



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 8758/2
<b>Permit Holder:</b>	SE Waroona Development Pty Ltd
<b>Duration of Permit:</b>	From 23/10/2020 to 23/10/2030

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 facilitating construction of the Waroona Solar Farm and associated infrastructure.

#### **2. Land on which clearing is to be done**

Lot 24 on Plan 59266, Waroona

Lot 25 on Plan 59266, Waroona

Road Reserve (PIN 11601195 and 11601194), Waroona

#### **3. Clearing authorized**

The permit holder must not clear more than 8.8 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

#### **4. Application**

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

### **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. Wind erosion control**

The permit holder must commence activities related to the purpose of the *clearing* no later than three (3) months after undertaking the authorised *clearing*, to reduce the potential for wind erosion.

**PART III - RECORD KEEPING AND REPORTING**

**8. Records that must be kept**

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

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised <i>clearing</i> activities generally	<ul style="list-style-type: none"> <li>(a) the location where the <i>clearing</i> occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings;</li> <li>(b) the date(s) that the area was cleared;</li> <li>(c) the size of the area cleared (in hectares);</li> <li>(d) actions taken to avoid, minimise, and reduce the impacts and extent of <i>clearing</i> in accordance with condition 5; and</li> <li>(e) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 6; and</li> <li>(f) activities undertaken in accordance with condition 7.</li> </ul>

## 9. Reporting

The permit holder must maintain the following records in relation to the *clearing* of *native vegetation* authorised under this permit:

- (a) The permit holder must provide to the *CEO*, on or before 31 December of each calendar year, a report containing:
  - (i) the records required to be kept under condition 8; and
  - (ii) records of activities done by the permit holder under this permit between 1 July of the preceding calendar year and 30 June
- (b) If no *clearing* authorised under this permit has been undertaken, a written report confirming that no *clearing* under this permit has been undertaken must be provided to the *CEO* on or before 31 December of each calendar year.
- (c) The permit holder must provide to the *CEO*, by 23 July 2030, a written report of records required under condition 8, where these records have not already been provided under condition 9(a).

## DEFINITIONS

In this permit, the terms in Table 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.
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)
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.
weeds	means any plant – <ol style="list-style-type: none"> <li>(a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or</li> <li>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or</li> <li>(c) not indigenous to the area concerned.</li> </ol>

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**END OF CONDITIONS**



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**Kassey Truesdale**  
**Executive Director**  
GREEN ENERGY

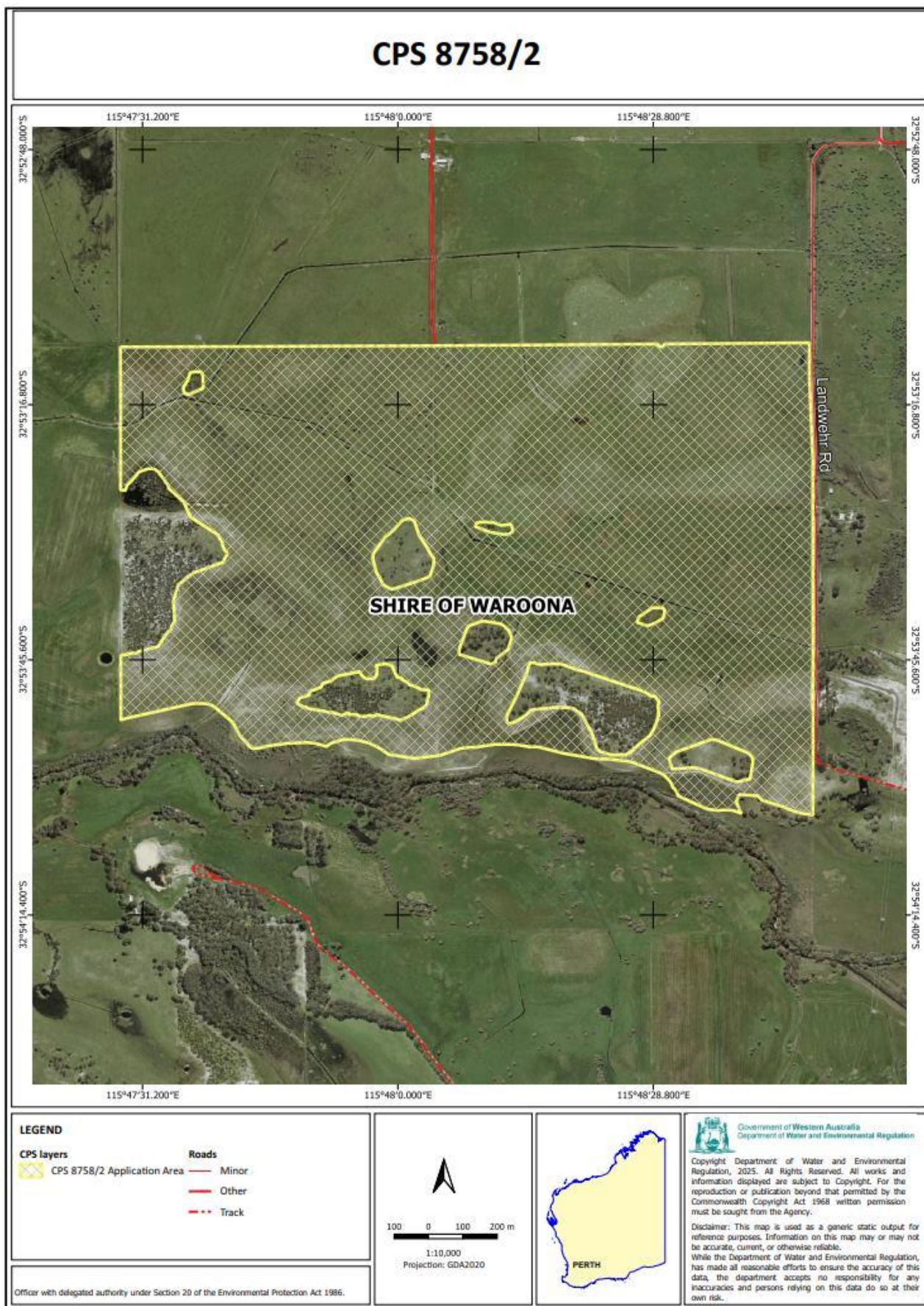
*Officer delegated under Section 20  
of the Environmental Protection Act 1986*

4 March 2025



# 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**



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 8758/2
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	SE Waroona Development Pty Ltd
<b>Application received:</b>	26 September 2024
<b>Application area:</b>	8.8 hectares of native vegetation within a 257.3 hectare footprint
<b>Purpose of clearing:</b>	Construction of a solar farm
<b>Method of clearing:</b>	Mechanical removal
<b>Property:</b>	Lot 24 and 25 on Plan 59266, and Road Reserves (PINs 11601195 and 11601194)
<b>Location (LGA area/s):</b>	Shire of Waroona
<b>Localities (suburb/s):</b>	Waroona

### 1.2. Description of clearing activities

Clearing permit CPS 8758/1 was granted by the Department of Water and Environmental Regulation on 30 September 2020 and is valid from 23 October 2020 to 23 October 2025. The permit authorises the clearing of up to 8.8 hectares of native vegetation within a boundary of 263.1 hectares, for the purpose of constructing a solar farm (the Waroona Solar Farm).

This amendment is to extend the permit duration by five years, to 23 October 2030. The extent of clearing sought under CPS 8758/2 is unchanged and remains at 8.8 hectares of native vegetation, however the application area has been reduced to a 257.3 hectare footprint. Records provided by the applicant advised that no clearing has been undertaken under CPS 8758/1, since the commencement of the permit on 30 September 2020.

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	28 February 2025
<b>Decision area:</b>	8.8 hectares (ha) of native vegetation within a 257.3 ha footprint, as depicted in Section 1.5.

### 1.4. Reasons for decision

This clearing permit amendment 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 A), relevant datasets (see Appendix F.1), the findings of an ecological assessment, the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment has not changed since the assessment for CPS 8758/1, except in the case of Principle (b). The applicant has amended the application area to excise mapped black cockatoo habitat following an update to the online mapping data used for the assessment of CPS 8758/1. Additional mitigation measures for black cockatoos and *Pseudocheirus occidentalis* (western ringtail possum) have also been proposed.

The assessment outcomes, as a result of the amended application area and additional mitigation measures, have not changed since the assessment for CPS 8758/1. The Delegated Officer determined that the proposed extension of the permit duration is not likely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to the same conditions from CPS 8758/1:

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback
- activities must be commenced within three (3) months of the clearing being undertaken.



1.5. Site map

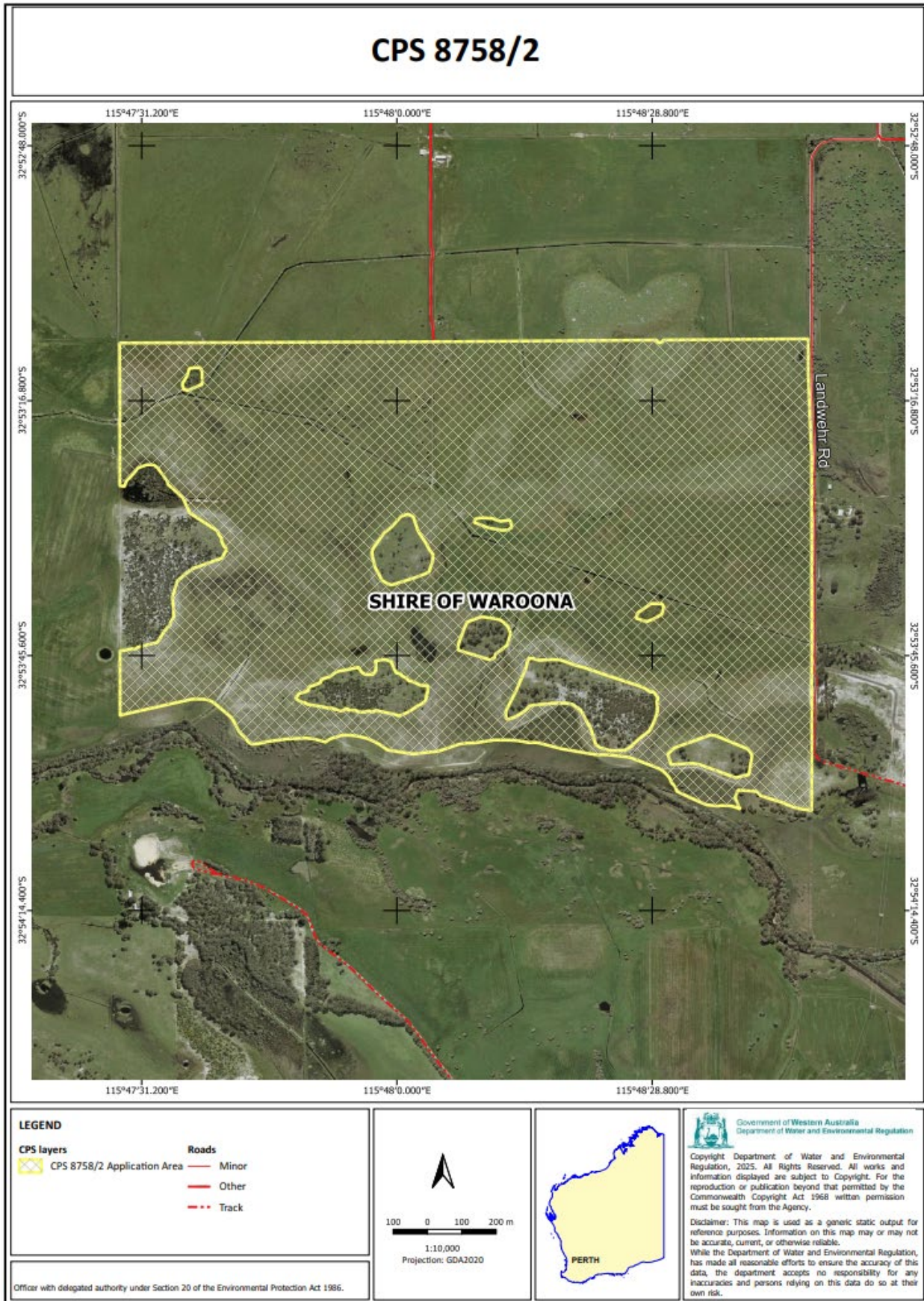


Figure 1 Map of the application area

The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.



## 2 Legislative context

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

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

- the precautionary principle
- the principle of intergenerational equity
- the 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)

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 Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

As part of the original application, the applicant provided evidence demonstrating that they had excised all of the mapped black cockatoo foraging habitat from the application area, a total area of 4.39 ha. This also resulted in the excision of 175 of the 201 black cockatoo habitat trees identified during the on-site surveys, with the remaining 26 habitat trees being dead stags that did not contain suitable hollows, with limited surrounding vegetation (AECOM, 2019a).

As part of the assessment of amendment applications, the department is required to reassess the potential impacts of any proposed clearing, including the potential impacts of previously approved clearing that has not yet occurred. Since the time of the original assessment, the mapping data for black cockatoo habitat has been updated and the new data indicates there is black cockatoo foraging habitat present within the application area. During assessment for the proposed amendment, the applicant agreed to amend the application area to excise most of the newly mapped black cockatoo habitat, reducing the size of the application area by 5.8 hectares. One section of newly mapped black cockatoo habitat towards the north of the application area was not excised, however this area was surveyed in 2019 as part of the original application and was recorded as being in completely degraded condition, containing scattered trees and dead stags with no suitable hollows for breeding (AECOM, 2019a). Clearing within this area is not likely to have a significant impact on black cockatoos and the applicant has also proposed to plant additional habitat species for black cockatoos, which is considered to be a reasonable effort minimise potential residual impacts to black cockatoos.

For CPS 8758/1, the applicant agreed to implement a 50 metre buffer from the Conservation Category Wetland to the south of the application area in which no clearing will occur. This is also consistent with the conditions of the development approval from the Shire of Waroona. For the proposed amendment, the applicant remained committed to this avoidance and mitigation measure.

During the original assessment for CPS 8758/1, the department requested more information on the screen planting that was conditioned under the development approval from the Shire of Waroona, given the potential for the vegetation to be used to mitigate the removal of black cockatoo habitat. For the amendment, the applicant agreed to the Department's recommendation that the proposed planting include tree species that would also be suitable for foraging and nesting of the critically endangered *Pseudocheirus occidentalis* (western ringtail possum) to mitigate the removal of six (6) *Agonis flexuosa* (peppermint trees) scattered over the application area.

During the assessment for the proposed amendment, the applicant provided the department with the 'Waroona Solar Farm Landscape Revegetation and Screening Plan', and *Landscape Management Report – Waroona Solar Facility* (Frontier Energy, 2025) which outline the applicant's commitment and plan for the landscape revegetation and screening plan to mitigate the potential impacts to the Black cockatoo species and Western Ringtail possum. The revegetation planting will include the planting of black cockatoo foraging habitat species such as *Allocasuarina fraseriana*, *Banksia sessilis*, *Casuarina obesa* and breeding and foraging species such as *Corymbia calophylla* and

*Eucalyptus marginata* and applicant is committed to the planting of tree species suitable for foraging of black cockatoo and the peppermint trees for the Ringtail Possum. The plan also proposed the planting of other native species, including shrubs and proteaceous species. The planting of these native species is expected to also improve the connectivity of the heavily fragmented native vegetation in the local area.

A list of the species to be planted is included in Appendix E.

The Delegated Officer is satisfied that all reasonable efforts had been taken to avoid, minimise and mitigate potential impacts of the clearing on environmental values.

### 3.2. Assessment of impacts on environmental values

The assessment against the clearing principles (see Appendix B) for CPS 8758/1 identified that the impacts of the proposed clearing may present a risk to biological values (flora and fauna), significant remnant vegetation, and land and water resources. 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.

Since the assessment of CPS 8758/1, there have been updates to relevant environmental data, including online mapping data for black cockatoo habitat. Minor changes to the application and proposed mitigation measures have occurred as part of CPS 8758/2.

A review of current environmental information (Appendix A and Appendix B), as well as the updated mitigation measures proposed for CPS 8758/2, reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 8758/1.

#### 3.2.1. Biological values (fauna) – Clearing Principle (b)

##### Assessment

As identified in the assessment for CPS 8758/1, the application area contains suitable habitat for several conservation significant fauna and the proposed clearing may impact these species. The previous discussion for CPS 8758/1 still applies, however there have been minor changes in relation to the following species:

- Three black cockatoo species:
  - *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) – vulnerable
  - *Zanda baudinii* (Baudin's cockatoo) – endangered
  - *Zanda latirostris* (Carnaby's cockatoo) – endangered
- *Pseudocheirus occidentalis* (western ringtail possum) – critically endangered

##### **Black Cockatoos**

Since the assessment of CPS 8758/1, there have been amendments to online mapping data for black cockatoo foraging habitat. As a result of these updates, there is now mapped black cockatoo habitat within the CPS 8758/1 application area (GIS Database), as shown in Figure 2. This includes additional areas of mapped black cockatoo foraging habitat, as well as minor amendments to the boundaries of previously mapped areas of habitat that the applicant excised from the application area as part of the CPS 8758/2 assessment.

The applicant excised an area of black cockatoo foraging habitat from the application area for CPS 8758/2 along the western boundary, and amended the previously excised areas of habitat in accordance with the updated mapping data. These changes resulted in a reduction of size in the application area of 5.8 hectares, reducing it from 263.1 hectares to 257.3 hectares as shown in Figure 3.

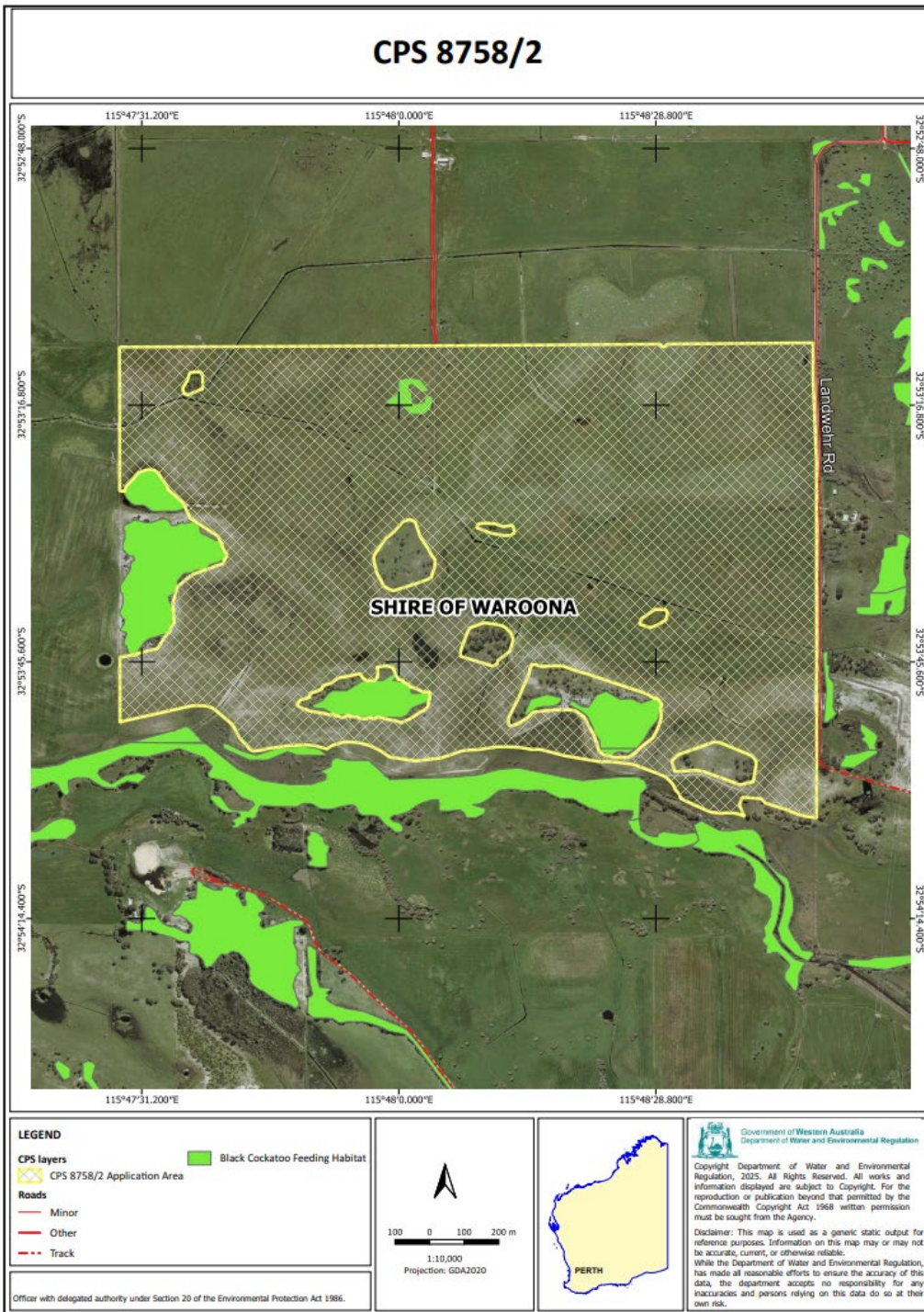


Figure 2 CPS 8758/1 application area with updated black cockatoo foraging habitat data



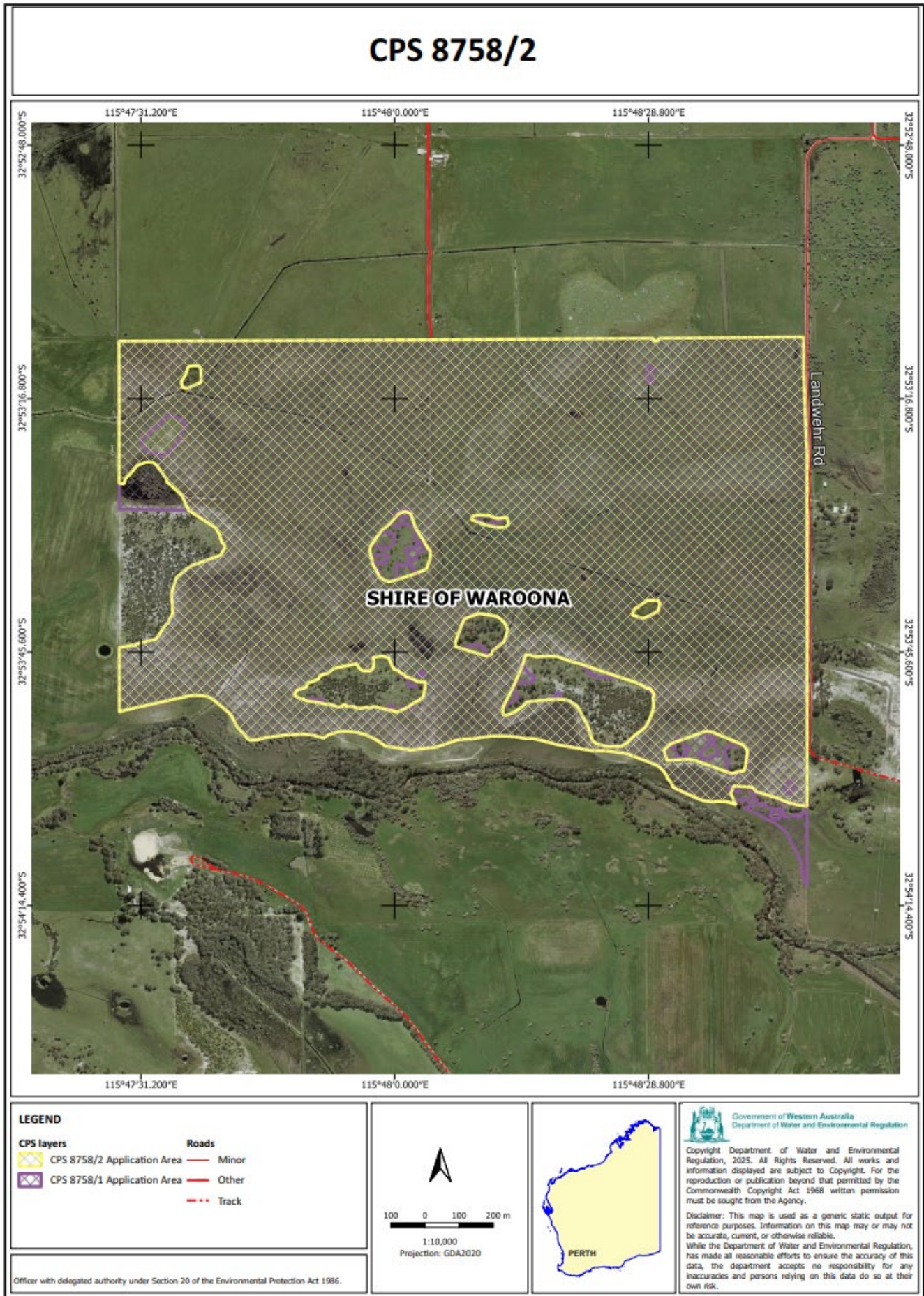


Figure 3 CPS 8758/1 application area compared against CPS 8758/2 application area



There are no other changes to the assessment in relation to Principle (b) as it pertains to black cockatoos, and the previous discussion from CPS 8758/1 applies. The applicant has still committed to retaining the same number of identified black cockatoo habitat trees from the surveys undertaken as part of the previous assessment, and has committed to planting additional habitat trees as part of the 'Waroona Solar Farm Landscape Revegetation and Screening Plan' (Appendix E).

Given the above and the previous discussion from CPS 8758/1, the proposed clearing would not impact on habitat considered to be significant for black cockatoo species.

#### ***Pseudocheirus occidentalis* (western ringtail possum)**

As discussed in the assessment for CPS 8758/1, the application area contains habitat trees, including *Agonis flexuosa* (peppermint) for *P. occidentalis* (western ringtail possum). The habitat trees are located in small, isolated patches of vegetation and are in degraded to completely degraded condition (AECOM, 2019a).

Following the assessment of CPS 8758/1, *P. occidentalis* (western ringtail possum) was added to the 'Threatened Species Action Plan 2022-2032' (DCCEEW, 2022). The 'Threatened Species Action Plan 2022-2032' has an objective to improve the conservation category rating for all priority species included in the plan, including *P. occidentalis* (western ringtail possum).

As per the original assessment, it is unlikely that the vegetation proposed to clear is critical to the survival of *P. occidentalis* (western ringtail possum) populations in the area. However, considering the 'Threatened Species Action Plan 2022-2032' and following discussions with the department, the applicant committed to planting additional *P. occidentalis* (western ringtail possum) habitat trees, including *A. flexuosa* (peppermint), as part of the 'Waroona Solar Farm Landscape Revegetation and Screening Plan' (Appendix E).

Given the above and the previous discussion from CPS 8758/1, the proposed clearing would not impact on habitat considered to be significant for *P. occidentalis* (western ringtail possum) and the additional vegetation planting proposed by the applicant may increase the future habitat available for the species.

#### Conclusion

For the reasons set out above and in CPS 8758/1, it is considered that the impacts of the proposed clearing on fauna does not constitute a significant residual impact.

#### Conditions

As per CPS 8758/1, no fauna management conditions are required.

### **3.2.2. Biological values (flora) – Clearing Principles (a) and (d)**

#### Assessment

There are no changes to the outcome of the assessment in relation to Principles (a) and (d).

The risk of impacts relating to the spread of weeds and dieback is unchanged from CPS 8758/1, and therefore the same condition for weed and dieback management has been applied to CPS 8758/2.

As part of CPS 8758/2, the applicant has agreed to excise an additional 5.8 hectares of native vegetation from the application area to avoid the clearing of newly mapped black cockatoo foraging habitat. However, no changes to the approved clearing from CPS 8758/1 (8.8 hectares) have been made.

#### Conclusion

For the reasons set out above and in CPS 8758/1, the proposed clearing is considered unlikely to have direct impact on conservation significant flora and vegetation in the application areas and surrounds. However, as per CPS 8758/1, clearing may introduce and spread weeds and dieback to adjacent vegetation which may reduce the quality and habitat values of the adjacent native vegetation.

#### Conditions

For the reasons set out above and in CPS 8758/1, it is considered that the indirect impacts of the proposed clearing on flora and vegetation nearby can be managed through the implementation of the following conditions to the permit:

- Weed and dieback control and management.

### 3.2.3. Significant remnant vegetation – Clearing Principle (e)

#### Assessment

There are no changes to the outcome of the assessment in relation to Principle (e), and the previous discussion from CPS 8758/1 applies.

As discussed in Section 3.1, although the proposed clearing remains unchanged, for CPS 8758/2 the applicant has agreed to excise an additional 5.8 hectares of native vegetation from the application footprint to avoid the clearing of newly mapped black cockatoo foraging habitat. The applicant is also committed to the planting of native vegetation around the application area which will improve the linkage between the fragmented remnant native vegetation. The Delegated Officer acknowledges the applicant's efforts and commitment to further mitigate the potential impact of clearing to the significant remnant vegetation.

#### Conclusion

For the reasons set out above and in CPS 8758/1, it is considered that the impacts of the proposed clearing on significant remnant vegetation does not constitute a significant residual impact.

#### Conditions

As per CPS 8758/2, no management conditions are required.

### 3.2.4. Land and water resources (surface water and soils) – Clearing Principles (f), (g) and (i)

#### Assessment

There are no changes to the assessment in relation to Principles (f), (g) and (i), and the previous discussion from CPS 8758/1 applies.

The applicant is still committed to maintaining a 50 metre buffer from the Harvey Main Drain and the application area still does not contain any mapped wetlands within its boundary.

The risk of land degradation from wind erosion is unchanged from CPS 8758/1, and therefore the same condition for staged clearing has been applied to CPS 8758/2.

#### Conclusion

Based on the above assessment, the proposed clearing may result in land degradation from wind erosion.

For the reasons set out above and in CPS 8758/1, it is considered that the impacts of the proposed clearing on land degradation can be managed by staging the clearing and limiting the exposure of bare ground to water and wind erosion.

#### Conditions

As per CPS 8758/1, to address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Staged clearing to control wind erosion.
- Commencement of construction within three months of authorised clearing.

### 3.3. Relevant planning instruments and other matters

The applicant has acquired a Development approval under the *Planning and Development Act 2005* issued by the Shire of Waroona for the proposed project.

As part of CPS 8758/1, the Shire of Waroona advised DWER that local government approvals are required, and that the proposed clearing is consistent with the Shire's Local Planning Scheme. The Shire did not have any objections to the proposed clearing.

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. Site characteristics

### A.1 Site characteristics

Characteristic	Details						
Local context	<p>The application area combines two properties which are majority made up of cleared farmland and pasture comprising common pasture weeds and some remnant vegetation. It is adjacent to the Harvey Main Drain to the south which is mapped as a Conservation Category Wetland. The application area comprises of remnant isolated patches of vegetation in a completely degraded to degraded condition.</p> <p>The application area falls within the Interim Biogeographic Regionalisation of Australia (IBRA) Swan Coastal Plain bioregion, which retains 38.6 per cent of its original native vegetation cover.</p> <p>Spatial data indicates the local area (10 kilometre radius of the proposed clearing area) retains approximately 18 per cent of the original native vegetation cover (GIS Database), unchanged from the original application.</p>						
Ecological linkage	<p>The application area is not considered a significant ecological linkage. Most of the vegetation immediately surrounding the application areas and the majority of the region remains uncleared (GIS Database).</p> <p>This is unchanged from the original application.</p>						
Conservation areas	<p>The application area is not located within a conservation area. The nearest conservation areas are the Buller Nature Reserve (1 kilometre west), Myalup State Forest (3.6 kilometres east), Hamel State Forest (9 kilometres west), and the larger Dwellingup State Forest (12 kilometres east) (GIS Database).</p> <p>This is unchanged from the original application.</p>						
Vegetation description	<p>The vegetation survey (AECOM, 2019a) indicates the vegetation within the proposed clearing area to consist of majority cleared pasture, mixed <i>Eucalyptus</i> (<i>Corymbia calophylla</i> and <i>Eucalyptus marginata</i>), <i>Banksia</i> and <i>Melaleuca</i> woodland.</p> <p>This is broadly consistent with the Swan Coastal Plain mapped vegetation types (Hedde, 1980):</p> <ul style="list-style-type: none"> <li>• <b>Serpentine River Complex (35)</b> – Closed scrub of <i>Melaleuca</i> species and fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum), <i>Melaleuca raphiophylla</i> (Swamp Paperbark) along streams</li> <li>• <b>Cannington Complex (40)</b> – Mosaic of vegetation from adjacent vegetation complexes of Bassendean, Karrakatta, Southern River and Vasse</li> <li>• <b>Southern River Complex (42)</b> – Open woodland of <i>C. calophylla</i> (Marri), <i>E. marginata</i> (Jarrah), <i>Banksia</i> species with fringing woodland of <i>E. rudis</i> (Flooded Gum), <i>M. raphiophylla</i> (Swamp Paperbark) along creek beds.</li> </ul>						
Vegetation condition	<p>The vegetation survey (AECOM, 2019a) indicates the vegetation within the application area is in a completely degraded to degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> </ul> <table border="1"> <thead> <tr> <th>Condition</th> <th>Sum of area (ha)</th> <th>% of total area</th> </tr> </thead> <tbody> <tr> <td>Degraded</td> <td>1.8</td> <td>0.7</td> </tr> </tbody> </table>	Condition	Sum of area (ha)	% of total area	Degraded	1.8	0.7
Condition	Sum of area (ha)	% of total area					
Degraded	1.8	0.7					

Characteristic	Details									
	<table border="1"> <tr> <td>Completely degraded</td> <td>7.0</td> <td>2.7</td> </tr> <tr> <td>Cleared</td> <td>254.3</td> <td>96.6</td> </tr> <tr> <td><b>Total</b></td> <td><b>263.1</b></td> <td><b>100.0</b></td> </tr> </table> <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>	Completely degraded	7.0	2.7	Cleared	254.3	96.6	<b>Total</b>	<b>263.1</b>	<b>100.0</b>
Completely degraded	7.0	2.7								
Cleared	254.3	96.6								
<b>Total</b>	<b>263.1</b>	<b>100.0</b>								
Climate and landform	<p>The application is within the Pinjarra Plain and a combination of the Bassendean Dunes and Pinjarra Plain landform units. The majority of the applied clearing area is mapped as the Bassendean Dunes, described as “<i>Swan Coastal Plain from Busselton to Jurien. Sand dunes and sandplains with pale deep sand, semi-wet and wet soil. Banksia-paperbark woodlands and mixed heaths</i>” (GIS Database). The Pinjarra Plain is described as “<i>Swan Coastal Plain from Perth to Capel. Poorly drained coastal plain with variable alluvial and aeolian soils. Variable vegetation includes Jarrah, marri, wandoo, paperbark sheoaks and rudis</i>” (GIS Database).</p> <p>The annual mean maximum and minimum temperatures within the application area are 22.0°C and 9.6°C (1935-2024) respectively, and annual mean rainfall is 1213.5 millimetres (1935-2024) (BOM, 2025).</p>									
Soil description	<p>The application area is mapped as the following soil types (GIS Database), unchanged from the original application:</p> <ul style="list-style-type: none"> <li>• <b>Bassendean B1 Phase (212Bs_B1):</b> Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 m; banksia dominant</li> <li>• <b>Bassendean B2 Phase (212Bs_B2):</b> Flat to very gently undulating sandplain with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan 1-2 m</li> <li>• <b>Bassendean B3 Phase (212Bs_B3):</b> Closed depressions and poorly defined stream channels with moderately deep, poorly to very poorly drained bleached sands with an iron-organic pan, or clay subsoil. Surfaces are dark grey sand or sandy loam</li> <li>• <b>Bassendean B4 Phase (212Bs_B4):</b> Broad poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan</li> <li>• <b>Bassendean B6 Phase (212Bs_B6):</b> Sandplain and broad extremely low rises with imperfectly drained deep or very deep grey siliceous sands</li> <li>• <b>Pinjarra 10a Phase (213PjSWP10a):</b> Flat terraces adjacent to major rivers with deep black cracking clays with alkaline subsoils; soils similar to P5.</li> <li>• <b>Pinjarra P2 Phase (213Pj_P2):</b> Flat to very gently undulating plain with deep alkaline mottled yellow duplex soils which generally consist of shallow pale sand to sandy loam over clay</li> <li>• <b>Swamp 212BsW_SWAMP:</b> Swamp.</li> </ul>									
Land degradation risk	<p>Given the broad range of soils across the site, the land degradation risks vary depending on soil type, topographic contours and proximity to permanent and non-perennial water bodies.</p> <p>Portions of the site indicate a high risk of waterlogging due to clay soils that inundate with seasonally high rainfall (GIS Database). The Bassendean system which covers approximately 90 per cent of the application area indicates a moderate to high risk of wind erosion due to the sandy nature of the soils (GIS Database). The soil types 212Bs_B3 and 212BsW_Swamp indicate an increased risk of eutrophication with a mapped moderate to high risk of phosphorus export (GIS Database).</p> <p>The land degradation risks are unchanged from the original application.</p>									
Waterbodies	<p>Large sections of the application area are mapped as multiple use Palusplain wetlands (UFI 15231), damplands or sumplands (GIS Database). There is also a Resource</p>									



Characteristic	Details
	Enhancement Wetland mapped within the application area and a Conservation Category wetland immediately adjacent (GIS Database).
Hydrogeography	The application area is located within the Murray Groundwater Area, which is proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database). It is also located within the Harvey Surface Water Area, which is unproclaimed (GIS Database).
Flora	<p>There are records of 35 threatened and priority flora species within 10 kilometres of the application area, 17 of which are found on the same soil types that occur within the application area (GIS Database).</p> <p>There are no records of threatened or priority flora species occurring within the application area (GIS Database), and no threatened or priority flora species were identified during the 2019 survey (AECOM, 2019a).</p>
Ecological communities	There are records of 12 threatened ecological communities within 10 kilometres of the application area (GIS Database). The Banksia Woodlands of the Swan Coastal Plain ecological community is directly adjacent to the application area, and two patches of this ecological community are mapped as occurring within the application area (GIS Database). Other patches of this ecological community that were previously excised from the application area have been remapped, and parts are now located within the application area (GIS Database).
Fauna	<p>There are records of 27 threatened fauna species occurring within 10 kilometres of the application area (GIS Database). Two conservation significant fauna species were recorded during the 2019 field survey, <i>Calyptorhynchus latirostris</i> (Baudin's cockatoo) and <i>Petrochelidon nigricans</i> (Tree martin) (AECOM, 2019a).</p> <p>Potential habitat for <i>Pseudocheirus occidentalis</i> (western ringtail possum), <i>Agonis flexuosa</i> (peppermint) is present within the application area, however is completely degraded condition (AECOM, 2019b).</p> <p>The application area is located within mapped black cockatoo breeding and foraging areas, and there are multiple known black cockatoo breeding and roost sites located 6-7 kilometres from the application area (GIS Database). 201 potential black cockatoo breeding trees, including 22 with hollows potentially suitable for black cockatoos, were identified during on-site surveys (AECOM, 2019b), however these have been excised from the application area (AECOM, 2020).</p> <p>Photographs of the fauna habitats within the application area are available in Appendix D.</p>

## A.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
Hedde vegetation association**					
35 – Southern River	58,781.48	10,832.18	18.43	940.36	1.60
40 – Cannington	16,661.33	1,965.94	11.80	981.34	5.89
42 – Serpentine River	19,855.41	1,940.18	9.77	517.49	2.61
Post clearing calculation					

	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)	1,501,213.13	579,804.67	38.62	-	-

\*Government of Western Australia (2019a)

\*\*Government of Western Australia (2019b)

### A.3 Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	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) in local area (10 km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Acacia flagelliformis</i>	P4	Y	Y	N	7.8	2	Y
<i>Acacia semitrullata</i>	P4	Y	Y	Y	5.5	4	Y
<i>Alyogyne</i> sp. <i>Rockingham</i> (G.J. Keighery 14463)	P2	Y	Y	N	9.3	2	Y
<i>Angianthus drummondii</i>	P3	Y	Y	Y	9.4	1	Y
<i>Blennospora doliiformis</i>	P3	Y	Y	N	8.0	1	Y
<i>Boronia capitata</i> subsp. <i>gracilis</i>	P3	Y	Y	Y	1.2	4	Y
<i>Caladenia huegelii</i>	T/CR	Y	Y	Y	2.0	3	Y
<i>Caladenia speciosa</i>	P4	Y	Y	Y	4.0	12	Y
<i>Carex tereticaulis</i>	P3	Y	Y	Y	8.3	2	Y
<i>Conostylis pauciflora</i> subsp. <i>pauciflora</i>	P4	Y	Y	N	8.5	2	Y
<i>Diuris brevis</i>	P2	Y	Y	Y	2.2	1	Y
<i>Diuris micrantha</i>	T/VU	Y	Y	N	8.0	3	Y
<i>Diuris purdiei</i>	T/EN	Y	Y	Y	3.4	1	Y
<i>Drakaea elastica</i>	T/CR	Y	Y	Y	9.6	3	Y
<i>Galium leptogonium</i>	P3	Y	Y	N	8.6	1	Y
<i>Grevillea bipinnatifida</i> subsp. <i>pagna</i>	P1	Y	Y	N	8.1	1	Y
<i>Hakea oligoneura</i>	P2	Y	Y	N	9.5	9	Y
<i>Haloragis scoparia</i>	P1	Y	Y	N	8.0	5	Y
<i>Hemigenia microphylla</i>	P3	Y	Y	N	3.6	3	Y
<i>Lasiopetalum membranaceum</i>	P3	Y	Y	N	9.9	2	Y
<i>Leucopogon</i> sp. <i>Busselton</i> (D. Cooper 243)	P2	Y	Y	Y	9.6	1	Y
<i>Olearia strigosa</i>	P3	Y	Y	N	9.8	2	Y
<i>Platysace ramosissima</i>	P3	Y	Y	N	8.8	1	Y
<i>Pterostylis frenchii</i>	P2	Y	Y	Y	3.8	8	Y
<i>Schoenus natans</i>	P4	Y	Y	Y	3.6	3	Y
<i>Schoenus</i> sp. <i>Waroona</i> (G.J. Keighery 12235)	P3	Y	Y	Y	3.5	1	Y
<i>Stylidium aceratum</i>	P3	Y	Y	N	9.6	1	Y
<i>Sphaerolobium calcicola</i>	P3	Y	Y	N	7.7	10	Y
<i>Stylidium longitubum</i>	P4	Y	Y	N	8.0	3	Y
<i>Stylidium trudgenii</i>	P3	Y	Y	Y	7.9	1	Y
<i>Synaphea odocoileops</i>	P1	Y	Y	Y	9.4	7	Y
<i>Synaphea</i> sp. <i>Serpentine</i> (G.R. Brand 103)	T/CR	Y	Y	Y	9.4	2	Y
<i>Synaphea stenoloba</i>	T/EN	Y	Y	N	8.7	4	Y

Species name	Conservation status	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) in local area (10 km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Tripterococcus</i> sp. <i>Brachylobus</i> (A.S. George 14234)	P4	Y	Y	Y	7.9	1	Y

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

#### A.4 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) in local area (10 km)	Are surveys adequate to identify? [Y, N, N/A]
	WA	EPBC					
<i>Actitis hypoleucos</i> (common sandpiper)	MI	MI	N	Y	4.0	2	Y
<i>Calidris acuminata</i> (sharp-tailed sandpiper)	MI	MI	N	Y	9.2	1	Y
<i>Calidris ferruginea</i> (curlew sandpiper)	CR	CR/MI	N	Y	9.2	3	Y
<i>Calidris ruficollis</i> (red-necked stint)	MI	MI	Y	N	4.0	18	Y
<i>Calidris tenuirostris</i> (great knot)	CR	CR/MI	N	N	9.1	1	Y
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	VU	Y	Y	1.7	43	Y
<i>Charadrius leschenaultii</i> (greater sand plover, large sand plover)	VU	VU/MI	N	N	10	1	Y
<i>Ctenotus ora</i> (coastal plains skink)	P3		N	N	7	3	Y
<i>Dasyurus geoffroyi</i> (chuditch, western quoll)	VU	VU	N	N	6.1	2	Y
<i>Falco peregrinus</i> (peregrine falcon)	OS		Y	Y	2.3	5	Y
<i>Falsistrellus mackenziei</i> (western false pipistrelle, western falsistrelle)	P4		N	Y	3.8	11	N
<i>Hydromys chrysogaster</i> (water rat, rakali)	P4		Y	Y	3.2	9	Y
<i>Hydroprogne caspia</i> (Caspian tern)	MI	MI	N	N	8.4	1	Y
<i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)	P3		N	N	1.8	2	N
<i>Isoodon fusciventer</i> (quenda, southwestern brown bandicoot)	P4		Y	Y	1.0	44	Y
<i>Notamacropus irma</i> (western brush wallaby)	P4		Y	Y	1.7	4	Y
<i>Oxyura australis</i> (blue-billed duck)	P4		N	N	4.0	16	Y
<i>Pandion haliaetus</i> (osprey)	MI	MI	N	N	5.3	2	Y
<i>Phascogale tapoatafa wambenger</i> (south-western brush-tailed phascogale, wambenger)	CD		Y	Y	1.5	5	Y
<i>Plegadis falcinellus</i> (glossy ibis)	MI	MI	N	N	4.2	3	Y
<i>Pseudocheirus occidentalis</i> (western ringtail possum, ngwayir)	CR	CR	Y	Y	7.1	23	Y
<i>Setonix brachyurus</i> (quokka)	VU	VU	Y	Y	10.0	1	Y
<i>Thinornis cucullatus</i> (hooded plover, hooded dotterel)	P4		N	N	5.4	114	Y
<i>Tringa nebularia</i> (common greenshank)	MI	MI	Y	Y	9.1	5	Y
<i>Zanda baudinii</i> (Baudin's cockatoo)	EN	EN	Y	Y	4.3	9	Y
<i>Zanda latirostris</i> (Carnaby's cockatoo)	EN	EN	Y	Y	0.7	377	Y
<i>Zanda</i> sp. 'white-tailed black cockatoo' (white-tailed black cockatoo)	EN	EN	Y	Y	4.2	10	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, MI: migratory, OS: other specially protected, CD: specially protected – conservation dependent

## A.5 Land degradation table

Risk categories	Bassendean B1 phase (212Bs_B1)	Bassendean B2 phase (212Bs_B2)	Bassendean B3 phase (212Bs_B3)	Bassendean B4 phase (212Bs_B4)	Bassendean B6 phase (212Bs_B6)	Pinjarra 10a Phase (213Pj SWP10a)	Pinjarra P2 Phase (213Pj_P2)	Swamp 212BsW_SWAMP
<b>Wind erosion</b>	50-70% of map unit has a high to extreme wind erosion risk	30-50% of map unit has a high to extreme wind erosion risk	3-10% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk	>70% of map unit has a high to extreme wind erosion risk	<3% of map unit has a high to extreme wind erosion risk	3-10% of map unit has a high to extreme wind erosion risk	<3% of map unit has a high to extreme wind erosion risk
<b>Water erosion</b>	<3% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk	30-50% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk	<3% of map unit has a high to extreme water erosion risk
<b>Salinity</b>	<3% of map unit has a moderate to high salinity risk or is presently saline	<3% of map unit has a moderate to high salinity risk or is presently saline	<3% of map unit has a moderate to high salinity risk or is presently saline	<3% of map unit has a moderate to high salinity risk or is presently saline	<3% of map unit has a moderate to high salinity risk or is presently saline	10-30% of map unit has a moderate to high salinity risk or is presently saline	30-50% of map unit has a moderate to high salinity risk or is presently saline	<3% of map unit has a moderate to high salinity risk or is presently saline
<b>Subsurface acidification</b>	>70% of map unit has a high subsurface acidification risk or is presently acidic	>70% of map unit has a high subsurface acidification risk or is presently acidic	>70% of map unit has a high subsurface acidification risk or is presently acidic	>70% of map unit has a high subsurface acidification risk or is presently acidic	>70% of map unit has a high subsurface acidification risk or is presently acidic	>70% of map unit has a high subsurface acidification risk or is presently acidic	>70% of map unit has a high subsurface acidification risk or is presently acidic	>70% of map unit has a high subsurface acidification risk or is presently acidic
<b>Flood risk</b>	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	30-50% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	>70% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk	<3% of the map unit has a moderate to high flood risk
<b>Water logging</b>	3-10% of the map unit has a moderate to very high waterlogging risk	3-10% of the map unit has a moderate to very high waterlogging risk	>70% of the map unit has a moderate to very high waterlogging risk	>70% of the map unit has a moderate to very high waterlogging risk	30-50% of the map unit has a moderate to very high waterlogging risk	>70% of the map unit has a moderate to very high waterlogging risk	>70% of the map unit has a moderate to very high waterlogging risk	>70% of the map unit has a moderate to very high waterlogging risk
<b>Phosphorous export risk</b>	>70% of the map unit has a high to extreme phosphorous export risk	>70% of the map unit has a high to extreme phosphorous export risk	>70% of the map unit has a high to extreme phosphorous export risk	>70% of the map unit has a high to extreme phosphorous export risk	>70% of the map unit has a high to extreme phosphorous export risk	>70% of the map unit has a high to extreme phosphorous export risk	<3% of the map unit has a high to extreme phosphorous export risk	>70% of the map unit has a high to extreme phosphorous export risk



## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The application area does not contain conservation significant flora, habitats or assemblages of plants and does not represent an existing ecological linkage (AECOM, 2019a). The application area does not contain habitat for any of the threatened or priority flora recorded in the local area (GIS Database).</p> <p>The applicant proposes to retain all of the black cockatoo foraging habitat and all of the hollow bearing trees identified within the application area (AECOM, 2020). Of the 8.8 ha of native vegetation proposed to be removed, 7 ha is completely degraded and 1.8 ha is degraded (AECOM, 2019a; Keighery, 1994).</p>	Not likely to be at variance as per CPS 8758/1	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (b):</u> <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><u>Assessment:</u></p> <p>The application area contains poor quality and highly modified habitat for several conservation significant fauna species (AECOM, 2019a).</p> <p>All identified habitat trees containing suitable hollows for use by black cockatoo species and foraging habitat (4.39 ha) have been excised from the clearing area (AECOM, 2020).</p>	Not likely to be at variance as per CPS 8758/1	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act.</p>	Not as variance as per CPS 8758/1	No
<p><u>Principle (d):</u> <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><u>Assessment:</u></p> <p>The proposed clearing area does not contain vegetation likely to represent any threatened ecological community as listed under the state BC Act.</p>	Not at variance as per CPS 8758/1	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<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 extent of the mapped vegetation types and 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 considered to be part of a significant ecological linkage in the local area (GIS Database).</p>	Not likely to be at variance as per CPS 8758/1	Yes <i>Refer to Section 3.2.3, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (h):</u> “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.”</p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area (GIS Database), the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</p>	<p>Not likely to be at variance</p> <p>as per CPS 8758/1</p>	<p>No</p>
<p><b>Environmental value: land and water resources</b></p>		
<p><u>Principle (f):</u> “Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</p> <p><u>Assessment:</u></p> <p>Given that parts of the application area are mapped as Multiple Use Wetlands (GIS Database), the proposed clearing may have an impact on on-site hydrology and vegetation growing in association with a wetland.</p>	<p>At variance</p> <p>as per CPS 8758/1</p>	<p>Yes</p> <p>Refer to Section 3.2.4, above.</p>
<p><u>Principle (g):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</p> <p><u>Assessment:</u></p> <p>The mapped soils are moderately susceptible to wind erosion (GIS Database). Noting the extent of the application area and the condition of the vegetation, the proposed clearing may have an appreciable impact on land degradation.</p>	<p>May be at variance</p> <p>as per CPS 8758/1</p>	<p>Yes</p> <p>Refer to Section 3.2.4, above.</p>
<p><u>Principle (i):</u> “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.”</p> <p><u>Assessment:</u></p> <p>Several wetlands are recorded within and directly adjacent to the application area, and these areas are known to inundate with seasonal rainfall (GIS Database; AECOM, 2019b).</p> <p>The proposed clearing may therefore impact surface or ground water quality.</p>	<p>Not likely to be at variance</p> <p>as per CPS 8758/1</p>	<p>Yes</p> <p>Refer to Section 3.2.4, above.</p>
<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 (GIS Database).</p>	<p>Not likely to be at variance</p> <p>as per CPS 8758/1</p>	<p>No</p>

**Appendix C. 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 D. Photographs of the vegetation**

Photos from the ecological assessment undertaken by AECOM in 2019 (AECOM, 2019a).



*Photo 1: Paddock with scattered trees and drainage areas habitat – photograph 1*



*Photo 2: Paddock with scattered trees and drainage areas habitat – photograph 2*



*Photo 3: Paddock with scattered trees and drainage areas habitat – photograph 3*



*Photo 4: Paddock with scattered trees and drainage areas habitat – photograph 4*



*Photo 5: Riparian vegetation, dams and drainage habitat – photograph 1*



*Photo 6: Mixed trees habitat – photograph 1*





Photo 7: Mixed trees habitat – photograph 2

## Appendix E. Landscape revegetation and screening plan species list

Species	Common name	Height (m)	Spread (m)	Proportion	Approximate count
<b>Trees</b>					
<i>Corymbia calophylla</i>	Marri	20	10	TBA	80
<i>Eucalyptus marginata</i>	Jarrah	40	20	TBA	80
<i>Agonis flexuosa</i>	Peppermint	10	6	TBA	TBA
<i>Allocasuarina fraseriana</i>	Western sheaoak	10	6	50% in other mixes	223
<i>Casuarina obesa</i>	Swamp sheaoak	15	8	50% in other mixes	223
<i>Melaleuca rhapsiophylla</i>	Swamp paperbark	6	3	50% in melaleuca mixes	503
<i>Melaleuca osullivanii</i>	O'Sullivan's melaleuca	3.5	2	50% in melaleuca mixes	503
<b>Shrubs</b>					
<i>Acacia pycnantha</i>	Golden wattle	8	2	20%	300
<i>Astartea scoparia</i>	Common astartea	2	0.5	30%	450
<i>Kunzea glabrescens</i>	Spearwood	1.5-4	1-3	50%	750
<i>Calothamnus quadrifidus</i>	One sided bottlebrush	5	1-2.5	TBA	TBA
<b>Proteaceous species</b>					
<i>Banksia sphaerocarpa</i>	Round-fruit banksia	1	1	40%	14,000
<i>Banksia sessilis</i>	Parrot busy	6	3	20%	7,000
<i>Hakea ruscifolia</i>	Candle hakea	0.5-3	1.5-2	40%	14,000
<i>Banksia grandis</i>	Bull banksia	5-10	3-5	TBA	TBA
<i>Banksia menziessi</i>	Firewood banksia	10	3	TBA	TBA
<i>Hakea marginata</i>	Spreading hakea	1-5	1-4	TBA	TBA

## Appendix F. Sources of information

### F.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- BC Feeding areas\_buffered
- BC Feeding SCP
- BC Roosts
- Cadastre Address (LGATE-002)
- Carnaby's Cockatoo Confirmed Breeding Areas within the Swan Coastal Plain and Jarrah Forest IBRA Regions
- Carnaby's Cockatoo Roost Area Confirmed
- 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)
- FRTBC Breeding
- Geomorphic Wetlands – Swan Coastal Plain (Mgt Categories)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- 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 – Water Erosion Risk (DPIRD-013)
- 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
- WTBC Breeding

#### Restricted GIS Databases used:

- Black Cockatoo Roost Sites – Restricted Use
- 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

- AECOM (2020) *Waroona Solar Farm Native Vegetation Clearing Permit Application*, received 7 August 2020 (DWER Ref: A1920809).
- AECOM (2019a) *Waroona Solar Farm Ecology Assessment*, received 12 December 2019 (DWER Ref: A1868626).
- AECOM (2019b) *Waroona Solar Farm Native Vegetation Clearing Permit Application*, received 12 December 2019 (DWER Ref: A1868626).
- Bureau of Meteorology (BOM) (2024) *Climate Data Online*, accessed on 8 January 2025. Available from: <http://www.bom.gov.au/climate/data/>.
- Department of Climate Change, Energy, the Environment and Water (2022) *Threatened Species Action Plan 2022-2032*. Available from: <https://www.dcceew.gov.au/sites/default/files/documents/threatened-species-action-plan-2022-2032.pdf>.
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- 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](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) (2020). *Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment*. Available from:

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Government of Western Australia (2019) *2018 South West Vegetation Complex Statistics. Current as of January 2025*. WA Department of Biodiversity, Conservation and Attractions, Perth, <https://catalogue.data.wa.gov.au/dataset/dbca>.

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