



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 10185/1
File Number: DWERVT12616
Duration of Permit: From 10 January 2025 to 10 January 2033

PERMIT HOLDER

ARP No. 20 Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 803 on Deposited Plan 419772, Baldivis

AUTHORISED ACTIVITY

The permit holder must not clear more than 0.086 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 10 January 2027.

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. Directional clearing

The permit holder must:

- (a) conduct clearing activities in a slow, progressive manner towards adjacent remnant *native vegetation*; and
- (b) allow reasonable time for fauna present within the area being cleared to move into adjacent *native vegetation* ahead of the clearing activity.

5. Revegetation and rehabilitation

Within twelve (12) months following the completion of extraction activities, the permit holder must:

- (a) undertake deliberate *planting* of at least 35 *Eucalyptus marginata* and/or *Corymbia calophylla* trees within Lot 803 on Deposited Plan 419772, Lot 1 on Diagram 33168 and Lot 2 on Diagram 44878, Baldivis (within the area cross-hatched red in Figure 2 of Schedule 1) by:
 - (i) ensuring only *local provenance* species are used;
 - (ii) ensuring *planting* is undertaken at the *optimal time*;
- (b) undertake watering and weed control of *plantings* for at least two years post *planting*;
- (c) the permit holder must within 24 months of *planting* the trees in accordance with condition 5(a) of this permit:
 - (i) engage an *environmental specialist* to make a determination of the survival of the planted *Eucalyptus marginata* and/or *Corymbia calophylla* trees;
 - (ii) if the determination made by the *environmental specialist* under condition 5(c)(i) is that the number of the *planted* trees survived does not achieved at least 35 trees, the permit holder must *plant* additional trees that will result in at least 35 *Eucalyptus marginata* and/or *Corymbia calophylla* trees persisting within Figure 2 of Schedule 1.
- (d) where additional *planting* of trees is undertaken in accordance with condition 5(c), the permit holder must repeat the activities required by condition 5(a), 5(b) and 5(c) of this permit.

6. 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	<ul style="list-style-type: none"> (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 Geocentric Datum Australia 2020 (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); and (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; and (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 3. (g) actions taken in accordance with condition 4.
2.	In relation to the mitigation <i>planting</i> pursuant to condition 5 of this Permit	<ul style="list-style-type: none"> (a) the date(s) the mitigation <i>planting</i> occurred; (b) the locations of trees <i>planted</i>, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees; (c) a description of the mitigation <i>planting</i> activities undertaken; (d) the total number of trees planted from each species in accordance with condition 5(a); (e) a copy of the <i>environmental specialist's</i> monitoring report and determination; and (f) a description of any <i>remedial actions</i> undertaken pursuant to condition 5(c)(ii) and 5(d) where the <i>environmental specialist</i> indicated that <i>planted</i> trees will not survive.

7. Reporting

The permit holder must provide to the *CEO* the records required under condition 6 of this permit when requested by the *CEO*.

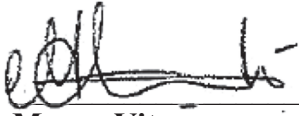
DEFINITIONS

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 <i>Environmental Protection Act 1986</i> .
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.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 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.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression
local provenance	means native vegetation seeds and propagating material from natural sources within 50 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 from May to July for undertaking planting.
planting	means the re-establishment of vegetation by creating soil conditions and planting seedlings of the desired species.
remedial action/s	means for the purpose of this permit, any activity that is required to ensure successful re-establishment and survival of <i>planted tree</i> .
weeds	means any plant – <ul style="list-style-type: none"> (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; 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*

18 December 2024

SCHEDULE 1

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

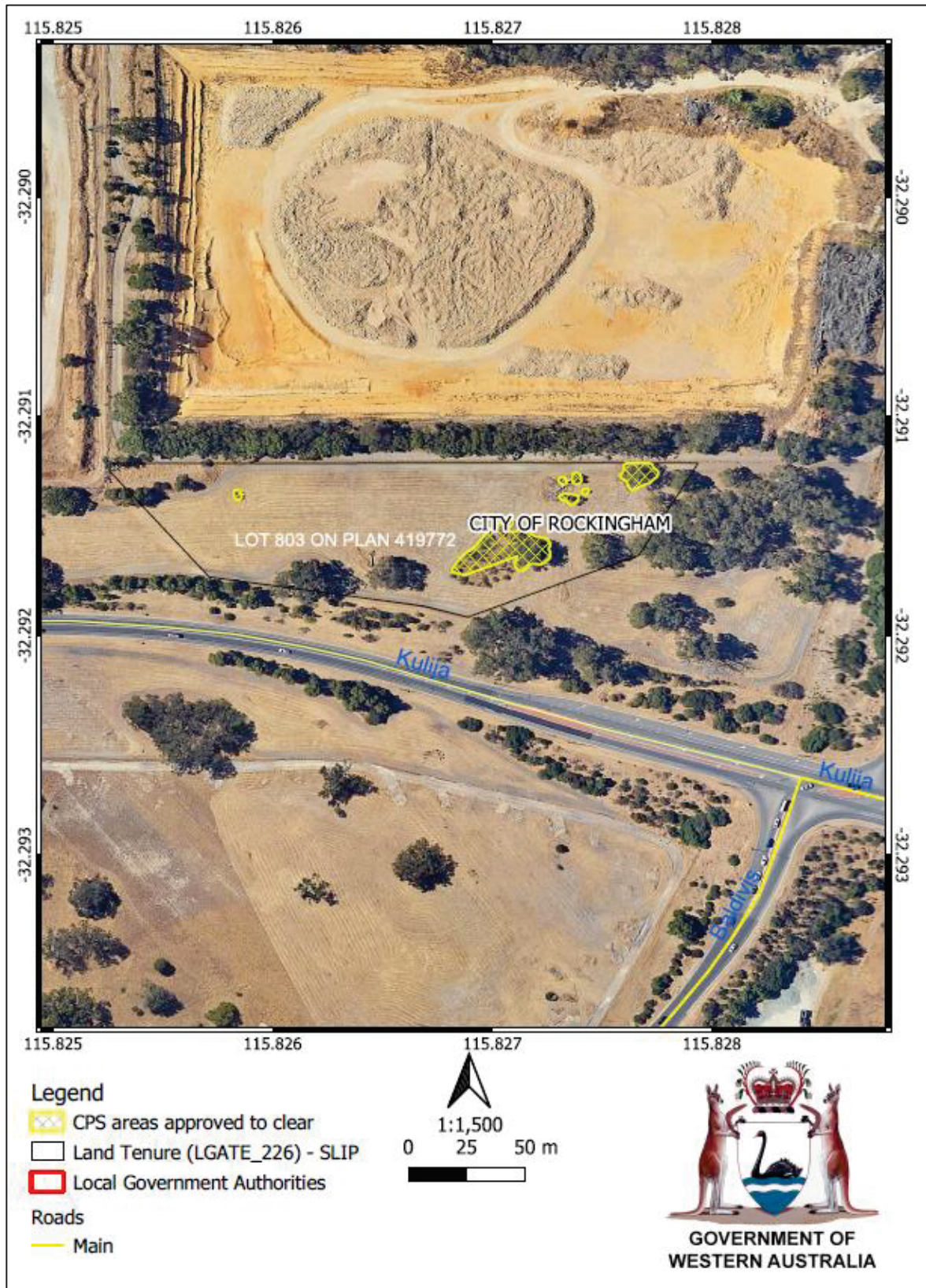


Figure 1: Map of the boundary of the area within which clearing may occur

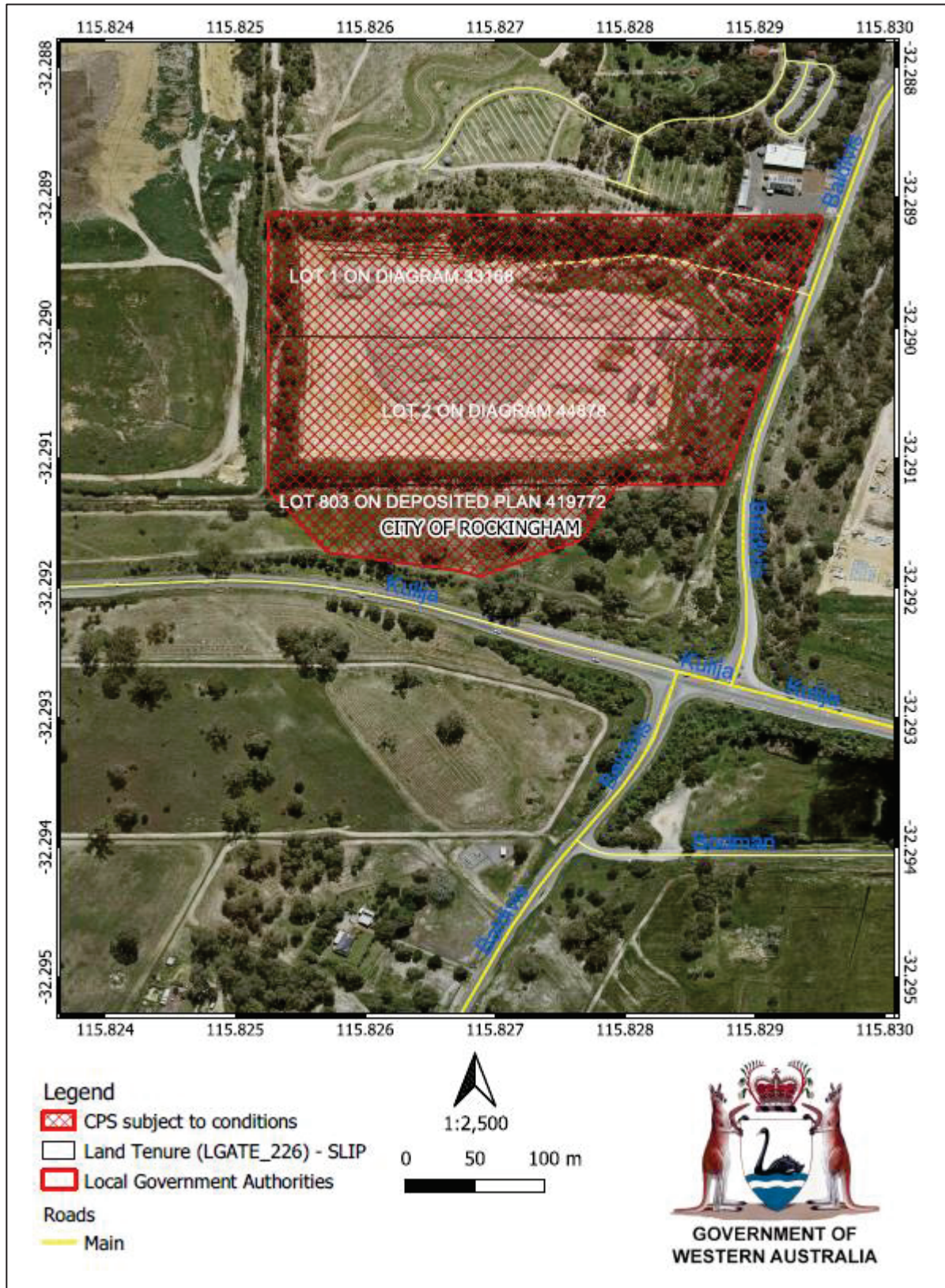


Figure 2: Map of the area subject to Condition 5



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10185/1
Permit type:	Area permit
Applicant name:	ARP No. 20 Pty Ltd
Application received:	9 May 2023
Application area:	0.086 hectares of native vegetation
Purpose of clearing:	Sand extraction
Method of clearing:	Mechanical
Property:	Lot 803 on Deposited Plan 419772
Location (LGA area/s):	City of Rockingham
Localities (suburb/s):	Baldivis

1.2. Description of clearing activities

The vegetation proposed to be cleared is distributed across seven separate areas (see Figure 1, Section 1.5). The application is to clear native trees sparsely scattered on a land lot with previous clearing history (before 1979) (Pgv Environmental, 2023).



1974



1995



2013



2022

Figure 1. Aerial photographs showing the application area and its surrounding landscape in years 1974, 1995, 2013 and 2022. The yellow polygons show approximate location of the application area (Pgv Environmental, 2024)

The applicant informed that a few young trees at the western end of the clearing footprint area have been planted on a bund, with planting stakes evident and do not constitute native vegetation (Figure 2). These trees are not included in this clearing application.



Figure 2. Bund of planted trees not included in this clearing application.

1.3. Decision on application

Decision:	Granted
Decision date:	18 December 2024
Decision area:	0.086 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 no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1) and the supporting information provided by the applicant (see Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- the loss of approximately 0.065 hectares of suitable foraging habitat for black cockatoos.
- the potential impact on individual fauna present within the application area at the time of clearing.

Based on the extent and condition of vegetation within the application area, its isolation from other areas of suitable habitat for black cockatoos and the presence of larger, better-quality remnant vegetation in the local area, the Delegated Officer determined that the proposed clearing was unlikely to impact significant habitat for conservation significant fauna species or to result in long-term impacts to flora or water quality. After consideration of the available information, as well as the applicant's minimisation and mitigation measures including the commitment to plant 35 jarrah (*Eucalyptus marginata*) and/or marri (*Corymbia calophylla*) trees (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on the biological, conservation, or land and water resource values and can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

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

- Avoid, minimise to reduce the impacts and extent of clearing.
- Undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.
- Revegetation of at least 35 jarrah and/or marri trees within the same property and adjacent to where the proposed clearing occurs.

1.5. Site map

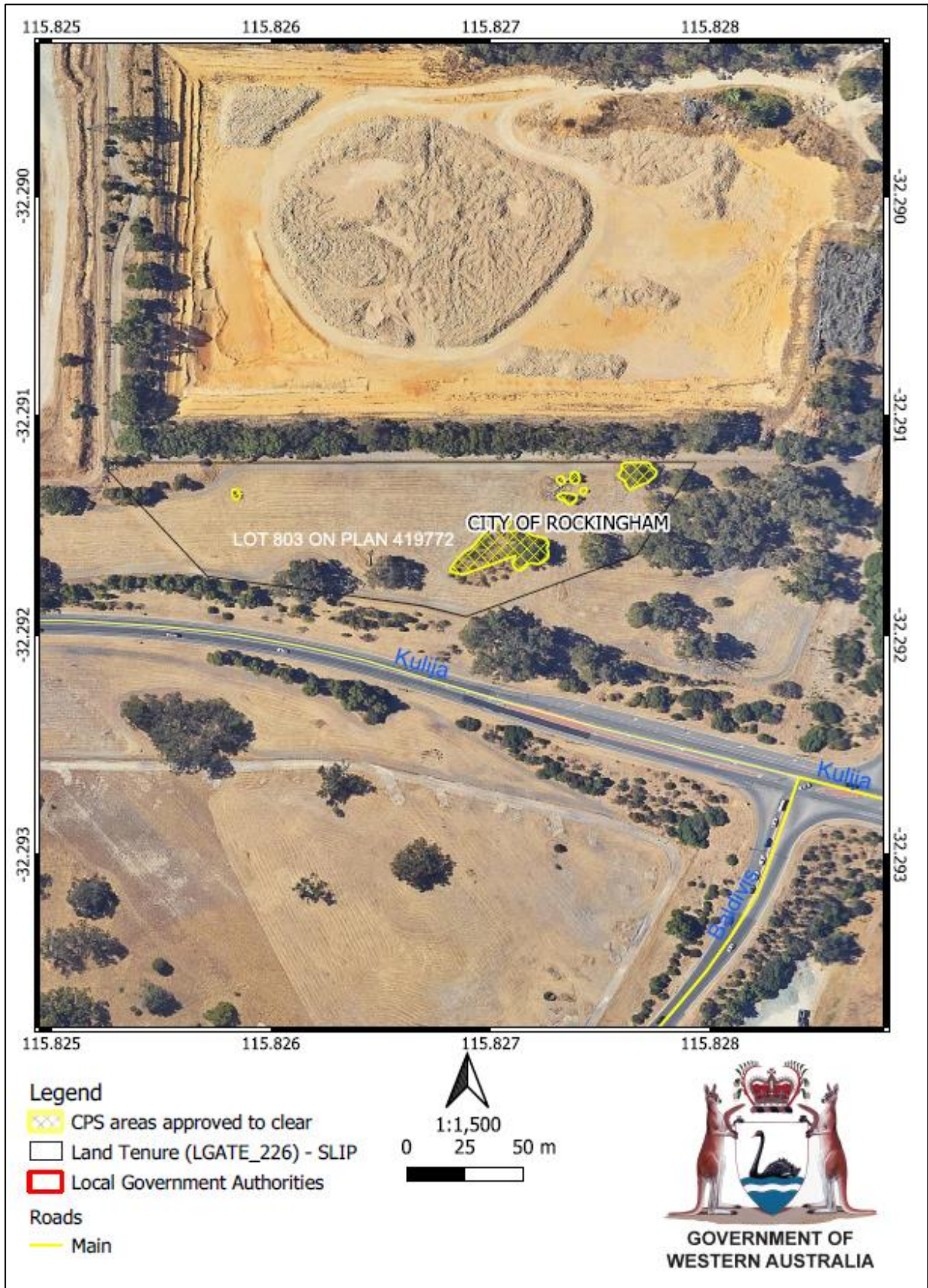


Figure 3. Map of the application area

The areas crosshatched yellow indicate the areas 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 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)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

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)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Supporting document (Pgv Environmental, 2024) was submitted by the applicant, showing that following measures are committed to be undertaken to minimize the impacts of the proposed clearing:

- The proposed footprint has been refined to exclude three large marri trees.
- A one-day systematic active search for reptile species will be undertaken by a suitably qualified zoologist prior to (as close to the planned clearing date as possible) any clearing of native vegetation.
- Any reptiles caught during the search will be relocated under the appropriate licence issued by the Department of Biodiversity, Conservation and Attractions (DBCA).
- Inspections prior to clearing in September to December will be undertaken to avoid impacting on rainbow bee-eaters.
- Prior to clearing activities trees will be inspected from ground level to determine whether they contain suitable hollows or active bird nests:
 - Where nests or hollows are discovered, the site supervisor will contact a qualified zoologist to undertake fauna relocation as required.
 - Trees will be bumped or gently shaken by the machine operator to encourage birds and arboreal mammals to relocate prior to the tree being felled.
 - Felled trees with hollows will be inspected, and any vertebrate fauna caught and relocated, or where appropriate given to a wildlife carer to raise and release.
- No stockpiled vegetation will be burnt.
- Following dust management plan will be undertaken, but not limited to:
 - Installation of wind fencing.
 - Maintaining the vegetation in the buffers.
 - Appropriate materials for access road.
 - Minimisation of open ground and appropriate surface stabilisation.
 - Water carts available if dust is being generated.
 - Water sprays used during screening.
 - Truck load coverage.
 - Monitoring and complaints management.

(Pgv Environmental, 2024)

The applicant has also committed to plant 35 jarrah and/or marri trees within the within the property where the application area is located and adjacent lots (ARP No.20, 2024a and 2024b).

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.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) 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 C) identified that the impacts of the proposed clearing present a risk to biological value (fauna). 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 (a) and (b)

Assessment

The supporting documents (Pgv Environmental, 2023, 2024) identified one fauna habitat type occurring within the application area which is classified as highly degraded fauna habitat as the vegetation is generally completely degraded and very little current connectivity to other habitats (Pgv Environmental, 2024).

According to available databases, 39 conservation fauna species have been recorded within the local area. Nineteen of the fauna species locally recorded are seabirds and shorebirds associated with marine, coastal, and estuarine habitats that do not occur within the application area and these have not been considered further. In determining the likelihood of conservation significant fauna occurring within the application area, consideration was given to the results of the preferred habitat types, proximity of records to the application area, and the type and condition of the vegetation within the application area. Based on these factors, three threatened black cockatoo species are considered to potentially occur in the application area (Appendix B.3).

Based on known distribution and habitat preference, all three threatened black cockatoo (BC) species likely occur over the application area. Within the local area (10-kilometre radius from the application area), there are 291 records of Carnaby's BC (*Zanda latirostris*), one record of Baudin's BC (*Zanda baudinii*) and 42 records of forest red-tailed BC (*Calyptorhynchus banksii naso*) (with the closest distance of approximately 1.85, 7.07 and 1.23 kilometres, respectively, from the application area).

The application area is located within the mapped distribution areas of all these BC species, and it occurs in the potential breeding range of Carnaby's cockatoos. The closest black cockatoo roosting site is recorded approximate 2.1 kilometres away from the proposed clearing area (QGIS database).

There are three key components of black cockatoo habitat: foraging habitat; roosting habitat; and breeding habitat. The quality of BC foraging habitat to support populations at breeding sites or night roosting sites varies depending upon how BC utilise the habitat in that particular location. Any tall trees, generally close to riparian environment, can be potential roosting habitat of BC (DSEWPC, 2012). A tree suitable for a black cockatoo breeding is defined as a tree with a diameter of 50 centimetres or greater at a height of 1.5 metres (diameter at breast height – DBH) above the ground. BC generally forage within six kilometres of a night roost site and, while nesting, within a 12 kilometres radius of their nest site (DSEWPC, 2012).

The application area comprises few marri trees and one jarrah tree with total canopy area of approximately 650 square metres (Pgv Environmental, 2023). One marri tree and the jarrah tree are considered potential breeding BC habitat due to their DBH of more than 50 centimetres, however they do not contain hollows (Pgv Environmental, 2023). An artificial nesting tube has been installed in the marri tree and does not appear to have been used for breeding by BCs. The installation of this nesting tube was unlikely to be part of any offset requirement (Pgv Environmental, 2023). The tube will be relocated to a suitable tree on the adjoining lot prior to clearing ((Pgv Environmental, 2023).

Given the size of the clearing and the degraded condition of the vegetation in relation to its position in the landscape, and the location of known roost sites and mapped foraging habitat, it is unlikely that individual jarrah and marri trees within the application area represent an important foraging resource to support black cockatoo populations. In the context of the application area, black cockatoos are most likely to utilise the Banksia woodlands and Tuart woodlands to the north and southwest where extensive tracts of native vegetation occur. The possibility of black cockatoos using the trees within the application area is minimal. Furthermore, the applicant has committed to plant 35 jarrah and/or marri trees when the extraction activities are completed. This will mitigate the long-term impacts of losing suitable habitat for BCs.

However, the proposed clearing may directly impact ground-dwelling or arboreal fauna that may be utilising the application area at the time of clearing. These impacts can be managed by the directional clearing condition and avoidance and mitigation measures committed by the applicant (See Section 3.1).

The proposed clearing also increases the risk of weed spreading to adjacent remnant vegetation and hence impacts the habitat of fauna species. Weed management will mitigate impacts to vegetation adjacent to the application area.

Conclusion

Based on the above assessment, the proposed clearing is unlikely to impact to significant habitat of any conservation significant fauna species, provided that at least 35 jarrah and/or marri trees will be revegetated after the sand extraction completion. However, fauna individuals are potentially to be impacted should they be present at the clearing area during the time of clearing. Adjacent vegetation is likely to be impacted by the likely spreading of weeds from the proposed clearing.

Conditions

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

- Directional clearing, which requires slow, progressive, one directional clearing to allow terrestrial fauna to disperse ahead of the clearing activity should they occur on site at the time of clearing.
- Weed management.
- Revegetation of at least 35 jarrah and/or marri trees.

3.3. Relevant planning instruments and other matters

The proposed works received the Amendment to Development Approval for Extractive Industry (Sand extraction) from the City of Rockingham, issued on 02 May 2024 and expires on 01 May 2026 (City of Rockingham, 2024).

DWER's Kwinana Peel Region Water Licensing Team advised that the application area is located within the Stakehill Groundwater Area proclaimed under the RIWI Act. The construction of a well and taking of groundwater for non-domestic purposes such as dust suppression would require a licence from the DWER (DWER, 2023). Applicant informed that portable water will be brought to site as needed (Pgv Environmental, 2024).

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* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Environmental management plan approved by the city of Rockingham	Proposed avoidance and mitigation measures have been considered and presented in Section 3.1
Development approval and Approval to commence development	These approvals have been mentioned in Section 3.3

Appendix B. Site characteristics

B.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

Characteristic	Details
Local context	<p>The area proposed to be cleared consists of sparsely scattered trees in the intensive land use zone of Western Australia. Most of trees proposed to clear are isolated, except for one tree on the north-eastern corner which is adjacent to small patches of remnant vegetation to the east and the north.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 26.6 per cent of the original native vegetation cover.</p>
Ecological linkage	A small tree within the proposed clearing area is mapped within one of the Perth Regional Ecological Linkages. However, considering the extensively cleared landscape of the surrounding area and its isolation, this tree is unlikely a part of any ecological linkage.
Conservation areas	There are no mapped conservation areas within the application area. The closest conservation area is Bush Forever site 349, located approximately 1.2 kilometres north of the application area
Vegetation description	<p>The supporting document (Pgv Environmental, 2023) indicates the vegetation within the proposed clearing area consists of a few marri trees (<i>Corymbia calophylla</i>), a jarrah tree (<i>Eucalyptus marginata</i>), a small stand of prickly moses shrub (<i>Acacia pulchella</i>), a fallen tree of native wisteria (<i>Hardenbergia comptoniana</i>) and a grey stinkwood (<i>Jacksonia furcellata</i>) on a paddock of weedy pasture species.</p> <p>Representative photos are available in Appendix E</p> <p>This is partly consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> Karrakatta Complex-Central and South, which is described as predominantly open forest of <i>Eucalyptus gomphocephala</i> (Tuart) - <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri) and woodland of <i>Eucalyptus marginata</i> (Jarrah) - Banksia species. <i>Agonis flexuosa</i> (Peppermint) is co-dominant south of the Capel River (Hedde et al., 1980) <p><i>The mapped vegetation type retains approximately 23.5 per cent of the original extent (Government of Western Australia, 2019b).</i></p>
Vegetation condition	The supporting document (Pgv Environmental, 2023) indicates the vegetation within the proposed clearing area is in completely degraded (Keighery, 1994) condition.

Characteristic	Details
	The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.
Climate and landform	<p>Climate: Mean maximum temperature is 24.7 degrees Celsius.</p> <p>Mean minimum temperature is 11.7 degrees Celsius.</p> <p>Rainfall: Mean annual rainfall is 810.1 millimetres.</p> <p>(Data at Jandakot Aero Station, approximately 24 kilometres away from Rockingham - BOM, 2024)</p> <p>Landform: Dune ridges with slopes up to 15%.</p>
Soil description	<p>The soils are mapped as (DPIRD, 2022):</p> <ul style="list-style-type: none"> Spearwood S1b Phase (211Sp__S1b), described as deep siliceous yellow brown sands or pale sands with yellow-brown subsoil.
Land degradation risk	The mapped soil over the application area is highly susceptible to wind erosion, but have medium to low risk of land degradation due to other factors (see Appendix B.4 for details).
Waterbodies	The desktop assessment and aerial imagery indicated that no watercourses transect the area proposed to be cleared. The closest watercourses are some perennial lakes located approximately 200 metres to the north of the application area.
Hydrogeography	<p>The application area falls within the Stakehill Groundwater Area, as proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act).</p> <p>The groundwater salinity level is mapped as 500-1000 milligrams total dissolved solids per litre</p>
Flora	The desktop assessment identified 28 conservation significant flora species within the local area, none of which are found on the same soil type and vegetation type as the application area. The nearest record is <i>Dodonaea hackettiana</i> , located 1.3 kilometres away from the proposed clearing area.
Ecological communities	No conservation significant ecological communities are mapped over the application area. The closest mapped threatened ecological community (TEC) is the Banksia Woodlands of the Swan Coastal Plain ecological community which is recorded 530 metres southwest of the proposed site (Object ID: 113679).
Fauna	<p>The desktop assessment identified 39 conservation significant fauna species within the local area, including 12 threatened species, 12 priority species and 15 specially protected species. The closest record is of <i>Westralunio carteri</i> (Carter's freshwater mussel) recorded 1.1 kilometres from the application area. The most frequently occurring species within the local area is <i>Isoodon fusciventer</i> (Quenda) with 575 records.</p> <p>The application area is within the distribution maps of all three threatened black cockatoo species. The closest known black cockatoo roosting site is approximately 2.1 kilometres from the application area.</p>

B.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
Vegetation complex					
Hedde vegetation Karrakatta Complex-Central and South **	53,080.99	12,467.20	23.49	4,282.73	8.07
Local area					
10km radius	30,500.95	8,098.43	26.55	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

B.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in the local area	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus banksii naso</i> (Forest red-tailed black cockatoo)	VU	Y	Y	1.85	42	N/A
<i>Zanda baudinii</i> (Baudin's cockatoo)	EN	Y	Y	7.07	1	N/A
<i>Zanda latirostris</i> (Carnaby's black cockatoo)	EN	Y	Y	1.23	291	N/A

EN: endangered, VU: vulnerable.

B.4. Land degradation risk table

Risk categories	Spearwood S1b Phase (211Sp_ S1b)
Wind erosion	H2: >70% of map unit has a high to extreme wind erosion risk
Water erosion	L1: <3% of the map unit has a very high to extreme hazard
Salinity	L1: <3% of the map unit has a moderate or high hazard or is presently saline
Subsurface Acidification	M1: 10-30% of the map unit has a high susceptibility
Flood risk	L1: <3% of the map unit has a moderate to high hazard
Water logging	L1: <3% of the map unit has a moderate to very high to risk
Phosphorus export risk	M1: 10-30% of the map unit has a high to extreme hazard

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> “Native vegetation should not be cleared if it comprises a high level of biodiversity.”</p> <p><u>Assessment:</u></p> <p>Consisting of some paddock trees, the application area is not considered likely to comprise a high level of biodiversity. The area proposed to be cleared does not contain locally / regionally significant flora, fauna, habitats, assemblages of plants.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> “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.”</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains potential foraging and roosting habitat for conservation significant fauna. The closest black cockatoo roosting record is approximately 2.1 kilometres from the application area.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> “Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</p> <p><u>Assessment</u></p> <p>The area proposed to be cleared is unlikely to contain threatened flora species.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> “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.”</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared does not contains species that can indicate a threatened ecological community.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The vegetation complex and the vegetation remaining within the local area of the application area is above the 10 per cent threshold for constrained areas.</p> <p>The vegetation proposed to be cleared comprises isolated vegetation within a historically cleared area. It is not considered to be part of a significant ecological linkage in the local area. Considering the above and the small clearing area, the proposed clearing is not likely to be at variance to this clearing principle.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>Bush Forever site 349 is the closest conservation area, approximately 1.2 kilometres from the application area. 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.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality.</p>	Not likely to be at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils are susceptible to risk of wind erosion. Noting the extent of the proposed clearing, the proposed dust management plan under the excavation management plan (Pgv Environmental, 2024) and that the sand extraction area encompassing the application area will be rehabilitated in accordance with a rehabilitation plan to be approved by the local government authority following extraction activities (City of Rockingham, 2024), the risk of appreciable land degradation from the proposed clearing is likely to be minimal and short term.</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses/wetlands are recorded within the application area and the extent of proposed clearing area, the proposed clearing is unlikely to impact surface or groundwater quality.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given no water courses/wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	No

Appendix D. 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 Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or 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. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or 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 or shrubs.

Appendix E. Photographs of the vegetation

Photographs of trees proposed to be cleared (Pgy Environmental, 2023)

Plate 3: *Acacia pulchella* and Marri tree



Plate 4: Jarrah Tree in the Clearing Footprint



Plate 5: Juvenile Marri Trees



Plate 6: Native Wisteria



Plate 7: Grey Stinkwood



Appendix F. Sources of information

F.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)
- Cadastre Address (LGATE-002)
- DBCA Legislated Lands and Waters (DBCA-011)
- 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)
- Pre-European Vegetation Statistics
- 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

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

F.2. References

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- Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.
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