Neerabup Terminal Transmission Corridor

Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Western Power

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Australia

Prepared by:

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Making Sustainability Happen

Revision Record

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1.0	28 February 2025	G. Buller, L. Berry, P. Dean	S. Ruoss, M. Youdale	S. Walker
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Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Western Power (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Executive Summary

Western Power commissioned SLR Consulting Australia to undertake a preliminary flora, vegetation, basic terrestrial vertebrate fauna survey, and black cockatoo habitat assessment for the proposed Neerabup Terminal Transmission Corridor (the Project). These surveys are not intended to meet the requirements under any guidelines or regulation for biological assessments. These surveys are intended to provide information to assist Western Power in determining areas of environmental importance that may require further detailed survey work and expand on previous surveys by AECOM in 2023. The surveys were undertaken within a defined area (herein referred to as the Survey Area) covering a transmission corridor of approximately 25 km in length, ranging from 10–60 m wide, located within the City of Wanneroo in the Swan Coastal Plain bioregion of Western Australia.

Flora and Vegetation

The preliminary reconnaissance flora and vegetation survey utilised mapping notes and relevés to delineate and describe vegetation communities within the Survey Area. Some areas of native vegetation were inaccessible and were mapped using aerial imagery and relevant mapping notes with the understanding that further surveys may be required. One relevé was established in an area of intact Banksia woodland. A total of 40 flora taxa was recorded throughout the survey area, comprising 35 genera across 20 families.

Seven vegetation types consisting of native vegetation were mapped across the Survey Area, with four of these assessed as potentially requiring further detailed surveys. Approximately 15 hectares were identified as Banksia woodland, and thus analogous to the federally listed '*Banksia woodlands of the Swan Coastal Plain*' Threatened Ecological Community (TEC). This community is also a state-listed Priority Ecological Community (PEC).

Several areas of *Melaleuca preissiana* woodland were also identified as requiring further surveys. Pending those surveys, this vegetation potentially represents both a groundwater dependent ecosystem and a TEC/PEC (i.e. 'Low lying *Banksia attenuata* woodlands or shrublands ('floristic community type 21c') (a component of the Endangered Banksia Woodlands of the Swan Coastal Plain EPBC listed TEC)).

No Threatened or Priority flora taxa were recorded within the Survey Area. However, the desktop assessment previously performed by AECOM in 2023 identified one significant flora taxa as having previously been recorded within the Survey Area, and nine significant flora taxa were assessed as having a high likelihood of occurrence. Nineteen significant flora taxa were also assessed as having a medium likelihood, and 57 significant flora taxa were assessed as having have a low to negligible likelihood of occurrence.

A total of 17 weed taxa were recorded in the Survey Area, which is likely a small subset of the true total. Two taxa **Asparagus asparagoides* and **Opuntia tomentosa* are listed as Declared Pests by the Department of Primary Industries and Regional Development and as a Weed of National Significance.

Vegetation condition ranged from Completely Degraded to Very Good. Portions of the survey were inaccessible, and condition was estimated based on mapping notes and aerial imagery. Secondary detailed spring surveys with full access to the Survey Area will provide more accurate condition mapping.

Basic Fauna

The preliminary basic terrestrial vertebrate fauna survey used a variety of detection methods including opportunistic observations and active searches. Fauna habitat mapping was based on a combination of field observations, vegetation mapping, fauna habitat assessments, and aerial imagery. Six fauna habitats (excluding cleared areas) were mapped within the Survey Area. Adenanthos/Plantation and Trees over Cleared habitat were the most widespread and abundant habitats at a regional scale. Pockets of Banksia Woodland within the Survey Area are important for dispersal and connectivity at a local scale, and Melaleuca Woodland is limited in extent and isolated from similar habitat types.

A total of 21.56 ha of the Survey Area overlapped private property and were surveyed from fenceline and mapped using extrapolation of the AECOM (2024) survey data. This 21.56 ha is comprised of:

- Adenanthos/Plantation – 0.96 ha
- Banksia Woodland – 12.39 ha
- Melaleuca woodland – 0.67 ha
- Mixed Shrubland – 2.41 ha
- Trees Over Cleared – 5.13 ha.

A total of four fauna taxa from three families were recorded, comprising three birds and one mammal. Three significant fauna taxa were recorded during the field survey:

- Carnaby's Cockatoo (*Zanda latirostris*) listed as Endangered under the BC Act and EPBC Act.
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso)* listed as Vulnerable under the BC Act and EPBC Act.
- Quenda (*Isoodon fusciventer*) listed as Priority 4 under DBCA.

Black Cockatoo Assessment

A total of 74 potentially suitable nesting trees were identified within the Survey Area. One Introduced Eucalypt was assessed as a suitable nesting tree, containing one suitable hollow with chew marks. An additional 15 trees appeared to have a DBH > 500 mm but could not be measured at the time of the survey due to access constraints surrounding private property. These trees will require further additional assessments.

No black cockatoo night roosting was observed within the Survey Area during the field survey, however, all potentially suitable nesting trees recorded may be used as night roosting habitat.

According to the Department of Agriculture, Water and the Environment (DAWE) Foraging Habitat Scoring Tool (DAWE, 2022), the Survey Area contains 93.91 ha of High-Quality foraging habitat for the Carnaby's Black Cockatoo and the Forest Red-Tailed Black Cockatoo. The DAWE (2022) Foraging Habitat Scoring Tool identified 93.91 ha of Low-Quality foraging habitat for the Baudin's Black Cockatoo. The Bamford Consulting Ecologists (2020) scoring system identified 93.91 ha of foraging habitat for the Carnaby's Black Cockatoo ranging from Negligible to Low to Moderate to High, 93.91 ha of foraging habitat for the Baudin's Black Cockatoo ranging from Negligible to Low to Moderate, and 93.91 of foraging habitat ranging from Negligible to Low to Low for the Forest Red-Tailed Black Cockatoo.

Black cockatoo foraging habitat results are based on the mapped fauna habitats for the Survey Area. Approximately 21.56 ha of habitat mapping has been extrapolated from AECOM (2024) data due to access restrictions, and these areas may require future validation to confirm their habitat characteristics and foraging value.

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Acronyms and Abbreviations

°C	Degree Celsius
ALA	Atlas of Living Australia
BAM Act	*Biosecurity and Agriculture Management Act 2007*
BC Act	*Biodiversity Conservation Act 2016*
BoM	Bureau of Meteorology
CISS	Centre for Invasive Species Solutions
CR	Critically Endangered
DAWE	Department of Agriculture Water and Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DBH	Diameter at breast height
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEE	Department of the Environment and Energy
DEWHA	Department of the Environment, Water, Heritage and the Arts
Desktop Study Area	The area that was studied during the desktop assessment encompassing the Survey Area and surrounds
DEMIRS	Department of Energy, Mines, Industry Regulation, and Safety
DoE	Department of the Environment
DP	Declared Pest
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Lands and Heritage
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
DWER	Department of Water and Environmental Regulation
EIA	Environmental Impact Assessment
EN	Endangered
EP Act	*Environmental Protection Act 1986*
EPA	Environmental Protection Authority
EPBC Act	*Environment Protection Biodiversity and Conservation Act 1999*
ESA	Environmentally Sensitive Area
GIS	Geographic Information System
GPS	Global Positioning System
GDE	Groundwater Dependent Ecosystem
ha	Hectare
IBRA	Interim Biogeographic Regionalisation for Australia
IBSA	Index of Biodiversity Surveys for Assessments
km	Kilometres
Lat	Latitude

Long	Longitude
m	Metres
MA	Marine
MI	Migratory
mm	Millimetres
mths	Months
MNES	Matters of National Environmental Significance
NVCP	Native Vegetation Clearing Permit
NVIS	National Vegetation Information System
OS	Other Specially Protected Fauna
P	Priority
PEC	Priority Ecological Community
PMST	Protected Matters Search Tool
Sp.	Species
Spp.	More than one species
SLR	SLR Consulting Australia
Survey Area	The area that was surveyed
T	Threatened
TEC	Threatened Ecological Community
TPFL	Threatened and Priority Flora Database
TPFRF	Threatened and Priority Flora Report Form
VU	Vulnerable
WA	Western Australia
WAH	Western Australian Herbarium
WAM	Western Australian Museum
WoNS	Weeds of National Significance
WP	Western Power

1.0 Introduction

1.1 The Project

Western Power commissioned SLR Consulting Australia Pty Ltd (SLR) to undertake a preliminary assessment that involved a reconnaissance flora and vegetation survey, basic terrestrial vertebrate fauna survey, and black cockatoo habitat assessment for the proposed Neerabup Terminal Transmission Corridor (the Project).

These surveys were intended to provide information to assist in determining areas of environmental importance that may require further detailed surveys. The survey was undertaken within a defined area (the Survey Area) within the City of Wanneroo in the Swan Coastal Plain bioregion of Western Australia, and covers approximately 25 km of transmission corridor, ranging from 10–60 m wide (Map 1). The 2024 reconnaissance survey results supplement previous surveys conducted by AECOM in 2023 (AECOM, 2024). All maps are provided in Appendix A.

1.2 Objective and Scope

The survey aimed to identify key areas within the Survey Area that may require detailed surveys, with the following scope:

- Carry out a preliminary field survey to assess flora, vegetation, fauna, and black cockatoo values of the Neerabup Transmission Corridor Survey Area.
- Prepare a preliminary technical flora, vegetation, fauna, and black cockatoo survey report for the Survey Area.
- Provide all spatial/mapping data collected during the survey for each area in line with Western Power Data Standards. These works are described in more detail in the following sections.

2.0 Background

2.1 Statutory and Regulatory Framework

While these surveys do not meet the requirements of statutory and regulatory frameworks, the below documents were considered for informing any future spring surveys that may be required.

Western Australian flora, vegetation and fauna are governed by the following legislative measures:

- *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act) (Commonwealth of Australia, 1999).
- *Biodiversity Conservation Act 2016* (WA) (BC Act) (Government of Western Australia, 2016).
- *Environmental Protection Act 1986* (WA) (EP Act) (Government of Western Australia, 1986).
- *Biosecurity and Agriculture Management Act 2007* (WA) (BAM Act) (Government of Western Australia, 2007).

In addition to these legislative measures, the following non-legislative lists are considered on a case-by-case basis:

- WA Department of Biodiversity Conservation and Attractions (DBCA) Priority lists for fauna, flora, and ecological communities.
- Weeds of National Significance (WoNS).
- Recognition of locally significant populations by DBCA.

The EIA process is supported by guidance documents published by the Environmental Protection Authority (EPA), DBCA and the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

Western Australia

- *Environmental Factor Guideline – Flora and Vegetation* (EPA, 2016a).
- *Environmental Factor Guideline – Terrestrial Fauna* (EPA, 2016b).
- *Technical Guidance – Flora and vegetation surveys for environmental impact assessment* (EPA, 2016c).
- *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA, 2020).

Commonwealth

- *Matters of National Environmental Significance – Significant Impact Guidelines 1.1* (DoE, 2013).
- *EPBC Referral Guidance - Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community* (DEE, 2019b).
- *EPBC Referral Guidance – Banksia Woodlands of the Swan Coastal Plain ecological community* (DEE, 2019a).
- *Referral guideline for 3 WA threatened black cockatoo species* (DAWE, 2022).

- *Survey guidelines for Australia's threatened birds* (DEWHA, 2010).
- *Survey guidelines for Australia's threatened mammals* (DSEWPaC, 2011a).
- *Survey guidelines for Australia's threatened reptiles* (DSEWPaC, 2011b).

2.2 Existing Environment

2.2.1 Climate

The closest long-term Bureau of Meteorology (BoM) weather station with a complete dataset is Perth Airport Weather Station (Station 9021), located approximately 1.9 km south of the Survey Area.

The long-term (1944 to 2024) mean minimum temperature for Perth Airport Weather Station ranges from 8.1˚C (July and August) to 17.6˚C (February) and the long-term mean maximum temperature ranges from 18˚C (July) to 32˚C (February) (Figure 1) (BoM, 2025).

The Perth Airport Weather Station recorded 612.8 mm of rainfall in the 12 months prior to the survey (December 2023 to November 2024), which is 142.9 mm below the long-term (1944 to 2024) average of 755.7 mm (BoM, 2025). In the three months prior to the survey (September 2024 to November 2024), 108.8 mm of rainfall was recorded, which is 33.5 mm below the long-term average of 142.3 mm for the same period (BoM, 2025).

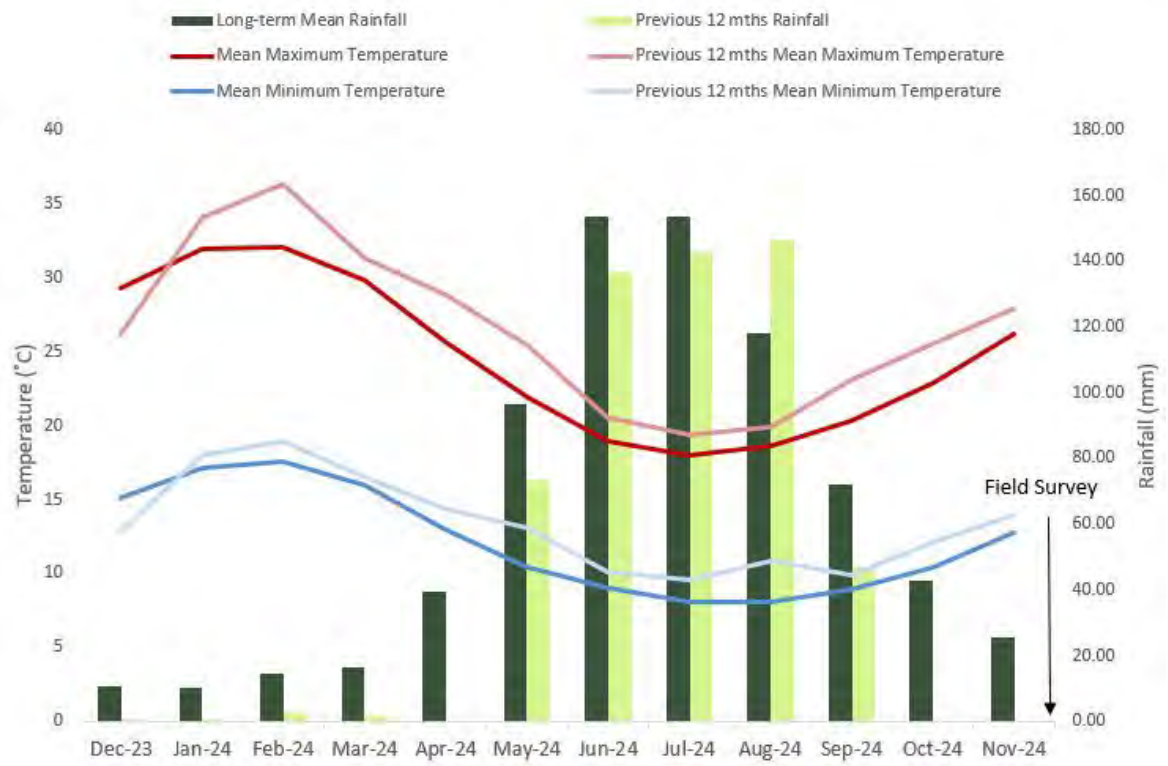

Figure 1: Climate summary of Perth Airport Weather Station (9021) (BoM, 2025)**.**

2.2.2 Interim Biogeographic Regionalisation of Australia

The Interim Biogeographic Regionalisation of Australia (IBRA) divides Australia into 89 bioregions based on major biological, geographical, and geological attributes. These bioregions are subdivided into 419 subregions as part of a refinement of the IBRA framework (DEE, 2016). The Survey Area occurs within the Swan Coastal Plain bioregion and the Perth (SWA02) subregion (Map 2).

The Perth subregion is described as a low lying coastal plain, with annual rainfall between 600 and 1000mm. The subregion is composed of colluvial and aeolian sands, alluvial river flats, and coastal limestone. A series of seasonal wetlands runs along the inner-coast of the subregion from north-to-south. Vegetation is composed of Heathland/Tuart (*Eucalyptus gomphocephala*) woodlands on limestone, *Banksia spp.* and *Banksia*-Jarrah (*Eucalyptus marginata*) on Quaternary marine dunes, and Marri (*Corymbia calophylla*) on colluvial and alluvial sands (Mitchell, Williams and Desmond, 2002).

2.2.3 Soil Landscape Mapping

Soil landscape mapping of Western Australia consists of a compilation of various surveys at different scales varying between 1:20,000 and 1:3,000,000 (DPIRD, 2022). The mapping comprises a nested hierarchy of levels, with each level a subdivision of the preceding level. Soil landscape mapping provides an indication of potential vegetation types and fauna habitats within the Survey Area and has been described below to the highest level of detail available for the Survey Area.

The Survey Area occurs across two soil landscape systems (Table 1; Map 3).

Table 1: Soil landscape systems within the Survey Area

System		Description	Area and percentage within Survey Area
Name	Code		
Bassendean	212Bs	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.	93.1 ha (76.8%)
Spearwood	211Sp	Sand dunes and plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands.	28.2 ha (23.2%)

2.2.4 Hydrography

No hydrographic features intersect the Survey Area, features which occur in the vicinity of the Survey Area are shown in Map 4 (DWER, 2018).

Table 2: Hydrographic features in the vicinity of the Survey Area

Hydrographic feature	Description
Beenyup Swamp	Beenyup Swamp is a significant sumpland and is fed from the north by Lake Joondalup
Jandabup Lake	Jandabup Lake is a significant wetland

2.2.5 Geomorphic Wetlands

The Geomorphic Wetlands dataset is identified and utilised by the EPA, Department of Water and Environmental Regulation (DWER) and Department of Lands and Heritage (DPLH) as a basis for planning and decision making (DBCA, 2019). The Survey Area intersects ten geomorphic wetlands described in Table 3 and presented in Map 4 (DBCA, 2023c).

Table 3 Geomorphic Wetlands occurring within the Survey Area

Wetland Name	Wetland Type	Management Category
Little Coogee Swamp	Dampland	Resource Enhancement
Hawkins Road Swamp	Sumpland	Conservation
Unknown	Dampland	Resource Enhancement
Unknown	Sumpland	Multiple Use
Unknown	Dampland	Multiple Use
Unknown	Sumpland	Resource Enhancement
Gnangara Lake	Lake	Conservation
Unknown	Sumpland	Multiple Use
Unknown	Dampland	Resource Enhancement
Unknown	Dampland	Resource Enhancement

2.2.6 Pre-European Vegetation

The major source of data for pre-European vegetation mapping in Western Australia is the published and unpublished mapping of J. S. Beard at 1:250,000 scale. These vegetation types were later refined by Shepherd, Beeston, and Hopkins (2002), resulting in 819 Vegetation Association-level units, and a subsequent reclassification resulted in the creation of over 2,175 finer-scale System Associations (Beard ***et al.***, 2013). Four System Associations are mapped within the Survey Area (Table 4; Map 5). Representation of System Associations at a state, regional, and local level is shown in Table 5 (Government of Western Australia, 2019).

Table 4: Vegetation System Associations within the Survey Area

System Association	Description	Area (ha) and percentage within Survey Area
Bassendean 126	Freshwater lake	0.3 0.2%
Bassendean 949	Low woodland or open low woodland of *Acacia* spp., *Banksia* spp., Peppermint (*Agonis flexuosa*), Cypress pine (*Callitris* spp.), *Allocasuarina* spp., and York Gum (*Eucalyptus loxophleba*)	99.1 81.7%
Spearwood 6	Woodland with Jarrah (*Eucalyptus marginata*), Marri (*Corymbia calophylla*) and Wandoo (*Eucalyptus wandoo*)	21.7 17.9%
Spearwood 37	Thicket with Wattle (*Acacia* spp.), Casuarina (*Allocasuarina* spp.) and Teatree (*Melaleuca* spp), *Melaleuca alliance*	0.2 0.1%

Table 5: Representation of System Associations within the Survey Area at a state, regional, and local level

Vegetation System Association	Extent			
	Pre-European (ha)	Current (ha)	Remaining (%)	Managed in DBCA lands (%)*
Representation across Western Australia				
Bassendean 126	1,441.59	425.06	29.49	49.90
Bassendean 949	115,119.15	69,992.31	60.80	52.53
Spearwood 6	54,427.13	13,287.64	24.41	40.04
Spearwood 37	4,946.28	1,163.58	23.52	8.95
Representation across the Swan Coastal Plain Bioregion				
Bassendean 126	968.01	115.34	11.91	26.03
Bassendean 949	115,119.15	69,992.31	60.80	52.53
Spearwood 6	54,427.13	13,287.64	24.41	40.04
Spearwood 37	4,822.72	1,157.91	24.01	8.99
Representation across the Perth Subregion				
Bassendean 126	1,441.59	425.06	29.49	49.90
Bassendean 949	114,452.81	69,621.56	60.83	52.56
Spearwood 6	54,427.13	13,287.64	24.41	40.04
Spearwood 37	4,822.72	1,157.91	24.01	8.99
Representation across the City of Wanneroo				
Bassendean 126	427.64	188.73	44.13	67.28
Bassendean 949	22,158.14	10,009.00	45.17	74.30
Spearwood 6	12,662.10	2,777.67	21.94	50.65
Spearwood 37	380.46	185.88	48.86	0.04

*as a portion of the current extent

2.2.7 Swan Coastal Plain Vegetation Complexes

Vegetation complexes have been mapped by Heddle, Loneragan and Havel (1980) and Mattiske and Havel (1998) at scales of 1:250,000 and 1:50,000 respectively. These vegetation complexes were consolidated and extended to the boundaries of the Swan Coastal Plain, Dandaragan Plateau, Whicher Scarp, and Darling Plateau landforms in 2016 (Webb *et al.*, 2016). The Survey Area occurs within the following vegetation complexes:

- **Bassendean Complex-Central and South** - Vegetation ranges from woodland of *Eucalyptus marginata* (Jarrah) - *Allocasuarina fraseriana* (Sheoak) - *Banksia* species to low woodland of *Melaleuca* species, and sedgelands on the moister sites. This area includes the transition of *Eucalyptus marginata* (Jarrah) to *Eucalyptus todtiana* (Pricklybark) in the vicinity of Perth.
- **Bassendean Complex-North** - Vegetation ranges from a low open forest and low open woodland of *Banksia* species *Eucalyptus todtiana* (Pricklybark) to low woodland of *Melaleuca* species and sedgelands which occupy the moister sites.

- **Bassendean Complex-North Transition** - A transition complex of low open forest and low woodland of *Banksia* species - *Eucalyptus todtiana* (Pricklybark) on a series of high sand dunes. The understorey species reflect similarities with both the Bassendean-North and Karrakatta-North vegetation complexes.
- **Karrakatta Complex-Central and South** - Predominantly open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) and woodland of Eucalyptus marginata (Jarrah) - Banksia species. Agonis flexuosa (Peppermint) is co-dominant south of the Capel River.
- **Pinjar complex** - Vegetation ranges from woodland of Eucalyptus marginata (Jarrah) - Banksia species to a fringing woodland of Eucalyptus rudis (Flooded Gum) - Melaleuca preissiana (Moonah) and sedgelands.

Representation of vegetation complexes within the Survey Area at a state level is shown in Table 6.

Table 6: Representation of Vegetation Complexes within the Survey Area at a state level

Vegetation complex	Pre-European area (ha)	Current extent (ha)	Remaining (%)
Bassendean Complex-Central and South	87,476.26	23,508.66	26.87
Bassendean Complex-North	79,057.35	56,659.67	71.67
Bassendean Complex-North Transition	20,856.54	18,552.77	88.95
Karrakatta Complex-Central and South	53,080.99	12,467.20	23.49
Pinjar Complex	4,892.64	1,735.34	35.47

2.2.8 Conservation Areas

Conservation areas consist of areas protected for the purpose of conservation, including but not limited to National Parks, Nature Reserves, Conservation Parks, and Regional Parks. The Survey Area intersects one conservation area (DBCA, 2023a, 2023b) (Map 6), the Gnangara-Moore State Forest, vested under the Conservation Commission of WA. The survey area intersects several different locations of this conservation area.

2.2.9 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are declared by the Department of Water and Environmental Regulation (DWER) to prevent the degradation of important environmental values such as Threatened flora, Threatened Ecological Communities (TECs), or significant wetlands. The Survey Area intersects four mapped ESAs (DWER, 2021); each are listed below and shown in Map 6:

- Gnangara-Moore State Forest
- Badgerup Lake and associated bushland
- Gnangara Lake and associated bushland
- Hawkins Road Swamp

2.2.10 Bush Forever

Bush Forever identifies 51,200 ha of regionally significant vegetation for protection, covering 26 vegetation complexes. This amounts to approximately 18% of the original vegetation on the Swan Coastal Plain portion of the Perth Metropolitan Area (Government of Western Australia, 2000). The areas selected are defined as Bush Forever Sites, which are representative of regional ecosystems and habitats, and play a central role in the conservation of Perth's biodiversity (Government of Western Australia, 2000). The Survey Area intersects four mapped Bush Forever Sites (DPLH, 2019); these are listed below in Table 7 and shown in Map 7.

Table 7. Bush Forever Sites intersecting the Survey Area

Site Number	Site Name
193	Gnangara Lake and Adjacent Bushland
326	Hawkins Road, Jandabup/Gnangara
327	Badgerup Lake and Adjacent Bushland
463	Starlight Grove Bushland, Gnangara/Wangara

2.2.11 Ecological Linkages

The Perth Regional Ecological Linkages dataset identifies regional ecological linkages mapped to broadly represent a link between patches of remnant vegetation judged to be of regional significance in the Perth Metropolitan Region Scheme Area (WALGA, 2004). The ecological linkage dataset represents the first step in the process of identifying patches of native vegetation that can act as stepping stones to form the Regional Ecological Linkages (WALGA, 2004).

The Survey Area intersects four mapped Regional Ecological Linkages (WALGA, 2004):

- Link ID 12
- Link ID 16
- Link ID 17
- Link ID 19

The locations of these intersections are shown in Map 7.

3.0 Methods

The surveys documented in this report were undertaken in accordance with relevant EPA and DAWE guidelines (see Section 2.1).

3.1 Desktop Assessment

3.1.1 Literature Review

Background information on the Survey Area and surrounds (the Desktop Study Area) was compiled prior to the field survey by (AECOM, 2024). The literature review considered a selection of relevant reports detailing assessments undertaken in the region that were either publicly available from sources such as the Index of Biodiversity Surveys for Assessments (IBSA) website, the EPA Consultation Hub, or internet searches, or provided by the client.

3.1.2 Likelihood of Occurrence

AECOM identified significant flora taxa during their desktop assessment, and these were assessed to determine the likelihood of their occurrence within the Survey Area before and after the field survey. This assessment is provided in (AECOM, 2024).

3.2 Field Survey

3.2.1 Survey Timing and Field Personnel

The field surveys were undertaken across two field days, the preliminary reconnaissance flora and vegetation surveys, basic fauna survey, and black cockatoo habitat assessment were undertaken on the 10th and 11th of December 2024. Survey effort is demonstrated in Map 8.

Details of field personnel, including their level of experience, role, and flora collection licence numbers are detailed in Table 8.

Table 8: Field personnel

Personnel	Experience	Licence	Role
Grant Buller – Senior Botanist	9 years	FB62000321-2	Reconnaissance Flora
Louisa Cockram – Senior Botanist	10+ years	FB62000749	Reconnaissance Flora
Lewis Berry – Ecologist	3 years	FB62000387-2	Basic Fauna and Black Cockatoo Assessment
Yanlin Li – Zoologist	3 years	FB62000573	Basic Fauna and Black Cockatoo Assessment

3.2.2 Weather Conditions

Weather conditions during the fauna survey are presented in Table 9. Daily temperature and rainfall data is from the Perth Metro Weather Station (Station 9225) (BoM, 2025). Weather conditions can impact potential detection of fauna taxa during a survey.

Table 9: Field survey weather conditions

Date	Temperature (°C)		Rainfall (mm)
	Min	Max	
10/12/2024	13.4	26.2	0
11/12/2024	17.1	30.3	0

3.3 Flora and Vegetation

3.3.1 Reconnaissance Survey

The vegetation assessment was undertaken primarily via the use of mapping notes to delineate areas requiring further surveys from areas that were planted or Completely Degraded. It was understood prior to the survey that access to much of the Survey Area was limited, and that the scope of works was for a preliminary/reconnaissance assessment without the need for flora sites (i.e. quadrats or relevés). One 10 x 10 m relevé, however, was completed in an area of intact accessible Banksia Woodland. This location was recorded using a GPS-enabled handheld device, with the point recorded at the central point of the relevé. The following information was also recorded:

- Site code.
- Date and personnel.
- Landform and soil description.
- Relevant site descriptors including, slope, aspect, litter cover, bare ground cover, and fire history.
- Inventory of vascular flora including the approximate average height and percentage foliar cover for each taxon.
- Vegetation description in accordance with the National Vegetation Information System (NVIS) Level 5 ‘association’ whereby the dominant growth form, height, cover, and species (three species) for the three traditional strata (upper, mid, and ground) are described.
- Vegetation condition in accordance with the South-West and Interzone Botanical Provinces vegetation condition scale.
- Evidence of disturbance (for example clearing, rubbish, feral animals, weed incursion, and evidence of feral animals and dieback) where present.
- Photograph of the vegetation occurring within the site.

Some areas were not accessible and were therefore not assessed. The flora site location is shown on Map 8.

3.3.2 Opportunistic Flora

Flora taxa observed outside flora sites were recorded opportunistically. When significant flora, Declared Pests (DPs), or WoNS were encountered opportunistically, a GPS location and count of the individuals present was recorded.

3.3.3 Vegetation Type and Condition Mapping

Vegetation types and condition mapping was initially conducted in the field with boundaries delineated over aerial photography at a scale of approximately 1:5,000. Vegetation types were broadly defined based on mapping notes taken during the field survey. Vegetation condition mapping was refined based on mapping notes and aerial imagery for areas that could not be accessed. Polygons were digitised using GIS software.

3.4 Fauna

3.4.1 Habitat Assessment and Mapping

Habitat assessments were undertaken in representative areas of fauna habitat within the Survey Area to record habitat values. Where possible, at least one habitat assessment was recorded within each habitat type. Where access was restricted due to private land, habitat assessments were taken at a distance; these areas may require further surveys. Habitat assessment locations are shown in Map 8.

The following information was collected at each habitat assessment locations using a GPS-enabled handheld device:

- Site photo.
- Landform.
- Soil type and colour.
- Rock types, surface stone cover, and size classes.
- Key habitat and microhabitat features including leaf litter, logs, burrows, rocky outcrops, rock crevices, hollows, and water sources.
- Habitat quality, fire history, and evidence of disturbance.
- General description of vegetation structure.

Fauna habitat mapping was based on a combination of field observations, habitat assessment data, aerial imagery, vegetation type mapping, and data provided as part of the AECOM (2024) survey. Polygons were digitised using GIS software.

3.4.2 Opportunistic Observations

Opportunistic observations of fauna were recorded throughout the Survey Area, including primary evidence (direct sightings, calls, remains) and secondary evidence (tracks, scats, diggings).

3.4.3 Black Cockatoo Habitat Assessment

A black cockatoo habitat assessment was undertaken to assess breeding, night roosting, and foraging habitat values for three threatened black cockatoo taxa, the Carnaby's Cockatoo (*Zanda latirostris*), Baudin's Cockatoo (*Zanda baudinii*), and Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*). This assessment was also conducted to provide information on areas within the Project that may require further surveys when land access can be arranged.

3.4.3.1 Breeding Habitat

Breeding habitat was assessed based on the number and location of trees that meet the following criteria:

- Tree taxa is known to form suitable hollows, including trees endemic to southwest Western Australia such as Jarrah (Eucalyptus marginata), Marri (*Corymbia calophylla*), Tuart *(E. gomphocephala*), Karri (*E. diversicolor*), Wandoo (*E. wandoo*), and Salmon Gum (*E. salmonophloia*), and non-endemic *Eucalyptus* and *Corymbia* trees.
- Tree is of a suitable diameter at breast height (DBH) to develop a nest hollow, which is greater than 500 mm for most tree species, regardless of the presence or absence of hollows. DBH was measured approximately 1.3 m above the ground, except in instances where trees had swelling or forking at breast height, in which case the diameter measurement was taken just above the swelling or forking. In instances where trees had multiple stems at breast height, the stem with the largest diameter was recorded.
- Tree contains hollows (observed from the ground) with an estimated opening diameter of greater than 100 mm (Saunders, Mawson and Dawson, 2014).

If access was available, trees that met the above criteria were recorded using a GPS-enabled handheld device. Recorded trees were categorised as potential, suitable, or known nesting trees as adapted from the *Referral guideline for 3 WA threatened black cockatoo species* (DAWE, 2022) and given a ranking of 1 – 5 based on the black cockatoo nesting and potential nesting tree ranking system developed by Bamford Consulting Ecologists:

- Known nesting tree:
    1. Active nest observed. Adult or immature bird seen entering or emerging from hollow.
- Suitable nesting tree:
    2. Hollow of suitable size and angle (i.e. near-vertical) visible with chew marks around entrance.
    3. Potentially suitable hollow visible but no chew marks present; or potentially suitable hollow present (as suggested by structure of tree, such as large, vertical trunk broken off at a height of greater than 10 m).
- Potential nesting tree:
    4. Tree with large hollows or broken branches that might contain large hollows, but hollows or potential hollows are not vertical or near vertical; thus, a tree with or likely to have hollows of sufficient size but not to have hollows of the angle preferred by black cockatoos.
    5. Tree lacking large hollows or broken branches that might have large hollows, a tree with intact branches and a spreading crown.

Where access was not available, approximate locations of trees were recorded to inform areas that may require further surveys.

3.4.3.2 Night Roosting Habitat

Potential black cockatoo roosting habitat consists of tall trees, particularly when they occur near water sources (for Carnaby's Cockatoo and Baudin's Cockatoo) or on the edges of large forests (for Forest Red-tailed Black Cockatoo) (DAWE, 2022). Areas containing tall trees suitable for black cockatoo roosting were identified and recorded. If observed, evidence of black cockatoo roosting, which typically consists of large amounts of scat with occasional feathers at the base of trees, was recorded.

3.4.3.3 Foraging Habitat

Preliminary foraging habitat assessment was based on the presence and coverage of known foraging plants for black cockatoos as outlined in the *Referral guideline for 3 WA threatened black cockatoo species* (DAWE, 2022) or other available literature. If observed, evidence of black cockatoo foraging, including direct observations of foraging and chewed foraging material (e.g. nuts or cones) was recorded.

Due to access restrictions, foraging habitat scores for portions of the Survey Area (totalling 21.56 ha) were extrapolated from the vegetation and fauna habitat mapping provided from the AECOM (2024) survey.

Foraging habitat was classified using the scoring system outlined in the DAWE (2022) referral guideline and the *Scoring system for the assessment of foraging value of vegetation for Black-Cockatoos* (Bamford Consulting Ecologists, 2020). For the purposes of referral to the Minister for the Environment, the Foraging Habitat Scoring Tool is to be applied once to the entire impact area of a proposed action, even if there is more than one type of foraging habitat (DAWE, 2022).

Foraging habitat mapping was undertaken using field observations and vegetation mapping in areas of the Survey Area that could be accessed. In locations where access was restricted, foraging habitat was inferred from AECOM (2024) survey, resulting in an extrapolated and unverified assessment. This preliminary mapping is intended to highlight areas of potential foraging value that may require further survey effort and validation.

3.4.4 Identification and Taxonomy

Where there was doubt on a species name (through subsequent name changes or taxonomic reviews), an effort was made to determine the current scientific name for each taxon. Taxonomy and nomenclature in this report follows the Checklist of the Terrestrial Vertebrate Fauna of Western Australia (WAM, 2025) where relevant.

3.5 Limitations

Limitations and constraints of the flora, vegetation, and fauna survey are detailed below in Table 10.

Table 10: Limitations and constraints associated with the survey

Variable	Degree of limitation	Potential constraints on survey outcomes
Availability of data and information	None	Sufficient data and information, including regional and local contextual information, was available to complete the scope of the survey.
Competency and experience of the survey team	None	The survey was undertaken by a team with extensive experience undertaking similar scopes within the bioregion. • Grant Buller, Senior Botanist – 9 years' experience • Louisa Cockram, Senior Botanist – 10+ years' experience

Variable	Degree of limitation	Potential constraints on survey outcomes
		• Lewis Berry, Ecologist – 3 years' experience • Yanlin Li, Zoologist – 3 years' experience
The proportion of flora and fauna identified, recorded, or collected	None	As part of the scope of works, no flora specimens were collected – as such, this was not a constraint on the preliminary survey. Of the fauna taxa recorded, all were identified to species level.
Scope of the survey	None	The scope of the survey was limited to vascular plants and terrestrial vertebrate fauna. No further exclusions were made within these groups. The survey was a preliminary survey to identify and inform future survey efforts that may be required. Any areas that were unable to be surveyed during this scope are recommended for future surveys.
Adequacy of the survey intensity and proportion of survey achieved	None	The survey intensity was appropriate given that the scope of works was to complete a preliminary assessment. Additional survey effort may yield additional flora and fauna taxa within portions of the Survey Area that were not surveyed due to limited land access.
Access problems	Some	Accessible portions of the Survey Area were adequately surveyed by vehicle and on foot. However, areas of the Survey Area overlapped private property, and could therefore not be accessed. These inaccessible areas were assessed from the fenceline or extrapolated using AECOM (2024) data. These areas may require future validation to confirm their accuracy. In addition, a 23.1 ha area south of Neaves Road was accessible during the fauna survey but could not be entered during the flora survey due to a locked gate. As a result, this area will likely require additional flora survey effort to validate and refine the extrapolated AECOM (2024) mapping. The portions of the Survey Area that access was allowed were sufficiently surveyed by vehicle and on foot. Portions of the Survey Area overlapped private property and were unable to be accessed. These areas were surveyed from fenceline or extrapolated from the AECOM (2024) survey. These areas may require further validation. An additional area (23.1 ha) south of Neaves Road was accessed as part of the fauna survey, however a locked gate restricted access during the flora survey. This 23.1 ha may require further flora surveys to validate and accurately extrapolate the AECOM (2024) mapping.
Timing, weather, and season	None	The recommended primary survey period for flora and vegetation within the South-west Botanical Province occurs between September and November in Spring. The flora and vegetation survey (December) was undertaken outside of the recommended primary survey period, however, wasn't a limitation given the scope of work. The recommended primary survey periods for each fauna group within the Swan Coastal Plain broad are: • Amphibians: May – August and November - December • Birds: September – December and November - March • Mammals: September- December

Variable	Degree of limitation	Potential constraints on survey outcomes
		• Reptiles: October – December and February - March The basic fauna and black cockatoo surveys (December) were undertaken within the recommended primary survey periods.
Disturbance that may have affected the results of survey	None	Areas of disturbance associated with infrastructure and clearing were present within the Survey Area but were not a limitation on the results of the survey.

4.0 Results

4.1 Flora and Vegetation

4.1.1 Desktop Assessment

The database searches and literature reviews previously conducted by (AECOM, 2024) identified 20 significant flora taxa occurring within the Desktop Study Area, comprising:

- One Threatened taxa
- Five Priority 1 taxa
- Four Priority 2 taxa
- Five Priority 3 taxa
- Five Priority 4 taxa

Key findings of AECOM's literature review and database search results are summarised below**.**

- Two TEC/PECs were identified within the Desktop Study Area as being relevant to the Survey Area:
- Banksia woodlands of the Swan Coastal Plain (EN, P3)
- Tuart (*Eucalyptus gomphocephala*) Woodlands and forests of the Swan Coastal Plain (CR, P3)

TECs and PECs identified by database searches are presented in AECOM (2024).

4.1.1.1 Significant Flora Potentially Occurring Within the Survey Area

One significant flora taxa, *Jacksonia sericea* (P4), is known to occur in the Survey Area and has a high likelihood of occurrence for any future surveys.

One significant flora taxa *Poranthera moorokatta* (P2), was assessed as having a medium likelihood of occurring within the Survey Area.

The remaining 18 significant flora taxa were assessed as having a low likelihood of occurring within the Survey Area. Of these, one taxa *Styphelia filifolia* (P3), was known to occur in the Survey Area, however this record was identified in AECOM's 2023 likelihood assessment as a 17 year old record, and thus a low likelihood of occurrence.

The complete results of the pre-survey and post-survey significant flora likelihood of occurrence assessment are provided in (AECOM, 2024).

4.1.2 Field Surveys

4.1.2.1 Flora and Vegetation

Due to the limited access to much of the Survey Area and the reconnaissance nature of the survey, the floristic composition of the Survey Area was not a comprehensive inventory. This inventory comprised a total of 40 taxa from 35 genera across 20 families (Appendix B). The most abundant genus was *Acacia* (4 taxa), and the most diverse families were Fabaceae (7 taxa), Myrtaceae (5 taxa), Poaceae and Proteaceae (4 taxa each). Twenty-four of the 40 flora taxa were recorded in the one 10 x 10 m relevé. The site sheet for the relevé is provided in Appendix C.

4.1.2.2 Vegetation Mapping

Seven natural vegetation types comprised 26.06 % of the Survey Area (Table 11; Map 9). The remaining 73.94 % of the Survey Area comprised a mix of planted gardens, pine plantations or former pine plantations, rehabilitation plantings, infrastructure and cleared areas.

Several of the natural vegetation types were assessed as requiring further detailed surveys (Map 9). These areas comprised the following:

- Approximately 14.64 ha of Banksia woodland estimated to be in Good to Very Good condition.
- Approximately 1.48 ha of *Melaleuca preissiana* woodland estimated to be in Very Good condition.
- Approximately 5.64 ha of native vegetation that could not be accessed during the survey, estimated to be in Degraded to Very Good Condition.
- Approximately 0.11 ha of Banksia woodland estimated to be in Degraded condition.

Several more areas of native vegetation were identified as Degraded Remnant Native Vegetation which may require further detailed surveys.

Table 11: Vegetation Types Recorded within the Survey Area

Vegetation Type and Description	Total area (ha)^	Proportion of Survey Area (%)^	Sites
Bw *Banksia* woodland in Good condition – Future Spring survey	14.27	11.77	Mapping notes, NWPR1
DBw *Banksia* woodland in Degraded condition – Future Spring survey	0.11	0.09	Mapping notes
Further Survey Required Native Vegetation - Future Spring Survey	5.64	4.65	Mapping notes
Mp *Melaleuca preissiana* woodland over mixed natives and/or non-endemic species – Future Spring survey	1.48	1.22	Mapping notes
DRNV Degraded Remnant Native Vegetation	5.38	4.44	Mapping notes
RMp Remnant *Melaleuca preissiana* woodland over weeds/cleared	1.83	1.51	Mapping notes
RNP Remnant natives and planted trees	2.89	2.39	Mapping notes
Sub Total	31.61	26.06	
Other Vegetation			
GP Gardens/planted trees	10.35	8.53	Mapping notes
MG Market Gardens	3.05	2.52	Mapping notes
Mixed Mixed Gardens/planted trees/infrastructure	20.33	16.76	Mapping notes
R Planted Rehabilitation	8.94	7.37	Mapping notes

Vegetation Type and Description	Total area (ha)^	Proportion of Survey Area (%)^	Sites
Pines Pine plantations or past pine plantation with native regrowth	18.96	15.64	Mapping notes
Inaccessible Areas not accessible, likely previously cleared for pine plantations	23.10	19.05	Mapping notes
C Cleared/Infrastructure – areas devoid of any vegetation	4.93[+]	4.06	Mapping notes
Sub Total	89.66	73.94	
Total	**121.27**	**100**	

^Minor discrepancies between totals are due to rounding.

[+]The 'Mixed' mapping total includes some Cleared areas.

4.1.2.3 Vegetation Condition

Vegetation condition within the Survey Area ranged from Very Good to Completely Degraded, with the majority (40.20%) estimated to be in Degraded condition (Table 12; Map 10). The condition of inaccessible areas was determined via aerial imagery and would likely be confirmed during any future surveys. Cleared areas, being devoid of vegetation, comprised 10.75% of the Survey Area and were not assessed for vegetation condition. Small discrepancies in the extent of each condition (i.e., not adding up to the exact area extent of the Survey Area) are due to rounding.

Evidence of disturbance was primarily associated with clearing, weeds, and urban infrastructure.

Table 12: Summary of Vegetation Condition within the Survey Area

Vegetation condition	Area (ha)^	Percentage of Survey Area^
Completely Degraded	41.08	33.87
Degraded	48.75	40.20
Good	2.08	1.71
Very Good	16.34	13.47
Sub Total	**108.2**	**89.25**
Cleared	**13.03**	**10.75**
Total	**121.27**	**100**

^Minor discrepancies between totals are due to rounding.

4.1.2.4 Introduced Flora

A total of 17 introduced taxa were recorded within the Survey Area; however, this likely represents only a fraction of the total number of weeds present, given that some areas were inaccessible during the survey (Table 13). Two of the weed taxa recorded are listed as Declared Pests under the BAM Act, both of which are also listed as WoNS. The locations of these records are shown in Map 10.

Table 13: Introduced Flora Taxa Recorded within the Survey Area

Taxon	Common name	Status under BAM Act	WoNS
**Acacia longifolia*	Sydney Golden Wattle	Permitted – s11	No
**Acacia iteaphylla*	Flinders Range Wattle	Permitted – s11	No
**Agave americana*	Agave	Permitted – s11	No
**Asparagus asparagoides*	Bridal Creeper	Declared Pest - s22(2)	Yes
**Avena sp.*	Oat grass	Permitted – s11	No
**Briza maxima*	Blowfly Grass	Permitted – s11	No
**Carpobrotus edulis*	Hottentot Fig, Pigface	Permitted – s11	No
**Ehrharta calycina*	Perennial Veldt Grass	Permitted – s11	No
**Euphorbia terracina*	Geraldton Carnation	Permitted – s11	No
**Eragrostis curvula*	African Love Grass	Permitted – s11	No
**Foeniculum vulgare*	Fennel	Permitted – s11	No

Taxon	Common name	Status under BAM Act	WoNS
**Gladiolus caryophyllaceus*	Wild Gladiolus	Permitted – s11	No
**Opuntia tomentosa*	Prickly Pear	Declared Pest - s22(2)	Yes
**Pelargonium capitatum*	Rose Pelargonium	Permitted – s11	No
**Sonchus oleraceous*	Common Sow Thistle	Permitted – s11	No
**Trachyandra divaricata*	Dune Onion Weed	Permitted – s11	No
** Ursinia anthemoides*	Ursinia	Permitted – s11	No

4.1.2.5 Potentially Significant Vegetation Occurring Within the Survey Area

Two vegetation types are considered potentially representative of significant vegetation, pending any future detailed surveys:

- 'Banksia woodlands of the Swan Coastal Plain' Priority and Threatened Ecological Community, of which there was approximately 14.64 hectares. Part of this vegetation type was not able to be accessed during the 2024 reconnaissance survey and was mapped based on aerial imagery.
- *Melaleuca preissiana* woodland, of which there was approximately 1.48 hectares estimated to be in Very Good condition, and 1.83 ha of *M. preissiana* woodland in Degraded condition.

The reason for each community's significance is provided below in Table 14.

Table 14: Potentially Significant Vegetation Occurring within the Survey Area

Potential community	Reason for significance	Species representative of community recorded	Status
Banksia woodland	Potentially analogous to the 'Banksia woodlands of the Swan Coastal Plain' TEC/PEC	*Banksia attenuata*, *Banksia menziesii*	P3 (State) EN (Federal)
Melaleuca preissiana woodland	Groundwater Dependent Vegetation	*Melaleuca preissiana*, *Machaerina juncea*, *Astartea scoparia*	n/a

4.1.2.6 Conservation Significant Flora

One Priority flora taxa, *Grevillea olivacea* (P4), was recorded opportunistically in the Survey Area (Map 9).

4.2 Fauna

4.2.1 Desktop Assessment

The database searches and literature reviews previously conducted by (AECOM, 2024) identified 76 significant fauna taxa occurring within the Desktop Study Area, comprising:

- 46 birds;
- 13 mammals;
- 4 reptiles;
- 12 invertebrates; and

- 1 Fish

AECOM's literature review and database determined five species to have a high likelihood of occurrence within the Survey Area:

- Carnaby's Cockatoo (*Zanda latirostris*) – Endangered (BC Act; EPBC Act)
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) – Vulnerable (BC Act; EPBC Act)
- Swan Coastal Plain Shield-backed Trapdoor Spider (*Idiosoma sigillatum*) – Priority 3 (DBCA)
- Black-striped Snake (*Neelaps calonotus*) – Priority 3 (DBCA)
- Quenda (*Isoodon fusciventer*) – Priority 4 (DBCA).

A further three species were identified as having a medium likelihood, and 64 species were identified as having a low likelihood of occurrence.

4.2.2 Fauna Habitats

Six fauna habitats (excluding cleared areas) were identified and mapped within the Survey Area. Fauna habitats are presented in Map 11, described below in Table 15, and site sheets for each habitat assessment are provided in Appendix D. Small discrepancies in fauna habitat extents (i.e., not adding up to the exact area extent of the Survey Area) are due to rounding. Portions of the Survey Area overlapping private property could not be accessed on foot. These areas have been mapped using extrapolated data and boundaries from the AECOM (2024) survey and may require further survey work to validate the accuracy of the mapping. These areas total 21.56 ha and are comprised of:

- Adenanthos/Plantation – 0.96 ha
- Banksia Woodland – 12.39 ha
- Melaleuca woodland – 0.67 ha
- Mixed Shrubland – 2.41 ha
- Trees Over Cleared – 5.13 ha.

Table 15: Fauna habitats recorded within the Survey Area

Fauna habitat	Total area, percentage of Survey Area	Sites	Habitat description	Representative photograph
Adenanthos/Plantation	31.64 ha, 26.09%	073020-HAB-09-DL	Grey sandy undulating plains with vegetation consisting of historically cleared *Pinus pinaster* over *Adenanthos cygnorum* var. *cygnorum*. *Xanthorrhoea preissii*, and *Macrozamia fraseri.* Ground cover consists of open weedy grassland. Microhabitats include tussocks and woody debris. This habitat was severely disturbed, with disturbances of vehicle tracks and weeds identified throughout the habitat.	
Pine Plantation	3.82 ha, 3.15%	N/A	Grey sandy undulating plains with vegetation consisting of mature *P. pinaster* over isolated mixed bushes over low grasses. Microhabitats include woody debris and fallen logs. This habitat was severely disturbed, with disturbances of vehicle tracks and weeds identified throughout the habitat.	

Fauna habitat	Total area, percentage of Survey Area	Sites	Habitat description	Representative photograph
Banksia Woodland	16.08 ha, 13.26%	073020-HAB-10-DL 0730200-HAB-06 - DL 073020-HAB-02-LB	Grey sandy undulating plains with vegetation consisting of low open *Banksia menziesii, B. attenuata*, and *Nuytsia floribunda* over open *X. preissii* and *A. cygnorum* var. *cygnorum* over low, open weedy grassland. Microhabitats include grasslands, woody debris and large/hollow logs. This habitat was severely disturbed, with disturbances of litter, vehicle track and weeds identified throughout the habitat.	
Melaleuca Woodland	6.99 ha, 5.76%	073020-HAB-07-DL 073020-HAB-11-LB 073020-HAB-12 - LB	Grey sandy undulating plains with limestone pebbles. Vegetation consists of mid, open *Melaleuca preissiana* woodland over tall *X. preissii* and immature *M. preissiana* over dead grasses and weeds. Microhabitats include grassland, woody debris and large/hollow logs. This habitat was severely disturbed, with disturbances of litter, vehicle tracks and weeds identified throughout the habitat.	

Fauna habitat	Total area, percentage of Survey Area	Sites	Habitat description	Representative photograph
Mixed Shrubland	6.93 ha, 5.71%	073020-HAB-03-DL	Grey sandy undulating plains with vegetation consisting of absent or low open woodland of mixed native and introduced trees over *M. preissiana*, *A. cygnorum* var. *cygnorum,* and *X. preissii* over dead grasses and weeds. Microhabitats include woody debris and leaf litter. This habitat was severely disturbed, with disturbances of litter, vehicle tracks and weeds identified throughout the habitat	
Trees over Cleared	28.46 ha, 23.47%	073020-HAB-08-LB 073020-HAB-04-LB 073020-HAB-05-LB 073020-HAB-01-DL	Grey sandy undulating plains with vegetation consisting of low open woodland of Jarrah, introduced eucalypts, and Tuart over isolated *M. preissiana* and *X. preissii* over bare ground. Microhabitats include hummocks and large/hollow logs. This habitat was severely degraded, with disturbances of litter, clearing, weeds, and infrastructure identified throughout.	
Cleared	27.36 ha, 22.56%	N/A	Cleared land for existing tracks/roads. Low/negligible fauna habitat value.	
Total	121.27 ha, 100%			

4.2.3 Fauna Survey

The fauna survey recorded a total of four fauna taxa from three families. The fauna taxa recorded during the field survey are provided below in Table 16.

Table 16: Fauna recorded

Family	Scientific Name	Common Name	Conservation Status		Abundance		
			State	Federal	Foraging	Sighting	Digging
Birds							
Cacatuidae	*Zanda latirostris*	Carnaby's Cockatoo	EN	EN	**3**	**1**	
Cacatuidae	*Calyptorhynchus banksii naso*	Forest Red-tailed Black Cockatoo	VU	VU		**1**	
Meliphagidae	*Phylidonyris novaehollandiae*	New Holland Honeyeater	-	-		**1**	
Mammals							
Peramelidae	*Isoodon fusciventer*	Quenda	P4	-			**1**

4.2.4 Significant Fauna

4.2.4.1 Recorded Within the Survey Area

Three significant fauna taxa were recorded within the Survey Area during the field survey. These are listed below and presented in Map 11:

- Carnaby's Cockatoo (*Zanda latirostris*), listed as Endangered under the BC Act and EPBC Act, was recorded four times during the survey. Foraging evidence was identified three times: Once within Banksia Woodland habitat (-31.7414,115.8537), once within Mixed Shrubland habitat (-31.7927,115.8596) and once within Trees over Cleared habitat (-31.7934,115.8587). A sighting of five individuals was recorded within the Trees over Cleared habitat (-31.7605,115.8611).
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*), listed as Vulnerable under the BC Act and EPBC Act, was recorded once during the field survey. One individual was recorded by feeding debris within Melaleuca Woodland habitat (-31.7806,115.8657).
- Quenda (*Isoodon fusciventer*), listed as Priority 4 by the DBCA, was recorded once during the field survey by digging within the Melaleuca Woodland habitat.

4.2.5 Black Cockatoo Habitat Assessment

4.2.5.1 Black Cockatoo Observations

Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo were recorded within the Survey Area by direct sightings and secondary evidence of feeding debris. Records are summarised above in Table 16 and locations are presented in Map 11.

4.2.5.2 Black Cockatoo Breeding Habitat

The Trees over Cleared habitat and portions of Melaleuca Woodland habitat constitutes black cockatoo breeding habitat. Within these habitats, a total of 74 trees were recorded as potential (73) or suitable (1) nesting trees:

- One Introduced Eucalypt (*Eucalyptus* sp.) was assessed as Category 2 (Suitable Nesting Tree) with one suitable hollow with chew marks observed
- 45 Introduced Eucalypts were assessed as Category 5 (Potentially Suitable Nesting Tree)
- 21 Tuarts (*Eucalyptus gomphocephala*) were assessed as Category 5 (Potentially Suitable Nesting Tree)
- Four Marri (*Corymbia calophylla*) were assessed as Category 5 (Potentially Suitable Nesting Tree)
- Three Flooded Gum (*Eucalyptus rudis*) were assessed as Category 5 (Potentially Suitable Nesting Tree).

An additional 15 trees appeared to have a DBH > 500 mm but could not be measured at the time of the survey due to access constraints surrounding private property. These trees may require future assessments.

Recorded trees are presented in Map 12 and all associated data is outlined in Appendix E.

4.2.5.3 Night Roosting Habitat

No black cockatoo night roosting was observed during the field survey. All trees recorded as Suitable or Potentially Suitable Nesting Trees constitute potential night roosting habitat (Map 12).

4.2.5.4 Foraging Habitat

Evidence of Carnaby's Cockatoo and Red-tailed Black Cockatoo foraging (in the form of feeding debris) was observed within the Survey Area.

Foraging habitat scores were calculated using the DAWE (2022) and the Bamford Consulting Ecologists (2020) scoring tools. These results are calculated using the mapped fauna habitats within Survey Area. However, approximately 21.56 ha of fauna habitat mapping has been extrapolated from AECOM (2024) data due to access restrictions, and these areas may require future validation to confirm their habitat characteristics and foraging value. This 21.56 ha is comprised of:

- Adenanthos/Plantation – 0.96 ha
- Banksia Woodland – 12.39 ha
- Melaleuca woodland – 0.67 ha
- Mixed Shrubland – 2.41 ha
- Trees Over Cleared – 5.13 ha.

The results of the DAWE (2022) scoring tool identified 93.91 ha of High Quality foraging habitat for the Carnaby's Black Cockatoo and the Forest Red-Tailed Black Cockatoo. The DAWE (2022) scoring tool identified 93.91 ha of Low Quality foraging habitat for the Baudin's Black Cockatoo. SLR notes that, although a score has been provided for Baudin's Cockatoo, the Survey Area is outside the known distribution of this species (DAWE, 2022). The results of the scoring tool outcomes for each species are presented in Table 17, and displayed in Map 13.

The results of the Bamford Consulting Ecologists (2020) scoring system assessment determined that the Survey Area contains 19.9 ha of High (7), 30.65 ha of Moderate to High (6), 12.40 ha of Low (2), 30.96 ha of Negligible to Low (1), and 27.36 ha of No (0) value foraging habitat for Carnaby's Cockatoo. The Banksia Woodland and Pine Plantation habitats presented the highest foraging value for this species. The results of the scoring system assessments for each species are outlined in Table 18.

The results of the Bamford Consulting Ecologists (2020) scoring system assessment concluded that the Survey Area contains 0.11 ha of Moderate (4), 3.82 ha of Moderate to Low (3), 69.51 ha of Low (2), 20.46 ha of Negligible to Low (1), and 27.36 ha of No (0) value foraging habitat for Baudin's Cockatoo. The areas of Adenanthos/Plantation that contain fruit trees, and Pine Plantation habitats presented the highest foraging value for this species. The results of the scoring system assessment are outlined in Table 19.

The results of the Bamford Consulting Ecologists (2020) scoring system assessment concluded that the Survey Area contains 65.09 ha of Low (2), 28.82 ha of Negligible to Low (1), and 27.36 ha of No (0) value foraging habitat for Forest red-tailed Black Cockatoo. The Survey Area presented low value foraging overall and any foraging value was associated with scattered urban eucalypts. The results of the scoring system assessment are outlined in Table 20.

The results of the scoring system outcomes for all three species are displayed in Map 13.

Table 17: DAWE Foraging Habitat Assessment scoring tool outcomes for Carnaby's Cockatoo

Species	Starting Score	Foraging Potential (i.e. evidence of foraging)	Connectivity	Proximity to Breeding	Proximity to Roosting	Impact from Significant Plants Disease	Total Score	Habitat Quality
Carnaby's Cockatoo	10	0	0	0	0	0	**10**	**High**
Baudin's Cockatoo	10	-2	0	-2	0	0	**6**	**Low**
Forest Red-tailed Black Cockatoo	10	0	0	0	0	0	**10**	**High**

Table 18: Bamford Consulting Ecologists scoring system outcomes for Carnaby's Cockatoo

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
Adenanthos/Plantation	0.99	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these is < 2%. This could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**
Adenanthos/Plantation	30.65	4 – Moderate foraging value. Woodland/low forest with tree banksias (of key species *B. attenuata* and *B. menziesii*) 20-40% projected foliage cover.	1 – Local breeding is known to occur, and the Survey Area represents 0.32% of native vegetation within 15 km.	1 – Presence of foraging evidence found during survey and species is known to frequent the area.	**6 / 10**
Banksia Woodland	16.08	5 – Moderate to High foraging value. Banksia Low Forest (of key species *B. attenuata* and *B. menziesii*) with > 60% projected foliage cover but vegetation condition reduced due to weed invasion and/or some tree deaths.	1 – Local breeding is known to occur, and the Survey Area represents 0.32% of native vegetation within 15 km.	1 – Presence of foraging evidence found during survey and species is known to frequent the area.	**7 / 10**
Melaleuca Woodland	6.99	2 – Low foraging value. Shrubland in which species of foraging value, such as shrubby banksias, have <10% projected foliage cover.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**
Mixed Shrubland	6.93	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these is < 2%. This could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
Pine Plantation	3.82	5 – Moderate to High foraging value. Pine plantations with trees more than 10 years old.	1 – Local breeding is known to occur, and the Survey Area represents 0.32% of native vegetation within 15 km.	1 – Presence of foraging evidence found during survey and species is known to frequent the area.	**7 / 10**
Trees Over Cleared	23.05	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these is < 2%. This could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**
Trees Over Cleared	5.41	2 – Low foraging value. Open eucalypt woodland/mallee of small-fruited species.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**

Table 19: Bamford Consulting Ecologists scoring system outcomes for Baudin's Cockatoo

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
Adenanthos/Plantation	0.04	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. This could include urban areas with scattered foraging trees.	0 – Local breeding is not known to occur, and the site represents <1% of native vegetation within 15 km.	0 – no foraging evidence recorded and species is not known to frequent the area.	**1 / 10**
Adenanthos/Plantation	31.48	2 – Low foraging value.	0 – A score of zero is assigned to sites with a	0 – A score of zero is assigned to sites with a	**2 / 10**

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
		Urban areas with scattered foraging trees.	condition score of low (2), negligible to low (1), or none (0).	condition score of low (2), negligible to low (1), or none (0).	
Adenanthos/Plantation	0.11	4 – Moderate foraging value. Orchards with highly desirable food sources (e.g. apples, pears, some stone fruits).	0 – Local breeding is not known to occur, and the site represents <1% of native vegetation within 15 km.	0 – no foraging evidence recorded and species is not known to frequent the area.	**4 / 10**
Banksia Woodland	16.08	2 – Low foraging value. Urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**
Melaleuca Woodland	4.57	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. This could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**
Melaleuca Woodland	2.42	2 – Low foraging value. Urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**
Mixed Shrubland	6.93	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
		these < 1%. This could include urban areas with scattered foraging trees.			
Pine Plantation	3.82	3 – Low to Moderate foraging value. Woodland with known food plants (especially Marri) 5-20% projected foliage cover.	0 – Local breeding is not known to occur, and the site represents <1% of native vegetation within 15 km.	0 – no foraging evidence recorded and species is not known to frequent the area.	**3 / 10**
Trees Over Cleared	8.92	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. This could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**
Trees Over Cleared	19.54	2 – Low foraging value. Urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**

Table 20: Bamford Consulting Ecologists scoring system outcomes for Forest red-tailed Black Cockatoo

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
Adenanthos/Plantation	0.15	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. Could include	0 – A score of zero is assigned to sites with a condition score of low (2),	0 – A score of zero is assigned to sites with a condition score of low (2),	**1 / 10**

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
		urban areas with scattered foraging trees.	negligible to low (1), or none (0).	negligible to low (1), or none (0).	
Adenanthos/Plantation	31.48	2 – Low to Moderate foraging value. Woodland with scattered specimens of known food plants (e.g. Marri, Jarrah or Sheoak) 1-5% projected foliage cover.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**
Banksia Woodland	16.08	2 – Low to Moderate foraging value. Woodland with scattered specimens of known food plants (e.g. Marri, Jarrah or Sheoak) 1-5% projected foliage cover.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**
Melaleuca Woodland	4.57	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. Could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**
Melaleuca Woodland	2.42	2 – Low to Moderate foraging value. Woodland with scattered specimens of known food plants (e.g. Marri, Jarrah or Sheoak) 1-5% projected foliage cover.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**
Mixed Shrubland	6.93	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. Could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**

Habitat	Area (ha)	Site Condition	Site Context	Species Stocking Rate	Total Score
Pine Plantation	3.82	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. Could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**
Trees Over Cleared	13.35	1 – Negligible to low foraging value. Scattered specimens of known food plants but projected foliage cover of these < 1%. Could include urban areas with scattered foraging trees.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**1 / 10**
Trees Over Cleared	15.11	2 – Low to Moderate foraging value. Woodland with scattered specimens of known food plants (e.g. Marri, Jarrah or Sheoak) 1-5% projected foliage cover.	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	0 – A score of zero is assigned to sites with a condition score of low (2), negligible to low (1), or none (0).	**2 / 10**

5.0 Discussion

5.1 Flora and Vegetation

5.1.1 Floristic Composition

Flora composition of remnant vegetation within the Survey Area was considered representative of the local area on the Swan Coastal Plain (Beard, 1976) and generally aligned with the previous surveys conducted by (AECOM, 2024).

As this was a preliminary field survey, the flora species recorded is only a subset of the total flora expected to occur within the Survey Area.

5.1.2 Significant Flora

The results of AECOM's database searches identified 11 species with a high pre-survey likelihood of occurrence. Post survey, one species was assigned 'Known' likelihood of occurrence as it was identified during the survey, while the remaining species were given a low to moderate likelihood of occurrence based on presence or absence of suitable habitat.

No Threatened flora species pursuant to the EPBC Act 1999 and/or gazetted as Threatened Flora pursuant to the BC Act 2016 were recorded within the Survey Area.

No Priority species listed by DBCA were recorded within the Survey Area. Given the preliminary nature of the survey, and the outcomes of AECOM's pre-survey likelihood assessment it can be assumed that conservation significant species have the potential to occur within the Survey Area, particularly those areas identified as Banksia woodlands.

5.1.3 Regional Representation

According to the EPA (2000), the threshold level below which species loss appears to accelerate exponentially at an ecosystem level is regarded as being 30% of the pre-clearing extent of the vegetation type. Proposals that would affect a vegetation association or complex with 30% or less of its pre-clearing extent remaining are likely to be formally assessed by the EPA (2006). These threshold levels are modified for constrained areas in Metropolitan Perth and Greater Bunbury. Constrained areas consist of the Swan Coastal Plain IBRA portion of the Metropolitan Region Scheme and any urban, urban deferred, and industrial zones, or lands with development approvals in the Greater Bunbury Region Scheme. The modified objectives for constrained areas are to:

- Retain at least 10 % of the pre-clearing extent of the ecological community where >10% of the ecological community remains.
- Retain all remaining areas of each ecological community where <10% of this ecological community remains.

Three of the pre-European vegetation associations occurring over the survey area, Bassendean 126, Spearwood 6 and Spearwood 37, are below the 30% pre-clearing extent set by the EPA for protecting biological diversity. Bassendean 126, at 11.91% remaining, is approaching the threshold level of 10% of the pre-clearing extent for constrained areas.

5.1.4 Vegetation Mapping and Condition

Vegetation condition within the Survey Area ranged from Very Good to Completely Degraded, with a significant portion of the area being Cleared. The urbanised setting of much of the Survey Area has ensured that the majority of the native vegetation has been subject to severe disturbance and fragmentation. Completely Degraded areas are comprised largely of pine plantations, residential housing and gardens, infrastructure, roads, and market gardens.

Introduced species and historical clearing have had the largest impact on reducing the extent of native vegetation. Native understory species are absent across large sections of the Survey Area, with extensive areas of weeds occurring. A total of 17 introduced taxa were recorded in the Survey Area, with the true total likely to be much higher; AECOM (2024) recorded 30 weeds across the entirety of their 2023 survey. Two species listed by the State Department of Primary Industries and Regional Development as Declared Pests, **Asparagus asparagoides* and **Opuntia tomentosa*, were recorded during the 2024 SLR survey. Both species are also listed as WoNS. The remaining introduced taxa recorded have a legal status of Permitted – s11, and do not have an assigned control category.

Areas of remnant native vegetation were assessed as being in Good to Very Good condition. Some areas were accessible for direct observation, while others could only be observed from a distance, and some areas were neither accessible nor observable. For those areas that could not be accessed or observed, vegetation types were estimated based on relevant nearby mapping notes, local knowledge and aerial imagery. Banksia woodland comprised the largest of the natural vegetation types, the majority of which could not be accessed or observed during the 2024 preliminary survey. All[1] Banksia woodland areas will require future detailed surveys to more accurately determine condition.

Native remnant vegetation occurred in roadside patches along the alignment, and some remnant native patches could not be accessed during the preliminary field survey.

5.1.4.1 Potentially Significant Vegetation Occurring within the Survey Area

Two vegetation types recorded are likely to represent significant vegetation. Vegetation type 'Banksia woodland' was mapped largely between the northern end of Sydney Road and the Holcim Jandabup Quarry to the east of Lake Jandabup, while several smaller, degraded areas were recorded at the northern and southern ends of Sydney Road. Most of these Banksia woodland areas are likely to represent the 'Banksia woodlands of the Swan Coastal Plain' TEC/PEC. Both Banksia species that form the canopy of this community, *B. attenuata* and *B. menziesii*, were observed during the survey, further supporting the presence of this ecologically significant community. An FCT analysis on data collected from any future detailed surveys will be required to confirm the presence of this TEC/PEC.

Melaleuca preissiana woodland was recorded in several locations and ranged from Degraded to Very Good condition. One patch adjacent to Lake Gnangara and Sydney Road was observed with an intact native mid and understorey of *Astartea scoparia* shrubland and *Machaerina juncea* sedgeland; these species are known to indicate the presence of a groundwater dependent ecosystem (GDE) (Groom et al., 2000;, Froend and Drake, 2006). This is confirmed by the Groundwater Dependent Ecosystem Atlas (BoM, 2024) which has identified this particular patch as a riparian vegetation ecosystem type and known GDE.

The presence of *M. preissiana* and its occurrence in a lower lying area on the Bassendean Vegetation System indicates that this patch also has the potential to represent the 'Low lying *Banksia attenuata* woodlands or shrublands ('floristic community type 21c') (a component of the Endangered Banksia woodlands of the Swan Coastal Plain EPBC listed TEC)' (DBCA, 2023d). This community is a federally listed Endangered TEC and a State-listed Priority 3 PEC.

The two remaining patches of *Melaleuca preissiana* woodland were deemed to be in Degraded condition, however they may potentially still indicate a GDE pending future detailed assessments.

[1] Whilst several Banksia woodland areas were observed in Degraded condition, these areas will still require detailed surveying (i.e. quadrats) for the purpose of compliance with the thresholds of the Banksia Woodlands TEC.

5.1.4.2 Conservation Significant Flora

One Priority 4 species, *Grevillea olivacea*, was opportunistically recorded adjacent to the southern end of Sydney Road. This species has a natural distribution near Jurien Bay north of Perth (Florabase, 2025), but is also commonly planted on the Swan Coastal Plain.

5.1.5 Survey Effort

The flora and vegetation survey effort was conducted in accordance with the scope of works, and appropriate for a preliminary reconnaissance flora and vegetation survey on the Swan Coastal Plain. Large areas of the Survey Area could not be accessed, however, aerial imagery and nearby mapping notes provided adequate information to indicate that the majority of these areas are a mix of different vegetation types, such as pine plantations and Banksia woodlands.

The field survey was sufficient in determining the areas that will need additional future detailed surveys, and despite the constraints of surveying in a highly fragmented urbanised area, the data collected provides an adequate overview of the flora and vegetation within the Survey Area.

5.2 Fauna

5.2.1 Fauna Habitats

The six fauna habitats and assemblages identified within the Survey Area are typical of the Swan Coastal Plain bioregion and consistent with habitats and assemblages identified by the previous surveys completed by AECOM (2024). Most of the habitats identified within the Survey Area extend beyond the Survey Area forming extensive continuous ecosystems on a landscape level. However, portions of the Trees over Cleared habitat are limited to the Survey Area due to surrounding infrastructure development adjacent to the Survey Area. Due to the Survey Area being situated beside cleared areas, infrastructure and contiguous ecosystems, most of the Survey Area is not important for regional connectivity through the landscape. However, certain habitats such as the Banksia Woodland habitats within the Survey Area are important for local connectivity and serve as buffer areas to extended habitats outside the Survey Area.

5.2.2 Significant Fauna

5.2.2.1 Recorded within the Survey Area

Carnaby's Cockatoo (*Zanda latirostris*) – EN (BC Act; EPBC Act)

Carnaby's Cockatoos nest in the hollows of a wide range of Eucalypt trees, with a preference for smooth barked trees such as Salmon Gum (*E. salmonophloia*) and Wandoo (*E. wandoo*) but also rough barked Eucalyptus and Corymbia trees such as Red Morrell (*E. longicornis*), York Gum (*E. loxophleba*), Marri (*Corymbia calophylla*) and Tuart (*E. gomphocephala*) (Johnstone & Storr, 1998). Carnaby's Cockatoos feed on seeds, nuts, and flowers of a variety of native and exotic plants, including *Banksia* spp., Pine trees (*Pinus* sp.), Marri, Jarrah (*E. marginata*), *Grevillea* spp., *Allocasuarina* spp., and *Hakea* spp. (Shah, 2006).

Carnaby's Cockatoo was recorded within Trees over Cleared habitat, Mixed Shrubland and Banksia Woodland habitat during the current field survey and is likely to use the Survey Area for foraging. One Introduced Eucalypt in the Survey Area contained a hollow with visible chew marks present however, no evidence of the Carnaby's Cockatoo was identified near the hollow. The lack of evidence suggests that it is not likely that the hollow is currently in use by Carnaby's Cockatoo's.

The Banksia Woodland, Melaleuca Woodland, Mixed Shrubland and Pine Plantation within the Survey Area provide potential food sources including flowers and fruits of *Pinus pinaster, Banksia attenuata* and *Eucalyptus gomphocephala* (DAWE, 2022). The presence of suitable foraging options, close proximity to water, and direct sightings indicate that this species is likely to frequently uses portions of the Survey Area.

Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) – VU (BC Act; EPBC Act)

The Forest Red-tailed Black Cockatoo is distributed through the south-west of WA from Gingin through the Darling Ranges to the south-west from Bunbury to Albany. The Forest Red-tailed Black Cockatoo inhabits dense Jarrah, Karri (*E. diversicolor*) and Marri forests and feeds primarily on the fruit of Marri and Jarrah trees (Johnstone & Kirkby, 1999). Potential foraging habitat (*Banksia* and *Eucalyptus* Woodlands) does occur within the Survey Area. Forest Red-tailed Black Cockatoo was recorded within Melaleuca woodland habitat during the current field survey and is likely to use the Survey Area for foraging. The Melaleuca woodland within the Survey Area provide potential food sources including Marri *(Corymbia calophylla)* (DAWE, 2022). The tall Tuarts (*E. gomphocephala*), Marris (*Corymbia calophylla*) and stags may be used for roosting by the species. It should be noted that this could only be validated by targeted bird surveys for black cockatoos. One Introduced Eucalypt in the Survey Area contained a hollow with visible chew marks present. No evidence of the Forest Red-tailed Cockatoo was identified near the hollow. The lack of evidence suggests that it is not likely that the hollow is currently in use by Forest Red-tailed Cockatoo's. Black cockatoo species rely on access to water when selecting breeding and night roosting sites (DAWE, 2022), with the nearest permanent water source to the Survey Areas occurring 100 m from the Survey Areas in the south (Lake Gnangara), and 400 m from the Survey Area in the west (Jandabup Lake).

Quenda (*Isoodon fusciventer*) – P4 (DBCA)

Southwestern Brown Bandicoots are nocturnal and omnivorous, feeding on insects, spiders, worms, and plant roots and are typically found in dense vegetation, including wetland fringes, forest, woodland, shrub, and heath communities (Van Dyck and Strahan, 2008; Department of Biodiversity Conservation and Attractions, 2012). They are only found in the southwest of Western Australia, where the species occupies various natural, peri-urban and urban habitats (Baker and Gynther, 2023).

Quenda was recorded within the Melaleuca woodland habitat during the current field survey and the habitat within the Survey Area is considered suitable to support foraging, breeding and dispersal. Given that a large majority of the Survey Area is surrounded by roads and infrastructure, the retained habitat within the Survey Area is important for Quenda's. Although the species was recorded within the Melaleuca woodland habitat, and suitable foraging and denning habitat is present, it is considered likely that Quenda primarily use the Survey Area for dispersal due to the connectivity with more extensive habitat areas adjacent to the Study Area.

5.2.3 Black Cockatoo Habitat Assessment

Suitable nest hollows take up to 200 years to develop (DAWE, 2022), therefore all hollow bearing trees provide a resource that is considered critical for the long-term survival of black cockatoos and is not able to be replaced in the short-term. Direct evidence of breeding was not observed during the black cockatoo assessment, however; one tree was recorded as containing a hollow that is potentially suitable for use by black cockatoos.

Black cockatoos prefer roosting sites which are located near water sources and require foraging resources within 20 km of these roost sites (DAWE, 2022). The availability of nearby water sources suggests that potential suitable roosting trees may be present within the Survey Area.

Black cockatoos rely on year-round availability of foraging resources; during the breeding season for successful fledging of chicks, and during the non-breeding season to rebuild condition (DAWE, 2022). High value foraging habitat for Carnaby's Cockatoo was widespread within the Survey Area and is abundant throughout the broader region. Some habitats, particularly Banksia Woodland and Pine Plantations, have been impacted by clearing which has reduced connectivity at a local scale. Foraging habitat for Forest Red-tailed Black Cockatoo was of lower value overall, with small pockets of fragmented vegetation present that could be utilised by these species. As previously stated, although foraging habitat scores were provided for Baudin's Cockatoo, the Survey Area is outside the known distribution of this species (DAWE, 2022).

6.0 Conclusion

6.1 Flora and Vegetation

- No Threatened flora species pursuant to the EPBC Act 1999 and/or gazetted as Threatened/Declared Rare Flora pursuant to the BC Act 2016 were recorded during the survey.
- One Priority species, *Grevillea olivacea* (P4) was recorded opportunistically near the southern end of Sydney Road and is likely to have been planted.
- Of the 17 introduced species recorded, **Asparagus asparagoides* and **Opuntia tomentosa* are listed as Declared Pests by the State Department of Primary Industries and Regional Development and are also listed as WoNS.
- Vegetation was broadly mapped in line with the preliminary nature of the survey. Seven broad natural vegetation types were identified, four of which require further detailed surveys. The Banksia woodlands and *Melaleuca preissiana* woodlands observed during the survey likely represent Threatened/Priority Ecological Communities and/or groundwater dependent ecosystems.
- Vegetation condition within the Survey Area was as expected in a highly fragmented urban environment. Most of the Survey Area was either Completely Degraded or cleared, comprising pine plantations, roads, gardens, houses, infrastructure, and market gardens. The remaining patches of remnant native vegetation ranged from Very Good to Degraded Condition, although some of these areas were inaccessible and future detailed surveys will confirm condition in these areas.
- None of the four pre-European vegetation associations are below the threshold level of 10% of the pre-clearing extent set by the EPA for protecting biological diversity in constrained areas, however three are below 30% of their respective pre-clearing extents.

6.2 Fauna

Six fauna habitats (excluding cleared) were mapped within the Survey Area. Of these habitats, the Banksia Woodland is likely to provide the most value to the broader faunal assemblage. Portions of the Survey Area overlapping private property could not be accessed on foot and were mapped using extrapolated data and boundaries from the AECOM (2024) survey and may require further survey work to validate the accuracy of the mapping. These areas total 21.56 ha and are comprised of:

- Adenanthos/Plantation – 0.96 ha
- Banksia Woodland – 12.39 ha
- Melaleuca woodland – 0.67 ha
- Mixed Shrubland – 2.41 ha
- Trees Over Cleared – 5.13 ha.

Three significant fauna taxa were recorded during the field survey:

- Carnaby's Cockatoo (*Zanda latirostris*) listed as Endangered under the BC Act and EPBC Act.
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso)* listed as Vulnerable under the BC Act and EPBC Act.
- Quenda (*Isoodon fusciventer*) listed as Priority 4 under DBCA.

A total of 74 trees were recorded as potentially suitable nesting trees. An additional 15 trees appeared to have a DBH > 500 mm but could not be measured due to access constraints surrounding private property and will require additional assessments to confirm their status as black cockatoo trees.

According to the DAWE Foraging Habitat Scoring Tool (DAWE, 2022), the Survey Area contains 93.91 ha of High-Quality foraging habitat for the Carnaby's Black Cockatoo and the Forest Red-Tailed Black Cockatoo and 93.91 ha of Low-Quality foraging habitat for the Baudin's Black Cockatoo. The Bamford Consulting Ecologists (2020) scoring system identified 93.91 ha of foraging habitat for the Carnaby's Black Cockatoo ranging from Negligible to Low to Moderate to High, 93.91 ha of foraging habitat for the Baudin's Black Cockatoo ranging from Negligible to Low to Moderate, and 93.91 of foraging habitat ranging from Negligible to Low to Low for the Forest Red-Tailed Black Cockatoo.

Black cockatoo foraging habitat results are based on the mapped fauna habitats for the Survey Area. Approximately 21.56 ha of habitat mapping has been extrapolated from AECOM (2024) data due to access restrictions, and these areas may require future validation to confirm their habitat characteristics and foraging value.

7.0 References

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Appendix A Maps

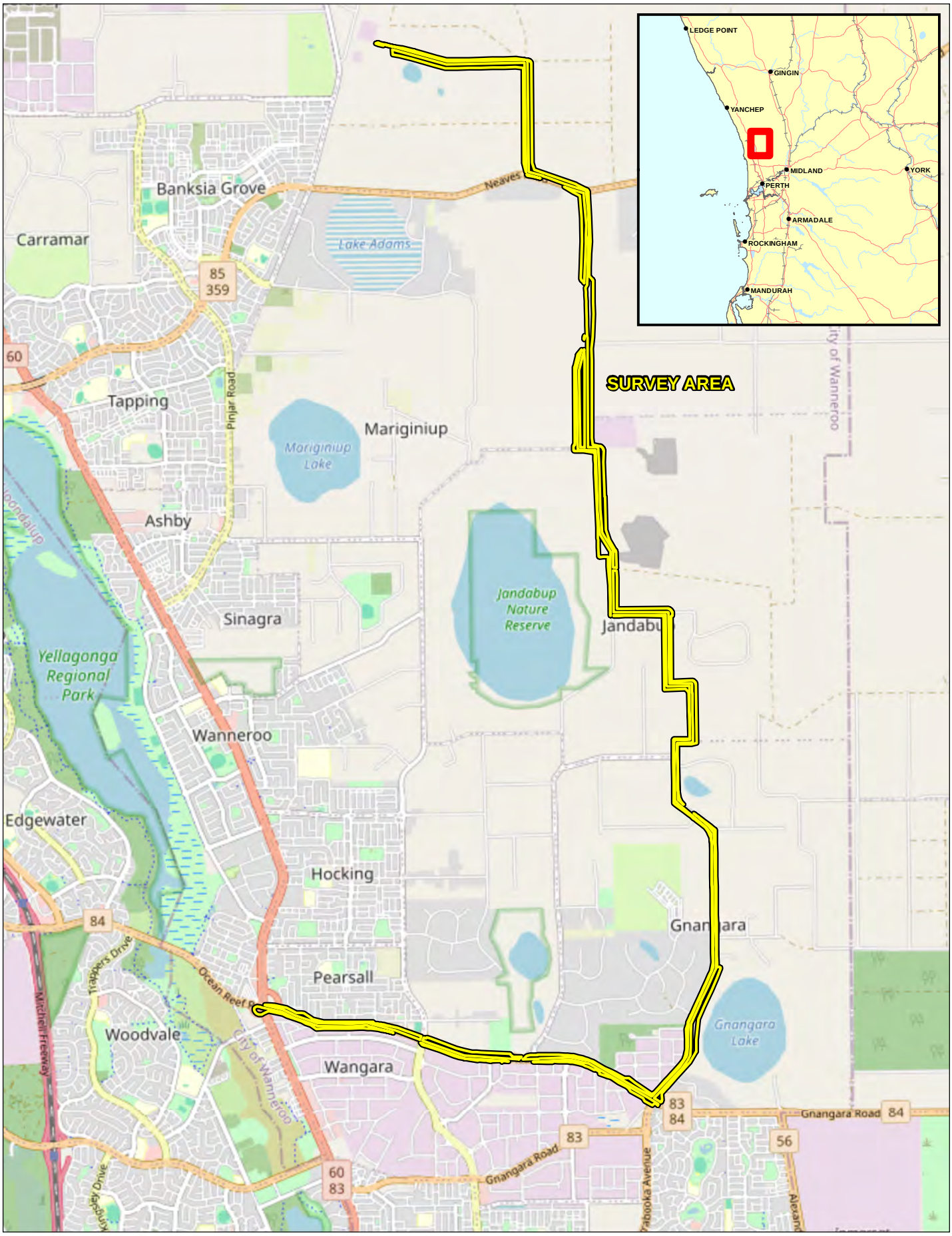
Neerabup Terminal Transmission Corridor

Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Western Power

SLR Project No.: 675.073758.00001

20 February 2026



SLR

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Survey Area
MAP 1

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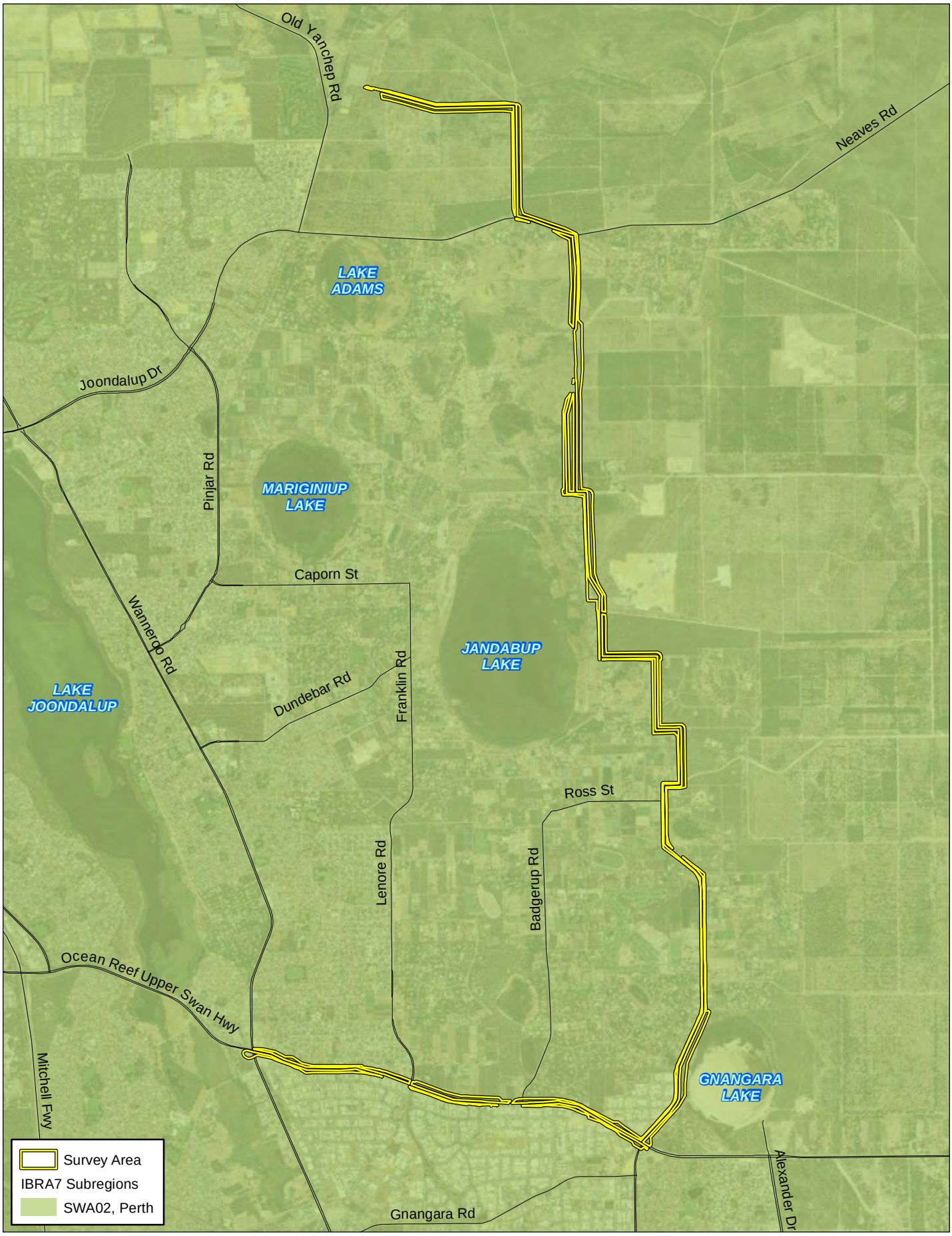

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N 0 0.5 1 2 km

Service Layer Credits: Landgate / SLIP
IBRA7 Australian Gov Dept Environment and Energy

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:60,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

IBRA Subregions
MAP 2

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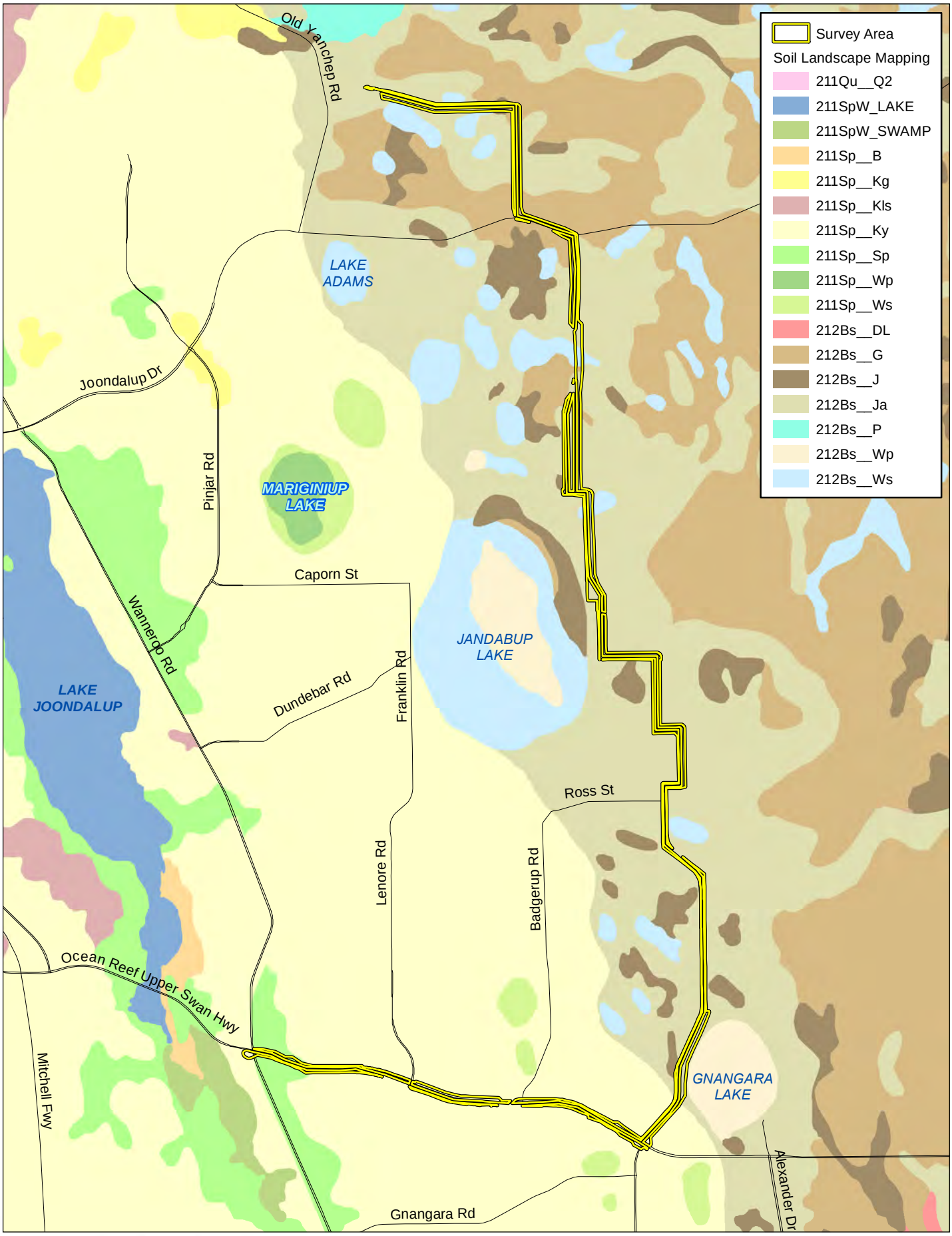

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N 0 0.5 1 2 km

Service Layer Credits: Landgate / SLIP
Soil Landscape Mapping DPIRD 027

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:60,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Soil Landscapes
MAP 3

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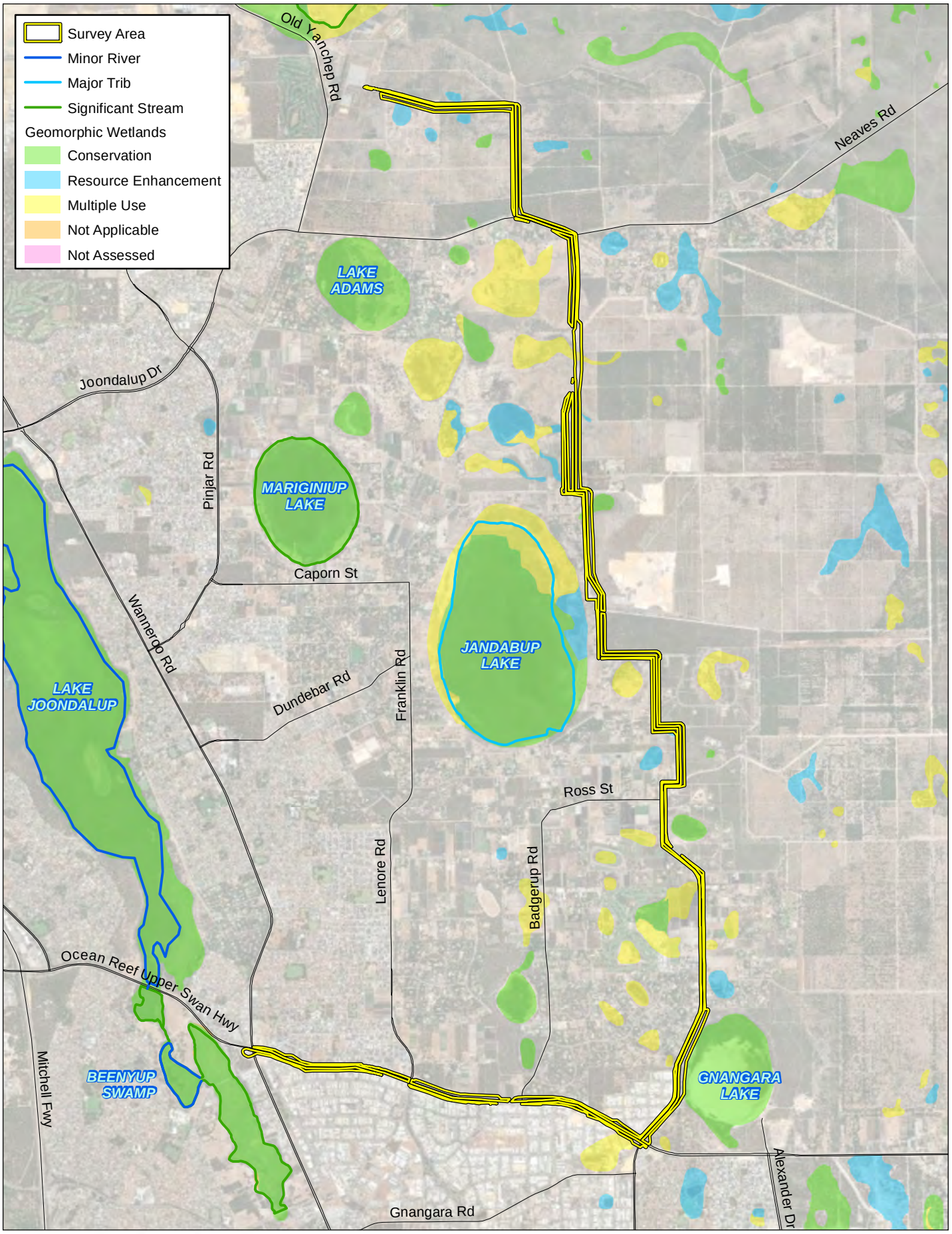

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N 0 0.5 1 2 km

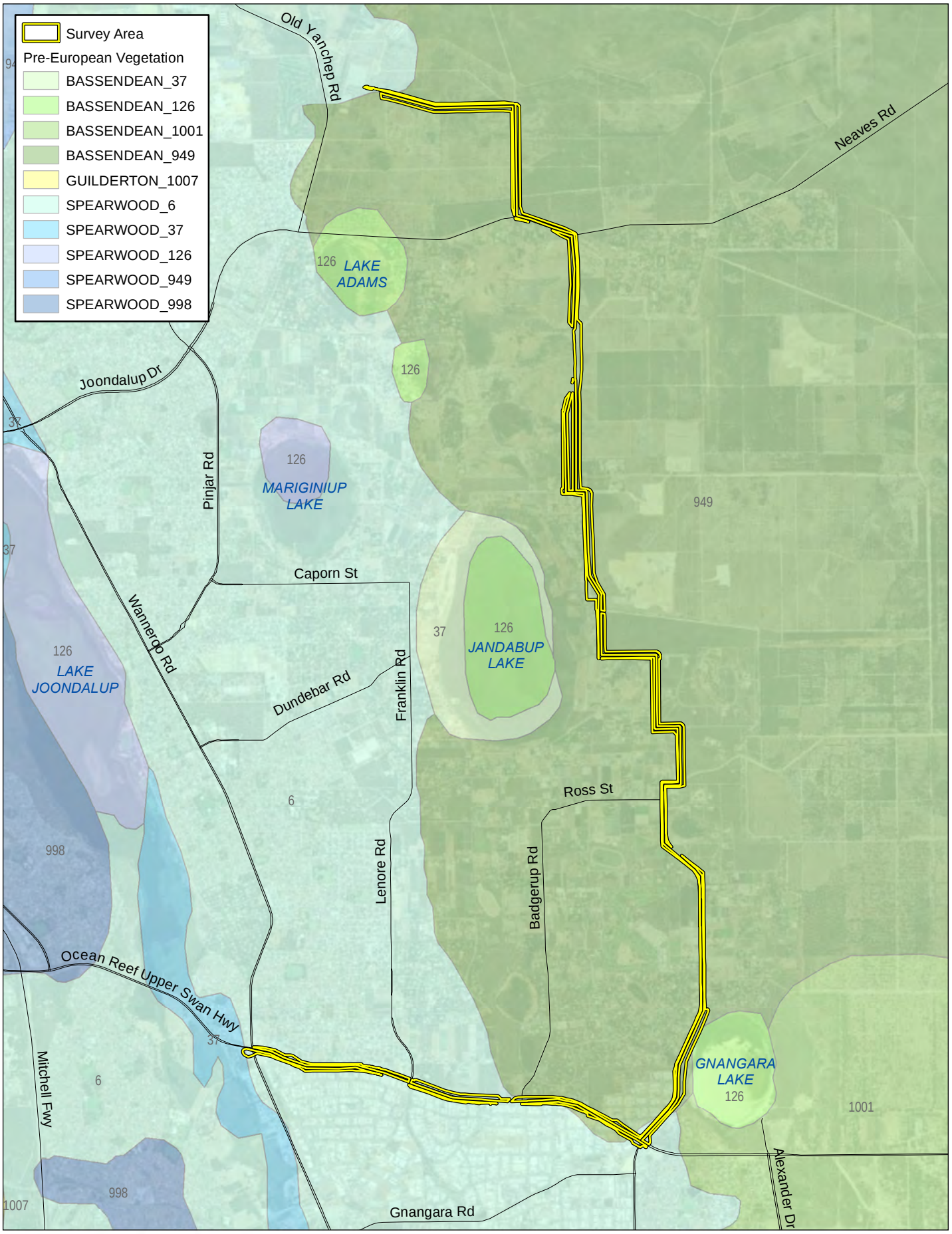
Service Layer Credits: Landgate / SLIP
Hydrography - DWER | Wetlands - DBCA

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:60,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Hydrography and Geomorphic Wetlands
MAP 4



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N 0 0.5 1 2 km

Service Layer Credits: Landgate / SLIP
Pre-European Vegetation - DPIRD

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:60,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Pre-European Vegetation
MAP 5

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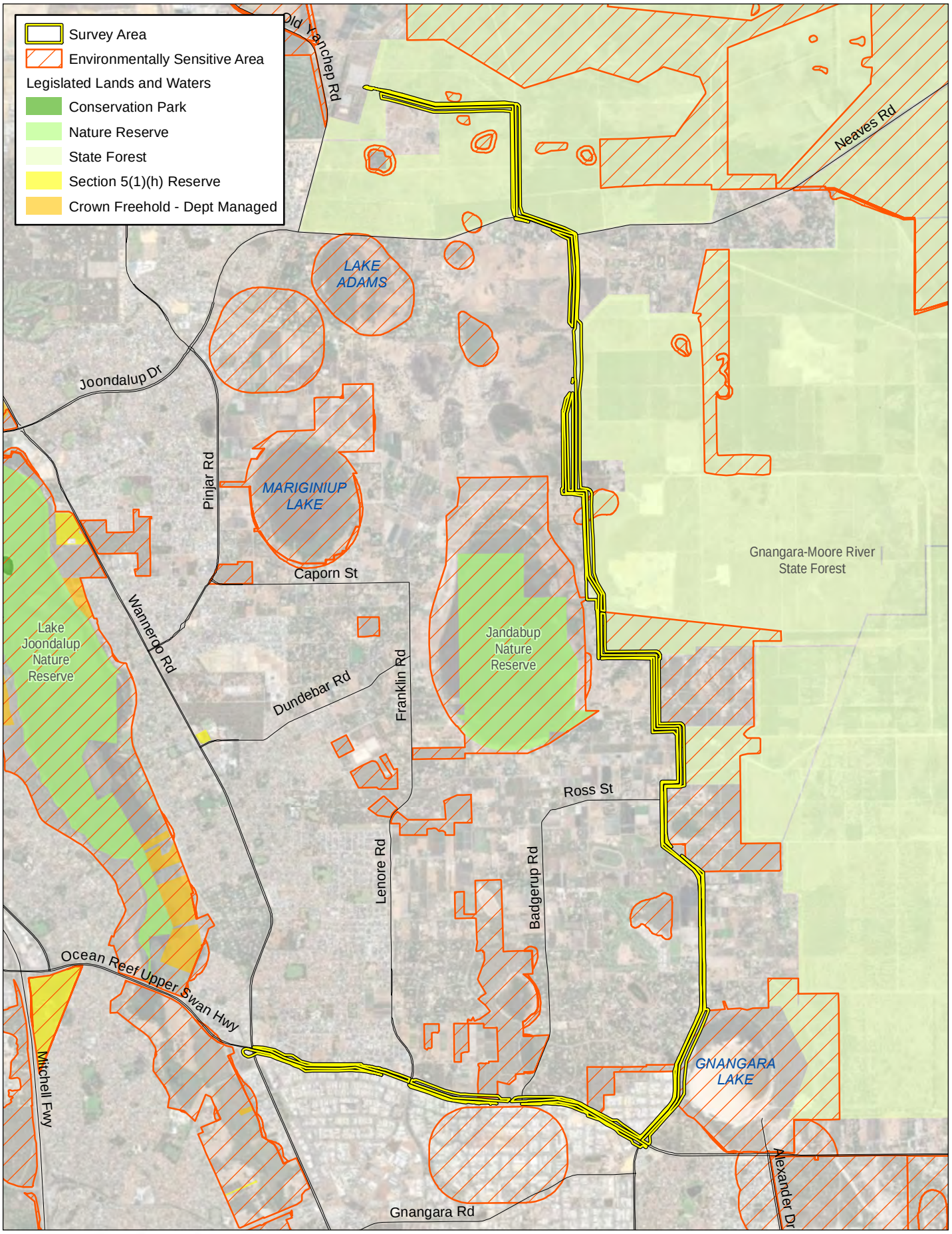

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N 0 0.5 1 2 km

Service Layer Credits: Landgate / SLIP
Legis Lands Water - DBCA | ESA - DWER

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:60,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Conservation and ESAs
MAP 6

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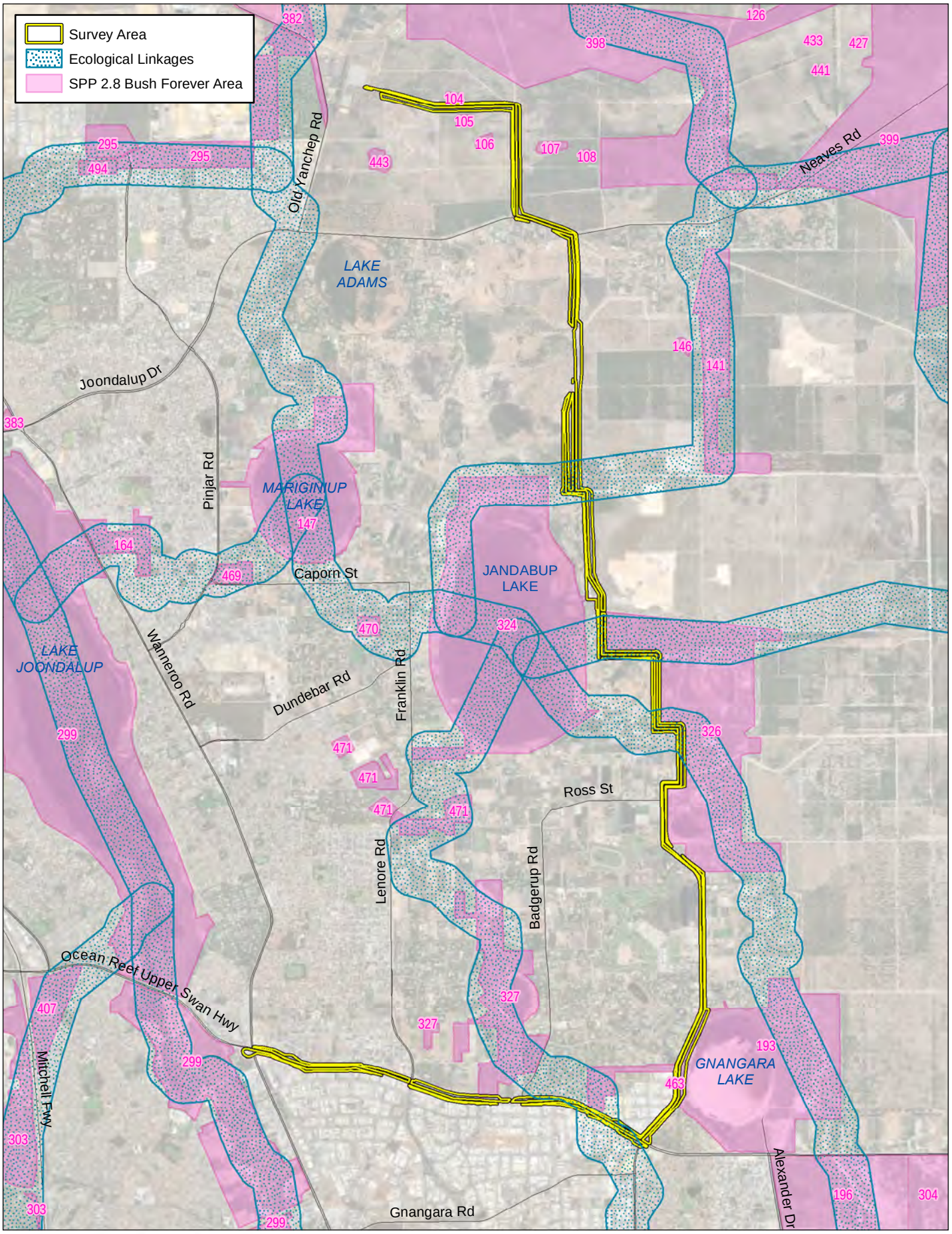

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Service Layer Credits: Landgate / SLIP
Bush Forver - DPLH | Eco Linkages - WALGA

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:60,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

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Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Bush Forever and Ecological Linkages
MAP 7

N 0 100 200 400 m

Service Layer Credits: Landgate / SLIP

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8a

N 0 100 200 400 m

Service Layer Credits: Landgate / SLIP

SLR

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8b

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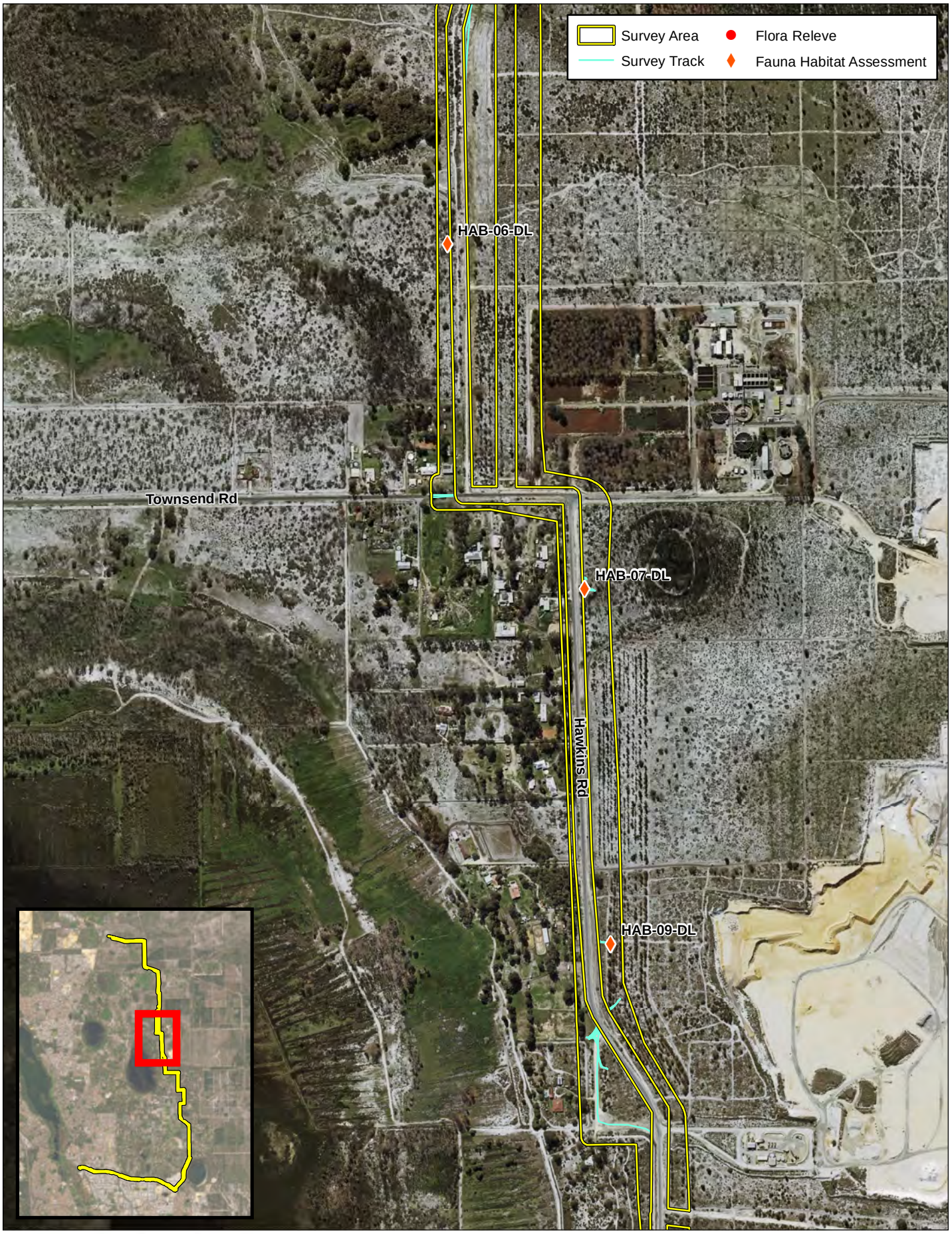

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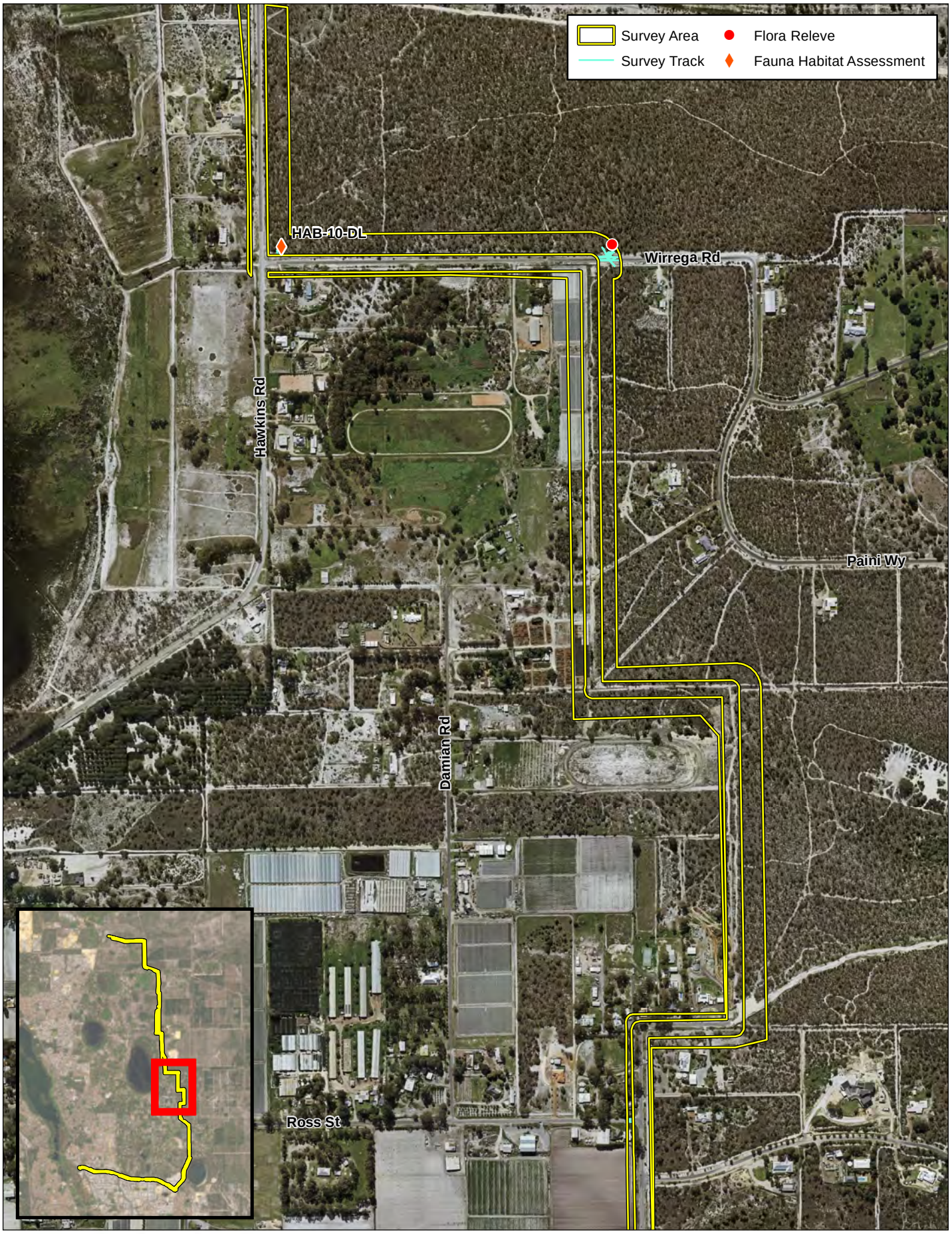
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8c



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Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8d

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Service Layer Credits: Landgate / SLIP

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Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8e

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SLR

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

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Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8f

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Service Layer Credits: Landgate / SLIP

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8g

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N 0 100 200 400 m

Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Survey Effort
MAP 8h

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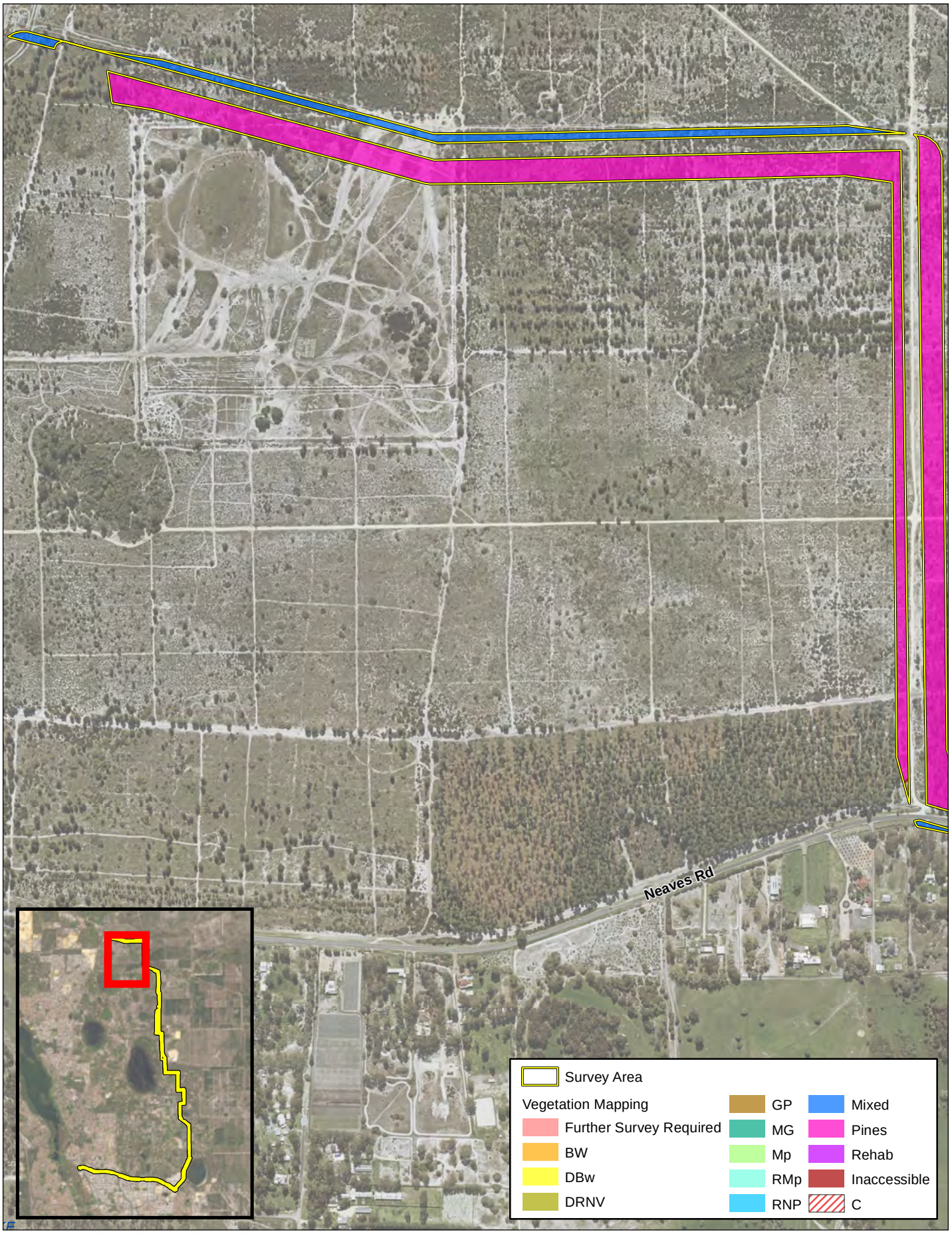

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Service Layer Credits: Landgate / SLIP

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping
MAP 9a

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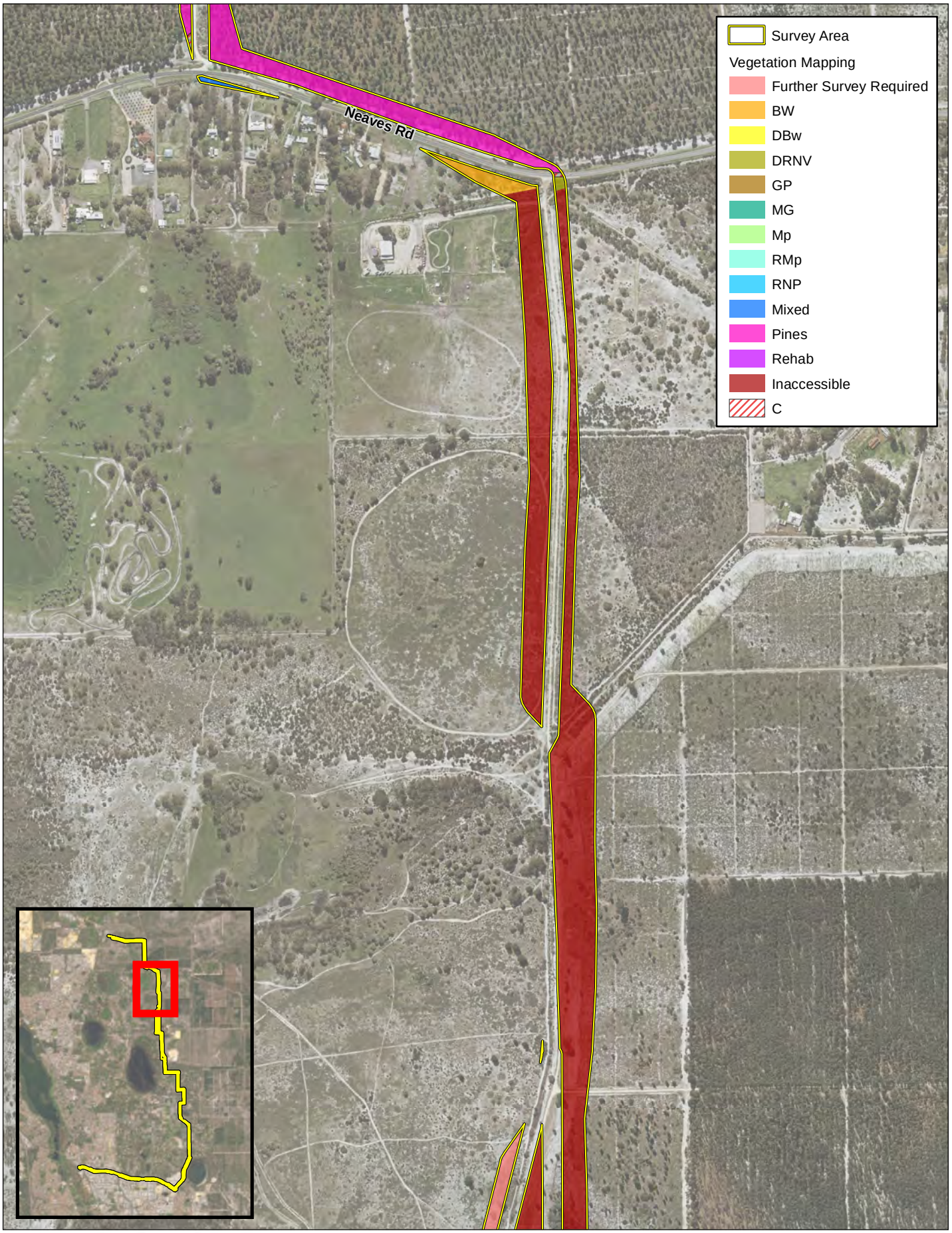

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Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

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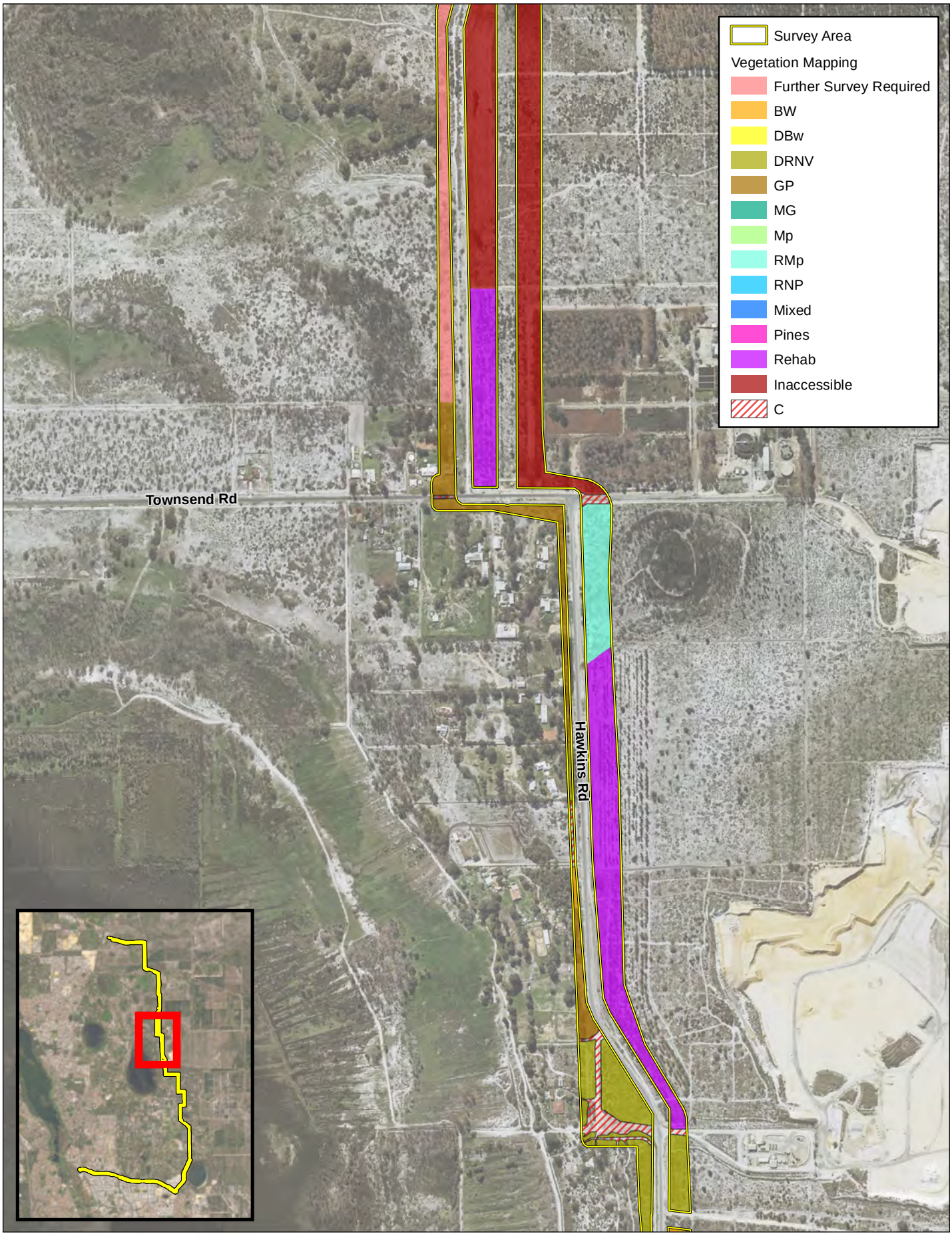
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping

MAP 9b



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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping

MAP 9c

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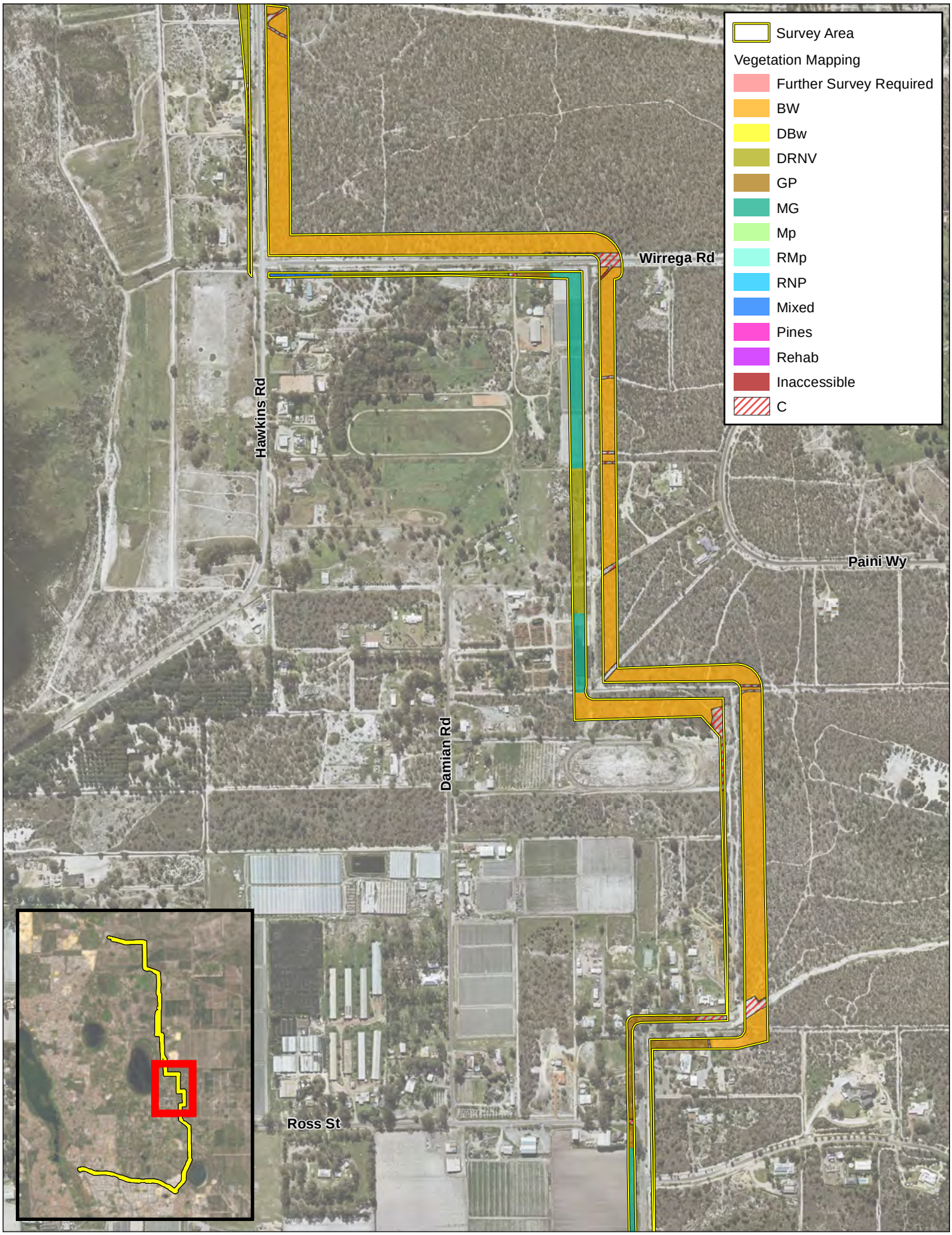

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

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Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping

MAP 9d

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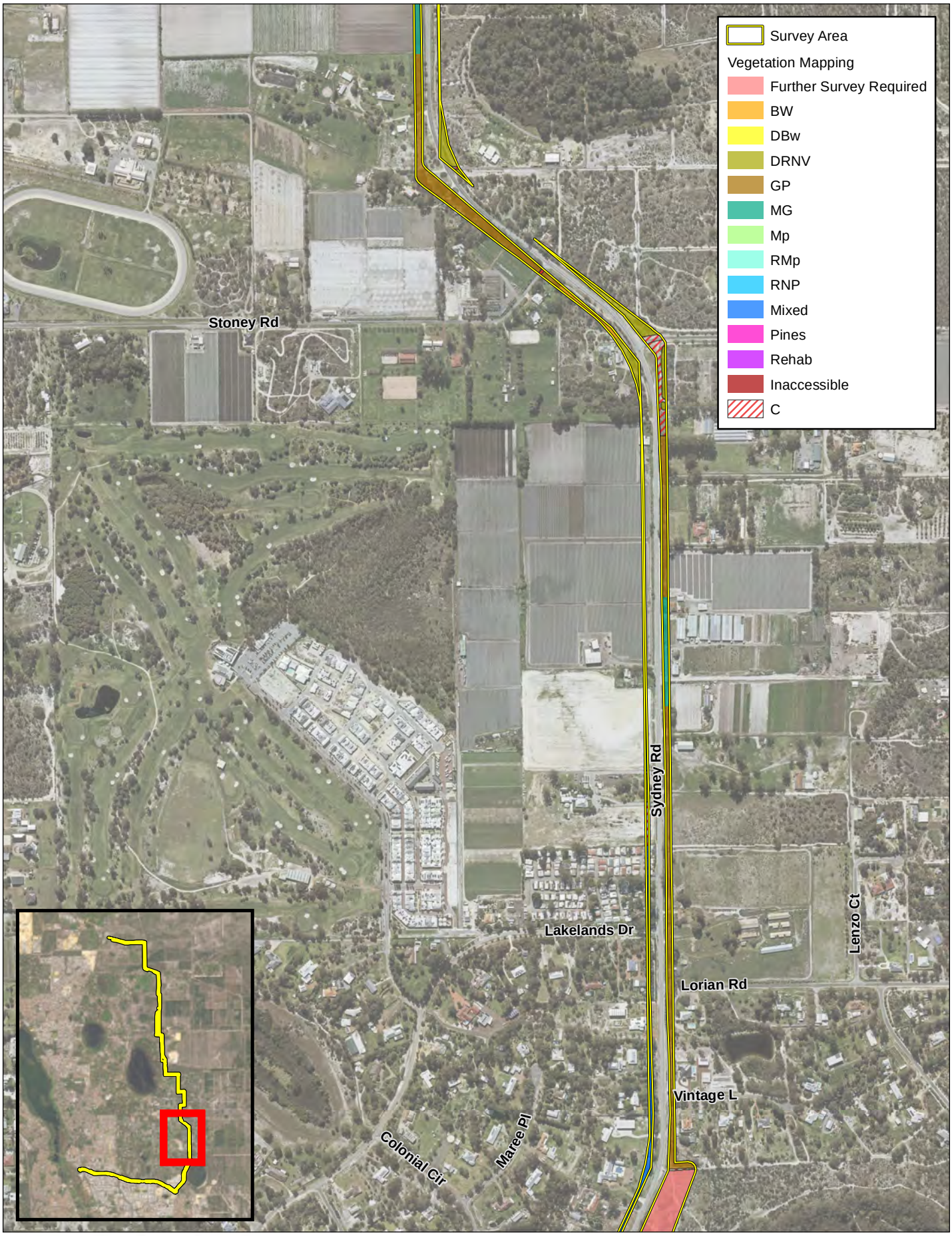

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

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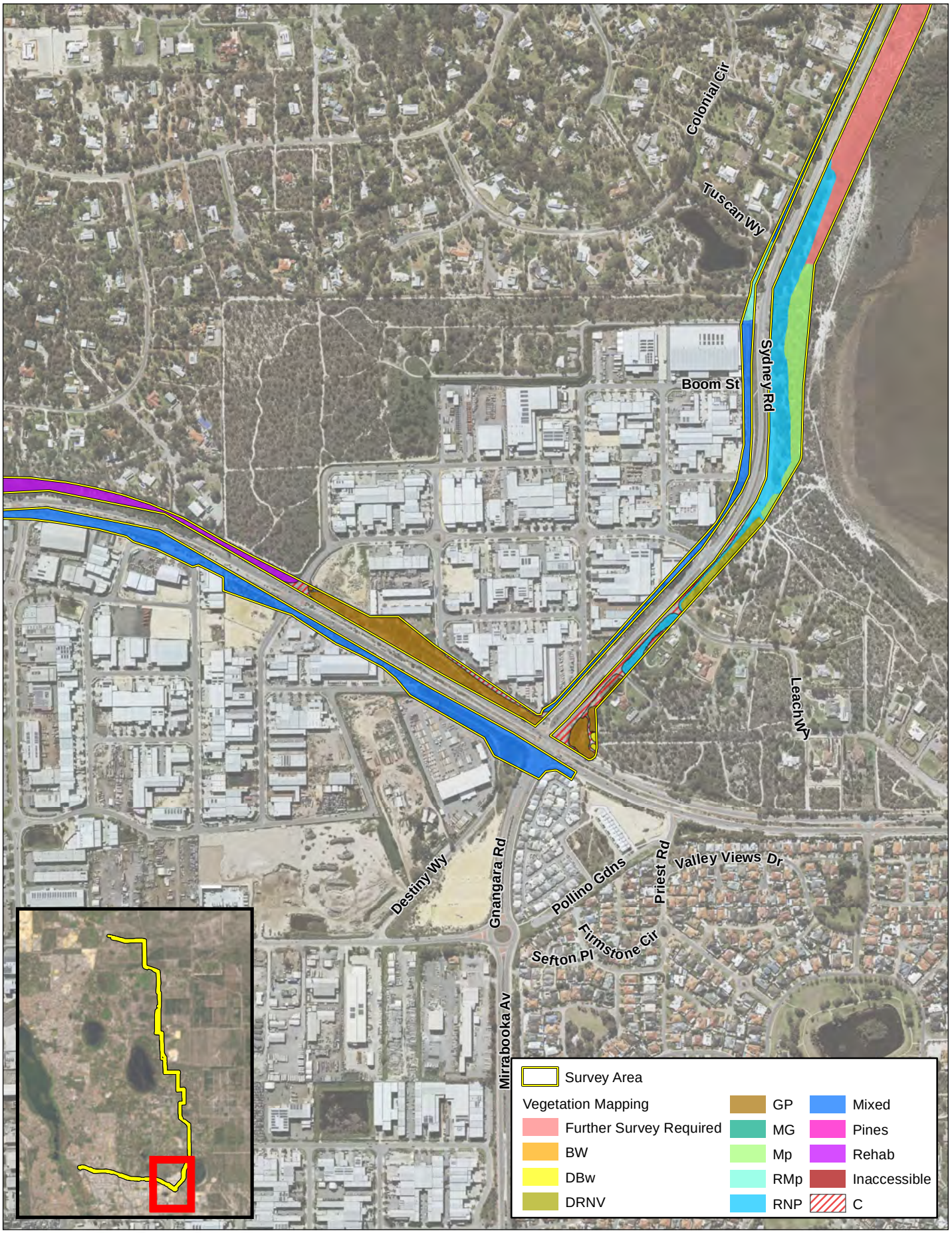
Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping
MAP 9e



N 0 100 200 400 m

Service Layer Credits: Landgate / SLIP

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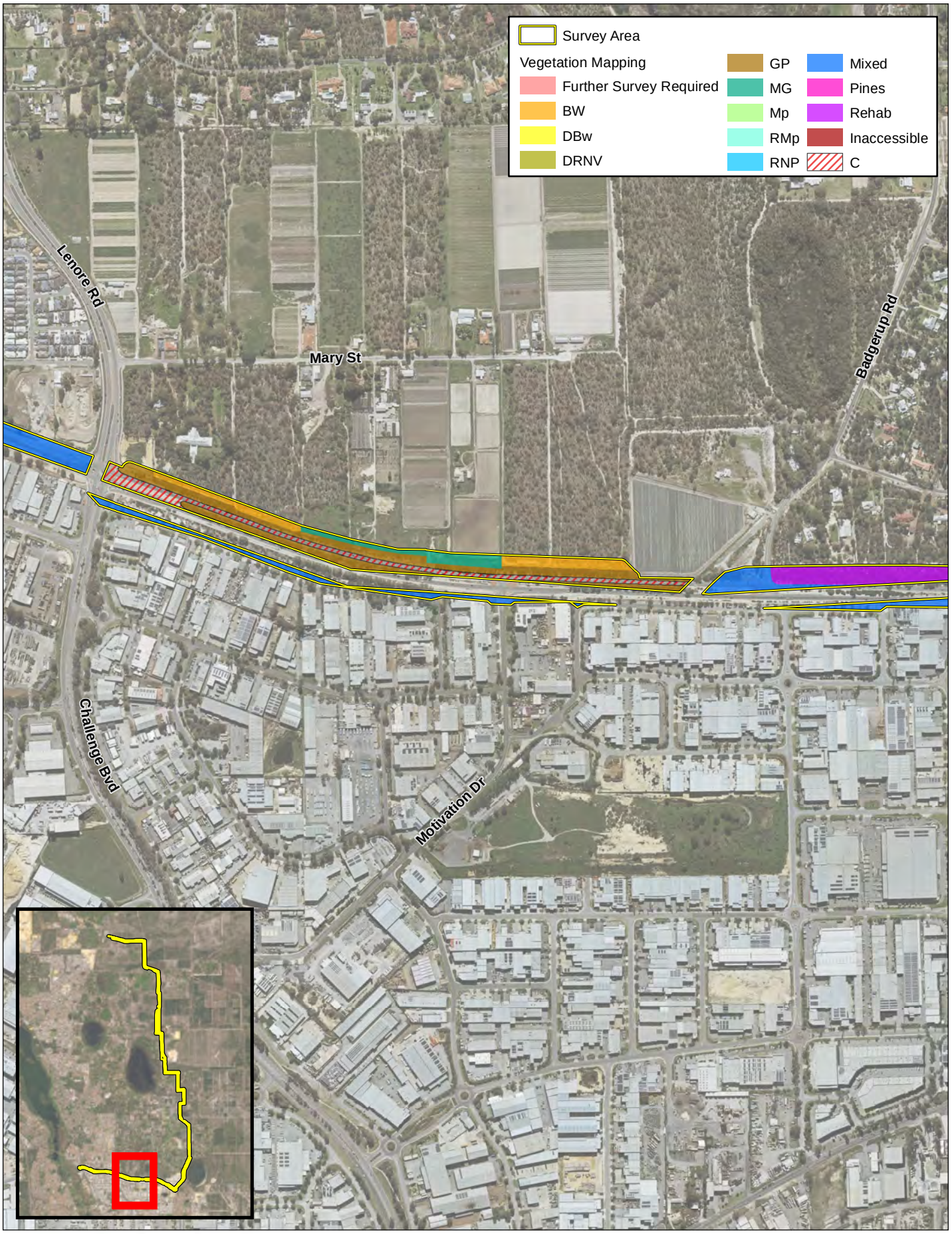
Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping
MAP 9f

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M09f Vegetation Mapping_250227.mxd



SLR

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N 0 100 200 400 m

Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping
MAP 9g

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N 0 100 200 400 m

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 27/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Mapping
MAP 9h

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

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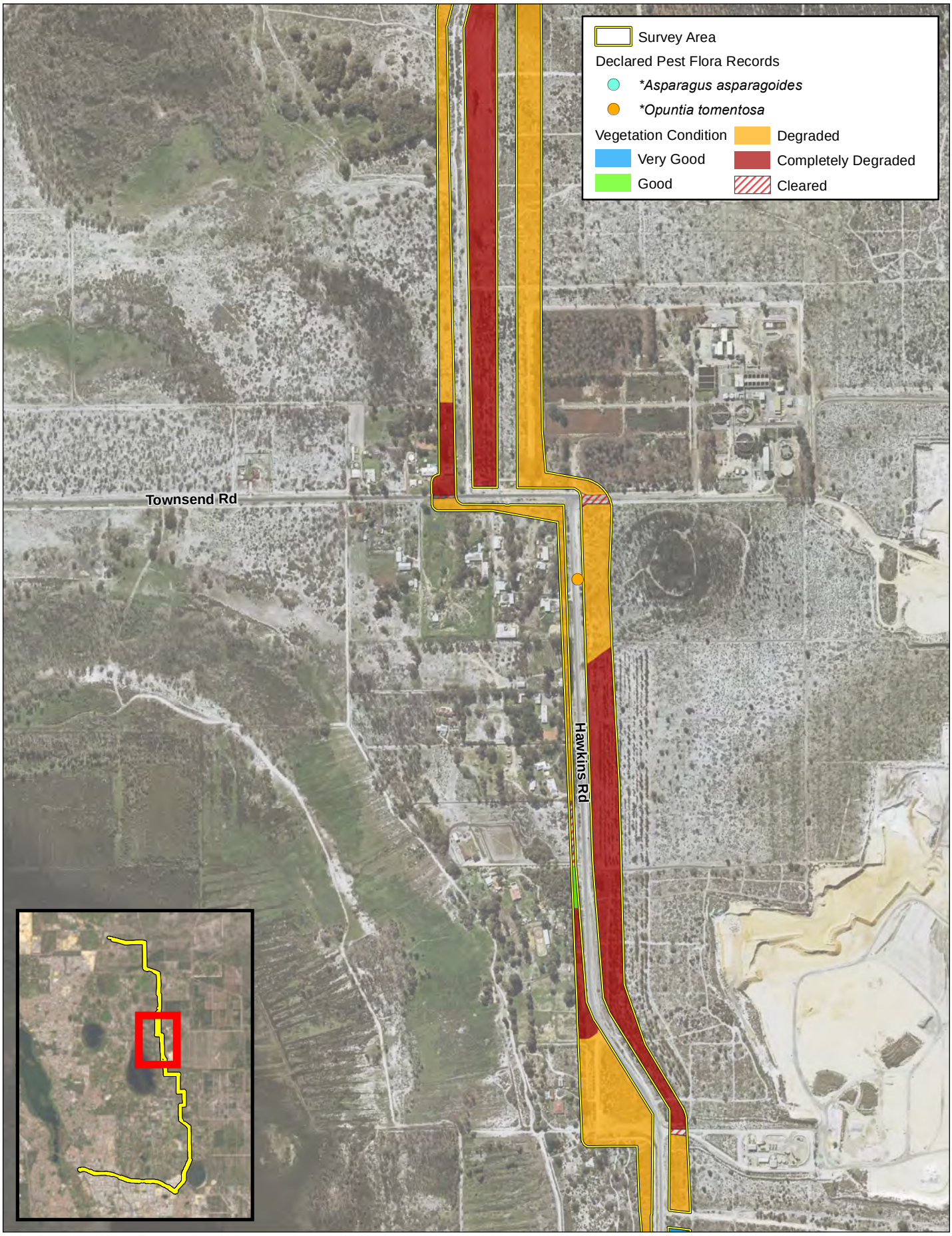
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Condition and Declared Pest Flora Records

MAP 10a

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M10a Vegetation Condition and Declared Pest Flora Records_250225.mxd



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Service Layer Credits: Landgate / SLIP

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Condition and Declared Pest Flora Records

MAP 10c

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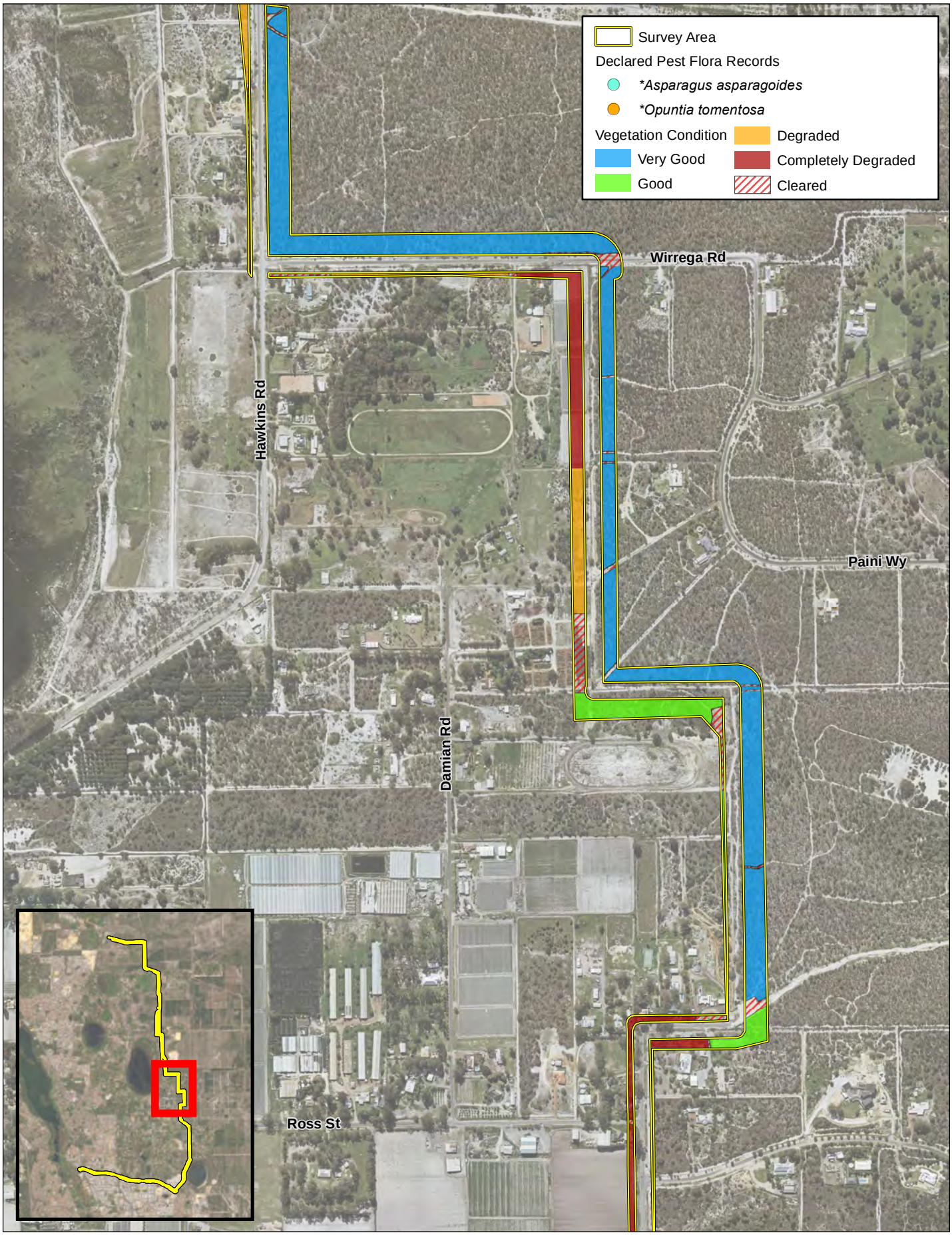

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Condition and Declared Pest Flora Records

MAP 10d

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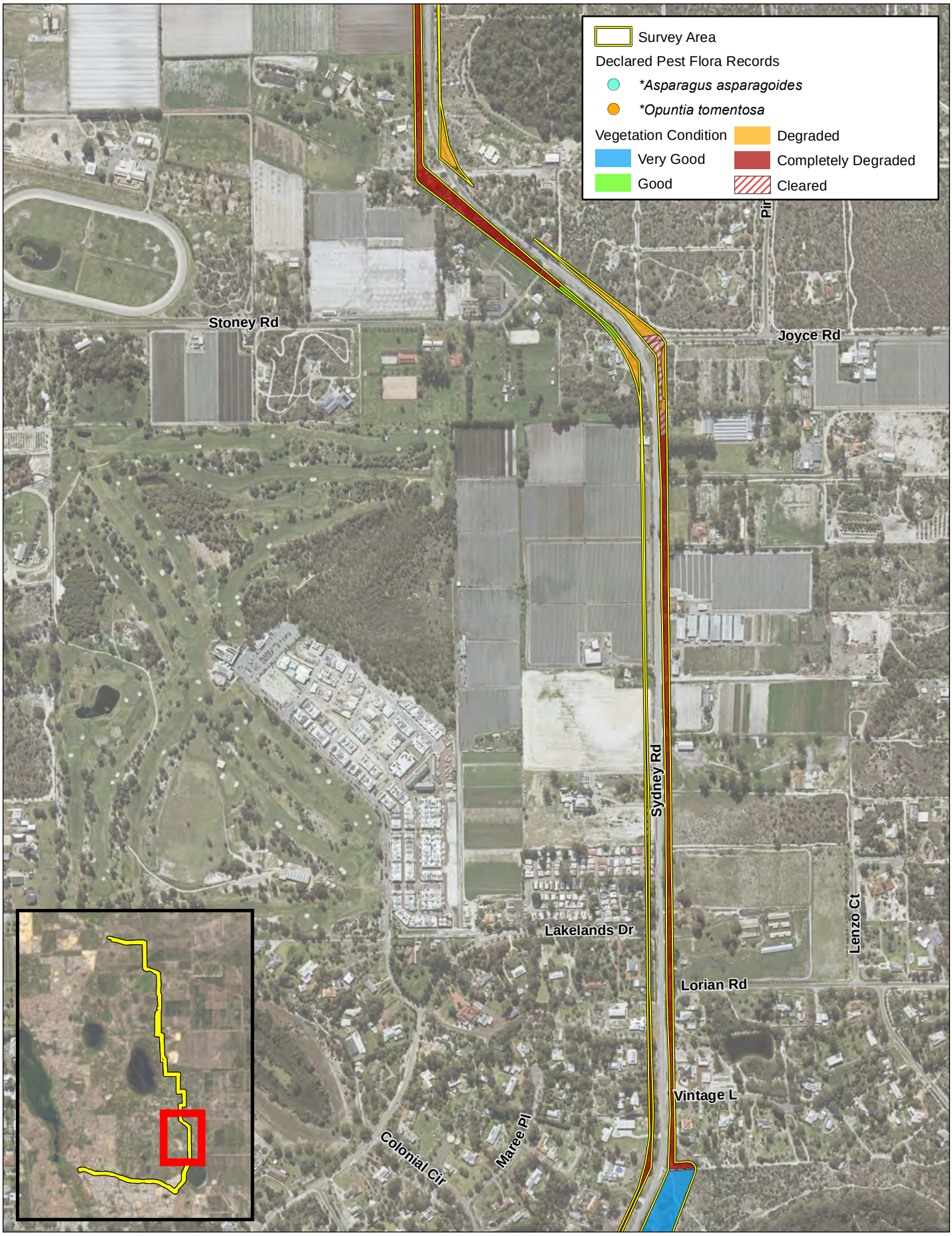

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Condition and Declared Pest Flora Records

MAP 10e

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M10e Vegetation Condition and Declared Pest Flora Records_250225.mxd

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N 0 100 200 400 m

Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

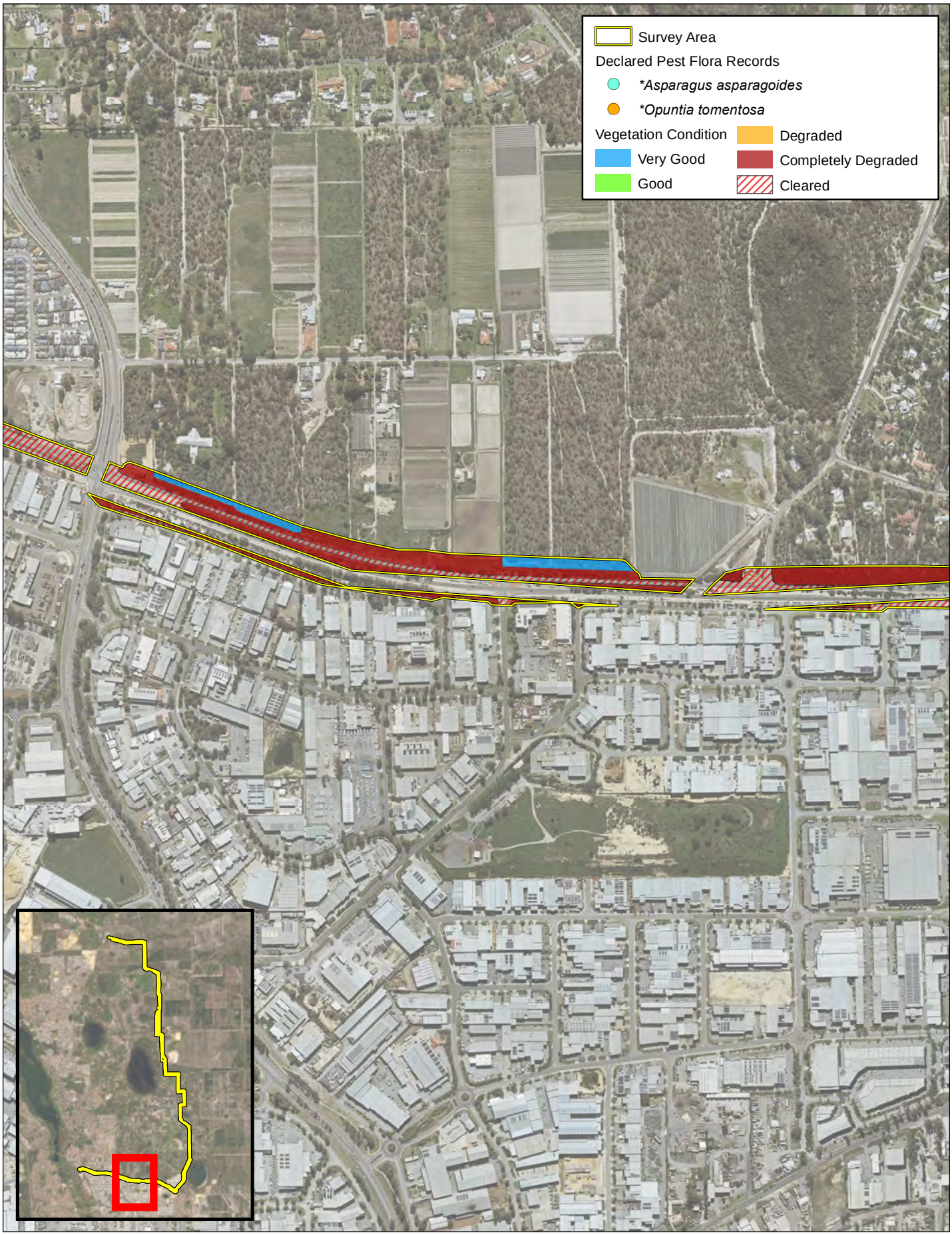
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Condition and Declared Pest Flora Records

MAP 10f

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M10f Vegetation Condition and Declared Pest Flora Records_250225.mxd



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Project Number	: 675.073020.00001
Date Drawn	: 25/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

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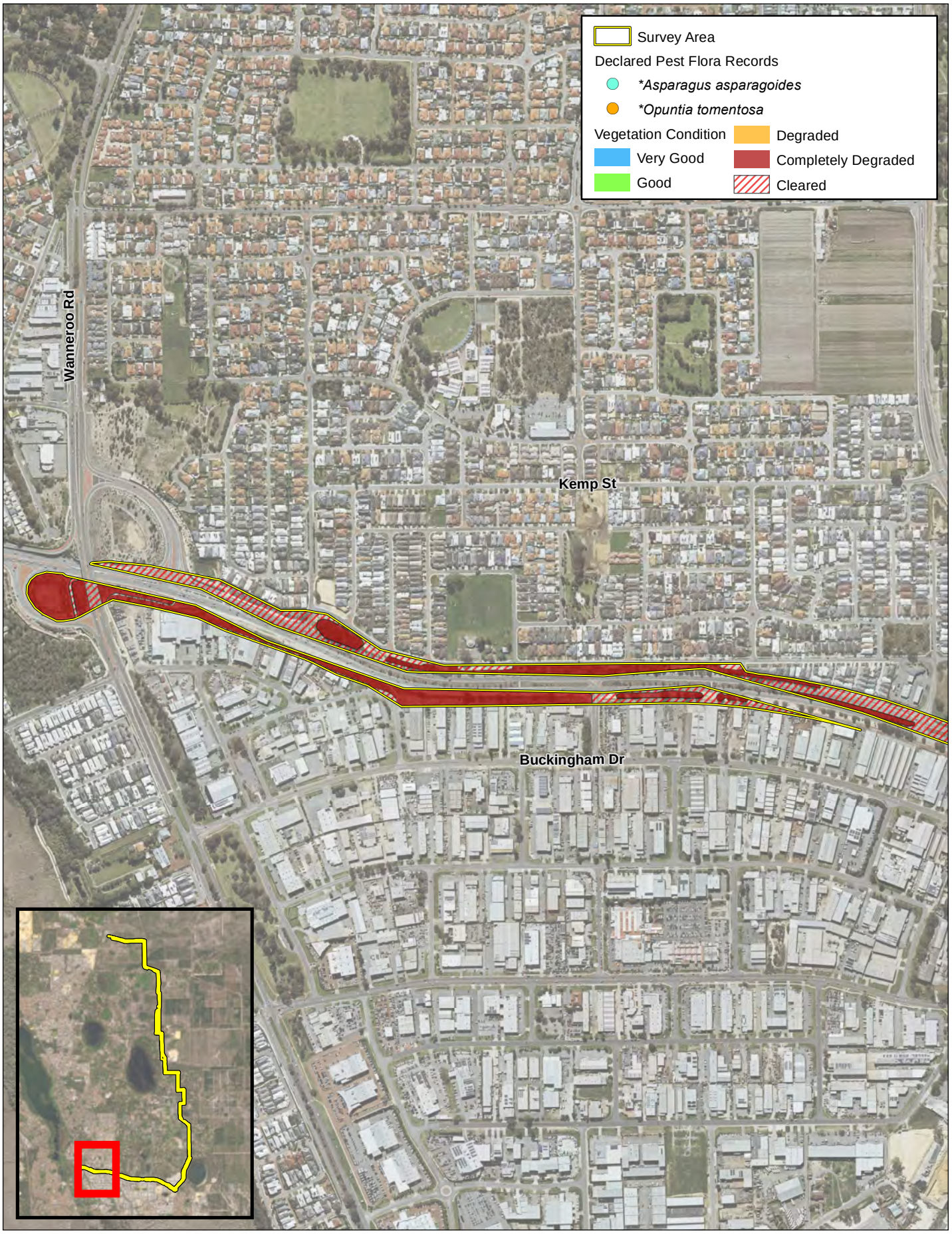
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Condition and Declared Pest Flora Records

MAP 10g

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M10g Vegetation Condition and Declared Pest Flora Records_250225.mxd



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Service Layer Credits: Landgate / SLIP

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Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

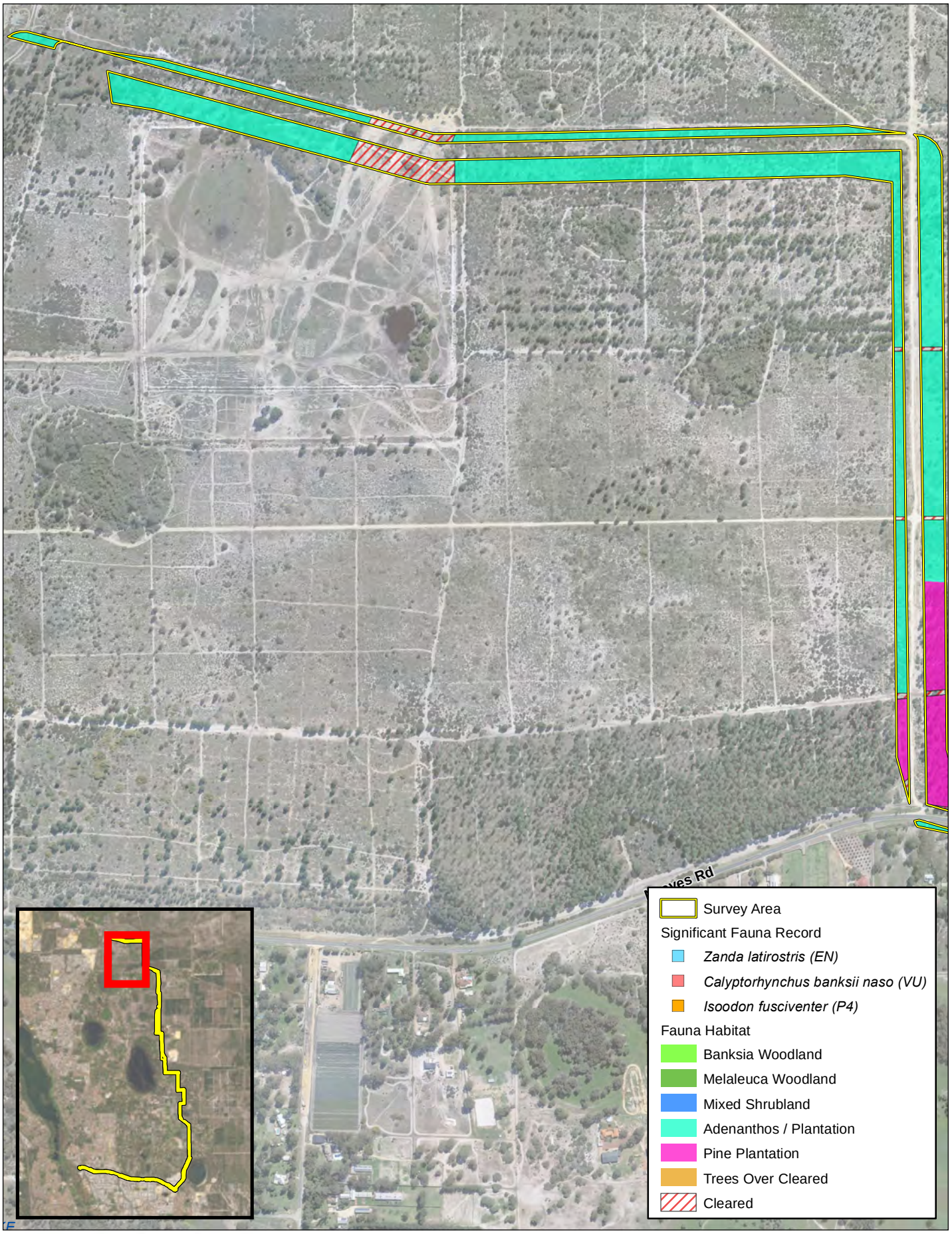
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Vegetation Condition and Declared Pest Flora Records

MAP 10h

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M10h Vegetation Condition and Declared Pest Flora Records_250225.mxd



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Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
Date Drawn	: 5/03/2026
Drawn By	: Environmaps
Reviewed By	: GB

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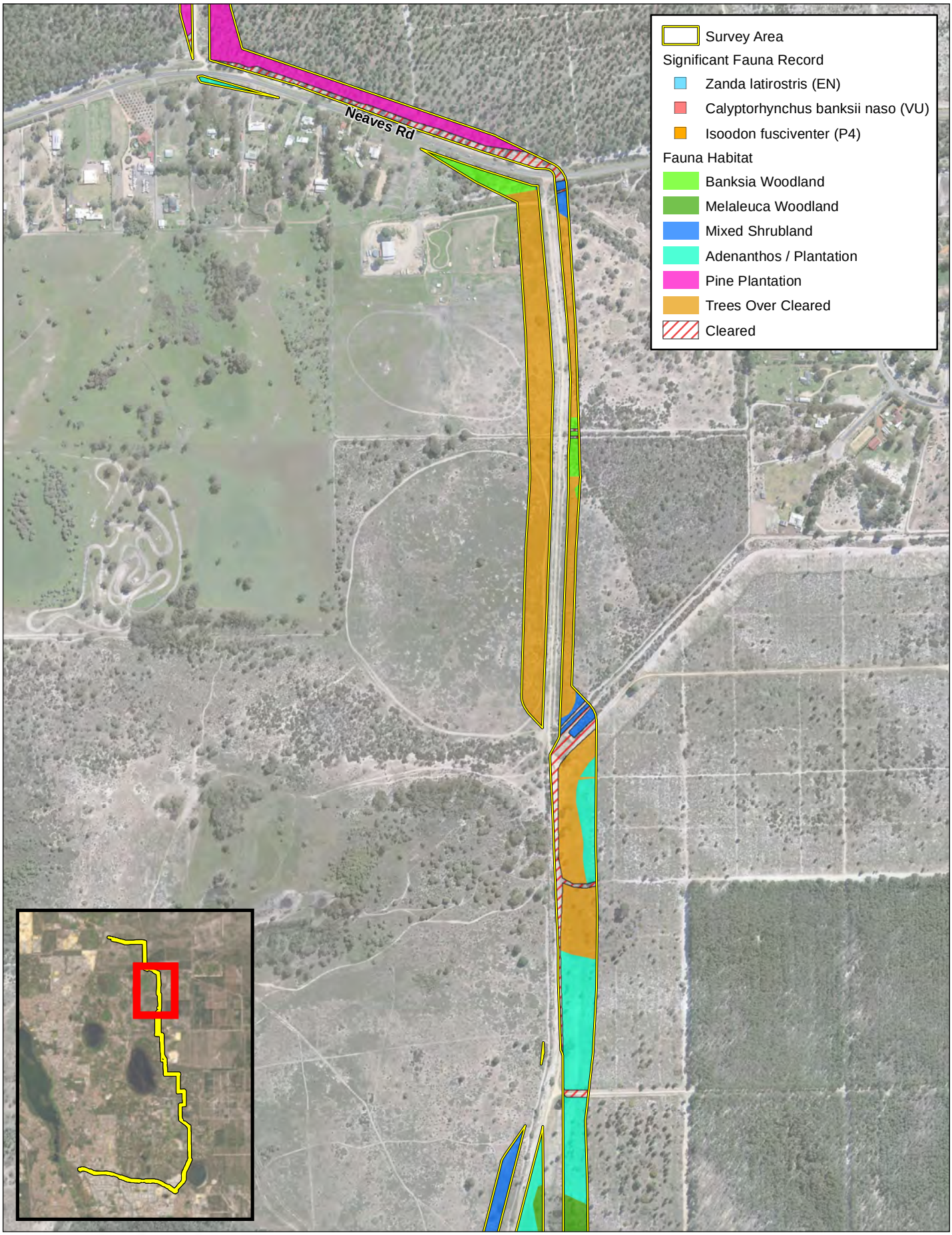
Western Power

Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Fauna Habitat and
Significant Fauna Records
MAP 11a



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Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
Date Drawn	: 5/03/2026
Drawn By	: Environmaps
Reviewed By	: GB

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Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Fauna Habitat and Significant Fauna Records

MAP 11b

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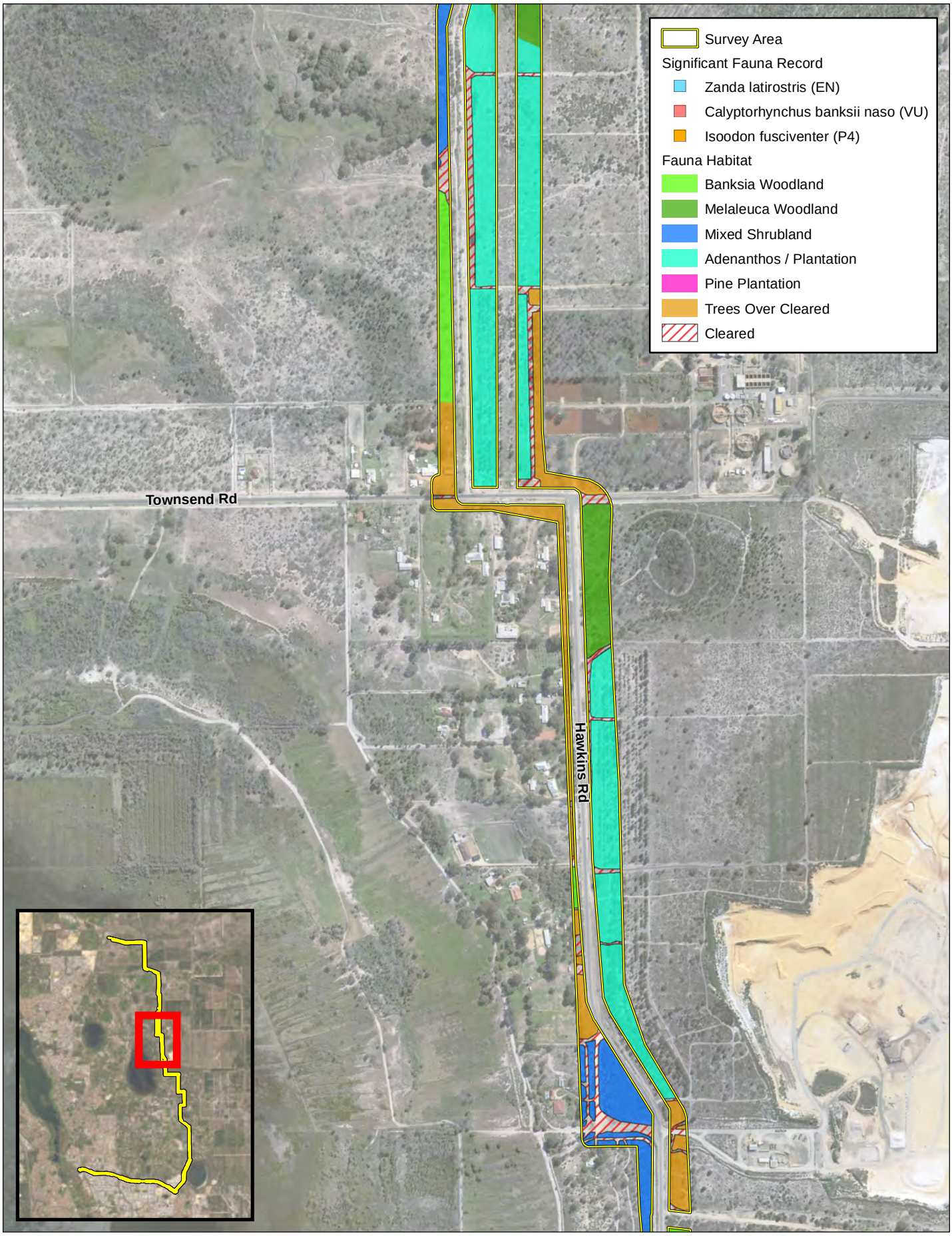

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Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
Date Drawn	: 5/03/2026
Drawn By	: Environmaps
Reviewed By	: GB

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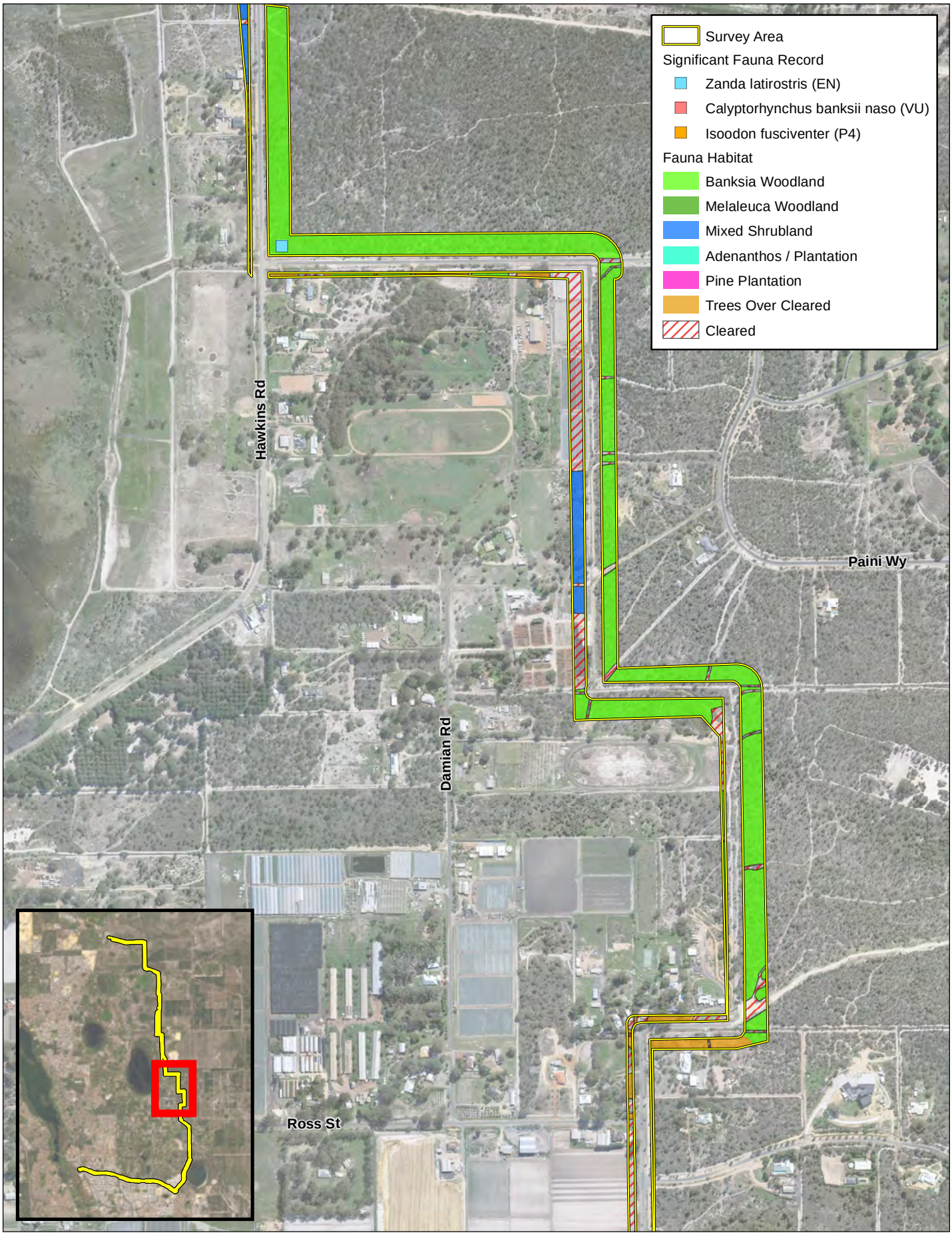
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Fauna Habitat and Significant Fauna Records

MAP 11c



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Project Number	: 675.073020.00001
Date Drawn	: 5/03/2026
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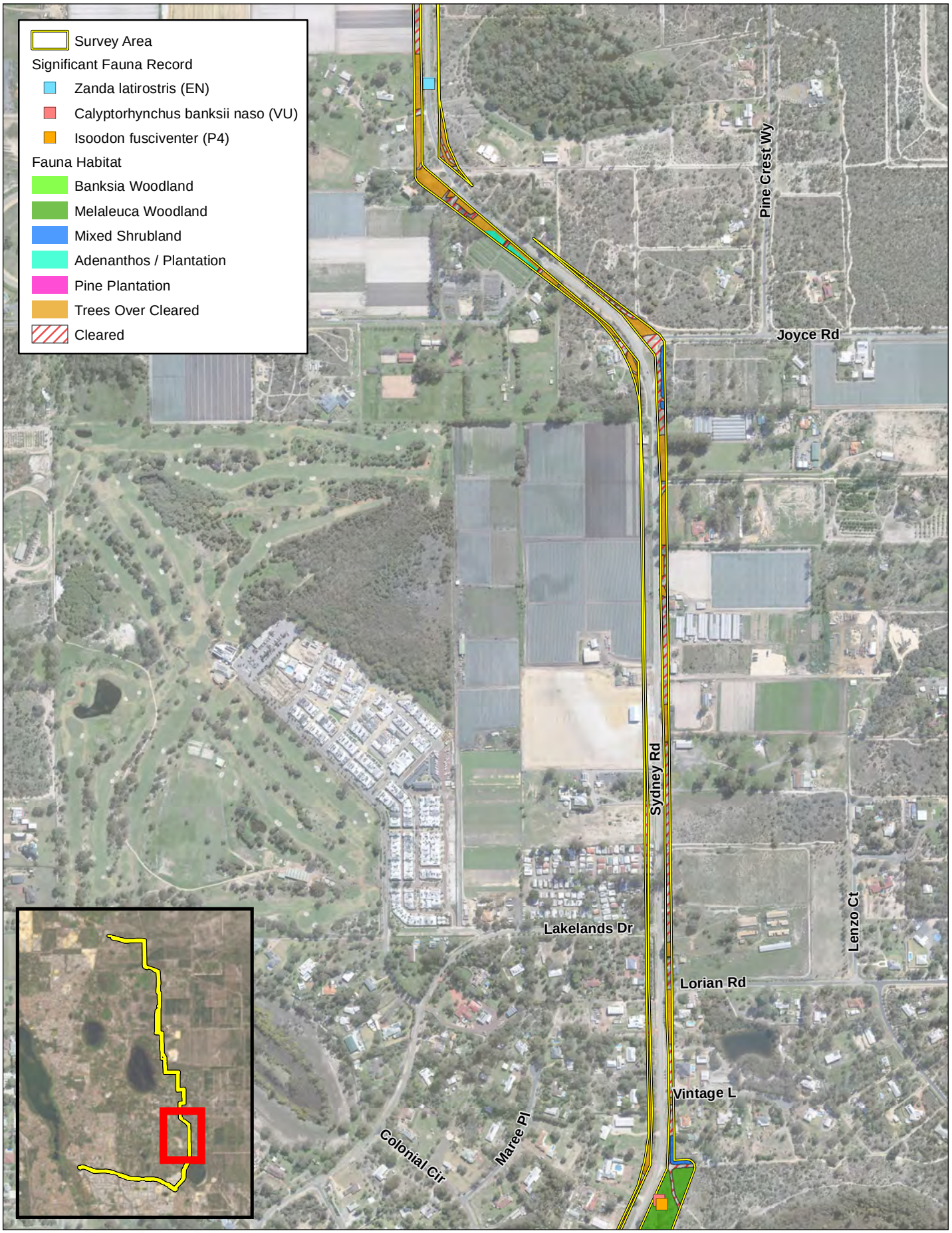
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Fauna Habitat and Significant Fauna Records

MAP 11d



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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 5/03/2026
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Fauna Habitat and Significant Fauna Records

MAP 11e

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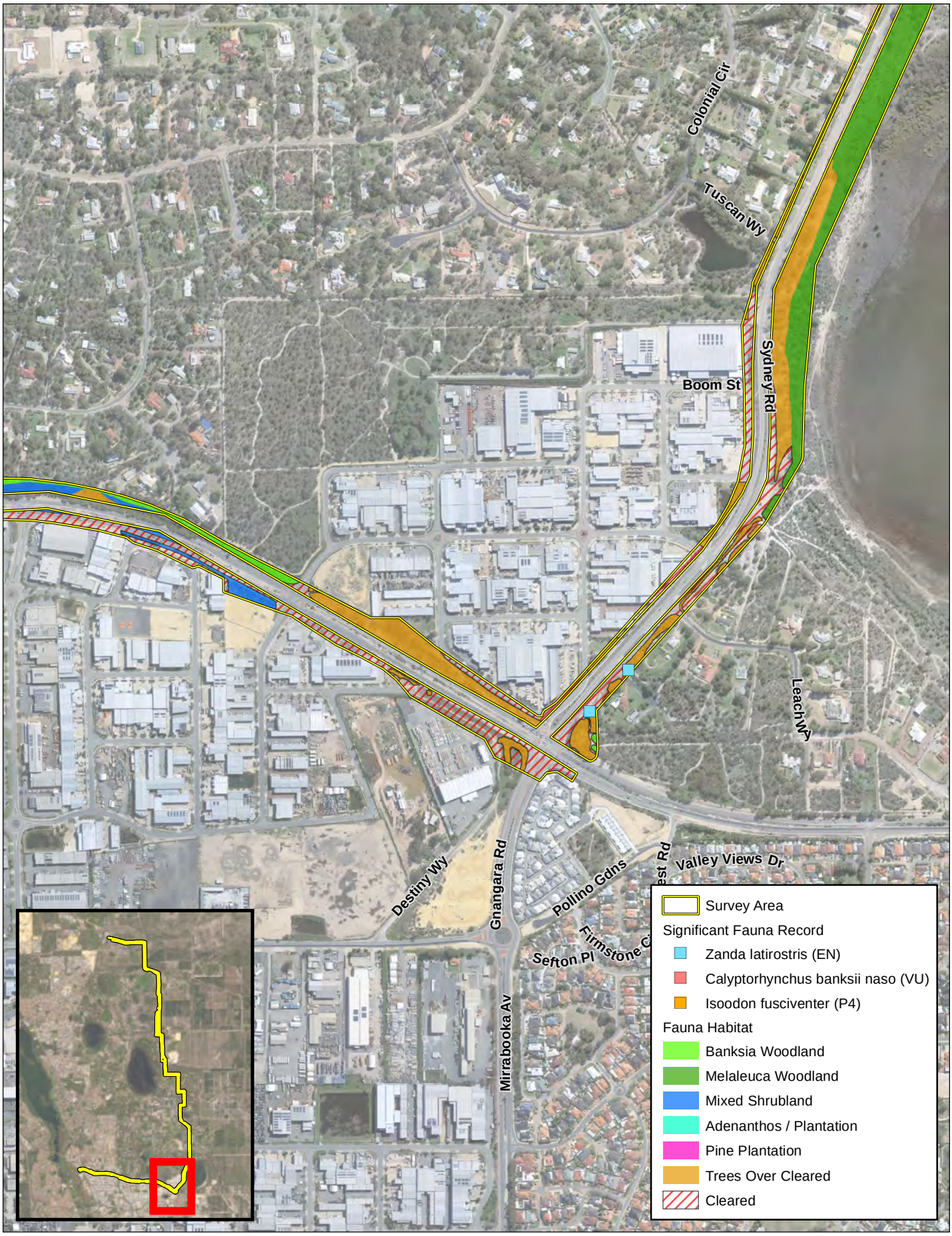

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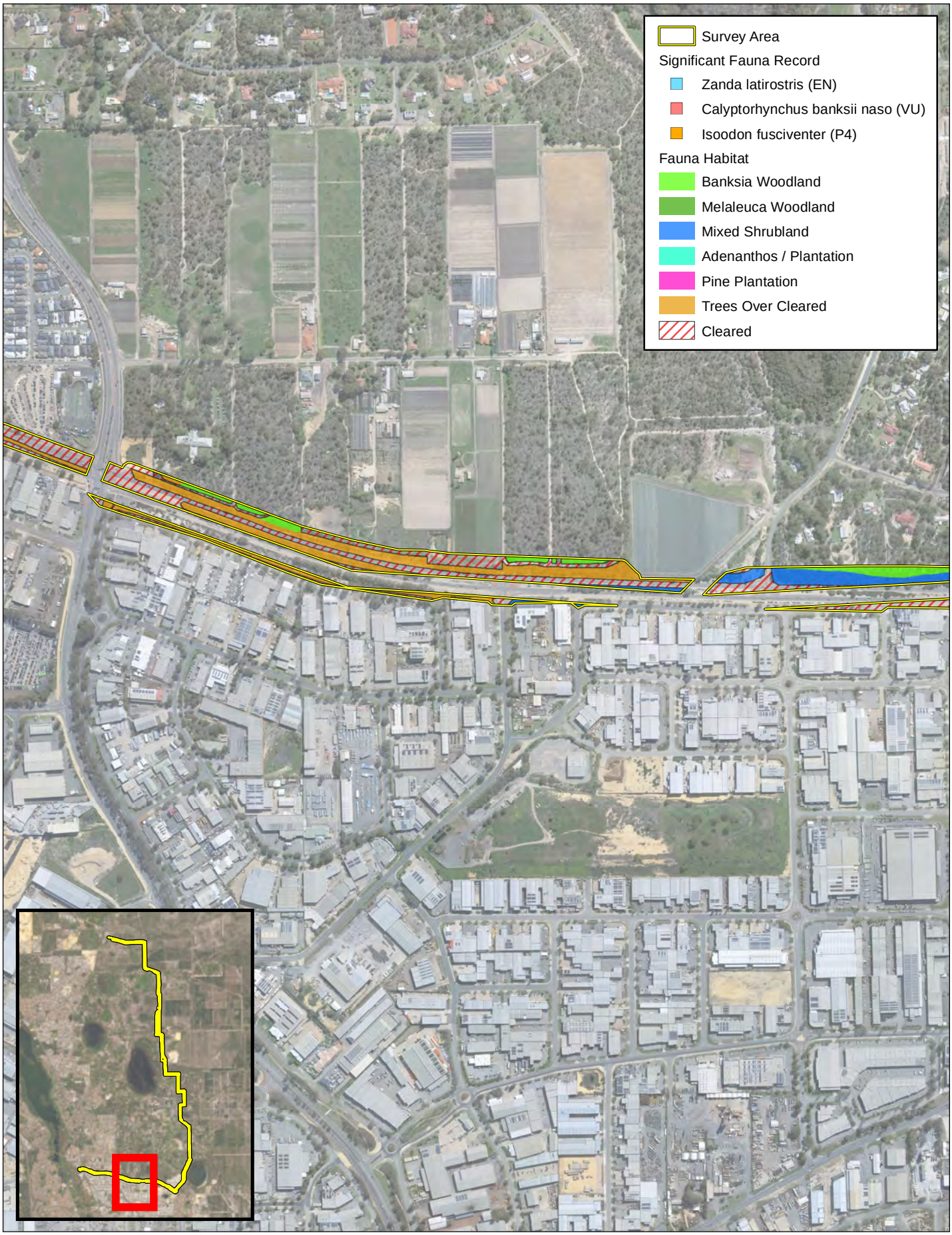
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Fauna Habitat and Significant Fauna Records

MAP 11f



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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 5/03/2026
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Fauna Habitat and Significant Fauna Records

MAP 11g

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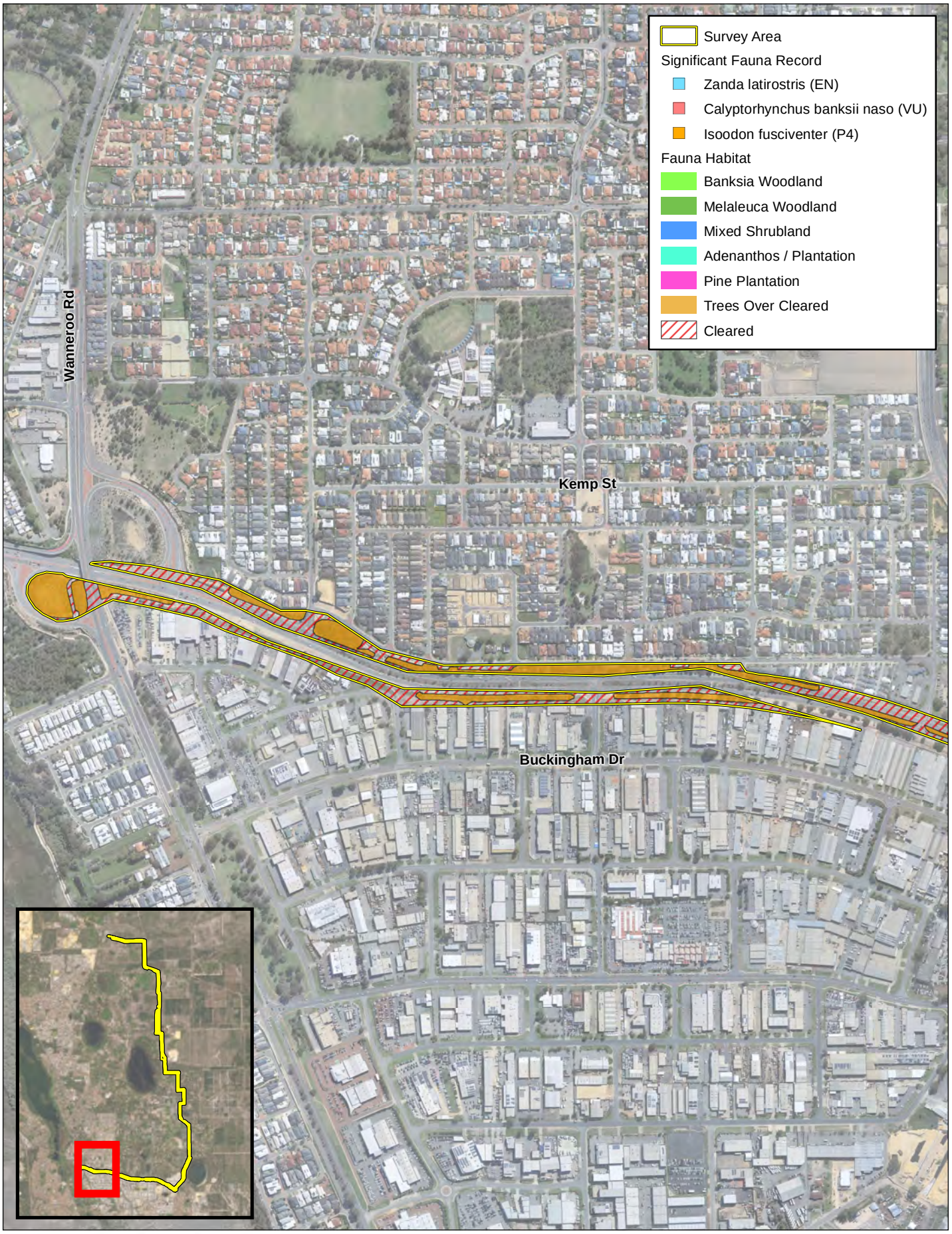

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 5/03/2026
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Fauna Habitat and Significant Fauna Records

MAP 11h

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M11h Fauna Habitat and Significant Fauna Records_250305.mxd

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Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat

MAP 12a

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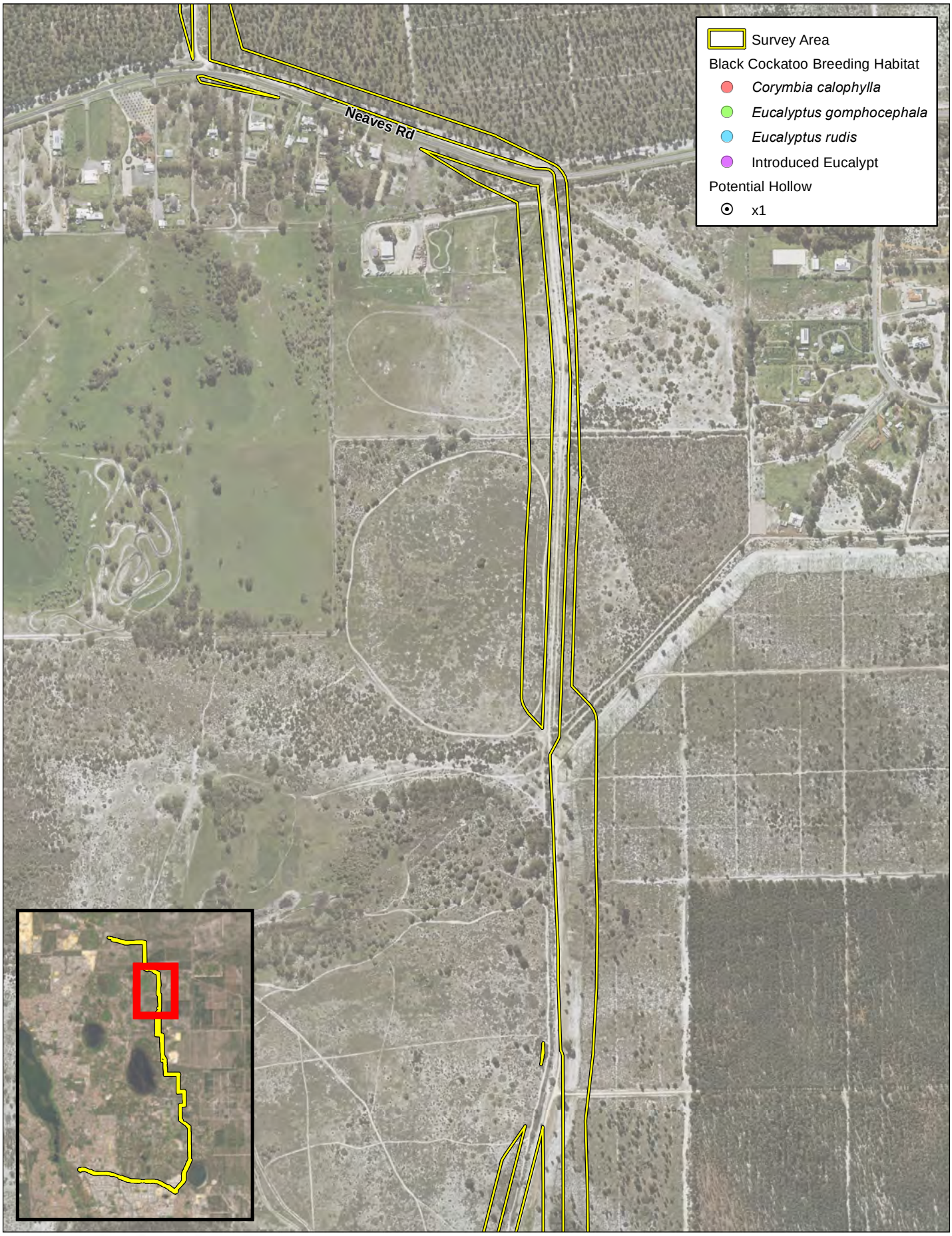

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Service Layer Credits: Landgate / SLIP

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
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Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat

MAP 12b

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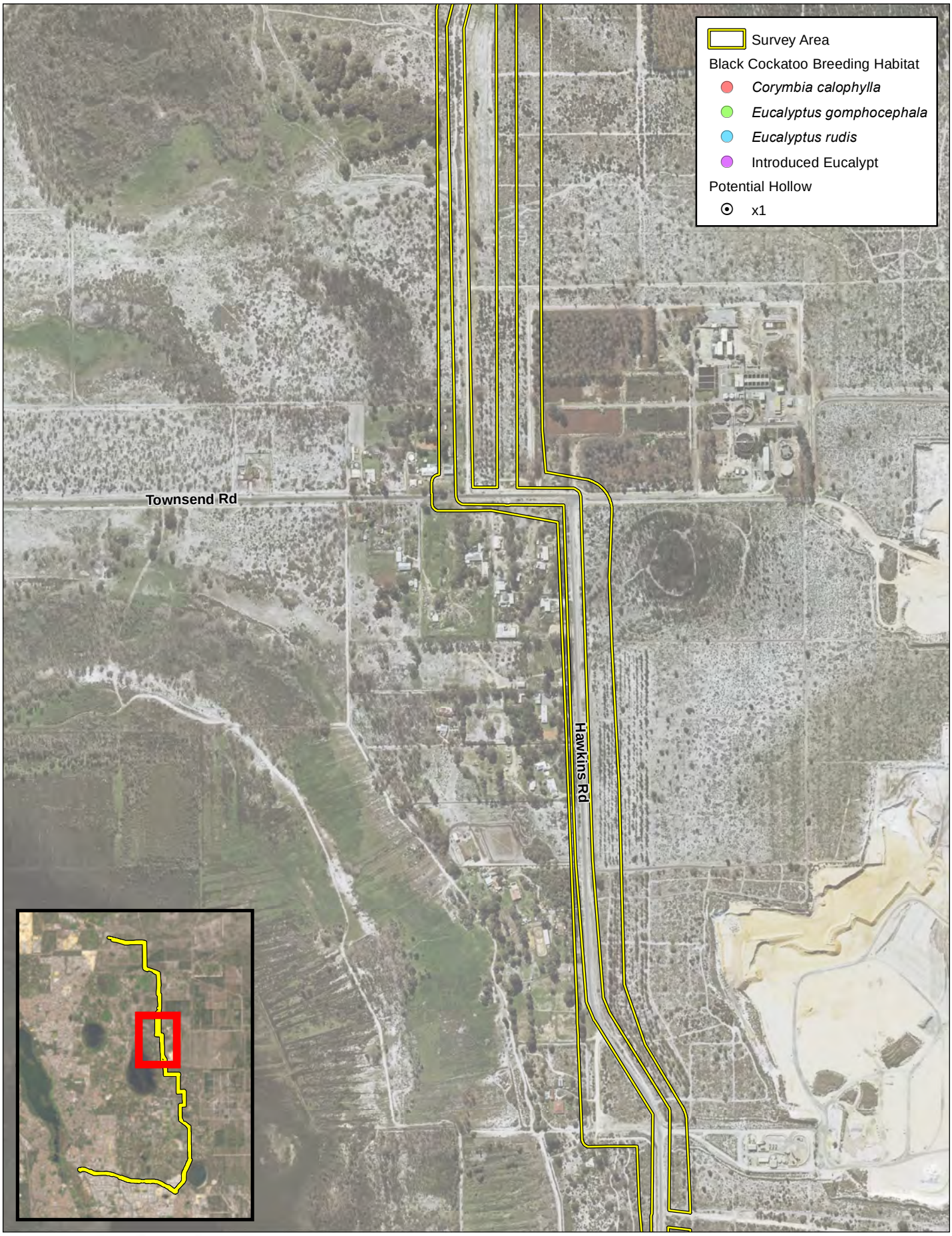

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Coordinate System: GDA2020 MGA Zone 50

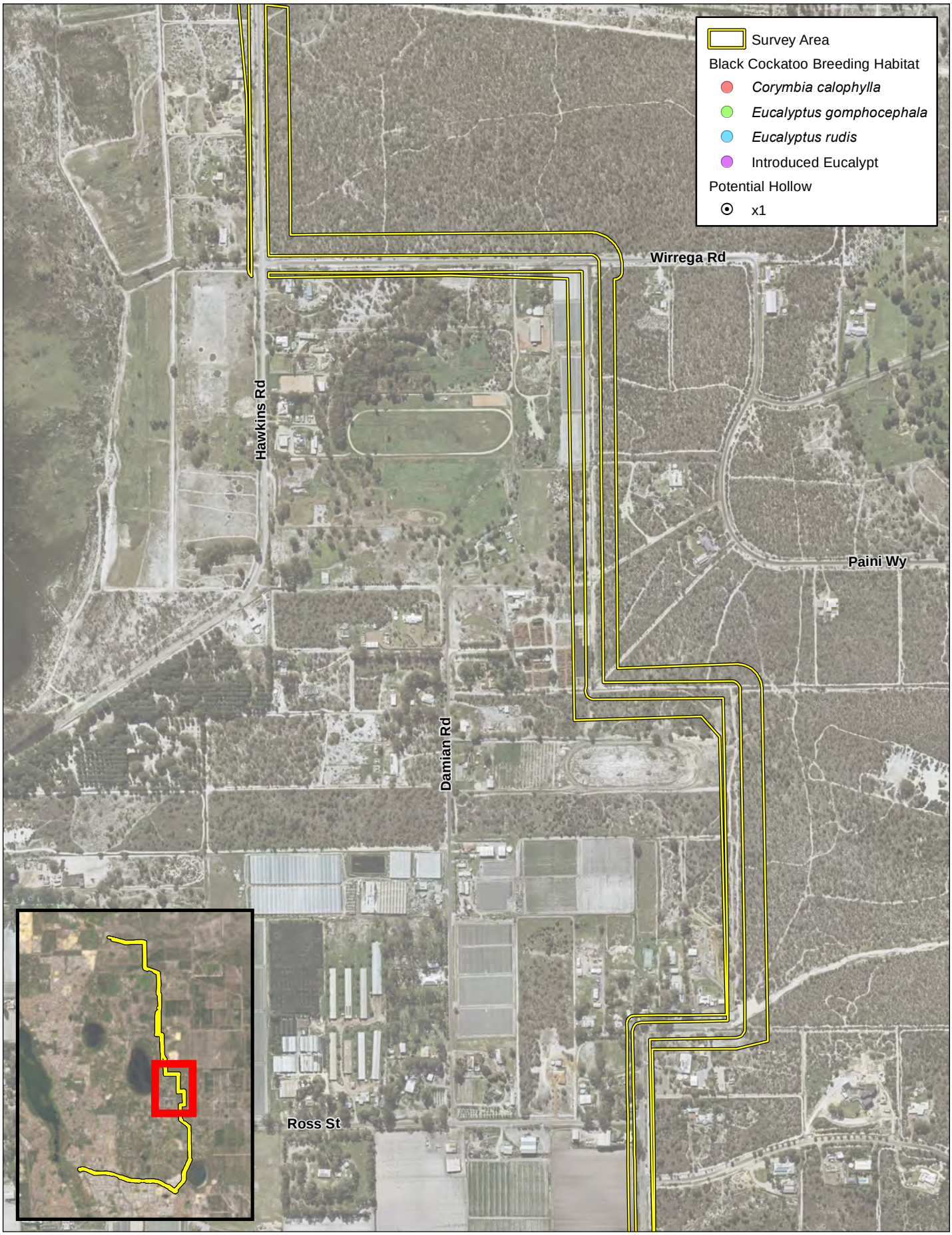
Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat

MAP 12c



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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat
MAP 12d

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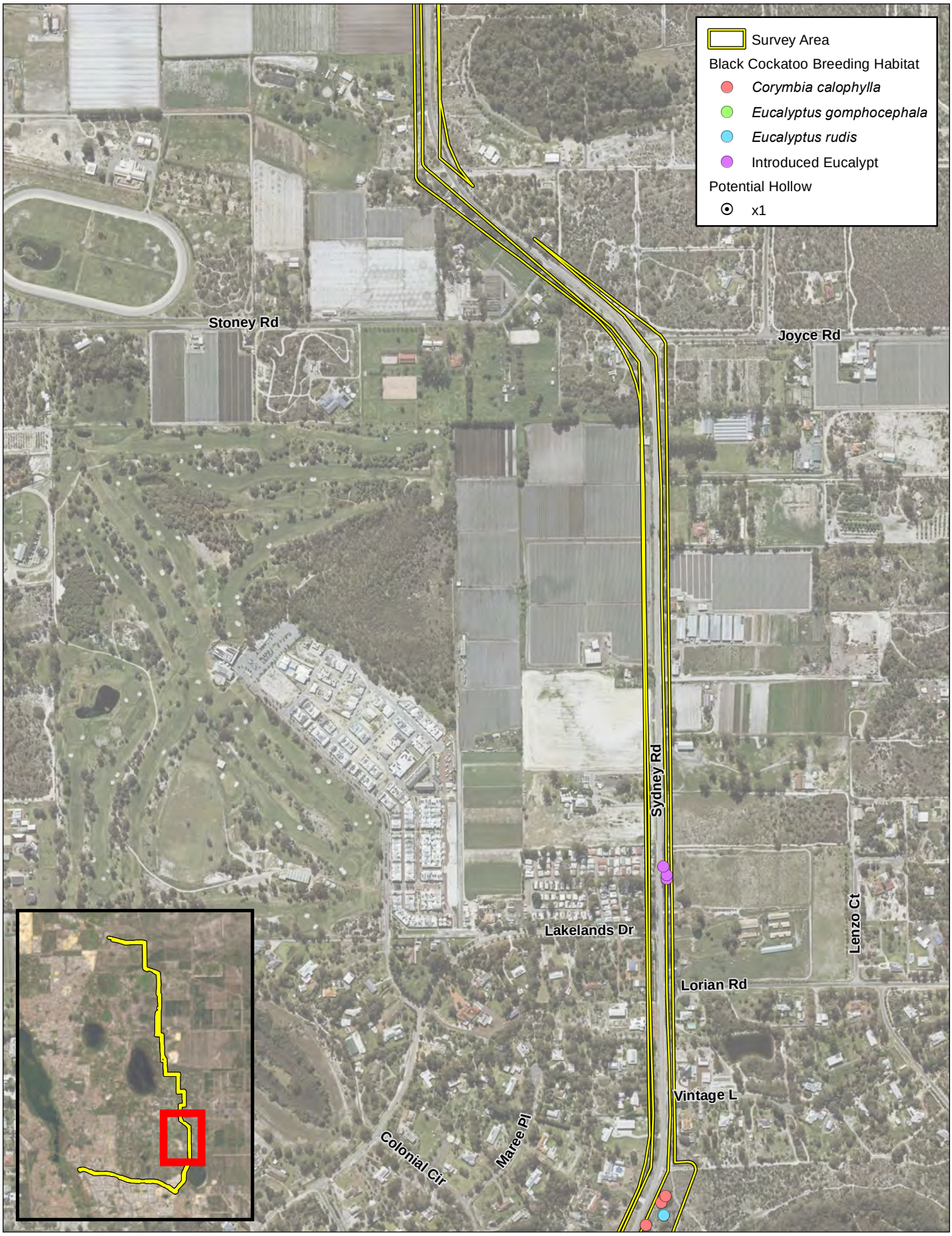

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Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

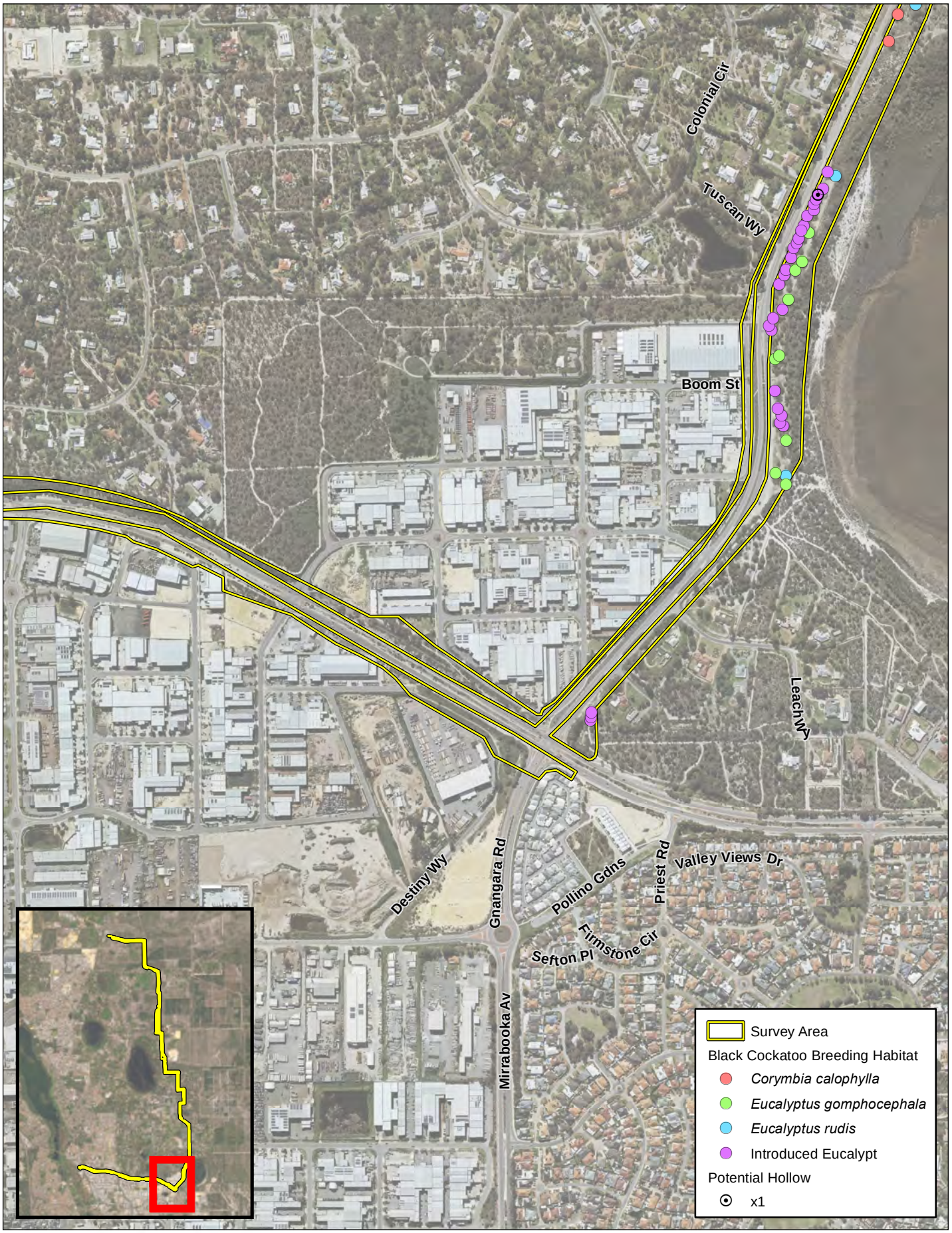
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat

MAP 12e

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M12e Black Cockatoo Breeding Habitat_250224.mxd



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Coordinate System: GDA2020 MGA Zone 50

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Project Number	: 675.073020.00001
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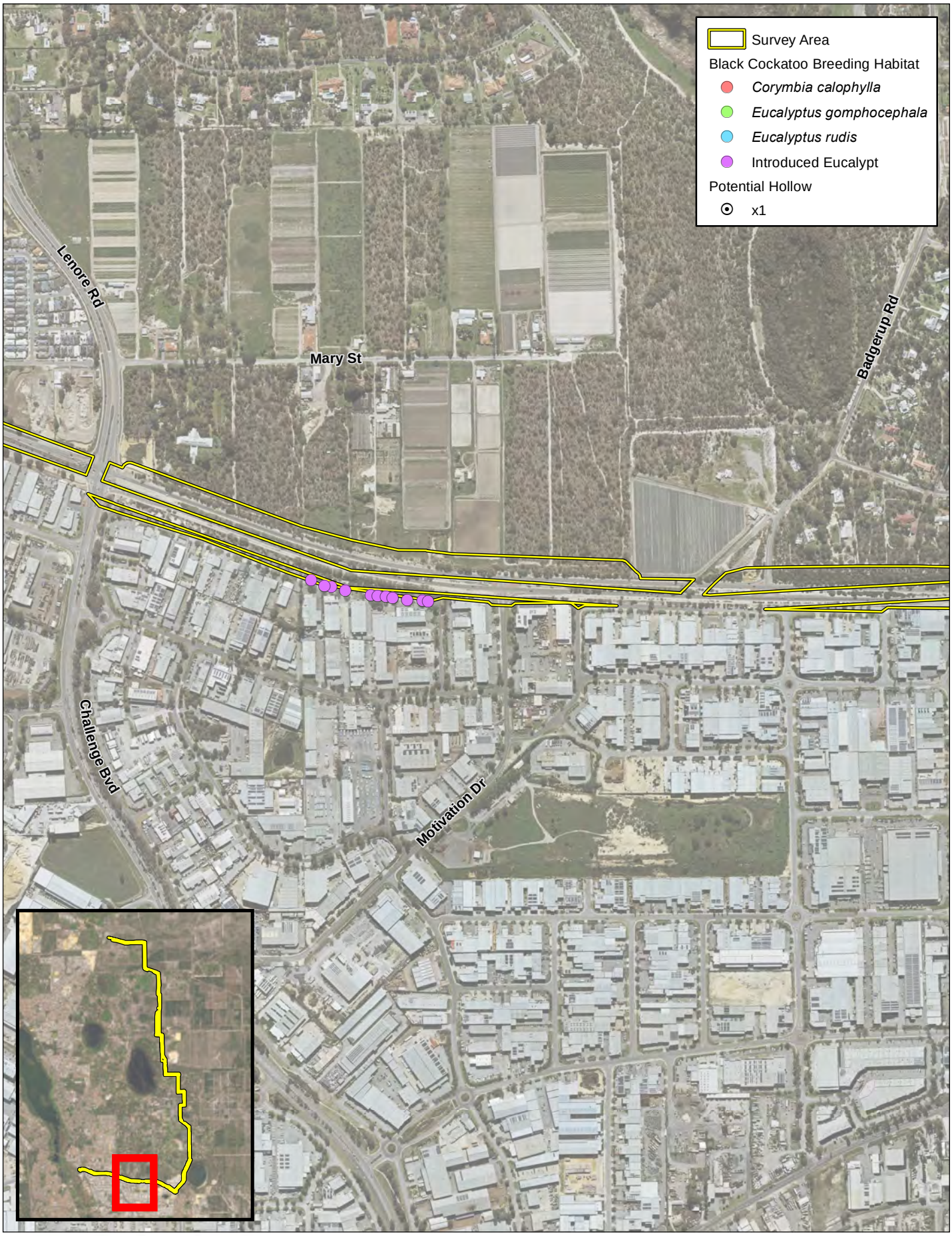
Western Power
Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat
MAP 12f



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Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat

MAP 12g

N 0 100 200 400 m

Service Layer Credits: Landgate / SLIP

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Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:10,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 24/02/2025
Drawn By	: Environmaps
Reviewed By	: GB

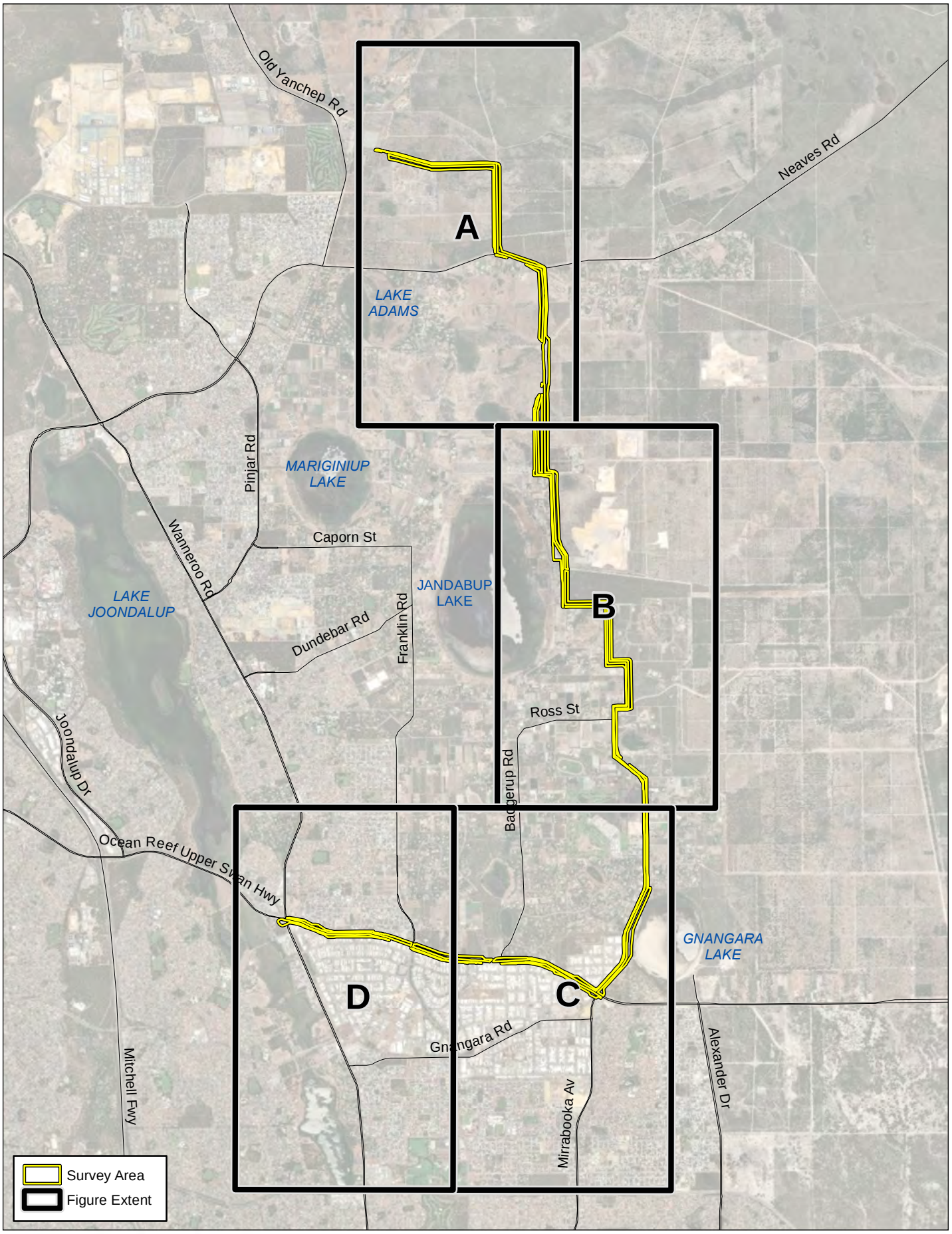
Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Black Cockatoo Breeding Habitat

MAP 12h

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M12h Black Cockatoo Breeding Habitat_250224.mxd



SLR

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N 0 0.75 1.5 3 km

Service Layer Credits: Landgate / SLIP

Coordinate System: GDA2020 MGA Zone 50

Scale	: 1:75,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2026
Drawn By	: Environmaps
Reviewed By	: GB

Western Power

Neerabup Terminal Transmisson Corridor: Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Bamford Consulting Scoring System Outcomes

MAP 13

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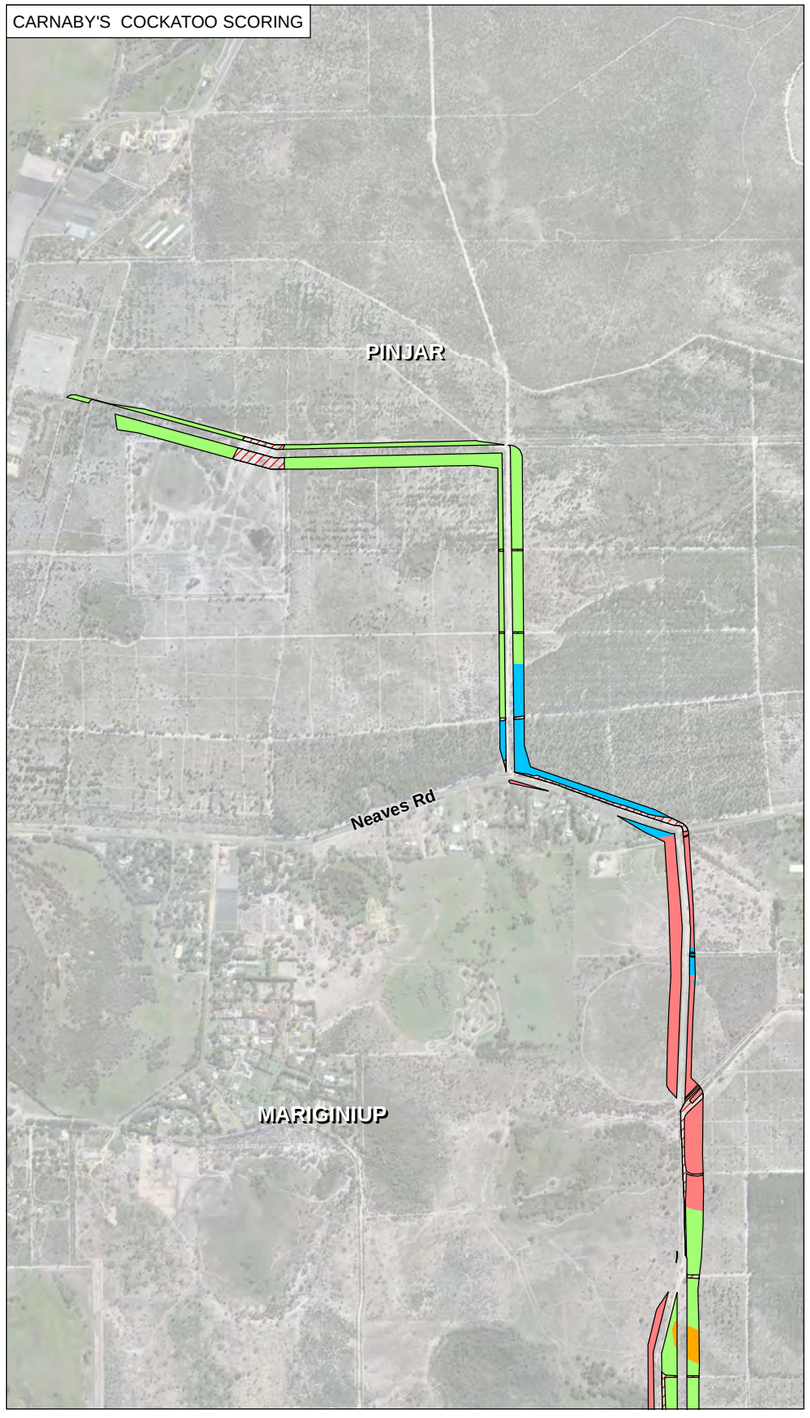
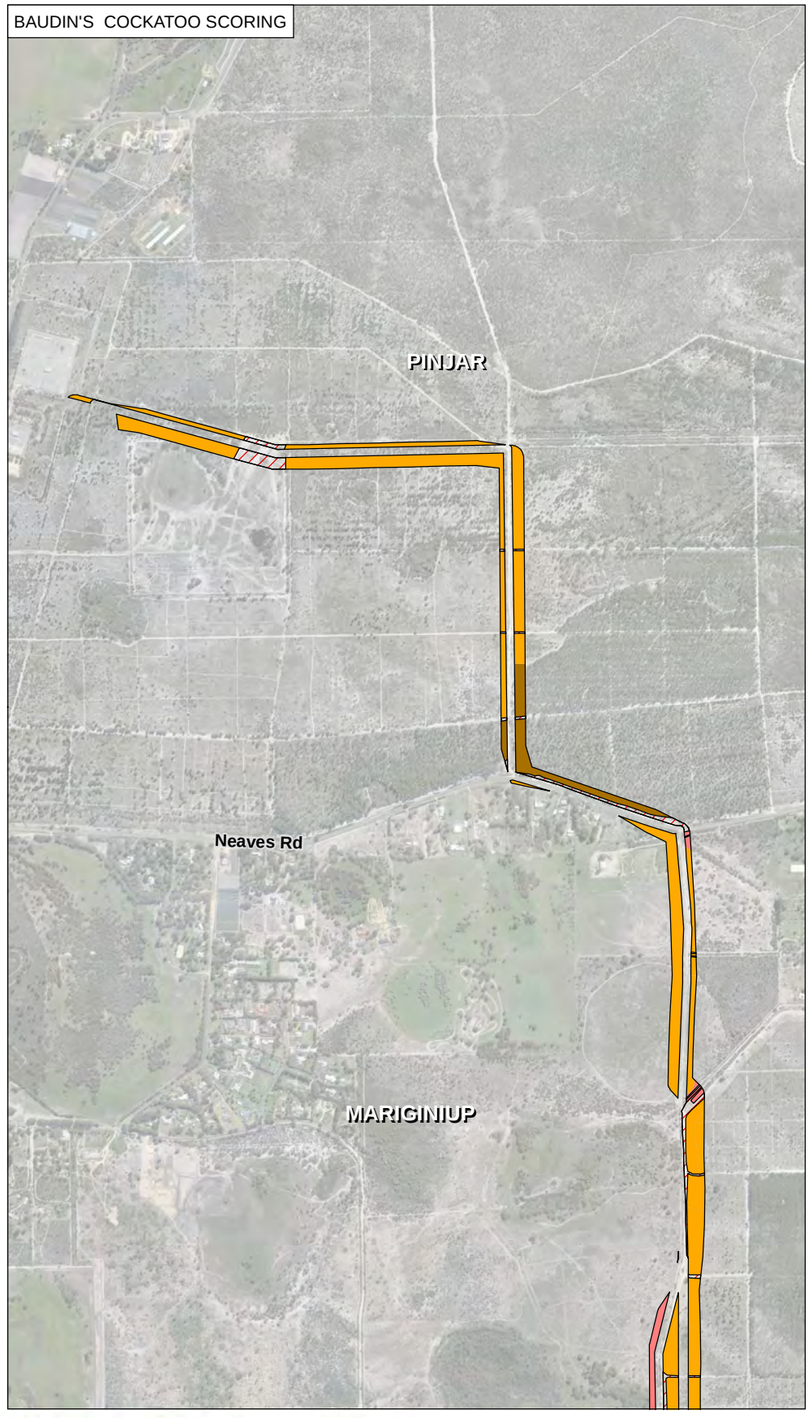
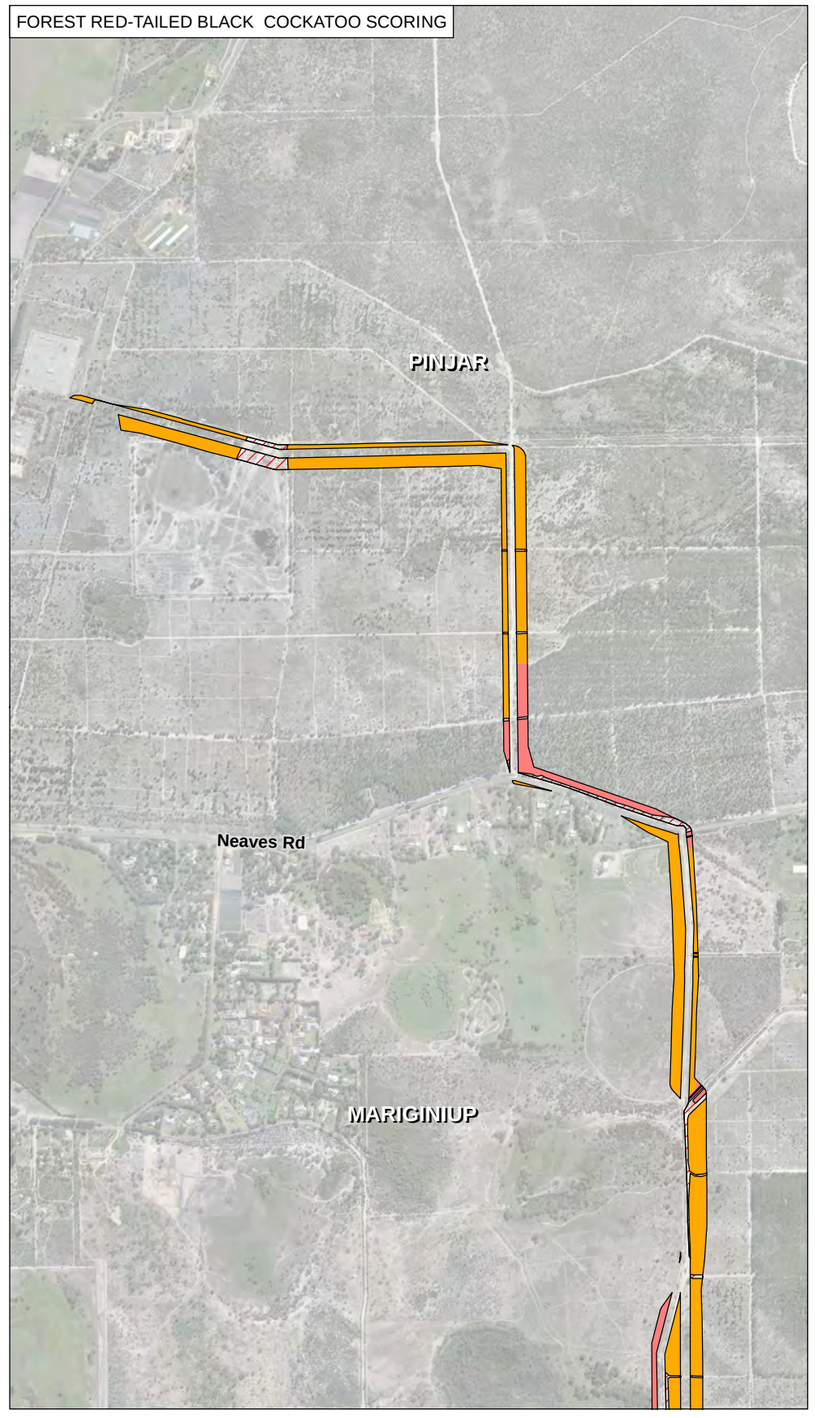
CARNABY'S COCKATOO SCORING



BAUDIN'S COCKATOO SCORING



FOREST RED-TAILED BLACK COCKATOO SCORING



Carnaby's Cockatoo Scoring	Baudin's Cockatoo Scoring	Forest Red-tailed Black Cockatoo Scoring
0	0	0
1	1	1
2	2	2
6	3	
7	4	

SLR

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N 0 0.25 0.5 1 km

Service Layer Credits: Landgate / SLIP

Coordinate System : GDA2020 MGA Zone 50
Scale : 1:25,000 @ A4
Project Number : 675.073020.00001
Date Drawn : 25/02/2026
Drawn By : Environmaps
Reviewed By : SG

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Bamford Consulting Scoring System Outcomes
MAP 13a

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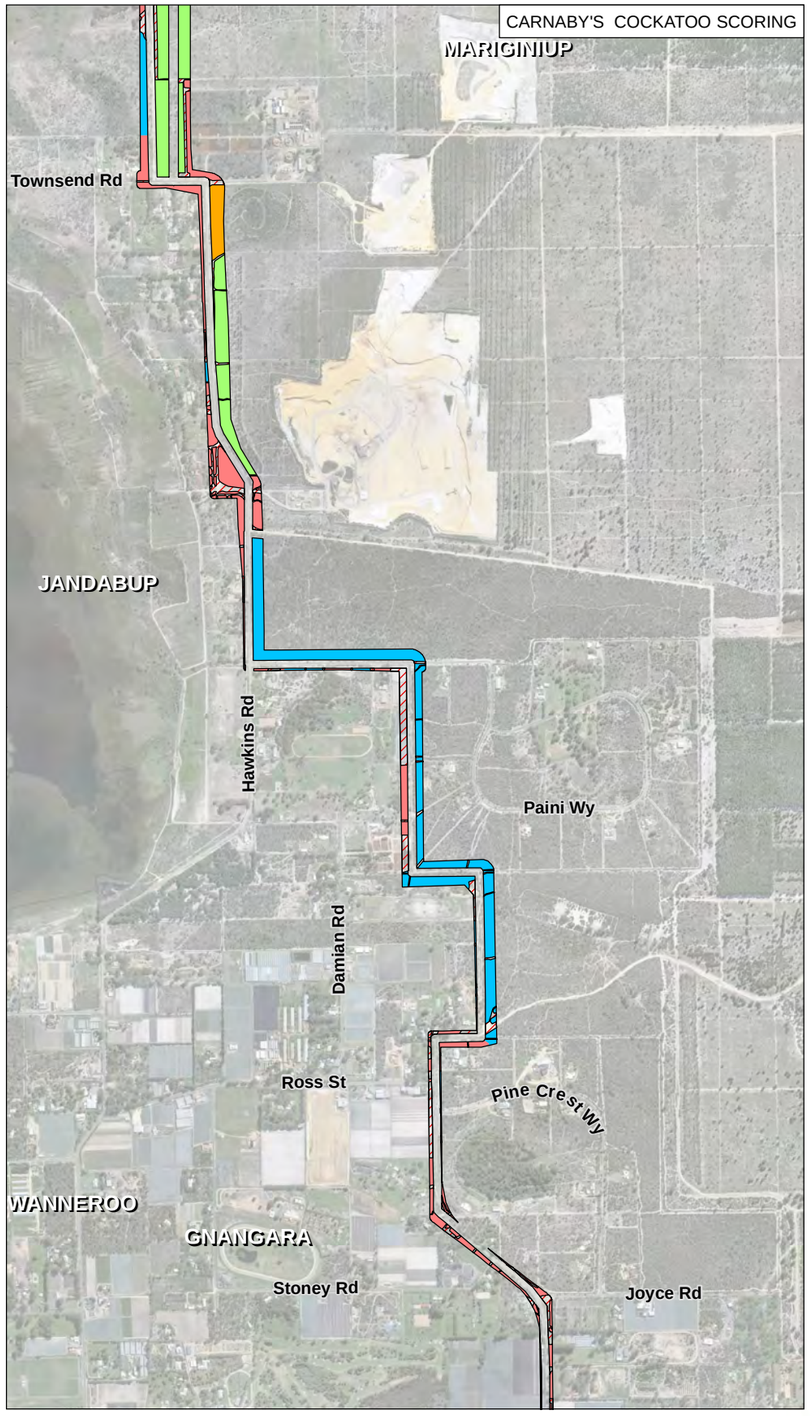

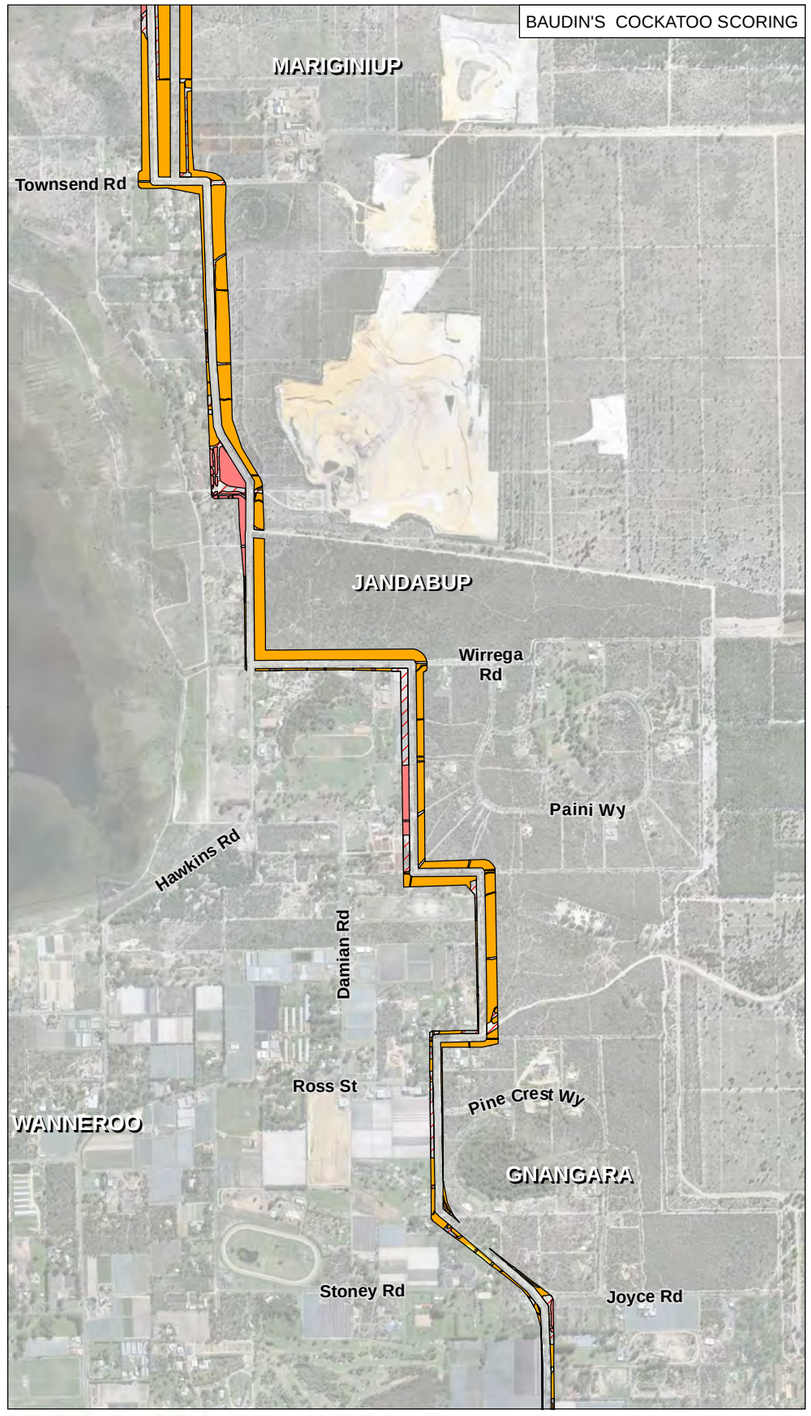

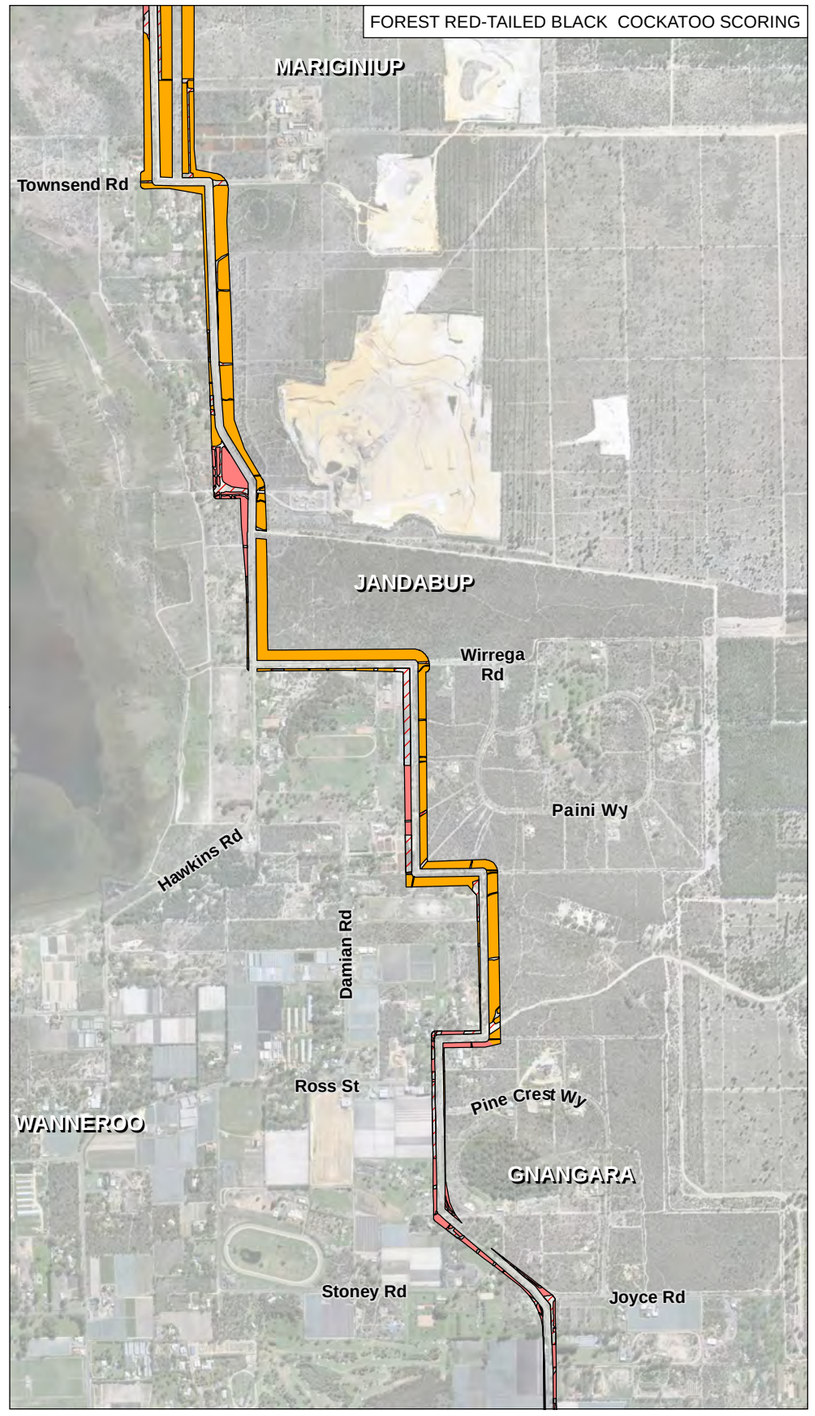

Carnaby's Cockatoo Scoring	Baudin's Cockatoo Scoring	Forest Red-tailed Black Cockatoo Scoring
0	0	0
1	1	1
2	2	2
6	3	
7	4	

SLR

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding data's accuracy or reliability for any purpose.

N 0 0.25 0.5 1 km

Service Layer Credits: Landgate / SLIP

Coordinate System	: GDA2020 MGA Zone 50
Scale	: 1:25,000 @ A4
Project Number	: 675.073020.00001
Date Drawn	: 25/02/2026
Drawn By	: Environmaps
Reviewed By	: SG

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Bamford Consulting Scoring System Outcomes
MAP 13b

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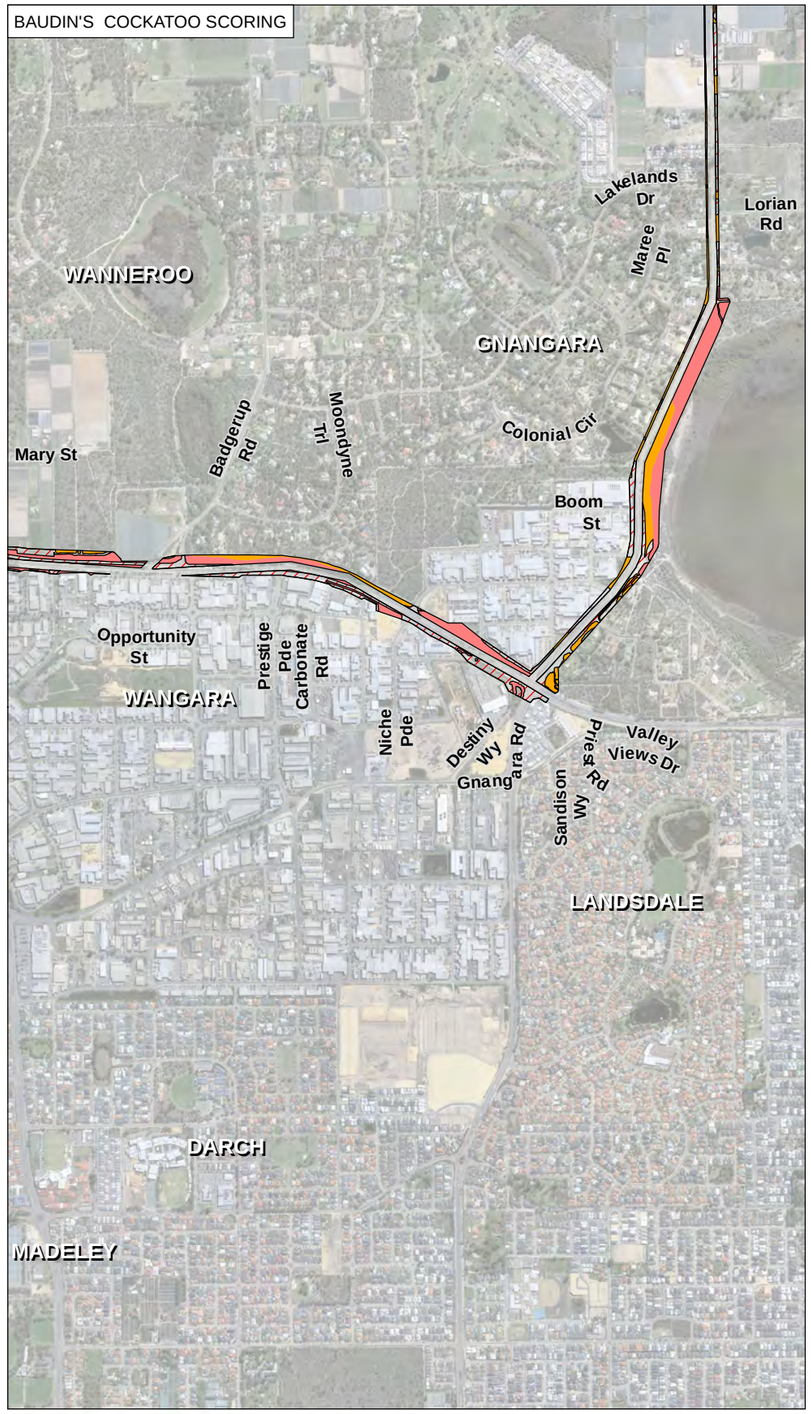
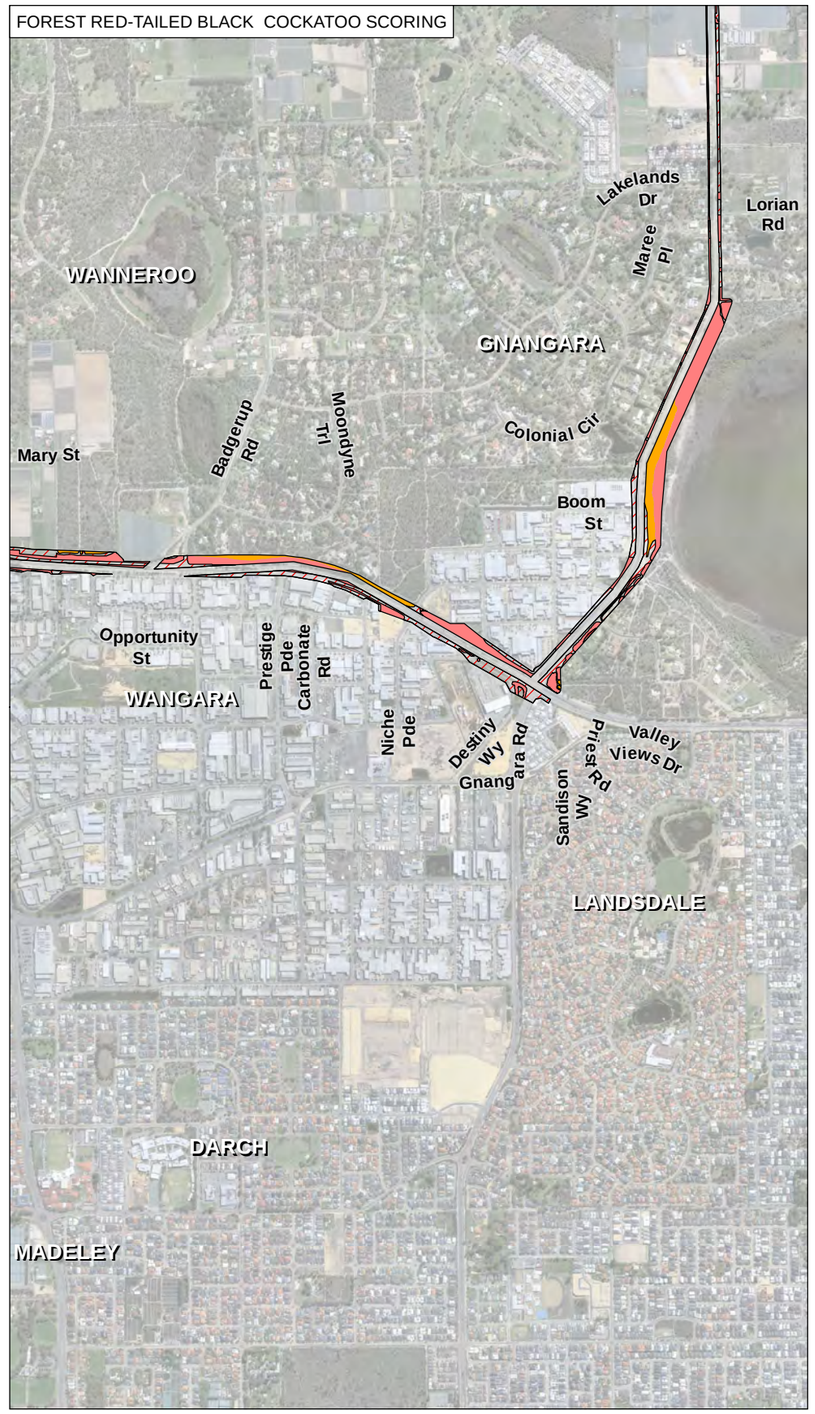




Carnaby's Cockatoo Scoring
- 0
- 1
- 2
- 6
- 7

Baudin's Cockatoo Scoring
- 0
- 1
- 2
- 3
- 4

Forest Red-tailed Black Cockatoo Scoring
- 0
- 1
- 2

SLR

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding data's accuracy or reliability for any purpose.

N

0 0.25 0.5 1 km

Service Layer Credits: Landgate / SLIP

Coordinate System : GDA2020 MGA Zone 50
Scale : 1:25,000 @ A4
Project Number : 675.073020.00001
Date Drawn : 25/02/2026
Drawn By : Environmaps
Reviewed By : SG

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Bamford Consulting Scoring System Outcomes
MAP 13c

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M13c Bamford Consulting Scoring System Outcomes_260225.mxd

Carnaby's Cockatoo Scoring
- 0
- 1
- 2
- 6
- 7

Baudin's Cockatoo Scoring
- 0
- 1
- 2
- 3
- 4

Forest Red-tailed Black Cockatoo Scoring
- 0
- 1
- 2

SLR

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding data's accuracy or reliability for any purpose.

N

0 0.25 0.5 1 km

Service Layer Credits: Landgate / SLIP

Coordinate System : GDA2020 MGA Zone 50
Scale : 1:25,000 @ A4
Project Number : 675.073020.00001
Date Drawn : 25/02/2026
Drawn By : Environmaps
Reviewed By : SG

Western Power
Neerabup Terminal Transmisson Corridor:
Preliminary Flora and Vegetation,
Fauna and Black Cockatoo Surveys

Bamford Consulting Scoring System Outcomes
MAP 13d

C:\GIS\Jobs\360\675.073020.00001 - Neerabup Terminal Transmisson Corridor\Figures\675-073020-00001_M13d Bamford Consulting Scoring System Outcomes_260225.mxd

Appendix B Flora Recorded During the Survey

Neerabup Terminal Transmission Corridor

Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Western Power

SLR Project No.: 675.073758.00001

20 February 2026

Appendix B: Flora Inventory

Family	Taxa	Status
Aizoaceae	*Carpobrotus sp.*	
	Carpobrotus edulis	Introduced
Anarthriaceae	*Lyginia barbata*	
Apiaceae	*Foeniculum vulgare*	Introduced
Asparagaceae	*Asparagus asparagoides*	Introduced (DP, WoNS)
Asteraceae	*Sonchus oleraceous*	Introduced
	Ursinia anthemoides	Introduced
Cactaceae	*Opuntia tomentosa*	Introduced (DP, WoNS)
Cyperaceae	*Machaerina juncea*	
Dilleniaceae	*Hibbertia subvaginata*	
Euphorbiaceae	*Euphorbia terracina*	Introduced
Fabaceae	*Acacia iteaphylla*	Introduced
	Acacia longifolia	Introduced
	Acacia saligna	
	Gompholobium tomentosum	
	Bossiaea eriocarpa	
	Jacksonia floribunda	
Geraniaceae	*Pelargonium capitatum*	Introduced
Goodeniaceae	*Dampiera linearis*	
Haemodoraceae	*Haemodorum spicatum*	
Iridaceae	*Gladiolus caryophyllaceus*	Introduced
	Patersonia occidentalis	
Myrtaceae	*Eremaea pauciflora*	
	Trachyandra divaricata	Introduced
	Astartea scoparia	
	Hypocalymma robustum	
	Melaleuca preissiana	
	Eucalyptus marginata	
Orchidaceae	*Caladenia flava*	
Poaceae	*Ehrharta calycina*	Introduced
	Avena sp.	Introduced
	Briza maxima	Introduced
	Eragrostis curvula	Introduced
	Austrostipa elegantissima	
Proteaceae	*Adenanthos cygnorum*	
	Banksia attenuata	
	Banksia menzeisii	
	Grevillea olivacea	Priority 4
	Banksia attenuata	
Restionaceae	*Alexgeorgea nitens*	
Xanthorrhoeaceae	*Xanthorrhoea preissii*	

Appendix C Flora Site Sheet

Neerabup Terminal Transmission Corridor

Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Western Power

SLR Project No.: 675.073758.00001

20 February 2026

FLORA SITE SHEET

Project Name Neerabup Terminal Transmission Corridor - Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Site: NWPR1
Location -31.741429, 115.860628

Described by: Louisa Cockram, Grant Buller
Date: 10-12-2024
Type: Relevé 10 x 10 m

Landform: Plain
Rock Type: n/a
Soil Type: Sand
Soil Colour: Grey

Vegetation: *Banksia woodland analogous to the 'Banksia woodlands of the Swan Coastal Plain' TEC*

Condition: Very Good
Fire Age: >10 years
Disturbance Type: Weeds
Fire Evidence:

SPECIES LIST

Taxon	Height (cm)	Cover (%)	Notes
Acacia pulchella	60	5	
Adenanthos cygnorum	120	1	
Alexgeorgea nitens	10	2	
Banksia attenuata	400	15	
Banksia menzeisii	400	5	
Bossiaea eriocarpa	40	1	
Briza maxima	20	1	Introduced
Carpobrotus sp.	15	1	
Dampiera linearis	20	0.1	
Ehrharta calycina	100	2	Introduced
Eremaea pauciflora	40	4	
Gladiolus caryophyllaceus	100	0.1	Introduced
Gompholobium tomentosum	40	0.1	
Haemodorum spicatum	150	0.1	
Hibbertia subvaginata	40	0.5	
Hypocalymma robustum	50	2	
Jacksonia floribunda	180	2	
Lyginia barbata	20	0.5	
Melaleuca preissiana	400	5	
Patersonia occidentalis	45	1	
Pelargonium capitatum	40	1	Introduced
Sonchus oleraceous	10	0.1	Introduced
Ursinia anthemoides	20	2	Introduced
Xanthorrhoea preissii	180	20	

Appendix D Fauna Site Sheets

Neerabup Terminal Transmission Corridor

Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

Western Power

SLR Project No.: 675.073758.00001

20 February 2026

073020-HAB-01-DL

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.7846206	**Longitude**	115.8141125
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform	Undulating plain	**Rock type/s**	None
Aspect	Northeast	**Pebble/stone cover**	Absent
Soil type	Sand	**Rock/boulder cover**	Absent
Soil colour	Grey	**Outcropping cover**	Absent
Condition		**Habitat Features**	
Quality	Very low	**Water Source**	Absent
Fire History	Unknown	**Microhabitats**	Peeling bark
Disturbance	Clearing,Dust,Weeds		
Introduced fauna	None observed	**Leaf litter cover**	5 - 25%

Vegetation			
Upper stratum	Mid (10-30 m)	Open woodland (0.25-20%)	*Tuart, Marri*
Mid stratum	Mid (1-2 m)	Isolated shrubs and/or heath shrubs (<0.25%)	*Banksia sp. and Xanthoria sp.*
Ground stratum	Absent		

Fulcrum photo ID	8f4e637e-d5d1-4730-8b17-2d0c9a54ef65,cd70e61d-c53b-4d52-a86c-

073020-HAB-02-LB

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.789266	**Longitude**	115.8432556
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform	Dune slope	**Rock type/s**	None
Aspect	South	**Pebble/stone cover**	
Soil type	Sand	**Rock/boulder cover**	
Soil colour	Grey	**Outcropping cover**	
Condition		**Habitat Features**	
Quality	Moderate	**Water Source**	Absent
Fire History	Unknown	**Microhabitats**	Peeling bark,Tree hollows
Disturbance	Infrastructure,Litter		
Introduced fauna	None observed	**Leaf litter cover**	5 - 25%

Vegetation			
Upper stratum	Absent		
Mid stratum	Tall (>2 m)	Woodland (20-50%)	*Banksia attenuata, Persunia sp., Tuarts*
Ground stratum	Low (>0.5 m)	Sparse shrubland and/or heathland (0.25-20%)	*Tysonotis sp., calytrix sp.*

Fulcrum photo ID	a695f7a3-d353-4db6-becf-33bc93270a90,5d734d9f-41a1-4f96-b458-

073020-HAB-03-DL

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.681868	**Longitude**	115.8416378
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform	Undulating plain	**Rock type/s**	None
Aspect	East	**Pebble/stone cover**	Absent
Soil type	Sand	**Rock/boulder cover**	Absent
Soil colour	Grey	**Outcropping cover**	Absent
Condition		**Habitat Features**	
Quality	Very low	**Water Source**	Absent
Fire History	Unknown	**Microhabitats**	Woody debris
Disturbance	Litter,Vehicle tracks,Weeds		
Introduced fauna	None observed	**Leaf litter cover**	<5%

Vegetation			
Upper stratum	Low (<10 m)	Open woodland (0.25-20%)	Commercial pine
Mid stratum	Tall (>2 m)	Open woodland (0.25-20%)	*Melaleuca over Adenanthos scynorum, Xanthoria sp.*
Ground stratum	Mid (0.5-1 m)	Tussock grassland (50-80%)	Predominantly weeds

Fulcrum photo ID	5a37bc81-6bd1-4365-a108-1d5a0c0a792d

073020-HAB-04-DL

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.71249944	**Longitude**	115.8506691
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform		**Rock type/s**	
Aspect		**Pebble/stone cover**	
Soil type		**Rock/boulder cover**	
Soil colour		**Outcropping cover**	
Condition		**Habitat Features**	
Quality		**Water Source**	
Fire History		**Microhabitats**	
Disturbance			
Introduced fauna		**Leaf litter cover**	

Vegetation			
Upper stratum	Mid (10-30 m)	Isolated trees (<0.25%)	Commercial pine
Mid stratum	Absent		
Ground stratum	Mid (0.5-1 m)	Sparse tussock grassland (0.25-20%)	Weeds

Fulcrum photo ID	cc9d6de0-c5c7-4ad0-9d2e-2dd17d9b0a06

073020-HAB-05-LB

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.7937796	**Longitude**	115.858714
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform	Gully	**Rock type/s**	None
Aspect	Negligible	**Pebble/stone cover**	
Soil type	Sand	**Rock/boulder cover**	
Soil colour	Grey	**Outcropping cover**	
Condition		**Habitat Features**	
Quality	Very low	**Water Source**	Absent
Fire History	Unknown	**Microhabitats**	Peeling bark,Woody debris
Disturbance	Clearing,Infrastructure		
Introduced fauna	None observed	**Leaf litter cover**	25 - 50%

Vegetation			
Upper stratum	Mid (10-30 m)	Open woodland (0.25-20%)	*Tuart*
Mid stratum	Tall (>2 m)	Sparse shrubland and/or heathland (0.25-20%)	*Banksia attenuata, Wollybush*
Ground stratum	Mid (0.5-1 m)	Isolated grasses (<0.25%)	*Weeds*

Fulcrum photo ID	a73425d7-e9c6-47c7-9489-b9dedb2d99e8,0f95d20a-e90f-44ec-

073020-HAB-06-DL

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.71941401	**Longitude**	115.8490313
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform	Undulating plain	**Rock type/s**	
Aspect	South	**Pebble/stone cover**	
Soil type	Sand	**Rock/boulder cover**	
Soil colour	Grey	**Outcropping cover**	
Condition		**Habitat Features**	
Quality	Very low	**Water Source**	
Fire History	Unknown	**Microhabitats**	Woody debris
Disturbance	Clearing,Litter,Vehicle tracks,Weeds		
Introduced fauna	None observed	**Leaf litter cover**	Absent

Vegetation			
Upper stratum	Low (<10 m)	Open woodland (0.25-20%)	*Banksia, Nuytsia floribunda*
Mid stratum	Mid (1-2 m)	Isolated trees (<0.25%)	*Xanthoria sp., Cycad*
Ground stratum	Mid (0.5-1 m)	Open grassland (20-50%)	Weeds

Fulcrum photo ID	d6d504ec-540a-4521-a37a-0fc20108806b

073020-HAB-07-DL

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.7256324	**Longitude**	115.8518382
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform	Undulating plain	**Rock type/s**	
Aspect	Negligible	**Pebble/stone cover**	
Soil type	Sand	**Rock/boulder cover**	
Soil colour	Grey	**Outcropping cover**	
Condition		**Habitat Features**	
Quality	Very low	**Water Source**	
Fire History	Burnt (1-5 years)	**Microhabitats**	
Disturbance	Clearing,Vehicle tracks,Weeds		
Introduced fauna		**Leaf litter cover**	Absent

Vegetation			
Upper stratum	Low (<10 m)	Woodland (20-50%)	*Melaleuca sp.*
Mid stratum	Absent		
Ground stratum	Mid (0.5-1 m)	Open tussock grassland (20-50%)	*Weeds and isolated shrubs*

Fulcrum photo ID	2e0c5f92-fa70-4915-b1ff-f1425c2d3d77

073020-HAB-08-LB

Project	Neerabup Terminal Power Corridor			**Latitude**	-31.6993906	**Longitude**	115.8506796
Date	10-12-2024	**Sample Type**	Habitat Assessment - Habitat Assessment			**Weather**	

Landform and Soil		**Rock**	
Landform	Undulating plain	**Rock type/s**	None
Aspect	North	**Pebble/stone cover**	
Soil type	Sand	**Rock/boulder cover**	
Soil colour	Grey	**Outcropping cover**	
Condition		**Habitat Features**	
Quality	Very low	**Water Source**	Absent
Fire History	Unknown	**Microhabitats**	Peeling bark
Disturbance	Clearing,Weeds		
Introduced fauna	None observed	**Leaf litter cover**	Absent

Vegetation			
Upper stratum	Low (<10 m)	Open woodland (0.25-20%)	*Nuytsia floribunsa, eucalyptus todtiana*
Mid stratum	Mid (1-2 m)	Open woodland (0.25-20%)	*Xanthoria sp., melaleuca sp*
Ground stratum	Low (>0.5 m)	Closed grassland (>80%)	Weeds

Fulcrum photo ID	9f32ec33-0fa5-4894-966a-c211138e00e4,3af16720-6a13-44ed-8c15-

Appendix E Black Cockatoo Nesting Trees

Neerabup Terminal Transmission Corridor

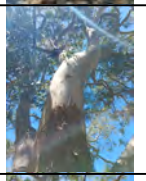
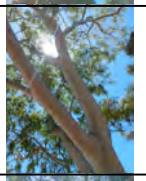
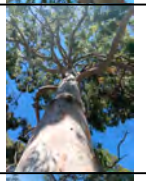
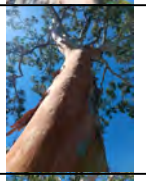
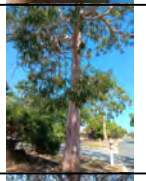
Preliminary Flora and Vegetation, Fauna and Black Cockatoo Surveys

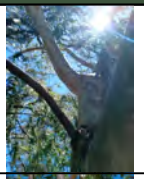
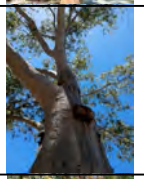
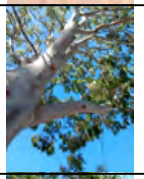
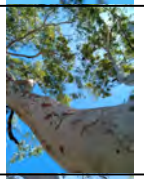
Western Power

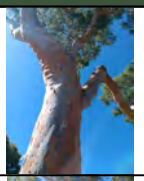
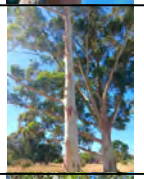
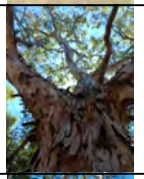
SLR Project No.: 675.073758.00001

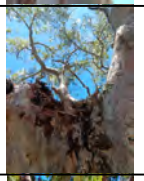
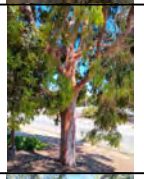
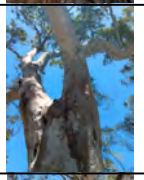
20 February 2026

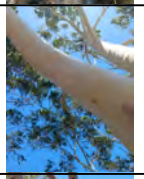
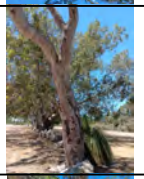
Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7807821	115.8657582	*Flooded gum (Eucalyptus rudis)*	Potential nesting tree (Category 5)	560	8	0	No		
-31.7892115	115.8629242	*Flooded gum (Eucalyptus rudis)*	Potential nesting tree (Category 5)	750	6	0	No		
-31.78384097	115.8640343	*Flooded gum (Eucalyptus rudis)*	Potential nesting tree (Category 5)	1200	8	0	No		
-31.79356775	115.8587674	Introduced Eucalypt	Potential nesting tree (Category 5)	500	8	0	No		
-31.7882634	115.8628141	Introduced Eucalypt	Potential nesting tree (Category 5)	500	8	0	No		
-31.7895134	115.8346081	Introduced Eucalypt	Potential nesting tree (Category 5)	500	10	0	No		
-31.7895535	115.8349202	Introduced Eucalypt	Potential nesting tree (Category 5)	500	11	0	No		

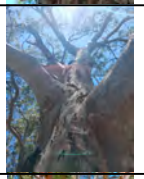
Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7893427	115.8336392	Introduced Eucalypt	Potential nesting tree (Category 5)	510	10	0	No		
-31.7881358	115.8628503	Introduced Eucalypt	Potential nesting tree (Category 5)	510	6	0	No		
-31.7863802	115.8626877	Introduced Eucalypt	Potential nesting tree (Category 5)	510	8	0	No		
-31.7895198	115.8347782	Introduced Eucalypt	Potential nesting tree (Category 5)	510	13	0	No		
-31.7895928	115.8352245	Introduced Eucalypt	Potential nesting tree (Category 5)	510	11	0	No		
-31.7893183	115.8334973	Introduced Eucalypt	Potential nesting tree (Category 5)	540	10	0	No		
-31.79350648	115.8587785	Introduced Eucalypt	Potential nesting tree (Category 5)	550	8	0	No		

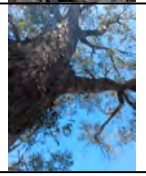
Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7880017	115.8627686	Introduced Eucalypt	Potential nesting tree (Category 5)	560	8	0	No		
-31.789402	115.8339315	Introduced Eucalypt	Potential nesting tree (Category 5)	570	10	0	No		
-31.7862313	115.8628851	Introduced Eucalypt	Potential nesting tree (Category 5)	580	9	0	No		
-31.7858736	115.8215312	Introduced Eucalypt	Potential nesting tree (Category 5)	590	8	0	No		
-31.7896027	115.835547	Introduced Eucalypt	Potential nesting tree (Category 5)	600	10	0	No		
-31.7865185	115.8625995	Introduced Eucalypt	Potential nesting tree (Category 5)	610	8	0	No		
-31.7849518	115.8632418	Introduced Eucalypt	Potential nesting tree (Category 5)	610	10	0	No		

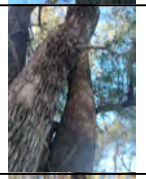
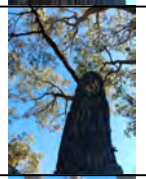
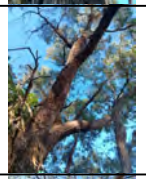
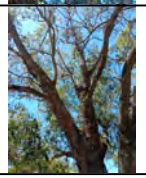
Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7896185	115.8356665	Introduced Eucalypt	Potential nesting tree (Category 5)	610	10	0	No		
-31.77468523	115.8658903	Introduced Eucalypt	Potential nesting tree (Category 5)	650	18	0	No		
-31.7894964	115.8344699	Introduced Eucalypt	Potential nesting tree (Category 5)	700	10	0	No		
-31.78921275	115.833215	Introduced Eucalypt	Potential nesting tree (Category 5)	700	12	0	No		
-31.7852994	115.8630747	Introduced Eucalypt	Potential nesting tree (Category 5)	720	9	0	No		
-31.783765	115.8638683	Introduced Eucalypt	Potential nesting tree (Category 5)	750	8	0	No		
-31.7858886	115.8217265	Introduced Eucalypt	Potential nesting tree (Category 5)	750	8	0	No		

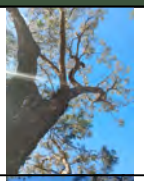
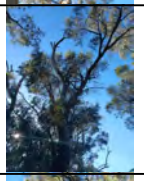
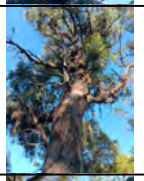
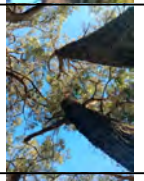
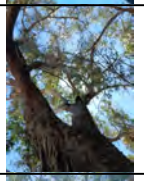
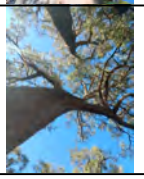
Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7934267	115.8587859	Introduced Eucalypt	Potential nesting tree (Category 5)	750	9	0	No		
-31.7876912	115.8627055	Introduced Eucalypt	Potential nesting tree (Category 5)	770	13	0	No		
-31.7851252	115.863134	Introduced Eucalypt	Potential nesting tree (Category 5)	770	10	0	No		
-31.7859676	115.8227141	Introduced Eucalypt	Potential nesting tree (Category 5)	780	8	0	No		
-31.7856068	115.8629319	Introduced Eucalypt	Potential nesting tree (Category 5)	780	9	0	No		
-31.7850396	115.863206	Introduced Eucalypt	Potential nesting tree (Category 5)	780	9	0	No		
-31.7843458	115.8635712	Introduced Eucalypt	Potential nesting tree (Category 5)	800	8	0	No		

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.784254	115.8636157	Introduced Eucalypt	Potential nesting tree (Category 5)	800	8	0	No		
-31.7865986	115.8626501	Introduced Eucalypt	Potential nesting tree (Category 5)	800	10	0	No		
-31.7845464	115.8634321	Introduced Eucalypt	Potential nesting tree (Category 5)	820	6	0	No		
-31.7847351	115.8633557	Introduced Eucalypt	Potential nesting tree (Category 5)	840	10	0	No		
-31.7840675	115.8637618	Introduced Eucalypt	Potential nesting tree (Category 5)	850	8	0	No		
-31.7883199	115.8628767	Introduced Eucalypt	Potential nesting tree (Category 5)	900	17	0	No		
-31.785775	115.8628206	Introduced Eucalypt	Potential nesting tree (Category 5)	920	9	0	No		

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7855136	115.8629696	Introduced Eucalypt	Potential nesting tree (Category 5)	920	9	0	No		
-31.7848152	115.8632981	Introduced Eucalypt	Potential nesting tree (Category 5)	920	12	0	No		
-31.7858563	115.8210728	Introduced Eucalypt	Potential nesting tree (Category 5)	1000	10	0	No		
-31.77475791	115.8658907	Introduced Eucalypt	Potential nesting tree (Category 5)	1100	15	0	No		
-31.7745339	115.8658242	Introduced Eucalypt	Potential nesting tree (Category 5)	1150	13	0	No		
-31.7844426	115.8635722	Introduced Eucalypt	Potential nesting tree (Category 5)	1200	8	0	No		
-31.7804432	115.8657972	*Marri (Corymbia calophylla)*	Potential nesting tree (Category 5)	520	5	0	No		

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7805535	115.8657017	*Marri (Corymbia calophylla)*	Potential nesting tree (Category 5)	570	8	0	No		
-31.7814355	115.8651796	*Marri (Corymbia calophylla)*	Potential nesting tree (Category 5)	580	9	0	No		
-31.7809558	115.8653791	*Marri (Corymbia calophylla)*	Potential nesting tree (Category 5)	720	8	0	No		
-31.7860537	115.8630117	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	520	8	0	No		
-31.7855221	115.8631697	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	530	7	0	No		
-31.7885809	115.8629375	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	580	10	0	No		
-31.7870581	115.8628049	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	610	8	0	No		

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7846658	115.8143424	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	640	9	0	No		
-31.7847089	115.8141597	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	640	10	0	No		
-31.7848147	115.8144073	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	650	10	0	No		
-31.7846927	115.8143318	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	650	8	0	No		
-31.7848627	115.8145359	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	670	7	0	No		
-31.7845525	115.813885	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	670	8	0	No		
-31.7853694	115.8633067	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	680	9	0	No		

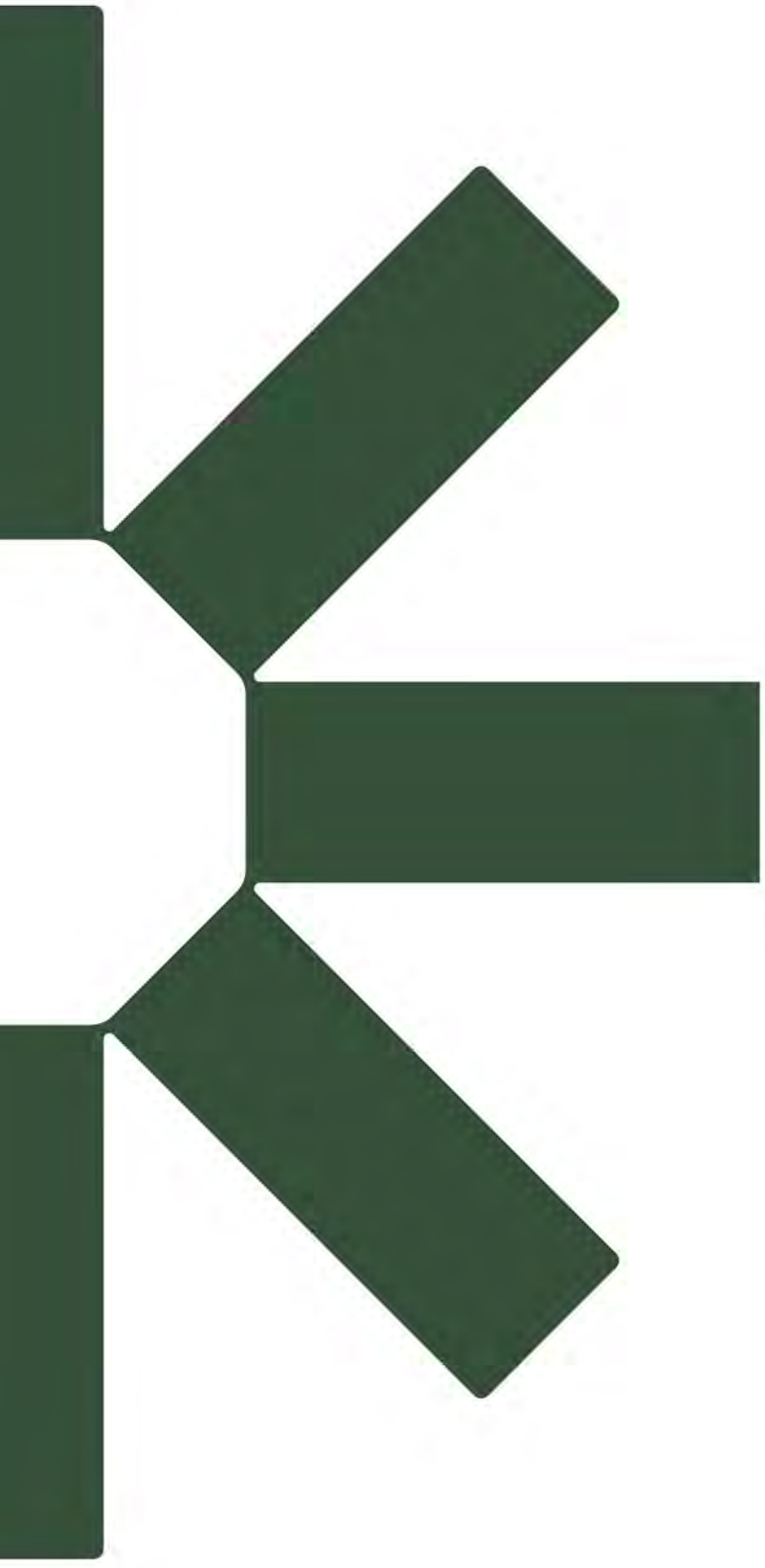
Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7848586	115.8145911	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	720	10	0	No		
-31.7847415	115.8144073	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	720	8	0	No		
-31.78467	115.8140933	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	780	10	0	No		
-31.7845617	115.8141083	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	810	12	0	No		
-31.7893734	115.8629202	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	850	10	0	No		
-31.78916117	115.8627116	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	850	12	0	No		
-31.7845692	115.8141091	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	850	12	0	No		

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.7845888	115.8140303	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	900	15	0	No		
-31.7871161	115.8627234	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	900	7	0	No		
-31.7848556	115.8634629	*Tuart (Eucalyptus gomphocephala)*	Potential nesting tree (Category 5)	1687	15	0	No		
-31.7841754	115.8636531	Introduced Eucalypt	Suitable nesting tree (Category 2)	875	10	1	No	Potential hollow approximately 4.5 m above the ground, chew marks visible around the rim	
-31.7669584	115.8658927	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.77877213	115.8655521	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.76406366	115.8636668	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.77515922	115.8654967	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.75528798	115.8614432	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.768533	115.8659095	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.76753078	115.8659021	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.7894046	115.8345328	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.7256117	115.8513819	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.73184035	115.8515737	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.78373125	115.8633496	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.74193299	115.8591697	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.74004942	115.8530479	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.73486754	115.8518161	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.78248722	115.8640299	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.74123785	115.8530469	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A
-31.77504407	115.8654944	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A

Latitude	Longitude	Taxa	Tree Category	DBH (mm)	Height (m)	No. Hollows	Hollows with Bees	Comments	Photos
-31.78322594	115.8636514	Introduced Eucalypt	N/A	N/A	N/A	N/A	N/A	On Private Property	N/A



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