GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 9881/1

File Number: DWERVT11021

Duration of Permit: From 23 December 2024 to 23 December 2036

PERMIT HOLDER

Patane Farms Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 8 on Diagram 78649, Myalup

AUTHORISED ACTIVITY

The permit holder must not *clear* more than 0.91 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorised

The permit holder must not *clear* any *native vegetation* after 23 December 2026.

2. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be *cleared* under this permit, the permit holder must apply the following principles, set out in descending order of preference:

(a) avoid the *clearing* of *native vegetation*;

(b) minimise the amount of *native vegetation* to be *cleared*; and

(c) reduce the impact of *clearing* on any environmental value.

3. Weed and dieback management

When undertaking any *clearing* authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be *cleared*;

(b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be *cleared*; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be *cleared*.

4. Erosion management

The permit holder must commence horticulture activities no later than three (3) months after undertaking the authorised *clearing* activities to reduce the risk of soil erosion by minimising the exposure time of soils.

5. Directional clearing

The permit holder must:

(a) conduct *clearing* in a slow progressive manner towards adjacent *native vegetation*; and

(b) allow a reasonable time for fauna present within the area being *cleared* to move into adjacent *native vegetation* ahead of the *clearing* activity.

6. Offset - revegetation and rehabilitation

(a) Within 24 months of commencing *clearing* authorised under this permit, at an *optimal time* and no later than 23 December 2028, the permit holder must *revegetate* and *rehabilitate* the area cross-hatched red on Figure 2 of Schedule 1, by implementing and adhering to the '*Revegetation and Management Plan Lot 1113 West Break Road, Myalup, SW523 V2 – September 2024'* prepared by SW Environmental, including but not limited to the following actions:

(i) undertake best practice soil preparation techniques including ripping and mulching to promote plant survival;

(ii) deliberately *planting* and/or *direct seeding native vegetation* that will result in the minimum completion criteria detailed in Table 1 of Schedule 2 of this permit and ensuring only *local provenance* seeds and propagating material are used;

(iii) remove non-native planted vegetation prior to *planting* and/or *direct seeding*;

(iv) undertake *weed* control activities to achieve and maintain the minimum completion criteria specified on Table 1 of Schedule 2.

(v) install temporary fencing around the perimeter of the *revegetation* and *rehabilitation* sites;

(vi) establish at least five 10 x 10 metre quadrats monitoring sites within areas *revegetated* and *rehabilitated* areas; and

(vii) undertake monitoring of the areas *revegetated* and *rehabilitated* under *condition* 6 of this permit by an *environmental specialist* in accordance with Table 1 of Schedule 2 until the completion criteria listed in Table 1 of Schedule 2 have been met.

(b) The permit holder must undertake *remedial actions* for areas *revegetated* and *rehabilitated*, where monitoring indicates that the *revegetation* and *rehabilitation* has not met the completion criteria specified in Table 1 of Schedule 2, including:

(i) *revegetate/rehabilitate* the area by deliberately *planting* and/or *direct seeding native vegetation* that will result in the minimum completion criteria detailed in Table 1 of Schedule 2 and ensuring only *local provenance* seeds and propagating material are used;

(ii) additional *weed* control activities;

(iii) annual monitoring of the *revegetated* and *rehabilitated* areas by an *environmental specialist*, until the completion criteria are met; and

(iv) where an *environmental specialist* has determined that the completion criteria, outlined in Schedule 2 has been met, that determination shall be submitted to the *CEO* within three months of the determination being made by the *environmental specialist.*

7. Offset – conservation covenant

In respect to the areas cross-hatched red on Figure 2 of Schedule 1, the permit holder must, no later than 23 December 2030:

(a) give a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* for the protection and management of vegetation in perpetuity; and

(b) Within 1 month of executing the conservation covenant, provide a copy of the executed conservation covenant to the *CEO*.

8. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised *clearing* activities generally	(a) the species composition, structure, and density of the *cleared* area; (b) the location where the *clearing* occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was *cleared*; (d) the size of the area *cleared* (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of *clearing* in

No.	Relevant matter	Specifications
		accordance with *condition* 2; (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with *condition* 3; (g) actions taken to minimise the risk of wind erosion in accordance with *condition* 4; and (h) actions taken in accordance with *condition* 5 and 7 of this permit.
2.	In relation to the *revegetation* and *rehabilitation* of areas pursuant to *condition* 6 of this permit	(a) a description of the *revegetation* and *rehabilitation* activities undertaken each year, once commenced, outlined in a report produced by an *environmental specialist*; (b) the location and size of the areas *revegetated* and *rehabilitated* (in hectares) recorded using a GPS unit set to GDA 2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; (c) the date that *revegetation* and *rehabilitation* works began; (d) the baseline data recorded for the area to be *revegetated/rehabilitated*, including species richness, species density, vegetation structure and *weed* cover; (e) the species composition, structure, density of the areas *revegetated/rehabilitated* recorded annually; (f) results of annual monitoring against the completion criteria; (g) the date completion criteria area considered to have been met; and (h) any other actions in accordance with *condition* 6.

9. Reporting

(a) The permit holder must provide to the *CEO*, on or before 30 June of each calendar year, a written report containing:

(i) the records required to be kept under *condition* 8; and

(ii) records of activities done by the permit holder under this permit between 1 January and 31 December of the preceding calendar year.

(b) If no *clearing* authorised under this permit has been undertaken, a written report confirming that no *clearing* under this permit has been undertaken, must be provided to the *CEO* on or before 30 June of each calendar year.

(c) The permit holder must provide to the *CEO*, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under *condition* 8, where these records have not already been provided under *condition* 9(a).

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of two (2) years' work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist.
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of *Phytophthora* species on native vegetation.
direct seeding	direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA).
local provenance	means native vegetation seeds and propagating material from natural sources within 25 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
optimal time	means the period between April and June.
planting	means the re-establishment of vegetation by creating soil conditions and planting seedlings of the desired species.
remedial action/s	remedial action/s means for the purpose of this permit, any activity that is required to ensure successful re-establishment of understorey to its pre-clearing composition, structure and density, and may include a combination of soil treatments and revegetation.
revegetate/revegetated/	means the re-establishment of a cover of local provenance native

Term	Definition
revegetation	vegetation in an area using methods such as natural regeneration, direct seeding and/or planting so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
rehabilitate/rehabilitated/ rehabilitation	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Meenu Vitarana
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

28 November 2024

SCHEDULE 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

Figure 1: Map of the boundary of the area within which clearing may occur

Figure 2: Map of the boundary of the area within which revegetation and rehabilitation under condition 4 must occur

SCHEDULE 2

Table 1: Completion Criteria

Aspect	Attribute	Measure	Target
Flora and vegetation	Vegetation cover	Number of stems per hectare	2000/ha
	Species richness	Number of species present (within each stratum layer)	50% species richness within each stratum layer with a minimum of 60% species richness for the overstory layer
	Weed species presence and abundance	List of weed species and approximate percentage cover	For number of weeds present to be no more prevalent than prior to revegetation and not exceeding 15% cover
	Declared weeds	No declared weeds to be present.	0% cover
Flora/fauna	Presence of species valued by target fauna for foraging and/or breeding habitat	Presence and growth of *Corymbia calophylla, Eucalyptus marginata* and *Agonis flexuosa* trees	For trees with target fauna value to be present and growth rates of such to be increasing

Modified from the *Revegetation and Management Plan Lot 1113 West Break Road, Myalup, SW523 V2 – September 2024'* prepared by SW Environmental

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9881/1
Permit type:	Area permit
Applicant name:	Patane Farms Pty Ltd
Application received:	15 September 2022
Application area:	0.91 hectares of native vegetation (revised)
Purpose of clearing:	Horticulture
Method of clearing:	Mechanical
Property:	Lot 8 on Diagram 78649
Location (LGA area/s):	Shire of Harvey
Localities (suburb/s):	Myalup

1.2. Description of clearing activities

The initial vegetation proposed to be cleared consisted 2.29 hectares scattered native trees over pasture weeds within Lot 8 on Diagram 78649, Myalup, for the purpose of horticulture.

The application was revised during the assessment process, in response to a request to further avoid and mitigate impacts to critical black cockatoo habitat. Patane Farms Pty Ltd reduced the proposed clearing from 2.29 hectares to 0.91 hectares (see Section 3.1 for further details).

1.3. Decision on application

Decision:	Granted
Decision date:	28 November 2024
Decision area:	0.91 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and two submissions were received. Consideration of matters raised in the public submissions is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix H.1.), and the findings of a flora and fauna surveys (see Appendix G), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3.3). The Delegated Officer also took into consideration that the purpose of the clearing is to enable Patane Farms Pty Ltd to establish horticulture on the land and that the applicant has obtained necessary planning approvals and other approvals for this purpose.

The assessment identified that the proposed clearing will result in:

- the loss of approximately 0.91 hectares of native vegetation, of which approximately 0.77 hectares of native vegetation that provides medium to high quality foraging habitat for *Zanda latirostris* (Carnaby's black cockatoo), *Zanda baudinii* (Baudin's black cockatoo) and *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), in close proximity to water sources and other known foraging habitat;
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- the potential for land degradation in the form of wind erosion

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to long-term adverse impacts on environmental values and that the impacts of the clearing can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures, and provided an offset to counterbalance the impacts to black cockatoo habitat (see Section 4 and Appendix F).

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- commence horticultural activities no later than three months after undertaking the clearing to reduce the potential for wind erosion to occur; and
- revegetate a minimum of 3.19 hectares of native vegetation comprising of black cockatoo foraging habitat and conserve the area in perpetuity, to offset the significant residual impacts remaining after the clearing.

In addition to the above, the Delegated Officer also took into consideration the following when making the decision to grant the clearing permit subject to offset conditions in this location:

- the purpose of the clearing is consistent with the adjacent land uses and has been granted a Development Approval by the Shire of Harvey, consistent with the planning framework;
- the applicant reduced the proposed clearing from 2.29 hectares to 0.91 hectares, by retaining a significant number of mature trees, including those with known breeding hollows and suitable breeding hollows for black cockatoos;
- the proposed revegetation offset is local and immediately adjacent to the impact area;
- the 3.19 hectares of revegetation offset will deliver a net gain in native vegetation (3.19 ha of revegetation compared to the 0.91 ha of vegetation to be cleared);
- following the delivery of the offsets, an additional 3.19 hectares of foraging habitat in a known black cockatoo migration corridor will be protected in perpetuity; and
- In the long-term, the current fragmentation nature of the offset location adjacent to a mapped ecological linkage will be improved by the revegetation conditions implemented on the clearing permit.

1.5. Site map

Figure 1: Map of the application area. The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Soil and Land Conservation Act 1945* (WA)
- *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (WA).

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011).

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)
- *Environmental Protection (Clearing of Native Vegetation) Regulations 2004.*

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has advised of the following avoidance and mitigation measures:

- Reduction of the application area from 2.29 ha to 0.91 hectares, to avoid and mitigate impacts to critical black cockatoo habitat (Figure 2).
- The proposed clearing area is necessarily located over soils suitable for the purpose of horticulture. Many of the large trees along the edge of the development footprint will need to be cleared due to the unacceptable risk to human life (farm workers) if they were to be retained as individual isolated trees.
- In consultation with DWER and the Shire of Harvey through the preliminary assessment process, the following mitigation measures have been adopted:
    - The project footprint has been selected to minimise impacts on soils / land that are not critical to the project.
    - Vegetation in the east of Lot 8 will be retained to provide a substantial vegetated corridor both within and off site.
    - Vegetation along the western boundary of Lot 8 where a single western ringtail possum was observed will be retained.
    - The two large artificial dams will be retained, providing watering points for fauna.
- Retained a significant buffer in the north and northwest of Lot 8 (increased from an initial 20 metres to approximately 160 metres).
- This will involve the retention of approximatey 63 mature trees, which provide a significant buffer from houses in the north, improve visual amenity and enhance black cockatoo habitat and habitat connectivity within and off site.
- Increased the proposed planting buffers in the north and northwest of Lot 8 to 20 metres from the verge (40 metre width to adjacent properties), totalling 1.62 hectares. This will involve the retention of approximately 29 mature trees and 14 other trees (Melaleuca, *Agonis flexousa* (peppermint) and smaller *Corymbia calophylla* (marri)). They will provide a significant buffer from houses in the north, improve visual amenity and enhance black cockatoo and western ringtail possum habitat, and also enhance habitat connectivity between the area of western ringtail possum habitat and the wetland system to the east.
- Vegetation in the east of Lot 8 will be retained to retain potential foraging habitat. Vegetation along the western boundary of Lot 8 will also be retained.

- The EPBC Act referral *EPBC 2022/09371 – Production horticulture in Lot 8 Rigg Road, Myalup, Western Australia* that was with Department of Climate Change, Energy, the Environment and Water, was deactivated and withdrawn due to the significant reduction in clearing proposed and potential to no longer have a signficant impact on Matters of National Environmnetal Signficance.

Patane Farms Pty Ltd have determined that exemptions apply to 0.10 hectares as prescribed in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (WA), under section 51B of the EP Act (0.05 ha under Regulation 5, Item 10 - Clearing for fence lines and 0.05 ha - under Regulation 5 Item 19 - Clearing of isolated trees).

Figure 2: Map of the initial (indicated crosshatched blue) and reduced (indicated crosshatched yellow) application area, illustrating the avoidance and minimisation measures of the applicant to reduce the environmental impact of the clearing.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

After consideration of avoidance and mitigation measures, it was determined that an offset to counterbalance the significant residual impacts to significant foraging for black cockatoos was necessary.

Patane Farms Pty Ltd proposed to undertake revegetation and rehabilitation measure by planting 3.2 hectares of local native provenance species within Lot 1113 West Break Road, Myalup. This will include suitable foraging plants for black cockatoos. At a broader level the offset planting will improve and enhance existing habitat linkage as well as black cockatoo and western ringtail possum habitat values locally.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offset provided are summarised in Section 4.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix D) identified that the impacts of the proposed clearing present a risk to biological values (fauna, adjacent vegetation), and environmental values (ecological linkages and land degradation). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna) - Clearing Principles (b)

Assessment
Vegetation within the application consists of mostly marri and some peppermint paddock trees with no native mid- or understorey remaining (SW Environmental, 2022).

A fauna survey of the application area recorded 27 birds, five mammals, three of which are introduced (cow, fox and rabbit) and one reptile from the application area and the nearby Lot 6. The species recorded are common locally and not protected, except for Carnaby's cockatoo, forest red-tailed black cockatoo and western ring-tailed possum, which are fauna of conservation significance. In addition, two unidentified bat species were also observed during the fauna survey (SW Environmental, 2020).

Available databases recorded 22 fauna of conservation significance within a 10-kilometre radius. A total of 15 of these species are marine mammals or birds and are not considered to utilise the habitat present within the application area. Given the absence of understorey, the application area is not likely to contain habitat suitable for ground dwelling species. Based on habitat preferences of the remaining fauna species recorded within the local area, it is considered for habitat to likely be present for:

- *Zanda latirostris* (Carnaby's cockatoo) (Endangered)
- *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo) (Vulnerable)
- *Zanda baudinii* (Baudin's cockatoo) (Endangered)
- *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale) (Conservation Dependent)
- *Western false pipistrelle* (*Falsistrellus mackenziei*) (Priority 4)
- *Pseudocheirus occidentalis* (western ringtail possum) (Critically endangered)
- *Peregrine falcon* (*Falco peregrinus*) (Specially protected)

Black cockatoos

The application area is within the known distribution of Carnaby's cockatoo, Baudin's cockatoo, and forest red-tailed black cockatoo (herein referred to as black cockatoos). According to available databases, there are no confirmed black cockatoo breeding sites in the local area, however, the 2020 survey as a part of this project found the nearest black cockatoo breeding tree occurs within Lot 6, approximately 650 metres northwest of the application area (SW Environmental 2020). There are five known roost sites in the local area, the closest is approximately 2.64 kilometres east of the application area.

The referral guideline for threatened black cockatoo species, published by the Department of Agriculture, Water and the Environment (DAWE, 2022), specifies that habitat critical for the recovery of black cockatoos includes foraging habitat (including remnant patches of vegetation), night roosting habitat and nesting trees for breeding. Suitable breeding habitat for black cockatoos includes trees with a suitable nest hollow or of a suitable diameter at breast height (DBH) to develop a nest hollow (DAWE, 2022).

Foraging
Foraging habitat for black cockatoo species includes foraging material that is within an approximate 6–12-kilometre radius of nesting sites and within 6 kilometres of a night roosting site. The preferred foraging habitat for each of the species is described below:

- Carnaby's cockatoo – Native shrubland, kwongan healthland and woodland dominated by proteaceous plant species such as Banksia spp, Hakea spp. and Grevillea spp. The species also forages in pine plantations and eucalypt woodland.
- Forest red-tailed black cockatoo – jarrah and marri woodlands and forest, edges of karri forests including wandoo and blackbutt within the range of the species
- Baudin's cockatoo – Eucalypt woodlands and forest, proteaceous woodland, and heath. Primarily feeding on marri during the breeding season and non-native species outside of the breeding season (DAWE, 2020).

Clearing of foraging habitat is a known threat to black cockatoos (DAWE, 2022). Habitat loss, habitat modification, climate change and fire are increasingly causing the scarcity of foraging resources which are critical at all stages of life for these species (DAWE, 2022).

The two native tree species proposed to be cleared in the application area, comprise 0.77 hectares of marri and 0.14 hectares of peppermint trees. The application area does not provide any suitable mid-storey or understorey for black cockatoo foraging (SW Environmental, 2020).

According to the results of SW Environmental' s targeted fauna survey (SW Environmental, 2020), the application area provides suitable foraging habitat for black cockatoos, with evidence of feed residue (chewed marri cones) observed within Lot 8, in low abundances from both Carnaby's cockatoo and forest red-tailed black cockatoo. Marri is also known to be utilised as foraging habitat by Baudin's cockatoos (DAWE, 2022).

According to the DCCEEW's foraging habitat quality scoring tool for black cockatoos (DAWE, 2022), the vegetation within the application areas consists of medium to high quality foraging habitat for all three black cockatoo species, on the balance of the following:

- a confirmed roost site occurs within 10 kilometres;
- one known and four potential breeding trees showing past use recorded within adjacent Lot 6;
- additional trees providing potential breeding habitat are present within adjacent vegetation;
- water sources are present adjacent to the application area;
- foraging habitat is comprised mainly of marri, which is one of the preferred foraging species for black cockatoos; and
- evidence of foraging has been observed within the application area.

In addition to the above, recent flock movement data obtained by Murdoch University, indicates that the application area is less than two kilometres from likely observed breeding activity by Carnaby's cockatoos during this species breeding migration in 2016 and that the area is part of a movement (migration) corridor between the Swan Coastal Plain and breeding sites in forests further to the south, for breeding Carnaby's cockatoos. Retention of foraging habitat along the migration corridor is important because flocks need sufficient foraging habitat along their migration route, to sustain them while undertaking annual migration. Data also indicated that it is likely that black cockatoos are using the foraging habitat within the application area, including birds breeding nearby which may roost at the pine plantation adjacent, when not on their nests. A large flock (over 200 birds) was observed using the pine plantation roosts (adjacent to application area).

Although the local area comprises of abundant mapped black cockatoo foraging habitat, the department considers that cumulative impact of clearing black cockatoo foraging habitat within the Swan Coastal Plain is resulting in an ongoing decline in foraging resources available to the black cockatoo birds. Based on this, the proposed clearing is likely to have a significant impact on black cockatoo foraging. Specifically, suitable vegetation for foraging in this locality is considered to be significant for Carnaby's cockatoo, as this area is part of an important migration corridor for the species.

Given the above, it is considered that 0.77 hectares of native vegetation within the application area is likely to provide medium to high quality foraging habitat for black cockatoos, in close proximity to water sources and other known foraging and breeding habitat.

Breeding

In accordance with the referral guidelines for the three species of black cockatoo, nesting habitat is defined as trees of species known to support nesting within the range of the species, which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (DAWE, 2022). For marri trees, DBH is 500 millimeters or above (DAWE, 2022).

According to SW Environmental' s targeted fauna survey (SW Environmental, 2020), the trees proposed to be cleared have a DBH of 500 millimetres or greater (Figure 6). One tree with a small hollow, unsuitable for black cockatoo was observed (SW Environmental, 2020). As such, potential black cockatoo breeding habitat will be impacted by the proposed clearing (Figure 6) (SW Environmental, 2020).

Although no evidence of any hollows being used by black cockatoos for breeding (current or previously) was observed within the application areas during the fauna survey, one tree with evidence of current use for breeding by black cockatoo species and four breeding trees showing past use, was recorded within adjacent Lot 6 (SW Environmental, 2020).

Given the above, it is considered that the proposed clearing may impact potential future black cockatoo breeding habitat, in close proximity to water sources and known foraging and breeding habitat.

Roosting

Night roosting sites are often located near food and water resources, however, there was no evidence of roosts observed during the survey at Lot 8 or within the entire survey area (SW Environmental, 2020).

Given the location of the application area and its close proximity to water sources and other quality foraging habitat, it is likely that the 0.77 hectares of medium to high quality foraging habitat proposed to be cleared, supports nearby roosting habitat.

It is therefore considered that the proposed clearing is likely to have a significant residual impact on critical habitat for black cockatoos.

Western ringtail possum

Habitat critical for the survival of western ringtail possums is associated with stands of myrtaceous trees (usually peppermint trees) growing near swamps, water courses or floodplains, and have a high nutrient foliage availability for food, suitable structures for nesting and canopy continuity to avoid predation (DPAW, 2017).

Vegetation within the application area does not provide ideal western ringtail possum habitat within its context within the Swan Coastal Plain, particularly considering the low canopy continuity of trees within the majority of the application area and the very spare occurrence of peppermint trees. As such, the proposed clearing is unlikely to have a significant impact upon critical habitat for the species.

No western ringtail possums were identified during the nocturnal surveys within the application area (Figure 8) (SW Environmental 2020). One western ringtail possum was observed within a patch of Melaleuca and peppermint on the edge of Lot 8 during the diurnal survey. The single western ringtail possum observed is likely to be using the eastern edge of Lot 8 as part of a larger connected patch off site to the west. This area was subsequently excluded from the application area.

The remainder of the Lot 8 clearing footprint is considered to be marginal quality in terms of western ringtail possum habitat due to the lack of connected canopy or midstorey (significantly increases risk of predation by foxes). The clearing area is not located along a strategic corridor, the Swan Coastal Plain Management zone, for the western ringtail possum, and is considered unlikely to provide significant habitat to any local populations of western ringtail possum (SW Environmental, 2022a).

Noting the above, vegetation within the application area does not provide ideal western ringtail possum habitat within its context within the Swan Coastal Plain, particularly considering the low canopy continuity of trees within the majority of the revised application area and the very spare occurrence of peppermint trees. As such, the proposed clearing is unlikely to have a significant impact upon critical western ringtail possum habitat.

Other possible conservation significant fauna species

Vegetation within the application area is also considered likely to provide habitat for the south-western brush-tailed phascogale, Peregrine falcon and the western false pipistrelle noting the habitat requirements and distributions of these species:

- **Southwestern brush-tailed phascogale** inhabit a variety of forest types. Ideal habitat for this species consists of dry sclerophyll forest and open woodland (jarrah, marri, and mixed jarrah karri) that contain hollow bearing trees and sparse ground cover. Their many nesting sites include hollow tree limbs, rotten stumps and even birds' nests. In the south-west, this species is typically found in jarrah forest (Scarff, et al., 1998; Rhind, 2004). The application area provides suitable habitat, however, the fauna survey did not record any evidence of this species utilising the application area (SW Environmental, 2020). However, this species could use the application area for dispersal. Although the surrounding vegetation is connected, the application area alone consists of scattered trees with open canopies, increasing the chance of predation. Based on the above, it is not likely that this species would prefer using the application area, noting the availability of better condition vegetation adjacent to the application area to the east that would provide better habitat connectivity for the phascogale.
- **Peregrine falcon** are found in most habitats, from rainforests to the arid zone and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water and may even be found nesting on high city buildings (Australian Museum, 2019). This species is widespread, highly mobile and is found in various habitats. Given the species

large home range, mobility and varied habitat preference, it is unlikely that the proposed clearing will significantly impact the local population.

- **Western false pipistrelle**, occurs in wet sclerophyll forest dominated by karri, and in the high rainfall zones of the jarrah and tuart forests. It has also been recorded in mixed tuart-jarrah tall woodlands on the adjacent coastal plain. Marri, sheoak and peppermint trees are often co-dominant at its collection localities (Australian Museum, 2020). This species roosts in tree hollows and feed on flying insects between the forest canopy. Given the application area is dominated by species consistent with species only co-dominant with this species habitat preference, it is unlikely that the trees proposed to be cleared will provide significant habitat for the Western false pipistrelle.

Although the application area contains suitable habitat for the above three species, the proposed clearing is not likely to result in significant impacts to habitat for these species, noting the following:

- the abundance of native vegetation to the east of the application area within lands managed by DBCA for conservation, which is likely to be in better condition than vegetation within the application area and therefore more likely to provide better quality habitat;
- the area proposed to be cleared does not constitute the preferred habitat for these species, particularly that the area is Completely Degraded (EPA, 2016) and does not provide the diverse foraging habitat listed above; and
- these species are mobile and likely to be able to find new habitat in adjacent vegetation, should they currently be inhabiting vegetation within the clearing area.

Conclusion

Based on the above assessment of impacts on conservation significant fauna, the proposed clearing will result in:

- the loss of 0.77 hectares of high-quality foraging, potential future breeding and local roosting habitat for black cockatoos; and
- although the vegetation proposed to be cleared is unlikely to represent significant habitat for western ringtail possums, western false pipistrelle or southwestern brush-tailed phascogale, individuals may be present at the time of clearing.

For the reasons set out above, it is considered that the impacts of the proposed clearing on black cockatoos constitutes a significant residual impact that requires an offset. Impacts to other fauna species identified above can be managed by conditions, as identified below.

Noting the application area is within an important migration corridor for Carnaby's cockatoo, the offset requirement for this permit considered the importance of enhancing the availability of foraging habitat within the locality via a local revegetation offset, which would deliver a net gain in native vegetation.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- revegetate and rehabilitate of 3.1955 hectares within an adjacent Lot to be conserved in perpetuity (See Section 4 and Appendix F for details).
- directional clearing, to allow fauna present at the time of clearing, to move into adjacent vegetation.

3.2.2. Biological values (ecological communities) - Clearing Principles (d)

Assessment

According to available mapping databases, it is indicated that the Threatened Ecological Community (TEC) Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain (Tuart Woodlands) is mapped within application area.

Stream Environment and Water (2020) conducted a desktop and field survey of the application area in 2020 and assessed the vegetation structure and condition, community descriptions, soil, and dominant plant species within the application area against the Commonwealth of Australia (2019) approved conservation advice (incorporating listing advice) for Tuart Woodlands, to establish the presence or absence of TECs/PECs listed as potentially occurring (Commonwealth of Australia, 2019).

The survey included the area proposed to be cleared within the vegetation unit 'CcEmAg - *Corymbia calophylla* (marri), open woodland with occasional *Eucalyptus marginata* (tuart) and *Agonis flexousa* (peppermint)' (Table 1 and Figure 3). The application area consists of mostly marri and some peppermint paddock trees with no tuart trees and native understory remaining. As a result, the area failed to meet condition requirements for national protection and therefore is not considered a TEC (Stream Environment and Water, 2020).

Conclusion
The proposed clearing of 0.91 hectares of native trees within Lot 8 on Diagram 78649, Myalup does not constitute vegetation representative of a TEC.

Conditions:
No conditions necessary.

3.2.3. Environmental values (ecological linkages) - Clearing Principles (e)

Assessment
A Southwest Regional Ecological Linkages (SWREL) axis line (ID47) runs adjacent to the application area. An ecological linkage is a series of (both contiguous and non-contiguous) patches which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within and across a landscape (Molloy et al., 2009). The application area's eastern edge is touching or within 200 metres from the Regional Ecological Linkage axis line. However, the application area has not been identified as part of this ecological linkage and given the scattered nature of the vegetation proposed to be cleared, it is not considered for the proposed clearing to impact the function of this nearby linkage. Further, the required offset will enhance the ecological linkage to the north of the application area.

Conclusion
Based on the above assessment, the proposed clearing is unlikely to impact this ecological linkage.

Conditions
- Nil

3.2.4. Environmental values (land degradation) - Clearing Principles (g)

Assessment
Soils within the application area have a high risk of wind erosion, and as such the proposed clearing has the potential to result in appreciable land degradation impacts resulting in soil erosion.

The application area is mapped as Spearwood 4b Phase and Spearwood 4a Phase where soils are mainly siliceous yellow-brown and grey brown sands. These soils have a high risk of wind erosion due to their sandy nature (CSLC, 2021). These soils are rapidly drained and have a low risk of developing waterlogging or irrigation salinity. Management measures such as keeping the topsoil moist by regular watering when the surface is bare is a widely practiced method in reducing risk of wind erosion (CSLC, 2021).

However, noting that the application area will be covered by horticultural activities post clearing, it is unlikely that significant wind erosion of soils is likely to occur, once the land use is in place. A condition requiring the application to commence horticultural activities no later than three months after undertaking the clearing will reduce the potential for wind erosion to occur.

Conclusion
Based on the above assessment, the proposed clearing may result in land degradation impacts resulting from wind erosion. For the reasons set out above, it is considered that these impacts can be managed through the condition outlined below.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:
- The permit holder must commence horticultural activities no later than three months after undertaking the clearing to reduce the potential for wind erosion to occur.

3.3. Relevant planning instruments and other matters

Lot 8 (application area) is zoned General Farming under the Shire's District Planning Scheme No. 1 (Scheme). Development Approval from the Shire of Harvey is required as Viticulture/Horticulture is an "AA" use under the Scheme which means it is a discretionary use. The application for the properties to be rezoned as Intensive Horticulture is consistent with the main industry in the Myalup Agricultural Precinct. All surrounding farming properties are currently zoned and or utilised for this purpose.

On 25 March 2022 the Shire of Harvey approved the Development Application (DA) subject to conditions (Application No: P125/21). The applicant has applied to the SAT to a condition of the Shire's approval relating to the area to be cleared (Condition 6). Approval of an amended area was obtained from the Shire of Harvey on the 14 February 2023, in which the application area for a clearing permit, is consistent with advice outlined in Condition 6 (see Figure 10).

The applicant advised that the Shire had extended the validity of the DA by two years and the DA is now valid until March 2026 (SW Environmental, 2024b).

Given the purpose of the proposed clearing is horticulture, a groundwater licence to abstract water within the RIWI area is required. Patane Farms currently holds a groundwater licence for horticulture to occur across 6 different lots in the 'Preston South' groundwater management area, including within the application area (Lot 8). It is the applicant's responsibility to rotate crops between properties and manage their water use to ensure they remain within their annual entitlement each year. Historically they have generally remained within their entitlement. It is possible that the applicant will have to obtain additional draw points to irrigate crops on Lot 8 as it is likely that the current bores or excavations are sufficient for these irrigation requirements. Should additional draw points be needed, the applicant will be required to apply for a licence to construct bores under section 26D of RIWI Act 1914 (DWER, 2022).

Conditions of the current groundwater licence includes the requirement to adhere to a Monitoring and Management Plan. This Plan requires water quality monitoring be undertaken on the neighbouring properties owned by the applicant but not within Lot 8 because they are currently not being used. As the applicant proposes to use Lot 8 for horticulture, the Monitoring and Management Plan will need to be amended to include the establishment of monitoring locations on Lot 8. The monitoring requires quarterly sampling for TDS, Nitrogen & Phosphorus as well as other relevant analytes specific to high risk ASS. The Plan also includes triggers for these analysts, where additional action is required in order to protect the water resource and wetlands (DWER, 2022).

Several clearing permit applications have been submitted by the applicant over the application area in the past (and extending to the northern portion of Lot 8 which was removed under this application) for the same purpose (CPS 4862/1, CPS 9185/1 and CPS 9252/1), which were subsequently withdrawn due to the Development Approval requirements not being finalised.

The application area is located within the boundaries of the registered Gnaala Karla Booja Indigenous Land Use Agreement (WI2015/005). No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

4 Suitability of offsets

Through the detailed assessment outlined in Section 3.2 above, the Delegated Officer has determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- The loss of approximately 0.91 hectares of native vegetation, of which:
    - approximately 0.77 hectares of native vegetation that provides medium to high quality foraging habitat for *Zanda latirostris* (Carnaby's black cockatoo), *Zanda baudinii* (Baudin's black cockatoo) and *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), in close proximity to water sources and other known foraging habitat, within an extensively cleared landscape.

The applicant proposed an environmental offset to counterbalance the above impacts, comprising;

- revegetation and rehabilitattion of 3.1955 hectares of land from Degraded/Good condition to Good/Very good condition, in close proximity to the application area.

The proposed offset area is located within Lot 1113 on Deposition Plan 103983 (owned by Patane Farms), previously cleared area, adjacent to Myalup State Forest (Figure 3). The offset will be implemented over a duration of 20 years and conserved in perpetuity. This offset will provide increased connectivity and black cockatoo foraging habitat locally over the medium to long term. The objective of the revegetation is to ensure a long-term successful revegetation outcome with apporpirate ground preparation and ongoing management measures to maximise the success of the revegetation. Conditions were implemented on the clearing permit to reflect this.

The Delegated Officer considers the proposed offset adequately counterbalances the significant residual impacts listed above. The Delegated Officer had consideration for the Government of Western Australia's Offsets Policy (2011) and Offset Guidelines (2014), and WA Environmental Offsets Metric in making this determination.

The justification for the values used in the offset calculation is provided in Appendix F. The clearing permit will contain conditions that require specific completion criteria and contingency measures for the proposed revegetation.

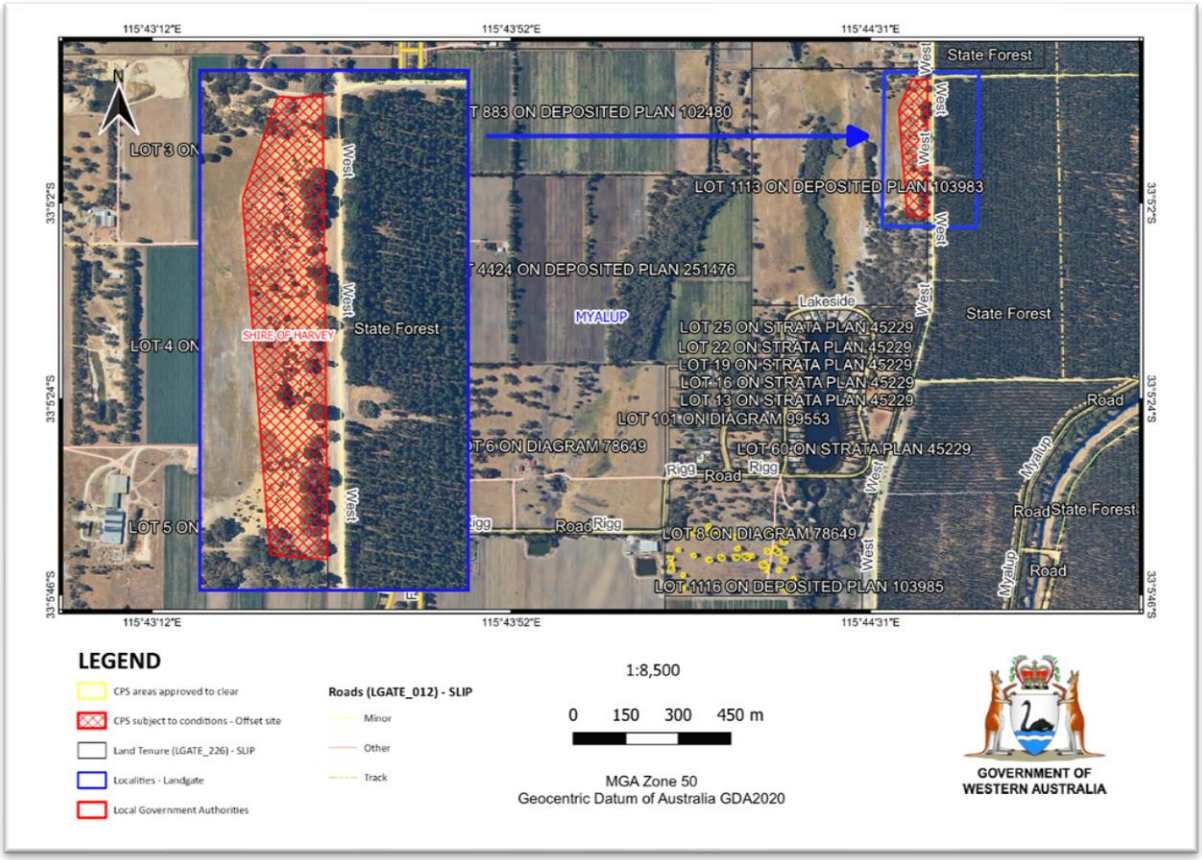

Figure 3: Map of the proposed offset site (crosshatched red) in context of the application area (crosshatched yellow).

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Offset proposal and Revegetation Plan provided in response to DWER's request for further information (SW Environmental, 2024a)	Environmental value (fauna) - Clearing Principles (b), in Section 3.2.2 of this report. The Delegated Officer considers the Patane Farms Pty Ltd has adequately provided revegetation measures to mitigate impacts to conservation significant fauna.
Development Approval provided in response to DWER's request (SW Environmental, 2024b)	The Delegated Officer considered this statutory approval in Section 3.3 – Relevant planning instruments and other matters.

Appendix B. Details of public submissions

Summary of comments	Consideration of comment
- Black cockatoo breeding around the proposed clearing site, approximately within 650 m of the application area, with the potential impacts to locally breeding black cockatoos due to the potential loss of local foraging habitat. - Myalup is part of a Carnaby's cockatoo migration corridor; increasing the importance of foraging and day roost habitat in this area. - Importance of retaining paddock trees as breeding habitat. - Increased value of all remaining foraging and breeding habitat, given that habitat for local flocks has been reduced by the 2016 Yarloop Fire. - Loss of succession breeding habitat: removal of 99 large habitat trees (DBH >500mm) represents a large loss of imminent-future breeding habitat that cannot be mitigated by revegetation; importance of retaining not only current but future breeding habitat. - Increasing importance of all remaining foraging habitat in the Perth-Peel region, given the clearing of very large areas of foraging habitat from the Gnangara-Pinjar Pine Plantations. - Importance of ensuring offsets do effectively mitigate the impacts of habitat loss for affected flocks. - Habitat values for black cockatoos.	The impact of the clearing on environmental values, such as clearing habitat representative of foraging, roosting and breeding habitat of conservation significant fauna, is taken into consideration during the assessment of the application. The assessment against this environmental value can be found in Section 3.2.2 of this report, where the department acknowledges that the proposed clearing will result in the loss of 0.77 hectares of high-quality foraging, potential future breeding and local roosting habitat for black cockatoos. The applicant's avoidance and minimisation measures as outlined in Section 3.1, including the reduction of the application area from 2.29 ha to 0.91 hectares, retention of all large trees that contain existing hollows or may become suitable in the future, and the local revegetation offset of 3.19 hectares (with a net gain of 2.28 ha of vegetation in the local area) is considered to counterbalance the significant residual impacts of the proposed clearing.
Importance of considering cumulative impacts	The Delegated Officer has considered the cumulative impact of clearing native vegetation under principle (e) and is detailed in Section 3.2.3 of this report.
No alternatives to avoid impacts to Matters of National Significance were discussed or proposed, despite the proponent stating they have "significant landholding available locally".	The Applicant's avoidance and minimisation measures which took place during the assessment of the clearing application, resulting in the reduction of the proposed clearing area, is detailed in Section 3.1 – Avoidance and mitigation measures. The Delegated Officer considers the measures taken by the applicant to avoid impacts to Matters of National Significance adequate and in line with recommendations as part of the Shire of Harvey's Development Approval Conditions. It is also noted that as a result of a significant reduction in the application

Summary of comments	Consideration of comment
	area, the referral under the EPBC Act has been withdrawn (due to considering no longer as having a significant impact on Matters of National Environmental Significance).
No offsets have been developed in accordance with Principle 1 of the *WA Environmental Offsets Policy* (2011). Noting installation of artificial nesting tubes would not provide suitable nesting for FRTBC and would need to be located with sufficient foraging resources in suitable proximity.	The assessment against principle (b) can be found in Section 3.2.2 of this report, as well as revegetation and rehabilitation offsets outlined in Section 4, to balance the significant residual impact remaining as a result of the clearing. Due to the applicant's avoidance and minimisation measures, leading to a reduced clearing area, trees containing hollows suitable for black cockatoos where avoided from clearing. As a result, an offset condition of the installation of artificial nesting tubes was not required.
The proposed mitigation planting by the applicant fails to appropriately value the importance of the immediate, short and medium term quantity and high value food resources of mature trees versus the time lag, lesser quantity and risk in establishing alternative foraging. An unacceptable net loss of 0.33ha of foraging habitat is also proposed.	Through the department's assessment, an offset has been required to counterbalance the significant residual impacts of the proposed clearing. The offset required as detailed under Section 4 of this report has considered the importance of a local revegetation offset and net gain. The quantification of the offset using the WA Environmental Offset Metric accounts for time lag and the conditions imposed on the permit will ensure the establishment of the vegetation, as well as the placement of a conservation covenant over the revegetation areas will ensure long term survival of the offset.

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of a patch of scattered native vegetation within the rural Lot in Myalup, on the southern Swan Coastal Plain, approximately 27 km north of Bunbury. The location has a history of heavy cattle grazing, in the intensive land use zone of Western Australia, adjacent to existing horticulture activities, small rural subdivisions and plantations. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 30.4 per cent of the original native vegetation cover.
Ecological linkage	Available databases show that the application area is adjacent to a Southwest Regional Ecological Linkage line.
Conservation areas	The application area is 192 metres west of the Myalup State Forest and 2.3 km east from Yalgorup National Park. The application area is separated from Myalup State Forest by a man-made dam. There are numerous DBCA managed reserves (6,154 ha) within 10 km of the study area (SLIP 2020). These account for approximately 18% of local lands (35,025 ha). The following are listed in order of highest area coverage within the 10 km radius: • Myalup State Forest 3206 ha • Yalgorup National Park 1593 ha • Other reserves 1265 ha • Byrd Swamp Nature Reserve 41 ha • Crampton Nature Reserve 36 ha

Characteristic	Details
	• Wellard Nature Reserve 10 ha The Myalup State Forest is the closest, sharing its western boundary with the eastern edge of Lot 8, however is separated from the application area by approximately 180 metres.
Vegetation description	A vegetation survey (Steam Environment and Water, 2020) indicates the vegetation within the proposed clearing area consists of '*Corymbia calophylla*, open woodland with occasional *Eucalyptus marginata* and *Agonis flexuosa* over grassy weeds in a Completely Degraded (EPA, 2016) condition'. Representative photos and maps are available in Appendix G. This is largely consistent with the mapped vegetation type(s): • Beard 998, which is described as open woodland; marri, wandoo and rivergum *E.calophylla E. wandoo E. camaldulensis* (Shepherd et al, 2001). • Heddle vegetation complex: Yoongarillup Complex – 56 - described as Woodland to tall woodland of *Eucalyptus gomphocephala* (tuart) with *Agonis flexuosa* in the second storey. Less consistently an open forest of *Eucalyptus gomphocephala* (tuart) - *Eucalyptus marginata* (jarrah) - *Corymbia calophylla* (marri). South of Bunbury is characterized by *Eucalyptus rudis* (Flooded Gum) - Melaleuca species open forests (Heddle et al, 1980).
Vegetation condition	Structural flora and vegetation surveys (Steam Environment and Water, 2020) identified that the vegetation within the application area is in a Completely Degraded (EPS, 2016) condition, with mostly only paddock trees remaining over the proposed clearing footprint. The full EPA (2016) condition rating scale is provided in Appendix E. Representative photos and mapping are available in Appendix G.
Soil description	The soil is mapped as Spearwood S4a and S4b Phase. Spearwood S4a Phase (211Sp__S4a) described as flat to gently undulating sandplain with deep, pale and sometimes bleached, sands with yellow-brown subsoils.; andSpearwood S4b Phase (211Sp__S4b) is described as flat to gently undulating sandplain with shallow to moderately deep siliceous yellow-brown and grey-brown sands with minor limestone outcrop.
Land degradation risk	The application area is at high risk of wind erosion.
Waterbodies	The desktop assessment and aerial imagery indicated that the application area occurs within approximately 35m of an earth dam and approximately 75m from a Geomorphic Wetland – Swan Coastal Plain (multiple use dampland) which may provide seasonal watering sources for black cockatoos. Three multiple use wetlands occur in the vicinity of the proposed clearing area, a sumpland and dampland located on Lot 6 to the north and a dampland occurring to the south.
Hydrogeography	Application area falls within the Southwest Coastal Groundwater Area proclaimed under the RIWI Act.
Flora	Available databases indicate that there are 14 conservation significant flora records in local area, nearest record being of *Caladenia speciosa* (P4) located 530 m southwest of the application area. There are records of 5 threatened and 9 priority flora within 10 kilometres of the application area. A flora survey did not identify any conservation significant flora species within the application area (Stream Environment and Water, 2020).
Ecological communities	The application area is mapped as Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain TEC/PEC, however, is not considered to represent this TEC given the species present. Confirmed Tuart TEC occurs on the adjacent Lot 6.

Characteristic	Details
	A record of Banksia dominated woodlands of the Swan Coastal Plain TEC/PEC occurs 90 metres east of the application area.
Fauna	There are records of 32 fauna of conservation significance within a 10-kilometre radius. 15 of these species are marine mammals or birds. A total of four black cockatoo roost sites occur within a 10 kilometre radius and a known breeding tree has been recorded in the adjacent Lot 6 that is north of the application area. Other fauna habitat values are generally low due to the site having been historically cleared and heavily grazed.

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Heddle vegetation complex**					
Swan Coastal Plain – *Yoongarillup Complex 56*	27,977.93	10,018.14	35.81	5,151.57	18.41
Local area					
10km radius	24,788.83	8,324.23	33.58	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared occurs in a Completely Degraded (EPA, 2016) condition and consists of marri and peppermint trees over pasture and does not contain locally or regionally significant flora or assemblages of plants.	Not likely to be at variance	No
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared contain critical foraging habitat for conservation significant black cockatoo species.	At variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is* necessary for the continued existence of, threatened flora." Assessment: The area proposed to be cleared is not likely to contain suitable habitat for flora species listed under the BC Act, given the lack of understorey and dominance of pasture weed species. A vegetation survey identified that the application area is in a Completely Degraded (EPA, 2016) condition and consists of marri and peppermint trees over pasture with no conservation significant flora species identified (Stream Environment and Water, 2020).	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared is mapped as a Tuart Woodland TEC, however, does not contain TECs given the lack of understorey and dominance of pasture weed species. A vegetation survey identified that the application area consists of marri and peppermint trees with a lack of understorey and dominance of pasture weed species. No TECs were identified during the survey, within the application area (Stream Environment and Water, 2020).	Not likely to be at variance	Yes *Refer to Section 3.2.2, above.*
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area, noting the scattered nature of the vegetation.	Not likely to be at variance	Yes *Refer to Section 3.2.3, above.*
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."* Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No
Environmental value: land and water resources		
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."* Assessment: Given no watercourses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.	Not likely to be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are highly susceptible to wind erosion. The CSLC (2022) advised that the proposed clearing is likely to impact the land in the form of soil erosion if measures are not taken to mitigate the risk.	At variance	Yes *Refer to Section 3.2.4, above.*
Principle (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."* Assessment:	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Given the extent of the application area, condition of the vegetation, and that it is along an existing road, the proposed clearing is considered unlikely to cause a deterioration in surface water quality. As groundwater will not be taken for the works and minimal digging is required, the proposed clearing is considered unlikely to cause a deterioration in groundwater quality.		
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The proposed clearing is not likely to contribute to increased incidence or intensity of flooding, given the sandy nature of the soils mapped within the application area. Given no watercourses / wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.	Not likely to be at variance	No

Appendix E. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from EPA (2016) *Technical Guidance—Flora and Vegetation Surveys for Environmental Impact Assessment*. Environmental Protection Authority.

Vegetation Condition Scale (adapted from Keighery 1994 and Trudgen 1988)

Vegetation Condition	South West and Interzone Botanical Provinces
Pristine	Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees and shrubs

Appendix F. Offset calculator value justification

Offset calculation and justification for significant residual impact to black cockatoo

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Black cockatoo foraging habitat	Application area contains significant foraging habitat for *Zanda latirostris* (Carnaby's black cockatoo), *Zanda baudinii* (Baudin's cockatoo) and *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo).
Type of environmental value	Species (flora/fauna)	Known foraging habitat for Carnaby's, Baudin's and forest red-tailed black cockatoos.
Conservation significance of environmental value	Rare/threatened species - endangered	Carnaby's black cockatoo is listed as Endangered under the BC Act and EPBC Act.
Landscape level value impacted	Yes/No	No
Significant impact		
Description	-	Clearing of marri paddock trees, which provide foraging habitat for black cockatoos.
Significant impact (hectares)	0.77	0.77 hectares of high value foraging habitat.
Quality (scale)	7	Foraging habitat within the application area is comprised mainly of marri, which is one of the preferred foraging species for black cockatoos, with evidence of use. A confirmed roost site occurs within 10 kilometres and several water sources are present adjacent to the application area. One known and four potential breeding trees showing past use recorded within adjacent Lot 6.
Rehabilitation credit		
N/A	N/A	Onsite revegetation will not be taking place.
Offset		
Description	Revegetation and rehabilitation	Revegetation of 3.1955 hectares of native vegetation which comprise species known as black cockatoo foraging habitat.
proposed offset (area in hectares)	3.19	Area required to be placed under a conservation covenant to 100% counterbalance significant residual impact (SRI) of the proposed clearing.
Current quality of offset site	3	The area to be revegetated is in Completely Degraded/Degraded condition, compromising of patchy native vegetation with scattered Pinus spp.
Future quality WITHOUT offset	3	It is considered that the quality of the habitat within the revegetation site will not change without implementing revegetation measures.
Future quality WITH offset	5	The habitat quality within the revegetation site is considered to increase to Good/Very Good condition, increasing the quality as foraging habitat with on-ground management, provided it is undertaken by suitably qualified personnel with regular monitoring and management in accordance with set completion criteria.
Time until ecological benefit (years)	17	Average time until planted vegetation has matured enough to be used as foraging habitat by black cockatoos. An extra two years has been added to account for the delay in commencement of the revegetation (assumed to commence within two years of the permit start date).

Calculation	Score (Area)	Rationale
Confidence in offset result (%)	90	High level of confidence that the quality within the revegetation area will improve with best practice revegetation techniques and appropriate completion criteria.
Duration of offset implementation (maximum 20 years)	20	Maximum value to be used noting the vegetation is not to be cleared in the future.
Time until offset site secured (years)	2	2 years has been assigned, being the time until conservation covenant will be in place.
Risk of future loss WITHOUT offset (%)	15	Risk of loss without offset is moderate within the offset site assuming the land would remain zoned for rural purposes.
Risk of future loss WITH offset (%)	5	Risk of future loss is reduced due to protection of vegetation under a conservation covenant.

Appendix G. Biological survey information excerpts (from Stream Environment and Water, 2020)

Table 1: Vegetation community within application area (Stream Environment and Water, 2020)

Community Code	Structural Description	FCT (inferred)	Condition	Example photos of community
CcEmAg	*Corymbia calophylla*,open woodland with occasional *Eucalyptus marginata* and *Agonis flexousa*	-	Completely Degraded	

Figure 4: Mapping of vegetation units defined in the 2020 survey (Stream Environment and Water, 2020)

Figure 5: Location of the Tuart Woodland TEC patchs identified during the 2020 survey (Stream Environment and Water, 2020)

Figure 6: Mapping of vegetation condition from 2020 survey results (Stream Environment and Water, 2020)

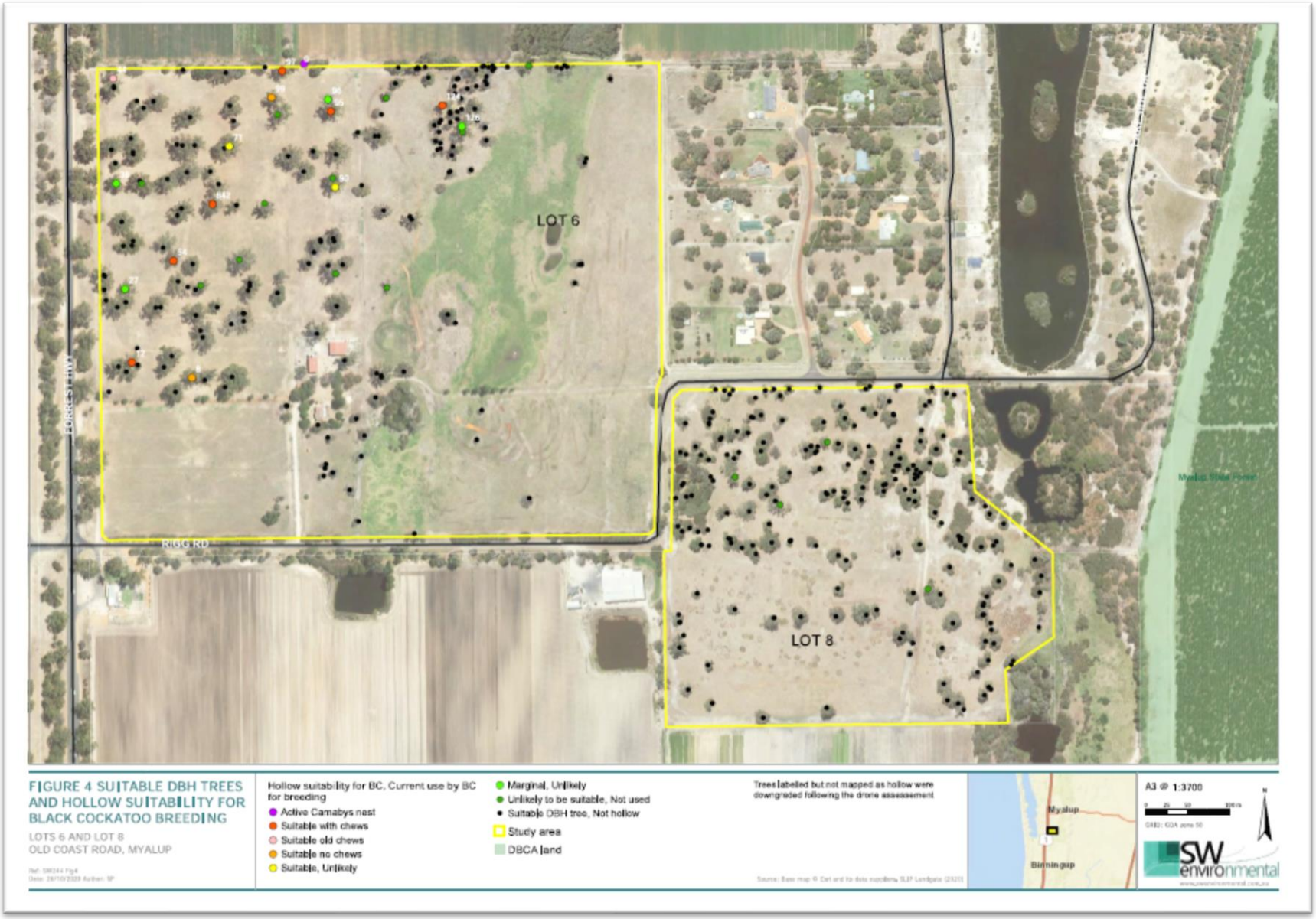

Figure 7: Mapping of black cockatoo habitat trees within Lot 8 on Diagram 78649, Myalup (SW Environmental, 2024a)

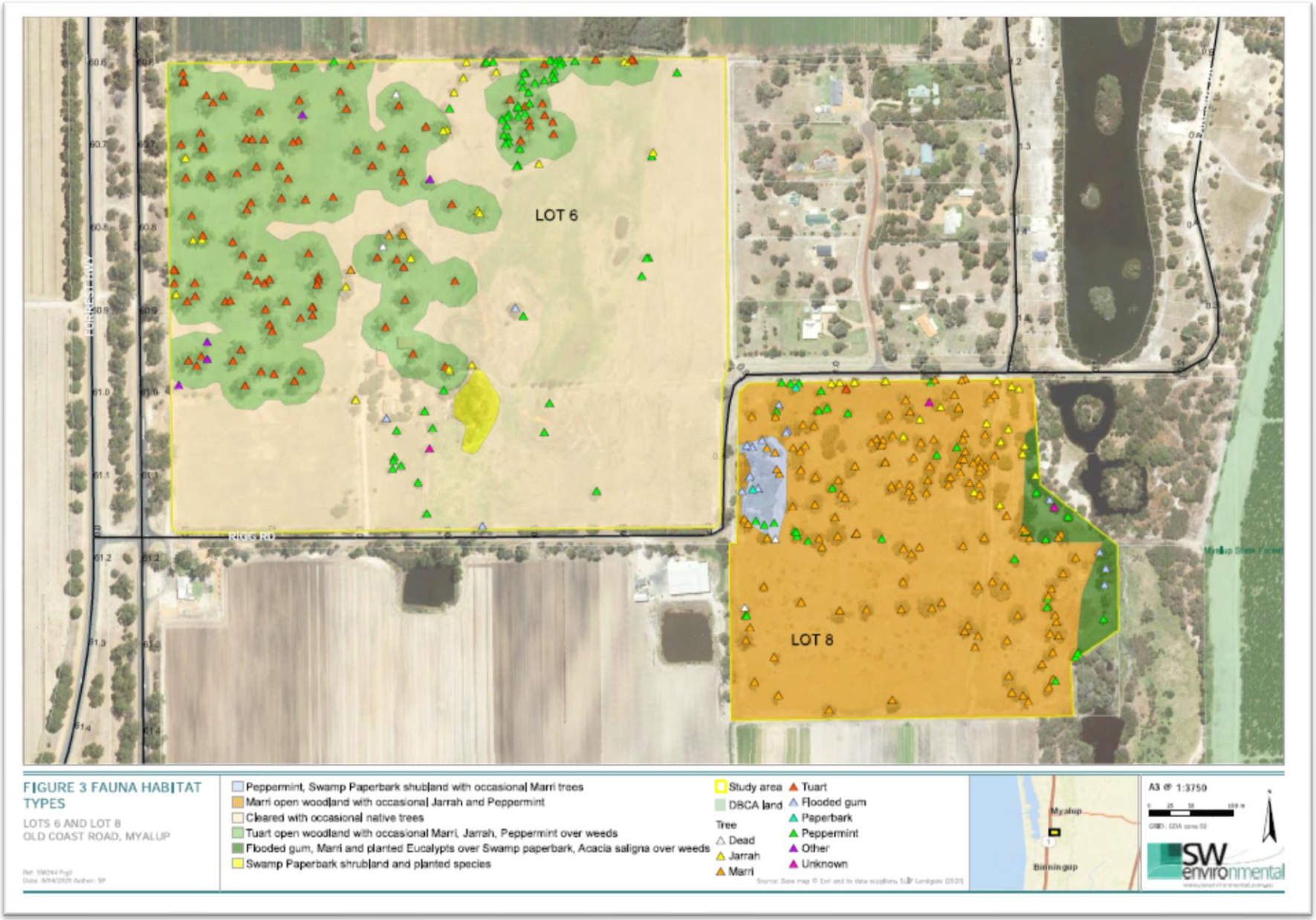

Figure 8: Mapping of species of native vegetation within Lot 8 on Diagram 78649, Myalup (SW Environmental, 2024a)

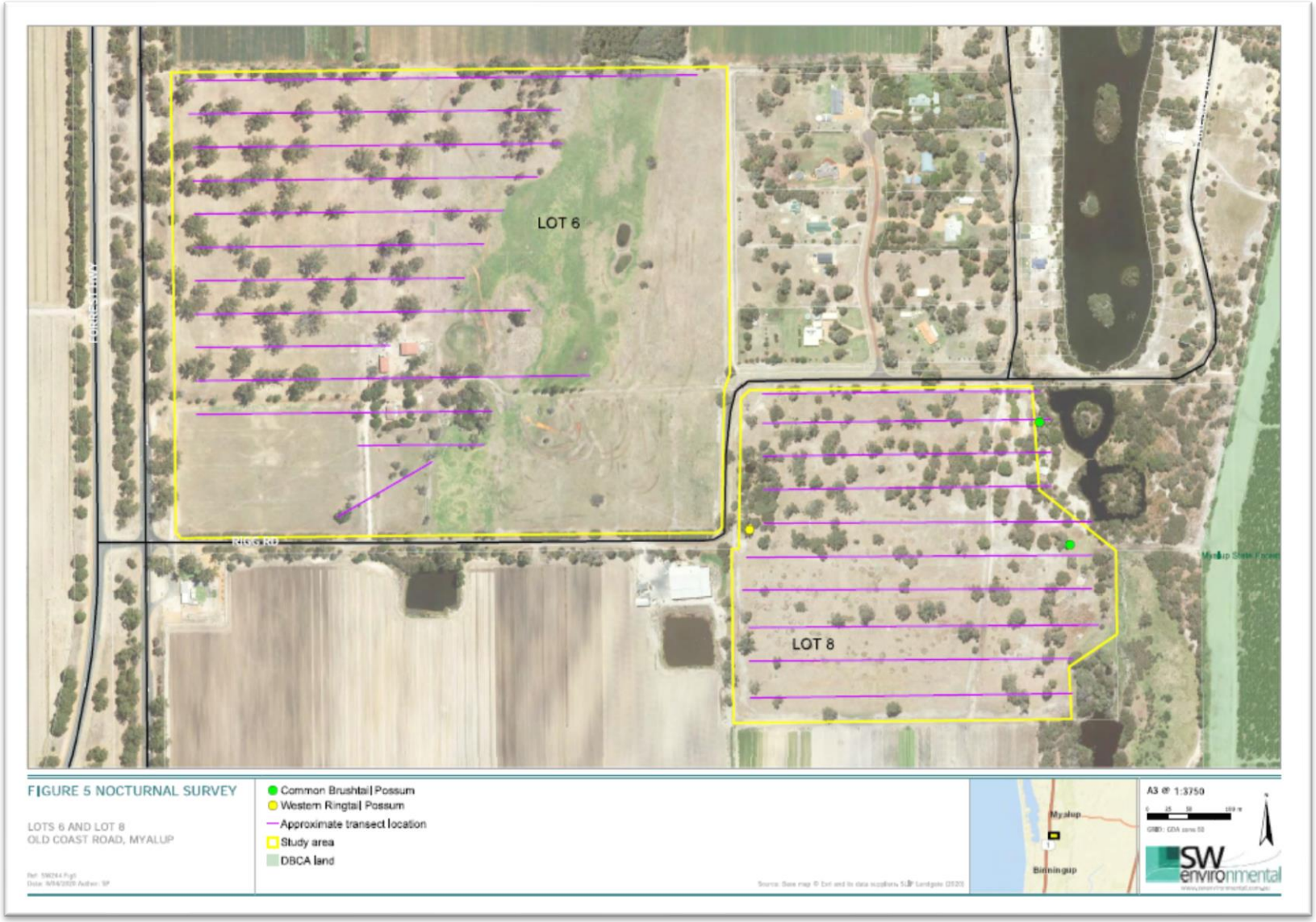

Figure 9: Mapping of noctural survey transect coverage and records within Lot 8 on Diagram 78649, Myalup (SW Environmental, 2024a)

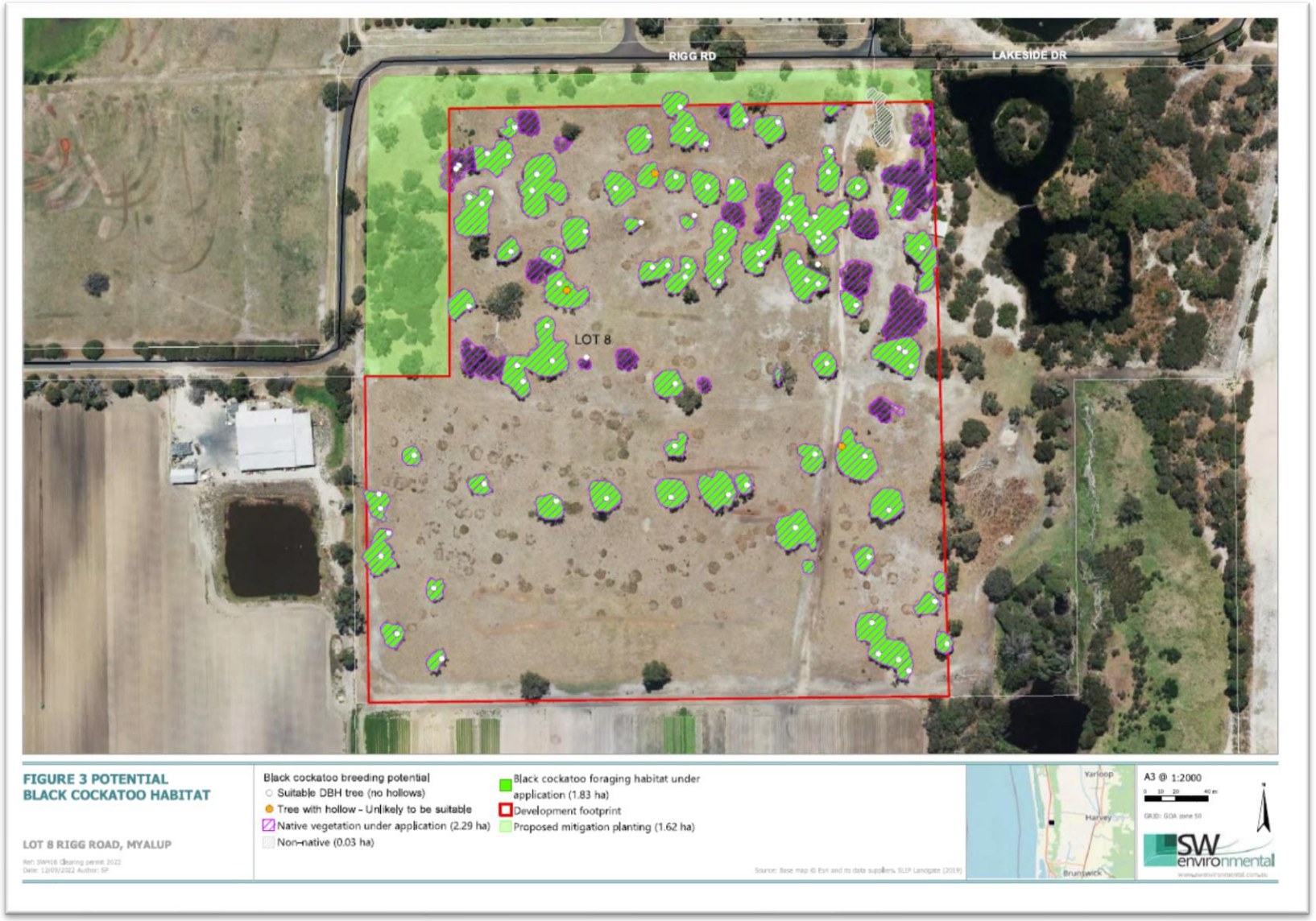

Figure 10: Mapping of black cockatoo habitat within Lot 8 on Diagram 78649, Myalup (SW Environmental, 2024a). (nb. the application area was reduced after this report was released therefore development footprint is inaccurate (see Figure 1.)

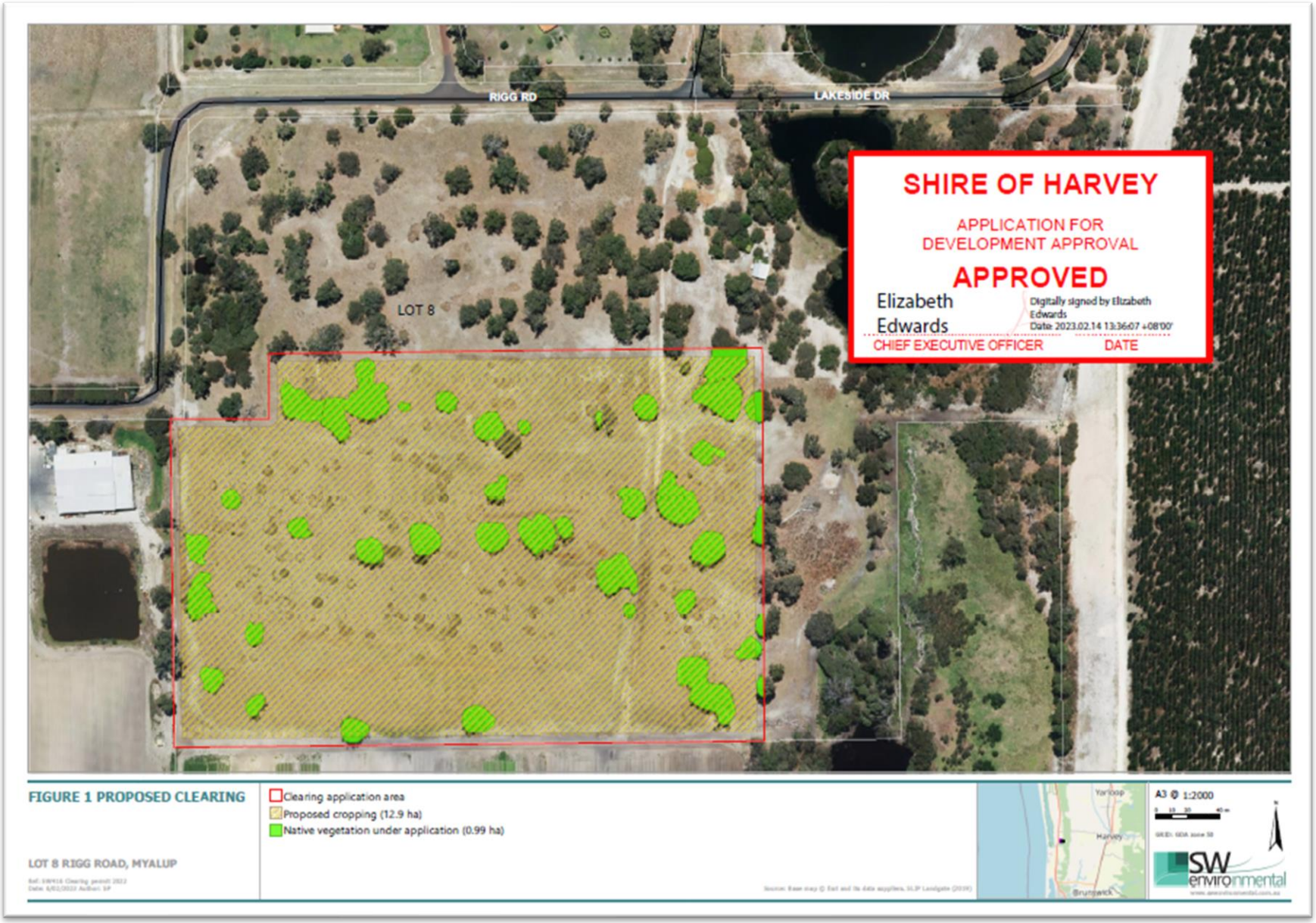

Figure 11: Map of final application area and approved area defined by the Shire of Harvey Development Approval (SW Environmental, 2024a).

Figure 12: Photos of the application area within Lot 8 on Diagram 78649, Myalup (SW Environmental, 2020)

Figure 13: Photos of the application area within Lot 8 on Diagram 78649, Myalup (SW Environmental, 2020)

Appendix H. Sources of information

H.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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