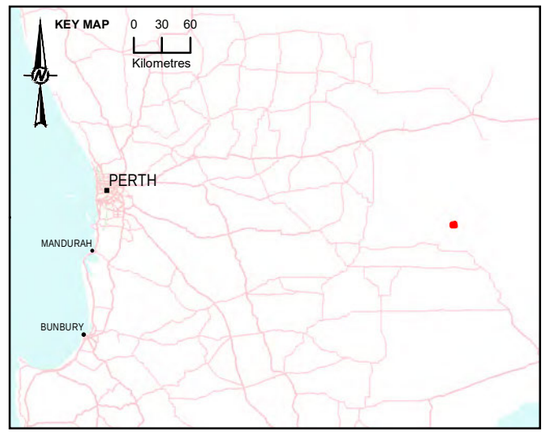


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

519.4 - SKELETON ROCK - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.



0 210 420

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

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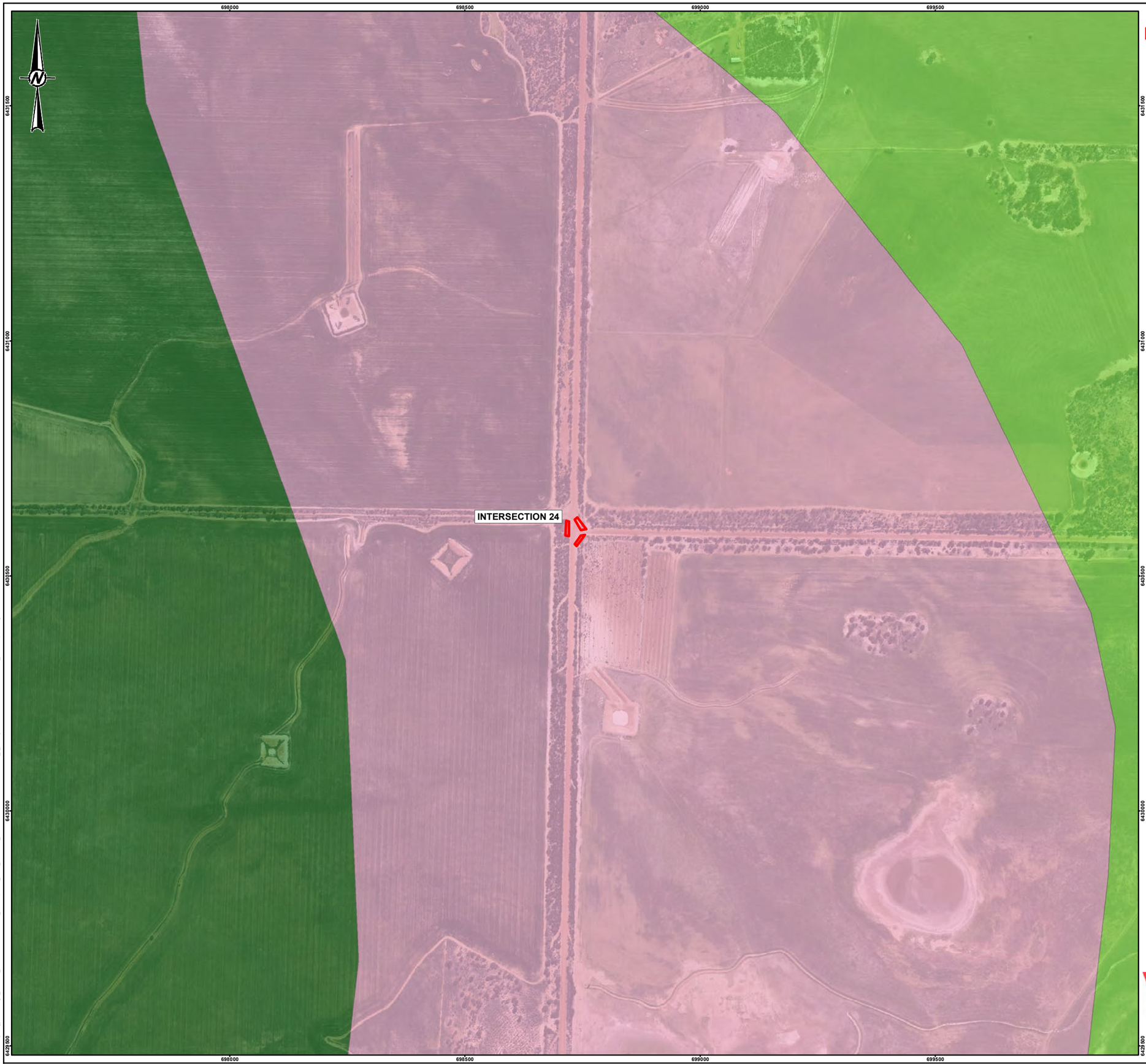
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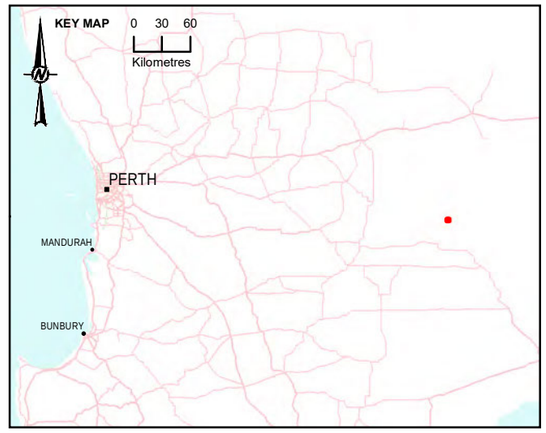
PROJECT AREA

PRE-EUROPEAN VEGETATION

2048.1 - HYDEN - Mixed heath with scattered tall shrubs Acacia spp., PROTEACEAE and MYRTACEAE.

945 - MUNTADGIN -

519.3 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.



0 160 320

1:8,000 METRES

NOTE:
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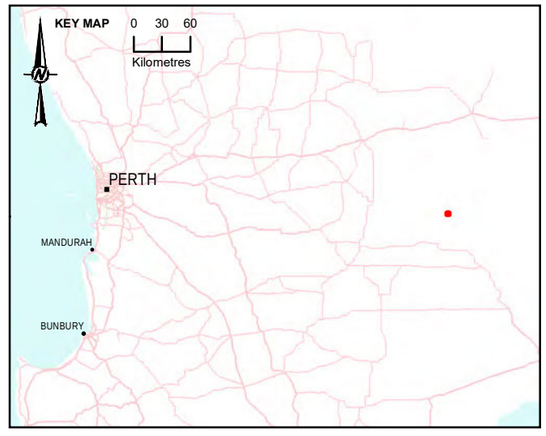


LEGEND

PROJECT AREA

PRE-EUROPEAN VEGETATION

- 2048.1 - HYDEN - Mixed heath with scattered tall shrubs Acacia spp., PROTEACEAE and MYRTACEAE.
- 1413.3 - MUNTADGIN - Wattle, casuarina and teatree acacia-allocasuarina-melaleuca alliance.
- 945 - MUNTADGIN -



0 160 320

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

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PROJECT NO.	CONTROL	REV.	FIGURE
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About Us

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Appendix C: WSP2024b Flora and Fauna Survey

WSP (2024b) Flora, Vegetation and Fauna Survey, King Rocks Development Support: Site Selection for Workforce Accommodation Camp

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for a better
future /

Synergy Group Australia Pty Ltd

Flora, Vegetation and Fauna Survey

King Rocks Development Support: Site Selection for Workforce Accommodation Camp

wsp

March 2025

Question today
Imagine tomorrow
Create for the future

Flora, Vegetation and Fauna Survey
King Rocks Development Support: Site Selection for Workforce Accommodation Camp

Synergy Group Australia Pty Ltd

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Rev	Date	Details
A	16/05/2024	Draft
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	Name	Date	Signature
Prepared by:	[redacted]	05/03/2025	[redacted]
Reviewed by:	[redacted]	05/03/2025	
Approved by:	[redacted]	05/03/2025	

WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Executive summary

WSP was engaged by SynergyRED to undertake a flora, vegetation, and fauna survey for the proposed development of a new wind energy project. WSP was engaged in September 2023 (Phase 1) and January 2024 (Phase 2) to undertake an initial reconnaissance survey of two accommodation sites for workers and twenty-five intersections between the port and the windfarm location. Subsequently to those initial surveys, WSP was engaged to undertake a Flora, Vegetation and Fauna survey for additional one accommodation site and four intersections. The purpose of the survey was to assess the flora, vegetation, and fauna values within the survey area and to identify any significant flora, vegetation and fauna populations for delivering wind turbines from port to the windfarm. The findings from this survey will be used to support a Works Approval Application to the Department of Water and Environmental Regulation for the construction of accommodation camp and the route alignment options.

In accordance with the *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016a), the flora, vegetation, and fauna survey was conducted. The *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016a) recommends surveys within the Southwestern Interzone be undertaken in spring (September-November).

The key findings of the flora, vegetation, and fauna survey include the following:

- Five relevés were assessed within the survey area. The relevés were chosen in areas of native vegetation in better condition within the survey area. This improved the robustness of the assessment by maximising the opportunity to detect conservation significant flora and to evaluate the presence of threatened ecological communities (TECs).
- A total of 48 native and six non-native (weed) flora species were recorded within the survey area. This included six invasive (weed) flora species, none of which is listed as a Weed of National Significance (WoNS) or as a Declared pest plant in Western Australia.
- No occurrences of threatened or priority flora species were recorded within the survey areas.
- The critically endangered ecological community Eucalypt Woodlands of the Western Australian Wheatbelt (listed under the EPBC Act) was assessed in 2 intersections and 1 accommodation site.
- Most of the habitat structure is situated on pale orange to white sandy-loam flats, comprising *Eucalyptus* and *Allocasuarina* forest over other mixed flora species.
- The survey areas contain no natural waterways or wetlands, therefore potential impacts on the listed birds associated with water bodies are also minimal.
- No evidence of any conservation significant fauna species was identified within the survey area.
- A habitat score of 6 (high-quality native habitat) was assigned to the survey area, indicating that a referral to the minister is required.

1 Introduction

1.1 Project background

Synergy Renewable Energy Developments (SynergyRED) is a wholly owned subsidiary of Synergy (Electricity Retail and Generation Corporation) located in Perth, Western Australia. SynergyRED is currently investigating the development of a new wind energy project (the Project). SynergyRED has engaged WSP to assess the flora, vegetation, and fauna values within the survey area.

WSP was engaged in September 2023 (Phase 1) and January 2024 (Phase 2) to undertake an initial reconnaissance survey of two accommodation sites for workers and twenty-five intersections between the port and the windfarm location. Subsequently to those initial surveys, WSP was engaged to do Flora, Vegetation and Fauna survey for an additional one accommodation site and four intersections. (Figure 1.1).

Accommodation sites include:

- Lot 192 & 802 – Hyden-Mount Walker Road, Hyden **(Site 03 – includes Northwest, Southwest and East section)**

Intersections include:

- Williams-Kondinin Rd / Dudinin-Jitarning Rd Intersection **(Intersection 11a)**
- Kulin Road West / Williams-Kondinin Rd Intersection **(Intersection 12a)**
- Corrigin-Kondinin Rd / Corrigin-Kulin Rd Intersection **(Intersection 14a)**
- Sedgewick Rd/Billericay Rd E **(Intersection 21a)**

1.2 Purpose and scope of work

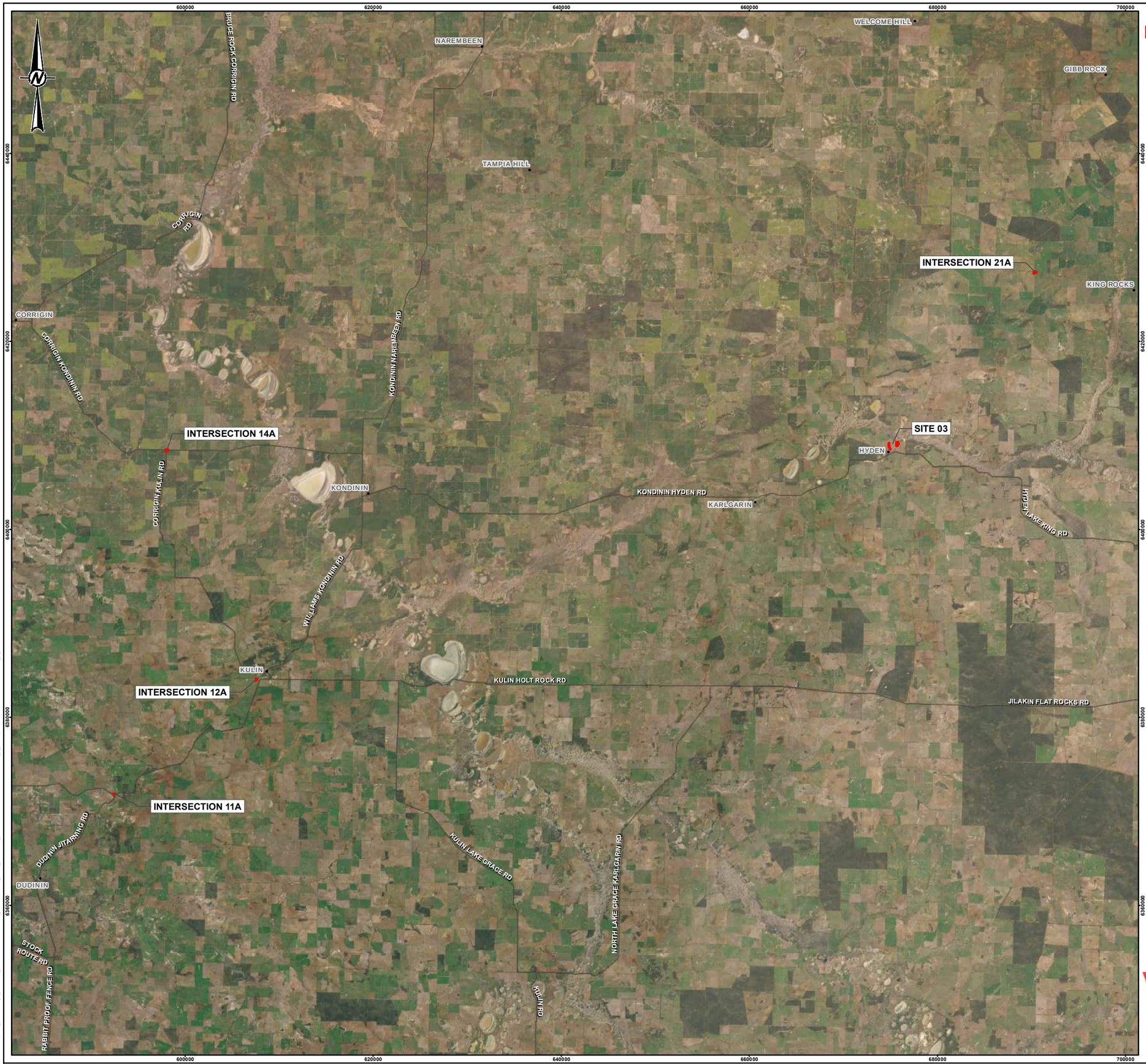
The purpose of the survey was to assess the flora, vegetation, and fauna values within the survey area and to identify any significant flora, vegetation and fauna populations. The findings from this assessment will be used to inform the construction camp, the route alignment options and approval requirements.

The scope of work included:

- Flora and Vegetation survey compliant with the Environmental Protection Authority (EPA) (2016b) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* and other relevant State and Federal guidelines and legislation. The flora and vegetation survey scope included the following:
  - Low intensity sampling to collect botanical data from quadrats or relevés in the survey area.
  - Recording visual observations on the fire regimes, grazing pressures and overall health of the vegetation to allow for an assessment of the overall condition of the flora and vegetation communities.
  - Identifying and recording the locations of any declared pest organisms or weed species.
  - Providing advice on the local and regional significance of the vegetation communities; and
  - Documenting the results of the assessment including the preparation of relevant spatial data.
- Basic fauna survey compliant with the EPA (2020) *Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*. The fauna survey scope included the following:
  - A desktop study to gather contextual information using the Department of Biodiversity, Conservation and Attractions' (DBCA's) threatened and priority fauna database, NatureMap, the Department of Climate Change,

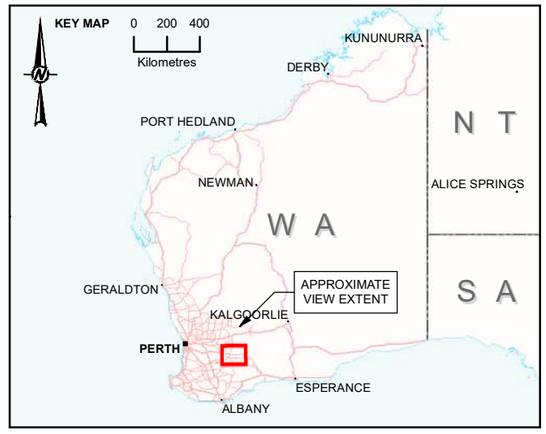
Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) and other publicly available literature and spatial data.

- A day-time general fauna survey and habitat assessment to validate the findings from the desktop study, assess habitat types, hollows, scats and condition and record opportunistic sightings of fauna species.
- Documenting the results of the assessment including the preparation of relevant spatial data.



LEGEND

SURVEY AREA



0 7,500 15,000

1:400,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI BASEMAP

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PROJECT
KING ROCKS WIND FARM

TITLE
SITE LOCATION

CONSULTANT

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Figure 1.1 Site location

2 Environmental context

2.1 Physical environment

2.1.1 Geology, landforms, and soils

Landform and soils influence fauna habitat and species at regional and local scales. The geology bedrock of the survey area forms a wide range from Vasse system to Yilgarn Craton granites and is described as granitic rock, undivided, and metamorphosed (DBCA 2024). The Department of Primary Industries and Regional Development (DPIRD) has compiled data from various surveys to produce a soil landscape mapping dataset for Western Australia; these are outlined in Table 2.1 for the general area near the survey intersections. The land systems for each intersection are summarised in Appendix H.

Table 2.1 Extent of soil landscape from the land system mapping units close to the survey area

Land systems	Description	State-wide	Survey area	
		Current extent (ha)	Area of intersection (ha)	Proportion of current extent (%)
250Ho – Hope South System	Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duplexes.	7040	8.53	0.1212
258Wo – Woolocutty System	Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths predominate plus sandy and loamy duplexes often red.	124461	2.12	0.0017
259Co – Corrigin System	Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.	65393	0.04	0.0001
259Ki – Kondinin System	Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.	11783	2.31	0.0196
259Kk - Kukerin System	Gently undulating rises, in the Southwestern Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.	249030	0.70	0.0003

2.1.2 Hydrology and wetlands

Wetlands are areas of seasonally, intermittently, or permanently waterlogged land, such as poorly drained soils, ponds, billabongs, lakes, swamps, tidal flats, estuaries, rivers, and their tributaries (Wetlands Advisory Committee 1977).

Wetlands can be recognised by the presence of vegetation associated with waterlogging or the presence of hydric soils such as peat, peaty sand, or carbonate mud (Hill *et al.* 1996).

Wetlands of national or international significance may be afforded special protection under Commonwealth or international agreements. The following lists of important wetlands were checked as part of this assessment:

- Ramsar List of Wetlands of International Importance (DCCEEW 2023); and
- A Directory of Important Wetlands in Australia (DBCA 2023).

No internationally or nationally 'important wetlands' or geomorphic wetlands are located within the survey area.

2.2 Biological environment

2.2.1 *Interim biogeographic regionalisation of Australia*

Native vegetation is described and mapped at different scales to illustrate patterns in its distribution. The Interim Biogeographic Regionalisation for Australia (IBRA version 7) divides the Australian continent into 89 bioregions and 419 subregions (Department of the Environment, 2015c). IBRA regions represent a landscape-based approach to classifying the land surface, including attributes of climate, geomorphology, landform, lithology, and characteristic flora and fauna. Specialist ecological knowledge, combined with appropriate regional and continental scale biophysical datasets were interpreted to define and describe these regions (Thackway and Cresswell 1995). Information about each subregion is used to help determine which ecosystems are adequately protected in the conservation estate.

The survey areas were contained within the Mallee and Avon Wheatbelt IBRA region (Appendix I) and MAL02 – Western Mallee and AVW02 - Katanning IBRA subregion (Appendix J). The subregion is described as silt and clays underlain by Kankar, 'exposed granite, sandplains and laterite pavements" and a granite basement overlain by Salt Lake systems (Beecham and Danks 2001). Vegetation is characterised by fine-textured soils with Eucalyptus woodlands and 'scrub-heath on sands and laterite' (Beecham and Danks 2001).

2.2.2 *Pre-European vegetation*

The pre-European vegetation in the area was mapped by Beard (1976) on a broad scale (1:1,000,000). The identification of the original pre-European and current extent of each of the vegetation types assist in providing baselines for managing activities such as land clearing. The pre-European mapping for the survey area was summarised in Table 2.2 below and the figures are attached in Appendix K.

Table 2.2 Extent of Pre-European vegetation associations close to the survey area

Vegetation system association code	Description	Extent remaining (%)	Survey area	
		State level	Area of intersection (ha)	Proportion of current extent (%)
960 - HYDEN	Eucalypt shrubland *Eucalyptus eremophila*, *Eucalyptus redunca*, *Eucalyptus* spp.	21680	0.69	0.0032
1023 - CORRIGIN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris*, *Eucalyptus oleosa*. Riverine; rivergum *Eucalyptus camaldulensis*. Tropical; messmate, woolyb	269070	0.70	0.0003
945 – HYDEN	Woodland/mallee	51164	8.53	0.0167
1023 – HYDEN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba*, *Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris*, *Eucalyptus oleosa*. Riverine;	57479	1.66	0.0029
519 – HYDEN	Eucalypt shrubland *Eucalyptus eremophila*, *Eucalyptus redunca*, *Eucalyptus* spp.	54366	2.12	0.0039

2.2.3 Threatened and priority ecological communities

The desktop search results indicate two threatened ecological community (TECs) are recorded within the site. The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) and Protected Matters Search Tool (PMST) identified one TECs as likely to occur near the survey areas. A larger search area (50 km maximum) was used due to the multiple Study areas being spread apart.

Threatened ecological communities (TECs) are ecological communities that are recognised as rare or under threat and therefore warrant special protection. Selected TECs are afforded statutory protection at a Commonwealth level under Section 181 of the EPBC Act. Any action likely to have a significant impact on a community listed under the EPBC Act requires approval from the commonwealth minister for the DCCEEW.

TECs are also listed within Western Australia under Sections 27(1) and 33 of the *Biodiversity Conservation Act 2016* (BC Act) and under the *Biodiversity Conservation Regulations* (BC Regulations). Their conservation significance is also acknowledged through other state environmental approval processes such as 'environmental impact assessment' pursuant to Part IV of the *Environmental Protection Act 1986* (EP Act) and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

The database searches identified the conservation significant ecological community as the Eucalypt Woodlands of the Western Australian Wheatbelt, listed as a Critically Endangered TEC under the EPBC Act and P3 PEC and Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal plain by DBCA are described in Table 2.3.

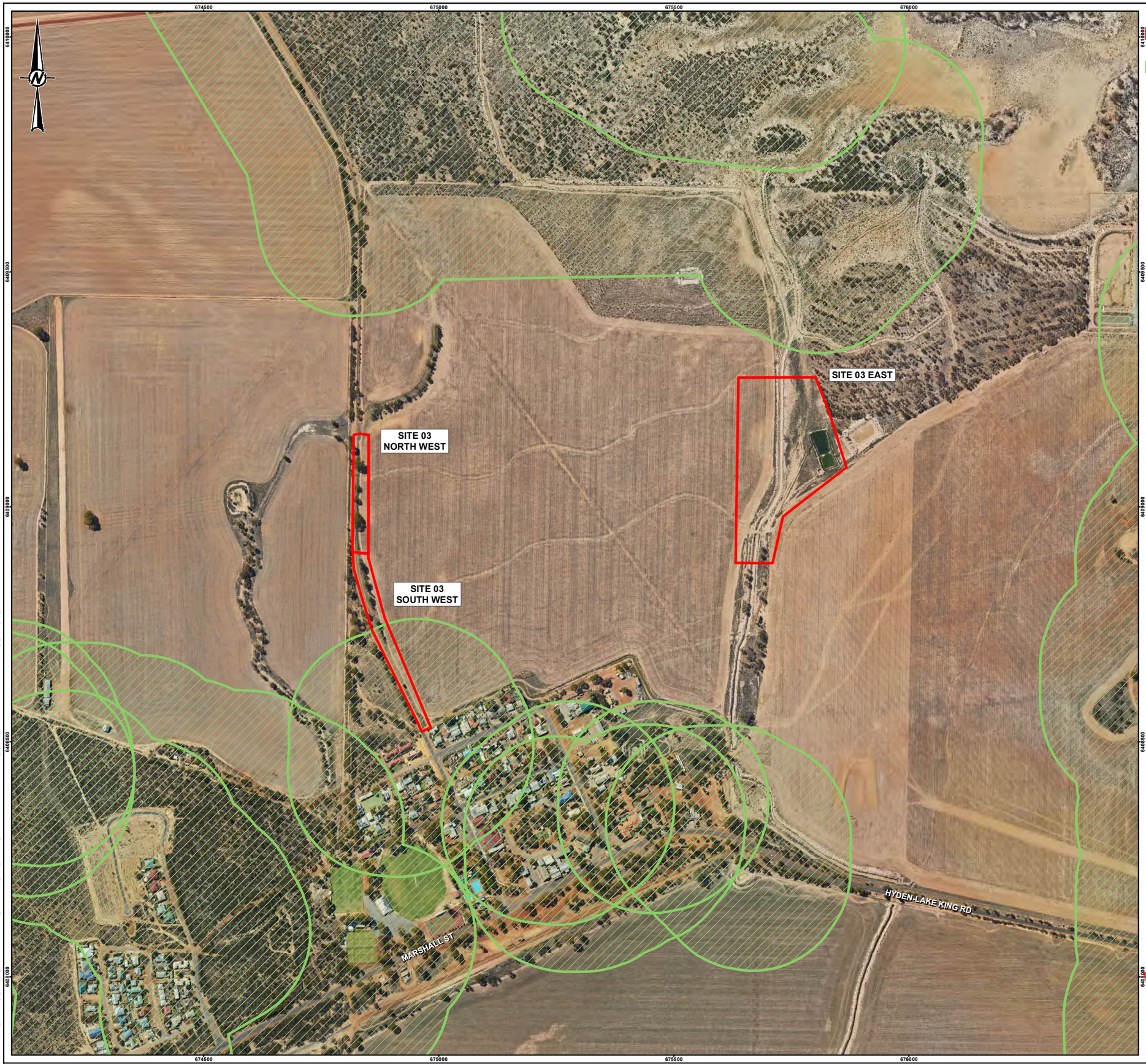
Table 2.3 TECs likely to occur within the region

Community name	TEC/PEC	Level of significance	
		EPBC Act	State
Eucalypt Woodlands of the Western Australian Wheatbelt	TEC	Critically Endangered	Priority 3

2.2.3.1 Eucalypt Woodlands of the Western Australian Wheatbelt

Eucalypt Woodlands are situated on the flatter landscapes and lower rises of the Wheatbelt. The woodlands are dominated by a complex mosaic of several eucalypt species with a tree or mallee form over a highly variable understorey (DWER 2023). Eucalypt Woodlands of the Western Australian Wheatbelt, listed as Critically Endangered under the EPBC Act (effective as of the 4th December 2004) (DCCEEW 2024d). The Eucalypt species that dominate or co-dominate the WA Wheatbelt Woodlands ecological community are based on the floristic classification of wheatbelt woodlands by Harvey and Keighery (2012). Other eucalypt species may be present in association with these key species but do not occur as dominant or co-dominant species in WA Wheatbelt Woodland.

Woodlands dominated by a mallee form or vegetation with a very sparse eucalypt tree canopy (less than 10%) are not part of the TEC. Nor are woodlands that have the same key eucalypt species but occur in adjacent bioregions (e.g., Coolgardie, Esperance Sandplains, Yalgoo, and Geraldton Sandplains bioregions). Woodlands dominated by eucalypts restricted to granite outcrops and rocky rises are also removed from this TEC (DWER 2024).

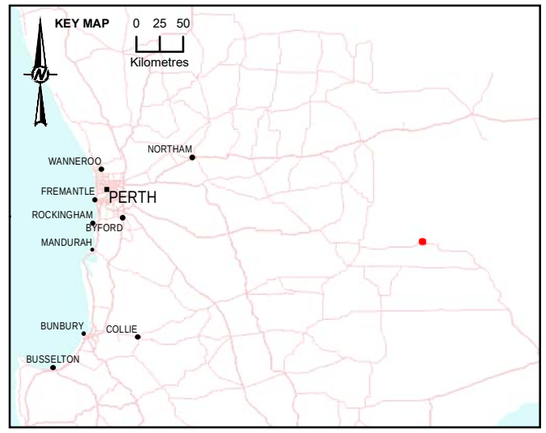


LEGEND

SURVEY AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 250 500

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

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Figure 2.1 Ecological communities

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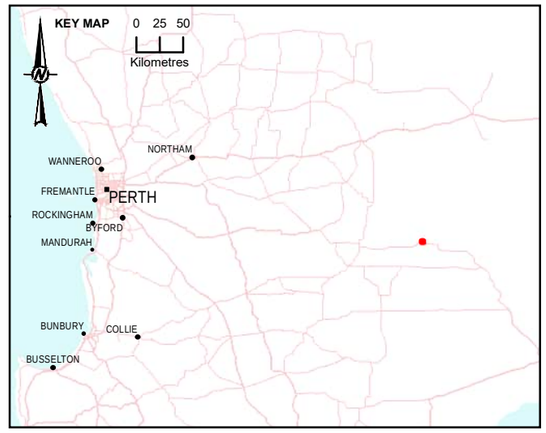
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SURVEY AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



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NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
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PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

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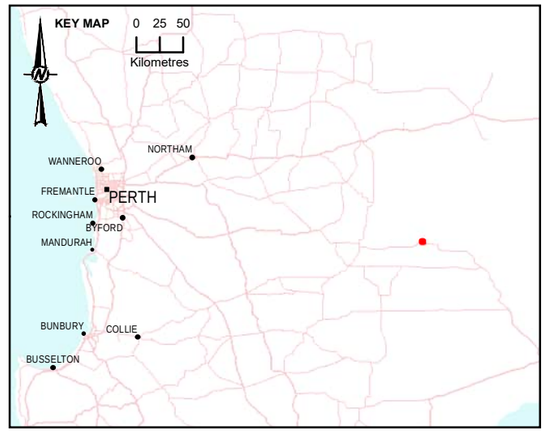
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SURVEY AREA



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1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
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CORRIGIN-KONDININ RD

INTERSECTION 14A

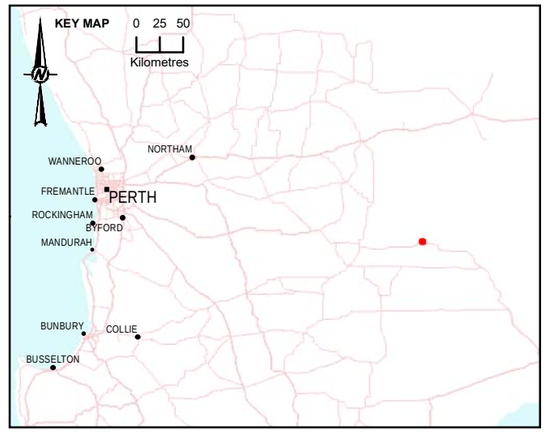
CORRIGIN-KULIN RD

LEGEND

SURVEY AREA

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 190 380

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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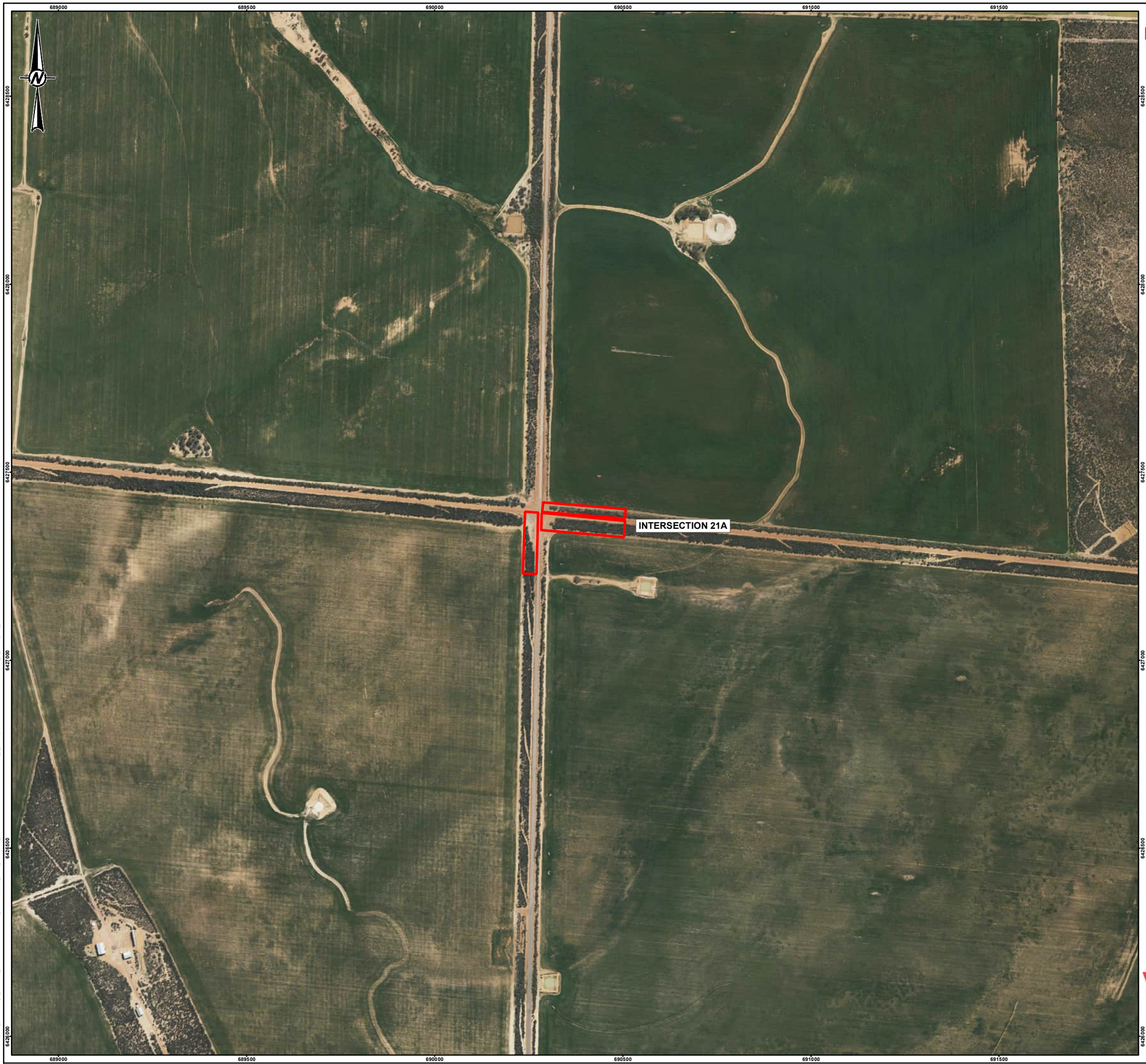
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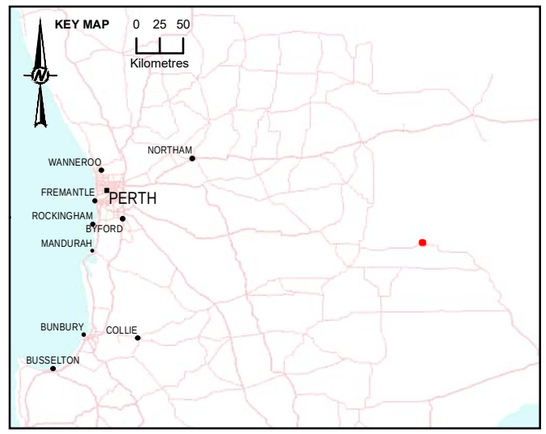
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LEGEND

SURVEY AREA



0 320 640

1:10,000 METRES

NOTE:
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REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2025-03-05
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2.2.4 Environmentally sensitive areas

Environmentally sensitive areas (ESA) are prescribed under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* and have been identified to protect native vegetation values and areas of interests, such as significant wetlands, threatened flora, threatened communities and Bush Forever sites. Within an ESA none of the exemptions under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* apply to the Project. Eucalypt Woodlands of the Western Australian Wheatbelt intersects with one accommodation site and five intersection and Tuart woodlands and forests of the Swan Coastal plain intersects with one intersection survey area.

3 Survey methodology

The flora and vegetation field survey was conducted by Associate Ecologist Roger Dharmarajan (Flora Permit FB62000412). Survey was undertaken between 26 – 28 March 2024. The survey was undertaken in accordance with the requirements outlined in the approved scope of work.

3.1 Flora

3.1.1 Desktop assessment

3.1.1.1 Database searches

State and Commonwealth database searches were conducted to identify listed significant flora within, and near, the survey area. Desktop assessment was conducted prior to the field survey and the results were interpreted to provide context to the potential values and threats associated within the survey area. The Australian Government PMST and the Department of Biodiversity, Conservation and Attractions (DBCA) database search conducted within the area of the shapefile provided by SynergyRED with an additional 50 km buffer for survey area.

ESA are declared by the Minister for Environment under Section 51B of the Environmental Protection Act to prevent incremental degradation of important environmental values such as declared rare (Threatened) flora, threatened ecological communities or significant wetlands. A search for ESAs in the vicinity of the survey area was conducted using Commonwealth and Western Australian government datasets (Department of the Environment and Energy 2008, 2018, Department of the Environment 2015, Department of Biodiversity, Conservation and Attractions 2017).

3.1.1.2 Likelihood of occurrence assessment – significant flora

Prior to conducting the field survey, aerial imagery was interpreted to identify potential habitat types within and surrounding the survey area. Preferred habitat information for each significant flora species was also compiled using publicly available information from FloraBase (Western Australian Herbarium 2023 and 2024) and Western Australian Herbarium (WA Herbarium) voucher information (obtained using Level 5 access on FloraBase). The distance of the survey area to the nearest records of significant flora was calculated using GIS software and the coordinates provided with database results. The significant flora species returned from the database searches (Appendix A) were then categorised according to the criteria in Table 3.1 for potential occurrence within the survey area.

Table 3.1 Likelihood of occurrence

Likelihood of occurrence	Criteria
Recorded	Species previously recorded within the survey area.
Likely	Species previously recorded within 10 km of the survey area and suitable habitat appears to be present in the survey area.
Potential	Species previously recorded within 10 km to 20 km of the survey area and/or suitable habitat appears to be present in the survey area.
Unlikely	No known occurrence within 20 km of the survey area, and/or suitable habitat appears to be absent in the survey area.

Following the field survey, the significant flora species identified during the desktop assessment were again assessed to determine their likelihood of occurrence within the survey area. Post-field survey likelihood was primarily based on validating the presence (and thorough inspection) of suitable habitats within the survey area, combined with life form, habitat and flowering information for each flora species and site conditions.

3.1.2 Flora and vegetation survey

The methods adopted for the flora and vegetation survey were consistent with *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority, 2016b) and in accordance with the requirements outlined in the scope of works.

Information acquired during the desktop assessment assisted in the design of the field survey. Pre-survey planning involved an examination of aerial imagery to identify potentially different landforms, habitat and vegetation throughout the survey area. The entire survey area was traversed on foot during the field survey, targeting all significant flora species with the potential to occur. Where potential flora of significance was identified, a minimum of a 10 m radius of the surrounding area was also searched. Where any potential flora of significance was identified, the following information was collected:

- location – coordinates measured using a differential global positioning system unit with +/- 0.5 m accuracy (MGA50, GDA94)
- recorder and date – personnel involved in sampling that location and the survey date
- species – representative samples of all suspected significant species were collected for confirmation at the WA Herbarium
- species abundance – a count of the number of individuals, and
- photographs – an in-situ photograph was taken of each significant flora species.

3.1.2.1 Taxonomy and nomenclature

A specimen of each potential significant flora species recorded in the field was collected for confirmation identification. Specimens were initially identified by the ecologist in the field and subsequently taken to the WA Herbarium for confirmation. The assigned nomenclature is consistent with the current listing of scientific names recognised by the WA Herbarium.

3.1.2.2 Vegetation condition

Vegetation in the survey area were assessed on a scale of 'Completely Degraded' to 'Pristine' using the Keighery (1994) condition rating system. This scale is, as outlined in EPA (2016) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment*, as follows:

Pristine:	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Excellent:	Areas of vegetation where no exploration or drill tracks encroach, typically at least 20m distant from tracks.
Very Good:	Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging, and grazing.
Good:	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback, and grazing.
Degraded:	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback, and grazing.
Completely Degraded:	These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

3.1.2.3 Limitations

Following completion of the desktop assessment and field surveys, a review of any limitations that may have affected a complete assessment of the survey area was conducted. The limitations listed in Table 3.2 are based on those suggested as considerations in *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016b).

Table 3.2 Potential flora and vegetation survey limitations

Potential limitation	Limitation (none/minor/ requires consideration)	Statement regarding potential limitations
Availability of contextual information at a regional and local scale	None	Broad-scale contextual information is available from Beard (1979, 1980b, 1980a, 1990), Beecham (2001) and several Commonwealth and State government departments.
Scope (i.e., what life forms, etc., were sampled)	None	Vascular flora, and weeds, which were the focus of the present survey, were thoroughly sampled and assessed.
Competency/experience of the team carrying out the survey, including experience in the bioregion surveyed	None	The ecologist responsible for undertaking the field surveys has significant experience in conducting flora and vegetation surveys throughout Western Australia, including the Mallee bioregion.
Proportion of flora/fauna recorded and/or collected, any identification issues	None	Adequate time was allowed for a thorough search of the survey area. All specimens collected were able to be identified to species level and confirmed in the WA Herbarium.
Was the appropriate area fully surveyed (effort and extent)	None	The survey area was adequately surveyed for the presence and abundance of significant flora species. Sufficient time was provided to allow a thorough search for the survey area. Track logs demonstrate site coverage.
Access restrictions within the survey area	None	The entirety of the survey area was able to be accessed by vehicle and traversed by foot.
Proportion of flora collected and identified (based on sampling, timing, and intensity)	None/Minor	Survey was conducted outside the optimum survey period, however botanist was familiar with conservation significant taxa in the vegetation surrounding the survey area. However, some plants were sterile and may impact the chance of identification of some specimens to species level.
survey timing, rainfall, season of survey	None/Minor	The EPA (2016b) recommends that flora and vegetation surveys in the Mallee and Avon Wheatbelt bio regions should be undertaken after the main rainfall period in the winter months.
Disturbance that may have affected the results of survey such as fire, flood or clearing	None	This disturbance did not limit the outcomes of the survey. There was no evidence of recent fire, floods or clearing in the survey area.

3.2 Fauna

3.2.1 Fauna desktop assessment

Prior to the commencement of the fauna field survey, a desktop assessment was undertaken to identify relevant environmental information pertaining to the survey area and to assist in survey design. The desktop assessment involved a review of:

- DBCA NatureMap database for fauna species previously recorded within the subject land (DBCA, 2024) (Appendix B).

- Review of DBCA threatened fauna database (Appendix C).
- DCCEEW Protected Matters Search Tool (PMST) to identify communities and species listed under the EPBC Act (DCCEEW, 2024) (Appendix C).
- Conservation code definitions are included in Appendix D.

3.2.2 Targeted survey

The EPBC, PMST and the DBCA Threatened Fauna Database searches identified three species of Black Cockatoo may occur within the survey area. Based on the desktop assessment and based upon the vegetation types/habitat within the survey area and the range of conservation significant fauna, a targeted survey for the following three species of black cockatoos was conducted:

- *Calyptorhynchus banksii naso* – Forest red-tailed Black Cockatoo;
- *Calyptorhynchus baudinii* – Baudin's Cockatoo; and
- *Calyptorhynchus latirostris* – Carnaby's Cockatoo.

3.2.3 Fauna field survey

3.2.3.1 Fauna habitat assessment

A fauna habitat assessment was undertaken to document the type, condition, and extent of habitats within the survey area. Vegetation, landform, and soil units present at the subject land were used to define broad fauna habitat types. The information below was recorded:

- habitat structure, e.g., vegetation type, presence/absence of structural layers such as ground cover and mid-storey.
- presence/absence of refuge including density of ground covers, fallen timber (coarse woody debris), hollow-bearing trees and stags and rocks/boulder piles, and the type and extent of each refuge.
- presence/absence of waterways including type, extent and habitat quality within any waterway.
- location of the habitat within the survey area in comparison to the habitat within the surrounding landscape.
- habitat connectivity and identification of wildlife corridors within and immediately adjacent to the survey area
- current land use and disturbance history.
- evaluation of key habitat features and types identified during the desktop assessment relevant to fauna of conservation significance.
- evaluation of the likelihood of occurrence of conservation significant fauna within the habitat (based on presence of suitable habitat) and
- vegetation condition based on Keighery (1994).

3.2.3.2 Black cockatoo habitat assessment

Habitat used by black cockatoos can be categorised as Breeding, Foraging and/or Night Roosting Habitat (Department of Agriculture, Water and the Environment, 2022) as presented in Table 3.3 and following commentary.

Table 3.3 Habitats used by black cockatoos

Habitat	Baudin's	Carnaby's	Forest red-tailed
Breeding	Generally, in woodland or forest, but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Karri (*Eucalyptus diversicolor*), Marri (*Corymbia calophylla*), Wandoo (*E. wandoo*) and Tuart (*E. gomphocephala*).	Generally, in woodland or forest, but also breeds in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Salmon Gum (*E. salmonophloia*), Wandoo, Tuart, Jarrah (*E. marginata*), Flooded Gum (*E. rudis),* York Gum (*E. loxophleba* subsp. *loxophleba*), Powderbark (*E. accedens*), Karri and Marri.	Generally, in woodland or forest, but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Marri, Karri, Wandoo, Bullich (*E. megacarpa*), Blackbutt (*E. patens*), Tuart and Jarrah.
Night roosting	Generally, in or near riparian environments or other permanent water sources. Tall trees that may provide roosting habitat, particularly, Jarrah, Marri, Flooded Gum, Blackbutt (*E. patens*), Tuart, and introduced eucalypts including Blue Gum (*E. globulus*) and Lemon Scented Gum (*Corymbia citriodora*).	Generally, in or near riparian environments or natural and artificial permanent water sources. Tall trees that may provide roosting habitat, particularly Flat-topped Yate (*E. occidentalis*), Salmon Gum, Wandoo, Marri, Karri, Blackbutt, Tuart, introduced *Eucalyptus* species (for example Blue Gum) and introduced Pines.	Tall trees that may provide roosting habitat, particularly Jarrah, Marri, Blackbutt, Tuart and introduced Eucalypt trees within or on the edges of forests.
Foraging and common food items	Primarily seeds of Marri, rarely Jarrah, in woodlands and forest, and seeds of native proteaceous plant species (for example, Banksia spp. (includes Dryandra spp.) and Hakea spp.). During the breeding season feed primarily on native vegetation, particularly Marri (seeds, flowers, nectar and grubs). Also, insects and insect larvae; pith of Kangaroo Paw (*Anigozanthos flavidus*); tips of *Pinus* spp.; *Macadamia* spp., almonds and pecans; seeds of apples and pears; and persimmons.	Native shrubland, kwongan heathland and woodland on seeds, flowers and nectar of native proteaceous plant species (Banksia spp., Hakea spp. and Grevillea spp.), as well as Callistemon spp. and Marri. Also seeds of introduced species including Pinus spp., Erodium spp., wild radish, canola, almonds, macadamia and pecan nuts; insects and insect larvae; occasionally apples and persimmons; and liquidambar.	Primarily seeds of Jarrah and Marri in woodlands and forest, and edges of Karri forests, including Wandoo and Blackbutt. Forages on Allocasuarina cones, fruits of Snottygobble (*Persoonia longifolia*) and Mountain Marri (*C. haematoxylon*). Other less important foods include Blackbutt, Bullich, *Allocasuarina fraseriana*, Hakea spp., Tuart, Redheart Moit (*E. decipiens*) and Bushy Yate (*E. lehmanni*). Also, some introduced eucalypts such as River Red Gum (*E. camaldulensis*) and Rose Gum (*E. grandis*).

Source: Department of Agriculture, Water and the Environment (2022).

Foraging habitat is scored according to its ability to provide suitable food, its context in the landscape and the likelihood of black cockatoos using the area. The foraging quality will be scored using the criteria outlined in Table 3.4. To support the assessed habitat score, an overall appraisal of the habitat on the impact site including a 20km buffer is required to clearly explain and justify the score. This appraisal must include a discussion on the foraging habitat's proximity to other resources frequency of use of proximate sites, the degree of evidence and description of vegetation type and condition.

Table 3.4 Foraging quality scoring tool template

Starting Score		Budin's Cockatoo	Carnaby Cockatoo	Forest Red-tailed Black-Cockatoo
10		Start at a score of 10 if your site is native eucalypt woodlands and forest, and proteaceous woodland and heath, particularly Marri, within the range of the species, including along roadsides and parkland cleared areas. Can include planted vegetation. This tool only applies to sites equal to or larger than 1 hectare in size	Start at a score of 10 if your site is native shrubland, kwongan heathland or woodland, dominated by proteaceous plant species such as Banksia spp. (including Dryandra spp.), Hakea spp. and Grevillea spp., as well as native eucalypt woodland and forest that contains foraging species, within the range of the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. This tool only applies to sites equal to or larger than 1 hectare in size	Start at a score of 10 if your site is Jarrah or Marri woodland and/or forest, or if it is on the edge of Karri Forest, or if Wandoo and Blackbutt occur on the site, within the range of the subspecies, including along roadsides and parkland cleared areas. This tool only applies to sites equal to or larger than 1 hectare in size
Attribute	**Sub-tractions**	**Context adjuster**		
Foraging	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.
Connectivity	-2	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.
Proximity to breeding	-2	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat
Proximity to roosting	-1	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat
Impact from significant plant disease	-1	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50%of the preferred food plants present.	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50%of the preferred food plants present.

Source: Department of Agriculture, Water and the Environment (2022).

3.2.3.3 Black cockatoo breeding habitat

Assessment of black cockatoo breeding habitat involves the identification of all suitable breeding trees species within the survey area that have a diameter at breast height (DBH) of over 50 cm. Species such as Wandoo and Salmon Gums are considered potential habitat trees if the DBH is greater than 30 cm. If potential breeding trees are present, the DBH of each tree is measured using a pre-made gauge.

For the purposes of this survey, a tree containing a potential cockatoo nest hollow is defined as:

> *Any tree which is alive or dead that contains one or more visible hollows (cavities within the trunk or branches) suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows that had an entrance greater than about 12cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk, will be recorded as a 'potential nest hollow'. Identified hollows are examined using binoculars for evidence of actual use by black cockatoos (e.g., chewing around hollow entrance, scarring and scratch marks on trunks and branches). The calls of chicks were also listened for, if a suitable hollow is present.*

3.2.3.4 Black cockatoo surveys

The three species of Black cockatoo utilize various habitats throughout the year. Table 3.5 outlines the suggested times of year to conduct targeted Black Cockatoo surveys. Surveys for feeding debris can be conducted year-round, as the foraging debris will remain for up to two years.

Table 3.5 Timing for surveys for black cockatoos

Region	Baudin's Cockatoo	Carnaby's Cockatoo	Forest Red-tailed Black Cockatoo
Swan Coastal Plain	**Foraging habitat** – March to September **Breeding habitat** – may occur in southern Swan Coastal Plain *Note: unlikely to occur in the region.*	**Foraging habitat and night roosts** –January to July **Breeding habitat** –July to December *Note: some individuals inhabit year-round*	**Foraging habitat and night roosts** – any time of the year **Breeding habitat** – may occur in some locations containing suitable breeding tree species
Wheatbelt	**Breeding habitat and foraging habitat** in proximity – October to March *Note: possible on western margins*	**Breeding habitat and foraging habitat** in proximity - July to December *Note: some individuals occur year-round*	**Breeding habitat and foraging habitat** in proximity – year-round *Note: possible presence on margins*
Jarrah Forest	**Foraging habitat** – February/ March to September **Breeding habitat and foraging habitat** in proximity – August to January	**Breeding habitat and foraging habitat** in proximity – July to December	**Breeding habitat and foraging habitat** in proximity –April to June and August to October *Note: individual occur year-round*
South Coast	**Foraging habitat** – March to September **Breeding habitat and foraging habitat** in proximity – August to January	**Foraging habitat and night roosts** – January to July **Breeding habitat** – breeding activity is July through December	Breeding habitat and foraging habitat in proximity – at any time of the year in the forested areas of the region, with peaks in April to June and August to October

Source: Department of Agriculture, Water and the Environment (2022).

4 Results

4.1 Flora and vegetation

4.1.1 Desktop assessment

Database search results identified 37 significant flora species as potentially occurring within a 50 km radius of the survey area (DCCEEW 2023, DBCA 2023a, 2023b). This included:

- 3 threatened taxa
- 7 Priority 1 (P1) taxa
- 5 Priority 2 (P2) taxa
- 16 Priority 3 (P3) taxa, and
- 6 Priority 4 (P4) taxa.

All the significant flora were considered to have low potential to occur in the survey area due to the absence of suitable habitat and proximity of known locations to the survey area; however, 3 of these were considered 'likely' to occur (Appendix A).

4.1.2 Field survey

Five relevés were assessed within the survey area. The relevés were choose in areas of native vegetation in better condition within the survey area. This improved the robustness of the assessment by maximising the opportunity to detect conservation significant flora and to evaluate the presence of threatened ecological communities (TECs).

4.1.2.1 Flora summary

A total of 48 native and 6 non-native (weed) species were recorded within the survey area during the field survey, representing 17 families and 34 genera. The dominant families containing native taxa were Myrtaceae (19 taxa), Fabaceae (8 taxa), Poaceae (5 taxa) and Proteaceae (5 taxa each). A complete species list is provided in Appendix A.

4.1.2.2 Significant flora

No occurrences of threatened or priority flora species were recorded within the survey area. None of the threatened and priority flora species identified in the desktop assessment are considered likely to occur in the site due to lack of suitable habitat and/or because they were not recorded during the field survey. No locally or regionally significant flora species were recorded within the site. The likelihood of occurrence assessment is provided in Appendix C.

4.1.2.3 Threatened ecological communities

The Eucalypt Woodlands of the Western Australian Wheatbelt and Tuart Woodlands are located on the Swan Coastal Plain are listed as a PEC, pursuant to subsection (1) section 27 of the BC Act and is categorised as a Critically Endangered TEC under the EPBC Act by the Australian Government (DWER 2023).

TEC polygons mapped by the DBCA were found to be intersecting in two intersections (Intersection 11a and 14a) and in Site 3 (Accommodation Lot 192). The areas of vegetation assessed for their TEC potential were the remnant vegetation located between the cleared land which formed the road reserve (road running surface, road shoulder, drain, and associated clearing), and the fence line of adjacent farmlands or the contiguous bushland where no fence line was present.

TEC assessment sites are opportunistic in Eucalypt woodland and sites do not correspond to any potential TECs flagged by DBCA. Potential TECs supplied by DBCA were assessed in vegetation adjacent to the survey area where the road reserve had been previously cleared in the intersections. TEC assessment results are summarised in Table 4.1.

Table 4.1 TEC likelihood assessment results for potential TECs within the survey area

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
Site 03 (north-west)		Mallee	No	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus calycogona* subsp. *calycogona*	*Alysia bucxifolia* and *Senna artemisioides* subsp. *filifolia* open shruband over *Maireana brevifolia* and *Scaevola spinescens* Isolated samphire shrubs over **Avena barbata, *Vulpia myuros* and Poaceae sp. scattered grassland on sandy-loam flats.	Not present	Tree canopy is sparse	Not a TEC
Site 03 (south-west)		Mallee	Yes	*Eucalyptus camaldulensis* subsp. *obtusa*, *Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus calycogona* subsp. *calycogona*	*Alysia bucxifolia*, *Senna artemisioides* subsp. *filifolia* and *Exocarpos* aphyllus open shruband over *Maireana brevifolia* and *Scaevola spinescens* Isolated samphire shrubs over **Avena barbata, *Vulpia myuros* and Poaceae sp. scattered grassland on sandy-loam flats.	<10 trees per 0.5 ha	Tree canopy is sparse	Potential
Site 03 (east)		Mallee	No	No Vegetation	No vegetation	Not present	No vegetation	Not a TEC
Intersection 11a		Avon Wheatbelt	Yes	*Eucalyptus extensa*, *Eucalyptus capillosa* and *Eucalyptus ceratocorys*	*Acacia microbotrya*, *Acacia ligustrina* and *Callistemon glaucus* tall shrubland over *Melaleuca hamata*, *Melaleuca lanceolata* and *Melaleuca spicigera* open shrubland over *Atriplex semibaccata* Isolated clumps of chenopod shrubs.	<5 trees per 0.5 ha	Tree canopy is sparse	Potential
Intersection 12a		Mallee	No	*Eucalyptus loxophleba* subsp. *loxophleba*	*Acacia lasiocalyx* and *Eremophila drummondii* isolated shrubs over *Avena barbata* sparse grassland	Not present	Tree canopy is sparse	Not a TEC
Intersection 14a		Mallee	Yes	*Eucalyptus salmonophloia* and *Eucalyptus*	*Maireana brevifolia* and *Atriplex semibaccata* Isolated samphire shrubs over **Avena barbata*,	<5 trees per 0.5 ha	Tree canopy is sparse	Potential

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
				erythronema subsp. *erythronema*	**Vulpia myuros* and *Austrostipa elegantissima* sparse grassland on red-brown sandy-loam flats.			
Intersection 21a		Mallee	No	*Eucalyptus burracoppinensis*	*Callitris preissii*, *Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shrubland over *Gastrolobium bennettsianum* sparse samphire shrubland over *Arctotheca calendula* isolated forbs over *Lolium rigidum* and *Poaceae* sp. isolated grassland	Not present	Tree canopy is sparse	Not a TEC

4.1.2.4 Introduced flora

There were six weed species recorded during the survey within the relevé in the survey area:

- * *Avena barbata* (Bearded Oat)
- * *Dittrichia graveolens* (Stinkwort)
- * *Eragrostis curvula* (African Lovegrass)
- * *Solanum rostratum* (Buffalo Burr)
- * *Trifolium arvense* (Hare's Foot Clover) and
- * *Vulpia myuros* (Rat's Tail Fescue) (Appendix E).

None of the weed species recorded are listed as WoNS (Australian Weeds Committee 2012) or as a Declared pest plant in Western Australia (Department of Agriculture and Food Western Australia, 2016).

4.1.2.5 Vegetation communities

Based on the field survey and with the aerial, five vegetation communities were defined and mapped across the survey area. All the vegetation communities contain multiple native shrub species and non-native species with mostly poor to degraded condition. The remainder of the site was mapped as cleared as it comprises roads and bare soil with scattered non-native plants (Figure 4.1). A description of plant community and representative photographs is provided overleaf. Raw sample data is provided in Appendix F.

Table 4.2 Extent of vegetation communities within survey area

Locations	Vegetation Communities
Site 03 (Accommodation Site – northwest)	*Eucalyptus calycogona* subsp. *calycogona* and *Eucalyptus loxophleba* subsp. *loxophleba woodland* over *Alysia bucxifolia* and *Senna artemisioides* subsp. *filifolia* open shruband over *Maireana brevifolia* and *Scaevola spinescens* Isolated samphire shrubs over **Avena barbata, *Vulpia myuros* and Poaceae sp. scattered grassland on sandy-loam flats.
Site 03 (Accommodation Site – southwest)	*Eucalyptus camaldulensis* subsp. *obtusa, Eucalyptus calycogona* subsp. *calycogona* and *Eucalyptus loxophleba* subsp. *loxophleba woodland* over *Alysia bucxifolia, Senna artemisioides* subsp. *filifolia* and *Exocarpos aphyllus* open shruband over *Maireana brevifolia* and *Scaevola spinescens* Isolated samphire shrubs over **Avena barbata, *Vulpia myuros* and Poaceae sp. scattered grassland on sandy-loam flats.
Site 03 (Accommodation Site – east)	No Vegetation
Intersection 11a	*Eucalyptus extensa*, *Eucalyptus capillosa* and *Eucalyptus ceratocorys* low woodland over *Acacia microbotrya, Acacia ligustrina* and *Callistemon glaucus* tall shrubland over *Melaleuca hamata*, *Melaleuca lanceolata* and *Melaleuca spicigera* open shrubland over *Atriplex semibaccata* Isolated clumps of chenopod shrubs over **Avena barbata*, **Vulpia myuros* and *Austrostipa elegantissima* very open grassland on sandy-loam flats.
Intersection 12a	*Eucalyptus caesia, Eucalyptus tenera* and *Eucalyptus woodwardii* low woodland over *Allocasuarina campestris* and *Melaleuca hamata* sparse shruband over *Acacia enervia* subsp. *enervia, Melaleuca pungens* and *Melaleuca spicigera* low open shrubland over **Arctotheca calendula* Isolated forbs over **Eragrostis curvula, Austrostipa elegantissima* and **Avena barbata* isolated grassland on sandy-loam flats.

Locations	Vegetation Communities
Intersection 14a	*Eucalyptus salmonophloia* and *Eucalyptus erythronema* subsp. *erythronema* open forest over *Maireana brevifolia* and *Atriplex semibaccata* Isolated samphire shrubs over **Avena barbata*, **Vulpia myuros* and *Austrostipa elegantissima* sparse grassland on red-brown sandy-loam flats.
Intersection 21a	*Eucalyptus burracoppinensis* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Grevillea pterosperma* tall open shrubland over *Acacia lasiocalyx, Hakea meisneriana* and *Banksia laevigata* subsp. *fuscolutea* shruband over *Acacia enervia* subsp. *enervia, Melaleuca lateriflora* and *Persoonia coriacea* low open shrubland over **Lolium rigidum* and Poaceae sp. isolated grassland on sandy-loam flats.



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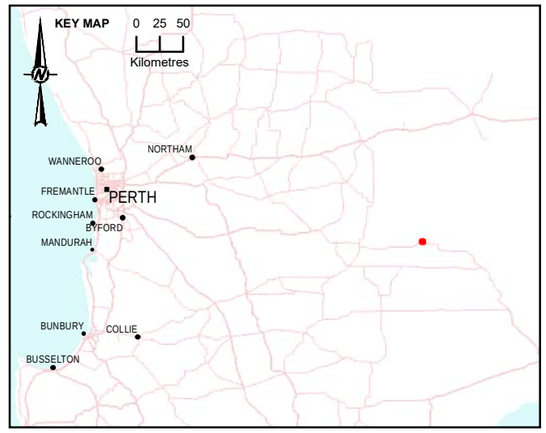
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VEGETATION MAPPING

EcEcaElAb - *Eucalyptus camaldulensis* subsp. *obtusa*, *Eucalyptus calycogona* subsp. *calycogona* and *Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Alysia bucxifolia, Senna artemisioides* subsp. *filifolia* and *Exocarpos aphyllus open* shruband over *Maireana brevifolia* and *Scaevola spinescens* Isolated samphire shrubs over **Avena barbata, *Vulpia myuros* and *Poaceae* sp. scattered grassland on sandy-loam flats.

NO VEGETATION

CLEARED



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REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

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PREPARED	JE
REVIEWED	RD
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Figure 4.1 Vegetation mapping

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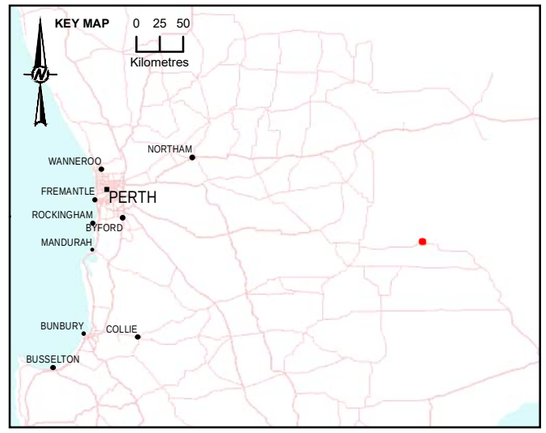
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SURVEY AREA

VEGETATION MAPPING

EeEcAlMl - *Eucalyptus extensa*, *Eucalyptus capillosa* and *Eucalyptus ceratocorys* low woodland over *Acacia microbotrya*, *Acacia ligustrina* and *Callistemon glaucus* tall shrubland over *Melaleuca hamata*, *Melaleuca lanceolata* and *Melaleuca spicigera* open shrubland over *Atriplex semibaccata* Isolated clumps of chenopod shrubs over **Avena barbata*, **Vulpia myuros* and *Austrostipa elegantissima* very open grassland on sandy-loam flats.

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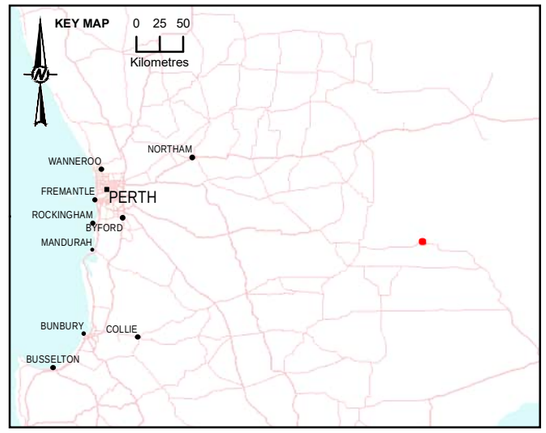
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SURVEY AREA

VEGETATION MAPPING

EcEtAcMp - *Eucalyptus caesia*, *Eucalyptus tenera* and *Eucalyptus woodwardii* low woodland over *Allocasuarina campestris* and *Melaleuca hamata* sparse shruband over *Acacia enervia* subsp. *enervia*, *Melaleuca pungens* and *Melaleuca spicigera* low open shrubland over **Arctotheca calendula* Isolated forbs over **Eragrostis curvula*, *Austrostipa elegantissima* and **Avena barbata* isolated grassland on sandy-loam flats.

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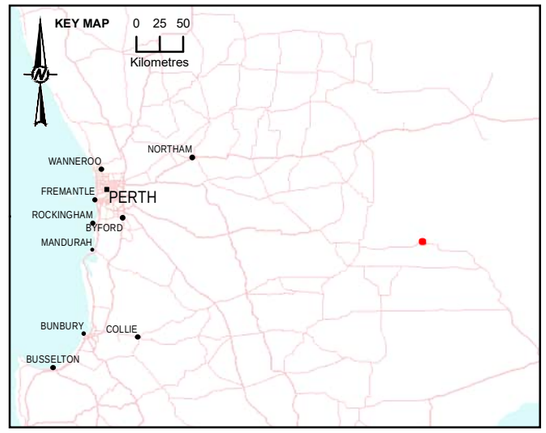
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SURVEY AREA

VEGETATION MAPPING

EsEeMbAs - *Eucalyptus salmonophloia* and *Eucalyptus erythronema* subsp. *erythronema* open forest over *Maireana brevifolia* and *Atriplex semibaccata* Isolated samphire shrubs over **Avena barbata*, **Vulpia myuros* and *Austrostipa elegantissima* sparse grassland on red-brown sandy-loam flats.

CLEARED



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KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

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6427500 6427400 6427300 6427200

INTERSECTION 21A

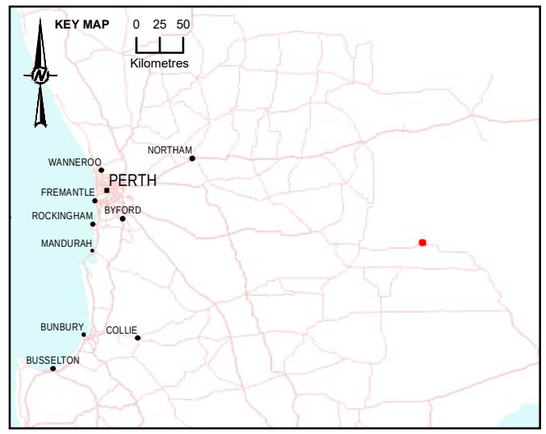
LEGEND

SURVEY AREA

VEGETATION MAPPING

<BOL>EbCpAaGp</BOL> - <ITA>Eucalyptus burracoppinensis</ITA> woodland over <ITA>Callitris preissii, Allocasuarina acutivalvis</ITA> and <ITA>Grevillea pterosperma</ITA> tall open shrubland over <ITA>Acacia lasiocalyx</ITA>, Hakea meisneriana</ITA> and <ITA>Banksia laevigata</ITA> subsp. <ITA>fuscolutea</ITA> shruband over <ITA>... enervia</ITA> subsp. <ITA>enervia, Melaleuca lateriflora</ITA> and <ITA>Persoonia coriacea</ITA> low open shrubland over <ITA>*Lolium rigidum</ITA> and <ITA>Poaceae</ITA> sp. isolated grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	0	4.1.5

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

4.1.2.6 Vegetation condition

The Plant communities within the survey areas were mapped as being in 'good' condition as it contains native species diversity. The survey areas consisted of 13.67 ha of native vegetation (Table 4.1), of which 2.52 ha is mapped as good, 2.68 ha as degraded condition. Areas outside the native vegetation boundary within the survey areas, were comprised no native species consisted of 2.54 ha were mapped as 'completely degraded' condition (Table 4.1), in Figure 4.3.

Table 4.3 Extent of vegetation condition categories within survey area

Description	Survey Area (ha)	Survey Area (%)
Good	2.52	18.44
Degraded	2.68	19.59
Completely degraded	2.54	18.51
Cleared	5.948	43.46
Total	**13.67**	**100**



LEGEND

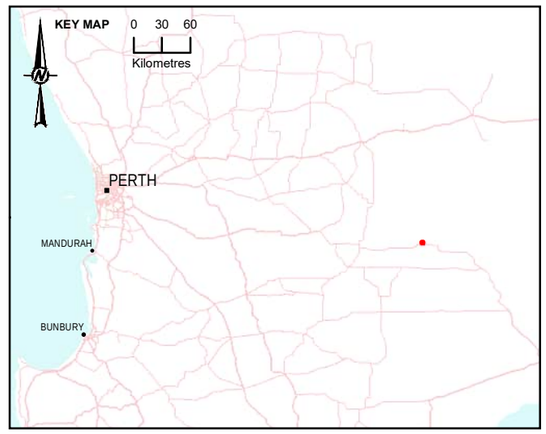
SURVEY AREA

CONDITION

DEGRADED

COMPLETELY DEGRADED

CLEARED



0 80 160

1:4,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-03-05
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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	0	4.2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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Figure 4.2 Vegetation condition mapping

592400

592500

6371900

6371800

INTERSECTION 11A

WILLIAMS-KONDININ RD

DUDININ-JITARNING RD

LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	0	4.2.2

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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607400
607500
607600
6384100
6384000
6383900

KULIN
JITARNING
KULIN RD
INTERSECTION 12A
WILLIAMS-KONDININ RD

LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH
MANDURAH
BUNBURY

0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	0	4.2.3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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597900
598000
598100
6408500
6408400
6408300

CORRIGIN-KONDININ RD

CORRIGIN-KULIN RD

INTERSECTION 14A

LEGEND

SURVEY AREA

CONDITION

GOOD

CLEARED

KEY MAP 0 30 60 Kilometres

PERTH

MANDURAH

BUNBURY

0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	0	4.2.4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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INTERSECTION 21A

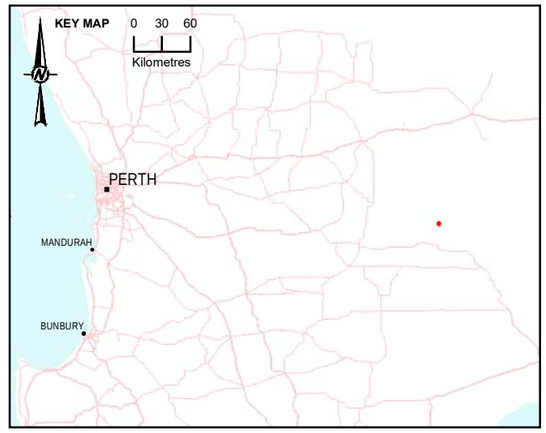
LEGEND

SURVEY AREA

CONDITION

GOOD

CLEARED



0 25 50

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	0	4.2.5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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4.2 Fauna

4.2.1 Desktop assessment

4.2.1.1 NatureMap results

The NatureMap database search identified 29 native fauna species within 50 km of the survey area including: 15 bird species, 9 species of mammals, four species of invertebrate, and one species of reptile. The species list is included in Appendix C.

4.2.1.2 Conservation Significant Fauna

The EPBC Act PMST and the DBCA Threatened Fauna Database (50 km buffer for survey area; Appendix B) was used to compile a list identifying potential the presence of habitat, or potential presence conservation significant fauna species (Appendix C). The list excludes those species that are exclusively marine or migratory. Consideration was given to the likelihood of the species being present based on mapped distribution, specimens formerly identified or presence of suitable habitat present.

Twelve conservation significant fauna were identified as possibly occurring in the survey area (Appendix C). Of these, the following four species were assessed as potentially occurring:

- *Leipoa ocellata* (malleefowl) Critically endangered: Possibly occurs – but unlikely to rely on habitat within the survey area.
- *Calyptorhynchus latirostris* (Carnaby's Cockatoo) Endangered*:* Likely to occur as foraging habitat is present in the survey area.

4.2.1.3 Limitations

The EPBC Act PMST is based on bioclimatic modelling for the potential presence of species. As such, the DCCEEW mapping does not represent actual records of the species in the area. The records from the DBCA searches of threatened flora and fauna provide more accurate information for the general area. However, some records of collections, sightings or trappings cannot be dated and often misrepresent the current range of threatened species.

4.2.2 Field survey

A summary of the fauna habitat types recorded within survey area is included in Table 4.4.

Table 4.4 Fauna habitat summary

Description	Survey area
Habitat Structure	*Eucalyptus salmonophloia* and *Eucalyptus erythronema subsp. erythronema* open forest over *Maireana brevifolia* and *Atriplex semibaccata* Isolated samphire shrubs over **Avena barbata*, **Vulpia myuros* and *Austrostipa elegantissima* sparse grassland on red-brown sandy-loam flats.
Presence or absence of refugia	Presence. However, open woodland and medium shrubland vegetation with fewer native understorey and more non – native understorey density along the roadside vegetation
Presence of absence of wetlands/waterways	No waterways were located during the site visits.

Description	Survey area
Habitat connectivity	The habitat was fragmented as the area surrounding the surveyed site is mostly cleared and roadside vegetation.
Current land use and disturbance	Survey areas were mostly in degraded condition and relatively disturbed.
Evaluation of likelihood of occurrence of conservation significant fauna	It is unlikely that the fauna of conservation significance would solely inhabit within the survey area
Vegetation/habitat condition	Good to completely degraded.
Photograph of habitat	

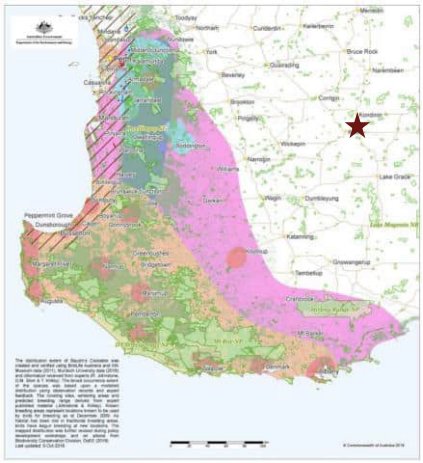


4.2.2.1 Targeted survey for Black Cockatoos

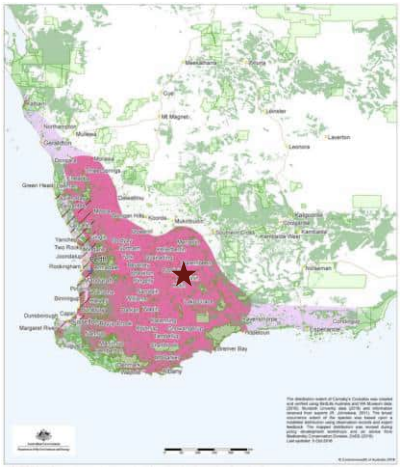
Distribution

Only one of the three species of Black Cockatoos, Carnaby Cockatoo (*Zanda latirostris*), has a range that overlaps with the within the survey area.

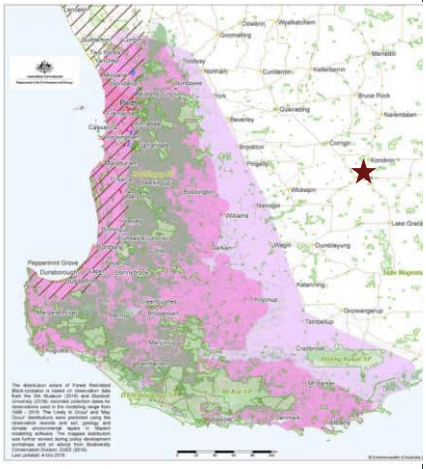
Table 4.5 Black Cockatoos distribution



Baudin's Cockatoo (*Zanda baudinii)*



Carnaby Cockatoo (*Zanda latirostris)*



Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii naso)*

★*Project site*

Source: Department of Agriculture, Water and the Environment (2022).

Within the survey area, some parts been previously cleared and therefore hold no habitat value. The remaining vegetation within the survey is dominated with *Eucalyptus* spp. open woodland over *Allocasuarina* sp., *Acacia* sp., *Melaleuca* sp., *Calothamnus* sp., *Hakea* sp. The survey area overlaps habitat that has been identified as containing known breeding habitat, such as Salmon Gums that had a DBH greater than 30cm and contains *Banksia* species.

During the survey it was determined the sites contain vegetation that is associated with Carnaby's Cockatoo habitat such as salmon gum. Carnaby's Cockatoos are known to utilize these species as breeding habitat and for general foraging. Carnaby's Cockatoos forage upon the nectar of *Banksia* spp. and *Grevillea* spp.Table 4.5. Habitat values of the survey area are summarised in Table 4.6.

Table 4.6 Foraging value scores

Foraging Attribute	Site score	Justification
Forage potential	10 – 2 = 8	There was no evidence of feeding debris within the survey area, during the site visit
Connectivity	8 – 0 = 8	Known foraging habitat is located within the sites, and in the surrounding areas.
Proximity to breeding	8 – 0 = 8	The site is located within known Carnaby cockatoo breeding sites (SLIP Locate, 2024).
Proximity to roosting	8 – 2 = 6	The site is located 65km from known Black Cockatoo roosting sites (SLIP Locate, 2024).
Impact from significant plant disease	6 – 0 = 6	No plant diseases were found on site.
Final Score	6	Likely to require referral to the minister

Source: Department of Agriculture, Water and the Environment (2022).

The final foraging value is 6. A score of 6 suggests the site provides high-quality native foraging habitat that has the potential to provide significant foraging value and is critical to the survival of any of the species. Although no signs of foraging were observed during the site survey the surrounding area is considered to be high-value habitat, and Carnaby's Cockatoos may utilize the survey area as a refuge between flying to other habitat areas.

Referral requirement

Referral to the Minister for the Environment under the EPBC Act is required if the proposed works are likely to have a significant impact on Carnaby's Cockatoos. There are five attributes that the site is assessed against to determine if the project will require a referral. The referral thresholds regarding this site are outlined in Table 4.7.

Table 4.7 Referral thresholds for black cockatoos

Attribute	Referral threshold	Apply to the project
Breeding	Any loss of/impact upon known, suitable or potential nesting trees, and the habitat around these trees, is highly likely to require a referral to the minister.	No
High-quality native foraging habitat	Loss of greater than or equal to 1 ha of foraging habitat scoring 5–10 using the foraging quality scoring tool is likely to require referral to the minister	Possible
Lower-quality native foraging habitat	Loss of greater than or equal to 10 ha of foraging habitat scoring 0–4 using the foraging quality scoring tool is likely to require referral to the minister.	No
Exotic foraging habitat	Loss of greater than or equal to 1 ha of predominantly exotic habitat (e.g., Cape Lilac trees and pine trees) known to be utilised by Black Cockatoos is likely to require a referral to the minister.	No
Night roosting habitat	Removal of any part of a known night roosting site is likely to require referral to the minister	No

Source: Department of Agriculture, Water and the Environment (2022).

It is likely that a referral will be required for this site as the surveyed area had a foraging habitat score of 6, deeming the site to be a high-quality native foraging habitat.

4.2.2.2 Fauna habitat and revised likelihood assessment

The habitat for Malleefowl (*Leipoa ocellata*) may not be suitably present within the survey area due to its small and fragmented nature mainly around the intersections, subject to periodic heavy vehicle traffic within its bounds, this species is unlikely to be more than a seasonal visitor attracted by spilled grain, if at all. Malleefowl was considered as having a high likelihood of occurring based on the desktop assessment; this likelihood has been revised to low following the field survey.

Most habitat within the survey area is not suitable for all three species of Black Cockatoo as less suitable large trees that could be used for roosting are not present (except Intersection 12a and 14a). All three Black Cockatoo's were considered as having a high likelihood of occurring based on the desktop assessment; this likelihood has been revised to Low following the field survey. All the trees recorded in the survey area were summarised in Appendix G

Small native mammals are unlikely to be present due to the small and fragmented nature of the available habitat. Cats are likely present in the area, however no evidence of cats was observed during the daytime field surveys undertaken.

674700 674800 674900 675000 675100 675200 675300 675400 675500 675600 675700 675800

6409400 6409300 6409200 6409100 6409000 6408900 6408800 6408700 6408600 6408500 6408400

SITE 03
NORTH WEST

SITE 03
SOUTH WEST

SITE 03 EAST

LEGEND

SURVEY AREA

TREE SPECIES

- *Eucalyptus calycogona* subsp. *calycogona*
- *Eucalyptus camaldulensis* subsp. *obtusa*
- *Eucalyptus capillosa*
- *Eucalyptus salmonophloia*
- *Eucalyptus loxophleba* subsp. *loxophleba*

KEY MAP 0 30 60 Kilometres

PERTH
MANDURAH
BUNBURY

0 80 160
1:4,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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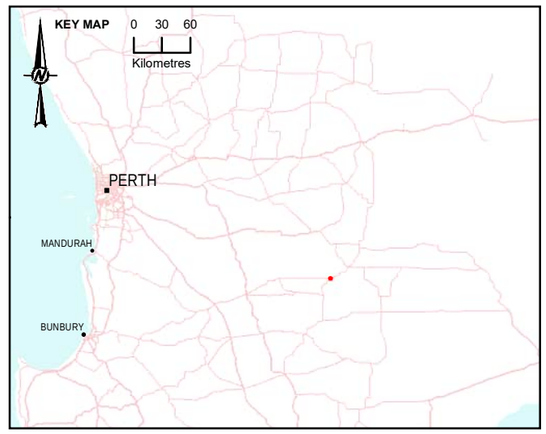
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Figure 4.3 Tree locations



LEGEND

SURVEY AREA



0 10 20

1:800 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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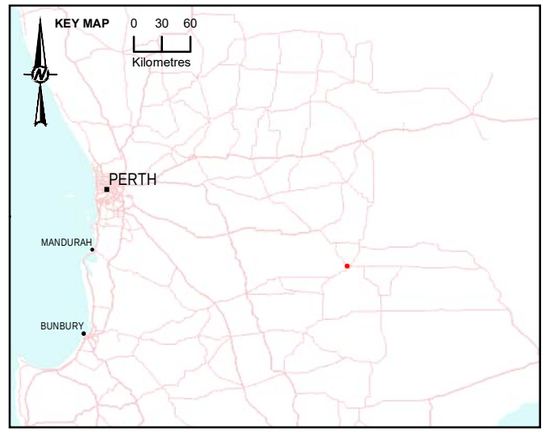


LEGEND

SURVEY AREA

TREE SPECIES

- *Eucalyptus caesia*
- *Eucalyptus camaldulensis* subsp. *obtusa*
- *Eucalyptus ceratocorys*
- *Eucalyptus loxophleba* subsp.*loxophleba*
- *Eucalyptus tenera*
- *Eucalyptus woodwardii*



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT
wsp

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	0	4.3.3

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CORRIGIN-KONDININ RD

INTERSECTION 14A

CORRIGIN-KULIN RD

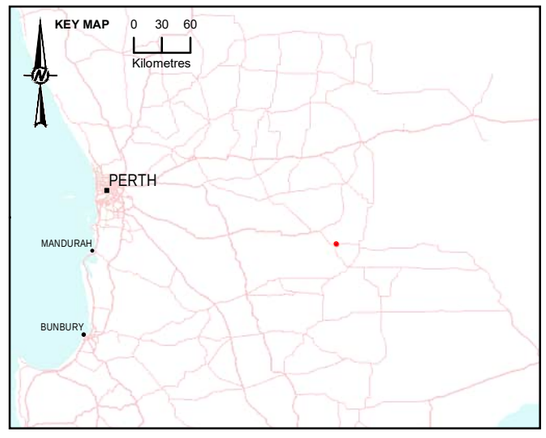
LEGEND

SURVEY AREA

TREE SPECIES

Eucalyptus erythronema subsp. *erythronema*

Eucalyptus salmonophloia



0 20 40

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2025-03-05
DESIGNED	RD
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REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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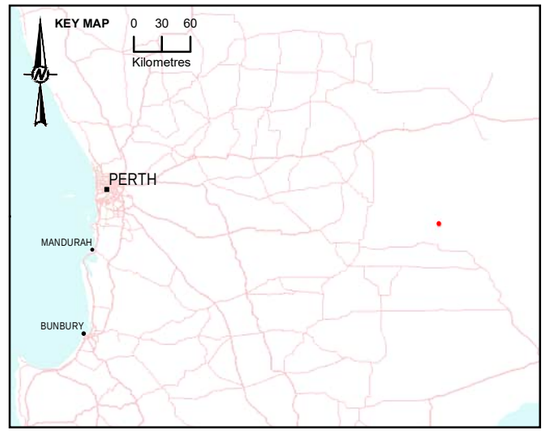
INTERSECTION 21A

LEGEND

SURVEY AREA

TREE SPECIES

Eucalyptus burracoppinensis



0 25 50

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
TREE LOCATIONS

CONSULTANT

YYYY-MM-DD	2025-03-05
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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4.2.2.3 Other conservation significant species

No evidence of other conservation significant species was identified in the survey area. Given the intersections on roadsides are relatively small survey area, potential impacts are considered minimal. Likewise, no wetland habitats are present within the survey area, therefore potential impacts on the listed birds associated with water bodies (sandpipers, Australasian Bittern, Australian Painted Snipe, and Common Greenshank) are also minimal.

4.2.2.4 Other species

Species that were detected as part of the survey are included in Table 4.8.

Table 4.8 Fauna species observed during survey

Species	Common name	Evidence
Mammals		
Macropus fuliginosus melanops	Western Grey Kangaroo	Scats (old)
Birds		
Barnardius zonarius	Australian Ringneck (Twenty-eight Parrot)	Sighted
Cacatua roseicapilla	Galah	Sighted
Columba livia	Feral Pigeon (introduced)	Sighted
Corvus coronoides	Australian Raven	Sighted
Gavicalis virescens	Singing Honeyeater	Heard
Grallina cyanoleuca	Magpie-lark	Sighted
Gymnorhina tibicen	Australian Magpie	Sighted
Hirundo neoxena	Welcome Swallow	Heard
Rhipidura leucophrys	Willie Wagtail	Sighted
Reptiles		
Tiliqua rugosa	*Blue-tongue Lizard*	Sighted

4.2.2.5 Limitations

The EPBC Act PMST is based on bioclimatic modelling for the potential presence of species. As such, the DCCEEW mapping does not represent actual records of the species in the area. The records from the DBCA searches of threatened flora and fauna provide more accurate information for the general area. However, some records of collections, sightings or trappings cannot be dated and often misrepresent the current range of threatened species.

Seasonal sampling has not been carried out as part of this fauna assessment. The conclusions presented are based on information from Western Australian and Commonwealth databases, field data, and the field survey carried out over a limited period of time. Therefore, the data and interpreted outcomes are considered indicative of the environmental conditions on the survey areas at the time of the field assessment. It is recognised that site conditions may change over time.

The EPA (2020) Technical Guidance *Terrestrial vertebrate fauna surveys for environmental impact assessment* requires fauna assessment reports contain a section describing the limitations of the survey methods used. The limitations and constraints associated with this field survey are discussed in Table 4.9. The survey effort has not been subject to any constraints which may affect the thoroughness of the assessment, and the conclusions that have been provided.

Table 4.9 Limitations

Aspect	Limitation	Comment
Sources of information and availability of contextual information	Nil	Adequate information is available for the survey area, this includes broad scale (1:250,000) mapping by Beard (1979) and digitised by Shepherd *et al*., (2002) and other information (DBCA database, NatureMap, ALA).
Scope (what life forms were sampled etc.)	Nil	Following desktop review and field surveys targeted conservation significant fauna unlikely to be present within the survey area.
Proportion of fauna identified, recorded and/or collected	Nil	Following desktop review, the fauna assessment was aimed at identifying habitat types and conservation significant terrestrial vertebrate fauna unlikely to be utilising the survey area.
Completeness and further work which might be needed (e.g., was the relevant area fully surveyed)	Nil	Adequate coverage of the survey area was undertaken.
Mapping reliability	Nil	Data was recorded in the field using hand-held GPS tools. Certain atmospheric factors and other sources of error can affect the accuracy of GPS receivers. The GPS units used for this survey was a hand-held GPS which is accurate to within ±4 metres on average. Therefore, the data points consisting of coordinates recorded from the GPS may contain slight inaccuracies.
Timing/weather/season/cycle	Nil	The survey was undertaken during March and the weather was fine.
Disturbances (e.g., fire, flood, accidental human intervention)	Nil	The survey area was partially disturbed but also contained vegetation in relatively intact condition.
Intensity (in retrospect, was the intensity adequate)	Nil	The survey area was sufficiently covered by foot during the survey.
Resources	Nil	Adequate resources were employed during the field survey.
Access restrictions	Nil	The survey area was accessed on foot.

5 Discussion

5.1 Flora and vegetation

The survey area consisted of a number of small parcels of bushland and previously cleared areas separated by roads and infrastructure. Flora, including native vegetation occurs across most of the site. The vegetation shows no evidence of alteration from fire, but this is not considered to be a sign of degradation. The vegetation recorded within the survey area were consistent with the historical mapping of Beard (1972 and 1990).

5.1.1 Threatened and priority flora

Based on background information, 37 significant flora species potentially occurring within a 50 km radius of the survey area (DCCEEW 2024, DBCA 2024a, 2024b) were considered to potentially occur within the survey area. No Threatened and Priority flora listed for protection under the Commonwealth EPBC Act or Western Australian BC Act were identified from the survey area. The field survey was undertaken outside the spring season. However, none of the conservation significant flora species were not recorded during traverses occurs within potentially suitable habitat.

5.1.2 Eucalypt Woodlands of the Western Australian Wheatbelt

Assessments of the potential Eucalypt woodlands of the Wheatbelt Threatened Ecological Community (TECs) were conducted primarily from the road reserve. Potential TEC (DBCA 2024c, 2024d, 2024e, 2024f and 2024g) that overlapped with the survey area often extended into the adjacent private property and could not be accessed due to lack of access. Some potential TECs were in good condition in the adjacent private land but were mostly in degraded condition within the survey area.

5.1.3 Plant communities

Five vegetation communities were identified and mapped across the survey area. The majority of survey area is situated on clay loam flats, supporting *Eucalyptus* open woodlands over *Acacia* shrublands over isolated forblands and sparse open grasslands. The identification of some of the species in these areas was problematic due to the absence of sufficient fertile material to enable accurate identification. Consequently, impacts resulting to identify key environmental issues and constraints associated with the Accommodation Lot (Sites) and proposed routes (Intersections) for delivering wind turbines from port to the windfarm would have a minimal impact on the vegetation present given that the open woodlands and species present are well represented both at the local and regional scale.

5.1.4 Vegetation condition

A significant portion 43% of the survey area did not have native vegetation as it corresponded with roads and was considered to be cleared in condition. Vegetation in good and completely degraded condition corresponded approximately 18 % and degraded condition vegetation corresponds approximately 20%. All of the weeds identified occur commonly in the agricultural region of Western Australia.

5.1.5 Invasive species

Six introduced species (weeds) were recorded from the survey area, all of which are common within the agricultural region of Western Australia. None of the weed species recorded are listed as WoNS (Australian Weeds Committee 2012) or as a Declared pest plant in Western Australia (Department of Agriculture and Food Western Australia, 2016). Assessment to identify key environmental issues and constraints associated with the Accommodation Lot (Sites) and proposed routes (Intersections) for delivering wind turbines from port to the windfarm is unlikely to significantly increase the weed cover or result in additional weed species in the survey area or its surrounds.

5.2 Fauna

5.2.1 Fauna habitat types

The desktop investigation identified 29 native fauna species within 50 km of the survey area including: 15 bird species, nine species of mammals, four species of invertebrate and one species of reptile. No conservation significant fauna species were recorded within the survey area, but potential habitat for Carnaby's Cockatoo species were observed.

The survey area contains no natural waterways or wetlands. No evidence of other conservation significant species was identified in the survey area. Likewise, no wetland habitats were identified within the survey area, therefore potential impacts on the listed birds associated with water bodies are considered minimal.

A habitat score of 6 (high-quality native habitat) was assigned to the survey area, indicating that a referral to the minister is likely required. This is mainly within Intersection 21a (presence of *Banksia laevigata* subsp. *fuscolutea* and *Banksia zygocephala*) and it is considered as most likely contain foraging habitat for Carnaby's Cockatoos.

5.2.2 Conservation significant fauna

No conservation significant fauna species were recorded. No potential conservation significant fauna identified in desktop assessments are considered to have a high likelihood of occurring, nor has habitat that has any particular significance to any species of conservation or other significance (not broken by roads and infrastructure) been identified within the survey area.

6 Conclusions

The key findings and considerations for Environmental Impact Assessment for the factor of Flora, Vegetation and Fauna Assessment are summarised as follows:

- No threatened or priority flora species were recorded within the survey area.
- No threatened or priority flora species are considered likely to occur.
- No conservation significant fauna species were recorded within the survey area.
- The survey area contains no natural waterways or wetlands, therefore potential impacts on the listed birds associated with water bodies are also minimal.
- Most of the habitat structure is situated on clay loam brown flats, comprising *Eucalyptus* sp. open forest over *Allocasurina* sp. and *Acacia* sp. shrublands over non-native flora species.
- From a preliminary review of Carnaby's habitat, if native vegetation clearing requirements are determined to be greater than or equal to 1 ha of foraging habitat and the score is more than 4 (as the score is 6), then a proposed development would need to be referred under the EPBC Act.

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Appendix A

Likelihood occurrence of conservation significant flora species within survey area

Taxon	Status BC Act	Status EPBC Act	Habitat
Acacia concolorans	Priority 2		Brown sandy clay over granite. Open mallee woodland.
Acacia deflexa	Priority 3		Light yellowish brown, fine sandy loam, well-drained.
Acacia lanei	Priority 3		Mid-slope along old drainage line. Red-brown sandy loam over granite. Low woodland over open scrub (Road verge).
Acacia obesa	Priority 3		Sandy soils.
Acacia sclerophylla var. teretiuscula	Priority 1		Dark brown clay. Open site with samphires on slightly elevated ground adjacent to a salt lake.
Acacia tuberculata	Priority 2		Disturbed site. Dry (stony), yellow/brown coarse granitic sands over granite/sandy clay loam. Graded road verge.
Acacia undosa	Priority 3		On causeway through low areas - near Salt Lake. The soil was not really saline as it was pushed up for the causeway.
Banksia rufa subsp. *chelomacarpa*	Priority 3		In sand and gravel.
Banksia rufa subsp. *flavescens*	Priority 3		Damp (rain), white-yellow sand over laterite. Land falling S and W.
Banksia shanklandiorum	Priority 4		Sandy creek. Damp yellow sand. Small stone conglomerate sheet.
Banksia sphaerocarpa var. dolichostyla	Threatened	Vulnerable	
Bossiaea atrata	Priority 3		Upland. Dry, brown sandy loam over clay.
Brachyloma elusum	Priority 2		
Chamelaucium sp. Parker Range (B.H. Smith 1255)	Priority 1		
Daviesia implexa	Priority 3		*E. loxophleba* scrub mallee.
Eremophila biserrata	Priority 4		Dry, brown coarse sand over fine clay on rise in saline swamp. Moderately drained subsaline flat sandy loam. Adjacent to Salt Lake.
Eremophila veneta	Priority 4		Mallee; degraded shrubland and introduced grasses.
Eucalyptus caesia subsp. *caesia*	Priority 4		Growing in damp granitic loam in pocket at top of valley, soil very shallow. Gentle, granite outcrop.
Eucalyptus eremophila subsp. *pterocarpa*	Priority 1		In *argillaceis*.
Eucalyptus ornata	Priority 3		Gently undulating, high in landscape. Brown sandy loam, some ironstone gravel overlying laterite.
Frankenia drummondii	Priority 3		Adjacent to Salt Lake. Dry, brown sand.
Grevillea asteriscosa	Priority 4		Undulating, top of rise; sandy soil with lateritic gravel and stony clay.
Grevillea scapigera	Threatened	Vulnerable	
Hibbertia sp. Bendering (J.W. Horn 4101)	Priority 1		Soil is laterite, with duricrust not far from the soil surface.
Melaleuca grieveana	Priority 1		Road verge with disturbed soil, light brown clay-loam on flat terrain. Medium trees, tall shrubland surrounds.
Myriophyllum petraeum	Priority 4		In rock pools on top of granite rock.
Phebalium brachycalyx	Priority 3		Flat plateau, dry, brown clay/loam over granite.

Taxon	Status BC Act	Status EPBC Act	Habitat
Prostanthera nanophylla	Priority 3		Near hilltop, dry yellow-light brown sand over banded laterite.
Pterostylis elegantissima	Priority 1		Inland wandoo, Mallee woodland. No sign of fire.
Rinzia torquata	Priority 3		SE slope. Damp (rain) yellow sandy creek below.
Roycea pycnophylloides	Threatened	Vulnerable	Salt Lake edge. White sand over moist grey-brown clay.
Stylidium rhipidium	Priority 3		Moist sandy soil at the base of granite rock.
Stypandra jamesii	Priority 2		Alluvial plain at the foot of the granite rocks. In deeper soil of fissures and edge of outcrop.
Verticordia setacea	Priority 2		Mainly gravel.
Verticordia stenopetala	Priority 3		Hillside, dry yellow sandy slope above creek.
Xanthoparmelia nashii	Priority 3		On granite rocks.
Xanthoparmelia subbarbatica	Priority 1		Outcrop-ridge, bare dry brown clay over granite

Appendix B

Fauna species list

CLASS	Scientific Name	Common Name	Count of Taxon
BIRD	*Cacatua pastinator pastinator*	Muir's corella	3
	Calyptorhynchus latirostris	Carnaby's cockatoo	105
	Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	12
	Falco peregrinus	peregrine falcon	1
	Leipoa ocellata	malleefowl	404
	Ninox connivens connivens (southwest subpopulation)	barking owl (southwest subpopulation)	2
	Pezoporus flaviventris	western ground parrot	1
	Platycercus icterotis xanthogenys	western rosella (inland)	2
	Tringa nebularia	common greenshank	1
INVERTEBRATE	*Branchinella simplex*	a fairy shrimp (inland WA)	1
	Daphnia jollyi	a water flea (inland south west)	5
	Parartemia contracta	a brine shrimp (Wheatbelt)	1
MAMMAL	*Dasyurus geoffroii*	chuditch, western quoll	10
	Isoodon fusciventer	quenda, southwestern brown bandicoot	1
	Macrotis lagotis	bilby, dalgyte, ninu	3
	Myrmecobius fasciatus	numbat, walpurti	7
	Notamacropus eugenii derbianus	tammar wallaby	1
	Notamacropus irma	western brush wallaby	8
	Phascogale calura	red-tailed phascogale, kenngoor	67
	Pseudomys occidentalis	western mouse	71
	Pseudomys shortridgei	heath mouse, heath rat, Dayang	2
REPTILE	*Paroplocephalus atriceps*	Lake Cronin snake	2

Appendix C

Likelihood of occurrence of conservation significant fauna within survey area

Appendix C: Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Cacatua pastinator pastinator (Muir's corella)		Critically Endangered	In Australia, Curlew Sandpipers occur around the coasts and are also quite widespread inland, though in smaller numbers. Records occur in all states during the non-breeding period, and also during the breeding season when many non-breeding one year old birds remain in Australia rather than migrating north. In Western Australia, they are widespread around coastal and subcoastal plains from Cape Arid to south-west Kimberley Division but are more sparsely distributed between Carnarvon and Dampier Archipelago. They occur in large numbers, in thousands to tens of thousands, at Port Hedland Saltworks, 80 Mile Beach, Roebuck Bay and Lake Macleod. They are rarely recorded in the north-west Kimberley, around Wyndham and Lake Argyle, and occasionally they occur inland, in areas south of 26° S. Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (http://www.environment.gov.au/cgi- bin/sprat/public/publicspecies.pl?taxon_id=856)	Highly Unlikely - unlikely to rely on the survey area.
Calyptorhynchus sp. (white-tailed black cockatoo)	Endangered	Endangered	This Cockatoo is found only in the south-west of Western Australia and generally bounded by the 750mm rainfall isohyet (Albany, Gidgegannup and up to Mundaring and inland to the Stirling Ranges and Boyup Brook). Breeding has been recorded between Nornalup, northward to near Bridgetown, Lowden and Harvey (Department of the Environment, 2021a). Habitat comprises heavily forested areas dominated by Marri and other Eucalyptus species (particularly Karri and Jarrah). The distribution of the species comprises 40,000km2 http://www.environment.gov.au/cgi- bin/sprat/public/publicspecies.pl?taxon_id=769).	Likely – however, foraging habitat not present within the project area.
Calyptorhynchus latirostris (Carnaby's Cockatoo)	Endangered	Endangered	Carnaby's Cockatoo is found in the south-west of Australia from Kalbarri through to Ravensthorpe. It prefers feeding on the seeds of *Banksia, Dryandra, Hakea, Eucalyptus, Grevillea, Pinus* and Allocasuarina spp. It is nomadic often moving toward the coast after breeding. The birds breed in tree hollows that are 2.5 – 12m above the ground and have an entrance 23-30cm with a depth of 1-2.5m. Nesting mostly occurs in smooth-barked trees (e.g., Salmon Gum, Wandoo, Red Morrell) (DSEWPaC, 2012).	Likely – however, foraging habitat present on the subject land.
Falco peregrinus (Peregrine Falcon)	Other specially protected fauna		The Peregrine Falcon is found in a variety of habitats but nests on high cliff ledges or artificial structures. It feeds primarily on small-medium sized birds, but occasionally taking insects, such as moths, cicadas and locusts (Birdlife, 2012).	Unlikely – may fly over but unlikely rely on the survey area.
Leipoa ocellata (Malleefowl)	Vulnerable	Vulnerable	The Malleefowl occurs in scrubland and woodland dominated by mallee and wattle species (Department of the Environment, http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=934).	Highly unlikely – Not suitable habitat in the survey area.

Appendix C: Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Dasyurus geoffroii (Chuditch, Western Quoll)	Endangered	Vulnerable	It is now largely restricted to the south-west of Western Australia, with small numbers in the Midwest, Wheatbelt and South Coast Regions. Historically, chuditch inhabited a wide range of habitats, but today it survives mostly in Jarrah Eucalyptus marginata forests and woodlands, mallee shrublands and heathlands (https://www.dpaw.wa.gov.au/images/documents/plants-animals/animals/animal_profiles/chuditch_fauna_profile.pdf).	Highly Unlikely - There have not been any records of Chuditch in the Survey area
Pseudomys shortridgei (Heath mouse, heath rat and Dayang)	Endangered	Endangered	Preferred vegetation type in southwest Australia is taller scrubland associated with mallee trees and climax heath assemblages in undisturbed areas	Highly unlikely - There are no records of the species for the Survey area
Isoodon fusciventer (Kwernt, Quenda, Southwestern Brown Bandicoot)	Priority 4	Not listed	Southern Brown Bandicoots are small grey marsupials that prefer dense scrub (up to one metre high), often in or near swampy vegetation. Their diet includes invertebrates (including earthworms, adult beetles and their larvae), underground fungi, subterranean plant material, and very occasionally, small vertebrates (Department of Environment and Conservation, 201 2). The preferred habitat for this species is scrubby, often swampy, vegetation with dense cover up to 1 m high	Highly Unlikely due to Limited distribution and lack of suitable habitat.
Notamacropus eugenii derbianus (Tammar wallaby)	Priority 4	Not listed	The species inhabits dense, low vegetation for daytime shelter and open grassy areas for feeding. This species inhabits coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland.The Tammar Wallaby is currently known to inhabit three islands in the Houtman Abrolhos group (East and West Wallabi Island, and an introduced population on North Island), Garden Island near Perth, Middle and North Twin Peak Islands in the Archipelago of the Recherche, and several sites on the mainland - including, Dryandra, Boyagin, Tutanning, Batalling (reintroduced), Perup, private property near Pingelly, Jaloran Road timber reserve near Wagin, Hopetoun, Stirling Range National Park, and Fitzgerald River National Park. The Tammar Wallaby remains relatively abundant at these sites which are subject to fox control (https://www.dpaw.wa.gov.au/images/documents/conservation- management/pests-diseases/tammar-wallaby_2012.pdf).	Highly Unlikely due to Limited distribution and lack of suitable habitat.
Notamacropus irma (Western Brush Wallaby)	Priority 4	Not listed	Preferred habitat is open forest or woodlands with seasonally wet sites and low vegetation. This species is often found in dry schlerophyll forests, such as jarrah, and areas of mallee and heathland scrub. It is rarely found in wet schlerophyll forests and is not found in ecosystems characterized by a thick understory, such as karri forests.	Highly Unlikely as the area of vegetation is relatively isolated in a highly cleared landscape.

Appendix C: Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Pseudomys occidentalis (Western Mouse)	Priority 4	Not listed	The distribution range once extended across Southwest Australia and into the arid interior, this became restricted to a few areas near the Ravensthorpe Range, at Fitzgerald River National Park, and several isolated populations in the southern wheatbelt. This mouse lives in loamy soils in areas that have not been burnt recently, and not known at any location that has been subjected to fire in the preceding 30 to 50 years. The terrain has climax vegetation, especially the desert quandong Santalum acuminatum and sedge-like plants. The substrate of the ecological communities in which they are known to remain is sandy or sandy-clay soil that is often intermixed with gravel. Plant genera associated with their remnant sites are Eucalyptus, Acacia, Isopogon, Allocasuarina and Melaleuca, and the vegetation of their habitat is highly variable, including open woodlands, low and tall shrubland, mallee and heath in open to dense arrangements of plants	Highly unlikely as the area lacking understory and is relatively isolated in a highly cleared landscape.
Phascogale calura (red-tailed phascogale, kenngoor)	Species of special conservation interest	Critically Endangered	This subspecies has been observed in dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover. It has a highly fragmented distribution across the southwest of WA (https://en.wikipedia.org/wiki/Brush-tailed_phascogale).	Highly unlikely to persist within the Survey area

Appendix D

Conservation code definitions



Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

THREATENED AND PRIORITY FLORA INFORMATION

Conditions with Respect to the Supply of Information

- The data supplied may not be provided to any other organisations, nor be used for any purpose other than for the project for which it has been originally provided for; without the prior consent of the Executive Director, Department of Biodiversity, Conservation and Attractions.
- Specific locality information for threatened flora is regarded as confidential, and should be treated as such by receiving organisations. Specific locality information for threatened flora may not be used in reports without the written permission of the Executive Director, Department of Biodiversity, Conservation and Attractions. Reports may only show generalised locations at a low resolution or, where necessary, show specific locations without identifying species. Species and Communities Branch is to be contacted for guidance on the presentation of threatened flora information.
- The Department of Biodiversity, Conservation and Attractions respects the privacy of private landowners who may have threatened and priority flora on their property. Threatened and priority flora locations identified in the data as being on private property should be treated in confidence, and contact with property owners must only be made through the Department of Biodiversity, Conservation and Attractions.
- The development of the Perth Herbarium database was not originally intended for electronic mapping (eg. GIS ArcView). The latitude and longitude coordinates for each entry are not verified prior to being data based. It is only in recent times that collections have been submitted with GPS coordinates. Therefore, be aware when using this data in GIS software that some records may not plot to the locality description given with each collection.
- Acknowledgment of the Department Biodiversity, Conservation and Attractions as the source of data is to be made in any published material and cited as Biodiversity, Conservation and Attractions (2018) Threatened and Priority Flora Database Search for [search area] accessed on the [date of search]. Prepared by the Species and Communities program for [Requesters name and company] for [purpose of search].
- Copies of all such publications are to be forwarded to the Department of Biodiversity, Conservation and Attractions, Attention; the Manager, Species and Communities program.

Disclaimers with Respect to the Supply of Information

- Receiving organisations should note that while every effort has been made to prevent errors and omissions in the data, they may be present. The Department of Biodiversity, Conservation and Attractions accepts no responsibility for this.
- Receiving organisations must also recognise that the database is subject to continual updating and amendment, and such considerations should be taken into account by the user.
- It should be noted that the supplied data does not necessarily represent a comprehensive listing of the threatened flora of the area in question. Its comprehensiveness is dependent on the amount of surveys carried out within a specified area. The receiving organisation should consider engaging a botanist, if required, to undertake a survey of the area under consideration.

Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

ABBREVIATIONS USED IN THREATENED AND PRIORITY FLORA DATABASE

VESTING

AAP	Aboriginal Planning Authority
AGR	Chief Executive, Dep. of Agriculture
ALT	Aboriginal Land Trust
APB	Agricultural Protection Board of WA
BGP	Botanical Gardens & Parks Authority
BSA	Boy Scouts Association
CC	Conservation Commission – NPNCA - LFC
CGT	Crown Grant in Trust
COM	Commonwealth of Australia
CRO	Crown Freehold-Govt Ownership
CRW	Crown
DAG	Dep. of Agriculture
DOW	Dep. of Water
DPI	Dep. of Planning
EXD	Exec Direc CALM
FES	Fire and Emergency Services Aust.
HOW	Dep. of Housing/State Housing Commission
ILD	Industrial Lands Develop. Auth
LAC	LandCorp
LGA	Shire/LGA
MAG	Minister for Agriculture
MCB	Metropolitan Cemeteries Board
MED	Ministry of Education
MHE	Minister for Health
MIN	Minister for Mines
MPL	Ministry for Planning
MPR	Minister for Prisons
MRD	Main Roads WA
MTR	Minister for Transport
MWA	Minister for Water Resources
MWO	Minister for Works
NAT	Natural Trust of Australia WA
NON	Not Vested
PLB	Pastoral Lands Board
PRI	Private/Freehold
RAI	Public Transport Authority
REL	Religious Organisation
SPC	State Planning Commission
SYN	Synergy (ex Western Power)
SWA	State of Western Australia
TEL	Telstra
UNK	Unknown
WAT	Water Corporation
WEL	Minister Community Welfare
WRC	Water & Rivers Commission
XPL	Ex-Pastoral Lease

PURPOSES

ABR	Aboriginal Reserve
ACC	Access Track
AER	Aerodrome
AIR	Airport
ARS	Agricultural Research Station
BAP	Baptist Union of WA
CAM	Camping
CAR	Caravan park
CEM	Cemetery
CFA	Conservation of Fauna
CFF	Conservation Of Flora & Fauna
CFL	Conservation of Flora
CHU	Church
CMN	Communications
COM	Common
CON	Conservation Park
CPK	Car Park
CRM	Conservation & Resource Management
DEF	Defence
DRA	Drain
EDE	Educational Endowment
EDU	Educational purposes
UWA	
ENE	Enjoyment of Natural Environ.
EPL	Ex-pastoral Lease (Sect 33(2) CALM Act)
EPS	Explosives
EXC	Excepted from sale
EXL	Exploration Lease
EXP	Experimental Farm
FIR	Firing Range
FOR	State Forest
FP	Foreshore Purposes
GE	General Lease
GHA	Grain Handling
GOL	Golf
GRA	Gravel Pit
GVT	Government Requirements
HAR	Harbour Purposes
HEP	Heritage Purposes
HER	Heritage trail
HOS	Hospital
KEN	Kennels
LGA	LGA/Shire Requirements
LPR	Landscape Protection
MIN	Mining lease
MUN	Municipal Purposes
NPK	National Park
NRE	Nature Reserve
OTH	Other
PAR	Parkland (& Recreation)
PAS	Pastoral lease
PCR	Proposed for Conservation
PFF	Protection of Flora & Fauna
PFL	Protection of Flora
PIC	Picnic ground
PLA	Plantation
PMC	Protection of Meteorite Crater
POS	Public Open Space
PPA	Public parkland
PRS	Prison site
PUR	Purchase Lease
PUT	Public Utility
QUA	Quarry
RAC	Racecourse
RAD	Radio Station
REC	Recreation
REH	Rehabilitation/Re-establish Native Plants
RRE	Railway Reserve
RUB	Rubbish
SAL	Saleyards
SAN	Sand
SCH	School-site
SET	Settlers requirements
SHO	Showgrounds
SNN	Sanitary
SOI	Soil Conservation
STO	Stopping place
STK	Stock Route
TIM	Timber
TOU	Tourism
TOW	Town-site
TRA	Training Ground
TRI	Trig station
UCL	Unallocated Crown Land
UNK	Unknown
VER	Road Verge
VPF	Vermin Proof Fence
WAT	Water
WLS	Wildlife Sanctuary
WOO	Firewood

Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

ABBREVIATIONS USED IN THE WESTERN AUSTRALIAN HERBARIUM DATABASE

Geocode Method - The method that was used to record the latitude and longitude.

Auto - Indicates that the coordinate data in the record was created automatically (i.e. by software), usually by creating a coordinate from information provided in the Nearest Named Place or Locality textual description fields.

GAP - Acronym for "Generalised Arbitrary Point" as used in HISPID. GAP indicates that the coordinate data was obtained manually from the Nearest Named Place or Locality textual description fields.

GPS - Acronym for "Global Positioning System". GPS indicates that the coordinate data in the record was obtained from a GPS unit by the collector of the specimen.

MAN - Shorthand for manual. MAN indicates that the coordinate data was created by hand using some method not allowed for by one of the other manual Geocode Method values, in particular, TOPO, GAP, or GPS.

TOPO - Shorthand for topographic map. TOPO indicates that the coordinate data was obtained by plotting textual locality details against a topographic map.

None - Indicates that no coordinate data has been supplied by the collector.

Unknown - Indicates that there is no known method for determining the coordinate data. Should be used if the collector provided no indication of how they sampled the specimen's coordinate data.

PREC (Precision) - precision ratings for coordinates.

Precision 1: Absolutely precise (to nearest 100m or nearest second) and must be GPS determined. For example 35°26'42"S 123°40'26"E

Precision 2: Falling within a diameter of 3km (ca 2 minutes) or if no GPS mentioned in collecting notes. (The location must be able to be pinpointed on a 1:250 000 map, a spot locality. For example 35°26'42"S 123°40'26"E

Precision 3: Falling within a diameter of 10km (ca 7 minutes) or for degrees and minutes, where seconds have not been given. For example 35°26'_"S 123°40'_"E

Precision 4: Falling within a diameter of ca 50km (30 minutes). For example 35°26'_"S 123°40'_"E

Precision 5: Where a location is a prescribed large geographical area within a state or only the state is given. Diameter is greater than 50km. For example 35°_'_"S 123°_'_"E

Precision 6: used when localities are New Holland, Eastern Australia or Not given. Fields will be left blank.

Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

CONSERVATION CODES

For Western Australian Flora and Fauna

Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016.*

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T **Threatened species**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).
Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.
Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.
The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**

Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX Extinct species

Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).
Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.
Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).
Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).
Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).
Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

P **Priority species**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.
Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.
Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

1 **Priority 1: Poorly-known species**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

2 **Priority 2: Poorly-known species**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

3 **Priority 3: Poorly-known species**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

4 **Priority 4: Rare, Near Threatened and other species in need of monitoring**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

[1] The definition of flora includes algae, fungi and lichens
[2]Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Appendix E

Vegetation summary within the survey area

Accommodation Site 03 (Northwest)

Type: quadrat

Date: 26/03/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Alysia bucxifolia	Apocynaceae	7.5	2
Austrostipa elegantissima	Poaceae	0.5	0.6
**Avena barbata*	Poaceae	0.5	0.2
Carpobrotus modestus	Aizoaceae	0.1	0.2
Dianella revoluta	Hemerocallidaceae	0.1	0.6
Eremophila decipiens subsp. *decipiens*	Scrophulariaceae	0.25	1
Eucalyptus calycogona subsp. *calycogona*	Myrtaceae	1	8
Eucalyptus capillosa	Myrtaceae	0.5	6
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	1	7
Maireana brevifolia	Chenopodiaceae	5	0.7
Ptilotus polystachyus	Amaranthaceae	0.1	0.2
Senna artemisioides subsp. *filifolia*	Fabaceae	0.5	2
**Trifolium arvense*	Fabaceae	0.1	0.1
**Vulpia myuros*	Poaceae	0.1	0.2

Accommodation Site 03 (Southwest)

Type: quadrat

Date: 26/03/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Alysia bucxifolia	Apocynaceae	7.5	2
Austrostipa elegantissima	Poaceae	0.5	0.6
**Avena barbata*	Poaceae	0.5	0.2
Carpobrotus modestus	Aizoaceae	0.1	0.2
Dianella revoluta	Hemerocallidaceae	0.1	0.6
Eremophila decipiens subsp. *decipiens*	Scrophulariaceae	0.25	1
Eucalyptus calycogona subsp. *calycogona*	Myrtaceae	1	8
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	35	12
Eucalyptus capillosa	Myrtaceae	0.5	6
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	1	7
Exocarpos aphyllus	Santalaceae	1	1.8
Maireana brevifolia	Chenopodiaceae	5	0.7
Ptilotus polystachyus	Amaranthaceae	0.1	0.2
Scaevola spinescens	Goodeniaceae	0.1	0.7
Senna artemisioides subsp. *filifolia*	Fabaceae	0.5	2
**Trifolium arvense*	Fabaceae	0.1	0.1
**Vulpia myuros*	Poaceae	0.1	0.2

Accommodation Site 03 (East)

Type: quadrat

Date: 26/03/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
No Native Vegetation			

Intersection 11a

Type: quadrat

Date: 27/03/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Good



Species List

Name	Family	Cover (%)	Height (m)
Acacia ligustrina	Fabaceae	2	3
Acacia microbotrya	Fabaceae	15	5
Atriplex semibaccata	Chenopodiaceae	1.5	0.2
Austrostipa elegantissima	Poaceae	0.1	0.4
**Avena barbata*	Poaceae	1	0.3
Callistemon glaucus	Myrtaceae	1.5	3
Daviesia aphylla	Fabaceae	0.1	0.2
Eucalyptus capillosa	Myrtaceae	5	5
Eucalyptus ceratocorys	Myrtaceae	10	4.5
Eucalyptus extensa	Myrtaceae	8	5
Eucalyptus salmonophloia	Myrtaceae	2	4
Gastrolobium bennettsianum	Fabaceae	0.1	0.5
Leptospermopsis erubescens	Myrtaceae	1	1
Maireana brevifolia	Chenopodiaceae	1	2
Melaleuca hamata	Myrtaceae	3	2.5
Melaleuca lanceolata	Myrtaceae	5	2
Melaleuca spicigera	Myrtaceae	5	2
Poaceae sp.	Poaceae	0.5	0.3
Sclerolaena diacantha	Chenopodiaceae	0.1	0.1
**Solanum rostratum*	Solanaceae	0.1	0.1
**Vulpia myuros*	Poaceae	0.5	0.2

Intersection 12a

Type: quadrat

Date: 27/03/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia enervia subsp. *enervia*	Fabaceae	1	2
Allocasuarina campestris	Casuarinaceae	1	3
Austrostipa elegantissima	Poaceae	0.1	0.4
**Avena barbata*	Poaceae	1	0.2
**Dittrichia graveolens*	Asteraceae	0.5	0.4
**Eragrostis curvula*	Poaceae	2.5	0.7
Eucalyptus ?woodwardii	Myrtaceae	1	5
Eucalyptus caesia	Myrtaceae	10	5
Eucalyptus tenera	Myrtaceae	5	5
Leptospermopsis erubescens	Myrtaceae	0.5	1.5
Melaleuca hamata	Myrtaceae	1	3
Melaleuca pungens	Myrtaceae	1	2
Melaleuca spicigera	Myrtaceae	0.5	2
Ptilotus polystachyus	Amaranthaceae	0.1	0.3

Intersection 14a

Type: quadrat

Date: 26/03/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Good



Species List

Name	Family	Cover (%)	Height (m)
Atriplex semibaccata	Chenopodiaceae	2.5	0.1
Austrostipa elegantissima	Poaceae	0.1	0.4
**Avena barbata*	Poaceae	5	0.3
Eucalyptus erythronema subsp. *erythronema*	Myrtaceae	5	9
Eucalyptus salmonophloia	Myrtaceae	35	12
Maireana brevifolia	Chenopodiaceae	5	0.7
**Vulpia myuros*	Poaceae	0.5	0.2

Intersection 21a

Type: quadrat

Date: 26/03/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia enervia subsp. *enervia*	Fabaceae	1	2
Acacia lasiocaylx	Fabaceae	15	3
Allocasuarina acutivalvis	Casuarinaceae	30	5
**Arctotheca calendula*	Asteraceae	0.2	0.2
Austrostipa elegantissima	Poaceae	0.1	0.5
Banksia laevigata subsp. *fuscolutea* A.S George	Proteaceae	0.5	3
Banksia zygocephala	Proteaceae	2.5	2.5
Callitris preissii	Cupressaceae	7.5	5
Eucalyptus burracoppinensis	Myrtaceae	25	6
Gastrolobium bennettsianum	Fabaceae	2	1
Grevillea pterosperma	Proteaceae	0.5	4
Hakea meisneriana	Proteaceae	0.5	4
**Lolium rigidum*	Poaceae	0.1	0.2
Melaleuca lateriflora	Myrtaceae	1	2
Persoonia coriacea	Proteaceae	1	2
Santalum acuminatum	Santalaceae	0.5	3
Styphelia browniae	Ericaceae	1	1

Appendix F

Vegetation communities within the survey area

Site	Vegetation Community Description	Representative Plate of Community
Site 03	*Eucalyptus camaldulensis* subsp. *obtusa*, *Eucalyptus calycogona* subsp. *calycogona* and *Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Alysia bucxifolia*, *Senna artemisioides* subsp. *filifolia* and *Exocarpos aphyllus* open shruband over *Maireana brevifolia* and *Scaevola spinescens* Isolated samphire shrubs over **Avena barbata*, **Vulpia myuros* and Poaceae sp. scattered grassland on sandy-loam flats. **Code:** EcEcaElAb **Soils and Landforms:** sandy-loam flats **Vegetation condition:** Degarded	
Intersection 11a	*Eucalyptus extensa*, *Eucalyptus capillosa* and *Eucalyptus ceratocorys* low woodland over *Acacia microbotrya*, *Acacia ligustrina* and *Callistemon glaucus* tall shrubland over *Melaleuca hamata*, *Melaleuca lanceolata* and *Melaleuca spicigera* open shrubland over *Atriplex semibaccata* Isolated clumps of chenopod shrubs over **Avena barbata*, **Vulpia myuros* and *Austrostipa elegantissima* very open grassland on sandy-loam flats. **Code:** EeEcAlMl **Soils and Landforms:** sandy-loam flats **Vegetation condition:** Good	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 12a	*Eucalyptus caesia*, *Eucalyptus tenera* and *Eucalyptus woodwardii* low woodland over *Allocasuarina campestris* and *Melaleuca hamata* sparse shruband over *Acacia enervia* subsp. *enervia*, *Melaleuca pungens* and *Melaleuca spicigera* low open shrubland over **Arctotheca calendula* Isolated forbs over **Eragrostis curvula*, *Austrostipa elegantissima* and **Avena barbata* isolated grassland on sandy-loam flats. **Code:** EcEtAcMp **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 14a	*Eucalyptus salmonophloia* and *Eucalyptus erythronema* subsp. *erythronema* open forest over *Maireana brevifolia* and *Atriplex semibaccata* Isolated samphire shrubs over **Avena barbata*, **Vulpia myuros* and *Austrostipa elegantissima* sparse grassland on red-brown sandy-loam flats. **Code:** EsEeMbAs **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Good	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 21a	*Eucalyptus burracoppinensis* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Grevillea pterosperma* tall open shrubland over *Acacia lasiocalyx*, *Hakea meisneriana* and *Banksia laevigata* subsp. *fuscolutea* shruband over *Acacia enervia* subsp. *enervia*, *Melaleuca lateriflora* and *Persoonia coriacea* low open shrubland over **Lolium rigidum* and Poaceae sp. isolated grassland on sandy-loam flats. **Code:** EbCpAaGp **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Appendix H

Land systems



LEGEND

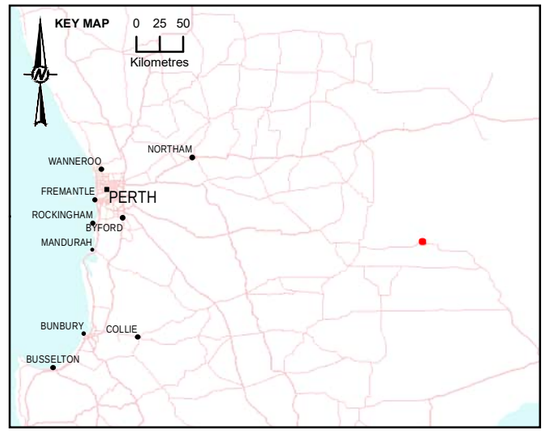
SURVEY AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor

250La - Lagan System - Chains of large salt lakes, saline valley floors and lunettes in the South-eastern Zone of Ancient Drainage. Salt lake soils, saline wet soils and calcareous loamy earths. Mallee, Morrel woodland and saltbush-bluebush-samphire flats.



0 250 500

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

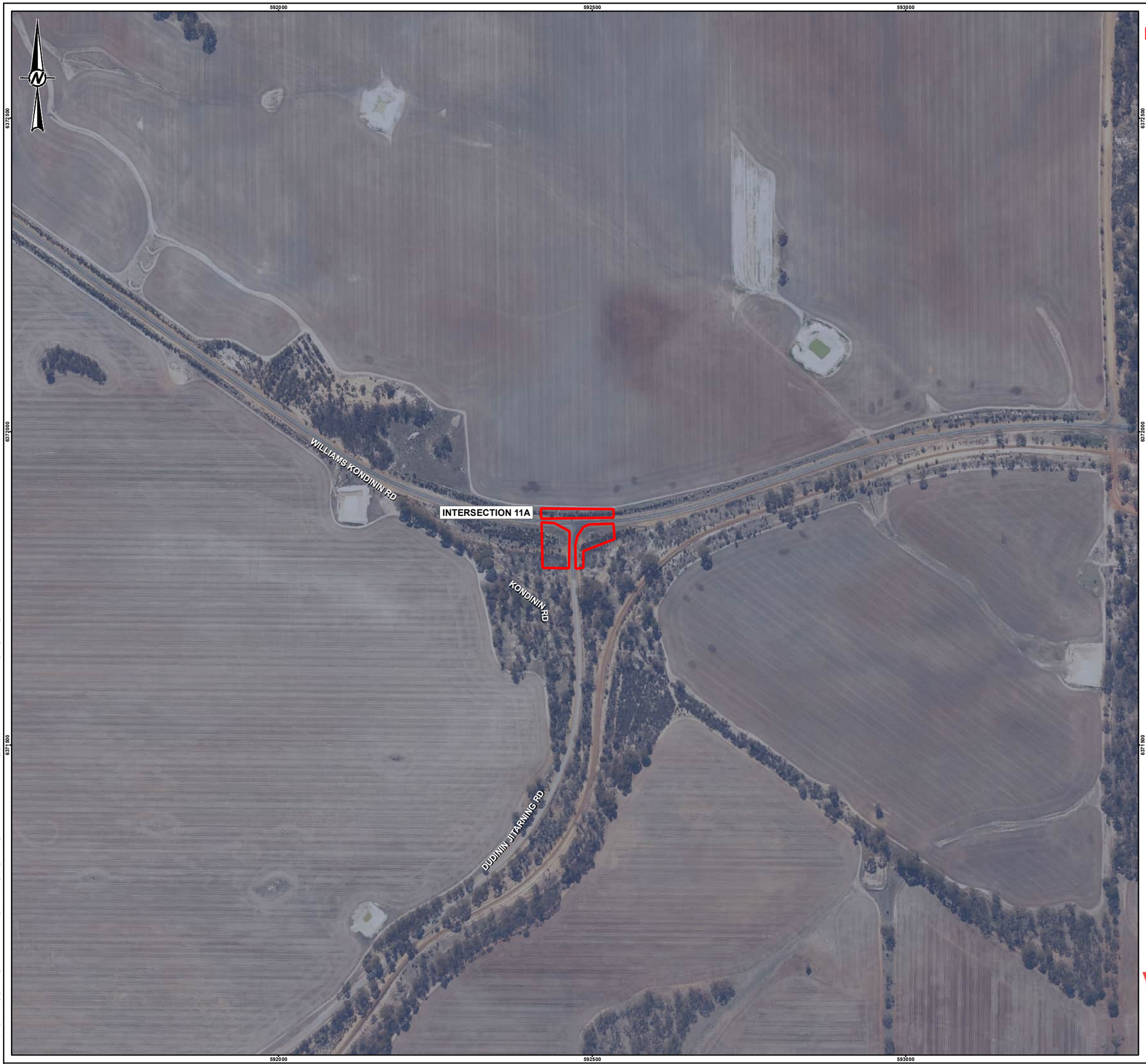
CONSULTANT
wsp

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	H-1

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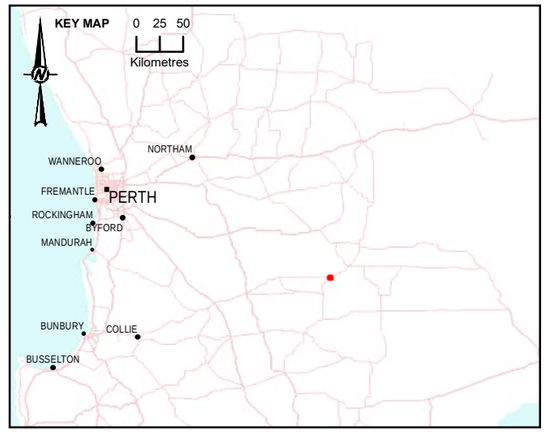


LEGEND

SURVEY AREA

LAND SYSTEM

259Kk - Kukerin System - Gently undulating rises, in the South western Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.



0 190 380

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT
wsp

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	H-2

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607000
607500
608000
6384500
6384000
6383500
HIGH ST
JOHNSTON ST
KULIN
JITARNING
JILAKIN ST
INTERSECTION 12A
WILLIAMS KONDININ RD

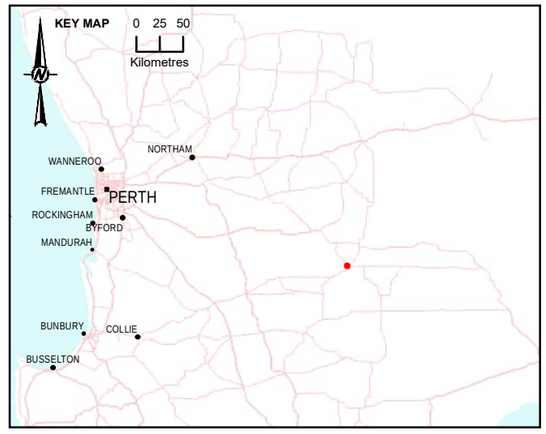
LEGEND

SURVEY AREA

LAND SYSTEM

259Co - Corrigin System - Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.



0 190 380

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT
wsp

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

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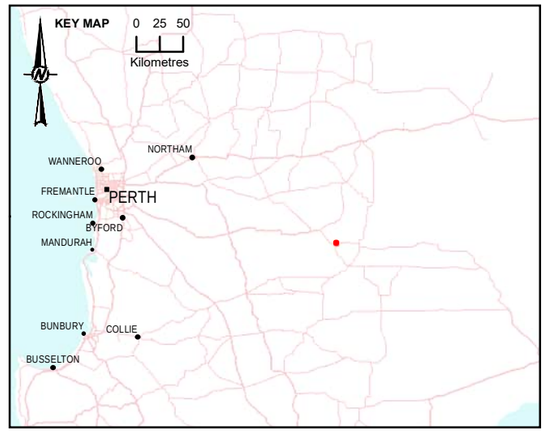
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SURVEY AREA

LAND SYSTEM

259Co - Corrigin System - Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.



0 190 380

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

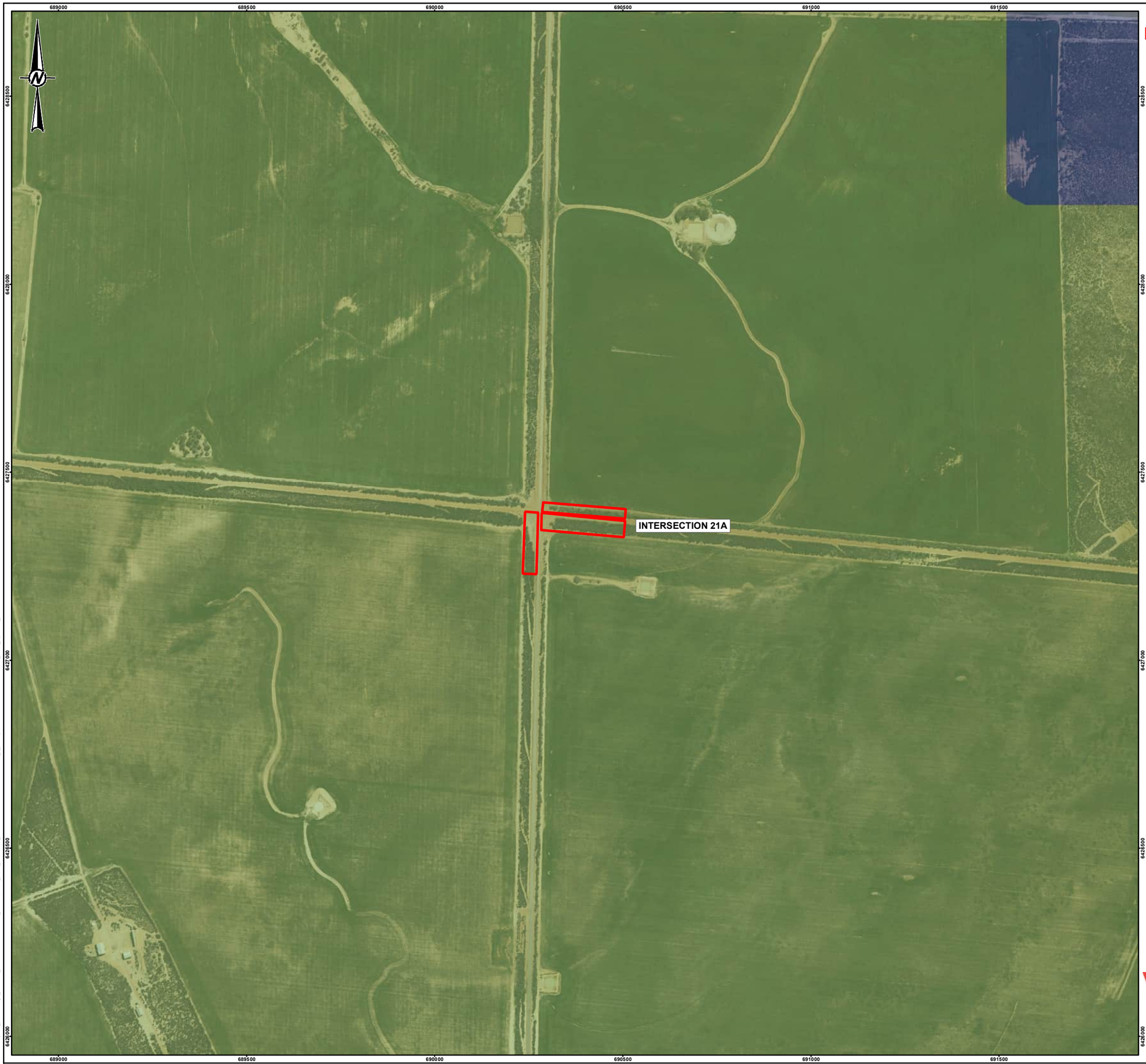
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REVIEWED	RD
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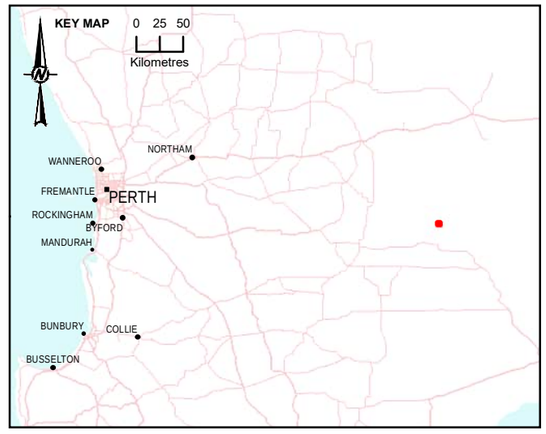
LEGEND

SURVEY AREA

LAND SYSTEM

250Ho - Hope South System - Broad valley floors in granitic and siliceous gneiss country in the eastern Zone of Ancient Drainage. Salt lake systems are common in the main trunk valleys. Soils comprise red and brown loamy earths (usually calcareous), grey sandy duple

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 320 640

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS

CONSULTANT

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
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PROJECT NO.	CONTROL	REV.	FIGURE
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Appendix I

IBRA Regions

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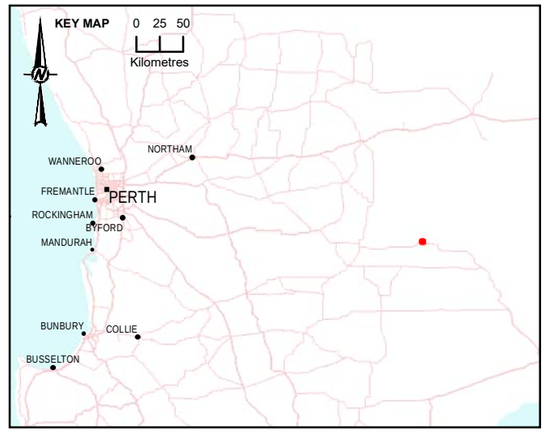
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HYDEN LAKE KING RD

MARSHALL ST

LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 200 400

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT
wsp

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
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6371500

WILLIAMS KONDININ RD

CURRAN ST

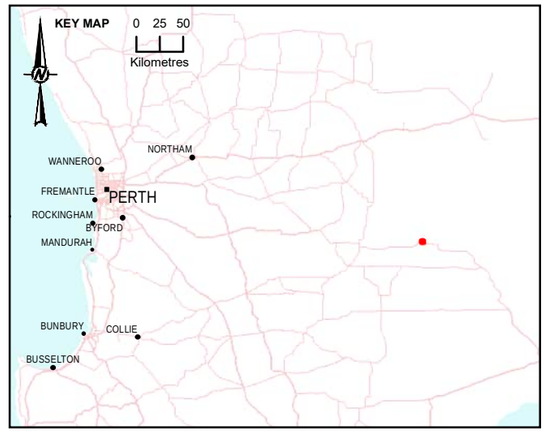
INTERSECTION 11A

KONDININ RD

DUDININ JITARNING RD

LEGEND

- SURVEY AREA
- AVON WHEATBELT IBRA REGION



0 150 300

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-04-22
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PREPARED	JE
REVIEWED	RD
APPROVED	

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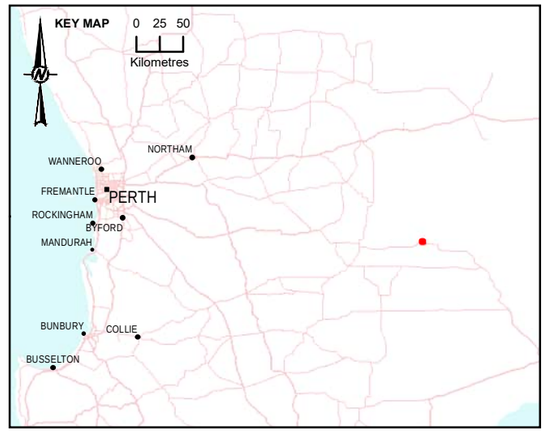
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6384500
6384000
6383500

HIGH ST
JOHNSTON ST
KULIN
JITARNING
JILAKIN ST
INTERSECTION 12A
WILLIAMS KONDININ RD

LEGEND

- SURVEY AREA
- MALLEE IBRA REGION

KEY MAP
0 25 50
Kilometres



0 150 300
1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2024-04-22
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PREPARED	JE
REVIEWED	RD
APPROVED	

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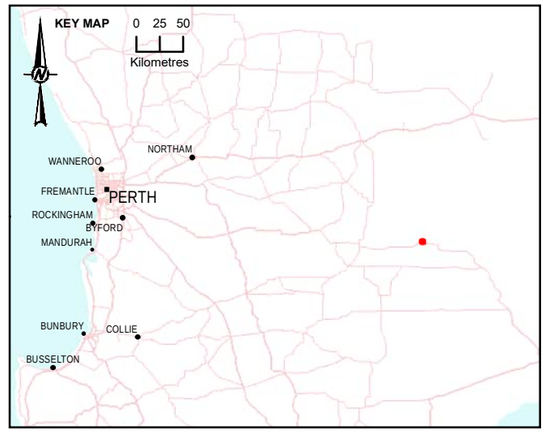
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LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 150 300

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

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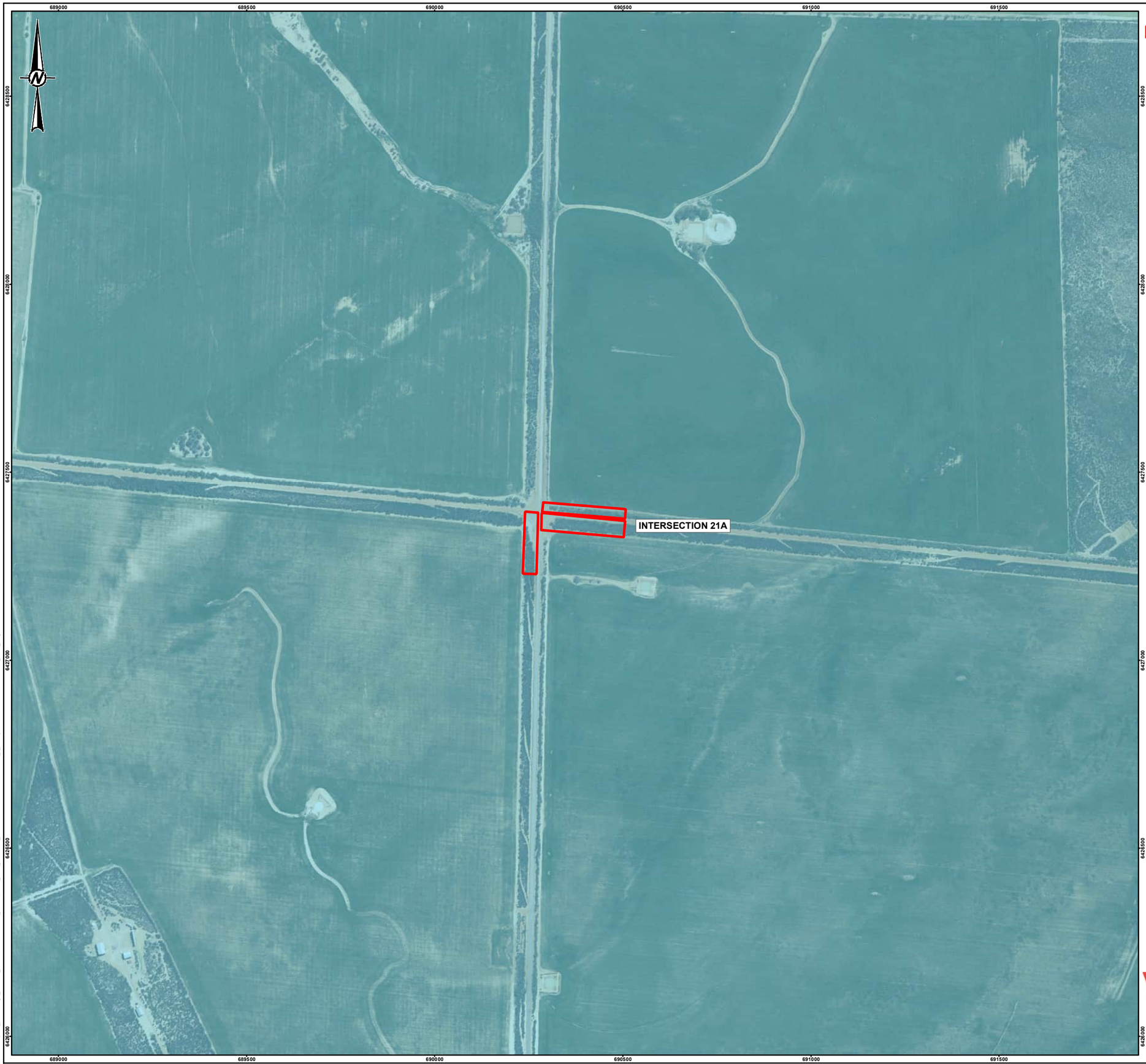
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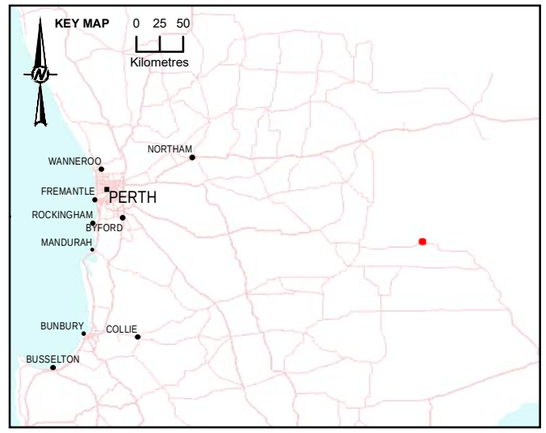
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LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 250 500

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

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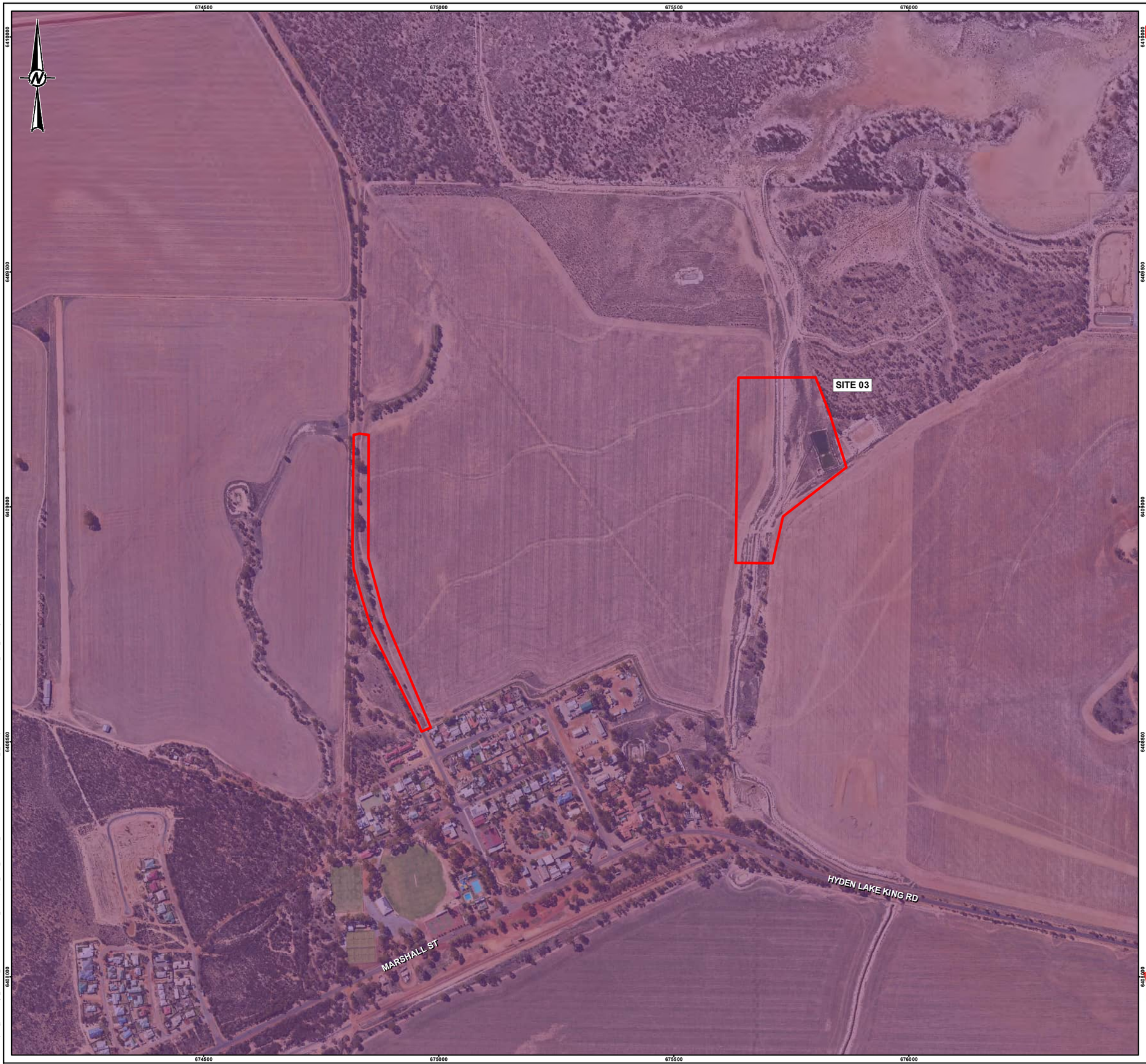
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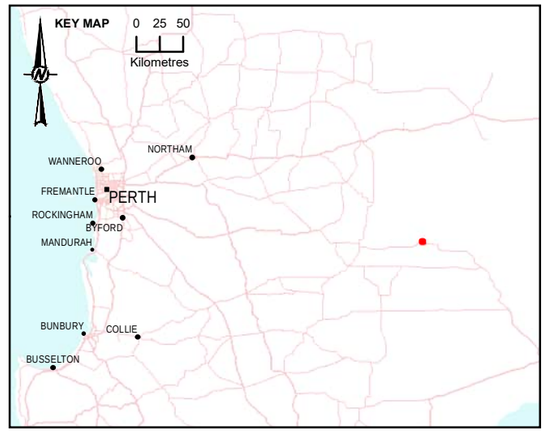
Appendix J

IBRA SubRegions



LEGEND

- SURVEY AREA
- MAL02 - WESTERN MALLEE



0 250 500

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

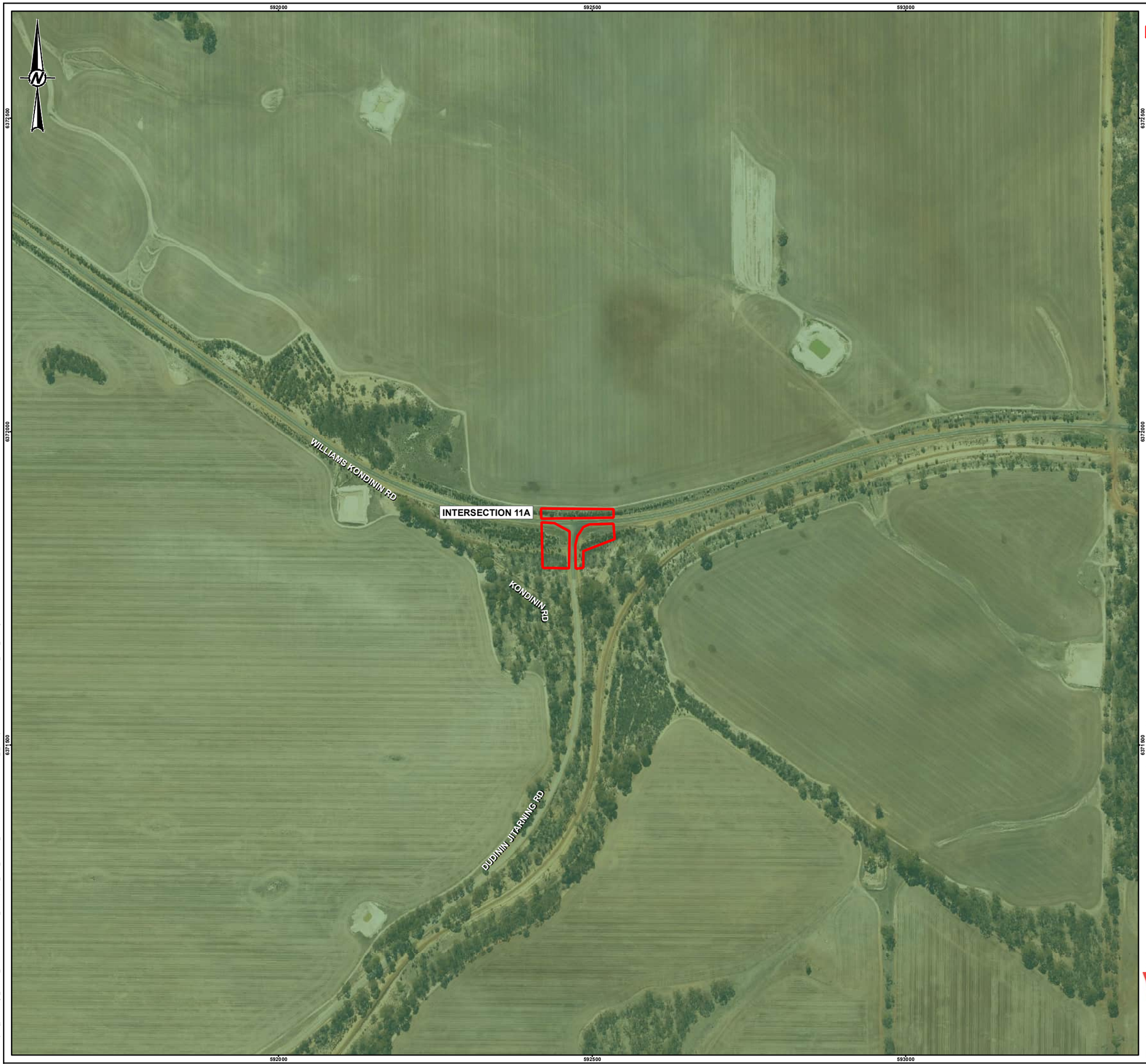
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PREPARED	JE
REVIEWED	RD
APPROVED	

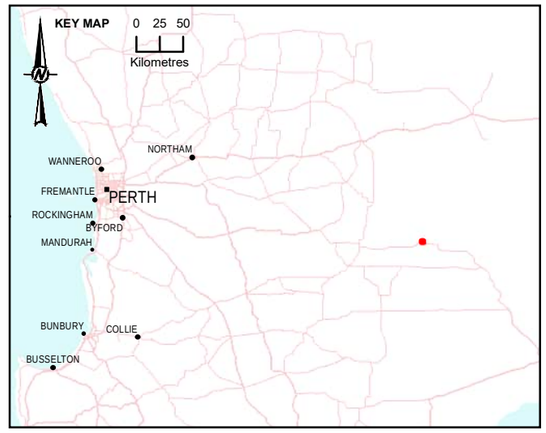
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LEGEND

- SURVEY AREA
- AVW02 - KATANNING



0 190 380

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

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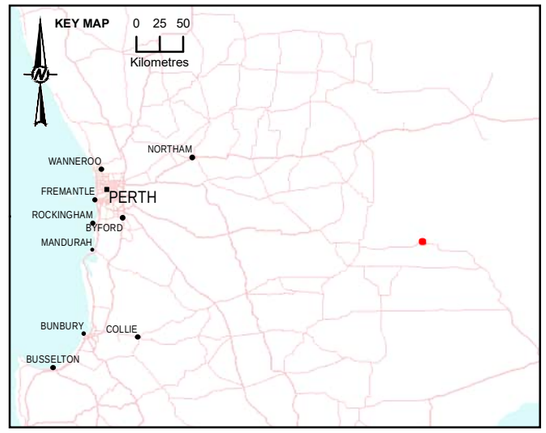
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607000
607500
608000
6384500
6384000
6383500
HIGH ST
JOHNSTON ST
KULIN
JITARNING
JILAKIN ST
INTERSECTION 12A
WILLIAMS KONDININ RD

LEGEND

- SURVEY AREA
- MAL02 - WESTERN MALLEE



0 190 380

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
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CONSULTANT

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REVIEWED	RD
APPROVED	

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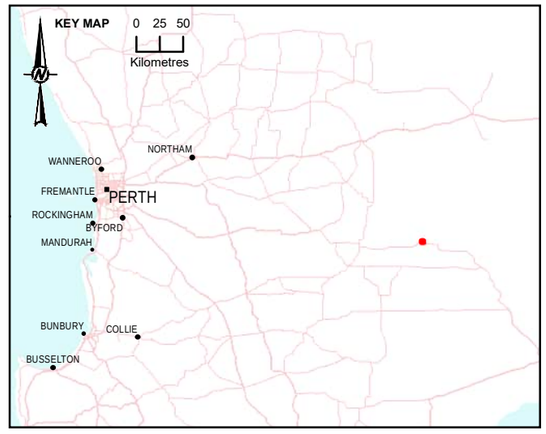
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LEGEND

- SURVEY AREA
- MAL02 - WESTERN MALLEE



0 190 380

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
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CONSULTANT

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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	J-4

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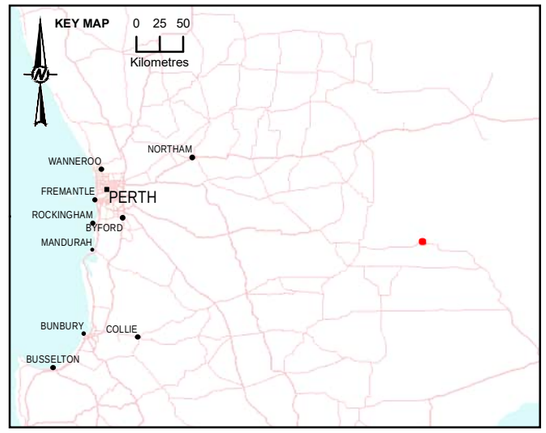
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0 25mm



LEGEND

- SURVEY AREA
- MAL02 - WESTERN MALLEE



0 310 620

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	J-5

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Appendix K

Pre-European vegetation

674500 675000 675500 676000

6410000 6409500 6409000 6408500 6408000

SITE 03

MARSHALL ST

HYDEN-LAKE KING RD

LEGEND

SURVEY AREA

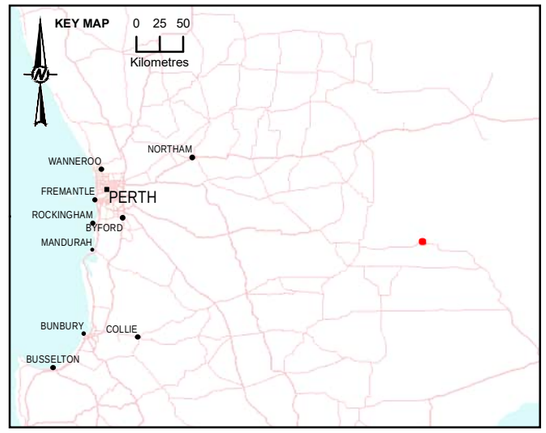
PRE-EUROPEAN VEGETATION

945 - HYDEN -

519.3 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.

511.1 - HYDEN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

41.2 - HYDEN - Wattle, teatree & other species Acacia spp. Melaleuca spp.



0 175 350

1:8,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	K-1

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592000
592500
593000
6372500
6372000
6371500

WILLIAMS-KONDININ RD

INTERSECTION 11A

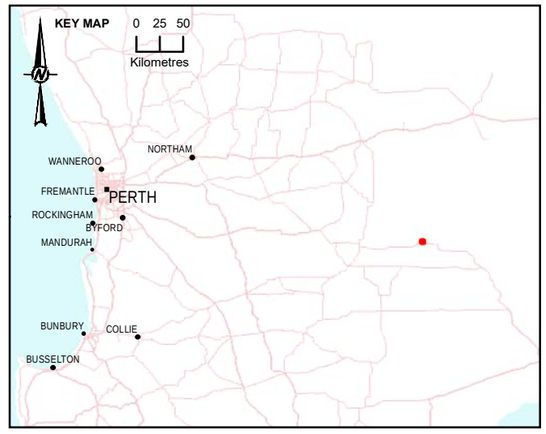
DUDININ FARMING RD

LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

1023.3 - CORRIGIN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2024-04-22
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PROJECT NO.	CONTROL	REV.	FIGURE
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607000
607500
608000
6384500
6384000
6383500

HIGH ST
JOHNSTON ST
KULIN RD
KULIN
JITARNING
INTERSECTION 12A
WILLIAMS-KONDININ RD

LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

960.2 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.

KEY MAP
0 25 50
Kilometres
NORTHAM
WANNEROO
FREMANTLE
PERTH
ROCKINGHAM
BYFORD
MANDURAH
BUNBURY
COLLIE
BUSSELTON

0 130 260
1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO. PS204764 | CONTROL 001-R | REV. A | FIGURE K-3

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597500
598000
598500
6409000
6408500
6408000

CORRIGIN-KONDININ RD

INTERSECTION 14A

CORRIGIN-KULIN RD

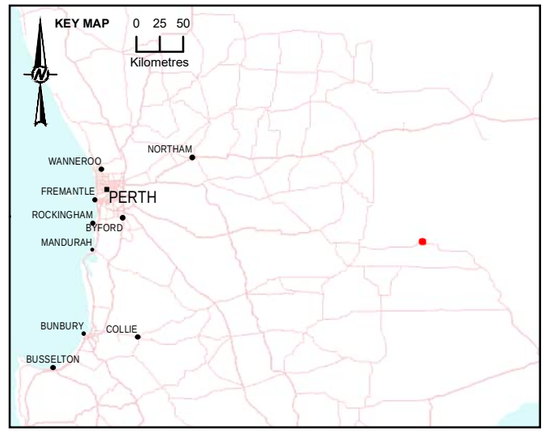
LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

1023 - HYDEN - Wheatbelt; York gum, salmon gum etc. Eucalyptus loxophleba, E. salmonophloia. Goldfields; gimlet, redwood etc. E. salubris, E. oleosa. Riverine; rivergum E. camaldulensis. Tropical; messmate, woolyb

955.2 - HYDEN -



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

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PROJECT NO.	CONTROL	REV.	FIGURE
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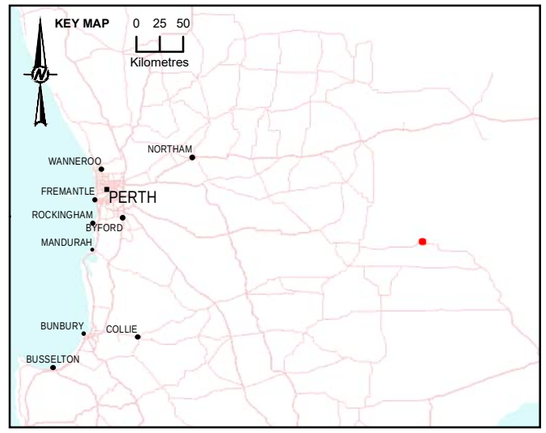


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

519.3 - HYDEN - Eucalypt shrubland Eucalyptus eremophila, E. redunca, E. spp.



0 220 440

1:10,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2024-04-22
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	K-5

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Appendix D: WSP2024c Transport Route Threatened Ecological Community Targeted Survey.

WSP (2024c) Transportation Route Threatened Ecological Community Targeted Survey King Rocks Wind Farm

Design
for a better
future /

Synergy Group Australia Pty Ltd

Transportation Route Threatened Ecological Community Target Survey

King Rocks Wind Farm

wsp

July 2024

Question today
Imagine tomorrow
Create for the future

Transportation Route Threatened Ecological Community Target Survey
King Rocks Wind Farm

Synergy Group Australia Pty Ltd

WSP
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Perth WA 6000
PO Box 7181
Cloisters Square WA 6850

Tel: +61 8 9489 9700
Fax: +61 8 9489 9777
wsp.com

Rev	Date	Details
A	04/07/2024	Final

	Name	Date	Signature
Prepared by:	[redacted]	03/07/2024	[redacted]
Reviewed by:	[redacted]	04/07/2024	
Approved by:	[redacted]	04/07/2024	

WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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July 2024

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2 Environmental context 3

2.1 Threatened ecological communities 3

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1 Introduction

1.1 Project background

Synergy Renewable Energy Developments (SynergyRED) is a wholly owned subsidiary of Synergy (Electricity Retail and Generation Corporation) located in Perth, Western Australia. SynergyRED is currently investigating the development of a new wind energy project (the Project). SynergyRED has engaged WSP to assess the flora, vegetation, and fauna values within the survey area (Figure 1.1).

WSP was engaged in September 2023 (Phase 1) and January 2024 (Phase 2) to undertake an initial reconnaissance survey of two accommodation sites for workers and twenty-five intersections between the port and the windfarm site. Following the initial surveys, WSP was engaged to complete a Flora, Vegetation and Fauna survey for an additional accommodation site and four additional intersections in March 2024. This report documents a targeted survey of the three intersections of transportation route for delivery of turbine infrastructure. The targeted surveys are to identify and confirm the presence of the Threatened Ecological Community (TEC) Eucalypt Woodlands of the Western Australian Wheatbelt to inform the environmental impact of swept path assessments. This report specifically documents the TEC assessment survey work for three specific intersections (Intersection 13, 19 and 22) as presented in Figure 1.1.

Intersections include:

- Graham Rd./Kondinin Lake Rd **(Phase 1_ Intersection 13)**
- Lovering Rd/Wave Rock Rd **(Phase 1_ Intersection 19)**
- Lovering Rd/Williamson Rd **(Phase 1_ Intersection 22)**

1.2 Purpose and scope of work

The purpose of the survey was to assess three intersections of a transportation route for delivery of turbine infrastructure for the project, herein referred to as the "survey area". The targeted surveys were to identify and confirm the presence or absence of the Eucalypt Woodlands of the Western Australian Wheatbelt TEC to inform the potential environmental impacts associated with the sweep path at the aforementioned three intersections.

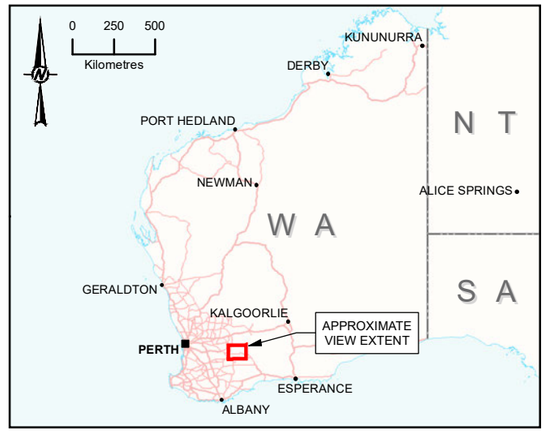
The scope of work included:

- Undertake a desktop assessment to evaluate the TECs which may be present at the three intersections;
- Review the conservation status of the vascular plant species recorded by reference to current literature and current listings by the DBCA (Western Australian State Herbarium [WAH] 1998-) and plant collections held at the WAH, and listed by the Department of Climate Change, Energy, the Environment and Water (DCCEEW 2024a, 2024b) under the *Environment Protection and Biodiversity Conservation Act* 1999;
- Review historical literature and current databases associated with the survey area;
- Record visual observations of the fire regimes, grazing pressures and overall health of the vegetation to allow for an assessment of the overall condition of the remnant flora and vegetation within the survey area;
- Ground-truth identified indicative TECs patches to determine their potential to be classed as a patch of the ecological community;
- Define any management issues related to flora and vegetation values;
- Provide recommendations on the local and regional significance of the vegetation communities; and
- Prepare a report summarising the findings.



LEGEND

SURVEY AREA



0 5,000 10,000

1:300,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI BASEMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
SITE LOCATION

CONSULTANT
wsp

YYYY-MM-DD	2024-07-02
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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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Figure 1.1 Site location

2 Environmental context

2.1 Threatened ecological communities

The desktop search results indicate two threatened ecological communities (TECs) are recorded within the site. The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) and Protected Matters Search Tool (PMST) identified one TEC as likely to occur near the survey areas. A larger search area (50 km maximum) was used due to the expanse of the area in which the three Study areas are situated.

TECs are ecological communities that are recognised as rare or under threat and therefore warrant special protection. Selected TECs are afforded statutory protection at a Commonwealth level under Section 181 of the EPBC Act. Any action likely to have a significant impact on a community listed under the EPBC Act requires approval from the commonwealth minister for the DCCEEW.

TECs are also listed within Western Australia under Sections 27(1) and 33 of the *Biodiversity Conservation Act 2016* (BC Act) and under the *Biodiversity Conservation Regulations* (BC Regulations). Their conservation significance is also acknowledged through other state environmental approval processes such as 'environmental impact assessment' pursuant to Part IV of the *Environmental Protection Act 1986* (EP Act) and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

The database searches identified the conservation significant ecological community as the Eucalypt Woodlands of the Western Australian Wheatbelt, listed as a Critically Endangered TEC under the EPBC Act and P3 Priority Ecological Community (PEC) by DBCA are described in Table 2.1.

Table 2.1 TECs likely to occur within the survey area

Community name	TEC/PEC	Level of significance	
		EPBC Act	State
Eucalypt Woodlands of the Western Australian Wheatbelt	TEC	Critically Endangered	Priority 3

2.1.1 Eucalypt Woodlands of the Western Australian Wheatbelt

Eucalypt Woodlands are situated on the flatter landscapes and lower rises of the Wheatbelt. The woodlands are dominated by a complex mosaic of several eucalypt species with a tree or mallee form over a highly variable understorey (DWER 2023). Eucalypt Woodlands of the Western Australian Wheatbelt, listed as Critically Endangered under the EPBC Act (effective as of the 4 December 2004) (DCCEEW 2024d). The Eucalypt species that dominate or co-dominate the WA Wheatbelt Woodlands ecological community are based on the floristic classification of wheatbelt woodlands by Harvey and Keighery (2012). Other eucalypt species may be present in association with these key species but do not occur as dominant or co-dominant species in WA Wheatbelt Woodland.

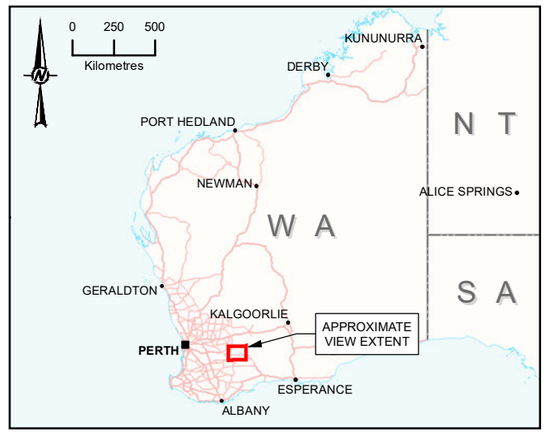
Woodlands dominated by a mallee form or vegetation with a very sparse eucalypt tree canopy (less than 10%) are not part of the TEC. Nor are woodlands that have the same key eucalypt species but occur in adjacent bioregions (e.g., Coolgardie, Esperance Sandplains, Yalgoo, and Geraldton Sandplains bioregions). Woodlands dominated by Eucalypts restricted to granite outcrops and rocky rises are also removed from this TEC (DWER 2024).



LEGEND

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 100 200

1:4,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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Figure 2.1 Ecological communities

676750 677000 677250 677500 677750

6409500 6409250 6409000 6408750 6408500 6408250 6408000 6407750 6407500 6407250

KRWF BLADE ROUTE 8

HYDEN-LAKE KING RD

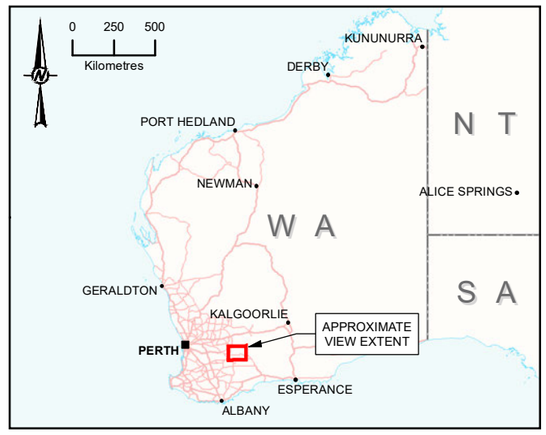
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PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



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1:4,500 METRES

NOTE:
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REFERENCES:
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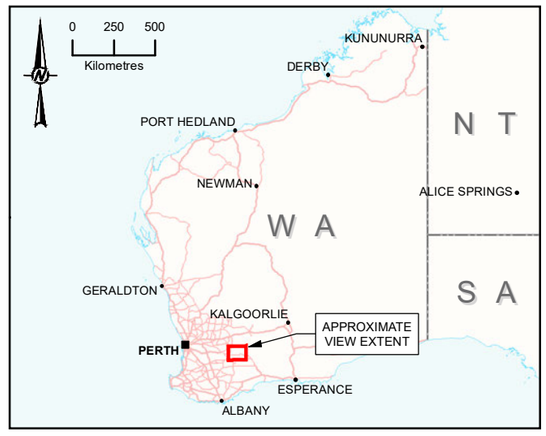
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LEGEND

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 100 200

1:4,500 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

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3 Survey methodology

The TEC field assessment was conducted by Associate Ecologist Roger Dharmarajan (Flora Permit FB62000412). The survey was undertaken between 4 and 6 June 2024. The survey was undertaken in accordance with the requirements outlined in the approved scope of work.

3.1 Assessment of TECs

The assessment of remnant vegetation patches was based on ground-truthing records of the applicable TEC identified during the desktop assessment undertaken across the survey area. Between 2023 and 2024 multiple flora and vegetation surveys were conducted across many intersections as the basis for collating information of the presence of TECs. This report utilises multiple surveys of data collection across the survey area to assess the likelihood of TEC occurrence.

3.1.1 Threatened Ecological Community (EPBC Act, Commonwealth Level)

The assessment of patches of eucalypt woodlands to determine whether they represent the 'Eucalypt Woodlands of the Western Australian (WA) Wheatbelt ecological community' was based on the Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt (DCCEEW 2016a). Ground-truthing is required to verify if a particular patch meets the required diagnostic characteristics, minimum condition, and size thresholds to be deemed to represent the described TEC (DCCEEW 2015).

The ground-truthing of each indicative patch of Eucalypt Woodlands of the WA Wheatbelt ecological community followed the process presented in Table 3.1. During the field surveys, indicative patches of Eucalypt Woodlands of the WA Wheatbelt ecological community were assessed using a datasheet incorporating all elements of the assessment process and criteria shown in Table 3.1, together with quadrat-based vegetation assessment data (previous reports). Plant taxa identified were verified in accordance with current DCCEEW (2024a) listings in accordance with the EPBC Act. A Patch is likely to represent an instance of the Eucalypt Woodlands of the Western Australian Wheatbelt ecological community (TEC) and to determine the TEC category refer Table 3.1.

Table 3.1 Minimum condition for patches of the Eucalypt Woodlands of the WA Wheatbelt Ecological Community

Category	Cover of Exotic Species (Weeds)	Mature Tress	Minimum Patch Size (Non-Roadside Patches)	Minimum Patch Width (Roadsides Only)
Category A: Patches likely to correspond to a condition of Pristine / Excellent / Very good or a High RCV	Exotic plant species account for 0 to 30 % of total vegetation cover in the understorey layers (i.e., below the tree canopy).	Mature trees may be present or absent.	2 hectares or more	5 meters or more
Category B: Patches likely to correspond to a condition of Good or a Medium-High RCV and retains important habitat features.	Exotic plant species account for more than 30, to 50 % of total vegetation cover in the understorey layers (i.e., below the tree canopy)	Mature trees are present with at least 5 trees per 0.5 ha.	2 hectares or more	5 meters or more
Category C: Patches likely to correspond to a condition of Good or a Medium-High RCV	Exotic plant species account for more than 30, to 50 % of total vegetation cover in the understorey layers (i.e., below the tree canopy).	Mature trees either absent or less than 5 trees per 0.5 ha are present.	5 hectares or more	5 meters or more

Category	Cover of Exotic Species (Weeds)	Mature Tress	Minimum Patch Size (Non-Roadside Patches)	Minimum Patch Width (Roadsides Only)
Category D: Patches likely to correspond to a condition of Degraded to Good or a Medium-Low to Medium-High RCV but retains important habitat features.	Exotic plant species account for more than 50 to 70 % of total vegetation cover in the understorey layers (i.e., below the tree canopy).	Mature trees are present with at least 5 trees per 0.5 ha.	5 hectares or more	5 meters or more

Note: For each category, both the weed cover and mature tree presence criteria must apply plus one of either patch size or patch width, depending on whether the patch is a roadside remnant or not. Table adapted from DCCEEW (2015). This table is based on the Keighery (1994) vegetation condition scale (EPA 2016a) which uses a six-point scale ranging from 'Pristine' to 'Completely Degraded', and the Roadside Conservation Committee of Western Australia (Jackson 2002) which has a four-point scale system of Road Conservation Value (RCV) from 'High' to 'Low'. Mature trees have a diameter at breast height (DBH) of 30 cm or above. The width here is based on the native understory component rather than width of the tree canopy. Some allowance must be made for small breaks or variations in native species cover along linear patches.

3.1.2 Key Diagnostic Features

A patch must have the following attributes to be considered as a Eucalypt Woodlands of the WA Wheatbelt ecological community.

- Be located within the following IBRA sub-regions - AVW01, AVW02, MAL02, or be outlying patches in the eastern parts of JAF01 and JAF02 adjacent to the Avon Wheatbelt, that are off the Darling Range, and receive less than 600 mm mean annual rainfall;
- Be a woodland in which the minimum crown cover of the tree canopy in a mature woodland is 10%;
- The key species of the tree canopy are species of Eucalypts that typically have a single trunk. Then these Eucalypts collectively do not occur as dominants in the tree canopy; and,
- Have a native understorey present which is of variable composition, being a combination of grasses, forbs and shrubs, as specified in the results section.

3.1.3 Contra-Indicators

A patch must possess at least one of the following attributes to considered as a Eucalypt Woodlands of the WA Wheatbelt ecological community.

- Consist of shrublands or herblands in which the tree canopy layer is very sparse to absent;
- A dominant presence of non-eucalypt species in the tree canopy, for instance *Acacia acuminata* or *Allocasuarina huegeliana*. They can be present in the understorey;
- Woodlands that have the same key eucalypt species but occur in adjacent bioregions, notably the Coolgardie, Esperance Sandplains, Yalgloo and Geraldton Sandplains bioregions;
- Woodlands dominated by eucalypts that are restricted to granite outcrops and rocky rises, for instance *Eucalyptus caesia*.
- Have dominant presence of eucalypts with a mallee growth form. They can be a minor component;

3.1.4 Condition thresholds

A patch must not possess at least one of the following attributes to considered as a Eucalypt Woodlands of the WA Wheatbelt ecological community.

- Comprise a small or narrow stand(s) of trees that serve as windbreaks or shelterbelts on farms and other properties;
- Consist of isolated paddock trees on farms; or
- Consist of roadside and other woodland remnants that are too small and narrow, or where the tree canopy has become too patchy and discontinuous (effectively <10% cover).

4 Field Survey TEC Results

4.1 Threatened Ecological Communities

The assessment of the indicative patches of the Eucalyptus Woodland ecological communities was based on the approved conservation advice for the Eucalypt Woodlands of the Western Australian Wheatbelt ecological community, originally published by the Department of the Environment and Energy and currently available through the Department of Agriculture, Water and the Environment (DAWE). The database as supplied by government agencies had areas highlighted as Threatened and Priority Ecological Communities. Consequently, of the nine polygons situated across three intersections none of them have the sufficient values of the Eucalypt Woodlands TEC. Those nine polygons were mostly degraded to completely degraded and comprised of vegetation that does not support trees (e.g. chenopod shrublands, heath communities and shrublands) as well as vegetation that did not meet the woodland criteria.

The main reasons for determining that the indicative patches of the Eucalyptus Woodlands do not represent patches of the TEC are:

- The vegetation was not a woodland (e.g. chenopod shrublands, heath communities and shrublands); and
- The vegetation patch was comprised of planted trees which formed windbreaks or shelter belts along the edges of paddocks or tracks.

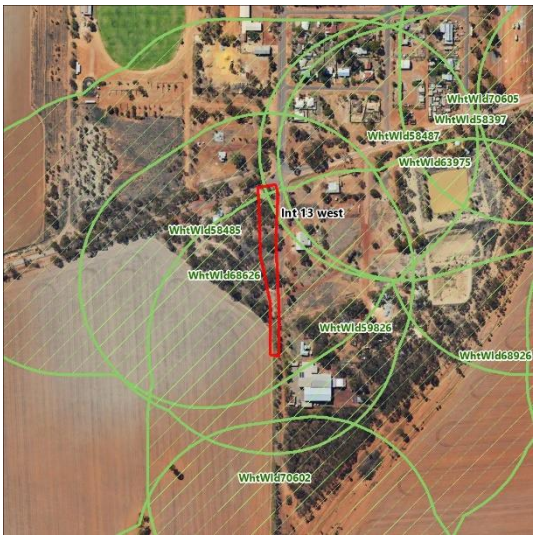
4.2 Potential Threatened Ecological Community

The assessment criteria for indicative patches of TEC intersecting the three intersections of the project are detailed as follows;

- Each patch is identified by the first site identifier attribute associated with the DBCA TEC dataset (the format being WhtWldxxxxxx, where xxxxxx represent a unique number);
- Some of the assessed patches have more than one site identifier. In these cases, there were highly overlapping, often multiple TEC buffer; it was therefore deemed appropriate to assess the areas together;
- If the patch size is 0 ha where none of the remnant vegetation falls within the Project Area (e.g., the remnant patch of potential TEC may be south and only the buffer intersects the survey area). As such, this does not mean that the DBCA TEC identified is not a TEC, just that the area intersecting the survey area is not a TEC;
- The green circle represents the TEC buffer boundary;
- The red polygon represents the survey area within the project.

Table 4.1 Assessment Details for Intersection Polygons of TECs within the Survey Area

Intersection 13 North DBCA TEC Site Identifier: WhtWld58485, WhtWld68626 & WhtWld63975	
L[redacted]	Locality: Kondinin Patch Size: 0.66 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus flocktoniae* subsp. *flocktoniae, Eucalyptus melanoxylon* and *Eucalyptus salubris* *NATIVE UNDERSTOREY COMPOSITION:* Shrubs and forbs *UNDERSTOREY FOLIAGE COVER:* 2.5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:*2 % *MATURE TREES PRESENT (DBH >30CM):* Yes *MATURE TREE DENSITY:* 25 % *ROADSIDE AND OTHER WOODLAND REMANATS:* Narrow *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM: Eucalyptus flocktoniae* subsp. *flocktoniae* *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY:* 1.5 % *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 13 North is located in the Kondinin town centre and the patch does not meet the key factor, nor the contra-indicator requirements to be classified as the TEC. This intersection is not considered a component of the TEC.	
 Image of survey area and TEC buffer	 Intersection 13 North (Vegetation)

Intersection 13 West DBCA TEC Site Identifier: WhtWld58485, WhtWld68626 & WhtWld59826	
[redacted]	Locality: Kondinin Patch Size: 0.56 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus flocktoniae* subsp. *flocktoniae* and *Eucalyptus camaldulensis* subsp. *obtusa* *NATIVE UNDERSTOREY COMPOSITION:* Shrubs and forbs *UNDERSTOREY FOLIAGE COVER:* 2.5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:* 2 % *MATURE TREES PRESENT (DBH >30CM):* Yes *MATURE TREE DENSITY:* 28 % *ROADSIDE AND OTHER WOODLAND REMANATS:* Narrow *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM: Eucalyptus flocktoniae* subsp. *flocktoniae* *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY:* 2.5 % *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 13 West is located in the Kondinin town centre and the patch does not meet the key factor, nor the contra-indicator requirements to be classified as the TEC. This intersection is not considered a component of the TEC.	
 Image of survey area and TEC buffer	 Intersection 13 West (Vegetation)

Intersection 13 A DBCA TEC Site Identifier: WhtWld58485, WhtWld68626 & WhtWld59826	
[redacted]	Locality: Kondinin Patch Size: 0.07 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus flocktoniae* subsp. *flocktoniae* *NATIVE UNDERSTOREY COMPOSITION:* Grasses and forbs *UNDERSTOREY FOLIAGE COVER:* 1.5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:* 2.5 % *MATURE TREES PRESENT (DBH >30CM):* No *MATURE TREE DENSITY:* 10 % *ROADSIDE AND OTHER WOODLAND REMANATS:* Small *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM: Eucalyptus flocktoniae* subsp. *flocktoniae* *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY:* 2.5 % *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 13 A is located in the Kondinin town centre and the patch does not meet the key factor, nor the contra-indicator requirements to be classified as the TEC. This intersection is not considered a component of the TEC.	
 Image of survey area and TEC buffer	 Intersection 13 A (Vegetation)

Intersection 13 B DBCA TEC Site Identifier: WhtWld58485, WhtWld68626 & WhtWld59826	
[redacted]	Locality: Kondinin Patch Size: 0.06 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus flocktoniae* subsp. *flocktoniae* and *Eucalyptus camaldulensis* subsp. *obtusa* *NATIVE UNDERSTOREY COMPOSITION:* Grasses and forbs *UNDERSTOREY FOLIAGE COVER:* 0.5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:* 2 % *MATURE TREES PRESENT (DBH >30CM):* No *MATURE TREE DENSITY:* 10 % *ROADSIDE AND OTHER WOODLAND REMANATS:* Narrow *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM: Eucalyptus flocktoniae* subsp. *flocktoniae* *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY:* 0.5 % *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 13 B is located in the Kondinin town centre and the patch does not meet the key factor, nor the contra-indicator requirements to be classified as the TEC. This intersection is not considered a component of the TEC.	
 Image of survey area and TEC buffer	 Intersection 13 B (Vegetation)

Intersection 13 C DBCA TEC Site Identifier: WhtWld58485, WhtWld68626 & WhtWld59826	
[redacted]	Locality: Kondinin Patch Size: 0.04 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus flocktoniae* subsp. *flocktoniae* *NATIVE UNDERSTOREY COMPOSITION:* Grasses and forbs *UNDERSTOREY FOLIAGE COVER:* 0.5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:* 2.5 % *MATURE TREES PRESENT (DBH >30CM):* No *MATURE TREE DENSITY:* 5 % *ROADSIDE AND OTHER WOODLAND REMANATS:* Small *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM: Eucalyptus flocktoniae* subsp. *flocktoniae* *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY: 0.*5 % *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 13 C is located in the Kondinin town centre and the patch does not meet the key factor, nor the contra-indicator requirements to be classified as the ecological community. This intersection is therefore not a component of the ecological community.	
 Image of survey area and TEC buffer	 Intersection 13 C (Vegetation)

Intersection 13 D DBCA TEC Site Identifier: WhtWld58485, WhtWld68626 & WhtWld59826	
[redacted]	Locality: Kondinin Patch Size: 0.08 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus flocktoniae* subsp. *flocktoniae* *NATIVE UNDERSTOREY COMPOSITION:* Grasses and forbs *UNDERSTOREY FOLIAGE COVER:* 1.5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:* 2.5 % *MATURE TREES PRESENT (DBH >30CM):* Yes *MATURE TREE DENSITY:* 5 % *ROADSIDE AND OTHER WOODLAND REMANATS:* Small *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM: Eucalyptus flocktoniae* subsp. *flocktoniae* *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY: 1.*5 % *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 13 D is located in the Kondinin town centre and the patch does not meet the key factor, nor the contra-indicator requirements to be classified as the ecological community. This intersection is not considered a component of the ecological community.	
 Image of survey area and TEC buffer	 Intersection 13 D (Vegetation)

Intersection 19 North DBCA TEC Site Identifier: WhtWld72722, WhtWld63283 and WhtWld67179	
[redacted]	Locality: near Hyden Patch Size: 0.06 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus loxophleba* subsp. *loxophleba* *NATIVE UNDERSTOREY COMPOSITION:* Shrubs, forbs and grasses *UNDERSTOREY FOLIAGE COVER:* 5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:* 4 % (total foliage cover) *MATURE TREES PRESENT (DBH >30CM):* No *MATURE TREE DENSITY:* No *ROADSIDE AND OTHER WOODLAND REMANATS:* Narrow *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM:* No *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY:* No *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 19 North has lacks contra-indicators matching the attributes required to meet the TEC criteria. Therefore, this polygon does not meet the requirements of the condition rating and exotic species cover as an element of the ecological community. However, the assessed vegetation could potentially represent a Category D TEC patch (refer Table 3.1).	
 Image of survey area and TEC buffer	 Intersection 19 North (Vegetation)

Intersection 19 South DBCA TEC Site Identifier: WhtWld72722, WhtWld63283 and WhtWld67179	
[redacted]	Locality: near Hyden Patch Size: 0.12 ha
Keighery condition rating: Degraded	
VEGETATION DESCRIPTION KEY FACTORS: *KEY SPECIES OF EUCALYPTUS: Eucalyptus loxophleba* subsp. *loxophleba* *NATIVE UNDERSTOREY COMPOSITION:* Shrubs, forbs and grasses *UNDERSTOREY FOLIAGE COVER:* 5 % (total foliage cover)	
CONDITION THRESHOLDS: *EXOTIC UNDERSTOREY SPECIES COVER:* 1.5 % (total foliage cover) *MATURE TREES PRESENT (DBH >30CM):* No *MATURE TREE DENSITY:* No *ROADSIDE AND OTHER WOODLAND REMANATS:* Narrow *ISOLATED PADDOCK:* No	
CONTRA – INDICATORS: *DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM:* No *DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM:* No *SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY:* No *GRANITE OUTCROPS:* No *ROCKY RISES:* No	
TEC likelihood and condition category	Not a TEC
Remarks Intersection 19 South has lacks contra-indicators matching the attributes required to meet the TEC criteria. Therefore, this polygon does not meet the requirements of the condition rating and exotic species cover as an element of the ecological community. The intersection polygon is not considered a component of the ecological community.	
 Image of survey area and TEC buffer	 Intersection 19 South (Vegetation)

Intersection 22

DBCA TEC Site Identifier: WhtWld651614 & WhtWld61745

[redacted]	Locality: 20km North east of Hyden Patch Size: 0.78 ha

Keighery condition rating: Degraded

VEGETATION DESCRIPTION KEY FACTORS:

KEY SPECIES OF EUCALYPTUS: Eucalyptus suggrandis subsp. *promiscua*

NATIVE UNDERSTOREY COMPOSITION: Shrubs, forbs and grasses

UNDERSTOREY FOLIAGE COVER: 6 % (total foliage cover)

CONDITION THRESHOLDS:

EXOTIC UNDERSTOREY SPECIES COVER: 10 % (total foliage cover)

MATURE TREES PRESENT (DBH >30CM): No

MATURE TREE DENSITY: No

ROADSIDE AND OTHER WOODLAND REMANATS: Small

ISOLATED PADDOCK: Yes (Present in the North side of the polygon)

CONTRA – INDICATORS:

DOMINANCE OF EUCALYPTS WITH MALLEE GROWTH FROM: yes (*Eucalyptus suggrandis* subsp. *promiscua)*

DOMINANCE OF NON- EUCALYPTS WITH MALLEE GROWTH FROM: No

SHRUBLAND/ HERBLAND UNDER THE TREE CANOPY: No

GRANITE OUTCROPS: No

ROCKY RISES: No

TEC likelihood and condition category	Not a TEC

Remarks

All corners of Intersection 22 have been assessed together due to the nature of high overlap in TEC areas and their associated buffers. The overall vegetation patch area within Intersection 22 is not 5 ha. This patch is not considered a component of the ecological community.



Image of survey area and TEC buffer



Intersection 22 (Vegetation)

5 Discussion

The Eucalypt Woodlands of the Western Australian Wheatbelt is listed as a PEC, pursuant to subsection (1) section 27 of the *BC Act 2016* and is categorised as a Critically Endangered TEC under the *EPBC Act 1999* by the DCCEEW (2024d).

The survey area consisted of a number of small polygons of bushland situated amongst the three intersections. Following the detailed assessment of the field observations and previous field surveys, a total of nine polygons were assessed. None were identified to have the potential to align with the Eucalyptus Woodlands of the WA Wheatbelt TEC.

The condition of the vegetation is degraded and largely restricted to small localised areas within the three intersections. This degree of degradation was critical in the assessment of TECs. Irrespective of the absence of TEC determination, even small patches of native vegetation, regardless of types, are important to the conservation needs of the flora, vegetation and fauna. As such, concerted effort should be made in the project to minimize direct and indirect impacts to native vegetation.

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Appendix E: WSP2025 Detailed Flora and Vegetation and Targeted Black Cockatoo Survey

WSP (2025) Detailed Flora and Vegetation and Targeted Black Cockatoo Survey

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Detailed Flora, Vegetation and Targeted Black Cockatoo Survey

King Rocks Wind Farm – Transportation Route

March 2025

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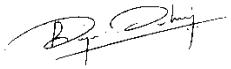
Detailed Flora, Vegetation and Targeted Black Cockatoo Survey King Rocks Wind Farm – Transportation Route

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Rev	Date	Details
A	16/01/2025	Submitted to client for comments.
0	10/03/2025	Final

	Name	Date	Signature
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Reviewed by:	Dylan Burford	10/03/2025	
Approved by:	Dylan Burford	10/03/2025	

WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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Executive summary

WSP was engaged by SynergyRED to undertake a detailed flora, vegetation and Black Cockatoo survey for the proposed development of a new wind energy project. The survey of twelve intersections was undertaken in September and four intersections in November 2024. The Survey Area consists of sixteen intersections between the Bunbury port and the windfarm site. The purpose of the survey was to assess the flora, vegetation and fauna values within the Survey Area and to identify any significant flora, vegetation and fauna populations that may be impacted as a result of delivery of wind turbines components from port to the windfarm. The findings from this survey will be used to support a Works Approval Application to the Department of Water and Environmental Regulation for the route alignment options.

In accordance with the *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016a), the detailed flora and vegetation and targeted Black Cockatoo survey was conducted in Spring 2024. The *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016a) recommends surveys within the Southwestern Interzone be undertaken in Spring (September-November).

The key findings of the flora, vegetation and Black Cockatoo habitat survey are as follows:

- Fifteen quadrats were assessed within the Survey Area. The quadrats were chosen in areas of native vegetation in better condition within the survey area. This improved the robustness of the assessment by maximising the opportunity to detect conservation significant flora and to evaluate the presence of threatened ecological communities (TECs).
- A total of 79 native and 22 non-native (weed) flora species were recorded within the Survey Area. None of the weed species recorded are listed as Weeds of National Significance (WoNS) or as a Declared pest plant in Western Australia.
- No threatened flora species were recorded within the Survey Area.
- One priority flora taxon (*Acacia sclerophylla* var. *pilosa* (P2)) was recorded within the Survey Area at intersection 12a.
- Eucalypt Woodlands of the Western Australian Wheatbelt and *Banksia* Woodlands of the Swan Coastal Plain were assessed in 3 intersections – intersection 01a, 02a and 19 neither were deemed to be present at these locations.
- Most of the habitat structure is situated on sandy clay or clay loam flats, comprising *Eucalyptus* open woodlands over *Acacia* shrublands over isolated forblands and sparse open grasslands.
- The Survey Area contains no natural waterways or wetlands, therefore potential impacts on the listed birds associated with water bodies are also minimal.
- Potential nesting trees for Black Cockatoos were recorded at two intersections (1a and 12b) within the Survey Area. No evidence of any other conservation significant fauna species was identified in the survey areas.

1 Introduction

1.1 Project background

Synergy Renewable Energy Developments (SynergyRED) is a wholly owned subsidiary of Synergy (Electricity Retail and Generation Corporation) situated in Perth, Western Australia. SynergyRED is currently investigating the feasibility of a new wind farm development near Hyden (King Rocks Wind Farm, herein referred to as the Project).

SynergyRED has engaged WSP to complete a detailed survey of flora and vegetation along the transportation route for delivery of WTG components for the Project, herein referred to as the "Survey Area". The Survey Area consists of Fifteen intersections, Intersection 01 consists of two sections. (Figure 1.1):

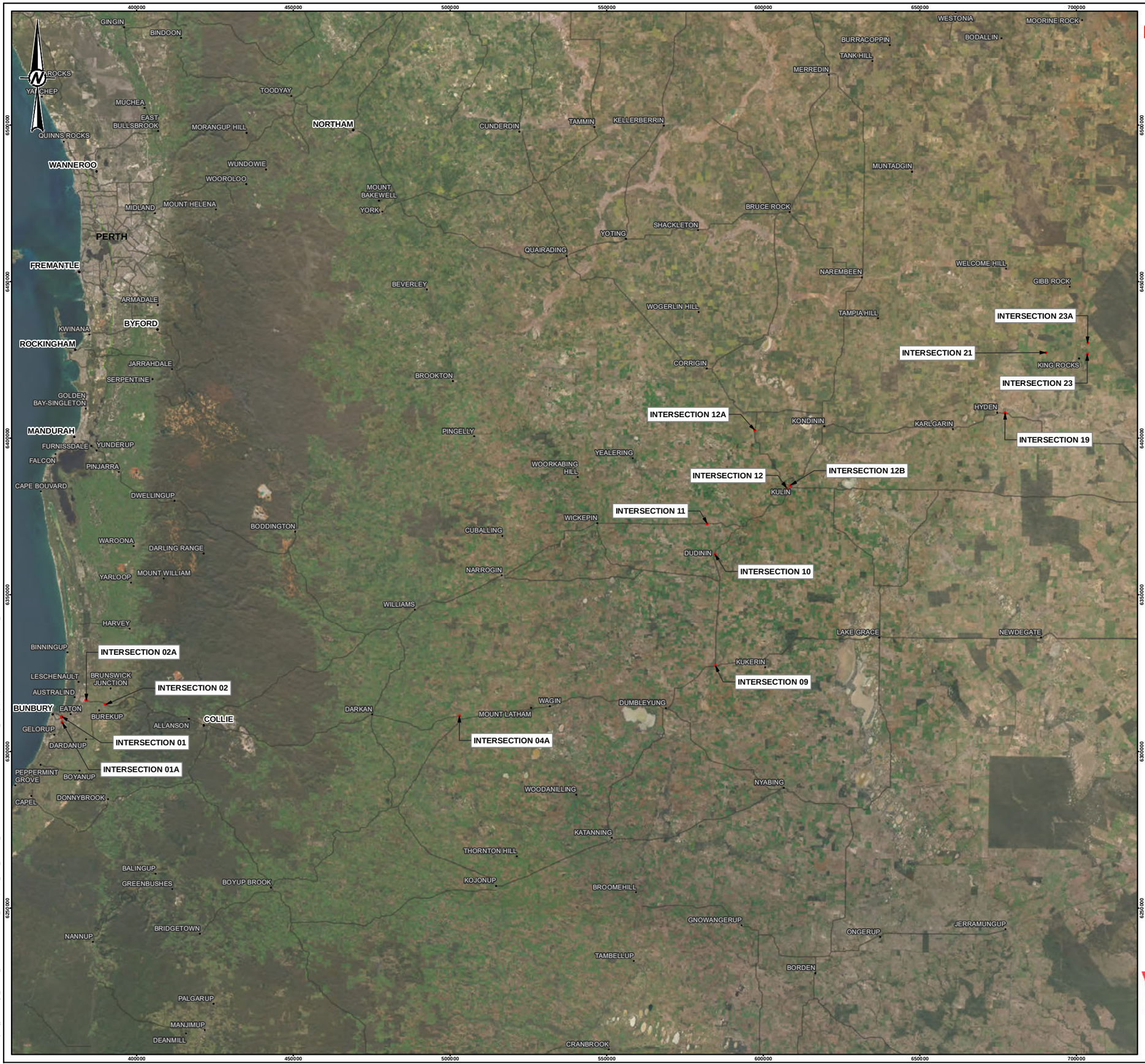
- Estuary Dr/Leschenault Dr Intersection **(Intersection 01)**
- Estuary Dr/Koomnana Dr Intersection **(Intersection 01)**
- Robertson Dr/ South Western Hwy Intersection **(Intersection 01a)**
- Southwestern Hwy/Coalfields Rd Intersection **(Intersection 02)**
- Forrest Hwy / Raymond Rd Intersection **(Intersection 02a)**
- Coalfields Rd/ Albany Hwy Intersection **(Intersection 04a)**
- Collie Lake King Rd/Rabbit Proof Fence Rd Intersection **(Intersection 09)**
- Dudinin – Jitarning Rd / Rabbit Proof Fence Rd Intersection **(Intersection 10)**
- Williams – Kondinin Rd / Rabbit Proof Fence Rd Intersection **(Intersection 11)**
- Williams – Kondinin Rd/Kulin Rd West/Davies Rd Intersection **(Intersection 12)**
- Corrigin-Kulin Rd/Kondinin Lake Rd Intersection **(Intersection 12a)**
- Kulin Lake Grace Rd/Williams – Kondinin Rd Intersection **(Intersection 12b)**
- Hyden-lake King Rd/Lovering Rd Intersection **(Intersection 19)**
- Sedgewick Rd/Billericay Rd E Intersection **(Intersection 21)**
- King Rocks Rd/Lovering Rd Intersection **(Intersection 23)**
- King Rocks Rd/Casuarina Rd Intersection **(Intersection 23a)**

1.2 Purpose and scope of work

The purpose of the survey was to identify and confirm the presence of flora and vegetation to inform the environmental impact of swept path assessments of the aforementioned intersections. As part of this scope of works, WSP has undertaken a desktop Preliminary Environmental Assessment to identify key environmental issues and constraints associated with the Project for delivering WTG components from port to the windfarm. The findings from this assessment will be used to inform the route alignment options and approval requirements.

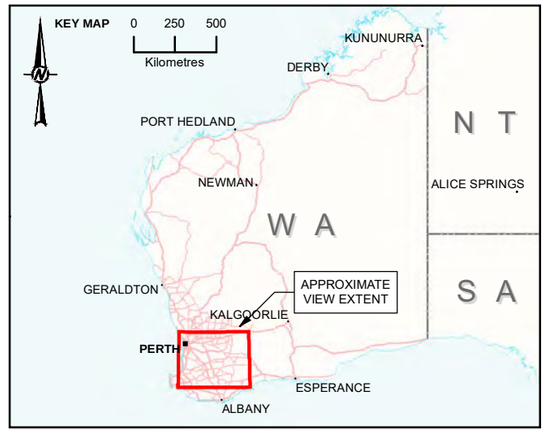
The scope of work included:

- Detailed flora and vegetation survey compliant with the Environmental Protection Authority (EPA) (2016b) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* and other relevant State and Federal guidelines and legislation. The flora and vegetation survey scope included the following:
  - A desktop study of the flora and vegetation of the survey area, with an emphasis on threatened and priority flora and conservation significant ecological communities.
  - Review previous literature and current databases associated with the survey areas.
  - Recording visual observations on the fire regimes, grazing pressures and overall health of the vegetation to allow for an assessment of the overall condition of the flora and vegetation communities.
  - Collect and identify the vascular plant species present in vegetation survey quadrats, as well as opportunistically, within the survey areas.
  - Identifying and recording the locations of any declared pest organisms or weed species.
  - Providing advice on the local and regional significance of the vegetation communities.
- Survey Guidelines for Australia's Threatened Orchids. Guidelines for detecting orchids listed as "Threatened" under the Environment Protection and Biodiversity Conservation Act 1999. (DCCEEW) (2013).
- Targeted Black Cockatoo survey for intersections 1a, 4a, 12b and 23a compliant with the EPA *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (DCCEEW 2022) and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) *Referral guideline for 3 WA threatened black cockatoo species* (DCCEEW 2022). The targeted Black Cockatoo survey scope included the following:
  - A desktop study of relevant datasets and literature relating to Black Cockatoos.
  - Mapping of Black Cockatoo habitat relating to breeding, foraging and roosting.
- Documenting the results of the assessment including the preparation of relevant spatial data.
- Prepare a report summarising the findings.



LEGEND

SURVEY AREA



0 25,000 50,000

1:1,200,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI BASEMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
SITE LOCATION

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	1.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F0\01_SiteLocation.mxd PRINTED ON: 2025-01-10 AT: 11:46:49 AM

1.3 Summary of WSP survey associated with the Project

WSP has undertaken a range of flora and vegetation surveys along with basic fauna habitat and Black Cockatoo assessments associated with the Project. The survey and respective timings are set out in Table 1.1. The surveys were designed to address the following flora and vegetation assessment requirements:

- Reconnaissance flora and vegetation survey – King Rocks Development Support (Assessment September 2023), submission in 2023.
- Reconnaissance flora and vegetation survey – King Rocks Development Support (Assessment December 2023 and January 2024), submission in 2024.
- Flora, Vegetation and Fauna Survey – King Rocks Development Support: Site Selection for Workforce Accommodation Camp (Assessment March 2024), submission in 2024.
- Transportation Route Threatened Ecological Community Target Survey – King Rocks Wind Farm (Assessment May 2024), submission in 2024.
- Detailed Flora and Vegetation Survey – King Rocks Wind Farm – Transportation Route (Assessment September and November 2024), submission in 2024.

Table 1.1 Record of WSP surveys associated with the project

Survey number	Survey description	Document reference	Survey Dates	Survey effort (person days)
1	Reconnaissance Flora and Fauna Survey - King Rocks Development Support	WSP 2023	12/09/23 to 14/09/23	3
2	Reconnaissance Flora and Fauna Survey - King Rocks Development Support	WSP 2024	05/12/23 to 07/12/23	3
2	Reconnaissance Flora and Fauna Survey - King Rocks Development Support: Site Selection for Workforce Accommodation Camp	WSP 2024	22/01/24 to 25/01/24	4
3	Flora, Vegetation and Fauna Survey - King Rocks Development Support: Site Selection for Workforce Accommodation Camp	WSP 2024	26/03/24 to 28/03/24	3
4	Transportation Route Threatened Ecological Community Target Survey - King Rocks Wind Farm	WSP 2024	04/06/24 to 07/06/24	4
5	Detailed Flora and Vegetation Survey - King Rocks Wind Farm – Transportation Route	WSP 2024	24/09/24 to 28/09/24 26/11/24 to 27/11/24	9

2 Environmental context

2.1 Physical environment

2.1.1 Geology, landforms, and soils

Landform and soils influence fauna habitat and species at regional and local scales. The geology bedrock of the survey area forms a wide range from Vasse system to Yilgarn Craton granites and is described as granitic rock, undivided, and metamorphosed (DBCA 2024). The Department of Primary Industries and Regional Development (DPIRD) has compiled data from various surveys to produce a soil landscape mapping dataset for Western Australia; these are outlined in Table 2.1 for the general area near the survey intersections. The land systems map for each intersection are summarised in Appendix H.

Table 2.1 Extent of soil landscape from the land system mapping units close to the survey area

Land systems	Description	State-wide Current extent (ha)	Survey area	
			Area of intersection (ha)	Proportion of current extent (%)
211Va - Vasse System	Poorly drained estuarine flats, of the Swan Coastal Plain. Tidal flat soil, saline wet soil and pale deep sand. Samphire, sedges and paperbark woodland.	757	0.75	0.0987
212Bs - Bassendean System	Bassendean System - Swan Coastal Plain from Busselton to Jurien. Sand dunes and sandplains with pale deep sand, semi-wet and wet soil. Banksia-paperbark woodlands and mixed heaths.	394.7	1.77	0.4487
213Pj - Pinjarra System	Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.	114,168	2.55	0.0022
250Hy – Hyden System	Gently undulating mallee, proteaceous, and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the north.	70,949	0.65	0.0009
257De - Dellyanine System	Dellyanine System - Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland.	221,031	0.41	0.0002
258Wo – Woolocutty System	Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.	124,461	1.94	0.0016
259Cb - Coblinine System	Broad valley floors, with few lakes, in the Southwestern Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils.	141,533	0.13	0.0004

Land systems	Description	State-wide Current extent (ha)	Survey area	
			Area of intersection (ha)	Proportion of current extent (%)
	Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.			
259Co – Corrigin System	Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.	65,393	0.66	0.0010
259Ki – Kondinin System	Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.	11,783	1.47	0.0125
259Kk - Kukerin System	Gently undulating rises, in the Southwestern Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.	249,030	1.21	0.0005

2.1.2 *Hydrology and wetlands*

Wetlands are areas of seasonally, intermittently, or permanently waterlogged land, such as poorly drained soils, ponds, billabongs, lakes, swamps, tidal flats, estuaries, rivers, and their tributaries (Wetlands Advisory Committee 1977).

Wetlands can be recognised by the presence of vegetation associated with waterlogging or the presence of hydric soils such as peat, peaty sand, or carbonate mud (Hill *et al.* 1996).

Wetlands of national or international significance may be afforded special protection under Commonwealth or international agreements. The following lists of important wetlands were checked as part of this assessment:

- Ramsar List of Wetlands of International Importance (DCCEEW 2023); and
- A Directory of Important Wetlands in Australia (DBCA 2023).

No internationally or nationally 'important wetlands' or geomorphic wetlands are located within the Survey Area.

2.2 Biological environment

2.2.1 *Interim biogeographic regionalisation of Australia*

Native vegetation is described and mapped at different scales to illustrate patterns in its distribution. The Interim Biogeographic Regionalisation for Australia (IBRA version 7) divides the Australian continent into 89 bioregions and 419 subregions (Department of the Environment, 2015c). IBRA regions represent a landscape-based approach to classifying the land surface, including attributes of climate, geomorphology, landform, lithology, and characteristic flora and fauna. Specialist ecological knowledge, combined with appropriate regional and continental scale biophysical datasets were interpreted to define and describe these regions (Thackway and Cresswell 1995). Information about each subregion is used to help determine which ecosystems are adequately protected in the conservation estate.

The Survey Areas spread across between three IBRA regions – Swan Coastal Plain, Avon Wheatbelt and Mallee) (Appendix B) and three IBRA subregions – SWA02-Perth, AVW02-Katanning and MAL02-Western Mallee (Appendix C).

The Swan Coastal Plain is described as silt and clays underlain by Kankar, 'exposed granite, sandplains and laterite pavements" and a granite basement overlain by Salt Lake systems (Beecham and Danks 2001). Vegetation is characterised by fine-textured soils with Eucalyptus woodlands and 'scrub-heath on sands and laterite' (Beecham and Danks 2001).

2.2.2 Pre-European vegetation

Pre-European vegetation across WA was mapped by Beard (1976) on a broad scale (1:1,000,000). The identification of the original pre-European and current extent of each of the vegetation types assist in providing baselines for managing activities such as land clearing. The pre-European mapping for the survey area was summarised in Table 2.2 below and the figures are attached in Appendix D.

Table 2.2 Extent of pre-European vegetation associations close to the survey area

Vegetation system association code	Description	Extent remaining	Survey area	
		State level (ha)	Area of intersection (ha)	Proportion of current extent (%)
8 - CORRIGIN	Wheatbelt; *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; *E. salubris, E. oleosa*. Riverine; *E. camaldulensis*	764	0.60	0.0784
37 - BASSENDEAN	Wattle, *Casuarina* and teatree A*cacia Allocasuarina-Melaleuca* alliance.	694	1.62	0.2341
1000 - BASSENDEAN		694	2.09	0.3011
955 - CORRIGIN	*Allocasurina* shrubland	2,109	0.68	0.0323
960 - HYDEN	Eucalypt shrubland *Eucalyptus eremophila, Eucalyptus redunca, Eucalyptus* spp.	21,680	1.53	0.0070
968 - PINJARRA	Jarrah, marri and wandoo	2,649	1.36	0.0512
1023 - WAGIN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris, Eucalyptus* oleosa. Riverine; rivergum *Eucalyptus amaldulensis.* Tropical; messmate, woolyb	132,645	0.41	0.0003
1023-DUMBLEYUNG	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris, Eucalyptus oleosa*. Riverine; rivergum *Eucalyptus camaldulensis*. Tropical; messmate, woolyb	227,670	0.58	0.0003
1023 - CORRIGIN	Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, Eucalyptus salmonophloia*. Goldfields; gimlet, redwood etc. *Eucalyptus salubris, Eucalyptus oleosa*. Riverine; rivergum *Eucalyptus camaldulensis*. Tropical; messmate, woolyb	269,070	0.60	0.0002
945 – HYDEN	Woodland/mallee	51,164	0.65	0.0013
519 – HYDEN	Eucalypt shrubland *Eucalyptus eremophila, Eucalyptus redunca, Eucalyptus* spp.	54,366	0.83	0.0015

Vegetation system association code	Description	Extent remaining	Survey area	
		State level (ha)	Area of intersection (ha)	Proportion of current extent (%)
519 – SKELETON ROCK	Eucalypt shrubland *Eucalyptus eremophila*, *Eucalyptus redunca*, *Eucalyptus* spp.	84,876	1.11	0.0013

2.2.3 Threatened and priority ecological communities

The desktop search results indicate two threatened ecological community (TECs) are recorded within the Survey Area. The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) and Protected Matters Search Tool (PMST) identified one TEC as likely to occur near the Survey Area. A larger search area (50 km maximum) was used due to the broad spread of the multiple intersections.

TECs are ecological communities that are recognised as rare or under threat and therefore warrant special protection. Selected TECs are afforded statutory protection at a Commonwealth level under Section 181 of the EPBC Act. Any action likely to have a significant impact on a community listed under the EPBC Act requires approval from the commonwealth minister for the DCCEEW.

TECs are also listed within Western Australia under Sections 27(1) and 33 of the *Biodiversity Conservation Act 2016* (BC Act) and under the *Biodiversity Conservation Regulations* (BC Regulations). Their conservation significance is also acknowledged through other state environmental approval processes such as 'environmental impact assessment' pursuant to Part IV of the *Environmental Protection Act 1986* (EP Act) and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

The database searches identified the conservation significant ecological community as the Eucalypt Woodlands of the Western Australian Wheatbelt, listed as a Critically Endangered TEC under the EPBC Act and P3 PEC and Banksia Woodlands of the Swan Coastal Plain ecological community by DBCA are described in Table 2.3.

Table 2.3 TECs likely to occur within the region

Community name	TEC/PEC	Level of significance	
		EPBC Act	State
Eucalypt Woodlands of the Western Australian Wheatbelt	TEC	Critically Endangered	Priority 3
Banksia Woodlands of the Swan Coastal Plain ecological community	PEC	Critically Endangered	Priority 3

Intersections interacting with TEC/PECs and all ecological community maps are presented in Figure 2.1.

2.2.3.1 Eucalypt Woodlands of the Western Australian Wheatbelt

Eucalypt Woodlands are situated on the flatter landscapes and lower rises of the Wheatbelt. The woodlands are dominated by a complex mosaic of several Eucalypt species with a tree or mallee form over a highly variable understorey (DWER 2023). The Eucalypt species that dominate or co-dominate the WA Wheatbelt Woodlands ecological community are based on the floristic classification of wheatbelt woodlands by Harvey and Keighery (2012). Other Eucalypt species may be present in association with these key species but do not occur as dominant or co-dominant species in WA Wheatbelt Woodland.

Woodlands dominated by a mallee form or vegetation with a very sparse Eucalypt tree canopy (less than 10%) are not part of the TEC. Nor are woodlands that have the same key Eucalypt species but occur in adjacent bioregions (e.g., Coolgardie, Esperance Sandplains, Yalgoo, and Geraldton Sandplains bioregions). Woodlands dominated by Eucalypts restricted to granite outcrops and rocky rises are also removed from this TEC (DWER 2024).

2.2.3.2 *Banksia* Woodland of the Swan Coastal Plain

The *Banksia* Woodlands of the Swan Coastal Plain ecological community occur within, or adjacent to, the Swan Coastal Plain (SCP), an area stretching from Jurien Bay, north of Perth, to Dunsborough, south of Perth. The ecological community is largely situated within the Dandaragan (SWA01) and Perth (SWA02) subregions of the IBRA SCP bioregion (DCCEEW 2024c). The Banksia Woodlands of the SCP ecological community is also represented within areas of the Jarrah Forest IBRA subregion immediately east and south of the SCP, including areas of the Darling and Whicher escarpments (JAF01 and JAF02). Since the 19th century, the SCP has been extensively cleared and the extent of the originally continuous Banksia woodland has become fragmented. The ecological community has been impacted by agriculture, urbanisation, and the development of infrastructure required to facilitate these practices (Ritchie et al. 2021).

Within a broader regional-scale, the SCP lies within one of two biodiversity hotspots in Australia – the Southwestern Floristic Region of Western Australia (Hopper and Gioia 2004; Marchese 2015). The *Banksia* Woodlands of the SCP ecological community is a low woodland to forest of Banksia species, and an understory of highly diverse sclerophyllous forb, graminoid, and shrub plant species. Most commonly *Banksia attenuata* and *Banksia menziesii* dominate (or co-dominate) the woodlands, with various Eucalypts and other tree species present within, or above, the Banksia canopy (DotEE 2016b). In addition to a high floristic diversity and richness, *Banksia* woodlands support a range of vertebrate and invertebrate fauna. The highly fragmented nature of the landscape means that remaining patched of Banksia Woodland provide essential corridor habitat, refuges, and foraging grounds for fauna species; many of which are listed as threatened such as the iconic Black Cockatoo species *Zanda latirostris* (Carnaby's Black Cockatoo), *Calyptorhynchus banksii naso* (Forest Red-tailed Black Cockatoo), and *Zanda baudinii* (Baudin's Black Cockatoo) (DotEE 2016b). Diagnostic characteristics refer to the location and physical environment of the community, edaphic conditions, native vegetation structure, native vegetation composition, and contra-indicators.

The *Banksia* Woodlands of the SCP ecological community are located on well-drained, nutrient deficient soils common to deep sandy, dune landforms; including the Bassendean, Spearwood and occasionally Quindalup sands. The ecological community also occurs on sandy colluvium and aeolian sands east and south on the Ridge Hill Shelf, Whicher Scarp, and Dandaragan Plateau (Ritchie *et al*. 2021). The unifying feature of this ecological community is the dominance (or co-dominance) of at least one of four key species — *Banksia attenuata*, *Banksia menziesii*, *Banksia prionotes*, and/or *Banksia ilicifolia*. While other tree species occur within the *Banksia* Woodland, they are co-dominant with the diagnostic *Banksia* species listed. Tree species common in *Banksia* Woodlands of the SCP ecological community include *Eucalyptus todtiana*, *Nuytsia floribunda*, *Allocasuarina fraseriana*, *Callitris arenaria*, *Callitris pyramidalis*, and *Xylomelum occidentale*. Considerable variation is recognised between different patches of *Banksia* Woodland, particularly across the SCP spatial scale (Lambers 2014).

2.2.4 Environmentally sensitive areas

Environmentally sensitive areas (ESA) are prescribed under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* and have been identified to protect native vegetation values and areas of interests, such as significant wetlands, threatened flora, threatened communities and Bush Forever sites. Within an ESA none of the exemptions under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* apply to the Project.

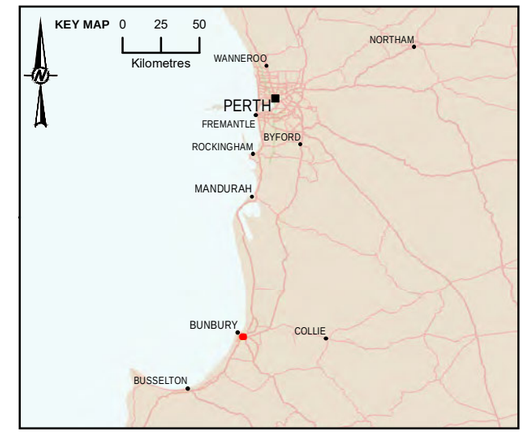
Eucalypt Woodlands of the Western Australian Wheatbelt intersects with one intersection (Intersection 19) and *Banksia* Woodlands of the Swan Coastal Plain intersects with two intersection Survey Area (Intersection 1a and 2a).



LEGEND

PECT / TEC

- Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain
- Relictual White Mangrove Community (Leschenault Inlet)



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

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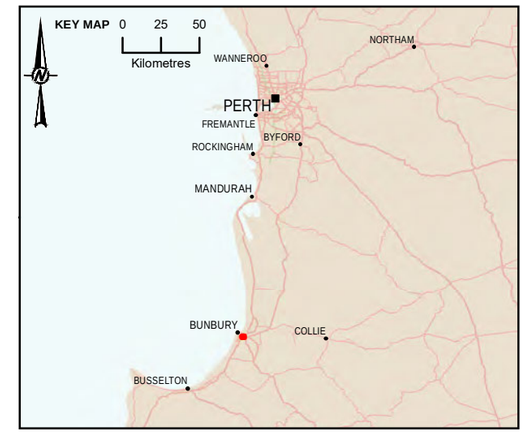
375500
376000
376500
6311500
6311000
6310500

VITTORIA
BUNBURY
EAST BUNBURY
VITTORIA
EAST BUNBURY
KOOMBANA DR
WILLINGE DR
ESTUARY DR
INTERSECTION 01
SANDRIDGE RD
EELUP RTY
ROBERTSON DR
VITTORIA
GLEN IRIS
FORREST HWY
GLEN IRIS
EAST BUNBURY

LEGEND

PECT / TEC

- Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain
- Relictual White Mangrove Community (Leschenault Inlet)



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

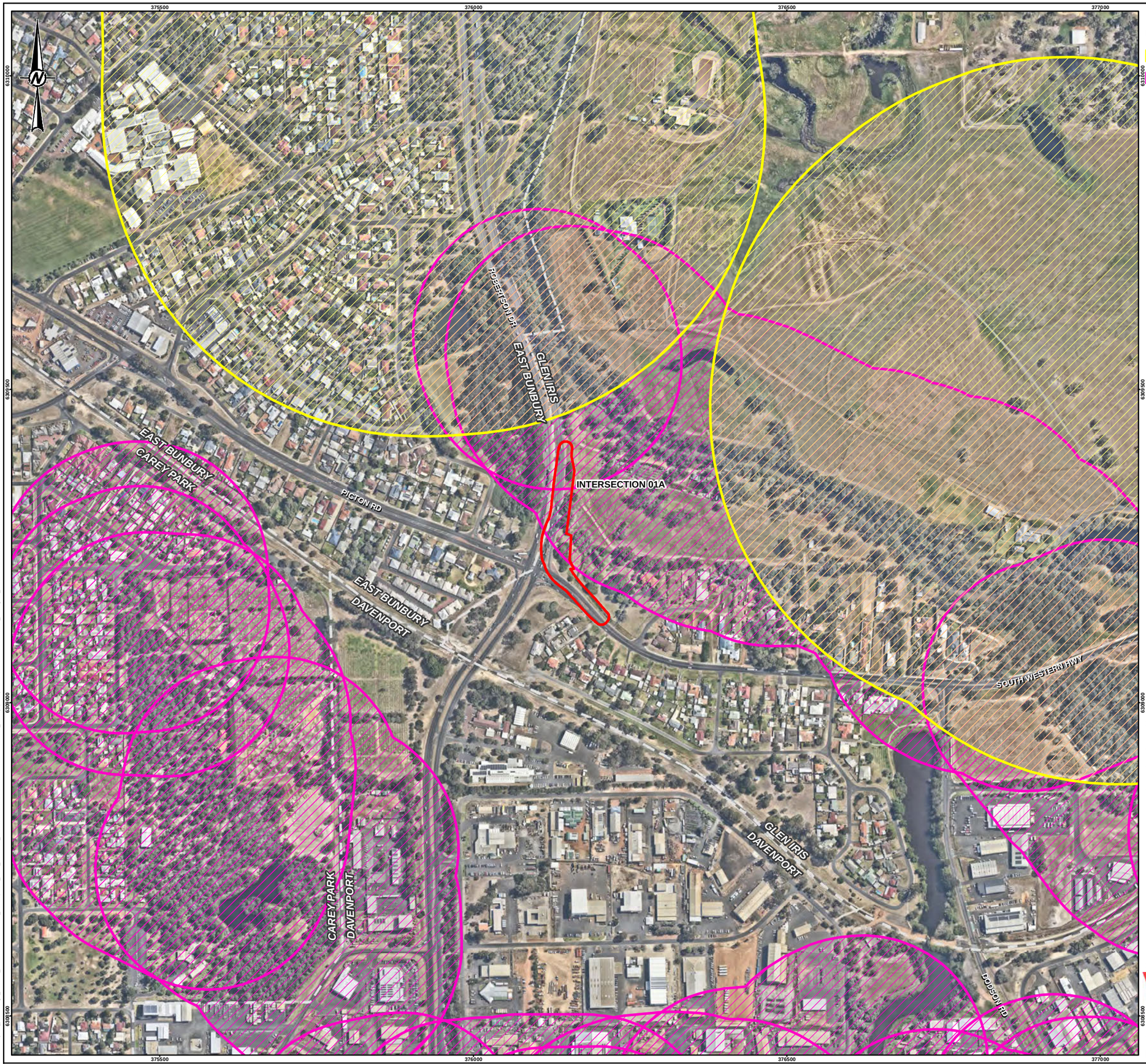
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

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25mm

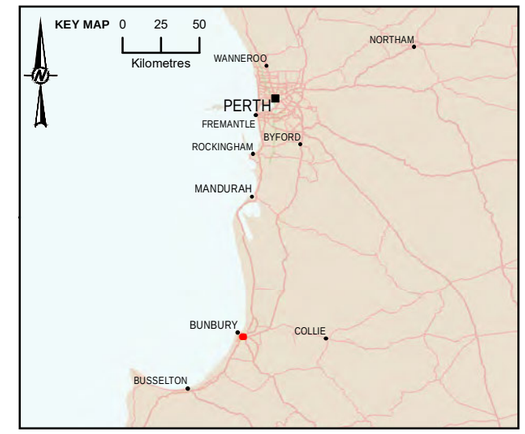
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LEGEND

PECT / TEC

- Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain
- Banksia Woodlands of the Swan Coastal Plain ecological community



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig06_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:32:37 PM

389500 390000 390500

6315500 6315000 6314500

RAYMOND RD

INTERSECTION 02

COALFIELDS RD

ROELANDS BUREKUP

SOUTH WESTERN HWY

LEGEND

KEY MAP 0 25 50 Kilometres

NORTHAM
WANNEROO
PERTH
FREMANTLE
BYFORD
ROCKINGHAM
MANDURAH
BUNBURY
COLLIE
BUSSELTON

0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

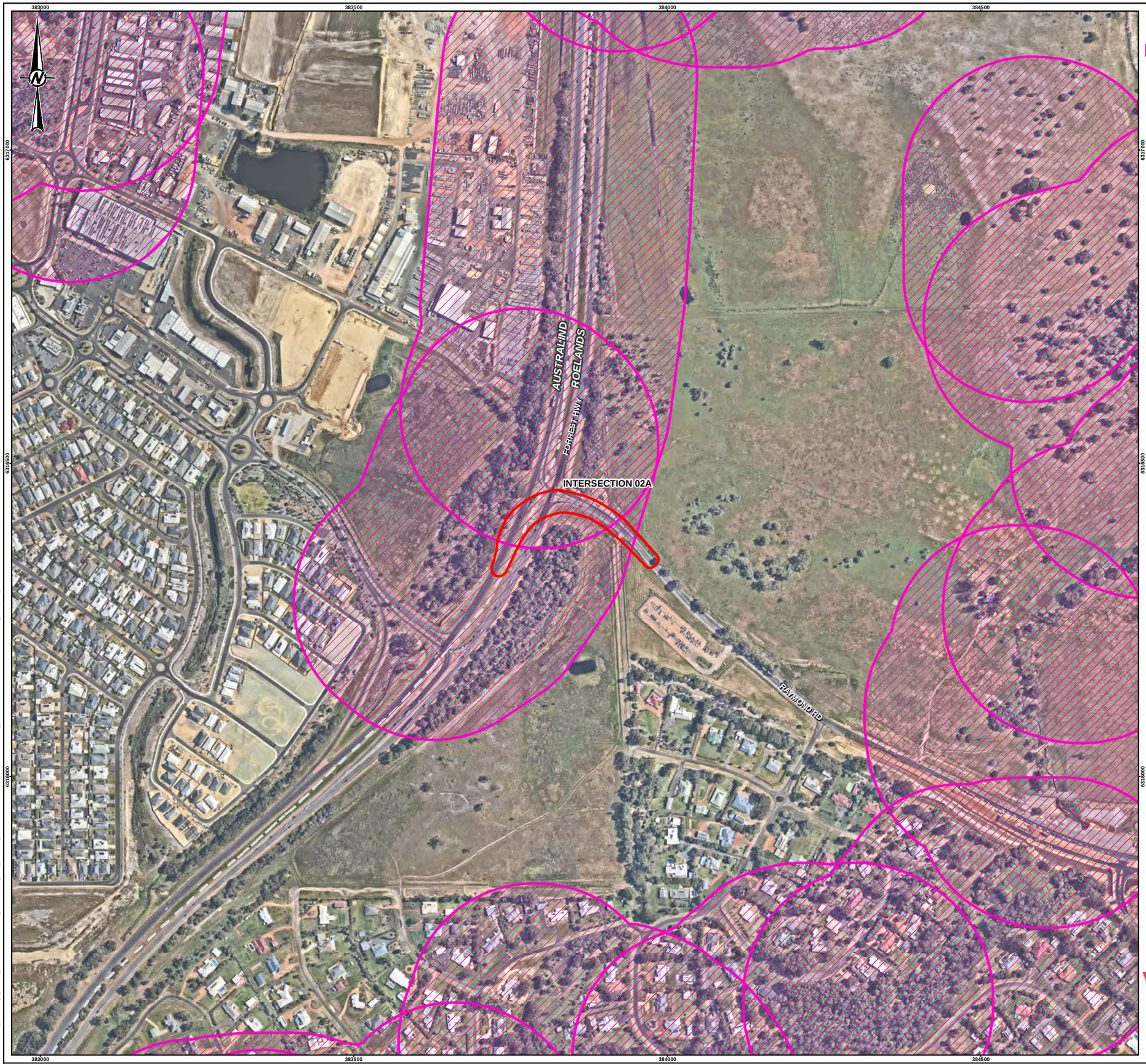
YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

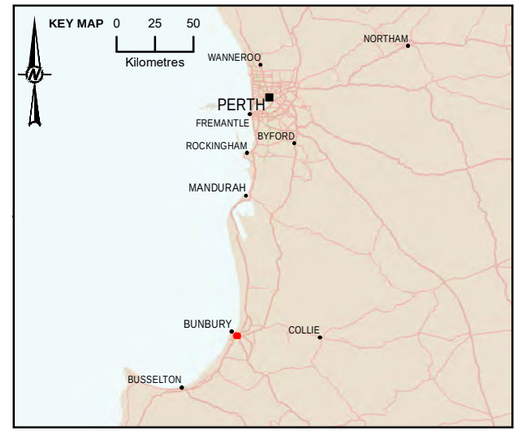
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LEGEND

PECT / TEC

Banksia Woodlands of the Swan Coastal Plain ecological community



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

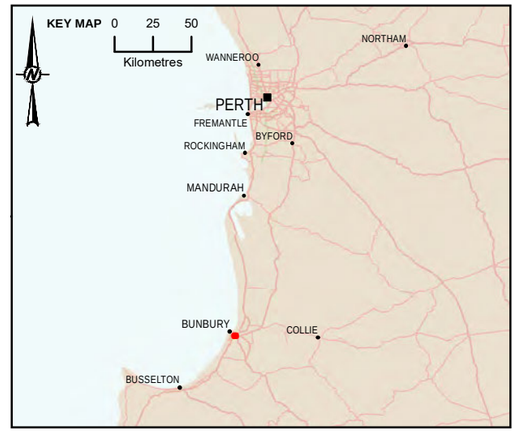
25mm

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LEGEND



0 100 200
1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

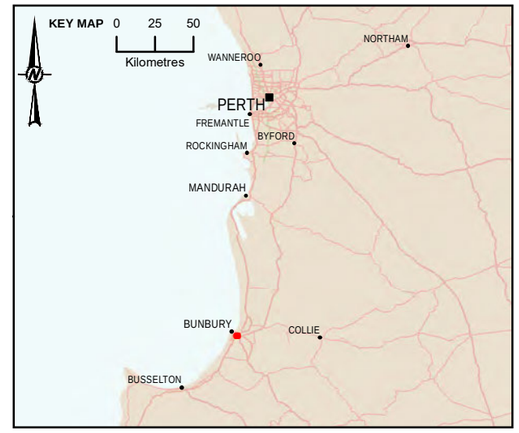
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F006_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:54:15 PM



LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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SYNERGY RED

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KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F006_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:54:19 PM

584000 584500 585000

6383500 6383000 6382500

DUDININ-JITARNING RD

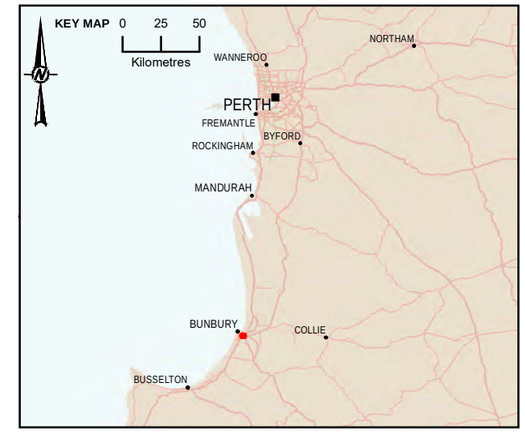
INTERSECTION 10

DUDININ WOGOLIN

FORREST ST

FOX ST

LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig06_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:54:23 PM

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6373500 6373000 6372500 6372000

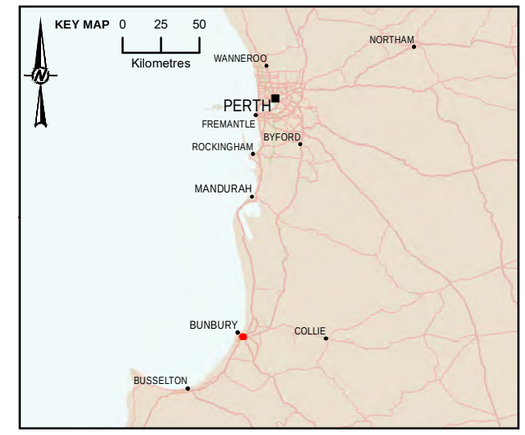
INTERSECTION 11

WILLIAMS-KONDININ RD

JITARNING

WOGOLIN

LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

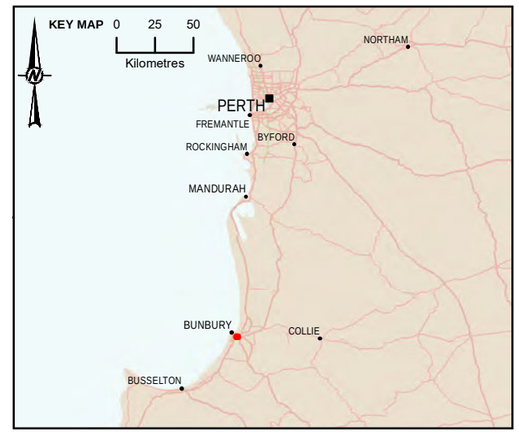
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LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

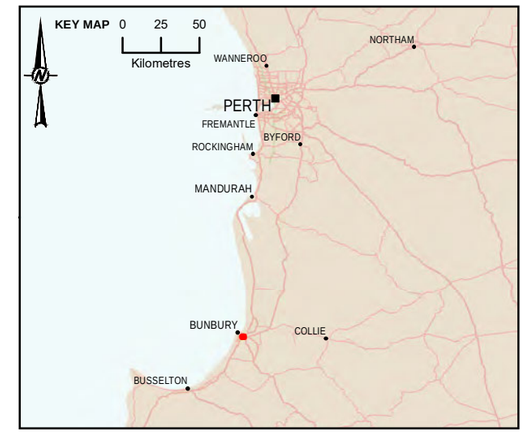
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

PATH: B:\Synergy\REDK\rgs_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-FIG06_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:54:32 PM



LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

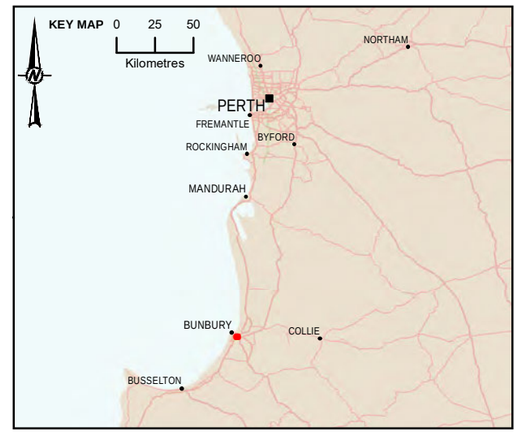
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F\06_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:54:37 PM



LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT
WSP

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig06_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:54:41 PM

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6408500 6408000 6407500

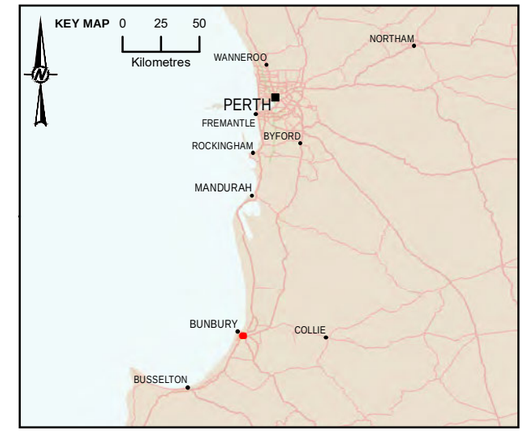
INTERSECTION 19

HYDEN-LAKE KING RD

LEGEND

PEC / TEC

Eucalypt woodlands of the Western Australian Wheatbelt



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

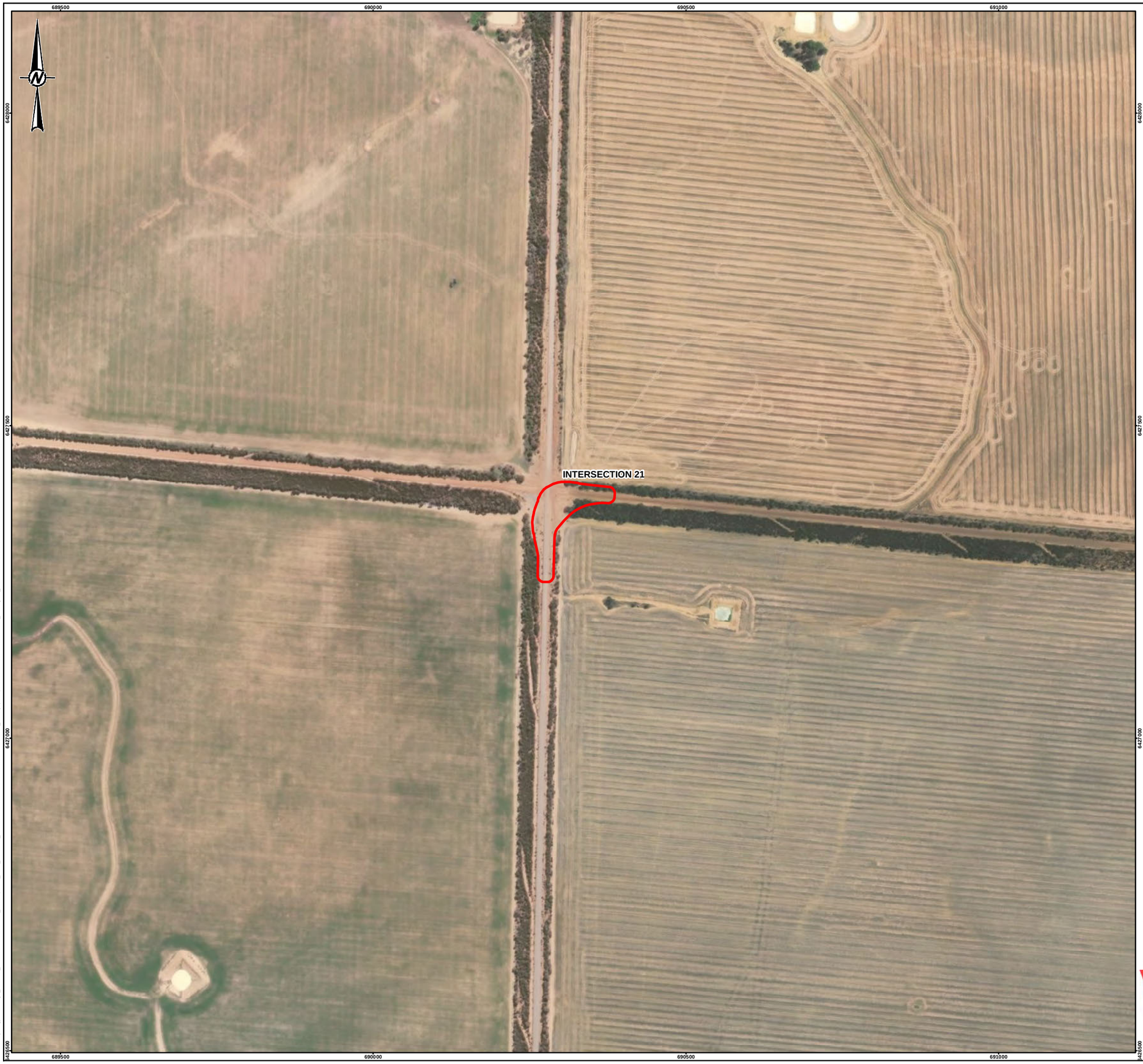
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

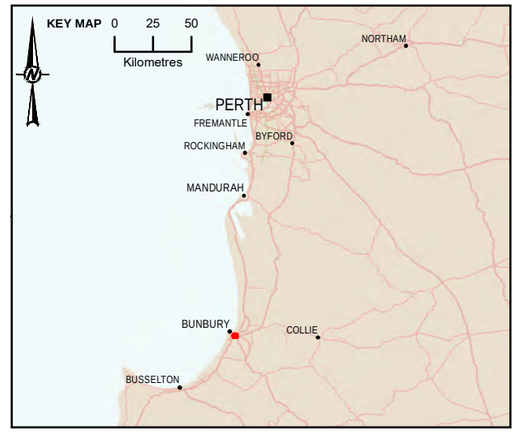
25mm

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LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

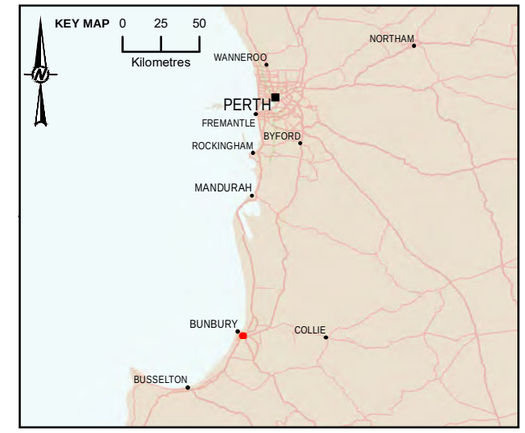
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25mm
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final\PS204764-001-R-RevA-F\06_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:54:50 PM

703000
703500
704000
6427500
6427000
6426500

INTERSECTION 23

LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.1

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F\06_Ecological_Communities.mxd PRINTED ON: 2025-01-08 AT: 2:32:57 PM

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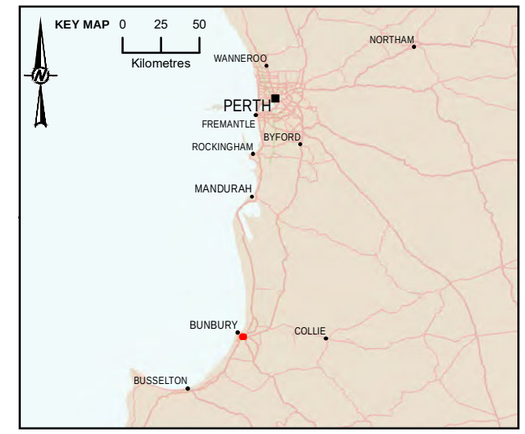
25mm

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703000
703500
704000
704500
6431000
6430500
6430000

INTERSECTION 23A

LEGEND



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
ECOLOGICAL COMMUNITIES

CONSULTANT

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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3 Survey methodology

The detailed flora and vegetation field surveys were conducted by Associate Ecologist Roger Dharmarajan (Flora Permit FB62000412). Surveys were undertaken between 24 – 28 September 2024 and 26 – 27 November 2024. The surveys were undertaken in accordance with the requirements outlined in the approved scope of work.

3.1 Flora

3.1.1 Desktop assessment

3.1.1.1 Database searches

State and Commonwealth database searches were conducted to identify listed significant flora within, and near, the Survey Area. Definitions of conservation codes are available in Appendix E. Results were interpreted to provide context to the potential values and threats associated with the survey area. Searches were done during different phases of the survey with the Australian Government PMST and the Department of Biodiversity, Conservation and Attractions (DBCA) database search conducted within the area of the shapefile provided by SynergyRED with an additional 50 km buffer for the Survey Area (dated 25 November 2024).

ESA are declared by the Minister for Environment under Section 51B of the Environmental Protection Act to prevent incremental degradation of important environmental values such as declared rare (Threatened) flora, threatened ecological communities or significant wetlands. A search for ESAs in the vicinity of the survey area was conducted using Commonwealth and Western Australian government datasets (Department of the Environment and Energy 2008, 2018, Department of the Environment 2015, Department of Biodiversity, Conservation and Attractions 2017).

3.1.1.2 Likelihood of occurrence assessment – Significant flora

Prior to conducting the field survey, aerial imagery was interpreted to identify potential habitat types within and surrounding the Survey Area. Preferred habitat information for each significant flora species was also compiled using publicly available information from FloraBase (Western Australian Herbarium 2024 and 2025) and Western Australian Herbarium (WA Herbarium) voucher information (obtained using Level 5 access on FloraBase). The distance of the Survey Area to the nearest records of significant flora was calculated using GIS software and the coordinates provided with database results. The significant flora species returned from the database searches (Appendix F) were then categorised according to the criteria in Table 3.1 for potential occurrence within the Survey Area.

Table 3.1 Likelihood of occurrence

Likelihood of occurrence	Criteria
Recorded	Species previously recorded within the Survey Area.
Likely	Species previously recorded within 10 km of the survey area and suitable habitat appears to be present in the Survey Area.
Potential	Species previously recorded within 10 km to 20 km of the survey area and/or suitable habitat appears to be present in the Survey Area.
Unlikely	No known occurrence within 20 km of the survey area, and/or suitable habitat appears to be absent in the Survey Area.

Following the field survey, the significant flora species identified during the desktop assessment were again assessed to determine their likelihood of occurrence within the Survey Area. Post-field survey likelihood was primarily based on validating the presence (and thorough inspection) of suitable habitats within the Survey Area, combined with life form, habitat and flowering information for each flora species and site conditions.

3.1.2 Detailed flora and vegetation survey

The methods adopted for the detailed flora and vegetation survey were consistent with *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority, 2016b) and in accordance with the requirements outlined in the scope of works.

Information acquired during the desktop assessment assisted in the design of the field survey. Pre-survey planning involved an examination of aerial imagery to identify potentially different landforms, habitat and vegetation throughout the Survey Area. The Survey Area was traversed on foot during the field survey, targeting all significant flora species with the potential to occur. Where potential flora of significance was identified, a minimum of a 10 m radius of the surrounding area was also searched. Where any potential flora of significance was identified, the following information was collected:

- location – coordinates measured using a differential global positioning system unit with +/- 0.5 m accuracy (MGA50, GDA2020)
- recorder and date – personnel involved in sampling that location and the survey date
- species – representative samples of all suspected significant species were collected for confirmation at the WA Herbarium
- recording any threatened or priority flora and ecological communities
- species abundance – a count of the number of individuals
- identifying and mapping the different vegetation communities on site and their condition and
- photographs – an in-situ photograph was taken of each significant flora species.

3.1.2.1 Taxonomy and nomenclature

A specimen of each potential significant flora species recorded in the field was collected for confirmation identification. Specimens were initially identified by the ecologist in the field and subsequently taken to the WA Herbarium for confirmation. The assigned nomenclature is consistent with the current listing of scientific names recognised by the WA Herbarium.

3.1.2.2 Vegetation condition

Vegetation in the survey area were assessed on a scale of 'Completely Degraded' to 'Pristine' using the Keighery (1994) condition rating system. This scale is, as outlined in EPA (2016) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment*, as follows:

Pristine:	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Excellent:	Areas of vegetation where no exploration or drill tracks encroach, typically at least 20m distant from tracks.
Very Good:	Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging, and grazing.
Good:	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback, and grazing.
Degraded:	Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback, and grazing.
Completely Degraded:	These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs.

3.1.2.3 Limitations

Following completion of the desktop assessment and field surveys, a review of any limitations that may have affected a complete assessment of the survey area was conducted. The limitations listed in Table 3.2 are based on those suggested as considerations in *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016b).

Table 3.2 Potential flora and vegetation survey limitations

Potential limitation	Limitation (none/minor/ requires consideration)	Statement regarding potential limitations
Availability of contextual information at a regional and local scale	None	Broad-scale contextual information is available from Beard (1979, 1980b, 1980a, 1990), Beecham (2001) and several Commonwealth and State government departments.
Scope (i.e., what life forms, etc., were sampled)	None	Vascular flora, and weeds, which were the focus of the present survey, were thoroughly sampled and assessed.
Competency/experience of the team carrying out the survey, including experience in the bioregion surveyed	None	The ecologist responsible for undertaking the field surveys has significant experience in conducting flora and vegetation surveys throughout Western Australia, including the Mallee bioregion.
Proportion of flora/fauna recorded and/or collected, any identification issues	None	Adequate time was allowed for a thorough search of the survey area. All specimens collected were able to be identified to species level and confirmed in the WA Herbarium.
Was the appropriate area fully surveyed (effort and extent)	None	The survey area was adequately surveyed for the presence and abundance of significant flora species. Sufficient time was provided to allow a thorough search for the survey area. Track logs demonstrate site coverage.
Access restrictions within the survey area	None	The entirety of the survey area was able to be accessed by vehicle and traversed by foot.
Proportion of flora collected and identified (based on sampling, timing, and intensity)	None	The survey was conducted during the recommended survey period (Spring) when the highest percentage of flora are flowering and readily identifiable. The botanist was familiar with conservation significant taxa in the vegetation surrounding the survey area.
survey timing, rainfall, season of survey	None	The EPA (2016b) recommends that flora and vegetation surveys in the Warren regions should be undertaken after the main rainfall period in the winter months. The survey were conducted in spring (September).
Disturbance that may have affected the results of survey such as fire, flood or clearing	None	This disturbance did not limit the outcomes of the survey. There was no evidence of recent fire, floods or clearing in the survey area.

3.2 Black Cockatoo habitat assessment

3.2.1 Desktop assessment

Prior to the commencement of the Black Cockatoo habitat assessment, a desktop assessment was undertaken to identify relevant environmental information pertaining to the survey area and to assist in survey design. The desktop assessment involved a review of:

- DBCA threatened fauna database (Appendix G).
- DCCEEW Protected Matters Search Tool (PMST) to identify species listed under the EPBC Act (DCCEEW, 2024) (Appendix G).

3.2.2 Habitat assessment

Habitat used by Black Cockatoos can be categorised as breeding, foraging and/or night roosting habitat (DAWE 2022) as presented in Table 3.3.

Table 3.3 Habitats used by Black Cockatoos

Habitat	Baudin's	Carnaby's	Forest red-tailed
Breeding	Generally, in woodland or forest, but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Karri (*Eucalyptus diversicolor*), Marri (*Corymbia calophylla*), Wandoo (*E. wandoo*) and Tuart (*E. gomphocephala*).	Generally, in woodland or forest, but also breeds in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Salmon Gum (*E. salmonophloia*), Wandoo, Tuart, Jarrah (*E. marginata*), Flooded Gum (*E. rudis)*, York Gum (*E. loxophleba* subsp. *loxophleba*), Powderbark (*E. accedens*), Karri and Marri.	Generally, in woodland or forest, but may also breed in former woodland or forest now present as isolated trees. Nest in hollows in live or dead trees of Marri, Karri, Wandoo, Bullich (*E. megacarpa*), Blackbutt (*E. patens*), Tuart and Jarrah.
Night roosting	Generally, in or near riparian environments or other permanent water sources. Tall trees that may provide roosting habitat, particularly, Jarrah, Marri, Flooded Gum, Blackbutt (*E. patens*), Tuart, and introduced Eucalypts including Blue Gum (*E. globulus*) and Lemon Scented Gum (*Corymbia citriodora*).	Generally, in or near riparian environments or natural and artificial permanent water sources. Tall trees that may provide roosting habitat, particularly Flat-topped Yate (*E. occidentalis*), Salmon Gum, Wandoo, Marri, Karri, Blackbutt, Tuart, introduced *Eucalyptus* species (for example Blue Gum) and introduced Pines.	Tall trees that may provide roosting habitat, particularly Jarrah, Marri, Blackbutt, Tuart and introduced Eucalypt trees within or on the edges of forests.
Foraging and common food items	Primarily seeds of Marri, rarely Jarrah, in woodlands and forest, and seeds of native proteaceous plant species (for example, Banksia spp. (includes Dryandra spp.) and Hakea spp.). During the breeding season feed primarily on native vegetation, particularly Marri (seeds, flowers, nectar and grubs). Also, insects and insect	Native shrubland, kwongan heathland and woodland on seeds, flowers and nectar of native proteaceous plant species (Banksia spp., Hakea spp. and Grevillea spp.), as well as Callistemon spp. and Marri. Also seeds of introduced species including Pinus spp., Erodium spp., wild radish, canola, almonds, macadamia and	Primarily seeds of Jarrah and Marri in woodlands and forest, and edges of Karri forests, including Wandoo and Blackbutt. Forages on Allocasuarina cones, fruits of Snottygobble (*Persoonia longifolia*) and Mountain Marri (*C. haematoxylon*). Other less important foods include Blackbutt, Bullich, *Allocasuarina fraseriana*,

Habitat	Baudin's	Carnaby's	Forest red-tailed
	larvae; pith of Kangaroo Paw (*Anigozanthos flavidus*); tips of *Pinus* spp.; *Macadamia* spp., almonds and pecans; seeds of apples and pears; and persimmons.	pecan nuts; insects and insect larvae; occasionally apples and persimmons; and liquidambar.	Hakea spp., Tuart, Redheart Moit (*E. decipiens*) and Bushy Yate (*E. lehmanni*). Also, some introduced Eucalypts such as River Red Gum (*E. camaldulensis*) and Rose Gum (*E. grandis*). On the Swan Coastal Plain, often feeds on introduced Cape Lilac (*Melia azedarach*), *E. caesia*, *E. erythrocorys*, Lemon-scented Gum and Kaffir Plum (*Harpephyllum caffrum*).

The three species of Black Cockatoo utilise various habitats throughout the year. Table 3.4 outlines the suggested times of year to conduct targeted Black Cockatoo surveys. Surveys for feeding debris can be conducted year-round, as the foraging debris will remain for up to two years.

Table 3.4 Timing for surveys for Black Cockatoos

Region	Baudin's Black Cockatoo	Carnaby's Black Cockatoo	Forest Red-tailed Black Cockatoo
Swan Coastal Plain	**Foraging habitat** – March to September **Breeding habitat** – may occur in southern Swan Coastal Plain *Note: unlikely to occur in the region.*	**Foraging habitat and night roosts** –January to July **Breeding habitat** –July to December *Note: some individuals inhabit year-round*	**Foraging habitat and night roosts** – any time of the year **Breeding habitat** – may occur in some locations containing suitable breeding tree species
Wheatbelt	**Breeding habitat and foraging habitat** in proximity – October to March *Note: possible on western margins*	**Breeding habitat and foraging habitat** in proximity - July to December *Note: some individuals occur year-round*	**Breeding habitat and foraging habitat** in proximity – year-round *Note: possible presence on margins*
Jarrah Forest	**Foraging habitat** – February/ March to September **Breeding habitat and foraging habitat** in proximity – August to January	**Breeding habitat and foraging habitat** in proximity – July to December	**Breeding habitat and foraging habitat** in proximity –April to June and August to October *Note: individual occur year-round*
South Coast	**Foraging habitat** – March to September **Breeding habitat and foraging habitat** in proximity – August to January	**Foraging habitat and night roosts** – January to July **Breeding habitat** – breeding activity is July through December	Breeding habitat and foraging habitat in proximity – at any time of the year in the forested areas of the region, with peaks in April to June and August to October

3.2.2.1 Breeding

Assessment of Black Cockatoo breeding habitat involves the identification of all suitable breeding trees species within the survey area that have a diameter at breast height (DBH) of over 50 cm. Species such as Wandoo and Salmon Gums are considered potential habitat trees if the DBH is greater than 30 cm. If potential breeding trees are present, the DBH of each tree is measured using a pre-made gauge.

For the purposes of this survey, a tree containing a suitable cockatoo nest hollow is defined as any tree which is alive or dead that contains one or more visible hollows (cavities within the trunk or branches) suitable for occupation by Black Cockatoo for the purpose of nesting/breeding.

Hollows that had an entrance greater than approximately 12cm in diameter and would allow the entry of a Black Cockatoo into a suitably orientated and sized branch/trunk, are recorded as a 'suitable nest hollow'. Identified hollows are examined using binoculars for evidence of actual use by Black Cockatoos (e.g., chewing around hollow entrance, scarring and scratch marks on trunks and branches). The calls of chicks were also listened for, if a suitable hollow is present.

Habitat trees were categorised as per tree definitions in the *Referral guidelines for 3 WA threatened black cockatoo species* (DAWE 2022). Definitions are outlined in Table 3.5.

Table 3.5 Black Cockatoo habitat tree categories (DAWE 2022)

Habitat tree category	Definition
Known nesting tree	Trees (live or dead but still standing) which contains a hollow where Black Cockatoo breeding has been recorded or which demonstrates evidence of breeding.
Suitable nesting tree	Trees with suitable nesting hollows present, although no evidence of use. Note that any species of tree may develop suitable hollows for breeding.
Potential nesting tree	Trees that have a suitable DBH to develop a nest hollow, but do not currently have suitable hollows.

3.2.2.2 Foraging

Foraging habitat is assessed and scored according to its ability to provide suitable food, its context in the landscape and the likelihood of Black Cockatoos using the area. The foraging quality will be scored using the criteria outlined in Table 3.6. To support the assessed habitat score, an overall appraisal of the habitat on the impact site including a 20km buffer is required to clearly explain and justify the score. This appraisal must include a discussion on the foraging habitat's proximity to other resources frequency of use of proximate sites, the degree of evidence and description of vegetation type and condition.

Table 3.6 Foraging quality scoring tool template

Starting Score	Baudin's Cockatoo	Carnaby Cockatoo	Forest Red-tailed Black-Cockatoo
10	Start at a score of 10 if your site is native Eucalypt woodlands and forest, and proteaceous woodland and heath, particularly Marri, within the range of the species, including along roadsides and parkland cleared areas. Can include planted vegetation. This	Start at a score of 10 if your site is native shrubland, kwongan heathland or woodland, dominated by proteaceous plant species such as *Banksia* spp. (including *Dryandra* spp.), Hakea spp. and Grevillea spp., as well as native Eucalypt woodland and forest that contains foraging species, within the range of	Start at a score of 10 if your site is Jarrah or Marri woodland and/or forest, or if it is on the edge of Karri Forest, or if Wandoo and Blackbutt occur on the site, within the range of the subspecies, including along roadsides and parkland cleared areas. This tool

Starting Score		Baudin's Cockatoo	Carnaby Cockatoo	Forest Red-tailed Black-Cockatoo
		tool only applies to sites equal to or larger than 1 hectare in size	the species, including along roadsides and parkland cleared areas. Also includes planted native vegetation. This tool only applies to sites equal to or larger than 1 hectare in size	only applies to sites equal to or larger than 1 hectare in size
Attribute	**Sub-tractions**	**Context adjuster**		
Foraging	-2	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.	Subtract 2 from your score if there is no evidence of feeding debris on your site.
Connectivity	-2	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.	Subtract 2 from your score if you have evidence to conclude that there is no other foraging habitat within 12 km of your site.
Proximity to breeding	-2	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat	Subtract 2 if you have evidence to conclude that your site is more than 12 km from breeding habitat
Proximity to roosting	-1	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat	Subtract 1 if you have evidence to conclude that your site is more than 20 km from a known night roosting habitat
Impact from significant plant disease	-1	Subtract 1 if your site has disease present (e.g. Phytophthora spp. or Marri canker) and the disease is affecting more than 50% of the preferred food plants present	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50%of the preferred food plants present.	Subtract 1 if your site has disease present (e.g. *Phytophthora* spp. or Marri canker) and the disease is affecting more than 50%of the preferred food plants present.

Source: Department of Agriculture, Water and the Environment (2022).

3.2.2.3 Roosting

Secondary evidence of Black Cockatoo roosting such as feathers and branch clippings underneath stands of tall Eucalypt trees were recorded as potential recent roosting activity.

Stands of tall (>8 metres) Eucalypt trees were assumed to provide potential roosting habitat when within 2 km of a water source (Glossop, Clarke, Mitchell, & Barrett, 2011). Any tall Eucalypt trees within 500m of a small (<150 individuals) roost or 1000m of a large (>150 individuals) roost were considered potentially associated with that roost.

4 Results

4.1 Flora and vegetation

4.1.1 Desktop assessment

Database search results identified 102 significant flora species as potentially occurring within a 50 km radius of the survey area (DCCEEW 2024, DBCA 2024a, 2024b). This included:

- 11 threatened taxa
- 14 Priority 1 (P1) taxa
- 16 Priority 2 (P2) taxa
- 46 Priority 3 (P3) taxa
- 15 Priority 4 (P4) taxa.

All listed significant flora were considered to have low potential to occur in the Survey Area due to the absence of suitable habitat, previous clearance activities and proximity of known locations to the Survey Area. However, three of these were considered 'likely' to occur (Appendix F).

4.1.2 Field survey

15 quadrats were assessed within the survey area. The quadrats were positioned in areas of native vegetation in better condition within the survey area. This improves the robustness of the assessment by maximising the opportunity to detect conservation significant flora and to evaluate the presence of threatened ecological communities (TECs).

4.1.2.1 Flora summary

A total of 79 native and 22 non-native (weed) species were recorded within the Survey Area during the field survey, representing 34 families and 64 genera. The dominant families containing native taxa were Myrtaceae (33 taxa), Fabaceae (10 taxa), Asteraceae (9 taxa) and Poaceae (8 taxa). A complete species list is provided in Appendix H.

4.1.2.2 Significant flora

No threatened flora species were recorded within the Survey Area.

Targeted searches in potential habitat identified one priority flora species, *Acacia sclerophylla* var. *pilosa* (P2) Fabaceae - Erect to spreading shrubs, 0.2-1 m high. *A. sclerophylla* var. *pilosa* flowers during August to October and prefers sandy loam or clay soil. Eight individual plants were recorded in Intersection 12a (Corrigin-Kulin Rd./Kondinin Lake Rd Intersection) growing in open areas along the side of the road on a clay loam soil. Detailed location information and abundance data for the recorded occurrence, are presented in Table 4.1.

Table 4.1 Priority species recorded within the survey area

Quadrat	Population	Location (GDA94, zone 50)	
		Easting (ME)	Northing (MN)
Intersection 12a	5	[redacted]	
	3		

4.1.2.3 Threatened ecological communities

Two TECs, as listed under the EPBC Act either intersect or occur within the current broader survey area. These are:

- Eucalypt Woodlands of the Western Australian Wheatbelt, listed as Critically Endangered under the EPBC Act (effective as of the 4th December 2004) (DCCEEW 2024d).
- *Banksia* Woodlands of the Swan Coastal Plain, listed as Endangered under the EPBC Act (effective as of the 16th September 2016).

TEC polygons mapped by the DBCA were found to be intersecting in three intersections (Intersections 01a, 02a and 19). The areas of vegetation assessed for their TEC potential were the remnant vegetation located between the cleared land which formed the road reserve (road running surface, road shoulder, drain, and associated clearing), and the fence line of adjacent farmlands or the contiguous bushland where no fence line was present.

The Eucalypt Woodlands of the Western Australian Wheatbelt occurs in intersection 19 and the *Banksia* Woodlands of the Swan Coastal Plain TEC occurs in two intersections (Intersection 01a, 02a) within the survey area are shown in Figure 2.1. Potential TECs supplied by DBCA were assessed in vegetation adjacent to the survey area where the road reserve had been previously cleared in the intersections. TEC assessment results are summarised in Table 4.2.

Table 4.2 TEC likelihood assessment results for potential TECs within the survey area

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
Intersection 01		Swan Coastal Plain	No	*Eucalyptus incrassata*	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats.	<5 trees per 0.5 ha	Tree canopy is sparse	Not a TEC
Intersection 01a		Swan Coastal Plain	No	*Eucalyptus rudis* subsp. *rudis*	*Eucalyptus rudis* subsp. *rudis* open woodland over **Ficus carica* isolated trees over *Melaleuca nesophila*, **Melaleuca armillaris* subsp *armillaris* and Melaleuca *huegelii* subsp. *huegelii* open shrubland over **Schinus terebinthifolia*, *Acacia saligna* and **Nerium oleander* sparse shrubland over **Vulpia myuros*, **Eragrostis curvula* and **Cynodon dactylon* grassland on sandy-loam flats.	<5 trees per 0.5 ha	No *Banksia* and very few native vegetation present. Patch <2ha	Not a TEC
Intersection 02		Swan Coastal Plain	No	No Trees	*Corymbia calophylla* isolated over hanging trees over **Avena barbata* and **Vulpia myuros* grassland on sandy-loam flats.	<5 trees per 0.5 ha	No trees present	Not a TEC
Intersection 02a		Swan Coastal Plain	No	*Eucalyptus camaldulensis* subsp. *obtusa*	*Eucalyptus camaldulensis* subsp. *obtusa* isolated over hanging trees over **Avena barbata* and **Vulpia myuros* grassland on sandy-loam flats.	<5 trees per 0.5 ha	No *Banksia* and very few native or nonnative vegetation present. Patch <2ha	Not a TEC

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
Intersection 04a		Avon Wheatbelt	No	No Trees	*Acacia acuminata, Melaleuca lateriflora* and *Kunzea micrantha* subsp. *oligandra* open shrubland over *Melaleuca thyoides, Melaleuca hamata* and *Hakea meisneriana* sparse shrubland over **Eragrostis curvula* and Poaceae sp. isolated grassess on a rehabilitated sandy-loam flats.	<5 trees per 0.5 ha	No trees present	Not a TEC
Intersection 09		Avon Wheatbelt		*Eucalyptus myriadena*	*Eucalyptus myriadena* open woodland over *Melaleuca* sp. sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland on sandy-loam flats.	>5 trees per 0.5 ha	High exotic species cover as an element	Not a TEC
Intersection 10		Avon Wheatbelt		*Eucalyptus salmonophloia*	*Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over *Maireana brevifolia, Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland on sandy-loam flats.	>5 trees per 0.5 ha	High exotic species cover as an element	Not a TEC
Intersection 11		Avon Wheatbelt		*Eucalyptus sheathiana*	*Eucalyptus sheathiana* open woodland over *Allocasuarina campestris* open shruband over *Acacia acuminata* sparse shrubland over *Melaleuca acuminata* subsp. *acuminata, Melaleuca adnata* and *Gastrolobium bennettsianum* sparse shrubland over **Ehrharta calycina* open grassland on sandy-loam flats.	<5 trees per 0.5 ha	Tree canopy is sparse	Not a TEC
Intersection 12		Mallee		*Eucalyptus torquata*	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open	>5 trees per 0.5 ha	High exotic species cover as an element	Not a TEC

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
					woodland over *Acacia lasiocalyx* and *Eremophila drummondii* isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.			
Intersection 12a		Mallee		*Eucalyptus erythronema subsp. erythronema*	*Eucalyptus sheathiana*, *Eucalyptus erythronema* subsp. *erythronema* and *Eucalyptus tephroclada* open forest over *Melaleuca acuminata* subsp *acuminata*, *Melaleuca adnata* and *Acacia sclerophylla* var *pilosa* sparse shrubland over *Maireana brevifolia*, *Eremophila lehmanniana* and *Acacia hemiteles* isolated shrubs over **Avena barbata* and *Austrostipa elegantissima* sparse grassland on sandy-loam flats.	<5 trees per 0.5 ha	Tree canopy is sparse	Not a TEC
Intersection 12b		Mallee		*Eucalyptus loxophleba subsp loxophleba*	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* Isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.	>5 trees per 0.5 ha	High exotic species cover as an element and no granite outcrops	Not a TEC
Intersection 19		Mallee	No	*Eucalyptus loxophleba* subsp. *loxophleba*	*Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shrubland over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over **Avena barbata*, **Eragrostis curvula* and Poaceae sp. open grassland	>5 trees per 0.5 ha	High exotic species cover as an element and no granite outcrops	Not a TEC
Intersection 21		Mallee		*Eucalyptus burracoppinensis*	*Eucalyptus burracoppinensis* open woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shrubland over *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* isolated forbs over **Lolium*	>5 trees per 0.5 ha	High exotic species cover as an element and no granite outcrops	Not a TEC

Site	[redacted]	IBRA Region	Crown cover >10%	Dominant canopy species	Native Understory	Mature tree density	Contra-indicators present	TEC likelihood and condition category
					rigidum and Poaceae sp. isolated grassland on sandy-loam flats.			
Intersection 23		Mallee		*Eucalyptus tenera*	*Eucalyptus loxophleba* subsp. *loxophleba* woodland over Callitris *preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shrubland over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over **Arctotheca calendula* isolated forbs over **Vulpia myuros* and Poaceae sp. isolated grassland on sandy-loam flats.	<5 trees per 0.5 ha	Tree canopy is sparse and less shrubland with no granite outcrops	Not a TEC
Intersection 23a		Mallee		*Eucalyptus burracoppenensis*	*Eucalyptus burracoppenensis open woodland over Santalum spicatum, Allocasuarina spinosissima and Hakea newbeyana shrubland over Persoonia coriacea, Hakea meisneriana and Thryptomene kochii* sparse shrubland over Austrostipa *elegantissima* and **Vulpia myuros* sparse grassland on sandy-loam flats.	<5 trees per 0.5 ha	Tree canopy is sparse and no granite outcrops	Not a TEC

4.1.2.4 Introduced flora

There were 22 weed species recorded during the survey within the survey area:

- * *Arctotheca calendula* (Cape Weed)
- * *Avena barbata* (Bearded Oat)
- * *Cynodon dactylon* (Couch)
- * *Eragrostis curvula* (African Lovegrass)
- * *Erodium botrys* (Long Storksbill)
- * *Ficus carica*
- * *Fumaria capreolata* (Whiteflower Fumitory)
- * *Hypochaeris glabra* (Smooth Cats-ear)
- * *Lactuca serriola* (Prickly Lettuce)
- * *Lolium rigidum* (Wimmera Ryegrass)
- * *Lupinus cosentinii*
- * *Melaleuca armillaris* subsp *armillaris*
- * *Moraea flaccida* (One-leaf Cape Tulip)
- * *Nerium oleander*
- * *Oenothera mollissima*
- * *Orobanche minor* (Lesser Broomrape)
- * *Ricinus communis* (Castor Oil Plant)
- * *Schinus terebinthifolia*
- * *Sonchus oleraceus* (Common Sowthistle)
- * *Trifolium arvense* (Hare's Foot Clover)
- * *Ursinia anthemoides* (Ursinia), and
- * *Vulpia myuros* (Rat’s Tail Fescue) (Appendix H).

None of the weed species recorded are listed as WoNS (Australian Weeds Committee 2012) or as a Declared pest plant in Western Australia (Department of Agriculture and Food Western Australia, 2016).

4.1.2.5 Vegetation communities

Based on the desktop assessment field survey, sixteen vegetation communities were defined and mapped across the Survey Area. All vegetation communities contain multiple native shrub species and non-native species, most considered to be in poor to degraded condition. The remainder of the Survey Area was mapped as cleared as it comprises roads and bare soil with scattered non-native plants (Figure 4.1).

A description of plant community and representative photographs is provided overleaf. Raw sample data is provided in Appendix I.

Table 4.3 Extent of vegetation communities within survey area

Locations	Vegetation Communities
Intersection 01	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats.
Intersection 01	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats.
Intersection 01a	*Eucalyptus rudis* subsp. *rudis* open woodland over **Ficus carica* isolated trees over *Melaleuca nesophila*, **Melaleuca armillaris* subsp *armillaris* and *Melaleuca huegelii* subsp. *huegelii* open shrubland over **Schinus terebinthifolia*, *Acacia saligna* and **Nerium oleander* sparse shrubland over **Vulpia myuros*, **Eragrostis curvula* and **Cynodon dactylon* grassland on sandy-loam flats. Please note: No *Banksia* sp. or Banksia woodland were recorded with the Intersection 01a
Intersection 02	*Corymbia calophylla* isolated over hanging trees over **Avena barbata* and **Vulpia myuros* grassland on sandy-loam flats.
Intersection 02a	*Eucalyptus camaldulensis* subsp. *obtusa* isolated over hanging trees over **Avena barbata* and **Vulpia myuros* grassland on sandy-loam flats. Please note: No *Banksia* sp. or Banksia woodland were recorded with the Intersection 02a
Intersection 04a	*Acacia acuminata*, *Melaleuca lateriflora* and *Kunzea micrantha* subsp *oligandra* open shrubland over *Melaleuca thyoides*, *Melaleuca hamata* and *Hakea meisneriana* sparse shrubland over **Eragrostis curvula* and Poaceae sp. isolated grassess on a rehabilitated sandy-loam flats.
Intersection 09	*Eucalyptus myriadena* open woodland over *Melaleuca sp.* sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland on sandy-loam flats.
Intersection 10	*Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over *Maireana brevifolia*, *Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland on sandy-loam flats.
Intersection 11	*Eucalyptus sheathiana* open woodland over *Allocasuarina campestris* open shruband over *Acacia acuminata* sparse shrubland over *Melaleuca acuminata* subsp. *acuminata*, *Melaleuca adnata* and *Gastrolobium bennettsianum* sparse shrubland over **Ehrharta calycina* open grassland on sandy-loam flats.
Intersection 12	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.

Locations	Vegetation Communities
Intersection 12a	*Eucalyptus sheathiana*, *Eucalyptus erythronema* subsp. *erythronema* and *Eucalyptus tephroclada* open forest over *Melaleuca acuminata* subsp *acuminata*, *Melaleuca adnata* and *Acacia sclerophylla* var *pilosa* sparse shrubland over *Maireana brevifolia*, *Eremophila lehmanniana* and *Acacia hemiteles* isolated shrubs over **Avena barbata* and *Austrostipa elegantissima* sparse grassland on sandy-loam flats.
Intersection 12b	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* Isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.
Intersection 19	*Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shrubland over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over **Avena barbata*, **Eragrostis curvula* and *Poaceae* sp. open grassland on sandy-loam flats.
Intersection 21	*Eucalyptus burracoppinensis* open woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shrubland over *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* isolated forbs over **Lolium rigidum* and *Poaceae* sp. isolated grassland on sandy-loam flats.
Intersection 23	*Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shrubland over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over **Arctotheca calendula* isolated forbs over **Vulpia myuros* and *Poaceae* sp. isolated grassland on sandy-loam flats.
Intersection 23a	*Eucalyptus burracoppenensis* open woodland over *Santalum spicatum*, *Allocasuarina spinosissima* and *Hakea newbeyana* shrubland over *Persoonia coriacea*, *Hakea meisneriana* and *Thryptomene kochii* sparse shrubland over *Austrostipa elegantissima* and **Vulpia myuros* sparse grassland on sandy-loam flats.



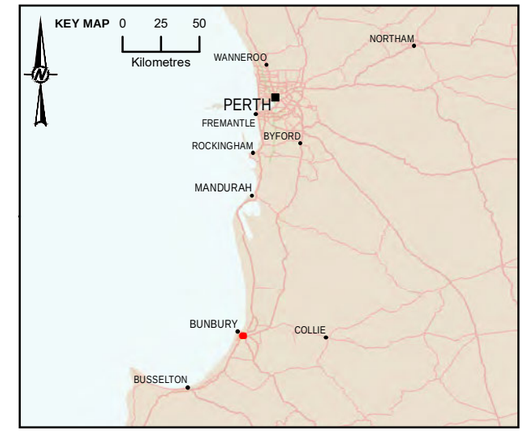
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SURVEY AREA

VEGETATION MAPPING

EiErMsLr - *Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT
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TITLE
VEGETATION MAPPING

CONSULTANT

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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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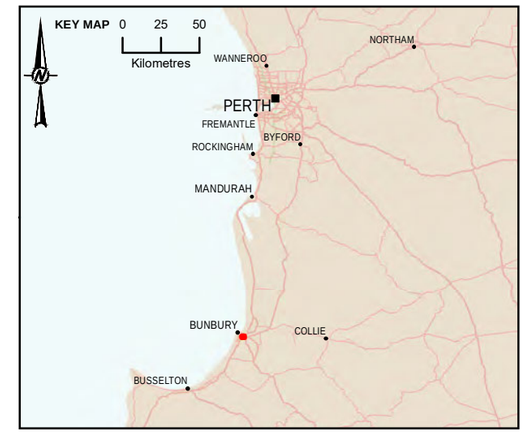
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SURVEY AREA

VEGETATION MAPPING

EiErMsLr - *Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats.

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NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

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VEGETATION MAPPING

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PROJECT NO.	CONTROL	REV.	FIGURE
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INTERSECTION 01A

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GLEN IRIS

ROBERTSON DR

SOUTH WESTERN HWY

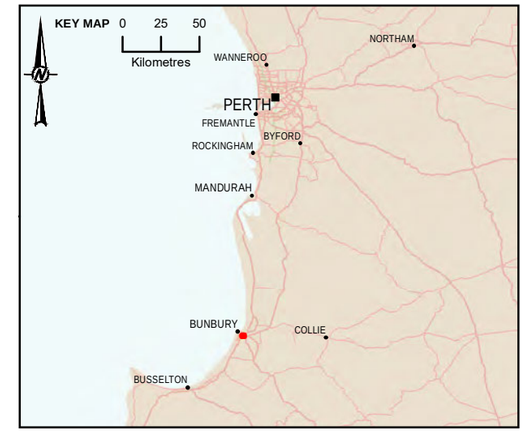
LEGEND

SURVEY AREA

VEGETATION MAPPING

ErFcMaMh - *Eucalyptus rudis* subsp. *rudis* open woodland over **Ficus carica* isolated trees over *Melaleuca nesophila*, **Melaleuca armillaris* subsp *armillaris* and *Melaleuca huegelii* subsp. *huegelii* open shrubland over **Schinus terebinthifolia*, *Acacia saligna* and **Nerium oleander* sparse shrubland over **Vulpia myuros*, **Eragrostis curvula* and **Cynodon dactylon* grassland on sandy-loam flats.

CLEARED



0 30 60

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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TITLE
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CONSULTANT
wsp

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PROJECT NO.	CONTROL	REV.	FIGURE
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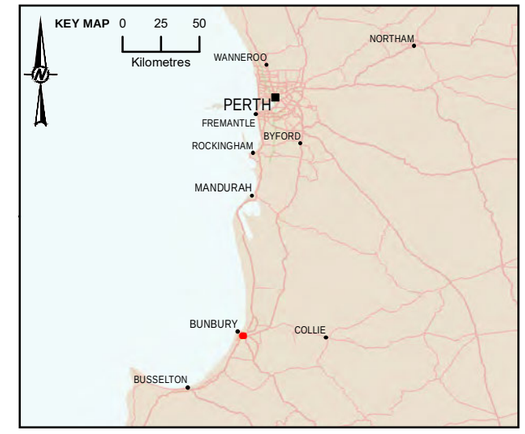
LEGEND

SURVEY AREA

VEGETATION MAPPING

CcAbVm - <ITA>Corymbia calophylla isolated over hanging trees over *<ITA>Avena barbata and *<ITA>Vulpia myuros grassland on sandy-loam flats.

CLEARED



0 30 60

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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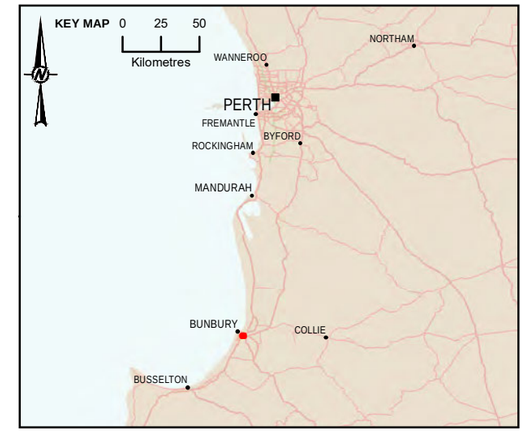
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SURVEY AREA

VEGETATION MAPPING

EcAbVm - *Eucalyptus camaldulensis* subsp. *obtusa* isolated over hanging trees over **Avena barbata* and **Vulpia myuros* grassland on sandy-loam flats.

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1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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INTERSECTION 04A

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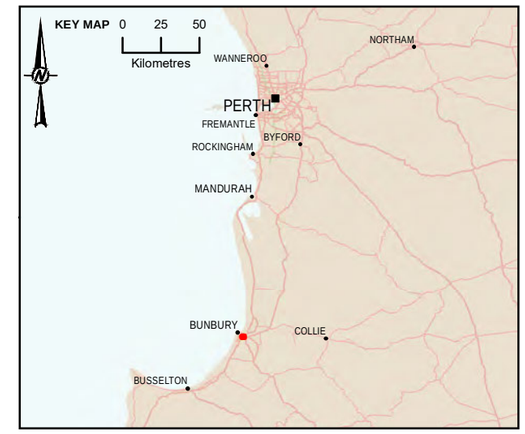
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SURVEY AREA

VEGETATION MAPPING

AaMlKmMt - *Acacia acuminata*, *Melaleuca lateriflora* and *Kunzea micrantha* subsp *oligandra* open shrubland over *Melaleuca thyoides*, *Melaleuca hamata* and *Hakea meisneriana* sparse shrubland over * *Eragrostis curvula* and Poaceae sp. isolated grassess on a rehabilitated sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
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INTERSECTION 09

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MOULYINNING

DUMBLEYUNG LAKE GRACE RD

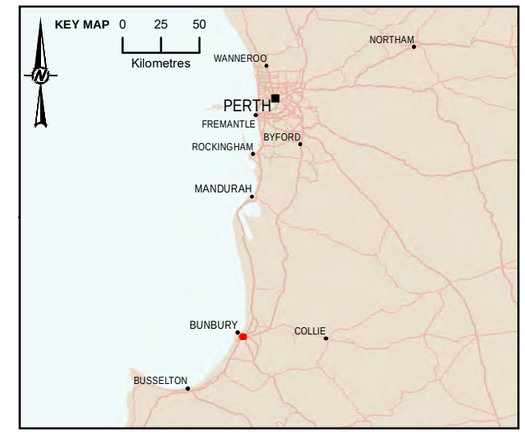
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SURVEY AREA

VEGETATION MAPPING

EmDaMbTs - *Eucalyptus myriadena* open woodland over *Melaleuca* sp. sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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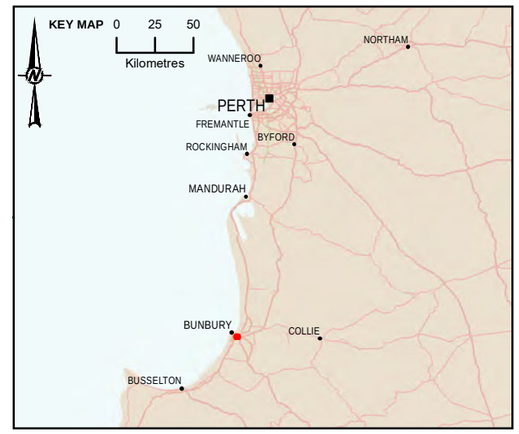
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SURVEY AREA

VEGETATION MAPPING

EsEmDaAm - *Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over *Maireana brevifolia, Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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PROJECT NO.	CONTROL	REV.	FIGURE
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INTERSECTION 11

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JITARNING WOGOLIN

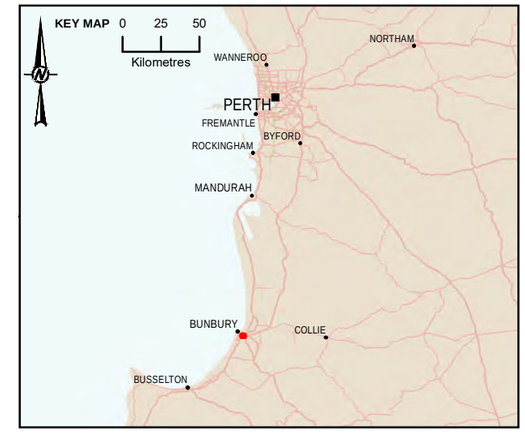
LEGEND

SURVEY AREA

VEGETATION MAPPING

EsAcAaMa - <ITA>Eucalyptus sheathiana open woodland over <ITA>Allocasuarina campestris open shruband over <ITA>Acacia acuminata sparse shrubland over <ITA>Melaleuca acuminata subsp. <ITA>acuminata, Melaleuca adnata and <ITA>Gastrolobium bennettsianum sparse shrubland over *<ITA>Ehrharta calycina open grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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SYNERGY RED

PROJECT
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TITLE
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CONSULTANT
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PROJECT NO.	CONTROL	REV.	FIGURE
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PATH: B:\Synergy\REDK\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig07_Vegetation_Mapping.mxd PRINTED ON: 2025-01-10 AT: 10:47:03 AM

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INTERSECTION 12
KULIN
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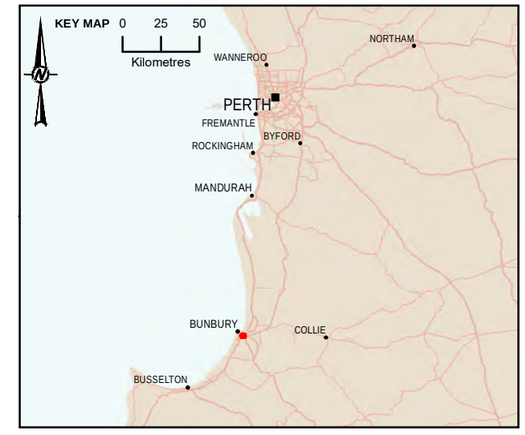
LEGEND

SURVEY AREA

VEGETATION MAPPING

ElEcAlEd - *Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-09
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig07_Vegetation_Mapping.mxd PRINTED ON: 2025-01-10 AT: 10:47:16 AM



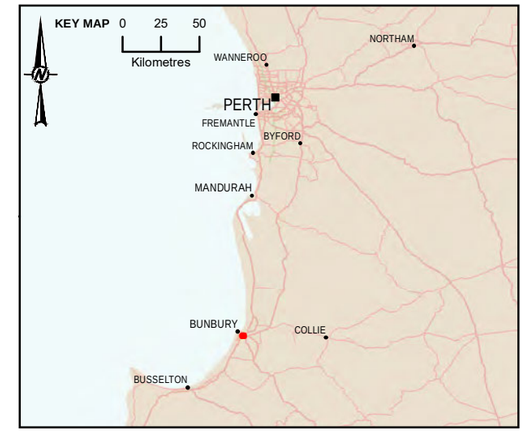
LEGEND

SURVEY AREA

VEGETATION MAPPING

EsEeEtMa - <ITA>Eucalyptus sheathiana, Eucalyptus erythronema</ITA> subsp. <ITA>erythronema</ITA> and <ITA>Eucalyptus tephroclada</ITA> open forest over <ITA>Melaleuca acuminata</ITA> subsp <ITA>acuminata, Melaleuca adnata</ITA> and <ITA>Acacia sclerophylla</ITA> var <ITA>pilosa sparse shrubland over <ITA>Maireana brevifolia, Eremophila lehmanniana</ITA> and <ITA>Acacia hemiteles</ITA> isolated shrubs over *<ITA>Avena barbata</ITA> and <ITA>Austrostipa elegantissima</ITA> sparse grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-09
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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608600
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6385400

WILLIAMS KONDININ RD
INTERSECTION 12B
KULIN LAKE GRACE RD

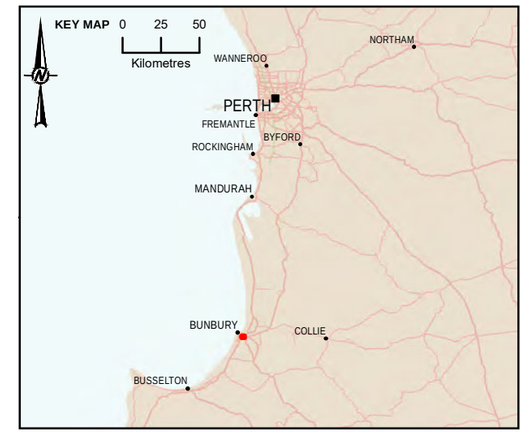
LEGEND

SURVEY AREA

VEGETATION MAPPING

ElEcAlEd - *Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* Isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats.

CLEARED



0 25 50
1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-09
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2025-01-10 AT: 10:47:37 AM

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677100 677200 677300

6408200 6408100 6408000

INTERSECTION 19

KONDININ HYDEN RD

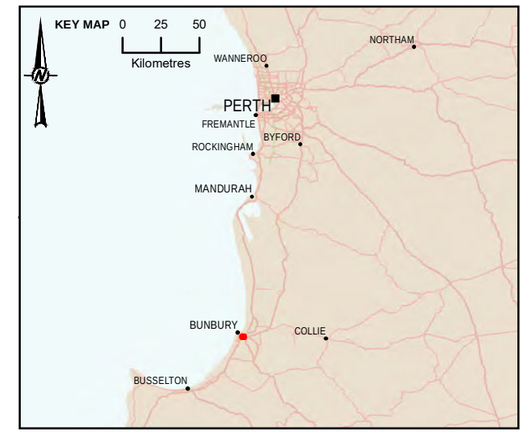
LEGEND

SURVEY AREA

VEGETATION MAPPING

ElAcAbAl - *Eucalyptus loxophleba* subsp. *loxophleba* open woodland over *Allocasuarina acutivalvis*, *Alyxia buxifolia* and *Acacia lasiocalyx* sparse shruband over *Acacia enervia* subsp. *enervia* and *Phebalium filifolium* sparse samphire shrubland over **Avena barbata*, * *Eragrostis curvula* and *Poaceae* sp. open grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-09
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2025-01-10 AT: 10:47:50 AM



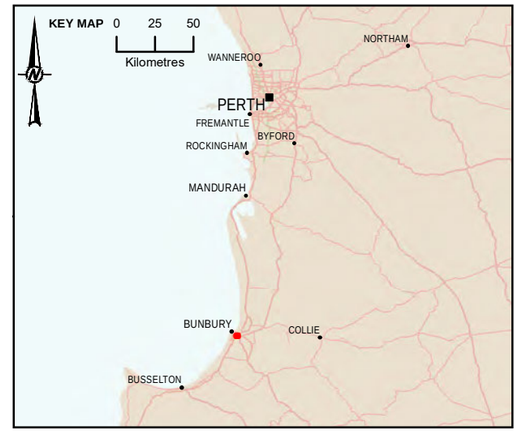
LEGEND

SURVEY AREA

VEGETATION MAPPING

EbCpAaAl - *Eucalyptus burracoppinensis* open woodland over *Callitris preissii, Allocasuarina acutivalvis* and *Acacia lasiocalyx* sparse shruband over *Gastrolobium bennettsianum* sparse samphire shrubland over **Arctotheca calendula* Isolated forbs over **Lolium rigidum* and *Poaceae* sp. isolated grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-09
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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INTERSECTION 23

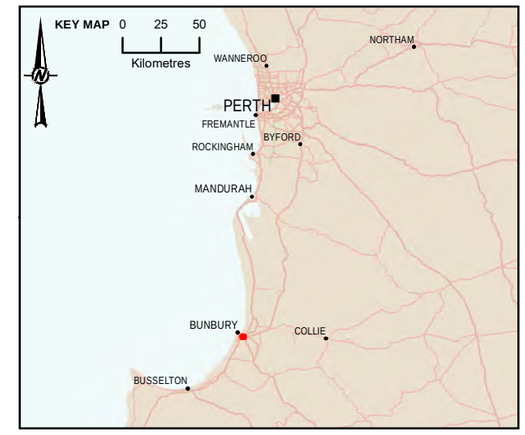
LEGEND

SURVEY AREA

VEGETATION MAPPING

ElCpAaMh - *Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shruband over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over **Arctotheca calendula* Isolated forbs over **Vulpia myuros* and *Poaceae* sp. isolated grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
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KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-09
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

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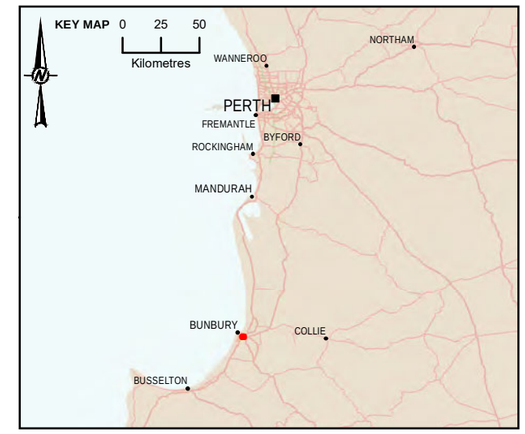
LEGEND

SURVEY AREA

VEGETATION MAPPING

EbSsAsHn - *Eucalyptus burracoppenensis* open woodland over *Santalum spicatum*, *Allocasuarina spinosissima* and *Hakea newbeyana* shrubland over *Persoonia coriacea*, *Hakea meisneriana* and *Thryptomene kochii* sparse shrubland over *Austrostipa elegantissima* and **Vulpia myuros* sparse grassland on sandy-loam flats.

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-09
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final\PS204764-001-R-RevA-F007_Vegetation_Mapping.mxd PRINTED ON: 2025-01-10 AT: 10:48:30 AM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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4.1.2.6 Vegetation condition

The plant communities at most sites were mapped as being in 'Degraded' condition as they contained fewer native species and more non-native species diversity compared to adjacent woodland or shrubland. Intersection 2 and Intersection 2a were identified within the Survey Area as containing no native vegetation and area was either cleared or farmed; this was mapped as 'completely degraded' condition.

Table 4.4 Extent of vegetation condition categories within survey area

Location	Disturbance (in hectares)			
	Good	Degraded	Completely Degraded	Cleared
Intersection 01		0.06		0.69
Intersection 01		0.04		0.84
Intersection 01a		0.20		0.78
Intersection 02			0.16	1.19
Intersection 02a			0.03	1.08
Intersection 04a		0.15		0.26
Intersection 09		0.16		0.42
Intersection 10		0.21		0.32
Intersection 11		0.17		0.52
Intersection 12		0.07		0.80
Intersection 12a	0.19			0.41
Intersection 12b		0.30		0.35
Intersection 19		0.21		0.45
Intersection 21		0.13		0.69
Intersection 23		0.37		0.56
Intersection 23a	0.06			0.12



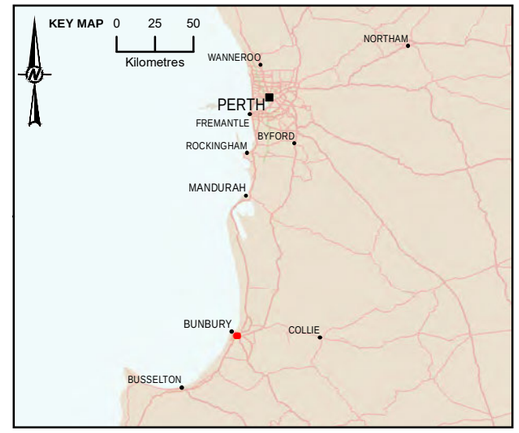
LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

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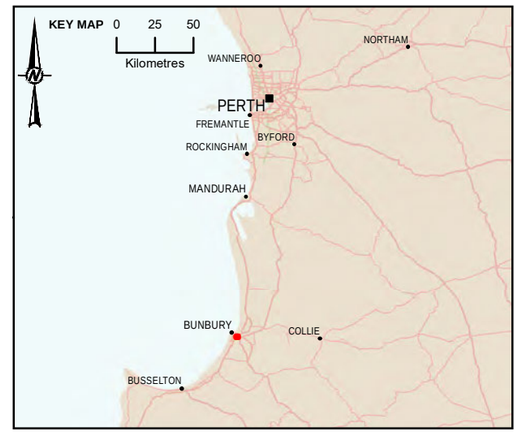
LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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TITLE
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CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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INTERSECTION 01A

PICTON RD

ROBERTSON DR

SOUTH WESTERN HWY

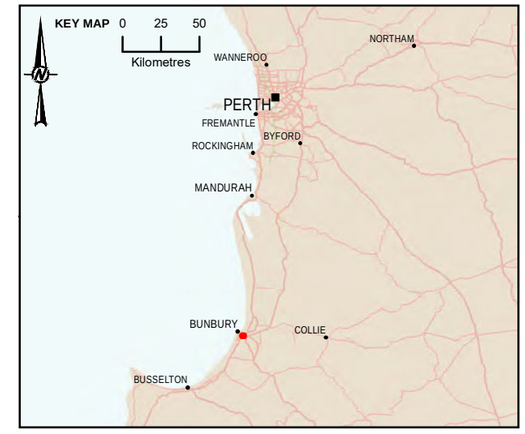
LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 30 60

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

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KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
0 25mm

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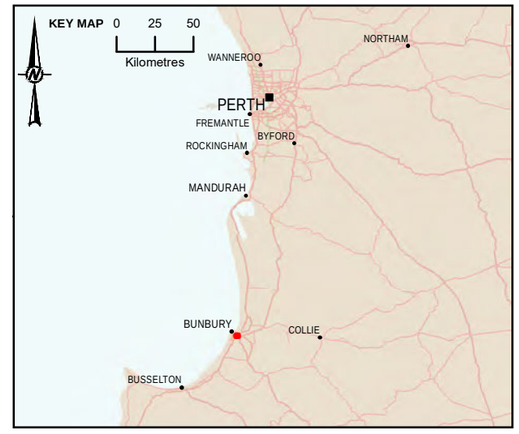
LEGEND

SURVEY AREA

CONDITION

COMPLETELY DEGRADED

CLEARED



0 30 60

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

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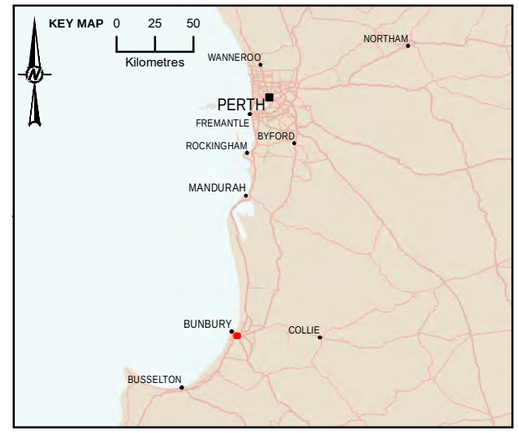
LEGEND

SURVEY AREA

CONDITION

COMPLETELY DEGRADED

CLEARED



0 30 60

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

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25mm
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503000 503100 503200

6311400

6311300

INTERSECTION 04A

ALBANY HWY

COALFIELDS RD

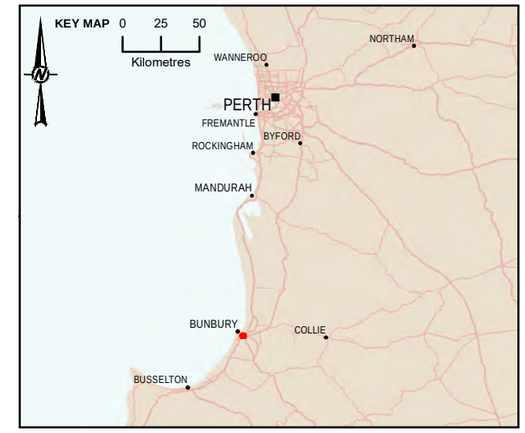
LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F\08_Vegetation_Cond_Mapping.mxd PRINTED ON: 2025-01-10 AT: 10:41:08 AM



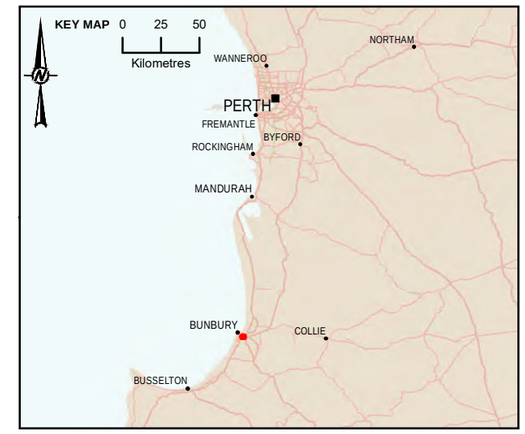
LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

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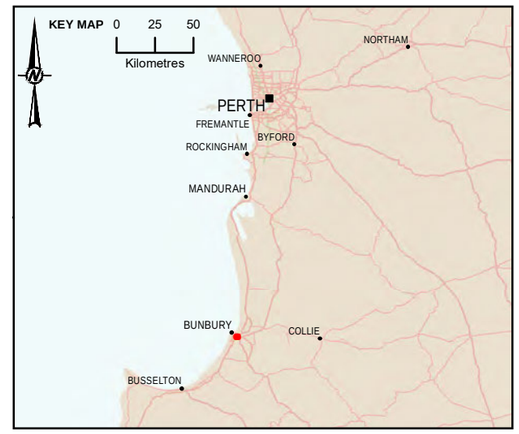
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SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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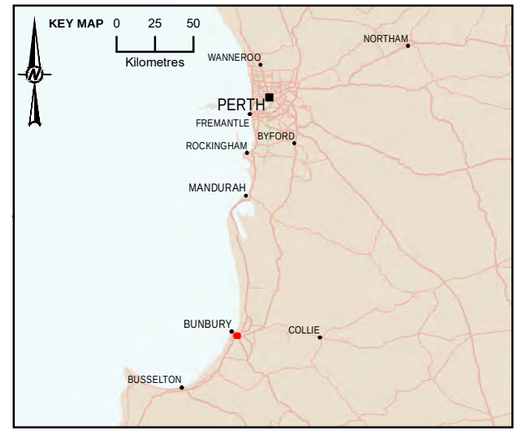
LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

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INTERSECTION 12

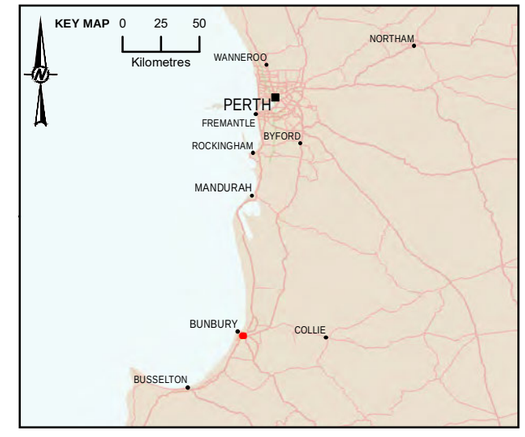
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SURVEY AREA

CONDITION

DEGRADED

CLEARED



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1:1,000 METRES

NOTE:
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REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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CORRIGIN KULIN RD

INTERSECTION 12A

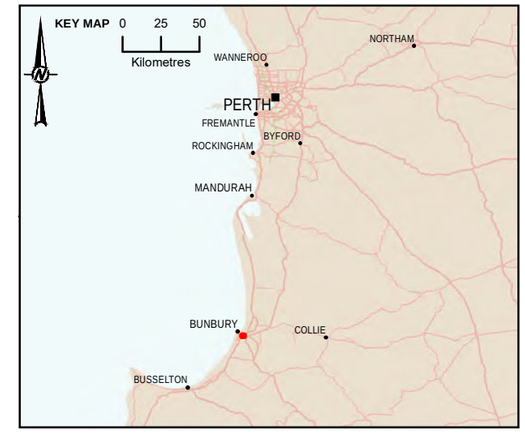
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SURVEY AREA

CONDITION

GOOD

CLEARED



0 25 50

1:1,000 METRES

NOTE:
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REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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608600 608700 608800

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WILLIAMS KONDININ RD

INTERSECTION 12B

KULIN LAKE GRACE RD

608600 608700 608800

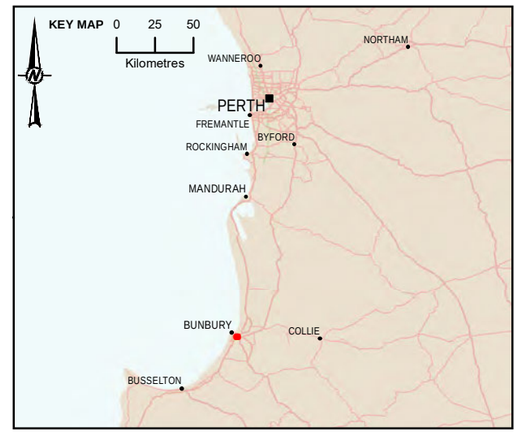
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SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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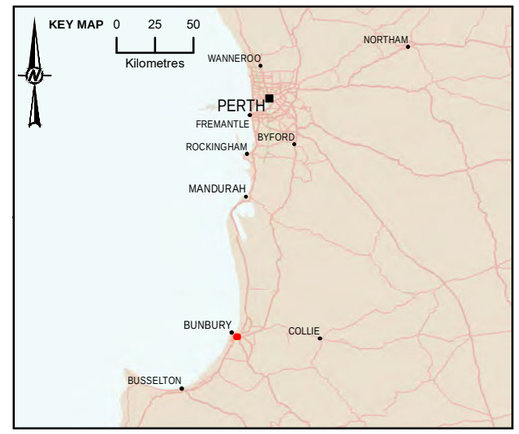
LEGEND

SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig08_Vegetation_Cond_Mapping.mxd PRINTED ON: 2025-01-10 AT: 10:38:53 AM

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INTERSECTION 21

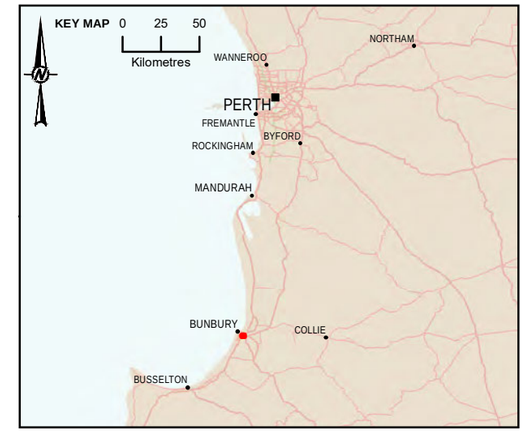
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SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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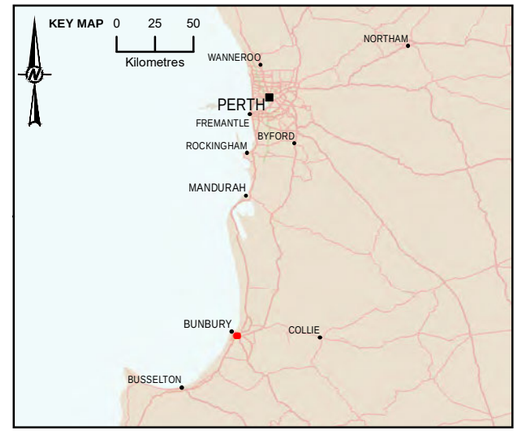
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SURVEY AREA

CONDITION

DEGRADED

CLEARED



0 25 50

1:1,000 METRES

NOTE:
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REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

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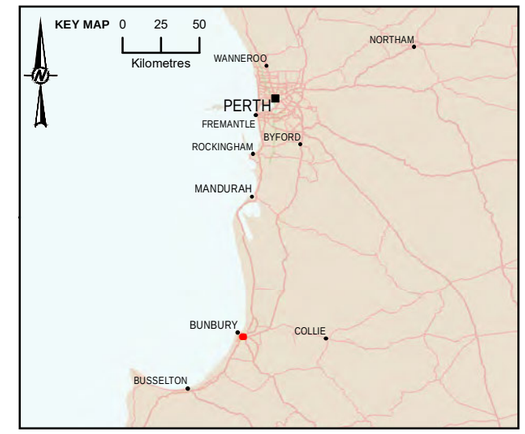
LEGEND

SURVEY AREA

CONDITION

GOOD

CLEARED



0 25 50

1:1,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
VEGETATION CONDITION MAPPING

CONSULTANT

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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4.1.2.7 Limitations

The EPBC Act PMST is based on bioclimatic modelling for the potential presence of species. As such, the DCCEEW mapping does not represent actual records of the species in the area. The records from the DBCA searches of threatened flora and fauna provide more accurate information for the general area. However, some records of collections, sightings or trappings cannot be dated and often misrepresent the current range of threatened species.

Seasonal sampling has not been carried out as part of this fauna assessment. The conclusions presented are based on information from Western Australian and Commonwealth databases, field data, and the field survey carried out over a limited period of time. Therefore, the data and interpreted outcomes are considered indicative of the environmental conditions on the survey areas at the time of the field assessment. It is recognised that site conditions may change over time.

The EPA (2020) Technical Guidance *Terrestrial vertebrate fauna surveys for environmental impact assessment* requires fauna assessment reports contain a section describing the limitations of the survey methods used. The limitations and constraints associated with this field survey are discussed in Table 4.5. The survey effort has not been subject to any constraints which may affect the thoroughness of the assessment, and the conclusions that have been provided.

Table 4.5 Limitations

Aspect	Limitation	Comment
Sources of information and availability of contextual information	Nil	Adequate information is available for the survey area, this includes broad scale (1:250,000) mapping by Beard (1979) and digitised by Shepherd *et al*., (2002) and other information (DBCA database, NatureMap, ALA).
Scope (what life forms were sampled etc.)	Nil	Following desktop review, reconnaissance and field surveys targeted conservation significant fauna unlikely to be present within the survey area.
Proportion of fauna identified, recorded and/or collected	Nil	Following desktop review, the fauna assessment was aimed at identifying habitat types and conservation significant terrestrial vertebrate fauna unlikely to be utilising the survey area.
Completeness and further work which might be needed (e.g., was the relevant area fully surveyed)	Nil	Adequate coverage of the survey area was undertaken.
Mapping reliability	Nil	The vegetation was mapped using high-resolution ESRI aerial imagery obtained from Landgate, topographical features, previous broad scale mapping (Beard, 1979) and field data and more detailed vegetation mapping, where available. Data was recorded in the field using hand-held GPS tools. Certain atmospheric factors and other sources of error can affect the accuracy of GPS receivers. The GPS units used for this survey was a hand-held GPS which is accurate to within ±4 metres on average. Therefore, the data points consisting of coordinates recorded from the GPS may contain slight inaccuracies.
Timing/weather/season/cycle	Nil	The survey was undertaken in spring and the weather was fine.
Disturbances (e.g., fire, flood, accidental human intervention)	Nil	The survey area was partially disturbed but also contained vegetation in relatively intact condition.
Intensity (in retrospect, was the intensity adequate)	Nil	The survey area was sufficiently covered by foot during the survey.
Resources	Nil	Adequate resources were employed during the field survey.
Access restrictions	Nil	The survey area was accessed on foot.

4.2 Black Cockatoo habitat assessment

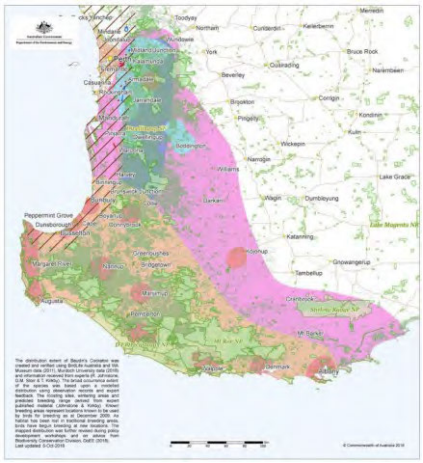
4.2.1 Desktop assessment

The EPBC, PMST and the DBCA Threatened Fauna Database searches identified three species of Black Cockatoo may occur within the overall survey area.:

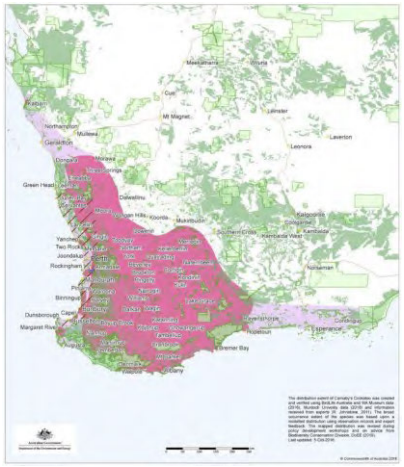
- Baudin's Black Cockatoo (*Zanda baudinii*) listed as Endangered under the Environmental Protection and Biodiversity Conservation Act (EPBC Act) and Biodiversity Conservation Act (BC Act).
- Carnaby's Black Cockatoo (*Zanda latirostris*) listed as Endangered under the EPBC Act and BC Act; and
- Forest red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) listed as Vulnerable under the EPBC Act and BC Act.

Based on the desktop assessment and current modelled distribution ranges shown in Table 4.5, a summary of Black Cockatoo species presence in each survey area is outlined in Table 4.6.

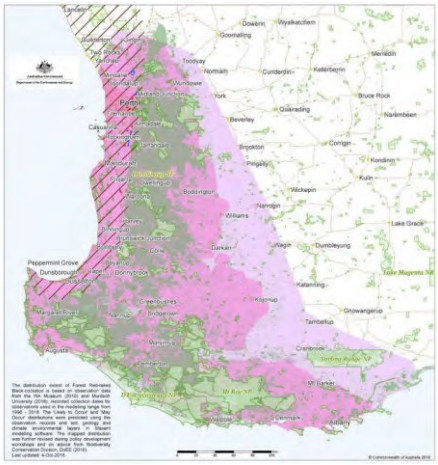
Table 4.6 Black Cockatoos distribution



Baudin's Cockatoo



Carnaby Cockatoo



Forest Red-tailed Black-Cockatoo

Source: Department of Agriculture, Water and the Environment (2022).

Table 4.7 Summary of intersection locations in relation to Black Cockatoo distribution ranges.

Intersection	Baudin's	Carnaby's	Forest red-tailed
1a	Inside breeding range.	Inside breeding range	Inside known distribution[1]
4a	Likely to occur	Inside breeding range	May occur
12b	Outside of distribution	Inside breeding range	Outside of distribution
23a	Outside of distribution	Inside breeding range	Outside of distribution

(1) Forest Red-tailed Black Cockatoo does not have a defined breeding range and can potentially breed within its entire known range.

4.2.2 Habitat assessment

4.2.2.1 Breeding

Two Black Cockatoo habitat trees were recorded as potential nesting trees based on suitable DBH. No trees contained hollows suitable for Black Cockatoo nesting. A summary of habitat trees is outlined in Table 4.6.

Black Cockatoo habitat tree locations are shown in Figure 4.3 and an inventory of habitat trees is available in Appendix J.

Table 4.8 Summary of Black Cockatoo habitat trees

Intersection	No. of Black Cockatoo habitat trees
1a	1
4a	0
12b	1
23a	0

376000 376100 376200 376300

6309400

6309300

6309200

INTERSECTION 01A

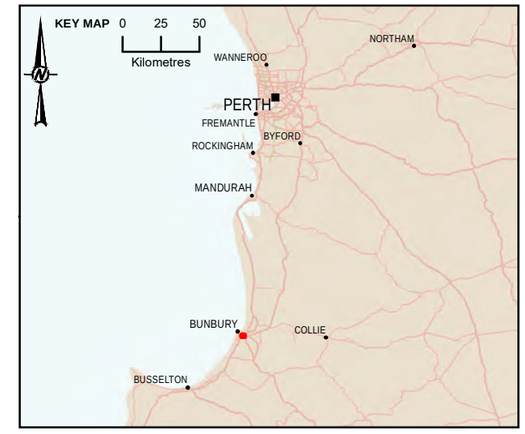
PICTON RD

ROBERTSON DR

SOUTH WESTERN HWY

LEGEND

- POTENTIAL NESTING TREE
- SURVEY AREA



0 25 50

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
HABITAT TREES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final\PS204764-001-R-RevA-F099_Habitat_Trees.mxd PRINTED ON: 2025-01-10 AT: 1:17:55 PM

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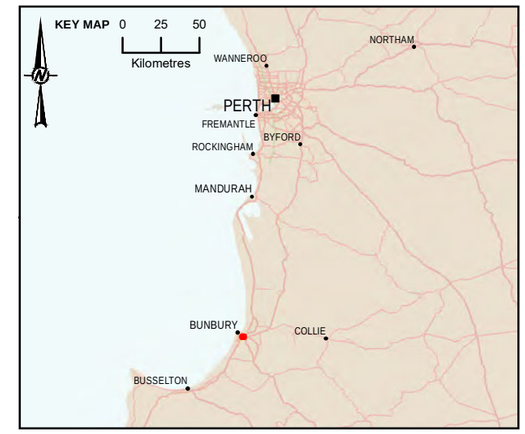
INTERSECTION 12B

WILLIAMS KONDININ RD

KULIN LAKE GRACE RD

LEGEND

- POTENTIAL NESTING TREE
- SURVEY AREA



0 25 50

1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
HABITAT TREES

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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4.2.2.2 Foraging

A total of 0.265ha of Black Cockatoo foraging habitat was recorded across intersections 12b and 23a which is only associated with Carnaby's Black Cockatoo. No foraging habitat was recorded at intersections 1a and 4a. A summary of foraging habitat is outlined in Table 4.9. Foraging habitat within the survey area is shown in Figure 4.3 and Figure 4.4.

Table 4.9 Summary of Carnaby's Black Cockatoo foraging habitat extent and species

Intersection	Foraging habitat extent (ha)	Foraging species
1a	0	-
4a	0	-
12b	0.240	*Eucalyptus camaldulensis, Eucalyptus loxophleba*
23a	0.025	*Hakea newbeyana, Hakea meisneriana*
Total	0.265	

Foraging habitat value scores are shown for intersections 12b and 23a in Table 4.10 and Table 4.11. The foraging habitat in these survey sites is associated with Carnaby's Black Cockatoo only.

Table 4.10 Foraging value scores for survey area at intersection 12b

Foraging Attribute	Site score	Justification
Forage potential	10 – 2 = 8	There was no evidence of feeding debris within the survey area, during the site visit
Connectivity	8 – 0 = 8	Known foraging habitat is located within 12km of the survey area.
Proximity to breeding	8 – 2= 6	No known breeding sites occur within 12km of survey area.
Proximity to roosting	6 – 1 = 5	No known roosting sites located within 20km.
Impact from significant plant disease	5 – 0 = 5	No plant diseases were found on site.
Final Score	**5**	

Table 4.11 Foraging value scores for survey area at intersection 23a

Foraging Attribute	Site score	Justification
Forage potential	10 – 2 = 8	There was no evidence of feeding debris within the survey area, during the site visit
Connectivity	8 – 0 = 8	Known foraging habitat is located within 12km of the survey area.
Proximity to breeding	8 – 2= 6	No known breeding sites occur within 12km of survey area.
Proximity to roosting	6 – 1 = 5	No known roosting sites located within 20km.
Impact from significant plant disease	5 – 0 = 5	No plant diseases were found on site.
Final Score	**5**	

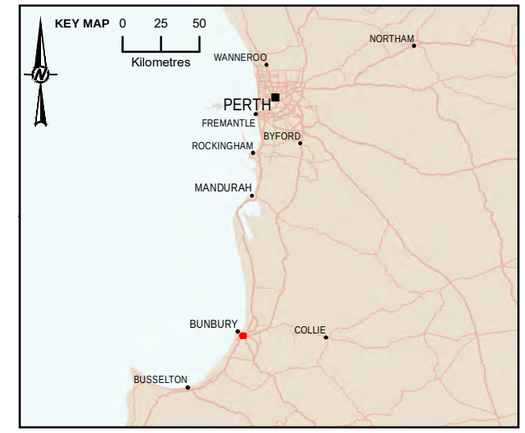
The Carnaby's Black Cockatoo foraging habitat mapped within intersections 12b and 23a is rated 5 which is considered high quality. Despite the high-quality rating, the extent is less than one hectare and will not require federal referral.

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608800
6385100
6385000
6384900
6384800

INTERSECTION 12B
WILLIAMS KONDININ RD
KULIN LAKE GRACE RD

LEGEND

- FORAGING HABITAT
- SURVEY AREA



0 25 50
1:1,200 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM LANDGATE

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
FORAGING HABITAT

CONSULTANT
wsp

YYYY-MM-DD	2025-01-10
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.4

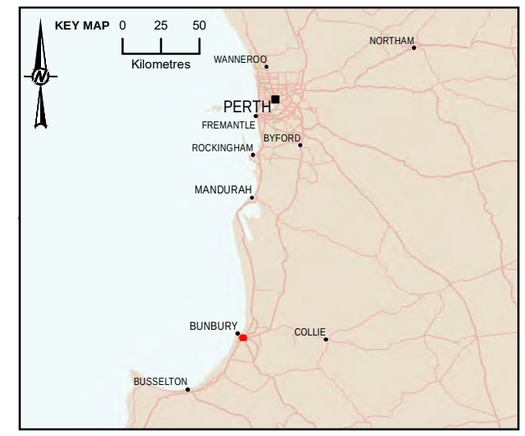
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LEGEND

- FORAGING HABITAT
- SURVEY AREA



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1:1,100 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

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PROJECT NO.	CONTROL	REV.	FIGURE
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4.2.2.3 Roosting

No evidence of roosting was observed during the field survey.

Tall trees within the site have the potential to provide roosting habitat. Particularly trees in intersection 12b.

4.2.2.4 Referral requirement

Referrals to the Minister for the Environment under the EPBC Act are required if the proposed works is likely to have a significant impact on Black Cockatoos. There are five attributes that the site is assessed against to determine if the project will require a referral. The referral thresholds regarding this site are outlined in Table 4.12.

Table 4.12 Referral thresholds for Black Cockatoos

Attribute	Referral threshold	Apply to the project
Breeding	Any loss of/impact upon known, suitable or potential nesting trees, and the habitat around these trees, is highly likely to require a referral to the minister.	Possible. Single potential nesting trees at intersections 1a and 12b.
High-quality native foraging habitat	Loss of greater than or equal to 1 ha of foraging habitat scoring 5–10 using the foraging quality scoring tool is likely to require referral to the minister	No
Lower-quality native foraging habitat	Loss of greater than or equal to 10 ha of foraging habitat scoring 0–4 using the foraging quality scoring tool is likely to require referral to the minister.	No
Exotic foraging habitat	Loss of greater than or equal to 1 ha of predominantly exotic habitat (e.g., Cape Lilac trees and pine trees) known to be utilised by Black Cockatoos is likely to require a referral to the minister.	No
Night roosting habitat	Removal of any part of a known night roosting site is likely to require referral to the minister	No

Source: Department of Agriculture, Water and the Environment (2022).

Based on Table 4.12, if the single potential nesting tree at intersections 1a and 12b are to be cleared, the federal referral pursuant to the EPBC Act may be required.

5 Discussion

5.1 Flora and vegetation

The Survey Area consisted of a number of small parcels of bushland and previously cleared areas separated by roads and infrastructure. Flora, including native vegetation occurs across most of the Project Area. The vegetation shows no evidence of alteration from fire and the vegetation recorded within the survey area were consistent with the historical mapping of Beard (1972 and 1990).

5.1.1 Threatened and priority flora

Based on background information, 102 significant flora species potentially occurring within a 50 km radius of the Survey Area (DCCEEW 2024, DBCA 2024a, 2024b) were considered to potentially occur within the Survey Area. The field survey was undertaken in September 2024 and was considered sufficient to determine that these species are identified to species and sub species level. One priority flora taxon was recorded within the Survey Area – *Acacia sclerophylla* var. *pilosa* (P2), identified in intersection 12a within mixed Eucalypt open forest vegetation community.

5.1.2 Threatened ecological communities

The assessment of the indicative patches of both the Eucalyptus Woodlands and *Banksia* Woodlands ecological communities was based on the Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt ecological community or the *Banksia* Woodlands of the Swan Coastal Plain ecological community, originally published by the Department of the Environment and Energy and currently available through the Department of Agriculture, Water and the Environment. The majority of the field survey effort took place in September during the preferred period to undertake botanical survey work in the Southwest and Interzone botanical provinces.

The database as supplied by government agencies had three intersections (Intersection 01a, 02a and 19) highlighted as Threatened and Priority Ecological Communities. None of these intersection's polygons were considered to have sufficient values as either Threatened/Priority Ecological Communities. The determination that indicative patches of the TEC/PEC did not represent patches of their respective ecological communities is as follows:

- The vegetation patch had been cleared, was below the minimum size threshold requirement, and/or had a condition rating which when considered with other factors precluded it being classed as an ecological community patch
- The vegetation was not a woodland (e.g. chenopod shrublands, heath communities and shrublands)
- The vegetation patch was comprised of planted trees which formed windbreaks or shelter belts along the edges of paddocks or tracks on farmland.

Overall, majority of the patches were degraded or completely degraded with the inclusion of planted trees, cleared native vegetation and multiple communities that were not structurally or floristically woodlands.

5.1.3 Plant communities

The Survey Area included 14 vegetation communities. The majority of the Survey Area is situated on sandy clay or clay loam flats, supporting *Eucalyptus* open woodlands over *Acacia* shrublands over isolated forblands and sparse open grasslands. The identification of some of the species in these areas was problematic due to the absence of sufficient fertile material to enable accurate identification. Consequently, impacts resulting to identify key environmental issues and constraints associated with the Project proposed routes (Intersections) for delivering wind turbines from port to the windfarm would have a minimal impact on the vegetation present given that the open woodlands and species present are well represented both at the local and regional scale.

5.1.4 Vegetation condition

A significant portion (9.47 ha, 78.97%) of the survey area did not have native vegetation as it included existing roads and completely cleared areas. A further 0.20 ha (1.66%) had some native vegetation present, however, was in Completely Degraded condition and is not considered to represent extant native vegetation. Vegetation in Good condition corresponded only 0.25 ha (2.1%) and had a significantly lower weed cover. All of the weeds occur commonly in the agricultural region of Western Australia.

5.1.5 Invasive species

Twenty-two introduced species were recorded in the Survey Area, all of which are common within the agricultural region of Western Australia. None of the weed species recorded are listed as WoNS (Australian Weeds Committee 2012) or as a Declared pest plant in Western Australia (Department of Agriculture and Food Western Australia, 2016). Assessment to identify key environmental issues and constraints associated with the Project proposed routes (Intersections) for delivering wind turbines from port to the windfarm is unlikely to significantly increase the weed cover or result in additional weed species in the survey area or its surrounds.

5.2 Black Cockatoos

5.2.1 Breeding habitat

None of the four areas surveyed for Black Cockatoo habitat currently contain habitat suitable for breeding. The portions of the Survey Area at intersections 1a and 12b each contain a single ‘potential nesting tree’ but these do not contain any identifiable hollows. It is possible that those trees and others will develop hollows suitable for Black Cockatoo nesting in the future, but this will likely take several years if it occurs at all.

5.2.2 Foraging habitat

The only foraging habitat recorded occurs in the Survey Area at intersections 12b and 23a. The fruits of *Eucalyptus* spp. within the Survey Area at intersection 12b and *Hakea* spp. within the Survey Area at intersection 23a are regularly consumed by Carnaby’s Black Cockatoo. However, the extents of the foraging habitat within these areas are relatively small and any removal is unlikely to impact local populations due to similar foraging habitat available in the local area.

Plants recorded within the Survey Area at intersections 1a and 4a do not contain any foraging value for Black Cockatoos. These are predominantly *Melaleuca* spp. or non-native.

5.2.3 Roosting habitat

It is unlikely that the Survey Area has been used recently for roosting as no evidence of roosting by Black Cockatoos was recorded and no intersections within the Survey Area are in close proximity to any known roosts. However, tall trees may be used for roosting periodically, particularly within the Survey Area at intersection 12b which contains stands of *Eucalyptus* spp.

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Appendix A

Land systems



Taxon	Status BC Act	Status EPBC Act	Habitat
Acacia anarthros	Priority 3		Low shrubland and sedges
Acacia arcuatilis	Priority 2		tall scrub *Casuarina* and Mallee
Acacia caesariata	Threatened	Vulnerable	
Acacia campylophylla	Priority 3		With *Grevillea scapigera*.
Acacia concolorans	Priority 2		Brown sandy clay over granite. Open mallee woodland.
Acacia deflexa	Priority 3		Light yellowish brown, fine sandy loam, well-drained.
Acacia inophloia	Priority 3		Centre creek mallee.
Acacia kulinensis	Priority 1		Low shrubland. With Sheoaks, Melaleucas.
Acacia lanei	Priority 3		Mid-slope along old drainage line. Red-brown sandy loam over granite. Low woodland over open scrub.
Acacia obesa	Priority 3		Sandy soils.
Acacia phaeocalyx	Priority 3		Occasional shrubs.
Acacia sclerophylla var. *pilosa*	Priority 2		Shrubland to 4 m
Acacia sclerophylla var. *teretiuscula*	Priority 1		Dark brown clay. Open site with samphires on slightly elevated ground adjacent to a Salt Lake.
Acacia tetraneura	Priority 1		Heath to 1 m with open shrubland.
Acacia tuberculata	Priority 2		Disturbed site. Dry (stony), yellow/brown coarse granitic sands over granite/sandy clay loam. Graded road verge.
Acacia undosa	Priority 3		On causeway through low areas - near Salt Lake. The soil was not really saline
Amanita inculta	Priority 2		*Acacia acuminata*, *Eucalyptus* sp. (mallee)
Andersonia carinata	Priority 2		Low Heath
Banksia dallanneyi subsp. *agricola*	Priority 2		In kwongan with *Eucalyptus macrocarpa*.
Banksia densa	Priority 2		Heath on road verge.
Banksia erythrocephala var. *inopinata*	Priority 3		With large shrubs including *Dryandra ferruginea*
Banksia fasciculata	Priority 3		Associated with *Lambertia* and *Leptospermum*.
Banksia horrida	Priority 3		Heath, Shrubs, Mallees
Banksia meganotia	Priority 3		In low heath.
Banksia rufa subsp. *chelomacarpa*	Priority 3		In sand and gravel.
Banksia rufa subsp. *flavescens*	Priority 3		Damp (rain), white-yellow sand over laterite.
Banksia rufa subsp. *obliquiloba*	Priority 3		Dense low scrub.
Banksia shanklandiorum	Priority 4		Sandy creek. Damp yellow sand. Small stone conglomerate sheet.
Banksia sphaerocarpa var. *dolichostyla*	Threatened	Vulnerable	

Taxon	Status BC Act	Status EPBC Act	Habitat
Banksia subpinnatifida var. *subpinnatifida*	Priority 2		Tall shrubland with *Gompholobium scabrum*
Banksia xylothemelia	Priority 3		With *Dryandra cirsioides*
Beaufortia burbidgeae	Priority 3		Mixed heath.
Bossiaea atrata	Priority 3		Upland. Dry, brown sandy loam over clay.
Brachyloma delbi	Priority 1		Degraded open mallee woodland.
Brachyloma elusum	Priority 2		
Brachyloma mogin	Priority 3		*Grevillea hookeriana*, Mallee, Capeweed, grasses.
Caladenia x *triangularis*	Priority 4		Open wandoo woodland
Calothamnus brevifolius	Priority 4		Heath and *Eucalyptus macrocarpa*.
Chamelaucium sp. Parker Range (B.H. Smith 1255)	Priority 1		
Dampiera triloba	Priority 3		
Darwinia sp. Corrigin (T. Erickson TEE 308)	Priority 2		
Daviesia implexa	Priority 3		*E. loxophleba* scrub mallee.
Daviesia nudiflora subsp. *drummondii*	Priority 3		Very Open Tree Mallee
Daviesia oxylobium	Priority 4		Road verge shrubs
Daviesia tortuosa	Priority 3		
Daviesia uncinata	Priority 3		Mixed shrubland with *Allocasuarina*
Dicrastylis reticulata	Priority 3		With other shrubs *Dodonaea viscosa* subsp. *spatulata* and perennial herbs and annuals.
Eremophila biserrata	Priority 4		Dry, brown coarse sand over fine clay on rise in saline swamp. Moderately drained subsaline flat sandy loam. Adjacent to Salt Lake.
Eremophila caerulea subsp. *merrallii*	Priority 4		
Eremophila rarissima	Priority 1		
Eremophila veneta	Priority 4		Mallee; degraded shrubland and introduced grasses.
Eremophila verticillata	Threatened	Vulnerable	Bare areas.
Eucalyptus caesia subsp. *caesia*	Priority 4		Growing in damp granitic loam in pocket at top of valley, soil very shallow. Gentle, granite outcrop.
Eucalyptus dissimulata subsp. *dissimulata*	Priority 4		Mallees.
Eucalyptus eremophila subsp. *pterocarpa*	Priority 1		In argillaceis.
Eucalyptus erythronema subsp. *inornata*	Priority 3		Disturbed woodland
Eucalyptus loxophleba x *wandoo*	Priority 4		

Taxon	Status BC Act	Status EPBC Act	Habitat
Eucalyptus ornata	Priority 3		Gently undulating, high in landscape. Brown sandy loam, some ironstone gravel overlying laterite.
Eucalyptus spathulata subsp. *salina*	Priority 3		With *Eucalyptus flocktoniae*, *E.* **salubris** and *Melaleuca lateriflora*.
Frankenia drummondii	Priority 3		Adjacent to Salt Lake. Dry, brown sand.
Gastrolobium densifolium	Priority 4		Heath with Hakea sp., *Petrophile* sp., some Wandoo.
Grevillea asteriscosa	Priority 4		Undulating, top of rise; sandy soil with lateritic gravel and stony clay.
Grevillea dryandroides subsp. *hirsuta*	Threatened	Vulnerable	Almost bare apart from introduced species
Grevillea scapigera	Threatened	Vulnerable	Heath.
Guichenotia impudica	Priority 3		
Guichenotia seorsiflora	Threatened	Vulnerable	*Allocasuarina* shrubland
Hemigenia sp. Newdegate (E. Bishop 75)	Priority 1		Mallee.
Hibbertia sp. Bendering (J.W. Horn 4101)	Priority 1		Soil is laterite, with duricrust not far from the soil surface.
Inocybe sinuospora	Priority 1		Planted *Eucalyptus* and sheoak bushes.
Lasiopetalum fitzgibbonii	Priority 3		
Lechenaultia pulvinaris	Priority 4		Shrubland, *Banksia attenuata, Banksia prionotes*.
Leucopogon amplectens	Priority 2		Salmon Gum Forest
Melaleuca grieveana	Priority 1		Associated vegetation: medium trees, tall shrubland.
Microcorys cephalantha	Priority 3		Open woodland.
Myriophyllum petraeum	Priority 4		In rock pools on top of granite rock.
Oxymyrrhine cordata	Priority 2		Closed heath
Phebalium brachycalyx	Priority 3		Flat plateau, dry, brown clay/loam over granite.
Phebalium drummondii	Priority 3		Remnant bushland shrubs and small trees.
Prostanthera nanophylla	Priority 3		Near hilltop, dry yellow-light brown sand
Pterostylis echinulata	Priority 3		Dense tall *Melaleuca* shrubs.
Pterostylis elegantissima	Priority 1		Inland wandoo, Mallee woodland. No sign of fire.
Rhizanthella gardneri	Threatened	Vulnerable	Thickets of *Melaleuca uncinata*
Rinzia affinis	Priority 4		Associated vegetation *Kunzea*, *Verticordia*.
Rinzia torquata	Priority 3		SE slope. Damp (rain) yellow sandy creek below.
Roycea pycnophylloides	Threatened	Vulnerable	Salt Lake edge. White sand over moist grey-brown clay.
Stylidium applanatum	Threatened	Vulnerable	*Banksia* and *Allocasuarina* Woodland.
Stylidium rhipidium	Priority 3		Moist sandy soil at the base of granite rock.
Stypandra jamesii	Priority 2		Alluvial plain at the foot of the granite rocks. In deeper soil of fissures and edge of outcrop.
Styphelia papillosa	Priority 3		Low Shrubland over mixed annual Open Herbland over Very Open Grassland

Taxon	Status BC Act	Status EPBC Act	Habitat
Styphelia sp. Dumbleyung (A.J.G. Wilson 146) PN	Priority 3		*Allocasuarina* sp., *Acacia* sp.
Symonanthus bancroftii	Threatened	Vulnerable	Mixed *Eucalyptus salmonophloia* and *Melaleuca* woodland.
Synaphea drummondii	Priority 3		Shrubland.
Thelymitra stellata	Threatened	Vulnerable	Medium height dense shrubland
Thysanotus brachiatus	Priority 2		Mallee.
Thysanotus sabulosus	Priority 1		Closed heath
Thysanotus tenuis	Priority 3		Open woodland over Jam Rock sheoak low woodland
Urodon capitatus	Priority 3		Heath.
Verticordia setacea	Priority 2		Mainly gravel.
Verticordia stenopetala	Priority 3		Hillside, dry yellow sandy slope above creek.
Xanthoparmelia nashii	Priority 3		On granite rocks.
Xanthoparmelia subbarbatica	Priority 1		Outcrop-ridge, bare dry brown clay over granite
Xanthoparmelia subimitatrix	Priority 3		*Allocasuarina campestris* and *Santalum acuminatum* shrubland.

Appendix B

IBRA Regions

CLASS	Scientific Name	Common Name	Count of Taxon
BIRD	*Actitis hypoleucos*	common sandpiper	1
	Apus pacificus	fork-tailed swift	1
	Cacatua pastinator pastinator	Muir's corella	3
	Calidris ferruginea	curlew sandpiper	1
	Calidris ruficollis	red-necked stint	1
	Calyptorhynchus latirostris	Carnaby's cockatoo	105
	Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	12
	Falco peregrinus	peregrine falcon	1
	Leipoa ocellata	malleefowl	404
	Ninox connivens connivens (southwest subpopulation)	barking owl (southwest subpopulation)	2
	Oxyura australis	blue-billed duck	1
	Pezoporus flaviventris	western ground parrot	1
	Platycercus icterotis xanthogenys	western rosella (inland)	2
	Stercorarius longicaudus	long-tailed jaeger, long-tailed skua	1
	Tringa nebularia	common greenshank	1
INVERTEBRATE	*Branchinella simplex*	a fairy shrimp (inland WA)	1
	Daphnia jollyi	a water flea (inland southwest)	5
	Pararteмia contracta	a brine shrimp (Wheatbelt)	1
	Westralunio carteri	Carter's freshwater mussel	1
MAMMAL	*Bettongia penicillata ogilbyi*	woylie, brush-tailed bettong	1
	Dasyurus geoffroii	chuditch, western quoll	10
	Isoodon fusciventer	quenda, southwestern brown bandicoot	1
	Lagostrophus fasciatus fasciatus	banded hare-wallaby, mernine	2

CLASS	Scientific Name	Common Name	Count of Taxon
	Macrotis lagotis	bilby, dalgyte, ninu	3
	Myrmecobius fasciatus	numbat, walpurti	7
	Notamacropus eugenii derbianus	tammar wallaby	1
	Notamacropus irma	western brush wallaby	8
	Perameles bougainville	Shark Bay bandicoot, western barred bandicoot, little marl	1
	Phascogale calura	red-tailed phascogale, kenngoor	67
	Phascogale tapoatafa wambenger	south-western brush-tailed phascogale, wambenger	1
	Pseudomys occidentalis	western mouse	71
	Pseudomys shortridgei	heath mouse, heath rat, Dayang	2
REPTILE	*Paroplocephalus atriceps*	Lake Cronin snake	2

Appendix C

IBRA Subregions

Appendix C: Habitat Description of Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Cacatua pastinator pastinator (Muir's corella)		Critically Endangered	In Australia, Curlew Sandpipers occur around the coasts and are also quite widespread inland, though in smaller numbers. Records occur in all states during the non-breeding period, and also during the breeding season when many non-breeding one year old birds remain in Australia rather than migrating north. In Western Australia, they are widespread around coastal and subcoastal plains from Cape Arid to south-west Kimberley Division but are more sparsely distributed between Carnarvon and Dampier Archipelago. They occur in large numbers, in thousands to tens of thousands, at Port Hedland Saltworks, 80 Mile Beach, Roebuck Bay and Lake Macleod. They are rarely recorded in the north-west Kimberley, around Wyndham and Lake Argyle, and occasionally they occur inland, in areas south of 26° S. Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms. They are also recorded inland, though less often, including around ephemeral and permanent lakes, dams, waterholes and bore drains, usually with bare edges of mud or sand. They occur in both fresh and brackish waters. Occasionally they are recorded around floodwaters (http://www.environment.gov.au/cgi- bin/sprat/public/publicspecies.pl?taxon_id=856)	Highly Unlikely - unlikely to rely on the survey area.
Zanda sp. (white-tailed black cockatoo)	Endangered	Endangered	This Cockatoo is found only in the south-west of Western Australia and generally bounded by the 750mm rainfall isohyet (Albany, Gidgegannup and up to Mundaring and inland to the Stirling Ranges and Boyup Brook). Breeding has been recorded between Nornalup, northward to near Bridgetown, Lowden and Harvey (Department of the Environment, 2021a). Habitat comprises heavily forested areas dominated by Marri and other *Eucalyptus* species (particularly Karri and Jarrah). The distribution of the species comprises 40,000km^2.	Likely – however, foraging habitat does not present within the project area.
Zanda latirostris (Carnaby's Cockatoo)	Endangered	Endangered	Carnaby's Cockatoo is found in the south-west of Australia from Kalbarri through to Ravensthorpe. It prefers feeding on the seeds of *Banksia, Dryandra, Hakea, Eucalyptus, Grevillea, Pinus* and *Allocasuarina* spp. It is nomadic often moving toward the coast after breeding. The birds breed in tree hollows that are 2.5 – 12m above the ground and have an entrance 23-30cm with a depth of 1-2.5m. Nesting mostly occurs in smooth-barked trees (e.g., Salmon Gum, Wandoo, Red Morrell) (DSEWPaC, 2012).	Likely – foraging habitat present on the subject land.
Falco peregrinus (Peregrine Falcon)	Other specially protected fauna		The Peregrine Falcon is found in a variety of habitats but nests on high cliff ledges or artificial structures. It feeds primarily on small-medium sized birds, but occasionally taking insects, such as moths, cicadas and locusts (Birdlife, 2012).	Unlikely – may fly over but unlikely rely on the survey area.
Leipoa ocellata (Malleefowl)	Vulnerable	Vulnerable	The Malleefowl occurs in scrubland and woodland dominated by mallee and wattle species (Department of the Environment, http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=934).	Highly unlikely – Not suitable habitat in the survey area.

Appendix C: Habitat Description of Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Dasyurus geoffroii (Chuditch, Western Quoll)	Endangered	Vulnerable	It is now largely restricted to the south-west of Western Australia, with small numbers in the Midwest, Wheatbelt and South Coast Regions. Historically, chuditch inhabited a wide range of habitats, but today it survives mostly in Jarrah Eucalyptus marginata forests and woodlands, mallee shrublands and heathlands (https://www.dpaw.wa.gov.au/images/documents/plants-animals/animals/animal_profiles/chuditch_fauna_profile.pdf).	Highly Unlikely - There have not been any records of Chuditch in the Survey area
Isoodon fusciventer (Kwernt, Quenda, Southwestern Brown Bandicoot)	Priority 4	Not listed	Southern Brown Bandicoots are small grey marsupials that prefer dense scrub (up to one metre high), often in or near swampy vegetation. Their diet includes invertebrates (including earthworms, adult beetles and their larvae), underground fungi, subterranean plant material, and very occasionally, small vertebrates (Department of Environment and Conservation, 201 2). The preferred habitat for this species is scrubby, often swampy, vegetation with dense cover up to 1 m high	Highly Unlikely due to Limited distribution and lack of suitable habitat.
Notamacropus eugenii derbianus (Tammar wallaby)	Priority 4	Not listed	The species inhabits dense, low vegetation for daytime shelter and open grassy areas for feeding. This species inhabits coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland.The Tammar Wallaby is currently known to inhabit three islands in the Houtman Abrolhos group (East and West Wallabi Island, and an introduced population on North Island), Garden Island near Perth, Middle and North Twin Peak Islands in the Archipelago of the Recherche, and several sites on the mainland - including, Dryandra, Boyagin, Tutanning, Batalling (reintroduced), Perup, private property near Pingelly, Jaloran Road timber reserve near Wagin, Hopetoun, Stirling Range National Park, and Fitzgerald River National Park. The Tammar Wallaby remains relatively abundant at these sites which are subject to fox control (https://www.dpaw.wa.gov.au/images/documents/conservation- management/pests-diseases/tammar-wallaby_2012.pdf).	Highly Unlikely due to Limited distribution and lack of suitable habitat.
Notamacropus irma (Western Brush Wallaby)	Priority 4	Not listed	Preferred habitat is open forest or woodlands with seasonally wet sites and low vegetation. This species is often found in dry schlerophyll forests, such as jarrah, and areas of mallee and heathland scrub. It is rarely found in wet schlerophyll forests and is not found in ecosystems characterized by a thick understory, such as karri forests.	Highly Unlikely as the area of vegetation is relatively isolated in a highly cleared landscape.

Appendix C: Habitat Description of Likelihood Occurrence of Conservation Fauna Species within Survey Area

Species	Status WA	Status EPBC Act	Habitat	Likelihood to Occur
Pseudomys occidentalis (Western Mouse)	Priority 4	Not listed	The distribution range once extended across Southwest Australia and into the arid interior, this became restricted to a few areas near the Ravensthorpe Range, at Fitzgerald River National Park, and several isolated populations in the southern wheatbelt. This mouse lives in loamy soils in areas that have not been burnt recently, and not known at any location that has been subjected to fire in the preceding 30 to 50 years. The terrain has climax vegetation, especially the desert quandong Santalum acuminatum and sedge-like plants. The substrate of the ecological communities in which they are known to remain is sandy or sandy-clay soil that is often intermixed with gravel. Plant genera associated with their remnant sites are Eucalyptus, Acacia, Isopogon, Allocasuarina and Melaleuca, and the vegetation of their habitat is highly variable, including open woodlands, low and tall shrubland, mallee and heath in open to dense arrangements of plants	Highly unlikely as the area lacking understory and is relatively isolated in a highly cleared landscape.
Pseudomys shortridgei (Heath mouse, heath rat and Dayang)	Endangered	Endangered	Preferred vegetation type in southwest Australia is taller scrubland associated with mallee trees and climax heath assemblages in undisturbed areas	Highly unlikely - There are no records of the species for the Survey area
Phascogale calura (red-tailed phascogale, kenngoor)	Species of special conservation interest	Critically Endangered	This subspecies has been observed in dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover. It has a highly fragmented distribution across the southwest of WA (https://en.wikipedia.org/wiki/Brush-tailed_phascogale).	Highly unlikely to persist within the Survey area

Appendix D

Pre-European vegetation

Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

THREATENED AND PRIORITY FLORA INFORMATION

Conditions with Respect to the Supply of Information

- The data supplied may not be provided to any other organisations, nor be used for any purpose other than for the project for which it has been originally provided for; without the prior consent of the Executive Director, Department of Biodiversity, Conservation and Attractions.
- Specific locality information for threatened flora is regarded as confidential, and should be treated as such by receiving organisations. Specific locality information for threatened flora may not be used in reports without the written permission of the Executive Director, Department of Biodiversity, Conservation and Attractions. Reports may only show generalised locations at a low resolution or, where necessary, show specific locations without identifying species. Species and Communities Branch is to be contacted for guidance on the presentation of threatened flora information.
- The Department of Biodiversity, Conservation and Attractions respects the privacy of private landowners who may have threatened and priority flora on their property. Threatened and priority flora locations identified in the data as being on private property should be treated in confidence, and contact with property owners must only be made through the Department of Biodiversity, Conservation and Attractions.
- The development of the Perth Herbarium database was not originally intended for electronic mapping (eg. GIS ArcView). The latitude and longitude coordinates for each entry are not verified prior to being data based. It is only in recent times that collections have been submitted with GPS coordinates. Therefore, be aware when using this data in GIS software that some records may not plot to the locality description given with each collection.
- Acknowledgment of the Department Biodiversity, Conservation and Attractions as the source of data is to be made in any published material and cited as Biodiversity, Conservation and Attractions (2018) Threatened and Priority Flora Database Search for [search area] accessed on the [date of search]. Prepared by the Species and Communities program for [Requesters name and company] for [purpose of search].
- Copies of all such publications are to be forwarded to the Department of Biodiversity, Conservation and Attractions, Attention; the Manager, Species and Communities program.

Disclaimers with Respect to the Supply of Information

- Receiving organisations should note that while every effort has been made to prevent errors and omissions in the data, they may be present. The Department of Biodiversity, Conservation and Attractions accepts no responsibility for this.
- Receiving organisations must also recognise that the database is subject to continual updating and amendment, and such considerations should be taken into account by the user.
- It should be noted that the supplied data does not necessarily represent a comprehensive listing of the threatened flora of the area in question. Its comprehensiveness is dependent on the amount of surveys carried out within a specified area. The receiving organisation should consider engaging a botanist, if required, to undertake a survey of the area under consideration.



ABBREVIATIONS USED IN THREATENED AND PRIORITY FLORA DATABASE

VESTING

AAP	Aboriginal Planning Authority
AGR	Chief Executive, Dep. of Agriculture
ALT	Aboriginal Land Trust
APB	Agricultural Protection Board of WA
BGP	Botanical Gardens & Parks Authority
BSA	Boy Scouts Association
CC	Conservation Commission – NPNCA - LFC
CGT	Crown Grant in Trust
COM	Commonwealth of Australia
CRO	Crown Freehold-Govt Ownership
CRW	Crown
DAG	Dep. of Agriculture
DOW	Dep. of Water
DPI	Dep. of Planning
EXD	Exec Direc CALM
FES	Fire and Emergency Services Aust.
HOW	Dep. of Housing/State Housing Commission
ILD	Industrial Lands Develop. Auth
LAC	LandCorp
LGA	Shire/LGA
MAG	Minister for Agriculture
MCB	Metropolitan Cemeteries Board
MED	Ministry of Education
MHE	Minister for Health
MIN	Minister for Mines
MPL	Ministry for Planning
MPR	Minister for Prisons
MRD	Main Roads WA
MTR	Minister for Transport
MWA	Minister for Water Resources
MWO	Minister for Works
NAT	Natural Trust of Australia WA
NON	Not Vested
PLB	Pastoral Lands Board
PRI	Private/Freehold
RAI	Public Transport Authority
REL	Religious Organisation
SPC	State Planning Commission
SYN	Synergy (ex Western Power)
SWA	State of Western Australia
TEL	Telstra
UNK	Unknown
WAT	Water Corporation
WEL	Minister Community Welfare
WRC	Water & Rivers Commission
XPL	Ex-Pastoral Lease

PURPOSES

ABR	Aboriginal Reserve
ACC	Access Track
AER	Aerodrome
AIR	Airport
ARS	Agricultural Research Station
BAP	Baptist Union of WA
CAM	Camping
CAR	Caravan park
CEM	Cemetery
CFA	Conservation of Fauna
CFF	Conservation Of Flora & Fauna
CFL	Conservation of Flora
CHU	Church
CMN	Communications
COM	Common
CON	Conservation Park
CPK	Car Park
CRM	Conservation & Resource Management
DEF	Defence
DRA	Drain
EDE	Educational Endowment
EDU	Educational purposes
UWA	
ENE	Enjoyment of Natural Environ.
EPL	Ex-pastoral Lease (Sect 33(2) CALM Act)
EPS	Explosives
EXC	Excepted from sale
EXL	Exploration Lease
EXP	Experimental Farm
FIR	Firing Range
FOR	State Forest
FP	Foreshore Purposes
GE	General Lease
GHA	Grain Handling
GOL	Golf
GRA	Gravel Pit
GVT	Government Requirements
HAR	Harbour Purposes
HEP	Heritage Purposes
HER	Heritage trail
HOS	Hospital
KEN	Kennels
LGA	LGA/Shire Requirements
LPR	Landscape Protection
MIN	Mining lease
MUN	Municipal Purposes
NPK	National Park
NRE	Nature Reserve
OTH	Other
PAR	Parkland (& Recreation)
PAS	Pastoral lease
PCR	Proposed for Conservation
PFF	Protection of Flora & Fauna
PFL	Protection of Flora
PIC	Picnic ground
PLA	Plantation
PMC	Protection of Meteorite Crater
POS	Public Open Space
PPA	Public parkland
PRS	Prison site
PUR	Purchase Lease
PUT	Public Utility
QUA	Quarry
RAC	Racecourse
RAD	Radio Station
REC	Recreation
REH	Rehabilitation/Re-establish Native Plants
RRE	Railway Reserve
RUB	Rubbish
SAL	Saleyards
SAN	Sand
SCH	School-site
SET	Settlers requirements
SHO	Showgrounds
SNN	Sanitary
SOI	Soil Conservation
STO	Stopping place
STK	Stock Route
TIM	Timber
TOU	Tourism
TOW	Town-site
TRA	Training Ground
TRI	Trig station
UCL	Unallocated Crown Land
UNK	Unknown
VER	Road Verge
VPF	Vermin Proof Fence
WAT	Water
WLS	Wildlife Sanctuary
WOO	Firewood

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

ABBREVIATIONS USED IN THE WESTERN AUSTRALIAN HERBARIUM DATABASE

Geocode Method - The method that was used to record the latitude and longitude.

Auto - Indicates that the coordinate data in the record was created automatically (i.e. by software), usually by creating a coordinate from information provided in the Nearest Named Place or Locality textual description fields.

GAP - Acronym for "Generalised Arbitrary Point" as used in HISPID. GAP indicates that the coordinate data was obtained manually from the Nearest Named Place or Locality textual description fields.

GPS - Acronym for "Global Positioning System". GPS indicates that the coordinate data in the record was obtained from a GPS unit by the collector of the specimen.

MAN - Shorthand for manual. MAN indicates that the coordinate data was created by hand using some method not allowed for by one of the other manual Geocode Method values, in particular, TOPO, GAP, or GPS.

TOPO - Shorthand for topographic map. TOPO indicates that the coordinate data was obtained by plotting textual locality details against a topographic map.

None - Indicates that no coordinate data has been supplied by the collector.

Unknown - Indicates that there is no known method for determining the coordinate data. Should be used if the collector provided no indication of how they sampled the specimen's coordinate data.

PREC (Precision) - precision ratings for coordinates.

Precision 1: Absolutely precise (to nearest 100m or nearest second) and must be GPS determined. For example 35°26'42"S 123°40'26"E

Precision 2: Falling within a diameter of 3km (ca 2 minutes) or if no GPS mentioned in collecting notes. (The location must be able to be pinpointed on a 1:250 000 map, a spot locality. For example 35°26'42"S 123°40'26"E

Precision 3: Falling within a diameter of 10km (ca 7 minutes) or for degrees and minutes, where seconds have not been given. For example 35°26'_"S 123°40'_"E

Precision 4: Falling within a diameter of ca 50km (30 minutes). For example 35°26'_"S 123°40'_"E

Precision 5: Where a location is a prescribed large geographical area within a state or only the state is given. Diameter is greater than 50km. For example 35°_'_"S 123°_'_"E

Precision 6: used when localities are New Holland, Eastern Australia or Not given. Fields will be left blank.

Department of Biodiversity, Conservation and Attractions

GOVERNMENT OF WESTERN AUSTRALIA

CONSERVATION CODES

For Western Australian Flora and Fauna

Threatened, Extinct and Specially Protected fauna or flora[1] are species[2] which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016.*

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T **Threatened species**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).
Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.
Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.
The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**

Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".
Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.



Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX Extinct species

Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).
Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.
Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).
Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).
Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).
Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

Department of **Biodiversity, Conservation and Attractions**

GOVERNMENT OF WESTERN AUSTRALIA

P Priority species

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.
Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.
Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

1 Priority 1: Poorly-known species
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

2 Priority 2: Poorly-known species
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

3 Priority 3: Poorly-known species
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

4 Priority 4: Rare, Near Threatened and other species in need of monitoring
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

[1] The definition of flora includes algae, fungi and lichens
[2]Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Appendix E

Conservation code definitions



APPENDIX E: Vegetation Summary Within the Kings Rock Development Support

Intersection 01

Type: quadrat

Date: 26/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded





Species List

Name	Family	Cover (%)	Height (m)
Eucalyptus incrassata	Myrtaceae	60	12
Eucalyptus rudis subsp. rudis	Myrtaceae	5	6
**Lolium rigidum*	Poaceae	0.5	0.1
Poaceae sp.	Poaceae	60	0.3
Rhodanthe citrina	Asteraceae	0.5	0.1
**Sonchus oleraceus*	Asteraceae	1	0.3

APPENDIX E: Vegetation Summary Within the Kings Rock Development Support

Intersection 01A

Type: quadrat

Date: 26/11/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia saligna	Fabaceae	1	3
**Arctotheca calendula*	Asteraceae	0.1	0.4
**Avena barbata*	Poaceae	1.5	0.6
**Cynodon dactylon*	Poaceae	0.1	0.1
Cyperus sp.	Cyperaceae	0.1	0.5
**Eragrostis curvula*	Poaceae	0.5	0.4
Eucalyptus rudis subsp. *rudis*	Myrtaceae	7.5	9
**Ficus carica*	Moraceae	0.5	6
**Fumaria capreolata*	Papaveraceae	0.1	0.3
**Lactuca serriola*	Asteraceae	1	0.3
**Lupinus cosentinii*	Fabaceae	0.1	0.2
**Melaleuca armillaris* subsp. *armillaris*	Myrtaceae	8	3
Melaleuca huegelii subsp. *huegelii*	Myrtaceae	2	3
Melaleuca nesophila	Myrtaceae	10	5
**Nerium oleander*	Apocynaceae	0.5	2
**Oenothera mollissima*	Onagraceae	1	0.5
**Orobanche minor*	Orobanchaceae	0.1	0.1
**Ricinus communis*	Euphorbiaceae	0.1	1.8
**Schinus terebinthifolia*	Anacardiaceae	5	4
**Sonchus oleraceus*	Asteraceae	0.5	0.3
**Trifolium arvense*	Fabaceae	0.1	0.1
Typha orientalis	Typhaceae	1.5	2.5
**Vulpia myuros*	Poaceae	1	0.6

Intersection 02

Type: quadrat

Date: 26/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Completely Degraded





Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	5	0.1
**Avena barbata*	Poaceae	50	0.2
**Erodium botrys*	Geraniaceae	5	0.3
**Lupinus cosentinii*	Fabaceae	1	0.2
**Sonchus oleraceus*	Asteraceae	5	0.4
**Trifolium arvense*	Fabaceae	10	0.1
**Ursinia anthemoides*	Asteraceae	1	0.1
**Vulpia myuros*	Poaceae	1	0.3

APPENDIX E: Vegetation Summary Within the Kings Rock Development Support

Intersection 02A

Type: quadrat

Date: 26/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Completely Degraded





Species List

Name	Family	Cover (%)	Height (m)
**Arctotheca calendula*	Asteraceae	5	0.1
**Avena barbata*	Poaceae	50	0.2
**Erodium botrys*	Geraniaceae	5	0.3
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	5	10
Poaceae sp.	Poaceae	1	0.2
**Sonchus oleraceus*	Asteraceae	5	0.4
**Trifolium arvense*	Fabaceae	5	0.1
**Ursinia anthemoides*	Asteraceae	1	0.1
**Vulpia myuros*	Poaceae	1	0.3

Intersection 04A

Type: quadrat

Date: 26/11/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Degraded





Species List

Name	Family	Cover (%)	Height (m)
Acacia acuminata	Fabaceae	6	3
Billardiera fusiformis	Pittosporaceae	0.1	0.6
Calothamnus sp.	Myrtaceae	0.1	0.7
**Eragrostis curvula*	Poaceae	1	0.6
Hakea meisneriana	Proteaceae	2	0.6
Kunzea micrantha subsp. *oligandra*	Myrtaceae	2.5	1.8
Melaleuca hamata	Myrtaceae	5	1
Melaleuca lateriflora	Myrtaceae	5	2
Melaleuca thyoides	Myrtaceae	1	1.5
Poaceae sp.	Poaceae	1	0.1
**Sonchus oleraceus*	Asteraceae	1.5	0.1

Intersection 09

Type: quadrat

Date: 25/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded





Species List

Name	Family	Cover (%)	Height (m)
Austrostipa elegantissima	Poaceae	0.1	0.6
Callistemon phoeniceus	Myrtaceae	3.5	2.2
Daviesia aphylla	Fabaceae	1.5	0.9
Eucalyptus myriadena	Myrtaceae	20	8
Maireana brevifolia	Chenopodiaceae	25	0.4
Poaceae sp.	Poaceae	0.1	0.2
Portulaca oleracea	Portulacaceae	0.5	0.1
**Sonchus oleraceus*	Asteraceae	0.1	0.3
Tecticornia pergranulata subsp. *pergranulata*	Chenopodiaceae	5	0.6
**Vulpia myuros*	Poaceae	0.1	0.2

Intersection 10

Type: quadrat

Date: 25/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia merrallii	Fabaceae	1.5	0.4
**Arctotheca calendula*	Asteraceae	0.2	0.2
**Avena barbata*	Poaceae	1	0.4
Daviesia aphylla	Fabaceae	0.25	0.4
Dianella revoluta	Hemerocallidaceae	1.5	0.6
Eucalyptus myriadena	Myrtaceae	2.5	6
Eucalyptus salmonophloia	Myrtaceae	35	9
Grevillea huegelii	Proteaceae	1	0.3
Maireana brevifolia	Chenopodiaceae	0.75	0.6
**Moraea flaccida*	Iridaceae	0.25	0.3
Neurachne alopecuroidea	Poaceae	0.5	0.3
Ozothamnus lepidophyllus	Asteraceae	0.5	0.6
**Ursinia anthemoides*	Asteraceae	0.5	0.3

Intersection 11

Type: quadrat

Date: 25/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded





Species List

Name	Family	Cover (%)	Height (m)
Acacia acuminata	Fabaceae	1.5	1.8
**Arctotheca calendula*	Asteraceae	0.1	0.1
**Avena barbata*	Poaceae	0.1	0.2
Callistemon phoeniceus	Myrtaceae	1.5	1.8
Calothamnus sp.	Myrtaceae	1	3
Eucalyptus sheathiana	Myrtaceae	55	5
Leptospermopsis erubescens	Myrtaceae	1	2
Melaleuca acuminata	Myrtaceae	2.5	1.5
Melaleuca adnata	Myrtaceae	2	1.6
Melaleuca atroviridis	Myrtaceae	5.5	2
Ptilotus polystachyus	Amaranthaceae	0.1	0.6

Intersection 12

Type: quadrat

Date: 25/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded





Species List

Name	Family	Cover (%)	Height (m)
Acacia lasiocalyx	Fabaceae	2.5	0.6
Callistemon phoeniceus	Myrtaceae	2	1.6
Eucalyptus torquata	Myrtaceae	20	6
Eucalyptus woodwardii	Myrtaceae	15	7
Melaleuca pungens	Myrtaceae	5	2
Melaleuca tuberculata var. *arenaria*	Myrtaceae	2.5	2.5
Poaceae sp.	Poaceae	0.5	0.2
**Vulpia myuros*	Poaceae	0.1	0.1

APPENDIX E: Vegetation Summary Within the Kings Rock Development Support

Intersection 12A

Type: quadrat

Date: 24/09/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Good



Species List

Name	Family	Cover (%)	Height (m)
Acacia hemiteles	Fabaceae	1.5	0.5
Acacia sclerophylla var Pilosa (P2)	Fabaceae	2.5	0.8
**Arctotheca calendula*	Asteraceae	0.5	0.1
Austrostipa elegantissima	Poaceae	2.5	0.5
**Avena barbata*	Poaceae	1.5	0.7
Eremophila lehmanniana	Scrophulariaceae	1	0.6
Eucalyptus erythronema subsp. *erythronema*	Myrtaceae	25	8
Eucalyptus sheathiana	Myrtaceae	5	9
Eucalyptus tephroclada	Myrtaceae	7.5	6
**Hypochaeris glabra*	Asteraceae	0.1	0.1
**Lolium rigidum*	Poaceae	2	0.4
Maireana brevifolia	Chenopodiaceae	2	0.6
Melaleuca acuminata subsp acuminata	Myrtaceae	3.5	1.8
Melaleuca adnata	Myrtaceae	2.5	1.5
**Sonchus oleraceus*	Asteraceae	0.1	0.1
**Trifolium arvense*	Fabaceae	0.1	0.3

Intersection 12B

Type: quadrat

Date: 27/11/2024

MGA zone: 50 H

[redacted]

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia lasiocalyx	Fabaceae	0.5	0.7
Alyxia buxifolia	Apocynaceae	1	1.3
**Avena barbata*	Poaceae	0.1	0.3
**Eragrostis curvula*	Poaceae	1	0.7
Eremophila drummondii	Scrophulariaceae	1	0.7
Eucalyptus camaldulensis subsp. *obtusa*	Myrtaceae	1	9
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	40	8
Eucalyptus salmonophloia	Myrtaceae	1	13
Melaleuca acuminata subsp. *acuminata*	Myrtaceae	10	3
Melaleuca hamata	Myrtaceae	5	3
Melaleuca tuberculata var. *arenaria*	Myrtaceae	7	0.6
Poaceae sp.	Poaceae	0.1	0.3
Sclerolaena diacantha	Chenopodiaceae	0.1	0.1
**Vulpia myuros*	Poaceae	0.5	0.5

Intersection 19

Type: quadrat

Date: 24/09/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia enervia subsp. *enervia*	Fabaceae	1.5	0.6
Acacia lasiocalyx	Fabaceae	1.5	1
Allocasuarina acutivalvis	Casuarinaceae	2.5	3.5
Alyxia buxifolia	Apocynaceae	10	2
**Arctotheca calendula*	Asteraceae	0.25	0.1
Austrostipa elegantissima	Poaceae	0.1	0.3
**Avena barbata*	Poaceae	0.5	0.6
Borya constricta	Boryaceae	1	0.1
Dampiera lavandulacea	Goodeniaceae	2.5	0.3
**Eragrostis curvula*	Poaceae	0.5	0.4
Eremophila drummondii	Scrophulariaceae	0.5	0.8
Eucalyptus loxophleba subsp. *loxophleba*	Myrtaceae	35	7.5
Hakea meisneriana	Proteaceae	1	0.75
**Hypochaeris glabra*	Asteraceae	0.5	0.1
Lepidosperma sp.	Cyperaceae	0.5	0.3
Melaleuca hamata	Myrtaceae	1.5	2
Neurachne alopecuroidea	Poaceae	1	0.3
Phebalium filifolium	Rutaceae	1.5	1
Pityrodia lepidota	Lamiaceae	1	2.5
**Ursinia anthemoides*	Asteraceae	0.25	0.1
Waitzia acuminata var. *acuminata*	Asteraceae	1.5	0.2

Intersection 21

Type: quadrat

Date: 24/09/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia lasiocalyx	Fabaceae	5.5	2.8
Allocasuarina acutivalvis	Casuarinaceae	15	5
Austrostipa elegantissima	Poaceae	0.5	0.6
Banksia zygocephala	Proteaceae	1.5	2
Callitris preissii	Cupressaceae	20	6
Comesperma spinosum	Polygalaceae	1	0.6
Eucalyptus burracoppinensis	Myrtaceae	20	5
Grevillea cagiana	Proteaceae	1	2
Hakea meisneriana	Proteaceae	1.5	1.5
Pityrodia lepidota	Lamiaceae	0.5	1.8
Santalum acuminatum	Santalaceae	1	2.5

Intersection 23

Type: quadrat

Date: 24/09/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Degraded



Species List

Name	Family	Cover (%)	Height (m)
Acacia lasiocalyx	Fabaceae	1.5	1.8
Allocasuarina acutivalvis	Casuarinaceae	25	4
**Arctotheca calendula*	Asteraceae	0.1	0.1
Callitris preissii	Cupressaceae	12.5	3
Eremophila drummondii	Scrophulariaceae	0.25	0.75
Eucalyptus tenera	Myrtaceae	28	5
Exocarpos aphyllus	Santalaceae	1	2
Melaleuca hamata	Myrtaceae	15	2
Olearia muelleri	Asteraceae	1.5	0.6
Phebalium filifolium	Rutaceae	4	0.8
Santalum acuminatum	Santalaceae	0.5	1.8

APPENDIX E: Vegetation Summary Within the Kings Rock Development Support

Intersection 23A

Type: quadrat

Date: 27/11/2024

[redacted]

MGA zone: 50 H

Vegetation condition: Good



Species List

Name	Family	Cover (%)	Height (m)
Allocasuarina spinosissima	Casuarinaceae	5	3
Austrostipa elegantissima	Poaceae	0.1	0.6
Cassytha pomiformis	Lauraceae	0.5	0.1
Eucalyptus burracoppenensis	Myrtaceae	10	5
Hakea meisneriana	Proteaceae	1	0.9
Hakea newbeyana	Proteaceae	5	2.5
Hibbertia pungens	Dilleniaceae	0.5	0.6
Melaleuca cordata	Myrtaceae	1	0.6
Persoonia coriacea	Proteaceae	1.5	2
Rhodanthe citrina	Asteraceae	0.1	0.1
Santalum spicatum	Santalaceae	15	3
Thryptomene kochii	Myrtaceae	2.5	0.6
**Vulpia myuros*	Poaceae	0.1	0.1

Appendix F

Likelihood of occurrence of conservation significant flora species within survey area

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 01	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats. **Code:** EiErMsLr **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 01	*Eucalyptus incrassata* and *Eucalyptus rudis* subsp. *rudis* open woodland over *Melaleuca* sp. sparse shruband over **Lolium rigidum* sparse grassland on sandy-loam flats. **Code:** EiErMsLr **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 01a	*Eucalyptus rudis* subsp. *rudis* open woodland over **Ficus carica* isolated trees over *Melaleuca nesophila*, **Melaleuca armillaris* subsp *armillaris* and Melaleuca *huegelii* subsp. *huegelii* open shrubland over **Schinus terebinthifolia*, *Acacia saligna* and **Nerium oleander* sparse shrubland over **Vulpia myuros*, **Eragrostis curvula* and **Cynodon dactylon* grassland on sandy-loam flats. **Code:** ErFcMaMh **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 02	*Corymbia calophylla* isolated over hanging trees over **Avena barbata* and **Vulpia myuros* grassland on sandy-loam flats. **Code:** EcAaHuCs **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Completely Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 02a	*Eucalyptus camaldulensis* subsp*. obtusa* isolated over hanging trees over **Avena barbata* and **Vulpia myuros* grassland on sandy-loam flats. **Code:** EcAbVm **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Completely Degraded	
Intersection 4a	*Acacia acuminata*, *Melaleuca lateriflora* and *Kunzea micrantha* subsp *oligandra* open shrubland over *Melaleuca thyoides*, *Melaleuca hamata* and *Hakea meisneriana* sparse shrubland over **Eragrostis curvula* and Poaceae sp. isolated grassess on a rehabilitated sandy-loam flats. **Code:** AaMlKmMt **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 09	*Eucalyptus myriadena* open woodland over *Melaleuca sp.* sparse shrubland over *Daviesia aphylla* and *Maireana brevifolia* sparse shruband over *Tecticornia* sp. sparse forbland over **Vulpia myuros* sparse grassland on sandy-loam flats. **Code:** EmDaMbTs **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 10	*Eucalyptus salmonophloia* and *Eucalyptus myriadena* closed woodland over *Daviesia aphylla* and *Acacia merrallii* sparse shruband over *Maireana brevifolia*, *Dodonaea pinifolia* and *Ozothamnus lepidophyllus* sparse shrubland over **Vulpia myuros* sparse grassland on sandy-loam flats. **Code:** EsEmDaAm **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 11	*Eucalyptus sheathiana* open woodland over *Allocasuarina campestris* open shruband over *Acacia acuminata* sparse shrubland over *Melaleuca acuminata* subsp. *acuminata*, *Melaleuca adnata* and *Gastrolobium bennettsianum* sparse shrubland over **Ehrharta calycina* open grassland on sandy-loam flats. **Code:** EsAcAaMa **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	
Intersection 12	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* Isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats. **Code:** ElEcAlEd **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 12a	*Eucalyptus sheathiana*, *Eucalyptus erythronema* subsp. *erythronema* and *Eucalyptus tephroclada* open forest over *Melaleuca acuminata* subsp *acuminata*, *Melaleuca adnata* and *Acacia sclerophylla* var *pilosa* sparse shrubland over *Maireana brevifolia*, *Eremophila lehmanniana* and *Acacia hemiteles* isolated shrubs over **Avena barbata* and *Austrostipa elegantissima* sparse grassland on sandy-loam flats. **Code:** EsEeEtMa **Soils and Landforms:** sandy-loam flats. **Vegetation condition:** Good	
Intersection 12b	*Eucalyptus loxophleba* subsp. *loxophleba* and *Eucalyptus camaldulensis* subsp. *obtusa* open woodland over *Acacia lasiocalyx* and *Eremophila drummondii* Isolated shrubs over **Avena barbata* sparse grassland on sandy-loam flats. **Code:** ElEcAlEd **Soils and Landforms:** Sandy loam on flats **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 19	*Eucalyptus loxophleba subsp. loxophleba open woodland over Allocasuarina acutivalvis, Alyxia buxifolia and Acacia lasiocalyx sparse shruband over Acacia enervia subsp. enervia and Phebalium filifolium sparse samphire shrubland over *Avena barbata, * Eragrostis curvula and Poaceae sp. open grassland on sandy-loam flats.* **Code:** ElAcAbAl **Soils and Landforms:** Sandy-loam flats **Vegetation condition:** Degraded	
Intersection 21	*Eucalyptus burracoppinensis open woodland over Callitris preissii, Allocasuarina acutivalvis and Acacia lasiocalyx sparse shruband over Gastrolobium bennettsianum sparse samphire shrubland over *Arctotheca calendula Isolated forbs over *Lolium rigidum and Poaceae sp. isolated grassland on sandy-loam flats.* **Code:** EbCpAaAl **Soils and Landforms:** brown sandy-loam flats **Vegetation condition:** Degraded	

Mapping Code	Vegetation Community Description	Representative Plate of Community
Intersection 23	*Eucalyptus loxophleba* subsp. *loxophleba* woodland over *Callitris preissii*, *Allocasuarina acutivalvis* and *Melaleuca hamata* sparse shruband over *Phebalium filifolium* and *Acacia lasiocalyx* sparse samphire shrubland over **Arctotheca calendula* Isolated forbs over **Vulpia myuros* and Poaceae sp. isolated grassland on sandy-loam flats. **Code:** ElCpAaMh **Soils and Landforms:** brown sandy-loam flats **Vegetation condition:** Degraded	
Intersection 23a	*Eucalyptus burracoppenensis open woodland over Santalum spicatum, Allocasuarina spinosissima and Hakea newbeyana shrubland over Persoonia coriacea, Hakea meisneriana and Thryptomene kochii sparse shrubland over Austrostipa elegantissima and *Vulpia myuros sparse grassland on sandy-loam flats.* **Code:** EbSsAsHn **Soils and Landforms:** sandy-loam flats **Vegetation condition:** Good	

Appendix H

Vegetation summary within survey area



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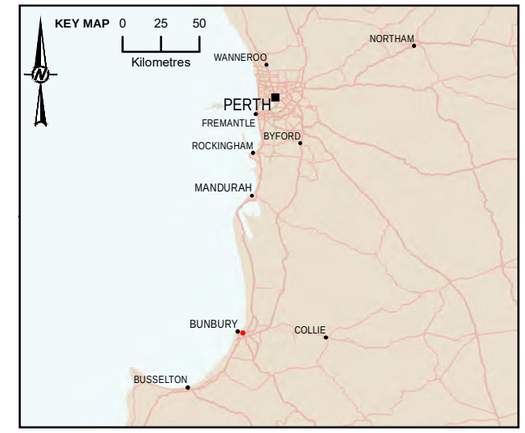
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LAND SYSTEM

211Sp - Spearwood System - Sand dunes and plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands.

211Va - Vasse System - Poorly drained estuarine flats, of the Swan Coastal Plain. Tidal flat soil, saline wet soil and pale deep sand. Samphire, sedges and paperbark woodland.

213Pj - Pinjarra System - Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.



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1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP.

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

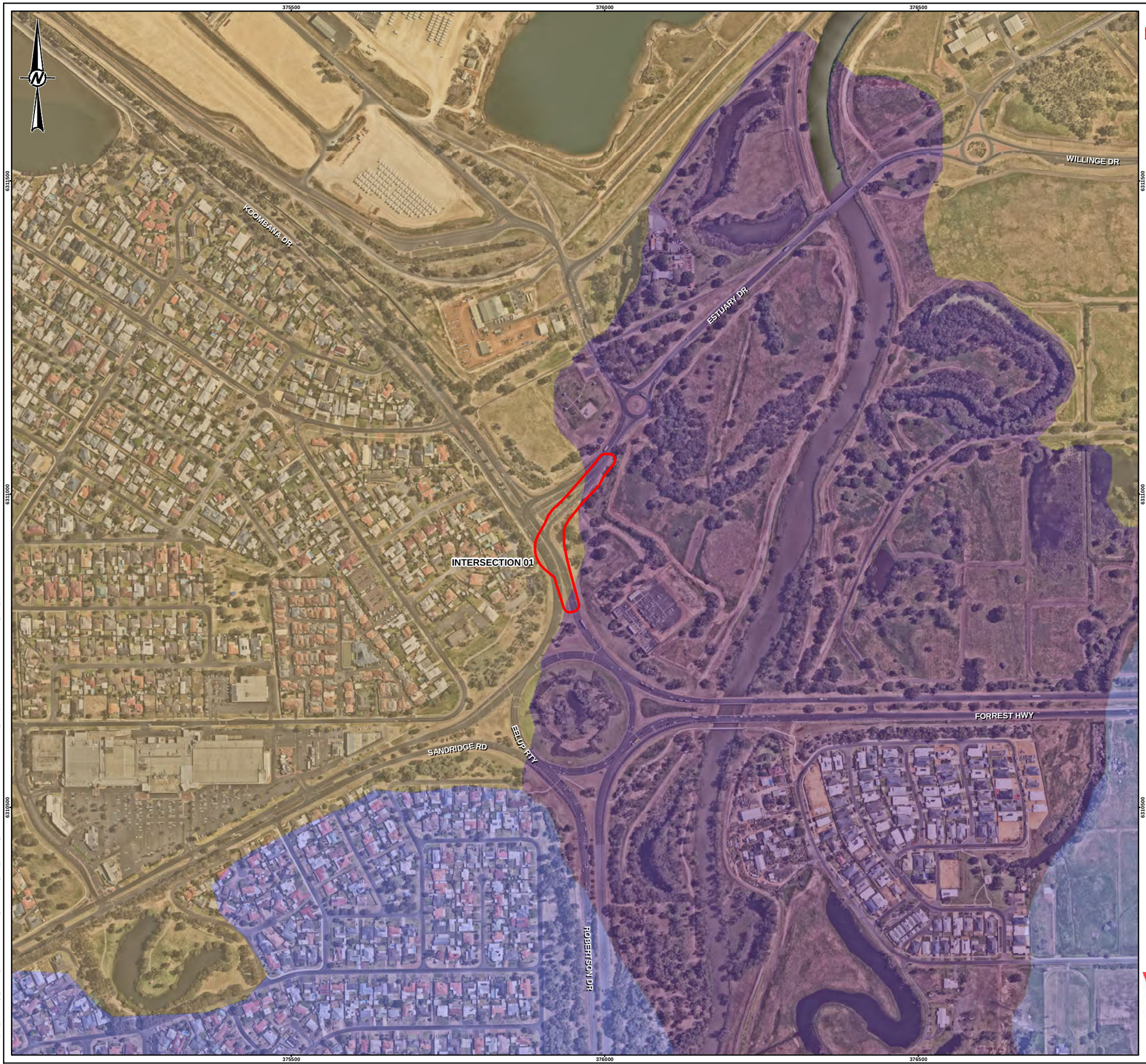
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CONSULTANT

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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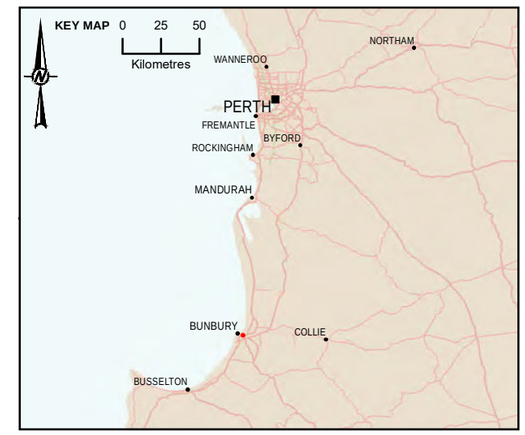
SURVEY AREA

LAND SYSTEM

211Sp - Spearwood System - Sand dunes and plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands.

211Va - Vasse System - Poorly drained estuarine flats, of the Swan Coastal Plain. Tidal flat soil, saline wet soil and pale deep sand. Samphire, sedges and paperbark woodland.

213Pj - Pinjarra System - Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP.

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 01

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

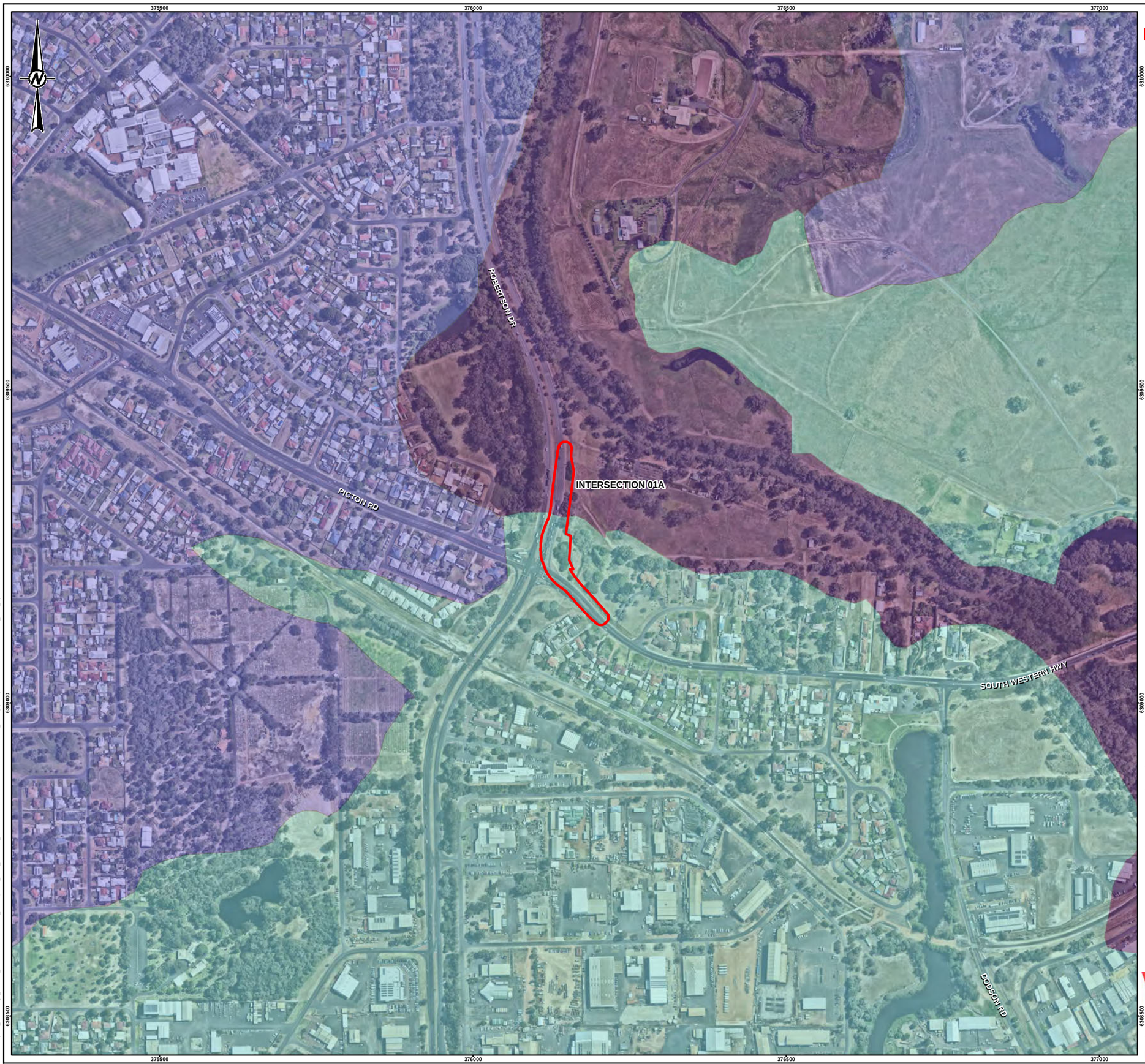
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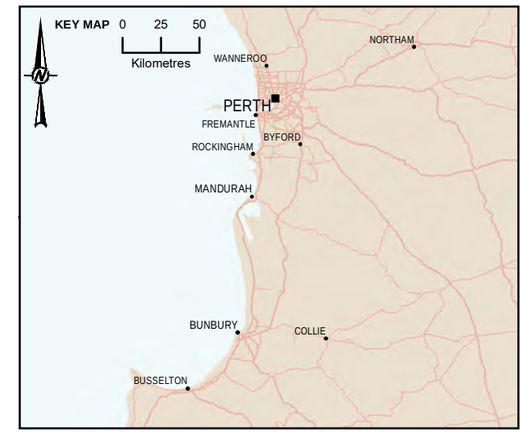
SURVEY AREA

LAND SYSTEM

211Sp - Spearwood System - Sand dunes and plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands.

212Bs - Bassendean System - Swan Coastal Plain from Busselton to Jurien. Sand dunes and sandplains with pale deep sand, semi-wet and wet soil. Banksia-paperbark woodlands and mixed heaths.

213Pj - Pinjarra System - Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP.

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 01A

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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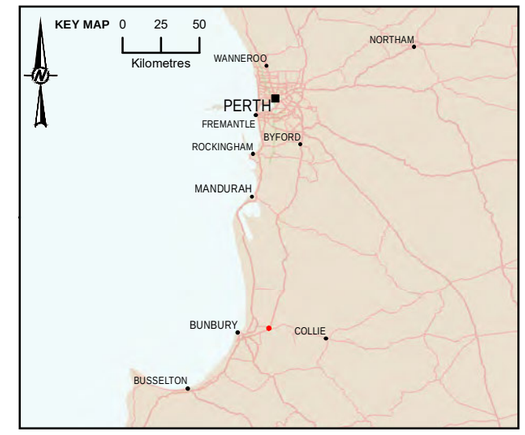
SURVEY AREA

LAND SYSTEM

213Fo - Forrestfield System - Undulating foot slopes of the Darling and Whicher Scarps. Duplex sandy gravels, pale deep sands and grey deep sandy duplexes. Woodland of E.marginata, calophylla and wandoo and some B.grandis.

213Pj - Pinjarra System - Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.

255Lv - Lowden Valleys System - Deep gneissic valleys, in the south of the Western Darling Range. Loamy earth, loamy duplex, gravel and stony soils. Jarrah-marri forest.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP.

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 02

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

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25mm

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PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey\Final\PS204764-001-R-RevA-F\02_Land_Systems.mxd PRINTED ON: 2025-01-08 AT: 1:51:43 PM



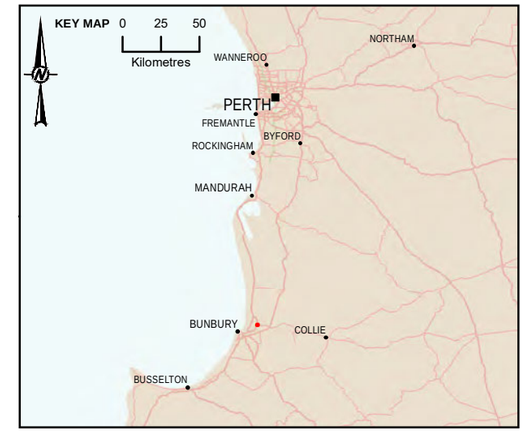
LEGEND

SURVEY AREA

LAND SYSTEM

212Bs - Bassendean System - Swan Coastal Plain from Busselton to Jurien. Sand dunes and sandplains with pale deep sand, semi-wet and wet soil. Banksia-paperbark woodlands and mixed heaths.

213Pj - Pinjarra System - Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP.

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 02A

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

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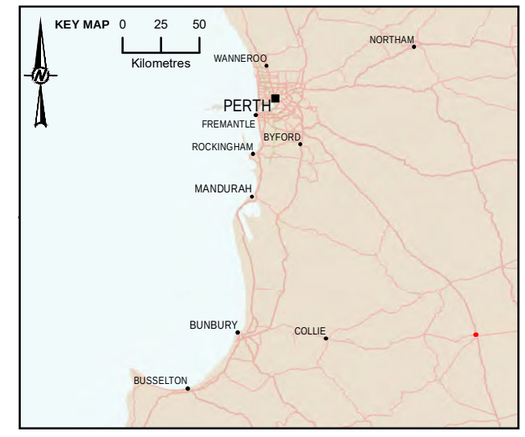


LEGEND

SURVEY AREA

LAND SYSTEM

257De - Dellyanine System - Undulating rises and low hills on granite, in the southern Zone of Rejuvenated Drainage. Grey sandy duplex (shallow and deep), sandy gravel and red deep sandy duplex. Wandoo-Sheoak woodland.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 04A

CONSULTANT

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PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

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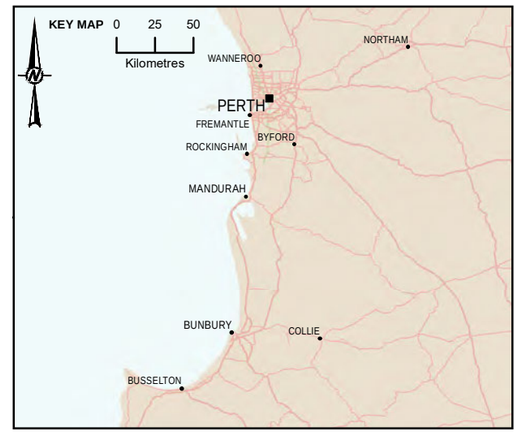
LEGEND

SURVEY AREA

LAND SYSTEM

259Cb - Coblinine System - Broad valley floors, with few lakes, in the South western Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils. Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.

259Kk - Kukerin System - Gently undulating rises, in the South western Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 09

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig02_Land_Systems.mxd PRINTED ON: 2025-01-08 AT: 1:48:56 PM

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LEGEND

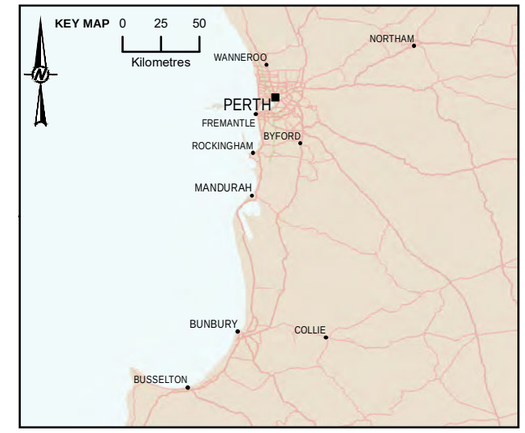
SURVEY AREA

LAND SYSTEM

259Cb - Coblinine System - Broad valley floors, with few lakes, in the South western Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils. Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.

259Do - Dongolocking System - Gently undulating to undulating rises and low hills, in the south-western Zone of Ancient Drainage (Blackwood Catchment). Grey deep sandy duplex, sandy gravel and shallow sandy duplex. Wandoo-Sheoak woodland and Mallee.

259Kk - Kukerin System - Gently undulating rises, in the South western Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 10

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig02_Land_Systems.mxd PRINTED ON: 2025-01-08 AT: 1:49:03 PM

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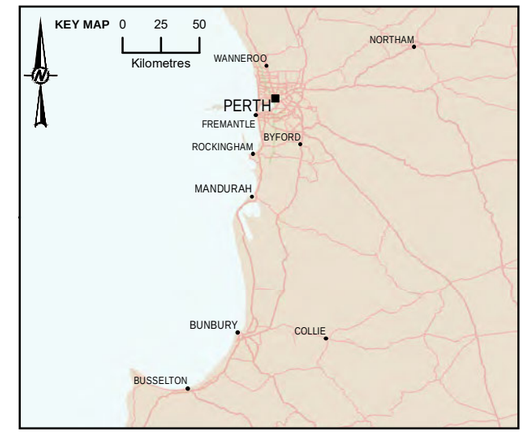
LEGEND

SURVEY AREA

LAND SYSTEM

259Cb - Coblinine System - Broad valley floors, with few lakes, in the South western Zone of Ancient Drainage. Saline wet soils, alkaline grey shallow duplex soils and grey deep sandy duplex soils. Salmon Gum-Wandoo woodland, Mallee scrub and samphire flats.

259Kk - Kukerin System - Gently undulating rises, in the South western Zone of Ancient Drainage, with alkaline grey shallow sandy duplex soils, grey deep sandy duplex soils and ironstone gravelly soils. Mallee scrub and heath.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
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PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 11

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F0102_Land_Systems.mxd PRINTED ON: 2025-01-08 AT: 1:49:10 PM

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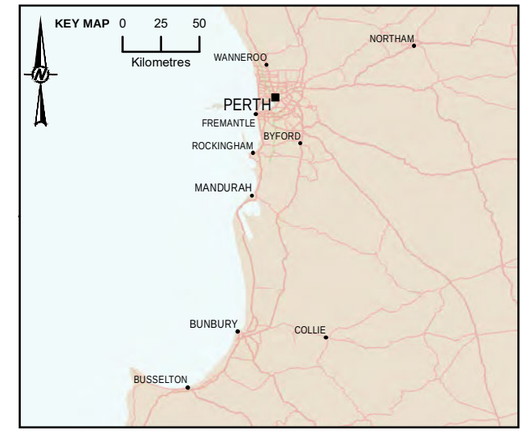
LEGEND

SURVEY AREA

LAND SYSTEM

259Co - Corrigin System - Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 12

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

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25mm
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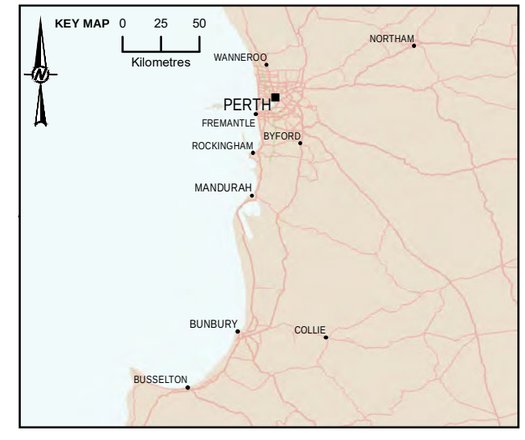
LEGEND

SURVEY AREA

LAND SYSTEM

259Co - Corrigin System - Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 12A

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig02_Land_Systems.mxd PRINTED ON: 2025-01-08 AT: 1:49:22 PM

608000
608500
609000
609500
6385500
6385000
6384500

WILLIAMS-KONDININ RD
HIGH ST
INTERSECTION 12B
KULIN-LAKE GRACE RD
JOHNSTON ST

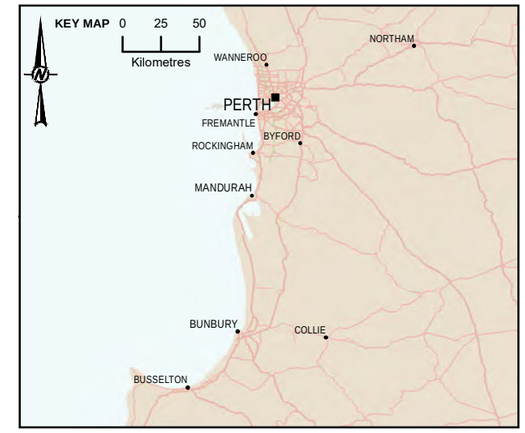
LEGEND

SURVEY AREA

LAND SYSTEM

259Co - Corrigin System - Gently undulating rises to undulating low hills in the southern wheatbelt, with laterite, sandy and loamy gravels, duplexes, loamy earths and clays over mixed mafic rock. Heath, Mallee and Salmon Gum vegetation.

259Ki - Kondinin System - Broad flat valleys of the South eastern Zone of Ancient Drainage with fine textured alluvial soils derived mainly from mafic parent material.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 12B

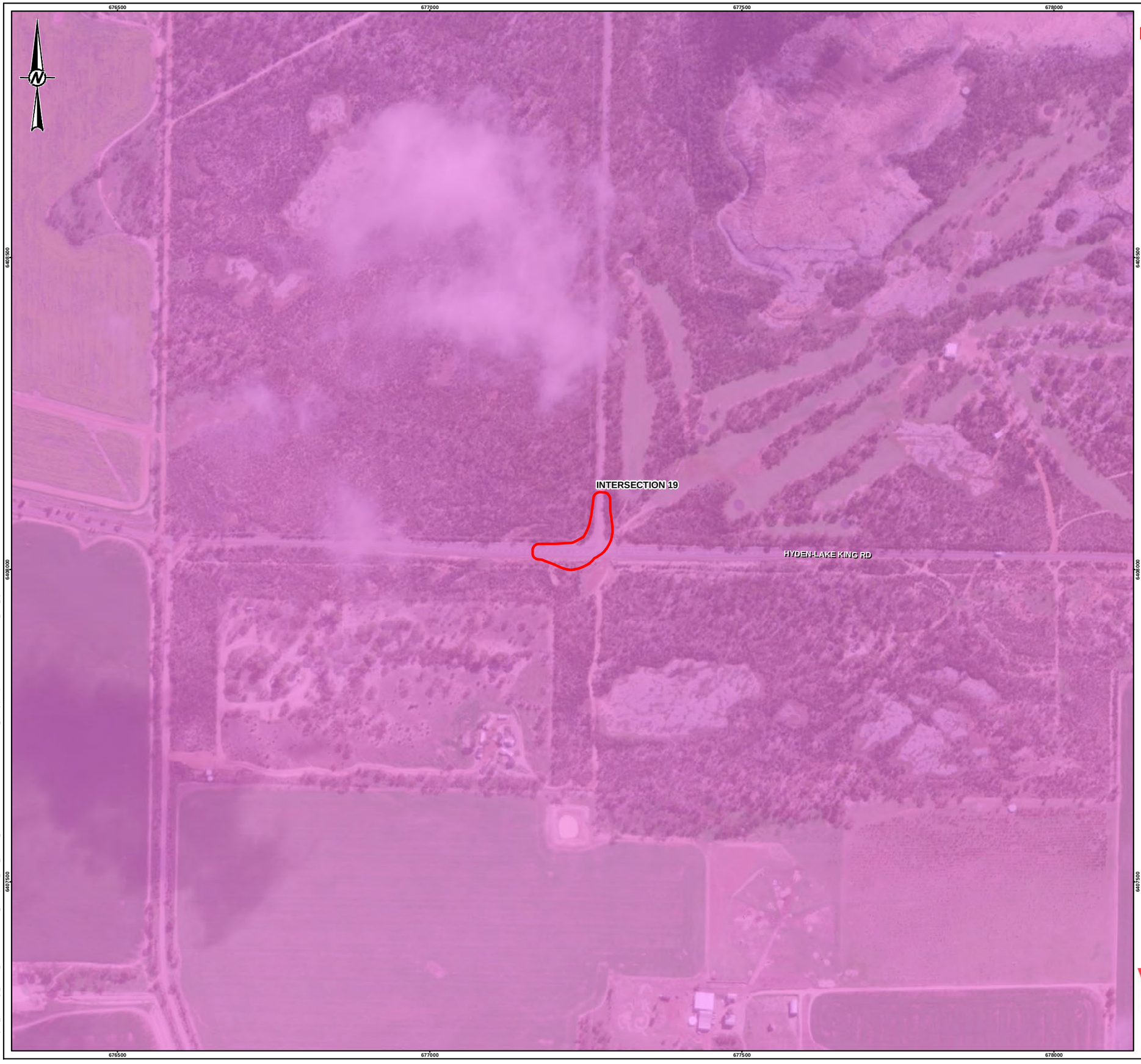
CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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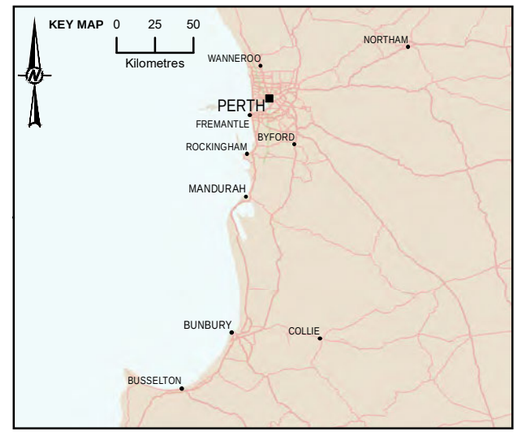


LEGEND

SURVEY AREA

LAND SYSTEM

250Hy - Hyden System - Gently undulating mallee, proteaceous and casuarinaceous heaths on pale yellow sandplain, interspersed with substantial areas of granitic country. This system occupies the transitional country between the yellow loamy sandplains of the nor



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

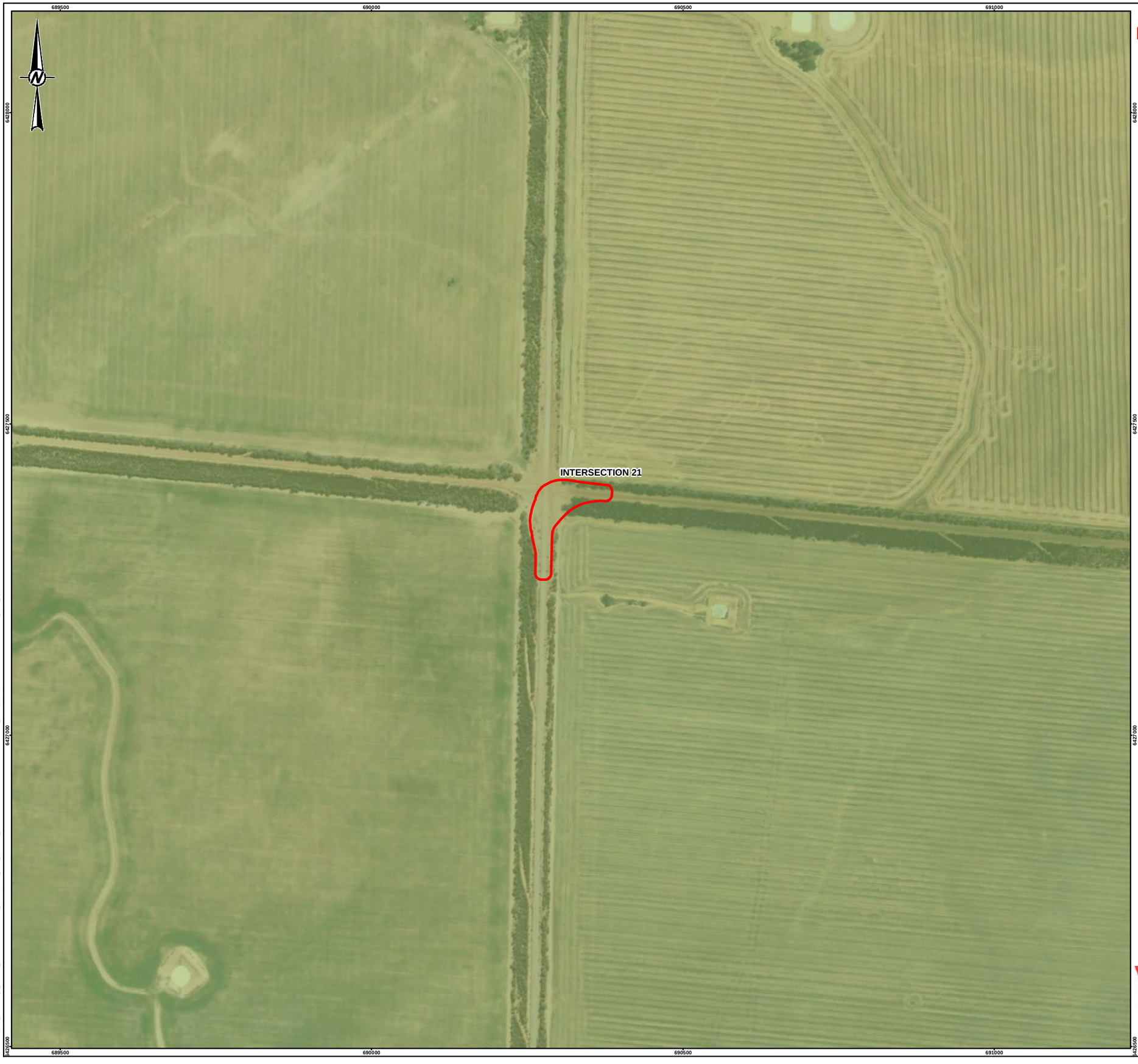
TITLE
LAND SYSTEMS - INTERSECTION 19

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig02_Land_Systems.mxd PRINTED ON: 2025-01-08 AT: 1:49:35 PM
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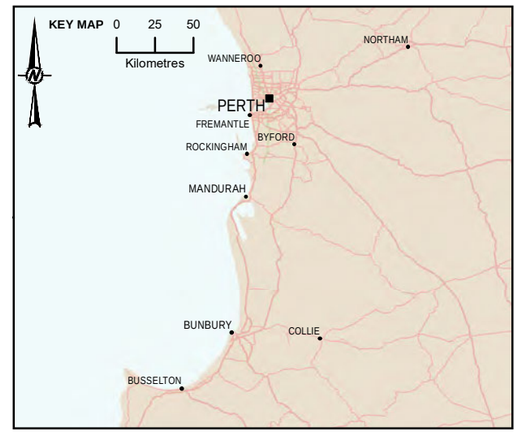


LEGEND

SURVEY AREA

LAND SYSTEM

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
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PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 21

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

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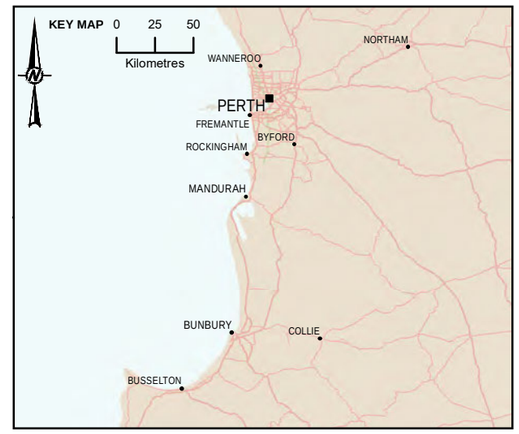


LEGEND

SURVEY AREA

LAND SYSTEM

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP.

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 23

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
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PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig02_Land_Systems.mxd PRINTED ON: 2025-01-08 AT: 1:51:56 PM

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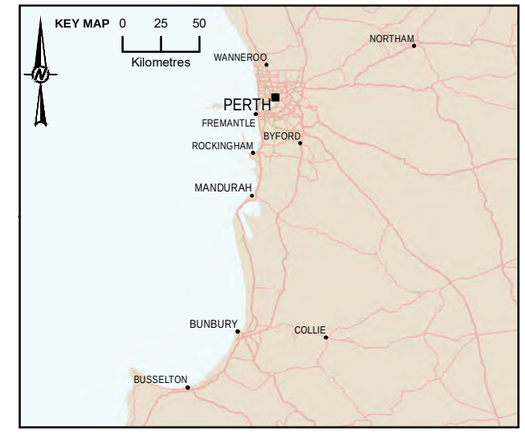
INTERSECTION 23A

LEGEND

SURVEY AREA

LAND SYSTEM

258Wo - Woolocutty System - Gently undulating plain. Deeply weathered granite. Duplex sandy and loamy gravels with Yellow sandy earths prodominate plus sandy and loamy duplexes often red.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP.

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
LAND SYSTEMS - INTERSECTION 23A

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	2.01

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

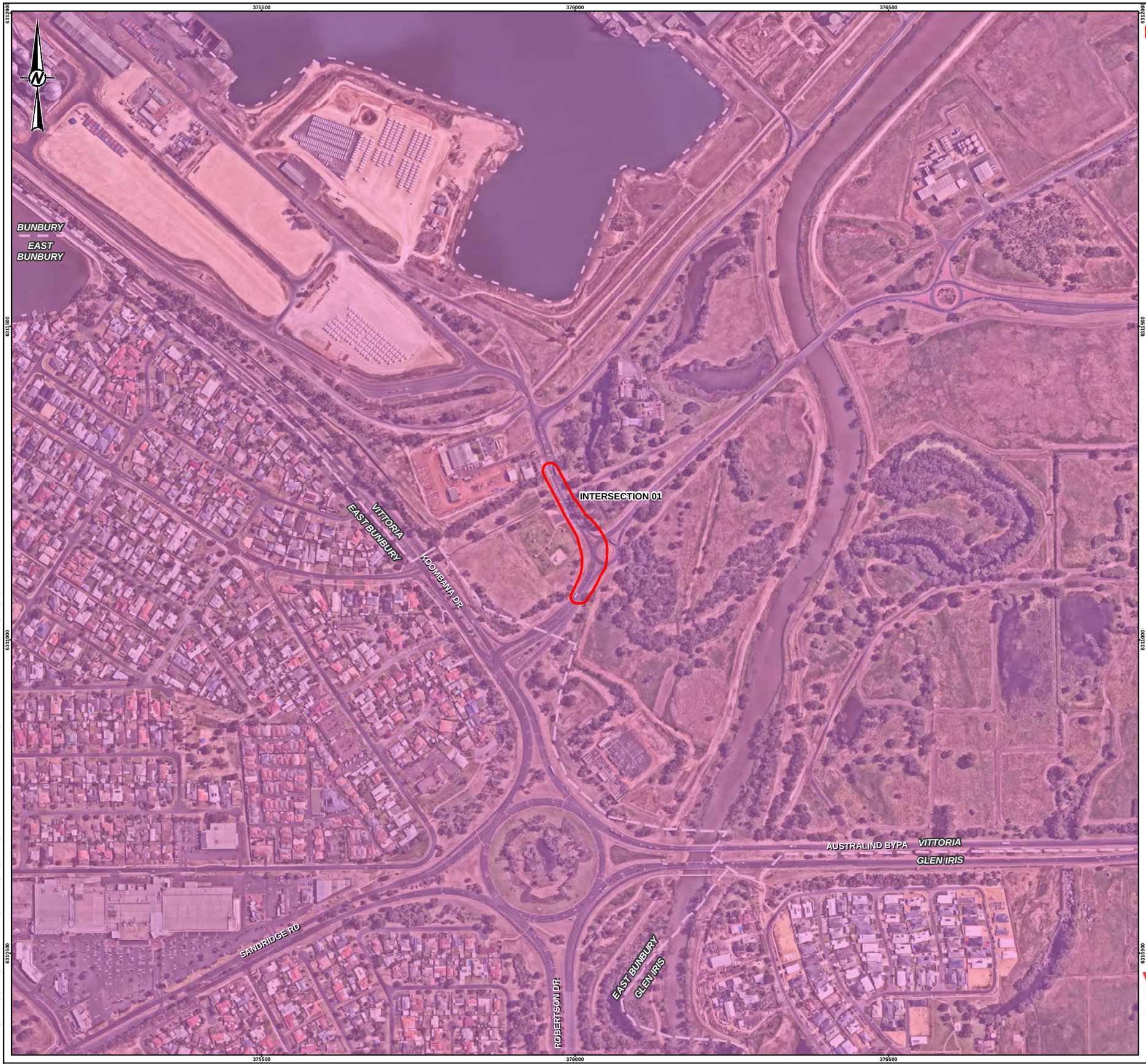
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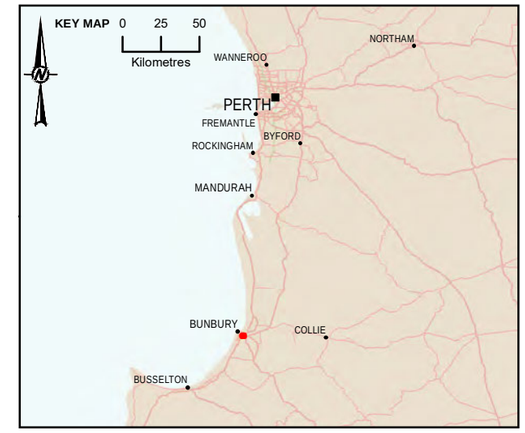
Appendix I

Vegetation communities within survey area



LEGEND

- SURVEY AREA
- SWAN COASTAL PLAIN IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

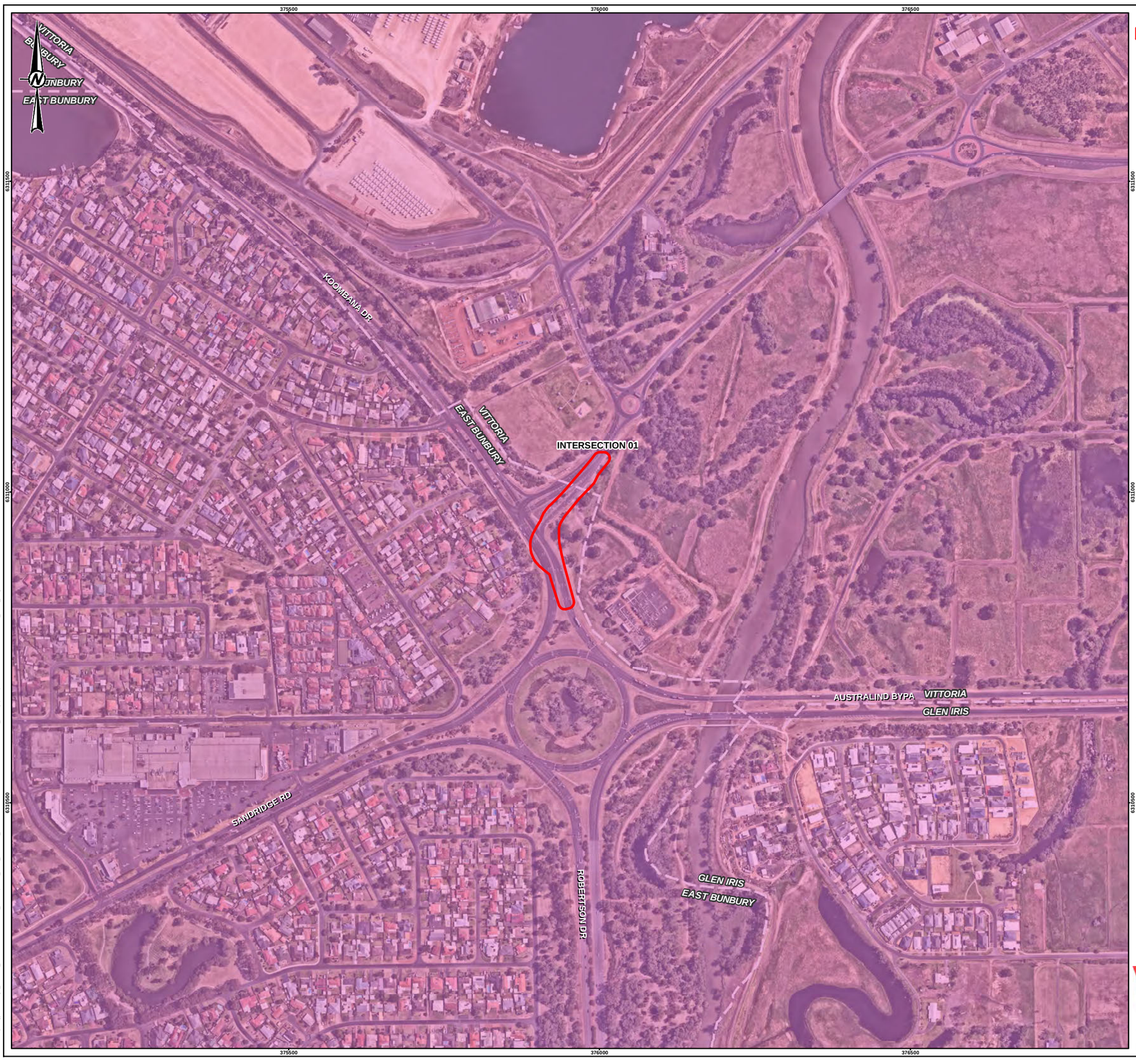
CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.1

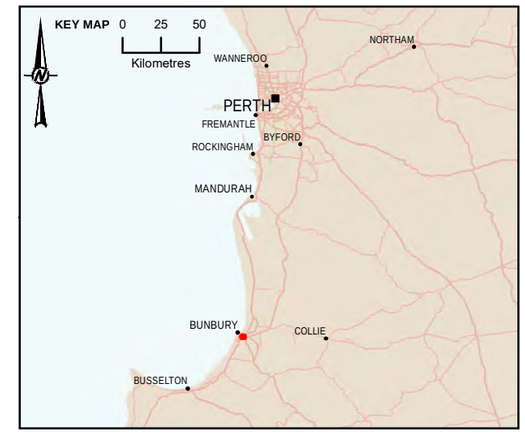
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LEGEND

- SURVEY AREA
- SWAN COASTAL PLAIN IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

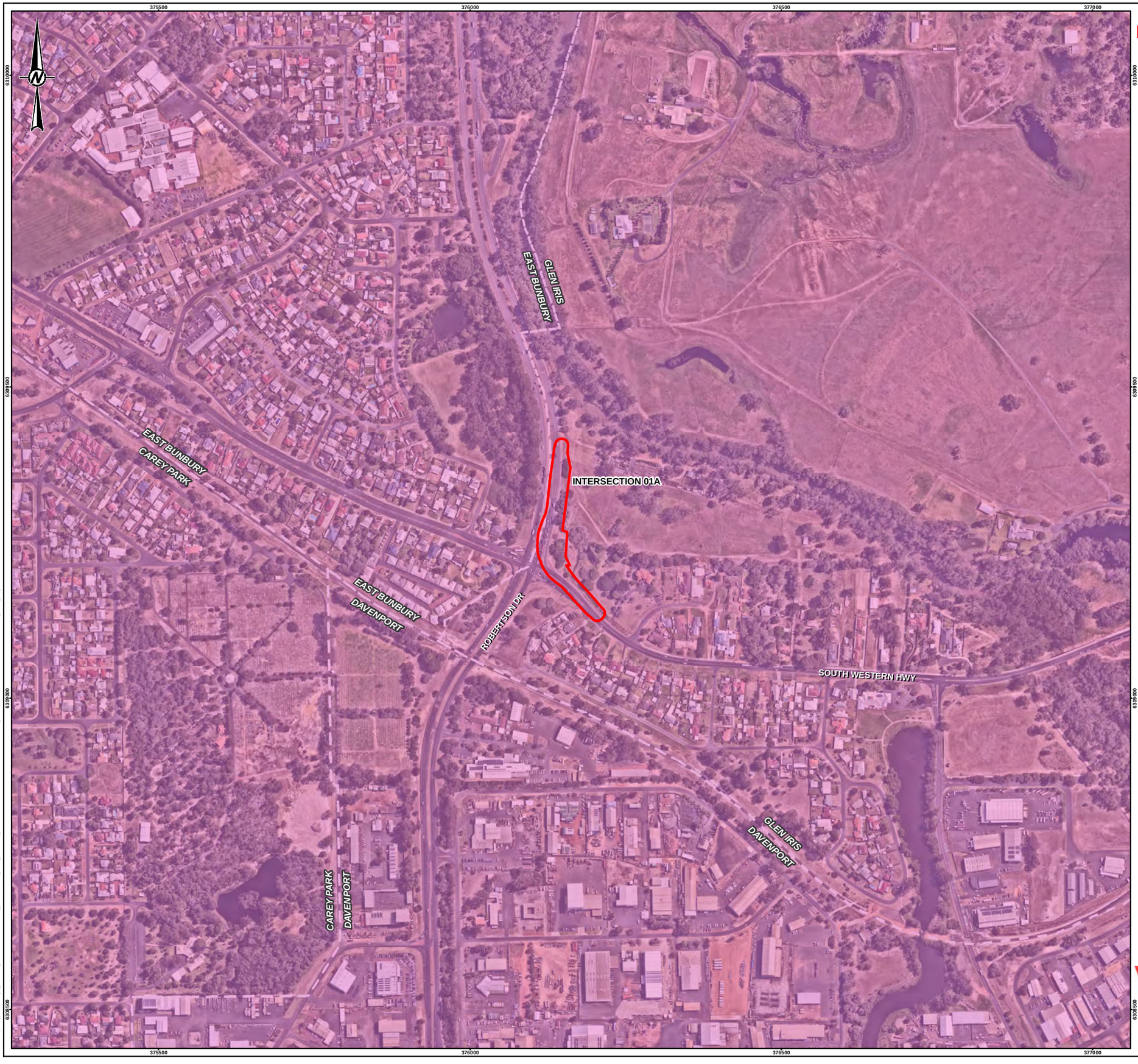
CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.2

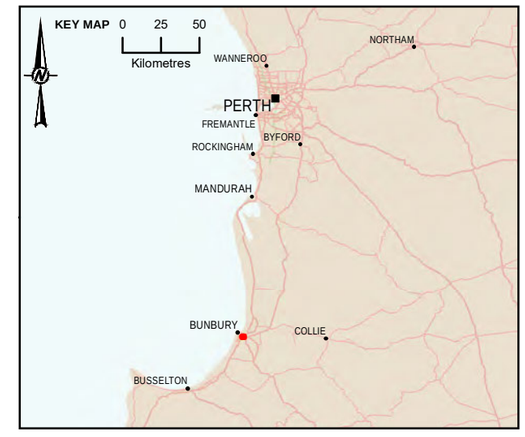
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LEGEND

- SURVEY AREA
- SWAN COASTAL PLAIN IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.3

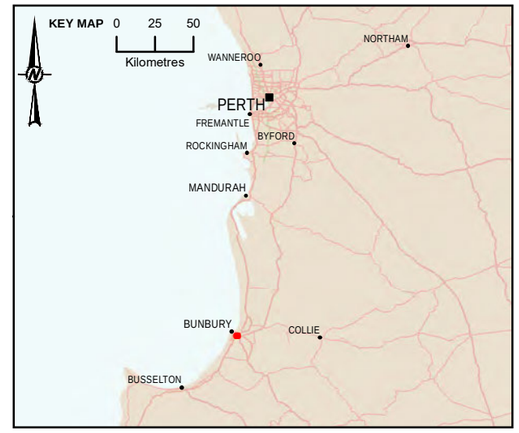
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LEGEND

- SURVEY AREA
- SWAN COASTAL PLAIN IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

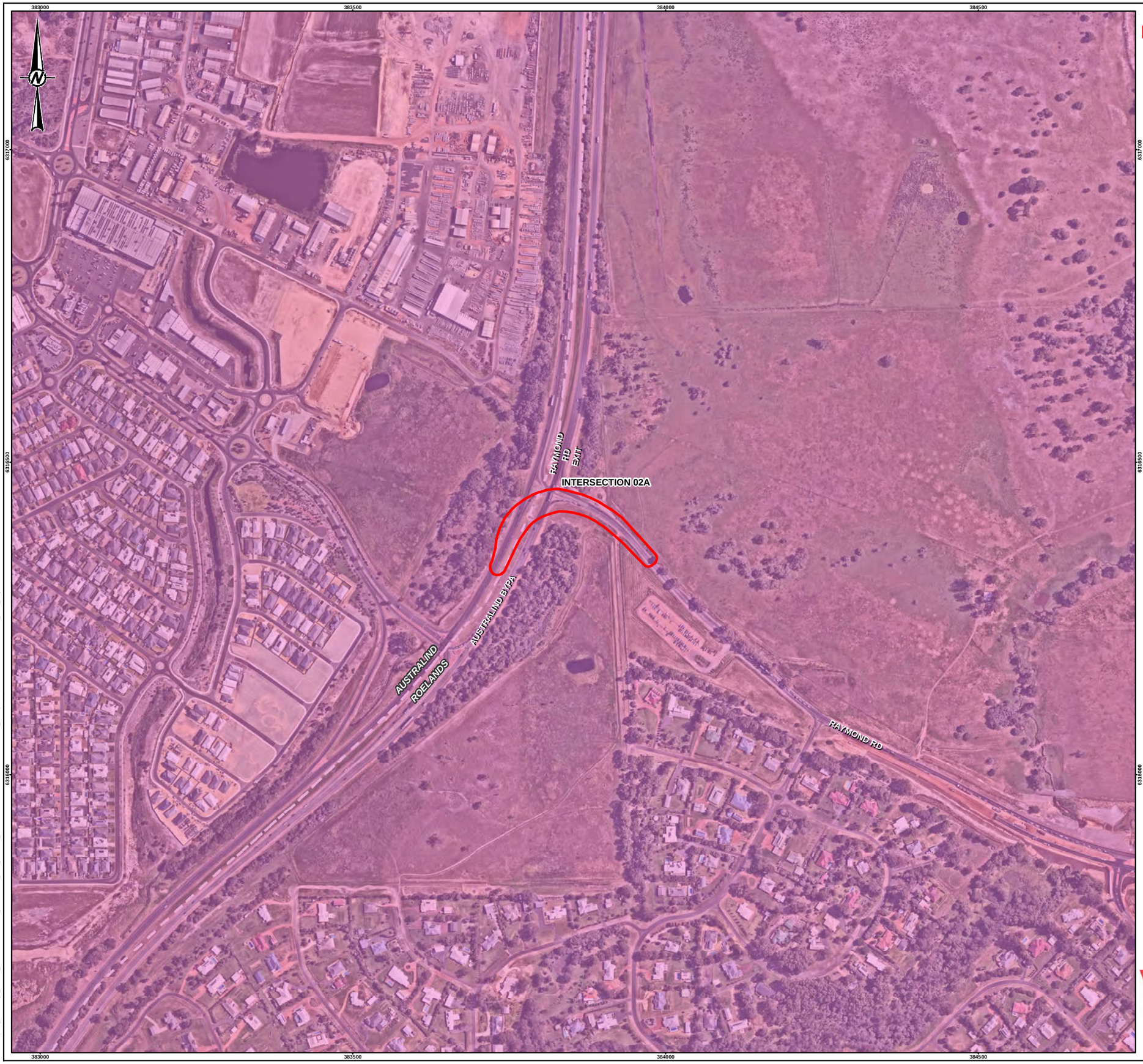
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.4

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25mm

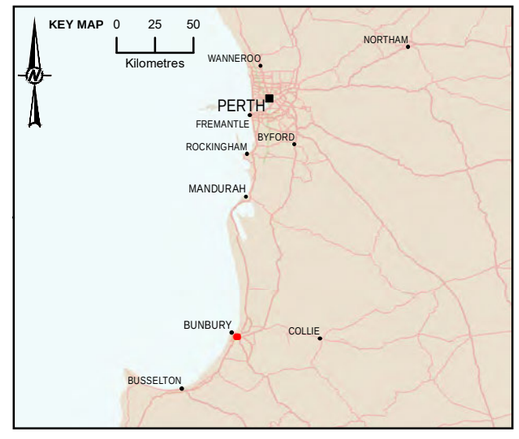
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LEGEND

- SURVEY AREA
- SWAN COASTAL PLAIN IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.5

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fi03_IBRA_Regions.mxd PRINTED ON: 2025-01-08 AT: 2:00:51 PM

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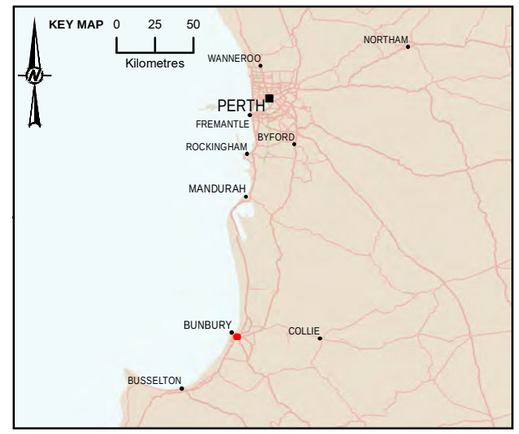
25mm

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LEGEND

- SURVEY AREA
- AVON WHEATBELT IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

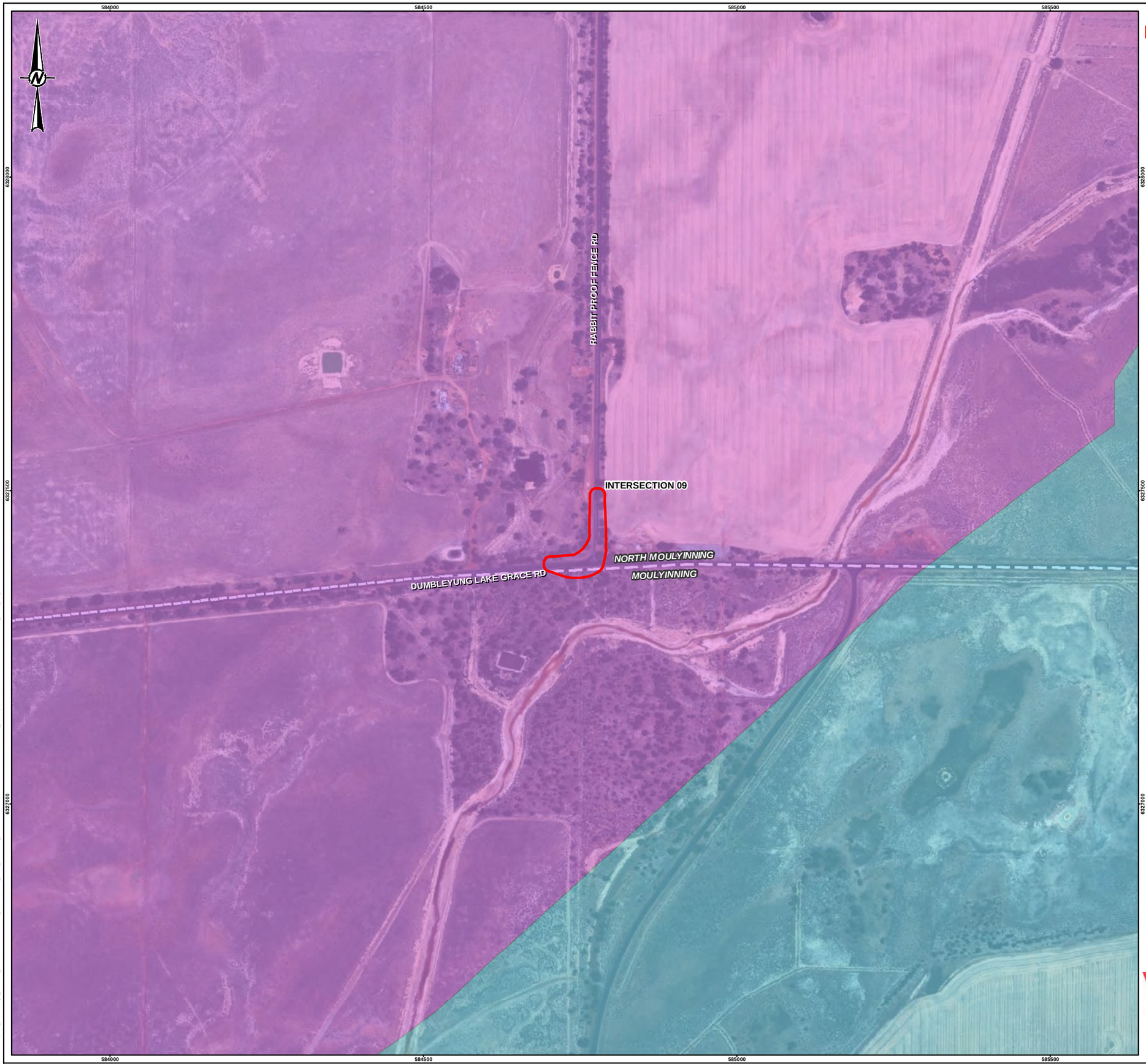
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.6

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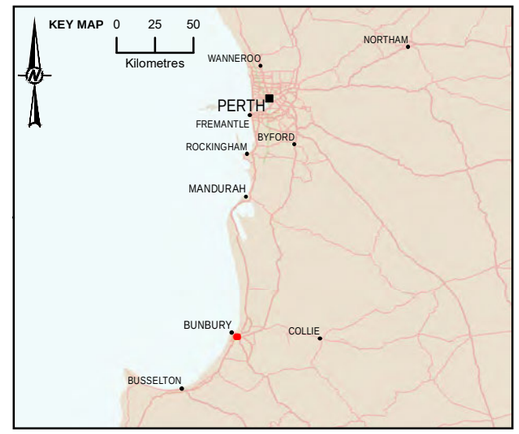
25mm

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LEGEND

- SURVEY AREA
- AVON WHEATBELT IBRA REGION
- MALLEE IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.7

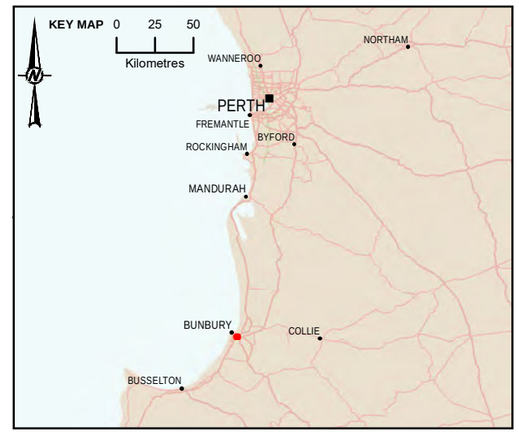
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LEGEND

- SURVEY AREA
- AVON WHEATBELT IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

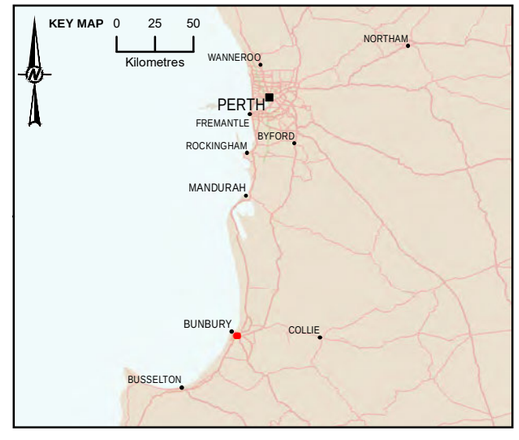
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.8

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0 25mm



LEGEND

- SURVEY AREA
- AVON WHEATBELT IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig03_IBRA_Regions.mxd PRINTED ON: 2025-01-08 AT 2:02:14 PM

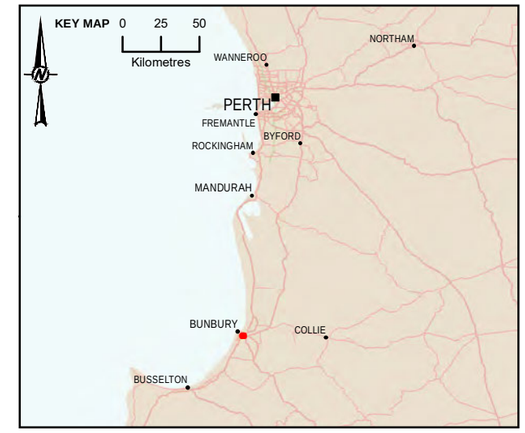
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6384500
6384000
6383500

HIGH ST
JOHNSTON ST
JILAKIN ST
INTERSECTION 12
KULIN
JITARNING
WILLIAMS KONDININ RD

LEGEND

- SURVEY AREA
- MALLEE IBRA REGION

KEY MAP 0 25 50 Kilometres



0 100 200
1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.10

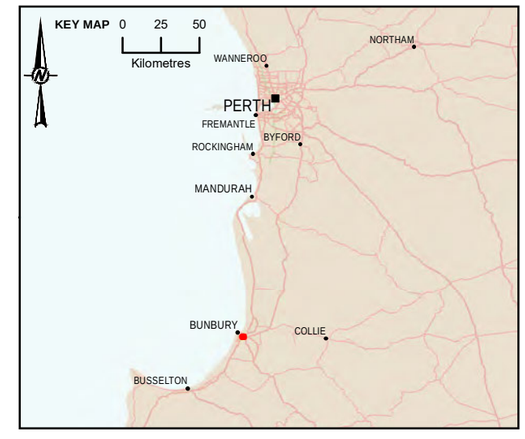
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LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

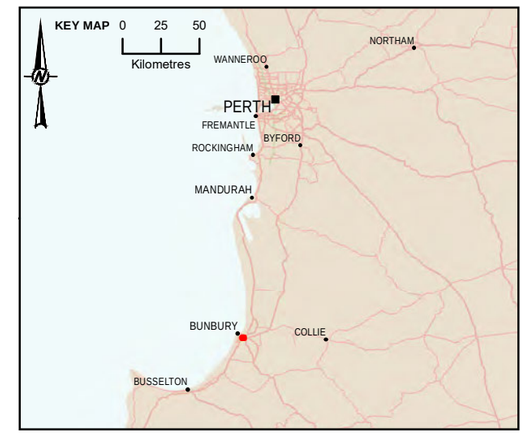
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PS204764	001-R	A	3.11

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25mm
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LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.12

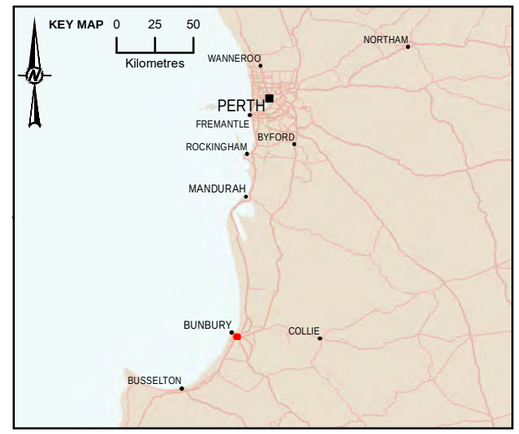
© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

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LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.13

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fi\03_IBRA_Regions.mxd PRINTED ON: 2025-01-08 AT 2:02:44 PM

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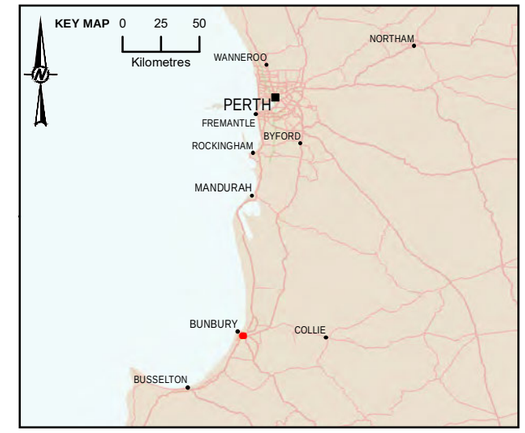
25mm

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LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.14

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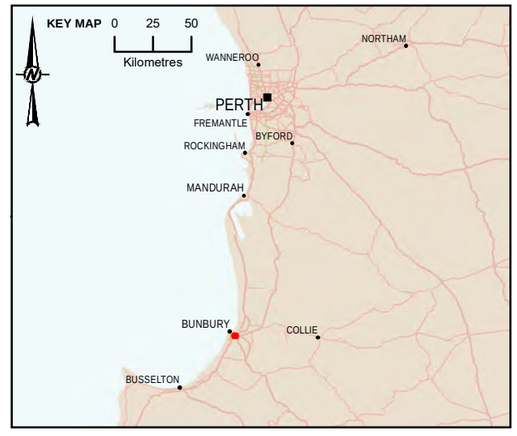
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0 25mm



LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.15

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25mm

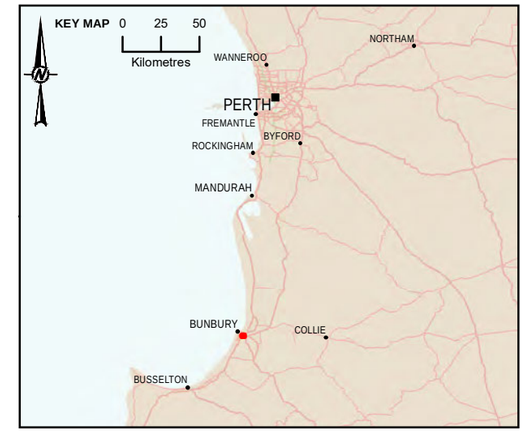
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LEGEND

- SURVEY AREA
- MALLEE IBRA REGION



0 100 200

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KINGS ROCK WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
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PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	3.16

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25mm
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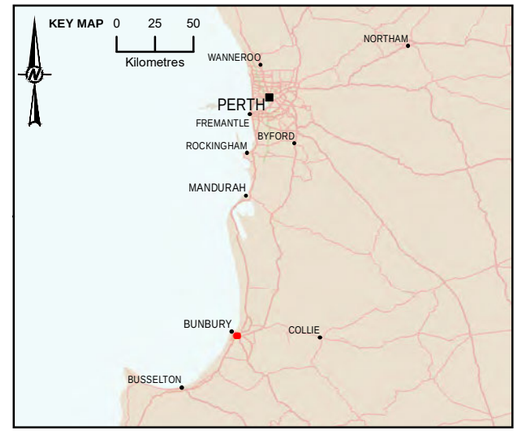
Appendix J

Location of trees within survey area



LEGEND

SWA02 - PERTH



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

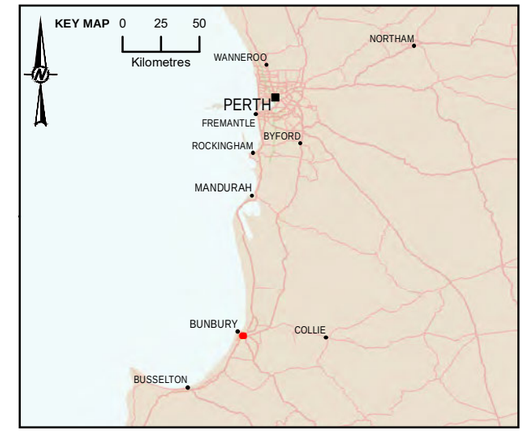
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.1

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2025-01-08 AT 2:15:33 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3



LEGEND

SWA02 - PERTH



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

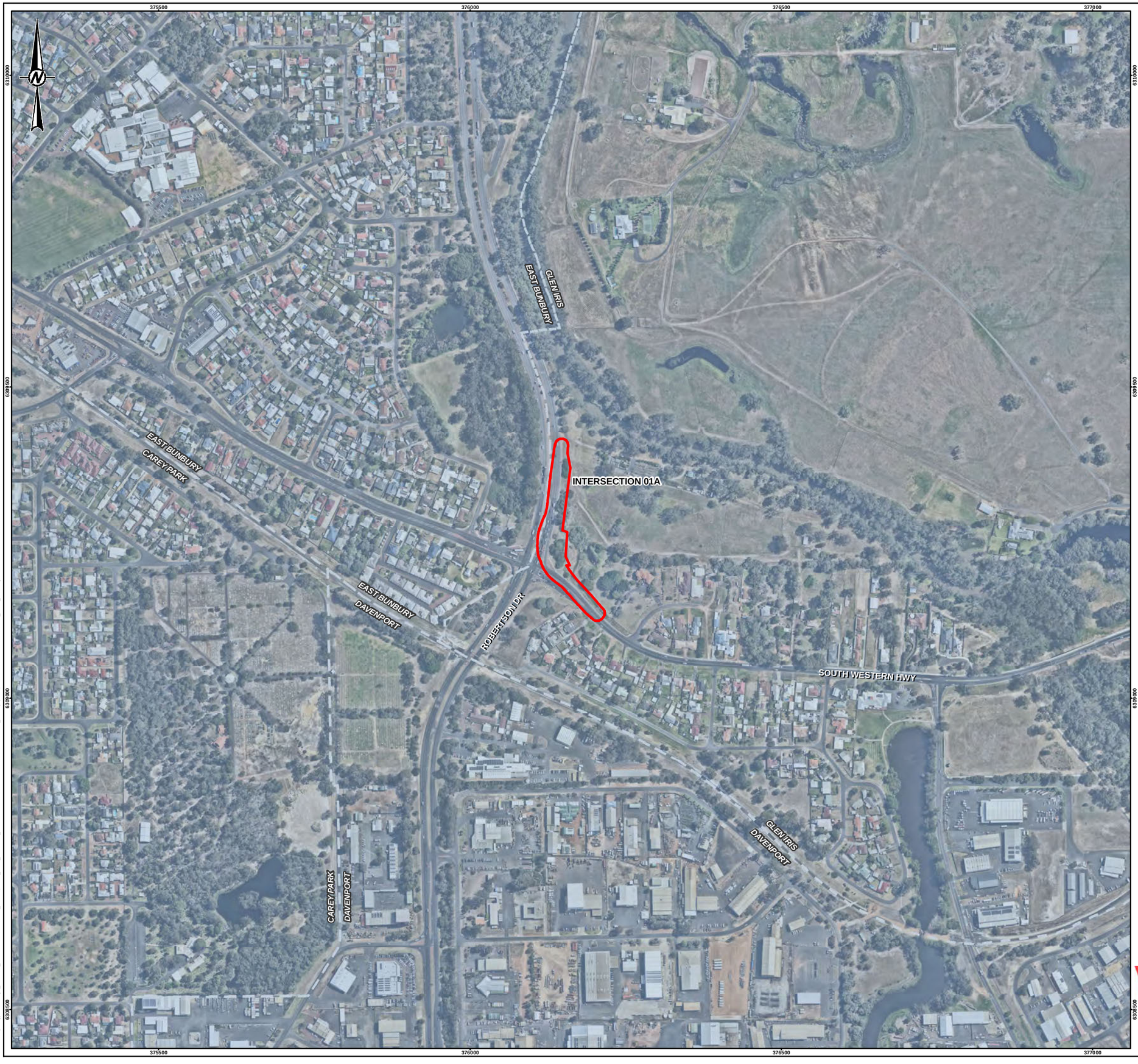
CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.2

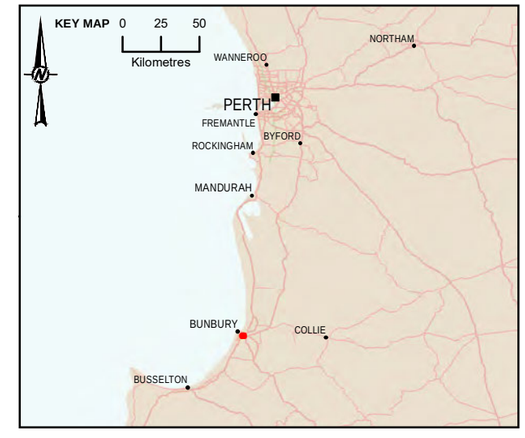
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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LEGEND

SWA02 - PERTH



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

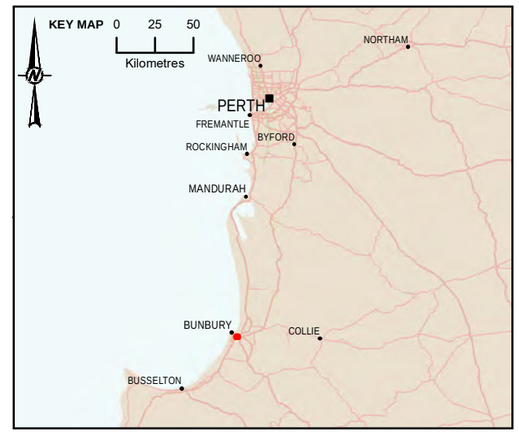
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LEGEND

SWA02 - PERTH



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

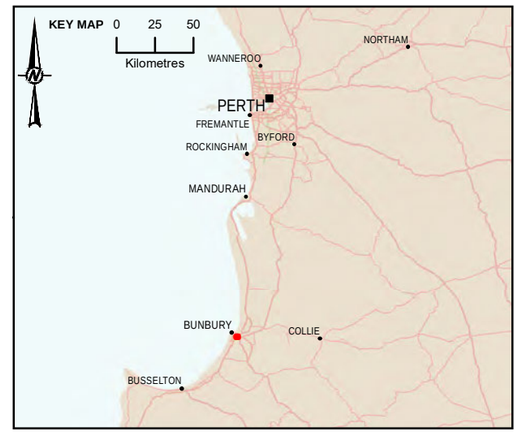
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LEGEND

SWA02 - PERTH



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

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DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

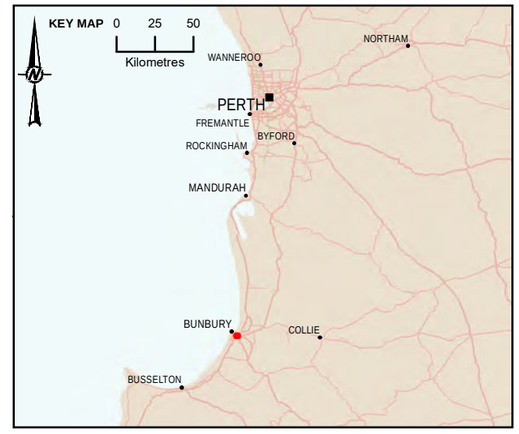
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PS204764	001-R	A	4.5

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25mm
0



LEGEND

AVW02 - KATANNING



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F004_IBRA_SubRegions.mxd PRINTED ON: 2025-01-08 AT 2:20:08 PM

584000 584500 585000 585500

6328000 6327500 6327000

RABBIT PROOF FENCE RD

INTERSECTION 09

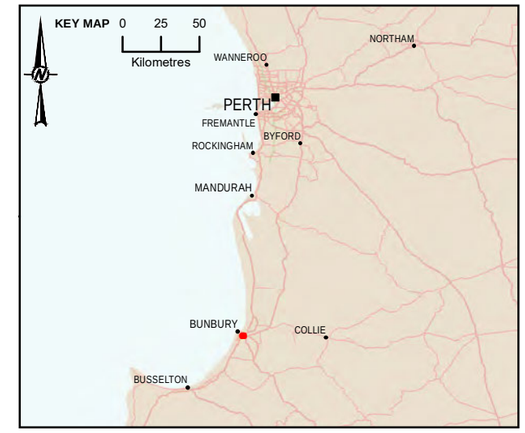
DUMBLEYUNG LAKE GRACE RD

NORTH MOULYINNING

MOULYINNING

LEGEND

- AVW02 - KATANNING
- MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

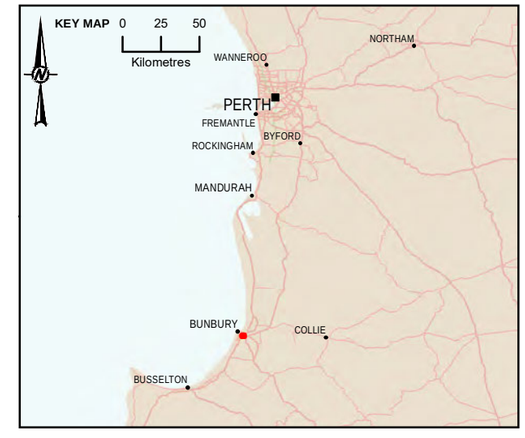
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LEGEND

AVW02 - KATANNING



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.8

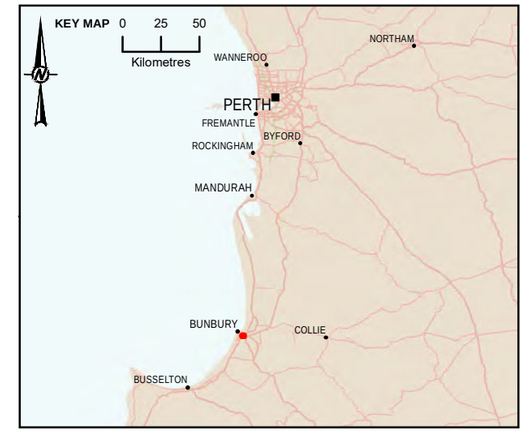
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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LEGEND

AVW02 - KATANNING



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.9

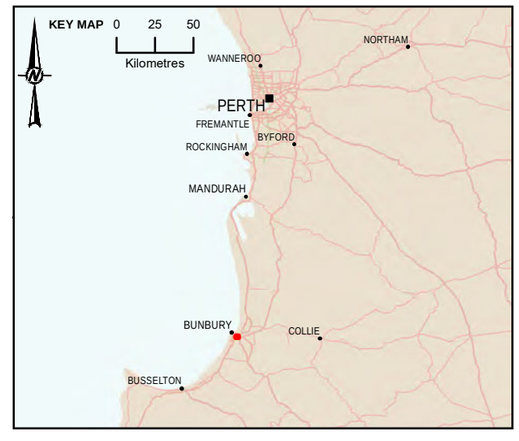
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LEGEND

MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.10

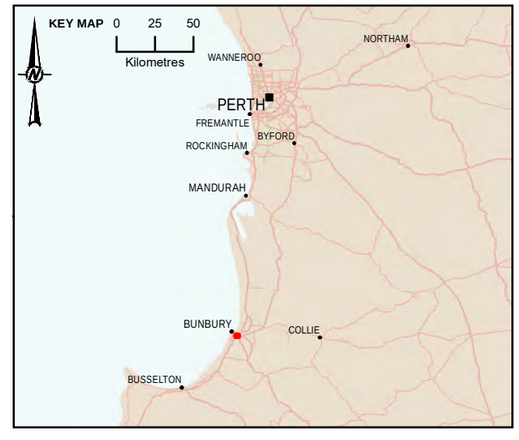
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LEGEND

MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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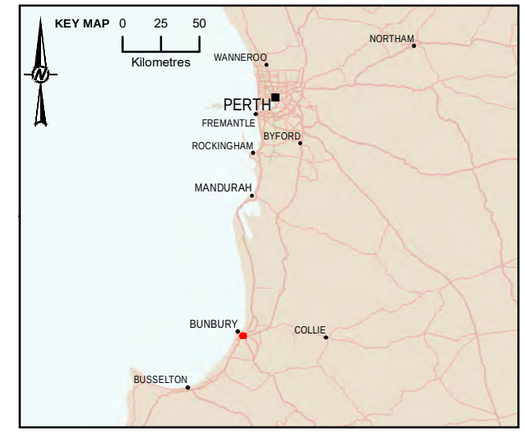
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608000
608500
609000
609500
6385500
6385000
6384500

WILLIAMS KONDININ RD
KULIN WEST
KULIN
HIGH ST
INTERSECTION 12B
JOHNSTON ST
KULIN LAKE GRACE RD

LEGEND

MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
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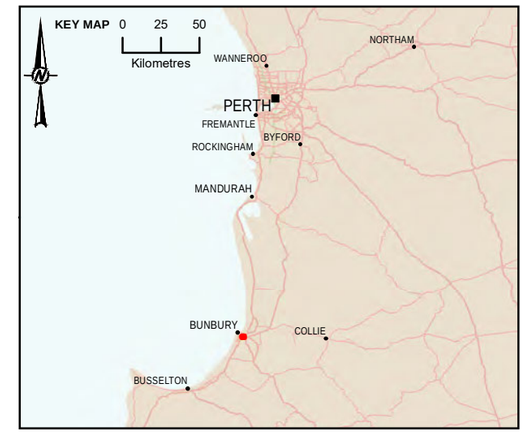
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25mm
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LEGEND

MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

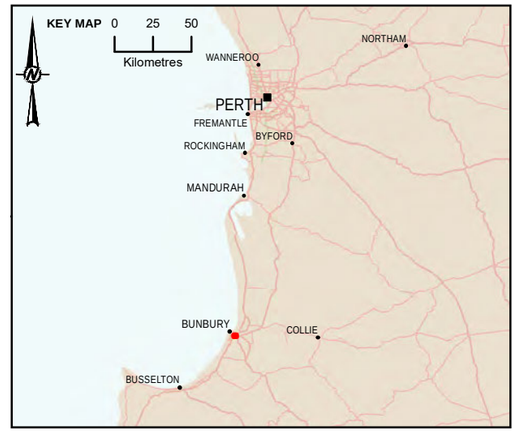
PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.13

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© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
0 25mm



LEGEND

MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI: SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.14

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25mm

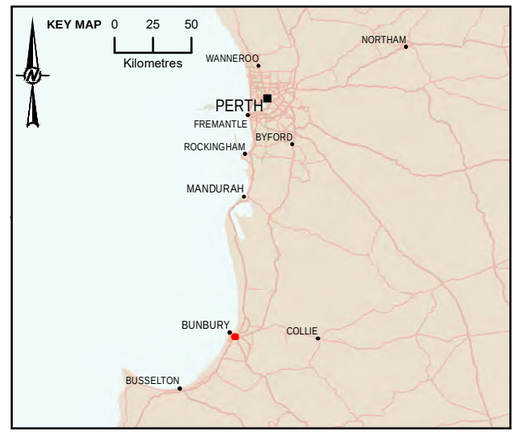
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703000
703500
704000
6427500
6427000
6426500

INTERSECTION 23

LEGEND

MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.15

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm
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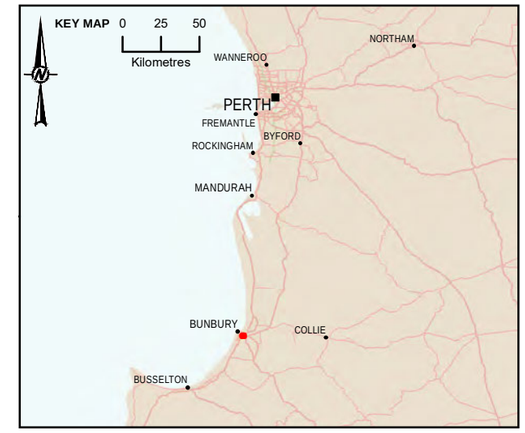
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703000
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704500
6431000
6430500
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INTERSECTION 23A

LEGEND

MAL02 - WESTERN MALLEE



0 130 260

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
INTERIM BIOGEOGRAPHIC REGIONALISATION FOR AUSTRALIA - IBRA SUB REGIONS

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	4.16

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig04_IBRA_SubRegions.mxd PRINTED ON: 2025-01-08 AT 2:16:18 PM

Appendix K

Pre-European vegetation



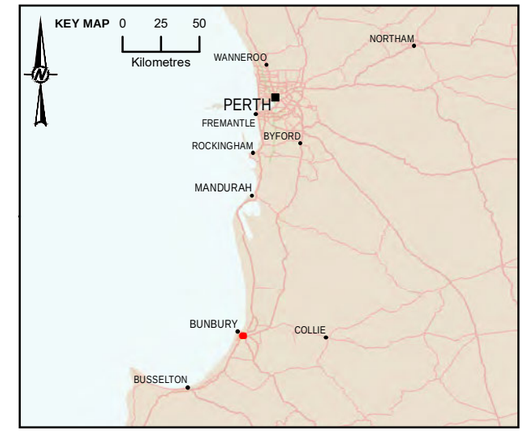


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

- 3 - SPEARWOOD - Mainly jarrah and marri *Eucalyptus marginata, Corymbia calophylla*
- 37.5 - BASSENDEAN - Wattle, *casuarina* and *teatree acacia-allocasuarina-melaleuca* alliance.
- 43.4 - BASSENDEAN - Low forest (Kimberley) or thicket (Pilbara) mangroves *Avicennia marina, Rhizophora stylosa, Bruguiera exaristata.*
- 998.1 - SPEARWOOD - Jarrah, marri and wandoo *Eucalyptus marginata, Corymbia calophylla,* E. wandoo.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA2020 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig05_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:40:40 PM

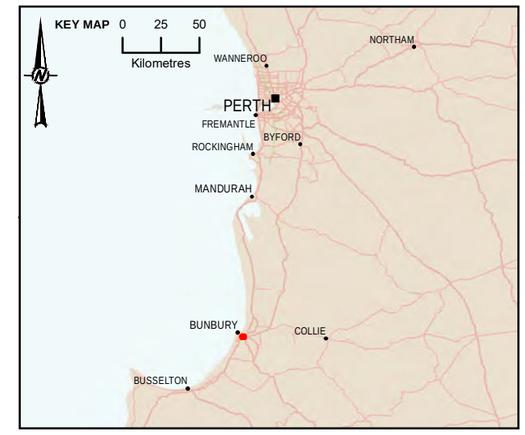


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

- 3 - SPEARWOOD - Mainly jarrah and marri *Eucalyptus marginata, Corymbia calophylla*
- 37.5 - BASSENDEAN - Wattle, *casuarina* and *teatree acacia-allocasuarina-melaleuca* alliance.
- 43.4 - BASSENDEAN - Low forest (Kimberley) or thicket (Pilbara) mangroves *Avicennia marina, Rhizophora stylosa, Bruguiera exaristata.*
- 998.1 - SPEARWOOD - Jarrah, marri and wandoo *Eucalyptus marginata, Corymbia calophylla,* E. wandoo.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

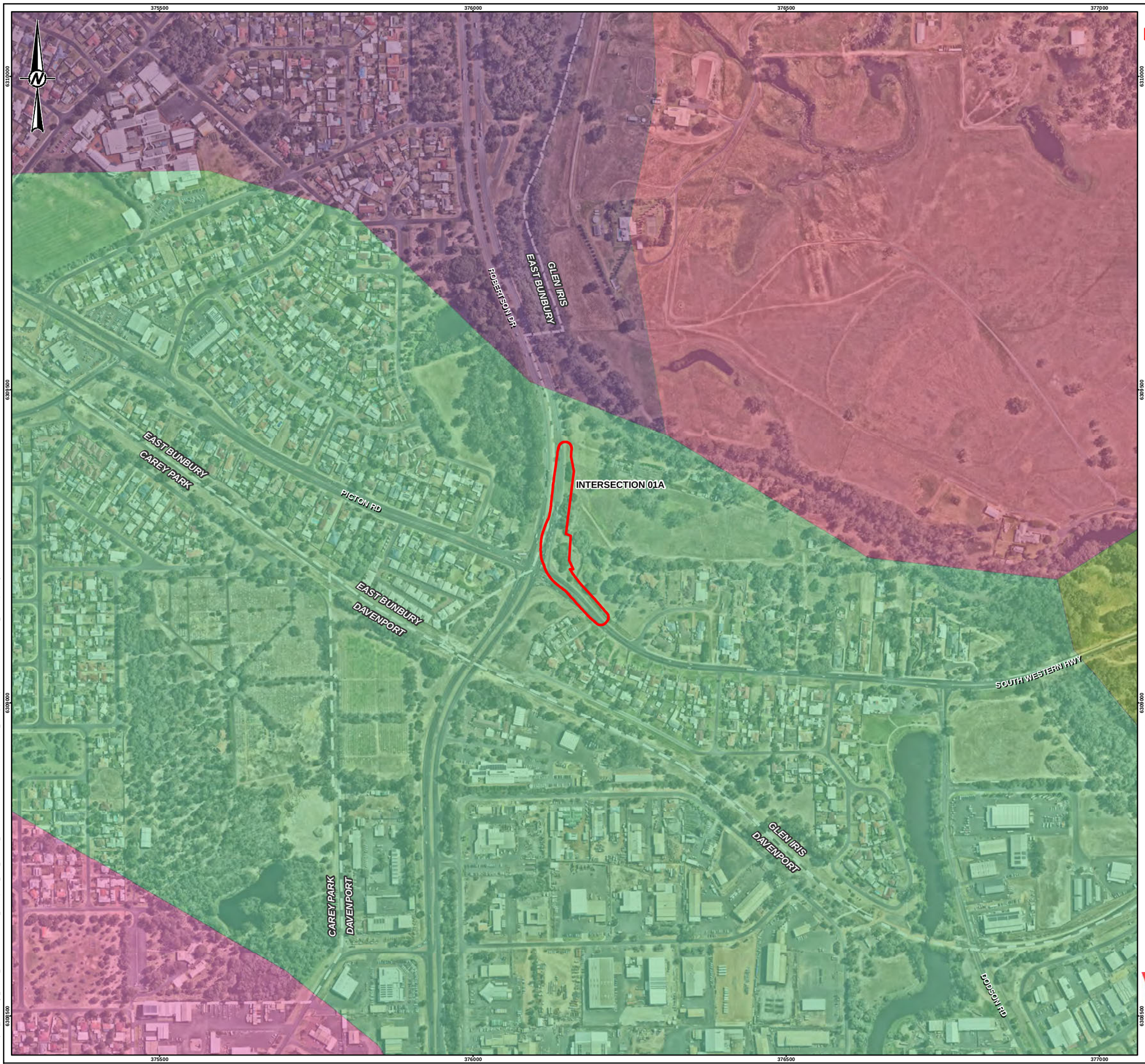
YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.2

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm
0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey\Final\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:40:56 PM

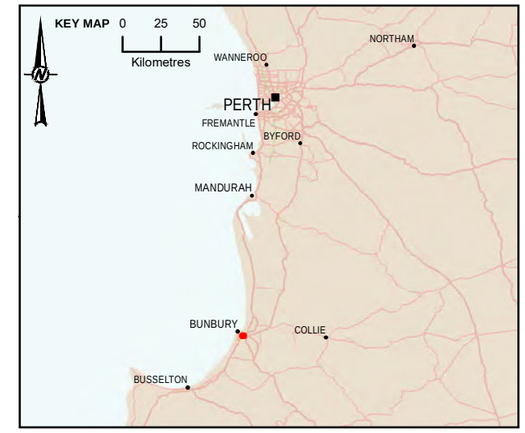


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

- 37.5 - BASSENDEAN - Wattle, *casuarina* and *teatree acacia-allocasuarina-melaleuca* alliance.
- 998 - BASSENDEAN - Jarrah, marri and wandoo *Eucalyptus marginata, Corymbia calophylla, E.* wandoo.
- 998.1 - SPEARWOOD - Jarrah, marri and wandoo *Eucalyptus marginata, Corymbia calophylla,* E. wandoo.
- 1000 - BASSENDEAN -
- 1182 - BASSENDEAN - Jarrah, marri and wandoo *Eucalyptus marginata, Corymbia calophylla, E.* wandoo.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.3

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F105_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:41:12 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

389500
390000
390500
6315500
6315000
6314500

RAYMOND RD
INTERSECTION 02
COALFIELDS RD
ROELANDS
BUREKUP
SOUTH WESTERN HWY

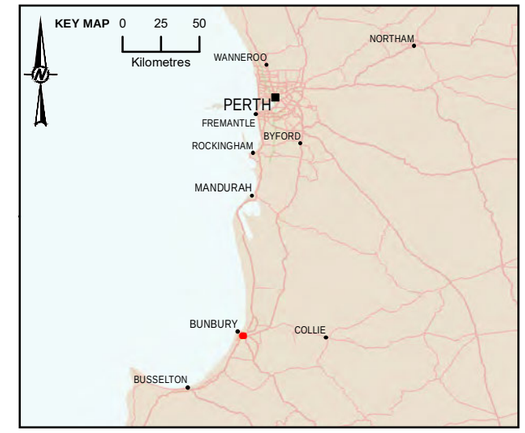
LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

968.3 - PINJARRA - Jarrah, marri and wandoo *Eucalyptus marginata*, *Corymbia calophylla*, *E.* wandoo.

1182 - PINJARRA - Jarrah, marri and wandoo *Eucalyptus marginata*, *Corymbia calophylla*, *E.* wandoo.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.4

25mm
0

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig05_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:41:26 PM



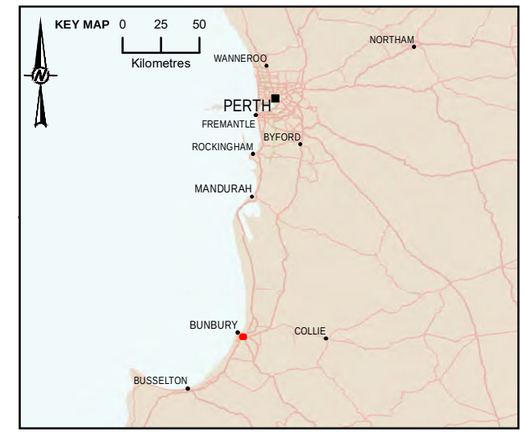
LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

1000 - BASSENDEAN -

1182 - PINJARRA - Jarrah, marri and wandoo *Eucalyptus marginata, Corymbia calophylla*, *E.* wandoo.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.5

PATH: B:\Synergi\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig05_PreEuropeanVegetation.mxd PRINTED ON: 20:25-01-08 AT 2:41:40 PM
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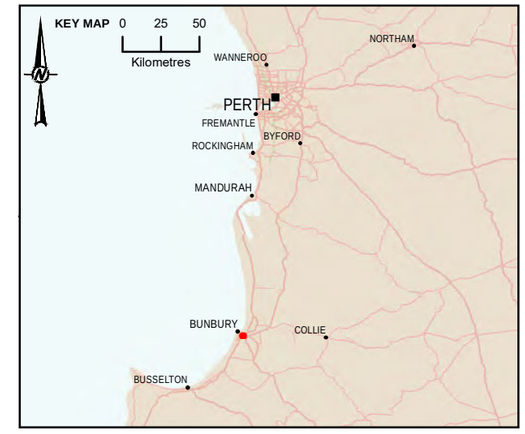


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

1023 - WAGIN - Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; messmate, woolyb



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

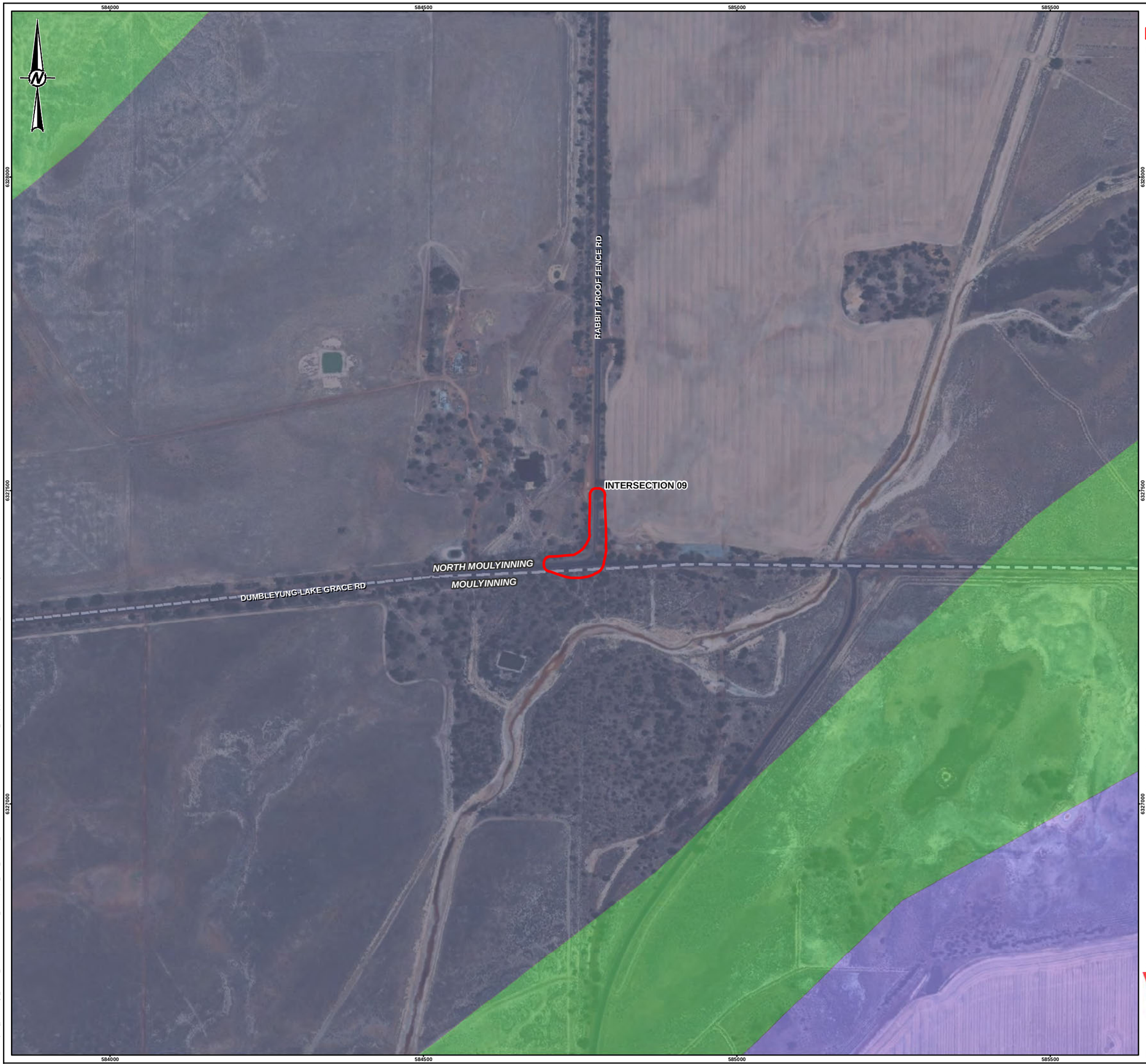
TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.6

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:45:00 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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LEGEND

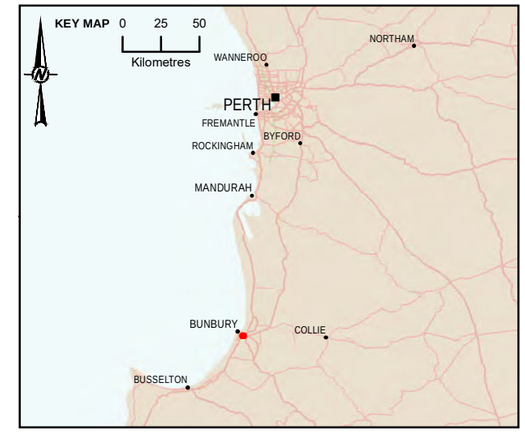
SURVEY AREA

PRE-EUROPEAN VEGETATION

1023.1 - DUMBLEYUNG - Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; messmate, woolyb

1093 - DUMBLEYUNG - Tea tree with York gum, *casuarina Tecticornia spp. Melaleuca spp. Eucalyptus loxophleba, Casuarina obesa*

1094 - HYDEN -



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.7

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F105_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:45:12 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
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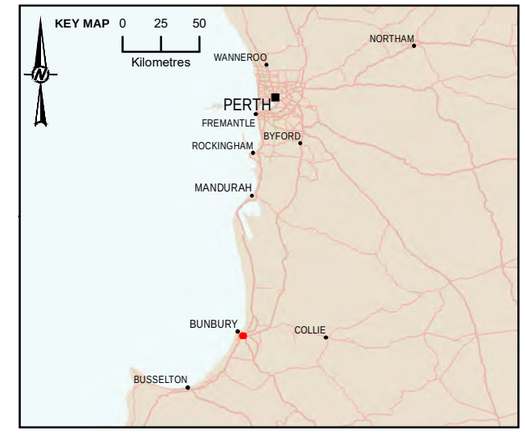


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

1023.3 - CORRIGIN - Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; messmate, woolyb



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-Fig05_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:45:23 PM



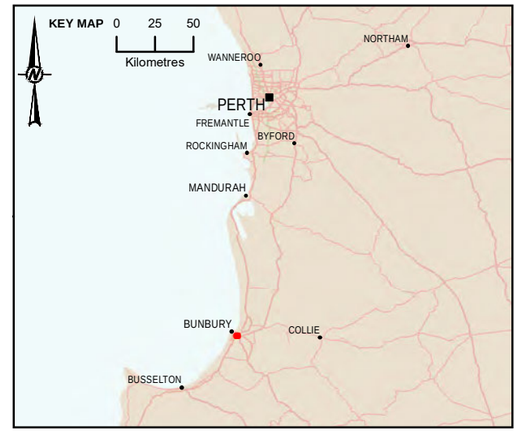
LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

955 - CORRIGIN -

1023.3 - CORRIGIN - Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia*. Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa*. Riverine; *rivergum E. camaldulensis*. Tropical; messmate, woolyb



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
WSP

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

25mm

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PATH: B:\Synergy\RED\Kings Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:45:35 PM

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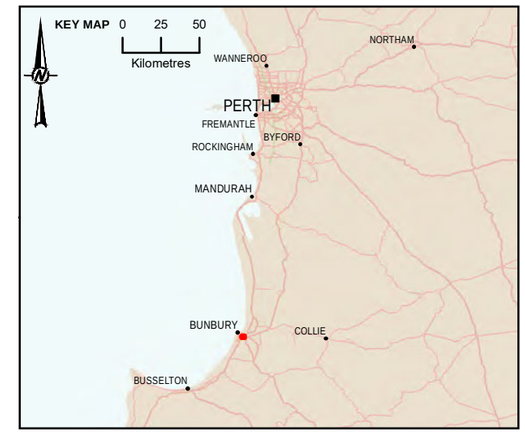
FICH ST
INTERSECTION 12
KULIN RD
KULIN
JOHNSTON ST
JITARNING
WILLIAMS-KONDININ RD

LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

960.2 - HYDEN - *Eucalypt shrubland Eucalyptus eremophila, E. redunca, E.* spp.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.10

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F0105_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:45:46 PM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3

0 25mm



LEGEND

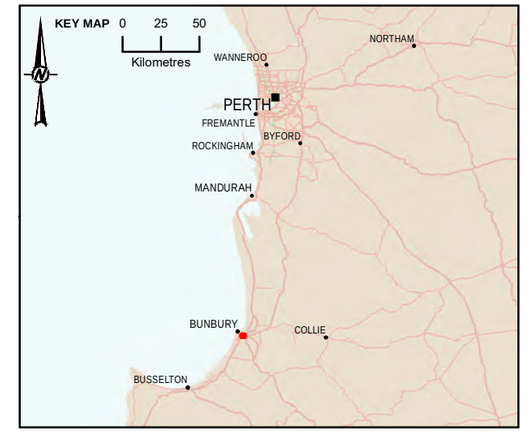
SURVEY AREA

PRE-EUROPEAN VEGETATION

8 - CORRIGIN - Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa.* Riverine; *rivergum E. camaldulensis.* Tropical; messmate, woolyb

955 - CORRIGIN -

1023 - HYDEN - Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa.* Riverine; rivergum *E. camaldulensis.* Tropical; messmate, woolyb



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
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PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final)\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:45:57 PM

608000
608500
609000
609500
6385500
6385000
6384500

WILLIAMS-KONDININ RD
KULIN WEST
KULIN
HIGH ST
INTERSECTION 12B
KULIN LAKE GRACE RD
JOHNSTON ST

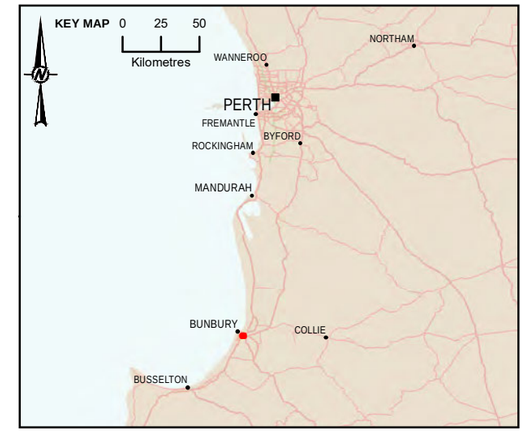
LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

8.1 - HYDEN - Wheatbelt; York gum, salmon gum etc. *Eucalyptus loxophleba, E. salmonophloia.* Goldfields; gimlet, redwood etc. *E. salubris, E. oleosa.* Riverine; rivergum *E. camaldulensis.* Tropical; messmate, woolyb

960.2 - HYDEN - *Eucalypt shrubland Eucalyptus eremophila, E. redunca, E.* spp.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT
wsp

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.12

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ISO A3
25mm
0

PATH: B:\Synergy\RED\Kings_Rock\99_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-R\Phase 4 - Detailed_Survey (Final\PS204764-001-R-RevA-F005_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:46:08 PM



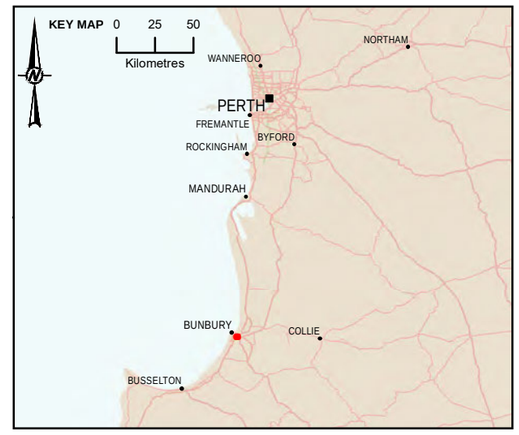
LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

128 - HYDEN -

945 - HYDEN -



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.13

PATH: B:\Synergy\RED\Kings_Rock\09_PROJECTS\PS204764_Development_Flora_Fauna\02_PRODUCTION\MXD\001-RPhase 4 - Detailed_Survey_Final\PS204764-001-R-RevA-F05_PreEuropeanVegetation.mxd PRINTED ON: 2025-01-08 AT 2:46:20 PM

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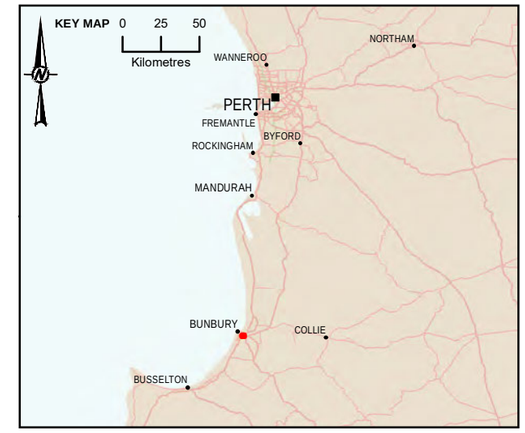
INTERSECTION 21

LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

519.3 - HYDEN - Eucalypt shrubland *Eucalyptus eremophila, E. redunca, E.* spp.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM ESRI. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.14

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25mm

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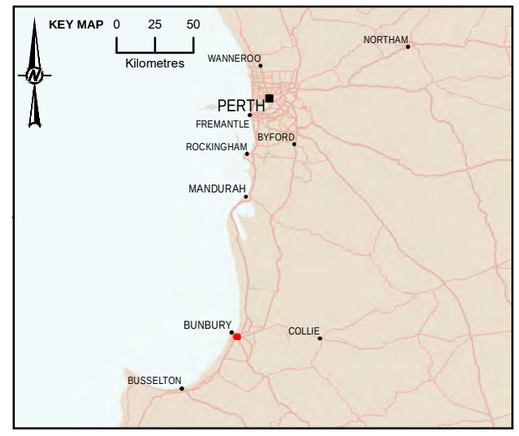


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

519.4 - SKELETON ROCK - Eucalypt shrubland *Eucalyptus eremophila, E. redunca, E.* spp.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.15

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25mm
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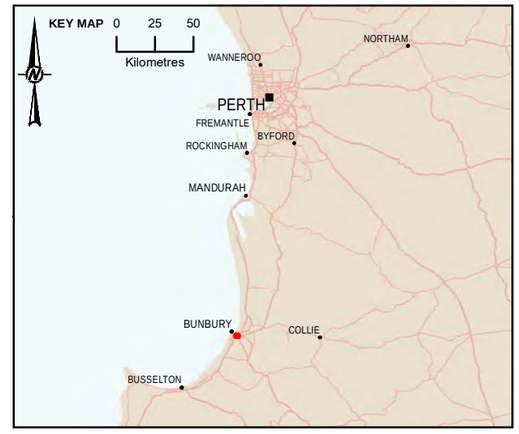


LEGEND

SURVEY AREA

PRE-EUROPEAN VEGETATION

519.4 - SKELETON ROCK - Eucalypt shrubland *Eucalyptus eremophila*, *E. redunca*, *E.* spp.



0 125 250

1:6,000 METRES

NOTE:
1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50

REFERENCES:
1. AERIAL IMAGE SOURCED FROM NEARMAP

CLIENT
SYNERGY RED

PROJECT
KING ROCKS WIND FARM

TITLE
PRE-EUROPEAN VEGETATION

CONSULTANT

YYYY-MM-DD	2025-01-08
DESIGNED	RD
PREPARED	JE
REVIEWED	RD
APPROVED	

PROJECT NO.	CONTROL	REV.	FIGURE
PS204764	001-R	A	5.16

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25mm

0

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