



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10485/1
Permit Holder:	City of Rockingham
Duration of Permit:	From 12 July 2024 to 12 July 2034

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of access road and landfill redevelopment.

2. Land on which clearing is to be done

Lot 2170 on Deposited Plan 211650, Baldivis

3. Clearing authorised

The permit holder must not clear more than 0.0916 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 12 July 2029.

PART II – MANAGEMENT CONDITIONS

5. 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.

6. 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.

7. Directional clearing

The permit holder must:

- (a) conduct *clearing* activities 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.

8. Revegetation and rehabilitation planting

- (a) The permit holder shall plant and maintain a minimum of 130 trees, comprised of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees within Lot 2170 on Deposited Plan 211650, Baldivis, in Figure 2 of Schedule 2, or within the broader Lot 2170, with the following conditions:
 - (i) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate*;
 - (ii) ensure *planting* is undertaken at the *optimal time*;
 - (iii) undertake *weed* control and watering of *plantings* for at least two years post *planting*;
 - (iv) the *revegetation* is to commence within 12 months of undertaking clearing authorised under this permit and no later than 12 July 2026.
- (b) Within 24 months of undertaking *revegetation* in accordance with condition 8(a) of this permit, the permit holder must:
 - (i) engage an *environmental specialist* to make a determination that at least 130 planted trees, comprised of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees will survive;
 - (ii) where, in the opinion of an *environmental specialist* the 130 planted trees, comprised of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees will not survive, the permit holder must undertake additional planting of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees to achieve this outcome; and
 - (iii) where additional *planting* of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees is undertaken in accordance with condition 8(b)(ii), the permit holder must repeat the activities required by conditions 8(a) (i-iv) and 8(b) (i-ii) of this

permit.

- (c) Upon determination of an *environmental specialist* that the 130 planted trees, comprised of marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees will survive, that report is to be provided to the *CEO*.

PART III - RECORD KEEPING AND REPORTING

9. 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 GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) direction of clearing; (e) the size of the area cleared (in hectares); (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; and (g) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 6.
2.	In relation to planting pursuant to condition 8	<ul style="list-style-type: none"> (a) the size of the <i>planted</i> area; (b) the date(s) on which the <i>planting</i> was undertaken; (c) the boundaries of the <i>planted</i> (recorded digitally as a shapefile using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings); (d) a description of the <i>planting</i> activities undertaken pursuant to condition 8(a), including <i>planted</i> species composition and density, and actions taken to implement watering and <i>weed</i> control; (e) a copy of the <i>environmental specialist's</i> monitoring report and determination; and (f) a description of any residual actions undertaken pursuant to conditions 8(b)(ii)-(iii), where the <i>environmental</i>

No.	Relevant matter	Specifications
		<i>specialist</i> indicates that the <i>planted</i> trees will not survive.

10. Reporting

The permit holder must provide to the *CEO* the records required under condition 9 of this permit when requested by the *CEO*.

DEFINITIONS

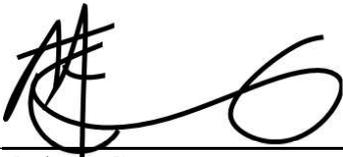
In this permit, the terms in Table 2 have the meanings defined.

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.
environmental specialist	means a person who holds a tertiary qualification specialising 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 the permit, or who is approved by the <i>CEO</i> as a suitable <i>environmental specialist</i>
fill	means material used to increase the ground level, or to fill a depression.
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.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same 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.
optimum time	means the period from May to June for undertaking planting or seeding
planting/s/ed	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species
rehabilitate	means the re-establishment of a cover of <i>local provenance</i> native vegetation in an area using methods such as natural regeneration, direct seeding and/or <i>planting</i> , so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
revegetate/ion	means actively managing an area containing native vegetation in order to improve the ecological function of the area
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and</i>

Term	Definition
	<p><i>Agriculture Management Act 2007</i>; or</p> <p>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or</p> <p>(c) not indigenous to the area concerned.</p>

END OF CONDITIONS



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

18 June 2024

Schedule 1

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

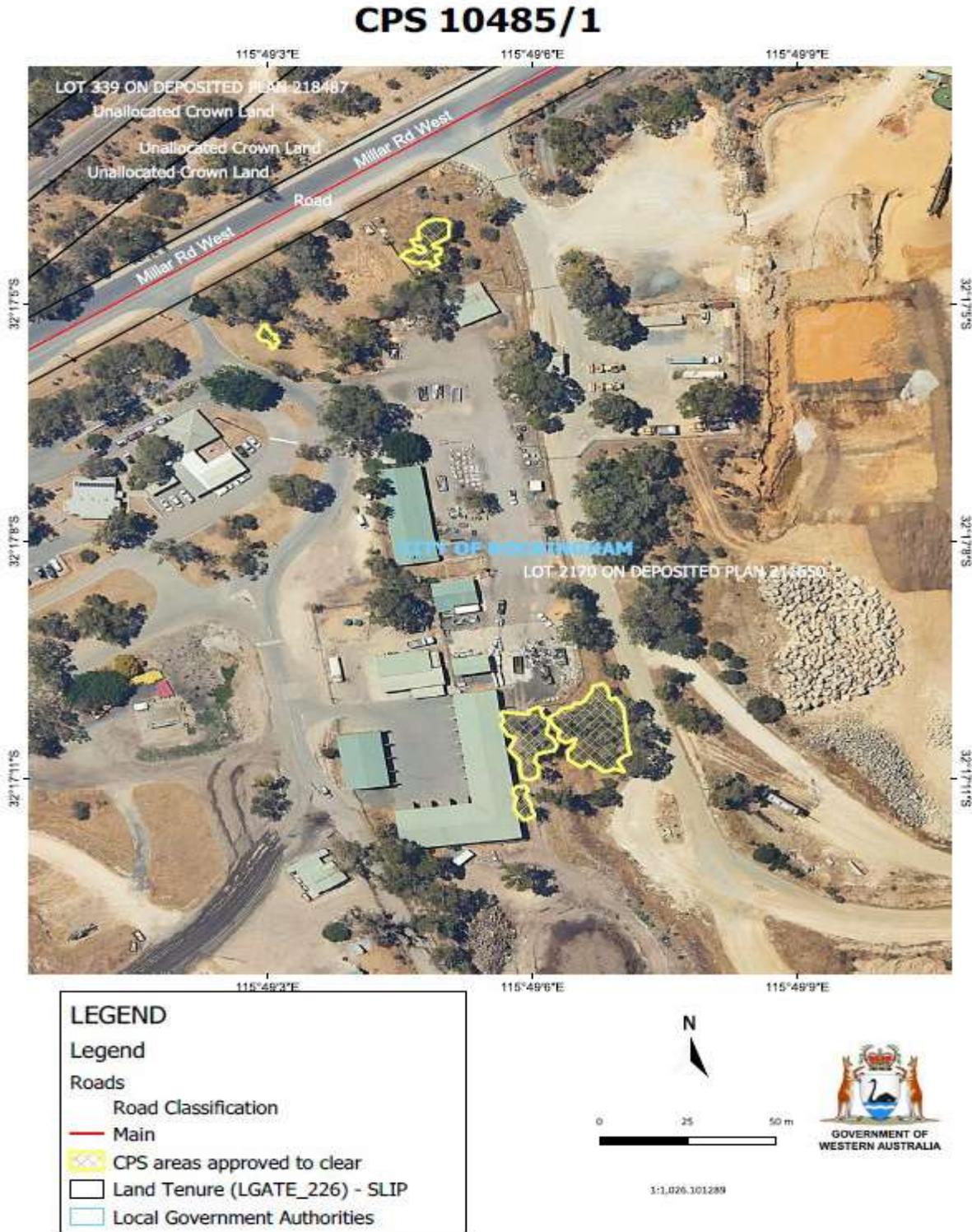


Figure 1: Map of the boundary of the area within which clearing may occur

Schedule 2

The boundary of the area where rehabilitation planting will occur is shown in the map below (Figure 2).

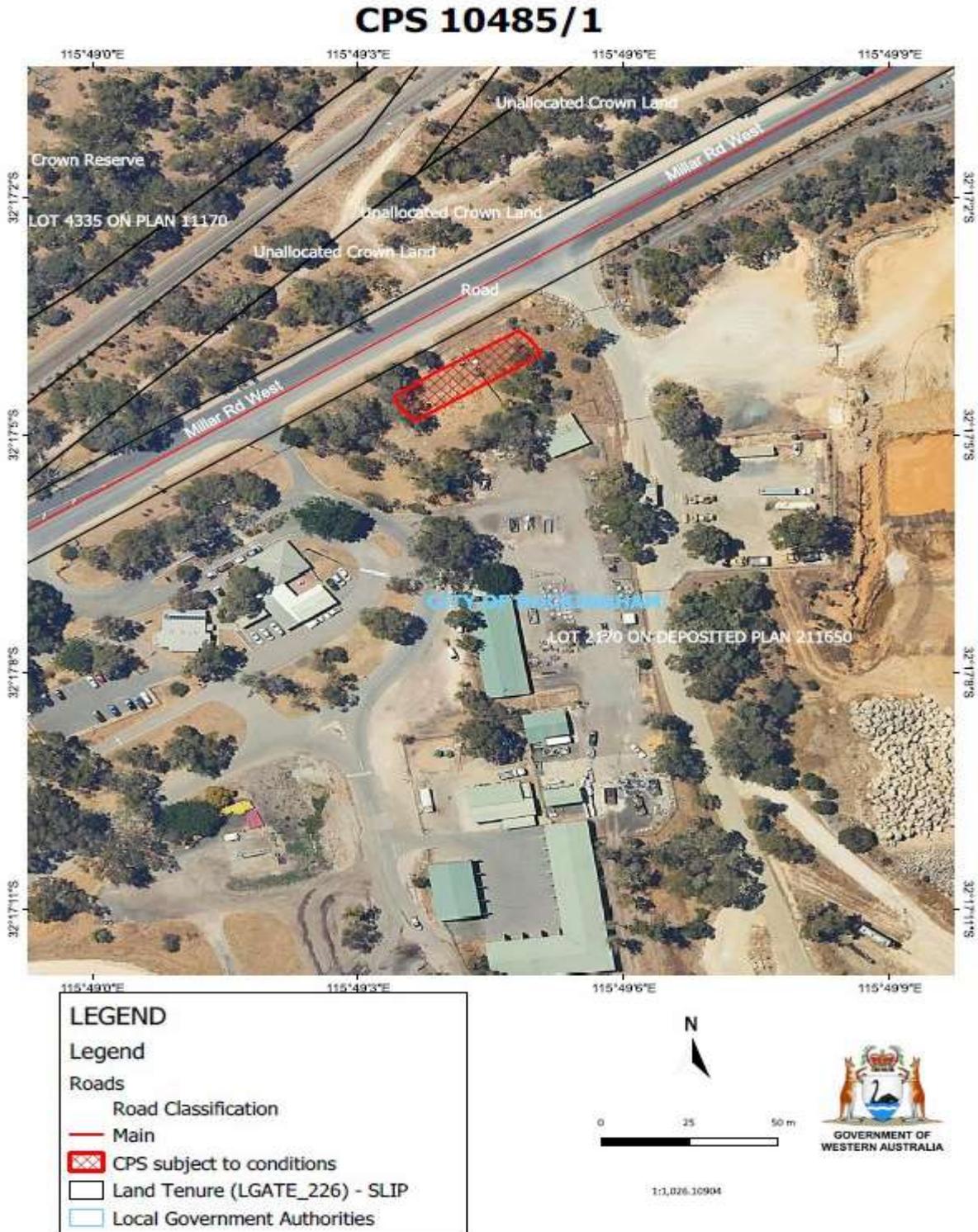


Figure 2: Map of the boundary of the area within which rehabilitation planting must occur



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10485/1
Permit type:	Purpose permit
Applicant name:	City of Rockingham
Application received:	16 January 2024
Application area:	0.0916 hectares of native vegetation (revised)
Purpose of clearing:	Access road and landfill redevelopment
Method of clearing:	Manual and mechanical clearing
Property:	Lot 2170 on Deposited Plan 211650, Baldivis
Location (LGA area/s):	City of Rockingham
Localities (suburb/s):	Baldivis

1.2. Description of clearing activities

The City of Rockingham (the City) is proposing to undertake the clearing of native vegetation within Lot 2170 on Deposited Plan 211650, Baldivis. The proposed clearing will facilitate an access road and landfill redevelopment. The vegetation proposed to be cleared is distributed across five separate areas (see Figure 1, Section 1.5). The size of the area and amount of clearing proposed was reduced during assessment.

1.3. Decision on application

Decision:	Granted
Decision date:	18 June 2024
Decision area:	0.0916 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 C), relevant datasets (see Appendix I.1), the revised Environmental Management Plan- Millar Road Landfill Redevelopment (City of Rockingham, 2024b), the findings of a Vegetation Assessment (PGV,2023), 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). The Delegated Officer also took into consideration the actions taken by the applicant which resulted in the avoidance and minimisation of the extent of the clearing and the revegetation actions to reduce the impacts of clearing (see Section 3.1).

The assessment identified that the proposed clearing will result in:

- the loss of 0.0916 hectares of native vegetation that is suitable foraging habitat for Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo (black cockatoo species) and is significant as a remnant of native vegetation in an area that has been extensively cleared,
- the loss of native vegetation that provides potential habitat for quenda, and
- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

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 including direct impacts to individual fauna, and the potential to facilitate the introduction of weeds and dieback can be minimised and managed to unlikely lead to an unacceptable risk to environmental values through permit conditioning and implementation of the applicants Environmental Management Plan commitments (see Section 3.1). However, impacts to native vegetation that is representative of significant foraging habitat for black cockatoo species remained significant even after the application of minimisation and mitigation measures and constitutes a significant residual impact.

The Delegated Officer determined that the deliberate planting of a minimum of 130 marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees within Lot 2170 on Deposited Plan 211650, Baldivis, is sufficient to ensure a significant residual impact no longer exists (see Section 3.2.1). DWER considers the rehabilitation planting aligns with the *WA Environmental Offsets Policy* (2011) and *WA Environmental Offsets Guideline* (2014).

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

- avoid, minimise to reduce the impacts and extent of clearing,
- a minimum of 130 marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees will be required to be planted and maintained within Lot 2170 on Deposited Plan 211650, Baldivis, as a rehabilitation measure for the clearing of 0.0916 hectares of native vegetation that provides habitat value,
- Take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback, and
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

1.5. Site maps

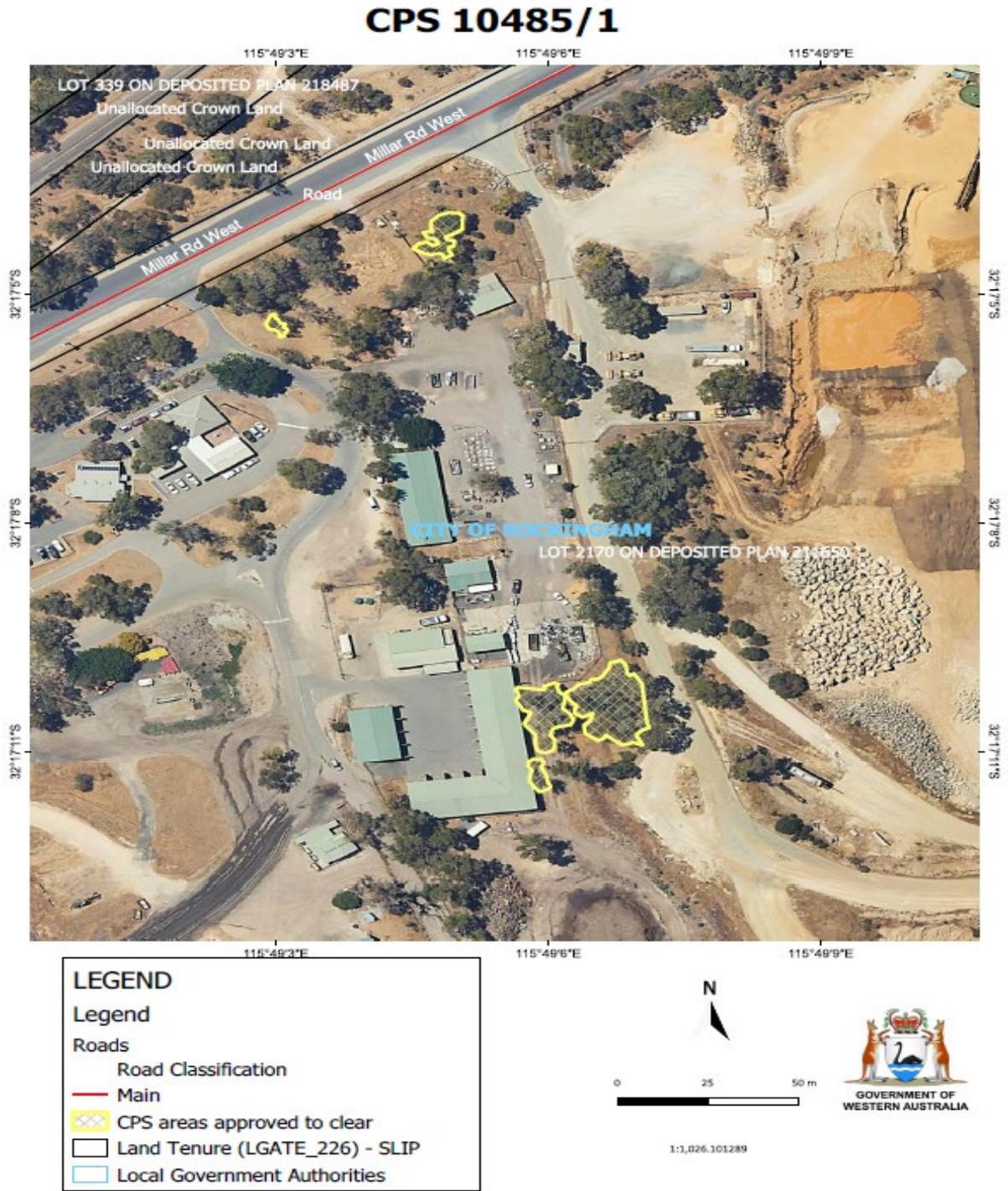


Figure 1 Map of the revised application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit 10485/1.

CPS 10485/1

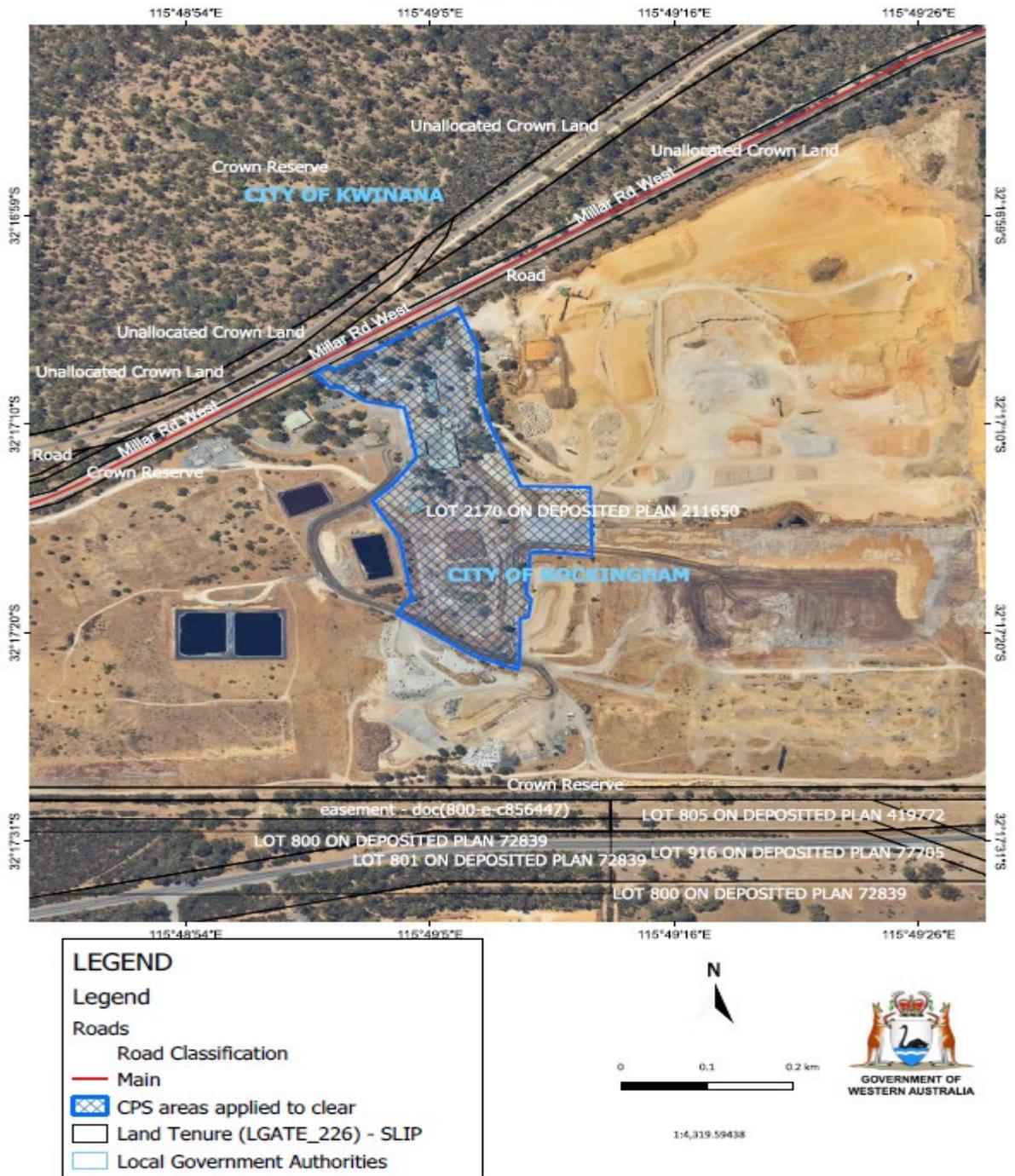


Figure 2 Map of the original application area. The areas crosshatched blue indicates the area originally applied to be cleared.

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)

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)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

On 21 April 2024, the Department of Water and Environmental Regulation (DWER) sent correspondence to the applicant which outlined the environmental impacts identified during the assessment of the proposed clearing. In response, the application was revised and subsequently the changes resulted in a reduction in the proposed clearing area from 3.5 hectares to 0.0916 hectares to avoid and minimise the clearing impacts which also included:

- removal of 22 black cockatoo habitat trees from the proposed clearing area,
- a commitment to plant and maintain 150 native trees that provide foraging value to Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo (black cockatoos) within Lot 2170 on Deposited Plan 211650, Baldivis to offset against the significant residual impact to black cockatoo species.

The City has put significant efforts in the review of the project design to reduce direct and indirect impacts to black cockatoos within the development footprint. The project design has been updated to manoeuvre around identified significant habitat black cockatoo habitat trees, which resulted in the ability to retain 22 of the initial 24 trees identified plus a number of trees that were not identified as being suitable for black cockatoos. The two habitat trees proposed for removal were assessed as being in average to poor condition, containing no hollows suitable for black cockatoos (City of Rockingham, 2024b).

DWER have identified that the planting and maintaining of a minimum of 130 marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees will be required to be planted within Lot 2170 on Deposited Plan 211650, Baldivis to ensure a significant residual impact to fauna habitat does not remain after the proposed clearing. The City have agreed to the planting of 150 native trees within Lot 2170 on Deposited Plan 211650, Baldivis.

Considering the above, the Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the 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 values (fauna) and significant remnant vegetation. 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 application area is located within the Swan Coastal Plan IBRA bioregion. According to available databases a total of 37 conservation significant fauna species have been recorded within the local area (10-kilometre radius of the application area). Of the conservation significant fauna species recorded within the local area, the application area may provide habitat for the following four species:

- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) VU
- *Isodon fusciventer* (quenda) P4
- *Zanda baudinii* (Baudin's cockatoo) EN
- *Zanda latirostris* (Carnaby's cockatoo) EN

This assumption is based on habitat requirements, distribution, mapped vegetation type and the condition of the vegetation. Photographs provided by the applicant identified that the vegetation type within the application area was largely consistent with the mapped vegetation types of the area, consisting of a mosaic of woodland of *Eucalyptus gomphocephala* (Tuart) and open forest of *Eucalyptus gomphocephala* (Tuart) - *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri); closed heath on the Limestone outcrops (PGV, 2023).

The applicant may have notification responsibilities under the EPBC Act for impacts to Baudin's black cockatoo, Carnaby's cockatoo, and forest red-tailed black cockatoo and their habitats, as set out in the EPBC Act. The applicant has been advised to contact the federal Department of Climate Change, Energy, the Environment and Water (DCCEW) to discuss EPBC Act referral requirements.

Black cockatoos

Collectively known as black cockatoo species, the forest red-tailed black-cockatoo, Baudin's cockatoo and Carnaby's cockatoo are known to nest in hollows of live and dead trees, including marri, jarrah (*Eucalyptus marginata*), karri (*Eucalyptus diversicolor*), wandoo (*Eucalyptus wandoo*), tuart (*Eucalyptus gomphocephala*), flooded gum, and other *Eucalyptus* spp. (Commonwealth of Australia, 2012). 'Breeding habitat' for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow, where suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). While breeding, black cockatoos also generally forage within a six kilometre to 12-kilometre radius of their nesting site (Commonwealth of Australia, 2012). According to available datasets, mapped potential black cockatoo feeding habitat is recorded within 12 kilometres of the application area, making it a suitable location for breeding if appropriate hollows are present. The application area is also mapped within the known breeding range of Carnaby's cockatoo and within the predicted occurrence and potential breeding range for both Baudin's cockatoo and the forest red-tailed black cockatoo (Commonwealth of Australia, 2012).

The Vegetation Assessment (PGV, 2023) identified:

- Evidence of foraging by forest red-tailed black cockatoos on a marri tree,
- A total of 24 potential black cockatoo breeding habitat trees recorded on site.

Noting the applicant has avoided all significant trees (diameter at breast height (DBH) >500 millimetres) with hollows that may provide breeding and roosting habitat for all three black cockatoo species, significant impacts to breeding habitat is not expected to occur.

Black cockatoo species are noted to forage on a range of plant species, predominantly the seeds and flowers of marri, jarrah and proteaceous species (e.g., *Banksia* spp., *Hakea* spp. and *Grevillea* spp.) (Commonwealth of Australia, 2012). As the application area contains marri and *Eucalyptus* spp. and is mapped within 10 kilometres of known roosting sites (the closest being 1.4 kilometres away), the application area is likely to provide significant foraging habitat for black cockatoo species, by supporting a roosting population.

To reduce the significant residual impact arising from the loss of 0.0916 hectares of native vegetation that provides foraging habitat for black cockatoo species, the City has proposed to plant and maintain 150 marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees within Lot 2170 to ensure the clearing will not result in a decline in foraging habitat in the local area. The proposed planting was input into the WA Environmental Offsets Metric Calculator to determine the rehabilitation ratio required. It was determined that the planting of 130 marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees was a suitable rehabilitation measure to ensure a significant residual impact does not remain following the

proposed clearing. DWER considers the rehabilitation planting aligns with the *WA Environmental Offsets Policy* (2011) and *WA Environmental Offsets Guideline* (2014).

Quenda

Quenda inhabit areas of dense vegetation including wetland fringes and heathlands. They have been observed in areas of native bushland and where exotic shrub species are prevalent. Quenda rarely venture from cover and will feed by digging in leaf litter and soil to find food and will construct nests under vegetation (DEC, 2012). Given the extent of the application area and the Degraded condition of the vegetation, it is unlikely that the application area will comprise of significant habitat for the species. It is possible that the quenda may occur within the application area, while moving through the landscape. However, the implementation of slow, directional clearing will allow any individuals present at the time of clearing to move into adjacent suitable habitat in the local area.

Ecological linkage

The application area may function as an ecological linkage for fauna to move between larger remnants of native vegetation within the local area. The ecological linkage values will not likely be severed by the proposed clearing, noting native vegetation will remain within the Lot. Notwithstanding the above, given that native vegetation remains surrounding the application area, a weed and dieback management condition will be required to assist in mitigating impacts to surrounding vegetation and maintaining ecological linkage values.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 0.0916 hectares of native vegetation that provides significant foraging habitat for black cockatoo species and may result in direct impacts to individual fauna if present during the clearing. However, this is not likely to impact on the conservation status of any species that have the potential to occur within the application area.

For the reasons set out above, it is considered that the impacts of the proposed clearing on fauna habitat can be managed through the avoidance, minimisation, and mitigation measures committed to by the applicant and does not constitute a significant residual impact after the implementation of management conditions as specified on the permit.

Conditions

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

- Slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise impacts to individuals,
- Undertake the planting of a minimum of 130 native marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*) and tuart (*Eucalyptus gomphocephala*) trees within Lot 2170 on Deposited Plan 211650, Baldivis, and
- Weed and dieback management measures to assist in mitigating impacts to surrounding vegetation that provides fauna habitat.

3.2.2. Significant remnant vegetation - Clearing Principle (e)

Assessment

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Noting that the current vegetation extent within the local area falls below the 30 per cent threshold (see Appendix B.2) and includes vegetation that comprises significant foraging habitat for Carnaby' cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo, the application area is considered to be a significant remnant within an extensively cleared landscape.

However, the Environmental Protection Authority (EPA) recognises the Greater Perth Region Scheme area to be a constrained area, within which a minimum 10 per cent representation threshold for ecological communities is recommended (EPA, 2008). The current vegetation extent for the Swan Coastal Plain IBRA Bioregion, the mapped vegetation complex, and the local area are all above the 10 per cent threshold for constrained areas (see Appendix B.2).

However, it is acknowledged that the proposed clearing has the potential to facilitate the spread of weeds and dieback into remnants of native vegetation in the local area. A weed and dieback management condition is considered to minimise this risk, and it is not considered likely that the proposed clearing will have a significant impact on nearby significant remnant vegetation.

Conclusion

Based on the above assessment, the proposed clearing is unlikely to result in significant impacts to vegetation extent within an extensively cleared area but may facilitate the spread of weeds and dieback into nearby vegetation in the local area.

For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed by taking steps to minimise the risk of the introduction and spread of weeds and dieback and does not constitute a significant residual impact.

Conditions

To address the above impacts, the following management measure will be required as a condition on the clearing permit:

- Weed and dieback management measures to assist in mitigating impacts to surrounding vegetation that provides fauna habitat.

3.3. Relevant planning instruments and other matters

The Delegated Officer noted that Lot 2170 on Deposited Plan 211650, Baldivis, is zoned 'Rural' under the City's Town Planning Scheme No. 2 and currently is licensed by DWER - L7064/1997/11. The Facility accepts Class I, II and III landfill from municipal, commercial and residential sources. Current active cells are Cells 16 and 17 which have been constructed with low permeability clay and geo-synthetic composite lining with leachate collection systems and evaporation ponds (City of Rockingham, 2024b).

Advice received from Contaminated Sites (DWER, 2024a) identified one contaminated site within the application area. Contaminated Sites has no information suggesting that the reported contamination may extend beyond the existing footprint where quarrying, landfill and depot activities have occurred. Clearing will not interfere with groundwater which is at average depth of 8-14 metres below ground level. Furthermore, the clearing proposed to be carried out won't require significant earthworks (City of Rockingham, 2024b).

The application area is located within the Stakehill Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). DWER's RIWI Branch advised that the City has an existing licence to take water GWL65214 that includes the landfill operations on Lot 2170 (DWER, 2024b).

Several Aboriginal sites of significance have been mapped within the local 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.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Additional information provided by the applicant in response to the Department's request for further information on the 23 April 2024.	Refer to Section 3.1
Rehabilitation plan for planting within Lot 2170 on Deposited Plan 211650, Baldivis	Refer to Section 3.1, Figure 4

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 is 0.0916 hectares of native vegetation distributed across five patches within Lot 2170 in the intensive land use zone of Western Australia. It is surrounded by an existing operational landfill facility on the west, south and east sides with Leda Nature reserve to the north, separated by road infrastructure.</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 27.3 per cent of the original native vegetation cover.</p>
Ecological linkage	<p>The application area does not intersect any formally mapped ecological linkages. Ecological linkage 74 is located approximately 40 metres south west of the application area. Noting the extent of the vegetation being cleared, the proposed clearing is not considered likely to significantly impact this linkage.</p>
Conservation areas	<p>No conservation areas are mapped within the application area. The closest conservation area is Bush Forever site 176 which is located 12 metres north east of the application area which is separated by a road.</p>
Vegetation description	<p>Photographs supplied by the applicant and a Vegetation survey (PGV, 2023) indicate the vegetation within the proposed clearing area consists of marri, jarrah, tuart and sheoak trees over a weedy understorey.</p> <p>Representative photos are available in Appendix E.</p> <p>This is consistent with the mapped vegetation type:</p> <ul style="list-style-type: none"> Cottesloe Complex- Central and South 52, which is described as a mosaic of woodland of <i>Eucalyptus gomphocephala</i> (Tuart) and open forest of <i>Eucalyptus gomphocephala</i> (Tuart) - <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri); closed heath on the Limestone outcrops (Shepherd et al, 2001) <p>The mapped vegetation type retains approximately 32.10 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied by the applicant and a Vegetation survey (PGV, 2023) indicate the vegetation within the proposed clearing area is in Degraded (Keighery, 1994 –) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D.</p> <p>Representative photos are available in Appendix E.</p>

Characteristic	Details
Climate and landform	The region experiences a Mediterranean climate with cool winters and hot summers with a mean annual rainfall of 790 millimetres.
Soil description	The soils within the application area are mapped as: <ul style="list-style-type: none"> • Spearwood S3 Phase (211Sp_S3) described as inter-dunal swales and depressions with gently inclined side slopes and deep rapidly drained siliceous yellow-brown sands; • Spearwood S1b Phase (211Sp_s1b) described as dune ridges with deep siliceous yellow brown sands or pale sands with yellow-brown subsoil and slopes up to 15%; and • Spearwood S2a Phase (211Sp_s2a) described as lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.
Land degradation risk	The mapped soil types within the application area are mapped as having a high risk of wind erosion and phosphorus export (DPIRD, 2023).
Waterbodies and hydrogeography	The desktop assessment and aerial imagery indicated that no wetlands or waterbodies transect the application area. The closest waterbody to the application area is Conservation Category Swamp 458 which is located 0.57 kilometres south east of the application area. The application area is mapped within the Stakehill Groundwater Area proclaimed under the RIWI Act. Groundwater salinity within the application area is mapped at 500-1000 milligrams per total dissolved solids.
Flora	The desktop assessment identified that a total of 23 conservation significant flora species have been recorded within the local area, comprising of two threatened flora species and 21 priority flora species (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of <i>Eucalyptus foecunda</i> subsp. <i>foecunda</i> (P4) approximately 1.36 kilometres from the application area. With consideration for the relevant datasets (see Appendix F.1), the habitat preferences and conservation statuses of the aforementioned species, the distribution and extent of existing records and a Vegetation Assessment (PGV, 2023), the application area is unlikely to provide habitat for threatened or priority flora species.
Ecological communities	The desktop assessment identified that there are no conservation significant ecological communities within the application area. The closest mapped ecological community is the 'Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain' which is listed as a Priority 3 Priority Ecological Community (PEC) by the Department of Biodiversity, Conservation and Attractions in Western Australia and is listed as a Critically Endangered Threatened Ecological Community (TEC) under the EPBC Act, which is located 0.10 kilometres north of the application area. With consideration for the site characteristics, relevant datasets (see Appendix F.1) and a Vegetation Assessment (PGV, 2023), the application area is not considered likely to contain vegetation representative of a TEC or PEC.
Fauna	The desktop assessment identified that a total of 37 conservation significant fauna species have been recorded within the local area including 11 threatened fauna species, 12 priority fauna species, 13 migratory fauna species and one other specially protected fauna species (DBCAs, 2007-). None of these existing records occur within the application area, with the closest record being an occurrence of <i>Notamacropus irma</i> , approximately 0.94 kilometres from the application area. With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1) and the habitat preferences of the aforementioned species, and

Characteristic	Details
	a Vegetation Assessment (PGV, 2023), the application area is likely to provide significant habitat for conservation significant fauna species and impacts to these species required further consideration (see Section 3.2.1).

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	1501221.93	579813.47	38.62	222916.97	14.85
Vegetation complex					
Cottesloe Complex- Central and South 52*	45299.61	14567.87	32.10	6606.12	14.58
Local area					
10km radius	32815.44	7811.30	27.35	-	-

*Government of Western Australia (2019)

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 (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	Y	Y	1.66	45	Y
<i>Isodon fusciventer</i> (quenda)	P4	N	Y	1.54	887	N/A
<i>Zanda baudinii</i> (Baudin's cockatoo)	EN	Y	Y	6.1	1*	Y
<i>Zanda latirostris</i> (Carnaby's cockatoo)	EN	Y	Y	1.21	281*	Y
<i>Zanda sp.</i> 'white-tailed black cockatoo'	EN	Y	Y	1.44	17	Y

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

* An additional 17 records of *Zanda sp.* 'white-tailed black cockatoo' (White-tailed black cockatoo) were recorded in the local area, which may comprise either of these species

B.4. Ecological community analysis table

Community name	Conservation status (WA)	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain	P3	Y	N	Y	0.1	129	Y
Banksia Woodlands of the Swan Coastal Plain ecological community	P3	Y	Y	Y	0.2	861	Y

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

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p>Principle (a): <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p>Assessment: The area proposed to be cleared contains habitat for conservation significant fauna including Carnaby’s cockatoo, Baudin’s cockatoo and forest red-tailed black cockatoo.</p> <p>Noting the proposed clearing is restricted to trees over weeds, no conservation significant flora or vegetation communities will likely occur within the application area.</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p>Principle (b): <i>“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.”</i></p> <p>Assessment: The area proposed to be cleared contains significant foraging habitat for Carnaby’s cockatoo, Baudin’s cockatoo and forest red-tailed black cockatoo, as well as suitable habitat for quenda.</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p>Principle (c): <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p>Assessment: The area proposed to be cleared is unlikely to contain habitat for Threatened flora species.</p>	Not at variance	No
<p>Principle (d): <i>“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.”</i></p> <p>Assessment: The area proposed to be cleared does not contain species that can indicate a threatened ecological community.</p>	Not at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p>Principle (e): <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>Assessment: The extent of the native vegetation in the local area is inconsistent 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.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p>Principle (h): <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>Assessment: Whilst the application area is located adjacent to a conservation area, weed and dieback management actions will minimise the risk of impacts occurring to the adjacent vegetation. 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		

Assessment against the clearing principles	Variance level	Is further consideration required?
<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> Given no water courses or wetlands are recorded within the application area, the proposed clearing is not in an environment associated with a watercourse or wetland.</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> The mapped soils are highly susceptible to wind erosion and phosphorus export. Noting the vegetation type and extent of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation.</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> Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u> 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 or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not 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.

Condition	Description
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. Biological survey information excerpts and photographs of the vegetation (City of Rockingham, 2024b; PGV, 2023)

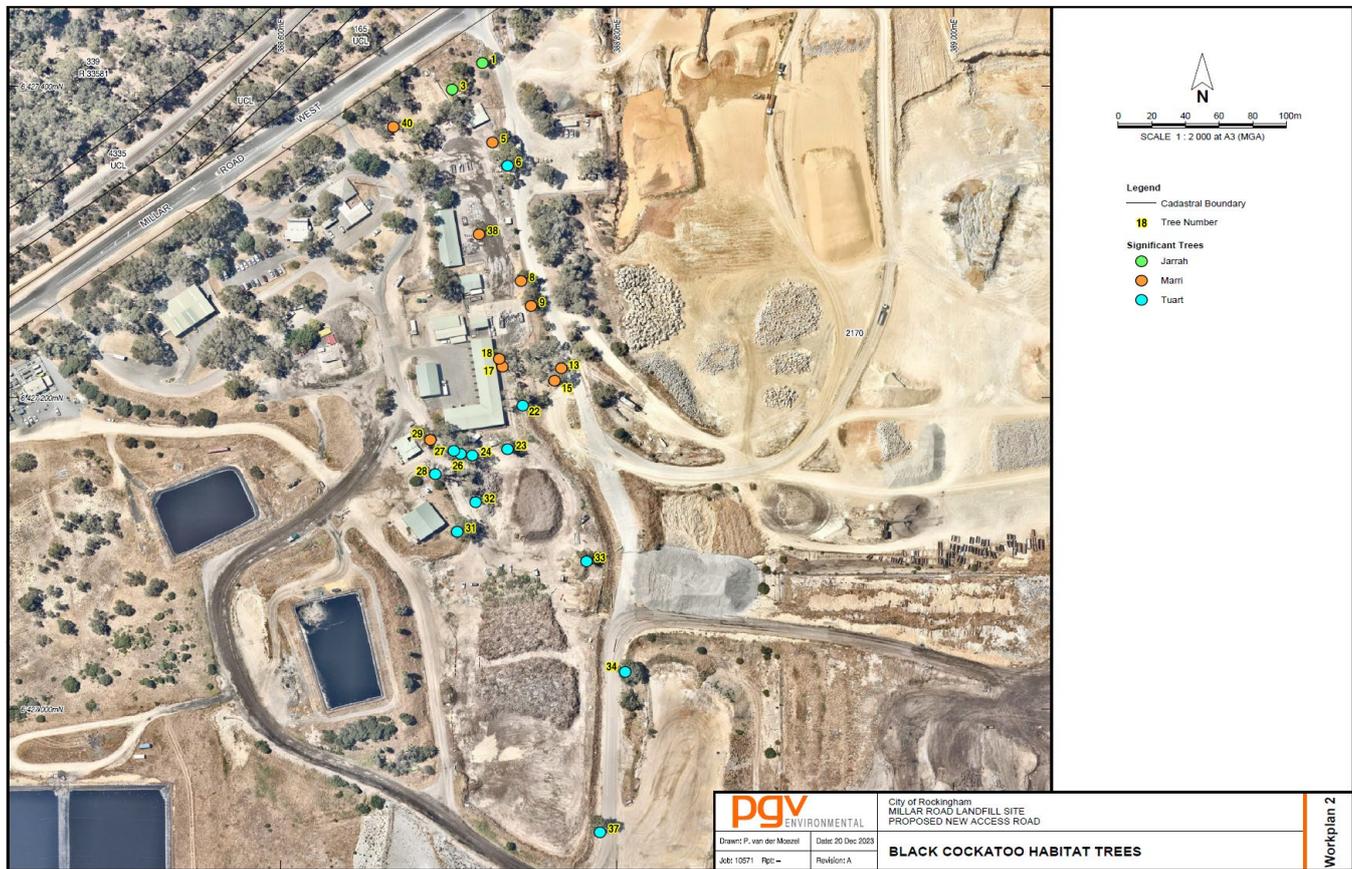


Figure 3. Potential black cockatoo habitat trees identified in the survey area (PGV, 2023).

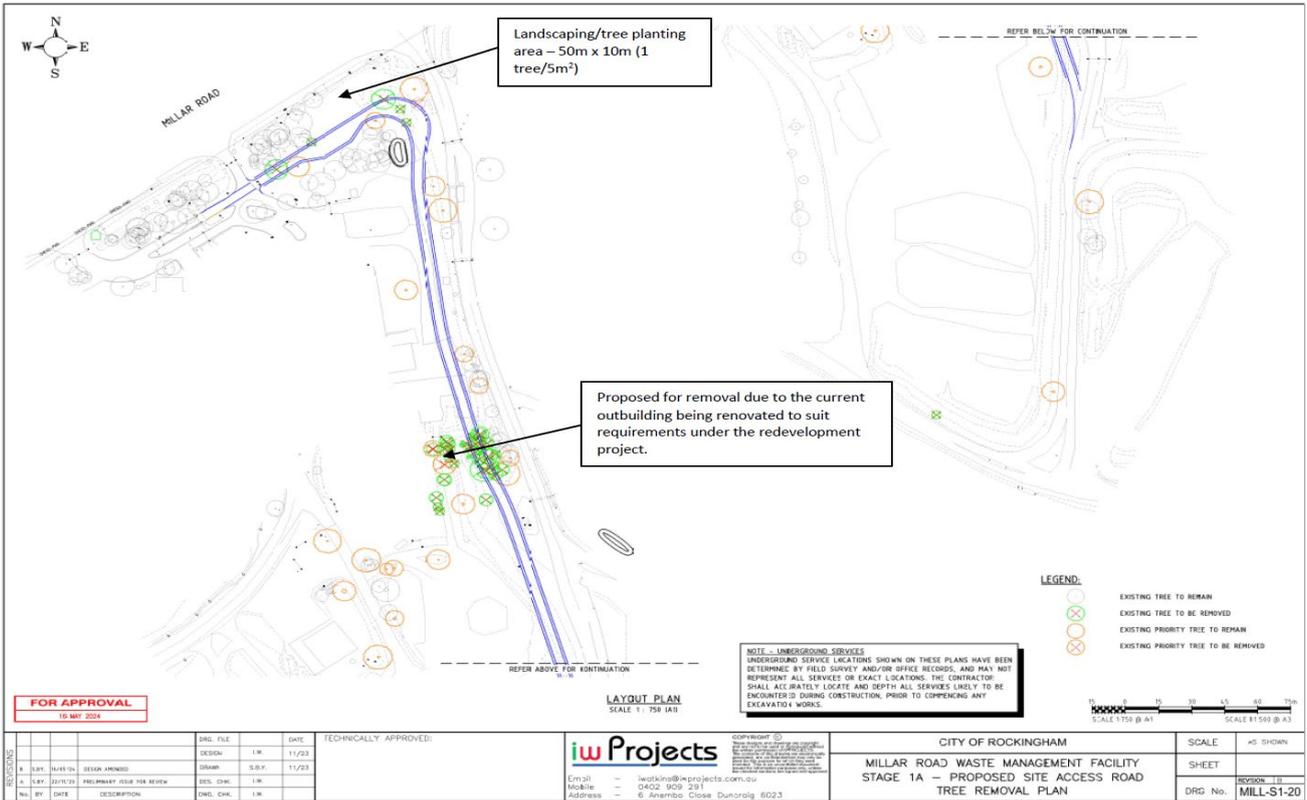


Figure 4. Updated project design to avoid impact to significant habitat trees and landscaping area for rehabilitation planting (City of Rockingham, 2024b)



Figure 5. Potential black cockatoo habitat tree number 17 with no hollows proposed to be cleared (City of Rockingham, 2024b).



Figure 6. Potential black cockatoo habitat tree number 18 with no hollows, proposed to be cleared (City of Rockingham, 2024b).



Figure 7. Black cockatoo foraging evidence on marri nuts (PGV, 2023)

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 (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

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)

F.2. References

- City of Rockingham (2024a) *Clearing permit application and supporting information for clearing permit CPS 10485/1*, received 16 January 2024 (DWER Ref: DWERTV14391).
- City of Rockingham (2024b) *Response to request for further information for CPS 10485/1*, received 4 June 2024 (DWER Ref: DWERTD959031)
- Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Commonwealth of Australia (2012) *EPBC Act Guidelines for Three Threatened Black Cockatoo Species. Now superseded by Referral guideline for 3 WA Threatened black cockatoo species: Carnaby's cockatoo, Baudin's cockatoo and the Forest Red-tailed Black Cockatoo* (DAWE, 2022).
- Department of Agriculture, Water and the Environment (DAWE) (2022) *Referral guideline for 3 WA Threatened black cockatoo species: Carnaby's cockatoo, Baudin's cockatoo and the Forest Red-tailed Black Cockatoo*. Department of Agriculture, Water and the Environment, Canberra.
- Department of Environment and Conservation (DEC) (2012). *Fauna profiles: Quenda, Isoodon obesulus fusciventer*. Department of Environment and Conservation, Western Australia.
- Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.
- Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development*. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed 12 April 2024).
- 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.
- Department of Water and Environmental Regulation (DWER) (Contaminated Sites) (2024a) *Contaminated sites advice for clearing permit CPS 10485/1*, received 8 April 2024 (DWER Ref: DWERTD934689).
- Department of Water and Environmental Regulation (DWER) (Regulatory Services – Water) (2024b) *Rights in Water and Irrigation Act 1914 advice for clearing permit application CPS 10485/1*, received 4 April 2024 (DWER Ref: DWERTD934684).
- Environmental Protection Authority (EPA) (2016). *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf.
- Environmental Protection Authority (EPA) (2016). *Technical Guidance – Terrestrial Fauna Surveys*. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf.
- Government of Western Australia (2019) *2018 South West Vegetation Complex Statistics. Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>

- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) *Vegetation Complexes of the Darling System, Western Australia*. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske, E.M. and Havel, J.J. (1998) *Vegetation Complexes of the South-west Forest Region of Western Australia*. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) *South West Regional Ecological Linkages Technical Report*, Western Australian Local Government Association and Department of Environment and Conservation, Perth.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils*, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.
- PGV Environmental (2023) *Millar Road Landfill Redevelopment- Vegetation Assessment*. Prepared for CPS 10485/1 clearing permit application supporting documentation. received 16 January 2024 (DWER Ref: DWERDT924296).
- Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs* Resource Management Technical Report No. 280. Department of Agriculture.
- Shah, B. (2006) *Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia*. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area*. Edith Cowan University and Department of Environment and Conservation. December 2008.
- Western Australian Herbarium (1998-). *FloraBase - the Western Australian Flora*. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 12 April 2024)