Lot 2001 Pederick Road, Neerabup - Native Vegetation Clearing Permit

DevelopmentWA

ecological AUSTRALIA
A TETRA TECH COMPANY

Document Tracking

Project Name:	Lot 2001 Pederick Road, Neerabup – Native Vegetation Clearing Permit
Project Number:	25PER10317
Project Manager:	Rebecca Ovens

Version	Prepared by	Reviewed by	Approved by	Status	Date
V4	Leanne Yan	Bec Ovens	Bec Ovens	Final	14/11/2025

This report should be cited as 'Eco Logical Australia 2025, Lot 2001 Pederick Road, Neerabup – Native Vegetation Clearing Permit, Prepared for DevelopmentWA.'

Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from DevelopmentWA.

Disclaimer

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and DevelopmentWA. The scope of services was defined in consultation with Development WA, by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up-to-date information. Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information *provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.*

Abbreviations

Abbreviation	Description
ASS	Acid Sulfate Soils
ATA	ATA Environmental
BAM Act	*Biosecurity and Agriculture Management Act 2007*
Banksia Woodlands TEC	Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community
BC Act	*Biodiversity Conservation Act 2016*
BoM	Bureau of Meteorology
CEMP	Construction Environmental Management Plan
DAWE	Department of Agriculture, Water and the Environment
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPIRD	Department of Primary Industries and Regional Development
DPS 2	District Planning Scheme No. 2
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
DWER	Department of Water and Environmental Regulation
ELA	Eco Logical Australia Pty Ltd
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FCT	Floristic Community Type
IBRA	Interim Biogeographic Regionalisation for Australia
Kg	Karrakatta Sand Grey Phase
Ky	Karrakatta Sand Yellow Phase
MRS	Metropolitan Region Scheme
NIA	Neerabup Industrial Area
NVCP	Native Vegetation Clearing Permit
P	Priority
PFC	Projected Foliage Cover
SCP	Swan Coastal Plain
TEC	Threatened Ecological Community
Conservation Advice	Approved Conservation Advice for Banksia Woodlands TEC
VT3	Vegetation Type 3
VT4	Vegetation Type 4
WA	Western Australia
WoNS	Weeds of National Significance

Executive Summary

DevelopmentWA (the Proponent) is proposing to subdivide Lot 1001 and 2001 Pederick Road within the Neerabup Industrial Estate (NIA), approximately 40 km north of the Perth central business district (CBD) in Western Australia. Subdivision approval was granted by the WAPC 19 December 2024. Clearing associated with this subdivision for which an exemption does not apply includes installation of sewerage services along Mather Drive, and road battering within Lot 2001 associated with a proposed new road exiting the subdivision. Clearing of the small area within Lot 2001 falls within an area identified by City of Wanneroo for future road widening. This document has been prepared to support DevelopmentWA's application for a Native Vegetation Clearing Permit (NVCP), under Part V Division 2 of the *Environmental Protection Act 1986* (EP Act). The application is seeking approval for a Purpose Permit to clear no more than 0.23 ha of native vegetation within a 2.25 ha Clearing Area to facilitate provision of services for the approved subdivision.

Native vegetation within the Clearing Area comprises the following:

- Vegetation community EmBAf in Excellent condition, covering an area of 0.03 ha (1.4% of the Clearing Area).
- Vegetation Type 3 (VT3) in Good condition, covering an area of 0.17 ha (9.1% of the Clearing Area).
- Vegetation Type 4 (VT4) in Degraded condition, represented by a number of overhanging trees only (<0.01 ha).
- Isolated trees covering 0.03 ha (1.4% of the Clearing Area).

Cleared areas covering 2.01 ha (90.9% of the Cleared Area) account for the remainder of the Clearing Area.

Within the Clearing Area, vegetation community EmBAf is affiliated with floristic community type (FCT) 28, which is not listed on a State level, but is recognised as being part of the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC), listed as Endangered under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and as Priority 3 by the Department of Biodiversity, Conservation and Attractions (DBCA).

An FCT analysis and formal comparison with key diagnostic criteria undertaken for VT3 found that VT3 does not represent the Banksia Woodlands of the Swan Coastal Plain TEC (ELA 2025b). No other Threatened or Priority ecological communities are considered likely to occur within the Clearing area.

No Threatened flora species listed under the EPBC Act or *Biodiversity Conservation Act 2016* (BC Act) have been recorded within the Clearing Area (ELA 2025a; 2025b; 2021a) or are considered likely to occur.

Vegetation community EmBAf represents fauna habitat classified as *Eucalyptus woodland with a Banksia sp. low woodland understorey* and is generally considered to support a 'moderately diverse' fauna assemblage (ATA 2007). VT3 and VT4 represent fauna habitat described as *Open Jarrah woodland and Banksia shrubland on sandy soils* (ELA 2025a). The remainder of the clearing area is of limited value to native fauna.

A Basic fauna survey undertaken by Eco Logical Australia (ELA) (2025a) recorded Carnaby's Cockatoo (*Zanda latirostris*, listed as Endangered under the EPBC Act and the BC Act) and Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*, listed as Vulnerable under the EPBC Act and the BC Act). Targeted black cockatoo habitat assessments undertaken within the Clearing Area did not identify any

potential black cockatoo roosting or breeding trees within the Clearing Area. VT3 represents 'Moderate to high' quality foraging habitat for all species of black cockatoos and VT4 represents 'Low', 'Low to moderate' and 'Moderate' quality foraging habitat quality for Carnaby's Cockatoo, Forest Red-tailed Black Cockatoo and Baudin's Cockatoo, respectively (ELA 2025a). Isolated trees along Mather Drive were assessed as representing 'Negligible to low' quality foraging habitat for all species of black cockatoos (ELA 2025a).

The Proposal has been assessed against the Ten Clearing Principles for clearing native vegetation as listed under Schedule 5 of the EP Act. Potential impacts resulting from the Proposal have primarily been avoided or minimised through specific mitigation measures and the implementation of a Construction Environmental Management Plan (CEMP). Based on this assessment, the Proposal is unlikely to be or is not at variance with any of the ten clearing principles, with the exception of Principle d) *Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of a threatened ecological community (TEC*).

Contents

List of Figures

List of Tables

1. Introduction

1.1. Background

DevelopmentWA (the Proponent) is Western Australia's central land development agency, operating across Western Australia with a diverse portfolio of industrial, commercial and residential projects. The Proponent is seeking approval to clear 0.23 ha of native vegetation within a total area of 2.25 ha (the Clearing Area), comprising a small area within Lot 2001 (south of Pederick Road) and an area within the road reserve adjacent to Mather Drive and at the corner of Mather Drive and Pederick Road within the suburb of Neerabup, approximately 40 km north of Perth Central Business District (CBD) in Western Australia (Figure 1). This application for clearing is made in support of subdivision of Lot 2001 (north) and Lot 1001 Pederick Road, within the Neerabup Industrial Area (NIA) and will facilitate the installation of a sewerage line along Mather Road and battering required for the intersection of a new road with Pederick Road to facilitate proposed road levels and existing lot levels. A schematic indicating the required road batter is included in Figure 2.

Pederick Road is proposed to be widened in the future by the City of Wanneroo to accommodate a dual carriageway. The proposed clearing within Lot 2001 south falls within the area that will be required to be ceded to the City to enable this road widening.

1.1.1. Purpose

This document has been prepared to support DevelopmentWA's application for a Native Vegetation Clearing Permit (NVCP), under Part V Division 2 of the *Environmental Protection Act 1986* (EP Act). The application is seeking approval for a Purpose Permit to clear no more than 0.23 ha of native vegetation within a 2.2 ha Clearing Area to facilitate the development of the Proposal.

This document includes the following information:

- An overview of the Proposal
- A description of the proposed native vegetation clearing
- An overview of the existing environmental values within the Clearing Area
- An evaluation of the potential environmental impacts of the clearing
- A detailed description of the proposed avoidance and mitigation measures
- An evaluation of the proposed clearing against the Ten Clearing Principles listed under Schedule 5 of the EP Act.

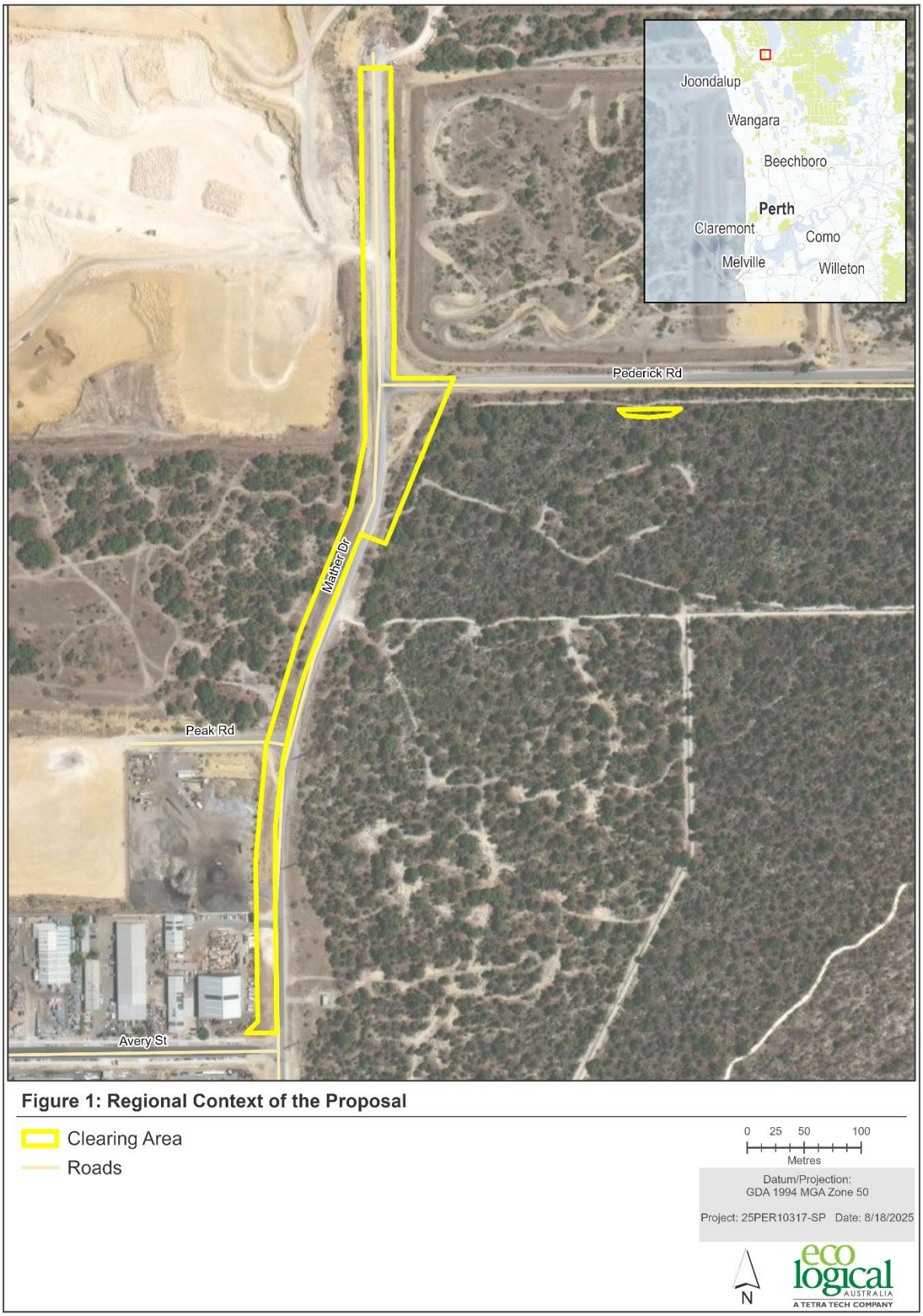

Figure 1: Regional context of the Proposal

Figure 2: Required road batter location

1.2. Location, Ownership and Zoning

The Proposal is located within the City of Wanneroo. The Clearing Area is in part owned by the Western Australia Land Authority (trading as DevelopmentWA; the Proponent) and is zoned as 'Industrial' under the Metropolitan Region Scheme (MRS) and as 'Industrial Development' under the City of Wanneroo's District Planning Scheme No.2 (DPS 2). The remainder falls within the road reserve.

1.3. Proposal Description

DevelopmentWA is proposing to clear 0.23 ha of native vegetation from within Lot 2001 south of Pederick Road and the road reserve adjacent to Mather Drive and at the intersection of Mather Drive and Pederick Road in Neerabup for the provision of sewerage facilities and bettering of a new road intersection. The clearing will support subdivision of Lot 1001 and 2001 (north) and is necessary to meet conditions of subdivision approval 200820 (WAPC, 'Approval of Application WAPC Ref: 200820', 19 December 2024).

The NIA Agreed Structure Plan (the Structure Plan; Element 2020) was adopted in January 2005. Development of the strategic planning document considered a range of design alternatives for the estate. The Proposal is strategically located within the north-west corridor of metropolitan Perth, with existing and future road linkages.

2. Physical Environment

2.1. Biographical Regions

The Interim Biogeographic Regionalisation for Australia (IBRA) currently classifies 89 bioregions across Australia, based on a range of biotic and abiotic factors such as climate, vegetation, fauna, geology and landform (DCCEEW 2024; Thackway and Cresswell 1995). These bioregions are further refined into 419 subregions representing more localised and homogenous geomorphological units in each bioregion (DCCEEW 2024). IBRA divides Western Australia (WA) into 26 biogeographic regions and 53 subregions based on dominant landscape characteristics of climate, lithology, geology, landform and vegetation.

The Proposal is located within the Swan Coastal Plain bioregion (SWA) and the Perth subregion (SWA02). The Swan Coastal Plain is a low-lying coastal plain, mainly covered with woodlands dominated by Banksia or Tuart on sandy soils, *Casuarina equisetifolia* on outwash plains, and paperbark in swampy areas (Mitchell et al. 2002). The Perth subregion is underlain by colluvial and aeolian sands, alluvial river flats, and coastal limestone, with three phases of marine sand dune development providing relief. Vegetation generally comprises heath and/or Tuart woodlands on limestone, Banksia, and Jarrah-Banksia woodlands on Quaternary marine dunes of various ages, and Marri on colluvial and alluvial.

2.2. Climate

The Swan Coastal Plain subregion is described as having a Mediterranean-type climate, with total annual rainfall ranging between 600 and 1000 mm (Mitchell et al. 2002). This rainfall gradient is a significant factor in determining the vegetation across the subregion.

Based on data from the nearby Bureau of Meteorology (BoM) Wanneroo WA weather station (station number 009105, rainfall data 1905 – 2025), located approximately 4.8 km from the Clearing Area, the area receives an annual average rainfall of 784.4 mm (BoM 2025). Most of this rainfall occurs during the winter months of June, July and August.

Based on temperature data from the Pearce RAAF WA weather station (station number 009053, temperature data 1940-2025), located approximately 22.6 km from the Clearing Area, mean maximum temperatures range from 18.0°C in July to 33.6°C in January, whilst mean minimum temperatures range from 8.3°C in August to 17.6°C in February (BoM 2025).

2.3. Land Use

The land surrounding the Clearing Area is comprised of existing industrial development, basic raw materials extraction and construction sites. Native bushland occurs directly south of the Clearing Area within Lot 2001 and further into Mather Reserve, which is the closest conservation area (Figure 3).

2.4. Land Systems and Soils

2.4.1. Land systems

Land Systems mapping, prepared by the Department of Primary Industries and Regional Development (DPIRD), provides a comprehensive and standardised description of landscapes, soils and vegetation of WA at a regional scale (DPIRD 2022). These surveys describe the biophysical characteristics of each region and subsequently divide each region into land systems; land systems being defined as repeating patterns of topography, soils and vegetation.

The Clearing Area is located on the Spearwood System, described as, "*Sand dunes and plains. Yellow deep sands, pale deep sands and yellow/brown shallow sands*." The Spearwood Dune System comprises soils derived from Tamala Limestone, characterised as yellow sands of quartz, coated with iron oxide (Government of Western Australia 2000). The Spearwood Sand phase occurs within the Clearing Area, characterised by undulating dunes with rocky crests on Aeolian sand over limestone.

According to broad scale soil mapping, two phases of the Spearwood soil system occur within the Clearing Area (DPIRD 2025a):

- Karrakatta Sand Yellow Phase (Ky): low hilly to gently undulating terrain. Yellow sand over limestone at 1-2 m.
- Karrakatta Sand Grey Phase (Kg): low hilly gently undulating terrain. Iron podzols.

2.4.2. Soil Characteristics

The Perth Basin, on which the Swan Coastal Plain is located, is filled by Mesozoic to recent sediments. The Clearing Area overlies the Perth Coastal soil landscape zone which is described as, *"Coastal sand dunes and calcarenite. Late Pleistocene to Recent age. Calcareous and siliceous sands and calcarenite"* (DPIRD 2025b).

According to mapping by the Department of Water and Environmental Regulation (DWER), the Clearing Area does not occur within an Acid Sulfate Soils (ASS) risk zone (DWER 2017). The closest ASS risk zone occurs approximately 2 km north-east of the Clearing Area and is classified as being High to moderate risk (DWER 2017).

Soil erosion risks have been mapped by DPIRD at the subsystem level. The water erosion risk within the Clearing Area is mapped as L1, being <3% of map unit has a high to extreme water erosion risk (DPIRD 2023a). The wind erosion risk within the Clearing Area has been mapped as H2, >70% of map unit has a high to extreme wind erosion risk (DPIRD 2023b).

Waterlogging risk mapping by DPIRD (DPIRD 2023c) indicates that the Clearing Area is mapped as L1, where <3% of map unit has a moderate to very high waterlogging risk. Surface soil salinity risk within the Clearing Area is also mapped by DPIRD as L1 (<3% of map unit has a moderate to high salinity risk or is presently saline) (DPIRD 2023d).

2.5. Hydrology

Groundwater depth ranges between 33-36 m AHD, with the distance to the watertable increasing in an easterly direction across the Clearing Area due to increasing elevation of the land surface (DWER 2025). Groundwater flows in a west/south-westerly direction. Distance to the watertable from the surface varies from approximately 23-33 m from east to west of the Clearing Area.

The closest surface water feature to the Clearing Area is Lake Pinjar, located approximately 1.5 km north-east of the Clearing Area. There are no surface water features or wetlands present within the Clearing Area.

2.6. Conservation Areas

Mather Reserve (R53163), covering approximately 50 ha immediately to the south of Lot 2001 (south of Pederick Road) (Figure 3), was transferred to the Crown, and land zoning changed to reflect its conservation purpose, as part of an offset associated with the NIA. Additionally, several Bush Forever sites are located within proximity to the Clearing Area:

- Bush Forever site 295 (Flynn Drive Bushland, Neerabup), located approximately 300 m south of the Clearing Area along Mather Drive
- Bush Forever site 494 (West Flynn Drive Bushland, Carramar), located approximately 700 m south of the Clearing Area along Mather Drive
- Bush Forever site 384 (Neerabup Lake and Adjacent Bushland, Neerabup), located approximately 2 km west of the Clearing Area
- Bush Forever site 382 (Lake Pinjar and Adjacent Bushland, Pinjar), located approximately 1.7 km east of the Clearing Area
- Bush Forever site 428, located approximately 1 km north of the Clearing Area (Figure 3).

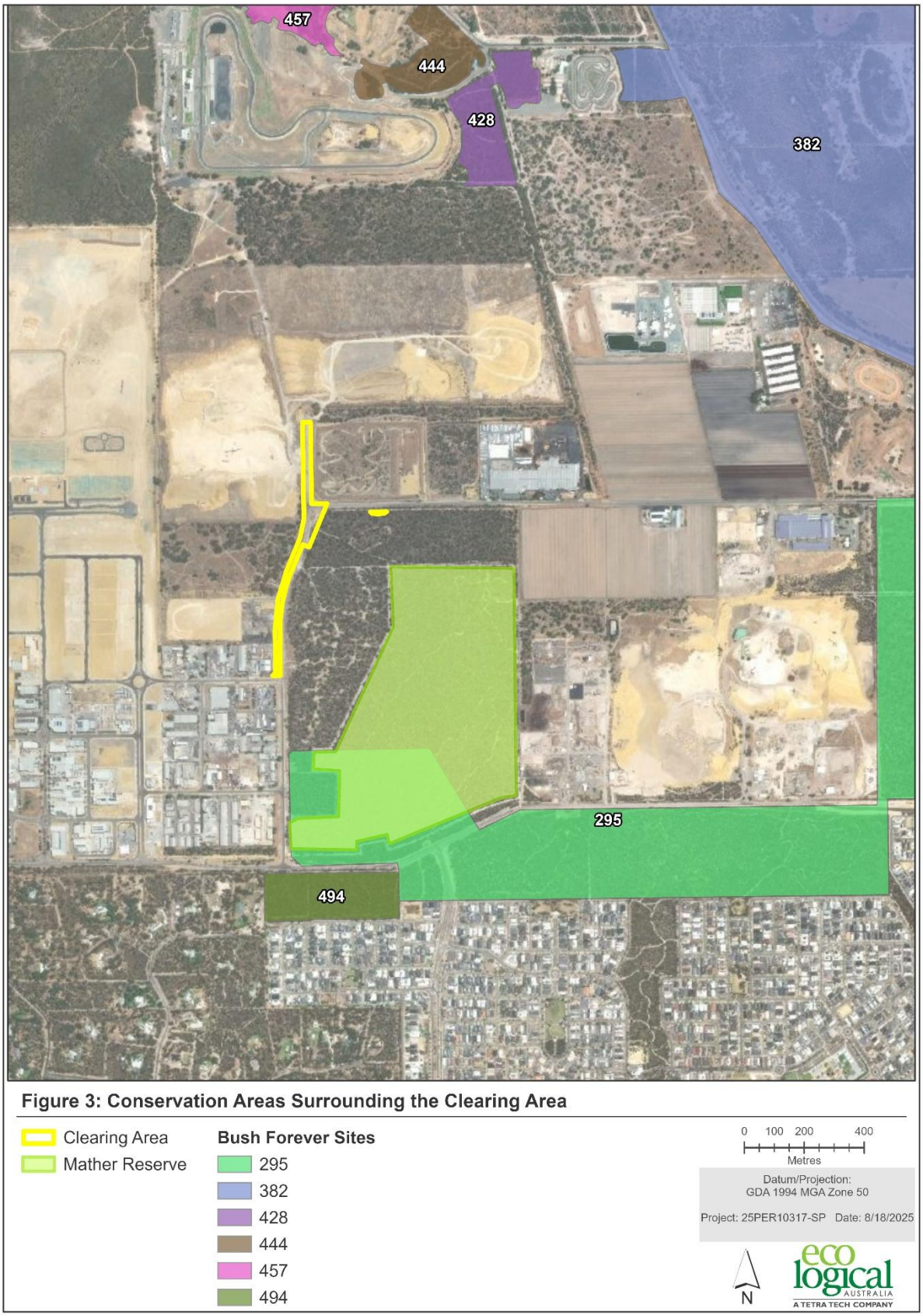

Figure 3: Conservation areas surrounding the Clearing Area

3. Biological Environment

3.1. Ecological Surveys

A number of biological surveys have been completed within and in the vicinity of the Clearing Area (Table 1). The findings of these surveys are generally consistent with one another, with any differences seemingly based on the scale at which vegetation was assessed. The current document draws primarily from the results of the *Neerabup Lot 2001 Pederick Road Flora, Vegetation and Black Cockatoo survey* (ELA 2021a), the *Neerabup North Subdivision Ecological Surveys* (ELA 2025a), as well as results of *Spring Ecological Surveys at Lot 2001 and 1002 Pederick Road, Neerabup* (ELA 2025b).

Table 1: Previous biological surveys and reports completed within and in the vicinity of the Clearing Area

Source	Location in Relation to Clearing Area	Survey dates	Survey type	Conclusion
Flora and Vegetation Report, Lots 4, 40, 41 & 1002, Neerabup Industrial Estate (RPS 2006)	Undertaken within Lot 2001 south of Pederick Road, in addition to various lots within the vicinity of the Clearing Area including: • Lot 4 (north and south of Pederick Road) • Lot 41 • Lot 40 • Lot 1002.	September-October 2004 October-November 2005	Flora and Vegetation	Vegetation was mapped as vegetation community EmBAf (*Eucalyptus marginata, Banksia menziesii, B. attenuata* and *Allocasuarina fraseriana* Low Woodland). Vegetation was mapped as being in Excellent to Completely Degraded Condition.
Flora, Vegetation and Vertebrate Fauna Assessment. Neerabup Industrial Area (ATA 2007)	Flora and vegetation study – undertaken within Lot 2001 south of Pederick Road, in addition to various lots within the vicinity of the Clearing Area including: • The western portion of Lot 4 (north of Pederick Road) • Lot 5 • Lot 2477 • The south-eastern portion of Lot 506 • Part of Lot 2692. Vertebrate fauna study – undertaken within Lot 2001 south of Pederick Road, in addition to various lots within the vicinity of the Clearing Area including: • Lot 4 (north and south of Pederick Road) • Lot 5 • Lot 2477	Flora and Vegetation: 4-6 October 2006 and 27-29 November 2006 Vertebrate fauna: 14-24 November 2006	Flora and vegetation Vertebrate Fauna	Vegetation was mapped as Very Good condition comprising of vegetation community BaBmLW (*Banksia attenuata* and *B. menziesii* Low Woodland). Two black cockatoo potential nesting trees were recorded.

Source	Location in Relation to Clearing Area	Survey dates	Survey type	Conclusion
	• Part of Lot 2692 • Lot 1.			
Flora and Fauna Technical Studies, Lot 1002 Pederick Road, Neerabup (ELA 2013)	Undertaken within Lot 2001 south of Pederick Road.	2 November 2012	Targeted flora and fungi survey, re-assessment of ATA (2007) vegetation communities	Vegetation was considered to be BaBmLW and was primarily in Very Good Condition. The vegetation analysed in two quadrats was considered to be FCT 28. A total of 48 potential Carnaby's Cockatoo breeding trees were identified, with even trees observed containing hollows possibly suitable for Carnaby's Cockatoo nesting. Evidence of Carnaby's Cockatoo foraging activity was recorded.
Neerabup Lot 2001 Pederick Road Flora, Vegetation and Black Cockatoo Survey (ELA 2021a)	Undertaken within Lot 2001 south of Pederick Road.	21 November 2019	Detailed and Targeted flora and vegetation survey and a Black Cockatoo habitat assessment	Vegetation was mapped as vegetation community EmBAf. Two quadrats were consistent with SCP 20a, and a third was consistent with FCT 28. The vegetation was primarily in Excellent condition, with small areas in Good and Completely Degraded condition. Vegetation was considered to represent Good quality foraging habitat for Carnaby's Cockatoo and Moderate quality foraging habitat for Forest Red-tailed Black Cockatoo. 54 potential Carnaby's Cockatoo breeding trees were identified, five containing visible hollows potentially suitable for nesting. Two priority flora species listed under the *Biodiversity Conservation Act 2016* (BC Act) were recorded: • Acacia benthamii (P2) • Pimelea calcicola (P3).
Targeted Survey for *Caladenia huegelii* at Lot 2001 Pederick Rd, Neerabup (ELA 2021b)	Undertaken within Lot 2001 south of Pederick Road.	14 October 2020	Targeted threatened orchid (*caladenia huegelii*) survey	No individuals of the Threatened *Caladenia huegelii* were recorded and the species can be considered highly unlikely to occur within the Clearing Area.
Lot 2001 Pederick Road TEC Clarification Survey (ELA 2022)	Undertaken within Lot 2001 south of Pederick Road.	12 January 2022	Flora and vegetation survey to clarify the extent of the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC)	A total of 11.84 ha (96.63%) of the Proposal Area was recorded as representative of the Banksia Woodlands of the Swan Coastal Plain TEC. The survey concluded that Lot 2001 consists of 2.77 ha of FCT 20a, 9.06 ha of FCT 28 and 0.42 ha of cleared area (vehicle tracks and/or fence line firebreaks).

Source	Location in Relation to Clearing Area	Survey dates	Survey type	Conclusion
Neerabup North Subdivision Ecological Surveys (ELA 2025a)	Undertaken within the entire Clearing Area in addition to Lot 1002 and 2001 north of Pederick Road.	13 June 2025	Reconnaissance flora and vegetation survey, Basic fauna survey and a Targeted black cockatoo habitat assessment	Five vegetation types were delineated and mapped, two of which occur within the Clearing Area: • Vegetation Type 3 (VT3): *Eucalyptus marginata, Allocasuarina fraseriana* low open woodland over *B. attenuata, B. menziesii* tall open shrubland over mixed natives. This vegetation type is considered to be in Good condition and potentially representative of aspects of the Banksia Woodlands of the Swan Coastal Plain TEC. • Vegetation Type 4 (VT4): *E. marginata* mid open woodland and *B. attenuata* low open woodland over *X. preissii* mid sparse shrubland over mixed natives and weeds. VT4 occurring within the Clearing Area is considered to be in Degraded condition. Foraging habitat within VT3 was considered to be 'Moderate to High' for all three species of black cockatoos and VT4 was considered 'Low', 'Low to moderate' and 'Moderate' quality foraging habitat for Carnaby's Cockatoo, Forest Red-tailed Black Cockatoo and Baudin's Cockatoo respectively. The survey recorded a total of nine potential black cockatoo breeding and roosting trees, none of which occur within the Clearing Area.
Spring Ecological Surveys at Lot 2001 and 1002 Pederick Road, Neerabup (ELA 2025b)	Undertaken within Lot 2001 and 1002, including road verges south of Pederick Road and west of Mather Drive.	9 October 2025	Targeted survey for *Caladenia huegelii, Thelymitra variegata* and *Poranthera moorokatta* and TEC clarification survey to confirm the occurrence of Banksia Woodlands of the Swan Coastal Plain TEC.	No individuals of *C. huegelii, T. variegata* or *P. moorokatta* were recorded. These species were considered unlikely to occur within the survey area. An FCT analysis and assessment against the key diagnostic criteria for Banksia Woodlands TEC was undertaken for VT3. VT3 had no FCT affiliations and was assessed as not representative of the Banksia Woodlands TEC against the diagnostic criteria due to a misalignment with the structure and composition criteria.

3.2. Flora and Vegetation

3.2.1. Pre-European Vegetation

The pre-European vegetation of WA was mapped at a 1:250,000 scale by Beard (1979), into broad vegetation associations. Based on this mapping, DPIRD compiled a list of vegetation extent and types across WA (Shepherd et al. 2002).

Based on the pre-European vegetation dataset (DBCA 2019a), one pre-European vegetation association is considered to occur within the Clearing Area, namely, 'Spearwood 6 – Medium woodland, tuart and jarrah'. This vegetation association has approximately 25% of its total pre-European extent remaining within the Swan Coastal Plain subregion, where 2.2 ha (0.02% of the current extent within the Swan Coastal Plain bioregion) occurs within the Clearing Area (DBCA 2019a).

Vegetation complexes within the Perth metropolitan area have been described by Heddle *et al.* (1980). One vegetation complex occurs within the Clearing Area: Cottesloe Complex – Central and South (Table 2).

Table 2: System 6 vegetation complexes of the Clearing Area

Vegetation complex	Vegetation complex description	Swan Coastal Plain (SCP) pre-European extent (ha) within the City of Wanneroo	SCP current extent (ha) within the City of Wanneroo	% remaining within the City of Wanneroo
Cottesloe Complex-Central and South	Mosaic of woodland of *Eucalyptus gomphocephala* (Tuart) and open forest of *Eucalyptus gomphocephala* (Tuart) – *Eucalyptus marginata* (Jarrah) – *Corymbia calophylla* (Marri); closed heath on the Limestone outcrops	13,313.58	5,545.39	41.65

Source: DBCA Statewide South West Vegetation Cpmplex Statistic Report (DBCA 2019b).

3.2.2. Vegetation Type and Condition

The Clearing Area contains the following (Figure 4):

- Vegetation community EmBAf, covering an area of 0.03 ha (1.4% of the Clearing Area).
- Vegetation Type 3 (VT3) occurs on the road verge at the intersection of Mather Drive and Pederick Road and occupies a total area of 0.17 ha (9.1% of the Clearing Area).
- Vegetation Type 4 (VT4) occurs on the road reserve west of Mather Drive and is represented by a number of overhanging trees only (<0.01 ha).
- Isolated trees covering 0.03 ha (1.4% of the Clearing Area).

Cleared areas covering 2.01 ha (90.9% of the Cleared Area) account for the remainder of the Clearing Area.

Vegetation community EmBAf is described as, *Eucalyptus marginata, Allocasuarina fraseriana* and *Banksia attenuata* Woodland over Open Shrubland of *Xanthorrhoea preissii* over Low Shrubland of *Hibbertia hypericoides, Stirlingia latifolia, Eremaea pauciflora, Desmocladus asper* and *Mesomelaena pseudostygia* on grey loamy sands (ELA 2021a). This vegetation community is considered to represent

the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (Banksia Woodlands TEC; listed as Endangered under the EPBC Act), and within the clearing area is representative of floristic community type (FCT) 28.

VT3 is described as *E. marginata, A. fraseriana* low open woodland over *B. attenuata, Banksia menziesii* tall open shrubland over mixed natives (ELA 2025a). Although VT3 was noted as potentially representative of the Banksia Woodlands TEC based on preliminary results in ELA (2025a), a follow-up FCT analysis and assessment against the key diagnostic characteristics of the Banksia Woodlands TEC, determined that VT3 is not representative of the TEC (ELA 2025b). VT4 is described as *E. marginata,* mid open woodland and *B. attenuata* low open woodland over *Xanthorrhoea preissii* mid sparse shrubland over mixed natives and weeds (ELA 2025a).

Vegetation condition within the Clearing Area has been classified based on the condition scale adapted from Keighery (1994) as described in the Environmental Protection Authority's (EPA) *Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016). The vast majority (90.0%) of the Clearing Area is either cleared or Completely Degraded (Table 3). Approximately 10% of the Clearing Area is in Good (9.1%) to Excellent (1.4%) condition.

Within the Clearing Area the vegetation community EmBAf is considered to be in Excellent condition (ELA 2021a), VT3 in Good condition and VT4 and isolated trees in Degraded condition (Table 3) (ELA 2025a). Disturbances to the Clearing Area include weeds and tracks/cleared areas.

Table 3: Vegetation condition within the Clearing Area

Vegetation Condition	Area (ha)	Portion of the Clearing Area (%)
Excellent	0.03	1.4
Good	0.17	9.1
Degraded	0.03	1.4
Completely Degraded/ Cleared	2.04	90.9
Total	**2.25**	**100**

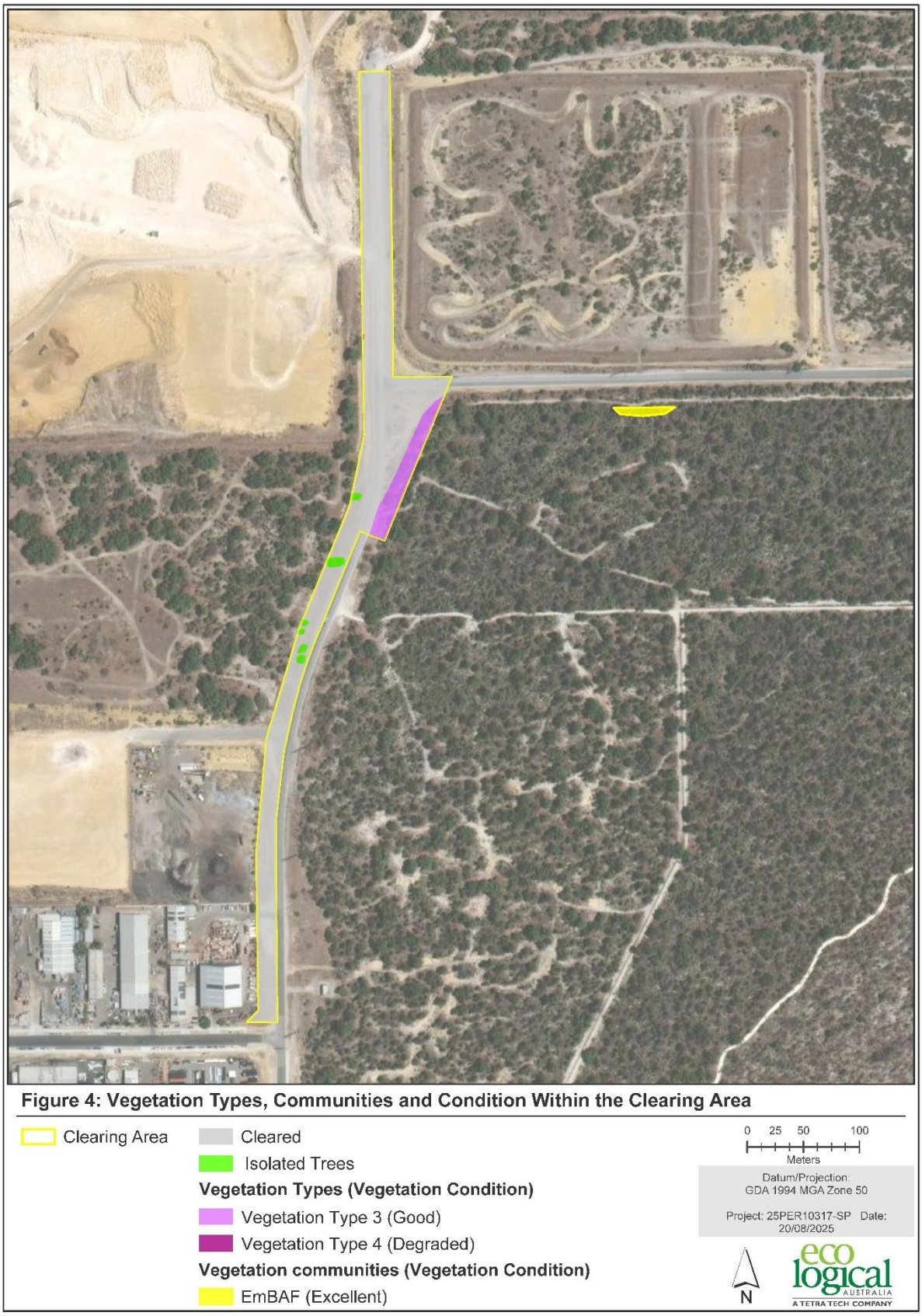

Figure 4: Vegetation Types, Communities and Condition Within the Clearing Area

3.2.3. Conservation Significant Ecological Communities

3.2.3.1. Banksia Woodlands of the Swan Coastal Plain TEC

A qualitative assessment undertaken for the site (ELA 2022) has identified the vegetation (EmBAf) within Lot 2001 (south of Pederick Road) as being representative of the Banksia Woodlands of the Swan Coastal Plain TEC, listed as Endangered under the EPBC Act, in mostly Excellent condition. This determination was based on an assessment against key diagnostic characteristics outlined in the Approved Conservation Advice for Banksia Woodlands TEC (the Conservation Advice; DAWE 2016), to identify the presence of this ecological community within Lot 2001 (ELA 2022).

To be considered as representative of Banksia Woodlands TEC, a patch needs to meet at least the 'Good' condition category (DAWE 2016). The Banksia Woodland TEC is described as (DAWE 2016):

"A woodland associated with the Swan Coastal Plain (and some adjacent areas) of southwest Western Australia. It typically has a prominent tree layer of Banksia sometimes with scattered eucalyptus and other tree species present within or above the Banksia canopy. The understorey is species rich and has many wildflowers, including sclerophyllous shrubs, sedges and herbs."

During the Reconnaissance flora and vegetation survey (ELA 2025a) it was recorded that VT3 broadly comprised a Banksia Woodland structure. This vegetation type occurs in the road batter and swale at the corner of Mather Drive and Pederick Road within the Clearing Area, and comprises regrowth of over 20 years within a previously cleared area (Figure 4). The vegetation type occurs adjacent to the western boundary of Lot 2001 (south of Pederick Road) and is separated from remnant bushland representing Banksia Woodlands TEC occurring within the Lot 2001 south of Pederick Road by a firebreak.

A follow-up TEC clarification survey was subsequently undertaken within VT3 in spring (October 2025) to determine the presence of the Banksia Woodlands TEC through an assessment against the key diagnostic criteria for Banksia Woodlands TEC (ELA 2025b). An FCT analysis did not identify any FCT affiliations within VT3, likely due to the lack of high native species cover and an understorey dominated by weed species (ELA 2025b). Although diagnostic Banksia tree species including, *Banksia attenuata* and *B. menziesii*, were present, VT3 lacks a distinctive intact midstorey and understorey, with weeds occurring to the exclusion of native flora species (ELA 2025b). Considering this, and that VT3 comprises regrowth, the lack of any FCT affiliations and the firebreak separation, VT3 was not considered to form a significant functional component of the Banksia Woodlands occurring within Lot 2001 south of Pederick Road (ELA 2025b).

As such, a total of 0.03 ha of vegetation within the Clearing Area (EmBAf) is representative of the Banksia Woodlands TEC (Figure 5).

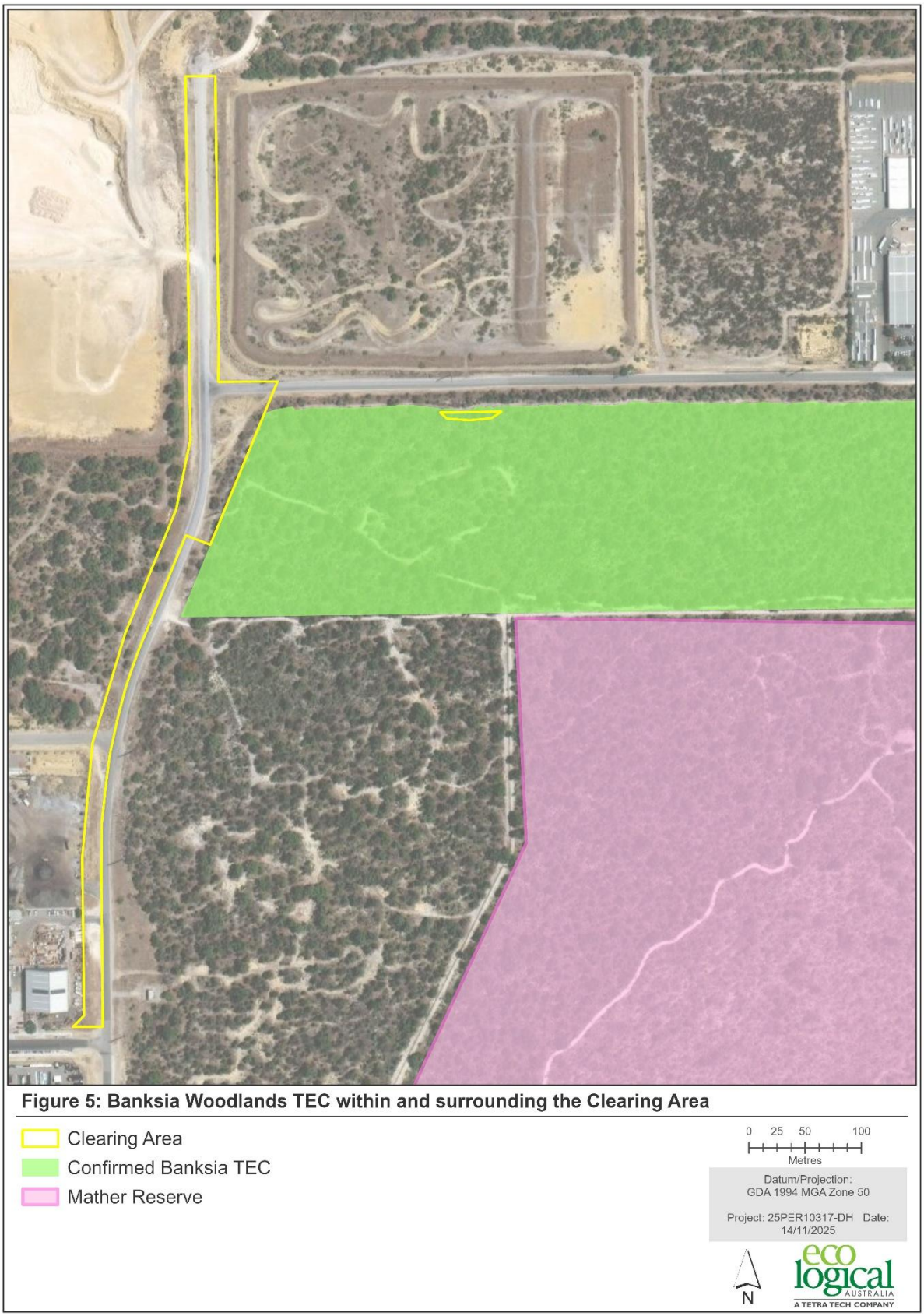

Figure 5: Banksia Woodlands TEC within and surrounding the Clearing Area

3.3. Flora

A survey within Lot 2001 south of Pederick Road in 2022 recorded a total of 86 taxa (80 native and six introduced taxa) from 68 genera and 30 families (ELA 2022). Families with the highest number of species included Fabaceae and Orchidaceae, within 12 and nine species respectively. *Conostylis, Lepidosperma, Pterostylis* and *Stylidium* were the best represented genera with three species recorded for each. The most common species (those that recorded an average of greater than 2% Foliar Cover across all sites) included *Allocasuarina fraseriana, Banksia attenuata, Desmocladus flexuosus, Eucalyptus marginata, Hibbertia hypericoides, Stirlingia latifolia* and *Xanthorrhoea preissii*.

In 2025, a Reconnaissance flora and vegetation survey covering the remainder of the Clearing Area, as well as Lot 1001 and 2001 north of Pederick Road, recorded a total of 15 flora species (including five introduced species) from eight families and 13 genera within VT3, and a total of seven flora species (including four introduced species) from five families and seven genera within VT4 (ELA 2025a). Isolated trees (*E. marginata* and *Banksia* species) were recorded along Mather Drive (ELA 2025a).

3.3.1. Conservation Significant Flora

No flora species listed as Threatened under the EPBC Act or BC Act have been recorded within the Clearing Area (ATA 2007; ELA 2025b; 2025a; 2022; 2021b; 2013; RPS 2006).

Two targeted *Caladenia huegelii* flora surveys have been undertaken within and in the vicinity of the Clearing Area, one in October 2020 (ELA 2021b) and the other in October 2025 (ELA 2025b). This species was not recorded during either survey and is considered unlikely to occur within the Clearing Area.

The flora survey undertaken in October 2025 also targeted *Thelymitra variegata* (Critically Endangered under the BC Act) and *Poranthera moorokatta* (P2). No records of *T. variegata* or *P. moorokatta* were found within areas of potential habitat. These flora species are also considered unlikely to occur within the Clearing Area (ELA 2025b).

Two Priority flora species have previously been recorded within Lot 2001 south of Pederick Road, outside of the Clearing Area (ELA 2021a):

- *Acacia benthamii* (P2)
- *Pimelea calcicola* (P3).

These species are 'Poorly known species' and are generally in need of further survey to determine the extent of occurrence (ELA 2021a). However, no individuals of *A. benthamii* or *P. calcicola* have been recorded within the Clearing Area.

Four additional Priority flora species were considered to have the potential to occur within vegetation community EmBAf based on the presence of suitable habitat (ELA 2021a) but have not been recorded during surveys:

- *Calectasia elegans* (P2)
- *Stenanthemum sublineare* (P2)
- *Styphelia filifolia* (P3)
- *Jacksonia sericea* (P4).

3.3.2. Introduced Flora

No introduced (weed) species listed as Declared Pest species in Western Australia pursuant to Section 22 of the *Biosecurity and Agriculture Management Act 2007* (BAM Act) or as Weeds of National Significance (WoNS) have been recorded within the Clearing Area.

3.4. Terrestrial Fauna

The Clearing Area contains 0.03 ha of fauna habitat classified as *Eucalyptus* woodland with a *Banksia* sp. Low woodland understorey (vegetation community EmBAf; ATA 2007) and 0.2 ha classified as Open Jarrah woodland and Banksia shrubland on sandy soils (VT3 and VT4) (ELA 2025a).

A Level 2 fauna survey (ATA 2007) was undertaken across the NIA within a survey area covering 325 ha, encompassing part of the Clearing Area within Lot 2001 and outside of the Clearing Area within Lot 4, 5, 2477, 2692 and 1. A total of 18 vertebrate fauna species were trapped within Lot 2001, with an additional three large mammals being observed, namely the Cat, Rabbit and Western Grey Kangaroo. Overall, Lot 2001 was considered to contain a 'moderately diverse' fauna assemblage (ATA 2007).

A Basic fauna survey was undertaken within Lot 2001 and 1001 north of Pederick Road in June 2025, covering an area of 21.7 ha (ELA 2025a).A total of 14 vertebrate fauna species were observed during the survey, including 11 birds, two mammals and one reptile. Of the 14 species that were observed, one was introduced, namely the Red Fox (listed as a Declared Pest – s(22) under the BAM Act) (ELA 2025a).

In 2012 a targeted fauna survey was undertaken within the Clearing Area to assess the presence of habitat for Carnaby's Cockatoo (ELA 2013). The survey determined the presence of suitable foraging and potential breeding habitat for Carnaby's Cockatoo within the Clearing Area. Further black cockatoo habitat assessments undertaken in 2019 and 2025, confirmed the presence of suitable foraging habitat within the Clearing Area for both Carnaby's Cockatoo and Forest Red-tailed Black Cockatoo (ELA 2025a; 2021b). Black cockatoos are discussed further in Section 3.4.2.

3.4.1. Conservation Significant Fauna

Four conservation significant fauna species have been recorded within Lot 2001 (north and south of Pederick Road) and adjacent NIA surveyed areas (ATA 2007; ELA 2025a):

- Carnaby's Cockatoo (*Zanda latirostris*, listed as Endangered under the EPBC Act and the BC Act)
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*, listed as Vulnerable under the EPBC Act and the BC Act)
- Rainbow Bee-eater (*Merops ornatus*, listed as Marine under the EPBC Act)
- Peregrine Falcon (*Falco peregrinus,* listed as Other Specially Protected Fauna under the BC Act).

A further four conservation significant fauna species have been identified as having the potential to occur within the Clearing Area (ATA 2007; ELA 2025a):

- Baudin's Cockatoo (*Zanda baudinii*, listed as Endangered under the EPBC Act and the BC Act), discussed in further detail in Section 3.4.2.
- Black-striped Snake (*Neelaps calonotus*, listed as Priority 3 by DBCA)
- Western Brush Wallaby (*Notamacropus irma*, listed as Priority 4 by DBCA)
- Southern Brown Bandicoot or Quenda (*Isoodon fusciventer*, listed as Priority 4 by DBCA).

Although the Peregrine Falcon was recorded within the NIA, it is considered to be an infrequent visitor and not dependent on local habitat (ATA 2007). Similarly, the Rainbow Bee-eater is a migratory bird that visits the south-west of Western Australia from September to October. Although the species was recorded within the NIA, there is suitable foraging and breeding habitat outside of the Clearing Area and throughout the wider region, and the species is unlikely to be reliant on habitat within the Clearing Area.

Quenda may occur within the Clearing Area, as the species has previously been recorded at a site approximately 0.8 km south-west of Lot 2001 (south of Pederick Road), in the vicinity of Mather Drive (Natural Area 2021) and secondary evidence of the species (i.e., diggings) have been recorded at a site approximately 1.8 km from the Clearing Area (Natural Area 2019).

Within the Perth region, the Black-striped Snake is considered to be most abundant in heathland habitats along the coast, and large undisturbed Banksia woodland habitat further inland (He 2021). Given the presence of potentially suitable Banksia woodland habitat within the Clearing Area, it is assumed that the species has the potential to occur.

The Clearing Area occurs within the known distribution of the Western Brush Wallaby, and the species has been recorded approximately 5 km west of the Clearing Area (ATA 2007). Therefore, this species is also considered to potentially occur within the Clearing Area.

3.4.2. Black cockatoos

The modelled distribution of the Carnaby's Cockatoo and the Forest Red-tailed Black Cockatoo intersect the Clearing Area (DAWE 2022). Although the Clearing Area supports suitable foraging habitat for Baudin's Cockatoo, the Clearing Area does not occur within the modelled distribution for Baudin's Cockatoo (DAWE 2022).

Foraging habitat for black cockatoos is generally defined as the availability of plant food sources within an area. Forest Red-tailed Black Cockatoos have a relatively restricted foraging diet, targeting *Eucalyptus/Corymbia* seeds, *Allocasuarina* cones, Snottygobble fruits (*Persoonia longifolia*) and Cape Lilac (ELA 2021a). Baudin's Cockatoos are similarly restricted in their foraging diet and primarily feed on seeds from *Corymbia calophylla* and *Eucalyptus diversicolor* (Birdlife 2025). Carnaby's Cockatoo have a more wide-ranging foraging diet, consuming a variety of species but particularly proteaceous plants.

Black cockatoos nest in tree hollows formed in large Eucalypts. No potential black cockatoo breeding or roosting trees have been recorded within the Clearing Area. Isolated trees along Mather Drive are considered unsuitable for black cockatoo roosting or breeding (ELA 2025a).

Three targeted black cockatoo surveys have been undertaken within the Clearing Area (ELA 2025a; 2021a; 2013). Evidence of Carnaby's Cockatoo foraging has been recorded within Lot 2001 (south of Pederick Road) (ELA 2013) and the Forest Red-tailed Black Cockatoo is likely to utilise the Clearing Area for foraging on an occasional basis. The Baudin's Cockatoo is considered unlikely to frequent the Clearing Area on a regular basis for foraging.

In regard to the Carnaby's Cockatoo, the Clearing Area contains vegetation of varying quality for foraging of the species; 0.2 ha of 'Moderate to high' quality foraging habitat, 0.03 ha of 'Good' quality foraging habitat and less than 0.01 ha of 'Low' quality foraging habitat. The extent of foraging habitat for Carnaby's Cockatoo, Forest Red-tailed Black Cockatoo and Baudin's Cockatoo are shown in Figure 6, Figure 7, and Figure 8 respectively. 'Moderate to high' quality foraging habitat (VT3) contained the presence of suitable foraging plant species at a high density (i.e., primary food sources present at 40-60% projected foliage cover [PFC], secondary food sources at >60% PFC) and presence of food sources at several strata. 'Good' quality foraging habitat (vegetation community EmBAf) contained native shrubland dominated by proteaceous plant species, particularly *Banksia* spp., with over 60% foliage

cover, present at one or two strata (e.g. canopy and midstorey) (DSEWPaC 2012). 'Low' quality foraging habitat (VT4) contained suitable foraging species at low densities (i.e., primary food sources at <10% PFC, secondary food sources present at 10-20% PFC) (ELA 2025a).

Vegetation community EmBAf represents 'Moderate' quality foraging habitat for Forest Red-tailed Black Cockatoo, as it contained foliage cover of suitable species (Jarrah/Sheoak) of between 20-40% at one stratum. VT3 represents 'Moderate to high' quality foraging habitat for Forest Red-tailed Black Cockatoos and VT4 represents 'Low to moderate' quality foraging habitat, meaning suitable foraging species were present at a lower density (i.e., 5-20% PFC) (ELA 2025a).

Vegetation community EmBAf and VT3 represent 'Moderate to high' quality foraging for Baudin's Cockatoo. VT4 represents 'Moderate' quality foraging quality for this species, containing suitable foraging species at a low to moderate density (i.e. 20-40% PFC) (ELA 2025a).

The isolated trees located along Mather Drive represent 'Negligible to low' quality foraging habitat for all species of black cockatoo on the basis of the presence of scattered foraging species at less than 2% PFC (ELA 2025a).

The extent of foraging habitat for Carnaby's Cockatoo, Forest red-tailed Black Cockatoo and Baudin's Cockatoo within the Clearing Area are shown in Figure 6, Figure 7, and Figure 8 respectively.

Figure 6: Carnaby's Cockatoo foraging habitat within the Clearing Area

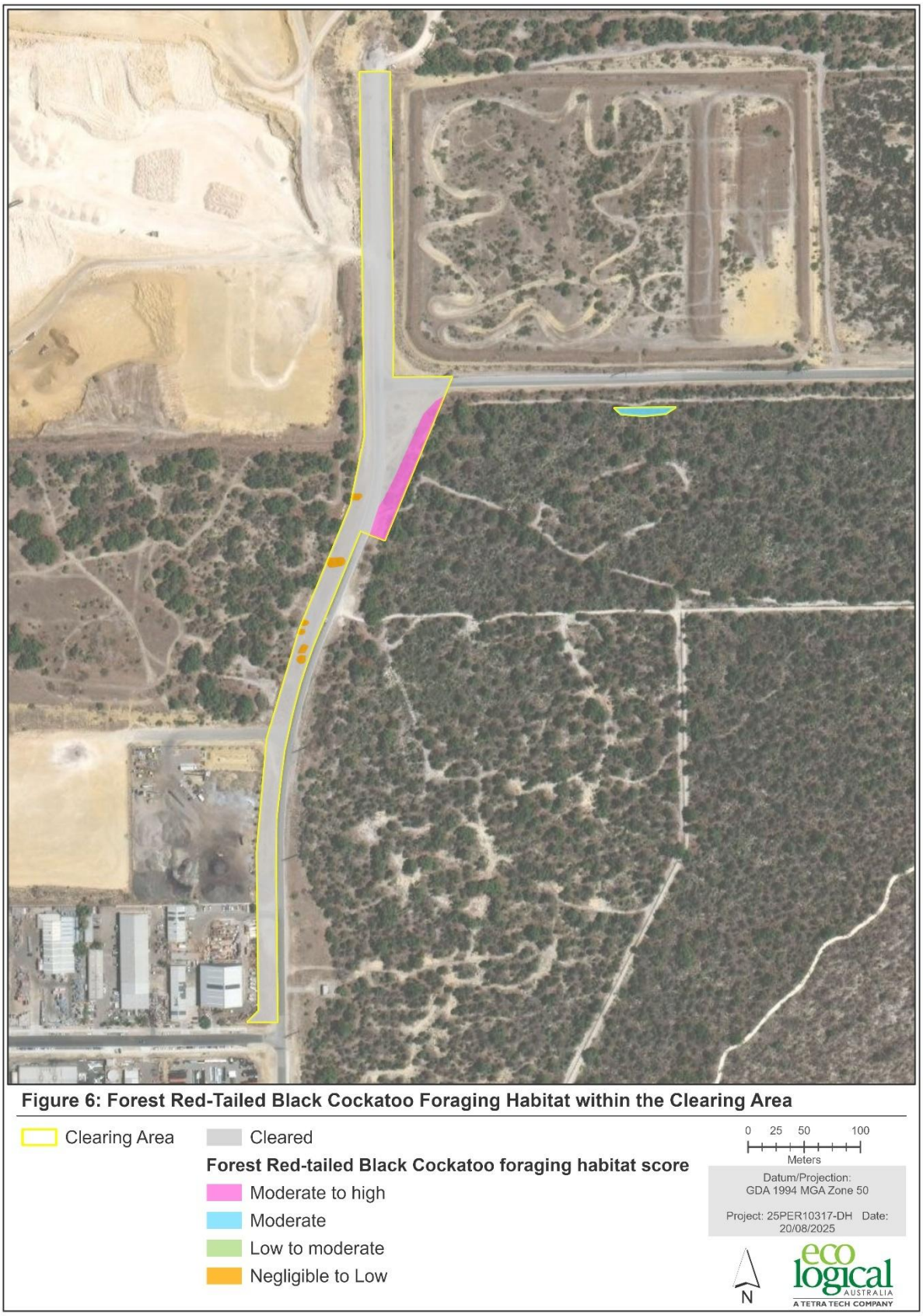

Figure 7: Forest Red-Tailed Black Cockatoo Foraging Habitat within the Clearing Area

Figure 8: Baudin's Cockatoo Foraging Habitat within the Clearing Area

4. Clearing of Native Vegetation

Excluding activities that are exempt under Schedule 6 of the EP Act or section 5 (Prescribed Clearing) of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004, all native vegetation clearing should be done in accordance with an NVCP.

4.1. Proposed Clearing

The Proposal will involve clearing of a total of 0.23 ha of native vegetation within the Clearing Area. Vegetation or habitat values that occur near the Clearing Area will be managed to avoid and minimise indirect impacts (described in Section 4.2).

4.2. Environmental Mitigation Measures

The Proposal has been designed to avoid environmental impacts where possible, (including clearing native vegetation) or minimising impacts where unavoidable. Potential impacts have primarily been avoided or minimised through the planning and design phase of the Proposal.

DevelopmentWA will implement a range of management measures such as pathogen and weed hygiene measures and controls, erosion control, pest management, watering and fencing and signage at the site to mitigate direct and indirect impacts associated with clearing including the following:

- Clearing will be undertaken in one direction towards adjacent native vegetation to allow fauna to move into adjacent native vegetation, minimising the risk of fauna injury or mortality.
- A Construction Environmental Management Plan (CEMP) will be prepared to manage the potential environmental impacts associated with clearing and construction. This will include the management of potential threatening processes to the vegetation retained on site and adjacent to the Clearing Area, such as:
    - Dust
    - Erosion
    - Waste and hazardous materials
    - Noise and vibrations
    - Weeds
    - Phytophthora dieback.

4.3. Offsets

In 2013, DevelopmentWA provided funds to the Department of Parks and Wildlife (now Department of Biodiversity, Conservation and Attractions) for the purchase of Lot 1 Wannamal Road West, Mindarra, to form part of an advanced offset landbank. The Department of Water and Environmental Regulation has mapped an area of approximately 199 ha of Banksia Woodlands TEC and Carnaby's Cockatoo foraging habitat that remains unallocated within the area. In the scenario that offsets are required, DevelopmentWA plans to utilise this offset landbank.

5. Assessment against the Ten Clearing Principles

A detailed assessment of the proposed clearing of up to 0.23 ha of native vegetation against the Ten Clearing Principles contained in Schedule 5 of the EP Act is provided in Sections 5.1 to 5.10. The Proposal may be at variance with Principle (d).

Clearing Principle	Not at variance	Not likely to be at variance	May be at variance	At variance	Seriously at variance
a) Native vegetation should not be cleared if it comprises a high level of biological diversity		X			
b) Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia		X			
c) Native vegetation should not be cleared if it includes or is necessary for the continued existence of rare flora	X				
d) Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of a threatened ecological community (TEC)			X		
e) Native vegetation should not be cleared if it is significant as remnant vegetation in an area that has been extensively cleared	X				
f) Native vegetation should not be cleared if it is growing in or in association with an environment associated with a watercourse or wetland	X				
g) Native vegetation should not be cleared if the clearing of vegetation is likely to cause appreciable land degradation		X			
h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area	X				
i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water	X				
j) Native vegetation should not be cleared if the clearing of vegetation is likely to cause, or exacerbate, the incidence of flooding	X				

5.1. Principle (a)

Native vegetation should not be cleared if it comprises a high level of biological diversity.

Vegetation mapped as Isolated trees along Mather Drive is unlikely to comprise a high level of biological diversity, only containing isolated *Eucalyptus marginata* and *Banksia* trees. Similarly, VT4 within the Clearing Area (occupying less than 0.01 ha) is represented by a number of overhanging trees only, part of a Degraded vegetation community, and is unlikely to represent high biological diversity.

One intact vegetation community (EmBAf) has been identified within the Clearing Area, covering a total of 0.03 ha. Vegetation community EmBAf is considered to be in Excellent condition (ELA 2022).

Vegetation community EmBAf is identified as being representative of the Banksia Woodlands of the Swan Coastal Plain TEC, which is listed as Endangered under the EPBC Act and as Priority 3 under the BC Act. Within the broader patch of EmBAf (extending across Lot 2001 south of Pederick Road), a total of 100 flora species (including 12 introduced species) were recorded from 76 genera and 34 families. Vegetation community EmBAf within the Clearing Area is representative of FCT 28 (ELA 2022). The vegetation community (EmBAf) is also considered to have the potential to support several Priority flora species, however, no flora species listed as Threatened under the EPBC Act or BC Act have been recorded within the Clearing Area (ELA 2025, 2022, 2021a).

Roadside vegetation mapped as VT3 occupies a total of 0.17 ha (9.1%) and comprises regrowth of more than 20 years in Good condition (ELA 2025a).Within VT3, a total of 15 flora species (including five introduced species) from eight families and 13 genera were recorded (ELA 2025a).

ATA (2007) considered fauna habitat within Lot 2001 south (EmBAf) to contain a 'moderately diverse' fauna assemblage, having identified a total of 21 vertebrate fauna species within and in the vicinity of the Clearing Area. A Basic fauna survey undertaken by ELA (2025a) identified a total of 14 (including one introduced) vertebrate fauna species, including two conservation significant fauna species: Carnaby's Cockatoo (listed as Endangered under the EPBC Act and the BC Act) and Forest Red-tailed Black Cockatoo (listed as Vulnerable under the EPBC Act and the BC Act).

Vegetation within Lot 2001 within the Clearing Area represents 'Moderate to high', 'Good' and 'Low' foraging value for Carnaby's Cockatoo and 'Moderate to high', 'Moderate' and 'Low to moderate' foraging value for Forest Red-tailed Black Cockatoos (ELA 2025a; 2021a). VT3 and vegetation community EmBAf represents 'Moderate to high' quality foraging for Baudin's Cockatoo (ELA 2025a). No potential breeding or roosting trees occur within the Clearing Area.

Although some of the Clearing Area is representative of Banksia Woodlands TEC in 'Excellent' condition, clearing will be limited to 0.03 ha of the TEC, which represents 0.05% of the patch of the ecological community that extends across Lot 2001 (south of Pederick Road) and into Mather Reserve.

Considering the relatively small area of the Banksia Woodlands TEC that occurs within the Clearing Area and that the flora and fauna diversity within the Clearing Area is not considered to be atypical of the subregion, biological diversity is not expected to be significantly affected. As such, the Proposal is not likely to be at variance with this Principle.

5.2. Principle (b)

Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Vegetation within Lot 2001 (south of Pederick Road) is considered to contain a 'moderately diverse' fauna assemblage, with a total of 18 vertebrate fauna species recorded during a Level 2 survey

(ATA 2007). An additional three Priority species are considered to have the potential to occur within this Lot, due to the presence of suitable habitat; namely, the Black-striped Burrowing Snake, Western Brush Wallaby and Quenda (ELA 2025a). This habitat type covers less than 1.4% of the Clearing Area.

Outside of Lot 2001, fauna habitat is limited due to clearing, historical disturbance and roadside location, apart from the presence of some black cockatoo foraging species within VT3 and scattered trees along Mather Drive. Of the 2.2 ha Clearing Area, 0.03 ha was considered 'Good' quality foraging habitat for Carnaby's Cockatoo, 'Moderate' quality foraging habitat for Forest Red-tailed Black Cockatoo (ELA 2021a), and 'Moderate to high' quality foraging habitat for Baudin's Cockatoo (ELA 2025a). Less than 0.01 ha of 'Low' quality foraging habitat was recorded for Carnaby's Cockatoo, 'Low to moderate' quality foraging habitat for Forest Red-tailed Black Cockatoo and 'Moderate' quality foraging habitat for Baudin's Cockatoo. Additionally, VT3 represents 0.17 ha of 'Moderate to high' foraging quality for all three black cockatoo species (ELA 2025a). Isolated trees along Mather Drive, comprise 0.03 ha and represents 'Negligible to low' quality foraging habitat for all species of black cockatoos given their dispersed nature (ELA 2025a). The Clearing Area does not contain any known potential black cockatoo breeding or roosting trees.

The Proposal will remove approximately 0.17 ha of habitat for indigenous fauna species within the Clearing Area, including potential habitat for conservation significant fauna species Carnaby's Cockatoo, Forest Red-tailed Black Cockatoo and Baudin's Cockatoo. However, given the size of the area to be cleared and its location in proximity to surrounding suitable foraging and potential breeding habitat for black cockatoos, the habitat within the Clearing Area is not considered significant to the survival to these species. Additionally, despite the presence of suitable foraging habitat for Baudin's Cockatoo within the Clearing Area, the species is unlikely to be a regular visitor considering the Clearing Area is outside of the species' modelled distribution (DAWE 2022).

The majority (90.9%) of the Clearing Area is comprised of cleared areas (2.01 ha), which are unlikely to represent significant habitat for indigenous fauna species. Considering this and the relatively small area of habitat for significant fauna, namely black cockatoo foraging habitat, that occurs within the Clearing Area (0.17 ha), the Proposal is not likely to be at variance with this Principle.

5.3. Principle (c)

Native vegetation should not be cleared if it includes or is necessary for the continued existence of rare flora.

While two Priority flora species have previously been recorded within Lot 2001 and four Priority flora species are considered to have the potential to occur within Lot 2001 due to the presence of suitable habitat, no flora species listed as Threatened under the EPBC Act or BC Act have been recorded within the Clearing Area. As there are no known rare flora species within the Clearing Area, the Proposal is not at variance with this Principle.

5.4. Principle (d)

Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of a threatened ecological community (TEC).

The Commonwealth listed Banksia Woodlands of the Swan Coastal Plain TEC (Endangered), representing FCT 28 is known to occur within the Clearing Area (0.03 ha; 1.4% of the Clearing Area). Although an out-of-season Reconnaissance flora and vegetation survey identified VT3 as having the potential to represent floristic aspects of the Banksia Woodlands TEC, a follow-up formal assessment of VT3 against

the diagnostic criteria and floristic analysis of the vegetation type determined that VT3 is not representative of the Banksia Woodlands TEC.

As such, the Proposal will be impacting a maximum of 0.03 ha of Banksia Woodlands TEC (EmBAf), which forms 0.05% of a larger 61.8 ha Banksia Woodlands TEC that extends across Lot 2001 (south of Pederick Road) and into Mather Reserve. Mather Reserve is a gazetted conservation area and is subject to a Conservation Management Plan that will ensure the maintenance of Banksia Woodlands TEC within the area (Wilson 2020).

Banksia Woodlands TEC within the Clearing Area forms part of the northern boundary of the broader patch of the ecological community. Potential impacts to this area are therefore unlikely to cause fragmentation of the larger Banksia Woodlands TEC patch. While the Banksia Woodlands patch is likely to be resilient to edge effect disturbances due to its large size and intactness, potential residual indirect impacts to this ecological community will be mitigated through management measures outlined in the CEMP.

Although impacts to Banksia Woodlands TEC from the Proposal are unlikely to be significant for the maintenance of this ecological community, on the basis that 0.03 ha of vegetation associated with the Banksia Woodlands TEC is proposed to be cleared, the Proposal may be at variance with this Principle.

5.5. Principle (e)

Native vegetation should not be cleared if it is significant as remnant vegetation in an area that has been extensively cleared.

The Clearing Area intersects one vegetation complex mapped for the Swan Coastal Plain by Heddle *et al.* (1980): Cottesloe Complex – Central and South. The Cottesloe Complex – Central and South vegetation complex has approximately 32% of its total pre-European extent remaining, with approximately 14,567.87 ha within the Swan Coastal Plain subregion. The Proposal will result in the clearing of 0.3 ha of Cottesloe Complex – Central and South.

The Western Australian Government is committed to the National Objectives and Targets for Biodiversity Conservation (Commonwealth of Australia 2001) to prevent the clearing of ecological communities with a current extent of 30% or less of that present prior to European settlement. However, the government also recognises that due to past land use, meeting this target in 'constrained areas', such as the Swan Coastal plain, may not be achievable. As such (in these areas) the minimum retention level has been reduced to 10% of the extent prior to European settlement. On this basis, the Proposal is not considered to be at variance with this Principle as the Cottesloe Complex – Central and South vegetation complex is not below 10% of the pre-European extent remaining.

5.6. Principle (f)

Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

There are no watercourses, wetlands or riparian vegetation located within the Clearing Area or immediately adjacent, with Lake Pinjar being the nearest waterbody located approximately 1.4 km north-east of the Clearing Area. Therefore, the Proposal is not considered to be at variance with this Principle.

5.7. Principle (g)

Native vegetation should not be cleared if the clearing of vegetation is likely to cause appreciable land degradation.

The clearing of native vegetation for the Proposal is not expected to cause appreciable land degradation. The Clearing Area is situated on relatively flat land and is unlikely to be significantly impacted by potential waterlogging or water erosion (DPIRD 2023c, 2023a).

The soil within and surrounding the Clearing Area is sandy, which is highly porous and is generally nutrient poor. As such, any stormwater is likely to drain readily, limiting stormwater ponding on the surface, and is unlikely to result in a significant export of nutrients. Due to the depth of the groundwater table, porous nature of the soil, the limited amount of vegetation proposed to be cleared and the low likelihood of sodic minerals being present, soil salinity is unlikely to be significantly increased as a result of the Proposal (DPIRD 2023d). The Clearing Area does not contain any known soils which are likely to result in an increase in acidity, i.e., acid sulphate soils (DWER 2017).

Given much of the Clearing Area is situated within an area mapped at relatively high risk of wind erosion (DPIRD 2023b), soil erosion has the potential to occur following the removal of native vegetation. To minimise the severity of wind erosion and follow-on impacts, a CEMP will be implemented during the construction of the Proposal. With the implementation of a CEMP, erosion is unlikely to be exacerbated by the clearing of native vegetation within the Clearing Area and is not expected to cause appreciable land degradation.

The Proposal is not expected to result in severe waterlogging, increase in soil salinity or acidity, nutrient exporting or water erosion within the Clearing Area or the immediate surrounding areas. Any residual impacts of wind erosion are likely to be sufficiently managed through the implementation of the CEMP to the extent that the Proposal is unlikely to cause appreciable land degradation. As such, the Proposal is not likely to be at variance with this Principle.

5.8. Principle (h)

Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

There are a number of conservation areas in proximity to the Clearing Area, protecting more than 2,000 ha of native vegetation. Given the proximity, the vegetation in these conservation areas is likely to have similar structural characteristics to the EmBAf vegetation community present within the Clearing Area. Mather Reserve is the closest conservation area to the Clearing Area (located immediately south of Lot 2001, south of Pederick Road). However, the Clearing Area is unlikely to form a linkage between Mather Reserve or other surrounding conservation areas.

Given the distance between the Clearing Area and the nearest conservation area, clearing is not anticipated to impact the remnant environmental values in the Clearing Area or the nearby conservation areas. Thus, the Proposal is not at variance with this Principle.

5.9. Principle (i)

Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface of underground water.

There are no surface water features present within the Clearing Area. The nearest water body is Lake Pinjar, located approximately 1.4 km north-east of the Clearing Area. Due to the distance between the

potential source (Clearing Area) and receptor (Lake Pinjar), it is unlikely that this surface water feature will be negatively impacted by the minimal amount of dust that may be generated during clearing and construction. In addition, water quality impacts such as sedimentation or increased nutrient loads are unlikely to affect nearby waterways or groundwater sources.

The depth to groundwater ranges between 33-36 AHD, with the distance to the watertable increasing in an easterly direction across the Clearing Area. The absence of any acid forming soils (i.e., acid sulphate soils), the depth of the ground watertable and the low likelihood of sodic minerals being present in the soil (DPIRD 2025a), indicates that clearing is unlikely to negatively impact the quality of the local groundwater.

The proposed clearing of 0.23 ha of native vegetation within the Clearing Area is not expected to cause the deterioration of surface or underground water quality, thus the Proposal is **not at variance with this Principle.**

5.10. Principle (j)

Native vegetation should not be cleared if the clearing of vegetation is likely to cause, or exacerbate, the incidence of flooding.

There are no surface water features or wetlands present within or immediately adjacent to the Clearing Area. The soil within and surrounding the Clearing Area is sandy and thus porous and as such stormwater drains away readily and surface ponding is unlikely to occur (ATA 2007). The clearing associated with the Proposal is not anticipated to cause or exacerbate flooding in the vegetation adjacent to the Clearing Area. As such, the clearing of 0.23 ha of native vegetation for the Proposal is **not considered to be at variance with this Principle.**

6. Conclusion

A detailed assessment of the proposed clearing of up to 0.23 ha of native vegetation within a 2.2 ha Clearing Area against the Ten Clearing Principles contained in Schedule 5 of the EP Act found that the Proposal is not likely to be at variance with any of the Ten Clearing Principles. The Proposal may be at variance with one principle, "*Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of a threatened ecological community (TEC)"* due to the presence of vegetation affiliated with the Banksia Woodlands TEC in Excellent condition. DevelopmentWA have minimised the impact to the Banksia Woodland TECs through the planning and design of required infrastructure to minimise the clearing footprint. In addition, any potential impacts to the TEC will be mitigated through implementation of the CEMP.

Vegetation in the Clearing Area associated with the Banksia Woodlands TEC forms 0.05% of a larger 61.8 ha Banksia Woodlands TEC that extends across Lot 2001 (south of Pederick Road) and into Mather Reserve (a gazetted conservation area), subject to a Conservation Management Plan that will ensure the maintenance of Banksia Woodlands TEC within the area (Wilson 2020). Furthermore, Banksia Woodlands TEC within the Clearing Area forms part of the northern boundary of the broader patch of the ecological community and potential impacts to this area are therefore unlikely to cause fragmentation of the larger Banksia Woodlands TEC patch.

In consideration of the above, the Proposal will not have a significant impact on the Banksia Woodlands TEC and therefore referral to DCCEEW for assessment under the EPBC Act is not required.

7. References

ATA Environmental (ATA), 2007. Flora, vegetation and vertebrate fauna assessment: Neerabup Industrial Area (NIA), Neerabup. (Prepared for the City of Wanneroo, LandCorp and various landowners.).

Beard, J.S. 1979. *Vegetation of the Perth Area, Western Australia: Map and Explanatory Memoir, 1:250,000 Series*. Vegmap Publications.

Birdlife. 2025. 'Baudin's Black-Cockatoo'. https://birdlife.org.au/bird-profiles/baudins-black-cockatoo/.

Bureau of Meteorology (BoM), 2025. Climate Data Online.

Commonwealth of Australia, 2001. National Objectives and Targets for Biodiversity Conservation. Natural Heritage Trust and Biodiversity Policy Branch, Canberra.

Department of Agriculture, Water and the Environment (DAWE), 2016. Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community.

Department of Agriculture, Water and the Environment (DAWE), 2022. Referral Guideline for 3 WA Threatened Black Cockatoo Species.

Department of Biodiversity, Conservation and Attractions (DBCA), 2019b. 2018 South West Vegetation Complex Statistics.

Department of Biodiversity, Conservation and Attractions (DBCA), 2019a. DBCA Statewide Vegetation Statistics.

Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2024. Australia's Bioregions (IBRA).

Department of Primary Industries and Regional Development (DPIRD), 2022. Soil Landscape Mapping - Systems (DPIRD-064).

Department of Primary Industries and Regional Development (DPIRD), 2023d. Soil Landscape Land Quality - Salinity Risk (DPIRD-09).

Department of Primary Industries and Regional Development (DPIRD), 2023a. Soil Landscape Land Quality - Water Erosion Risk (DPIRD-013).

Department of Primary Industries and Regional Development (DPIRD), 2023c. Soil Landscape Land Quality - Waterlogging Risk (DPIRD-015).

Department of Primary Industries and Regional Development (DPIRD), 2023b. Soil Landscape Land Quality - Wind Erosion Risk (DPIRD-016).

Department of Primary Industries and Regional Development (DPIRD), 2025a. Soil Landscape Mapping - Best Available (DPIRD-027).

Department of Primary Industries and Regional Development (DPIRD), 2025b. Soil landscape mapping-Zones (DPIRD-017).

Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC), 2012. Offsets assessment guide, Commonwealth of Australia 2012. Department of the Environment and Energy, Canberra.

Department of Water and Environmental Regulation (DWER), 2017. Acid Sulfate Soil Risk Map, Swan Coastal Plain (DWER-055).

Department of Water and Environmental Regulation (DWER), 2025. Perth Groundwater Map [WWW Document]. URL https://maps.water.wa.gov.au/Groundwater/

Eco Logical Australia (ELA), 2013. Flora and Fauna Technical Studies Lot 1002 Pederick Road, Neerabup (Prepared for LandCorp).

Eco Logical Australia (ELA), 2021a. Neerabup Lot 2001 Pederick Rd Flora, Vegetation and Black Cockatoo Survey (No. Prepared for DevelopmentWA).

Eco Logical Australia (ELA), 2021b. Targeted Survey for Caladenia huegelii at Lot 2001 Pederick Rd, Neerabup (Prepared for DevelopmentWA).

Eco Logical Australia (ELA), 2022. Lot 2001 Pederick Rd TEC Clarification Survey (Prepared for DevelopmentWA).

Eco Logical Australia (ELA), 2025a. Neerabup North Subdivision Ecological Surveys (Unpublished report prepared for DevelopmentWA).

Eco Logical Australia (ELA), 2025b. Spring Ecological Surveys at Lot 2001 and 1002 Pederick Road, Neerabup.

Element. 2020. *Neerabup Industrial Area Structure Plan No. 17*. Prepared for DevelopmentWA (formerly LandCorp).

Environmental Protection Authority (EPA), 2016. Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment. Perth, Western Australia.

Government of Western Australia. 2000. *Bush Forever Volume 2: Directory of Bush Forever Sites*. Western Australian Planning Commission.

He, F. 2021. 'The Distribution of the Threatened Black-Striped Burrowing Snake (Neelaps Calonotos) in the Perth Region, Western Australia'. *Journal of the Royal Society of Western Australia*, no. 104: 85–90.

Heddle, E.M, O.W Loneragan, and J.J Havel. 1980. 'Vegetation of the Darling System'. In *Atlas of Natural Resources, Darling System*. Department of Conservation and Environment.

Keighery, B.J. 1994. *Bushland Plant Survey - A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc.).

Mitchell, D, K Williams, and A Desmond. 2002. *Swan Coastal Plain 2 (SWA2 - Swan Coastal Plain Subregion)*.

Natural Area. 2019. *Level 2 Flora Survey - Lot 902 Flynn Drive Neerabup*. Prepared for Borello Family.

Natural Area. 2021. *Fauna Assessment Mather Drive, Neerabup WA*. Prepared for the City of Wanneroo.

RPS. 2006. *Flora and Vegetation Report, Lots 4, 40, 41 & 1002, Neerabup Industrial Estate*. Prepared for LandCorp.

Shepherd, D.P, G.R Beeston, and A.J.M Hopkins. 2002. *Native Vegetation in Western Australia - Extent, Type and Status*. Resource Management Technical Report No. 249. Department of Agriculture, Western Australia.

Thackway, R, and I.D Cresswell, eds. 1995. *An Interim Biogeographic Regionalisation for Australia: A Framework for Establishing the National System of Reserves, Version 4.0*. Australian Nature Conservation Agency.

Western Australian Planning Commission (WAPC), 2024. Approval of application WAPC ref: 200820.