GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9007/1
Permit Holder:	B&J Catalano Pty Ltd
Duration of Permit:	From 28 January 2022 to 28 January 2032

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 gravel extraction.

2. Land on which clearing is to be done

Lot 13 on Diagram 87525, Woottating

3. Clearing authorised

The permit holder must not clear more than 2.46 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 28 January 2027.

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. Retain vegetative material and topsoil, and rehabilitation

(a) The permit holder must retain the vegetative material and topsoil removed by *clearing* authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.

(b) The permit holder must within 12 months of undertaking *clearing* authorised under this permit and no later than 28 January 2028, *revegetate* and *rehabilitate* the areas that are no longer required for the purpose for which they were cleared under this Permit by:
  (i) re-shaping the surface of the land so that it is consistent with the surrounding five metres of uncleared land;
  (ii) ripping the ground on the contour to remove soil compaction; and
  (iii) laying the vegetative material and topsoil retained under Condition 7(a) on the cleared area.

(c) The permit holder must within 18 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 7(b) of this Permit:
  (i) engage an *environmental specialist* to determine the species composition, structure and density of the vegetation of area *revegetated* and *rehabilitated*; and
  (ii) engage an *environmental specialist* to make a determination as to whether the composition, structure and density determined under condition 7(c)(i) of this Permit will, without further *revegetation*, result in a similar species composition, structure and density to that of pre-*clearing* vegetation types as identified by PGV Environmental (2019) in that area.

(d) If the determination made by the *environmental specialist* under condition 7(c)(ii) is that the species composition, structure, and density determined under condition 7(c)(i) will not, without further *revegetation*, result in a similar species composition, structure and density to that of pre-*clearing* vegetation types as identified by PGV Environmental (2019) in that area, the permit holder must *revegetate* the area by deliberately *planting* and/or *direct seeding native vegetation* seeds that will result in a similar species composition, structure, and density of *native vegetation* to pre-*clearing* vegetation types in that area.

(e) Where additional *planting* or *direct seeding* of *native vegetation* is undertaken in accordance with condition 7(d), the permit holder must repeat the activities required by condition 7(c) and 7(d) within 12 months of undertaking the additional *planting* or *direct seeding* of *native vegetation*.

(f) Where a determination is made by an *environmental specialist* under condition 7(c)(ii) that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-*clearing* vegetation types as identified by PGV Environmental (2019) in

that area, that determination shall be submitted to the *CEO* within three months of the determination being made by the *environmental specialist*.

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 *clearing* activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the *clearing* occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was *cleared*; (d) the size of the area *cleared* (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of *clearing* in accordance with condition 5 of this Permit; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 6 of this Permit.
2.	In relation to the *revegetation* and *rehabilitation* areas pursuant to condition 7 of this Permit	(a) a description of the *revegetation* and *rehabilitation* activities undertaken; (b) the size of the area(s) *revegetated* and *rehabilitated* (in hectares); (c) the data when *revegetation* and *rehabilitation* works began; and (d) actions taken in accordance with condition 7(d) of this permit to ensure that the environmental benefits of *revegetation* and *rehabilitation* are achieved.

9. Reporting

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

(i) of records required under condition 8 of this Permit; and

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

(b) If no *clearing* authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no *clearing* under this Permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.

(c) Prior to 28 October 2031, the permit holder must provide to the *CEO* a written report of records required under condition 8 of this Permit, where these records have not already been provided under condition 9(a) of this Permit.

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 *Environmental Protection Act 1986*.
Clearing	has the meaning given under section 3(1) of the EP Act.
Condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
Dieback	means the effect of *Phytophthora* species on native vegetation.
Direct seeding	means a method of re-establishing vegetation through establishment of a seed bed and the introduction of seeds of the desired plant species
Environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the *CEO* as a suitable environmental specialist.
EP Act	*Environmental Protection Act 1986* (WA)
Fill	means material used to increase the ground level, or to fill a depression.
Local provenance	means *native vegetation* seeds and propagating material from natural sources within 100 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.
Mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
Native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
Planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
Rehabilitate/ed/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area
Revegetate/ed/ion	means the re-establishment of a cover of *local provenance native vegetation* in an area using methods such as natural regeneration, direct seeding and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

REFERENCES

PGV Environmental. (2019). Flora, Vegetation and Black Cockatoo Habitat Assessment. Lot 13 Horton Road, The Lakes. Supporting information for Clearing Permit CPS 9007/1. DWER ref: A1939013.

END OF CONDITIONS

Mathew Gannaway
SENIOR MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

4 January 2022

Schedule 1

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

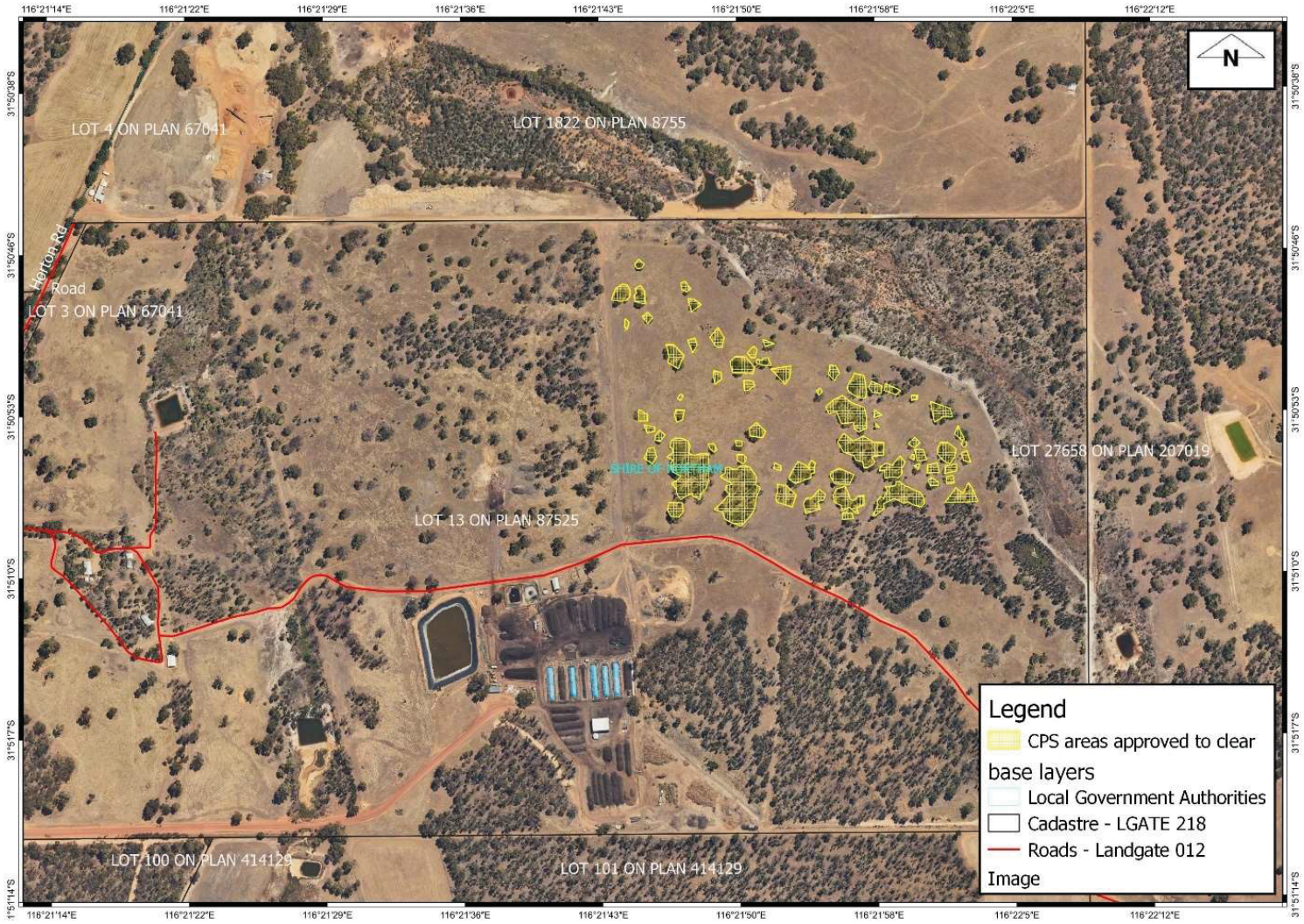

Figure 1: Map of the boundary of the area within which clearing may occur

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	CPS 9007/1
Permit type:	Purpose Permit
Applicant name:	B&J Catalano Pty Ltd
Application received:	11 August 2020
Application area:	2.46 hectares (revised) of native vegetation
Purpose of clearing:	Gravel extraction
Method of clearing:	Mechanical
Property:	Lot 13 on Diagram 87525
Location (LGA area/s):	Shire of Northam
Localities (suburb/s):	Woottating

1.2. Description of clearing activities

The vegetation applied to be cleared consists of the following species scattered across an approximately 11-hectare area:

- *Corymbia calophylla* (marri)
- *Eucalyptus marginata* (jarrah)
- *Eucalyptus wandoo* (wandoo); and
- *Hakea prostrata* (harsh hakea) as depicted in Section 1.5 below.

During the assessment of the application the applicant reduced the application area from three hectares to approximately 2.46 hectares to minimise the environmental impacts of the proposed clearing.

1.3. Decision on application and key considerations

Decision:	Granted
Decision date:	04 January 2022
Decision area:	2.46 hectares of native vegetation

1.4. Reasons for decision

In undertaking the assessment, the Delegated Officer had regard for:

- the application area site characteristics (Appendix A)
- the 10 Clearing Principles set out in Schedule 5 of the EP Act (Appendix B)
- a summary of Flora, vegetation and black cockatoo habitat assessment undertaken by PGV Environmental (2019) (Appendix D)
- relevant datasets available at the time of the assessment (Appendix E)
- actions taken by the applicant which resulted in the avoidance and minimisation of the extent of the clearing area and the mitigation of the impacts of clearing (see Section 3.1 of this report)
- the Shire of Northam's decision to grant Development Approval in accordance with *Planning and Development Act 2005* and Extractive Industry Licence in accordance with the *Shire of Northam Extractive Industries Amendment Local Law 2018*, respectively.

This clearing permit application was made, 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 public comments on 6 October 2020 for 21 days. No submissions were received.

After consideration of the above information, the Delegated Officer determined that the proposed clearing will impact on native vegetation which provides habitat for conservation significant fauna. Noting the small extent of the proposed clearing relative to the surrounding native vegetation, that the local area is highly vegetated and the adjacent vegetation is likely to comprise vegetation in similar or better condition than that present within the application area, the Delegated Officer determined that the fauna habitat is not considered significant in the local context. The Delegated Officer also noted that the impacts of the proposed clearing are only temporary. Permit conditions have been imposed on the clearing permit which will require the permit holder to revegetate the application area post-extraction to achieve the pre-clearing composition, structure and density of vegetation within the application area.

Given this, the Delegated Officer has decided to grant a clearing permit subject to the following conditions:

- avoid, minimise to reduce the impact and extent of clearing
- weed and dieback management to minimise the risk of introduction and spread of weeds
- revegetation and rehabilitation to restore the environmental values impacted by the clearing.

The Delegated Officer considered that the impacts of the proposed clearing are unlikely to have any long-term adverse impacts on the environmental values in the local area and that the abovementioned management practices will mitigate any potential impacts.

1.5. Site map

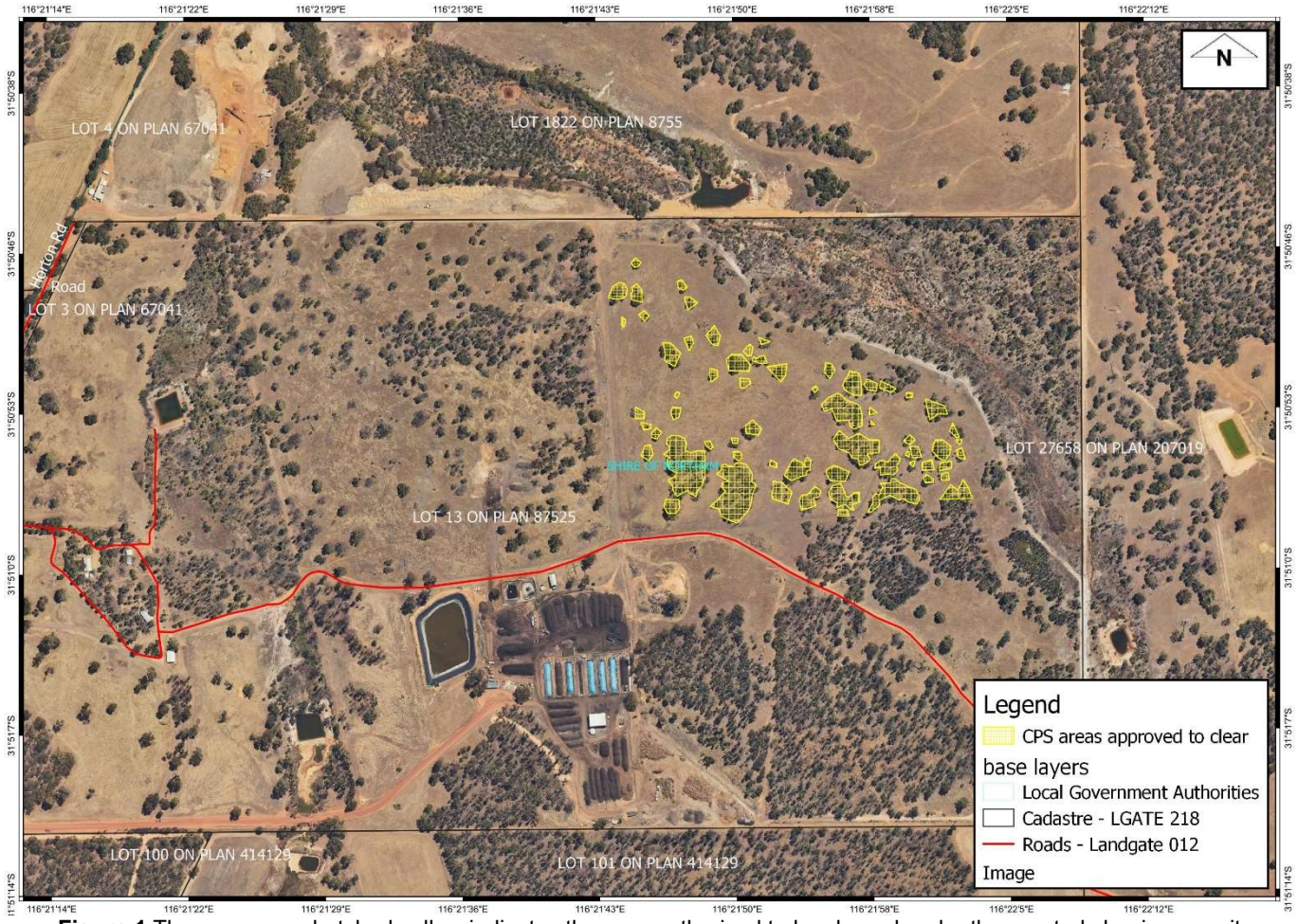

Figure 1 The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit

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 1.3), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

1. the precautionary principle;
2. the principle of intergenerational equity; and
3. 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*
- *Shire of Northam Extractive Industries Amendment Local Law 2018*

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016).

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised that clearing location was chosen based upon the least clearing per unit area. During the assessment stage, the applicant reduced the clearing area by 0.54 hectares to achieve a greater separation distance from the watercourse and the nearest pocket of land covenanted by the Document Memorial H94865MS on the eastern side of the property. This also resulted in a retention of nine black cockatoo habitat trees.

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

3.2. Assessment of environmental impacts

In assessing the application in accordance with section 51O of the EP Act, the Delegated Officer has examined the application area and its site characteristics (Appendix A) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix B.

The assessment identified that the clearing may pose a risk to biological values (fauna), and that this required further consideration. The detailed consideration and assessment of the clearing impacts against the specific environmental value is provided below. Where the assessment found that the clearing presents an unacceptable risk to environmental values, conditions aimed at controlling and/or ameliorating the impacts have been imposed under sections 51H and 51I of the EP Act. These are also identified below.

3.2.1. Environmental value: biological values (fauna) – Clearing Principle (b)

Outcome: The Delegated Officer has determined that the proposed clearing is unlikely to cause significant adverse impacts on this environmental value.

Conditions: No management conditions are required.

Assessment: According to available databases, 15 conservation significant fauna species have been recorded within the local area (Department of Biodiversity, Conservation and Attractions (DBCA), 2021b). Noting the habitat requirements, distribution of the recorded species, the mapped vegetation type, the condition of the vegetation within the application area, as well as the findings of the black cockatoo habitat assessment (PGV Environmental, 2019), the Delegated Officer considered that the application area is likely to comprise suitable habitat for the following species:

- *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo)
- *Calyptorhynchus baudinii* (Baudin's cockatoo)
- *Calyptorhynchus latirostris* (Carnaby's cockatoo); and
- *Falco peregrinus* (peregrine falcon).

Black cockatoos

The application area is located within the modelled distribution of forest red-tailed black cockatoo (*Calyptorhynchus banksia* subsp. *naso*), Carnaby's cockatoo (*Calyptorhynchus latirostris*) and Baudin's cockatoo (*Calyptorhynchus baudinii*) (collectively referred to as black cockatoos herein this report). Black cockatoos are classified as threatened under the BC Act. Under the EPBC Act, the Carnaby's and Baudin's cockatoo are listed as Endangered and the forest red-tailed black cockatoo is listed as Vulnerable. The seasonal movements of black cockatoos mean they require large areas of habitat for breeding, night roosting and foraging, as well as connectivity between these habitats to assist their movement through the landscape (Commonwealth of Australia, 2012). The assessment has considered the potential impacts of the proposed clearing on all types of black cockatoo habitat.

The application area is unlikely to provide suitable breeding habitat for black cockatoos. Suitable breeding habitat for these species includes trees which either have a suitable nest hollow or are of a suitable dimeter at breast height (DBH) to develop a nest hollow. Suitable DBH for nest hollows is 500 millimetres for most tree species, however, is reduced to 300 millimetres for wandoo and salmon gum (Commonwealth of Australia, 2012). Carnaby's cockatoo typically nests in Eucalypt woodlands, primarily in the hollows of wandoo, salmon gum (*E. salmonophloia*) and marri in hollows that are 2.5-12 meters above the ground and have an entrance of 23-30 centimetres with a depth of 1-2.5 metres (Groom, 2010). The most important breeding trees for forest red-tailed black cockatoos throughout their range are large, mature marri trees, approximately 120-150 years in age with a mean overall height of 20.24 metres. Baudin's cockatoo typically uses taller, more open jarrah-marri woodlands breeding where it also feeds (Johnston, Kirkby and Sarti, 2013).

PGV Environmental (2019) identified that a majority of the trees within the application area are juvenile, often multi-stemmed and therefore do not meet the definition of habitat trees. Despite this, a total of 33 habitat trees were recorded within the survey area, of which 24 occur within the application area (21 marri and three jarrah). None of the trees had potential hollows and/or spouts (PGV Environmental, 2019).

Noting typical food resources for black cockatoos, the application area contains approximately 2.46 hectares of foraging habitat for these species. Forest red-tailed black cockatoo forages within jarrah and marri woodlands and forest, and edges of karri forests including wandoo and blackbutt, within the range of the subspecies. The species largely feeds on seeds of marri and jarrah, as well as other *Eucalyptus* species and *Allocasuarina* cones (Commonwealth of Australia, 2012). Baudin's cockatoo prefer foraging within Eucalypt woodlands and forest, and proteaceous woodland and heath. During the breeding season (October to late January/early February) this species prefers marri seeds. Outside the breeding season the species may feed in fruit orchards and tips of *Pinus* spp. (Commonwealth of Australia, 2012). Carnaby's cockatoo feeds on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia, Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, marri and a range of introduced species (Valentine and Stock, 2008). Evidence of foraging was observed within the site (PGV Environmental, 2019).

Significant habitat refers to the resources (breeding, resting and feeding), connectivity or habitat area for a species or community that is critical for its survival. The Australian Department of the Environment (2013) notes that an action is likely to have significant impacts on critically endangered or endangered species, which include black cockatoos, if there is real possibility that it will (including but not limited):

- lead to a long-term decrease in the size of a population
- fragment an existing population into two or more populations
- decrease the availability or quality of habitat to the extent that the species is likely to decline.

Considering the extent of suitable black cockatoo foraging habitat mapped within the local area versus the extent of foraging habitat within the application area, the proposed clearing will unlikely cause significant impacts upon the viability of the local populations of black cockatoos. The local area comprises approximately 18,103 hectares of native vegetation, of which approximately 95 per cent is mapped as suitable black cockatoo foraging habitat within the Interim Biogeographic Regionalisation for Australia (IBRA) bioregion. The application area represents approximately 0.014 per cent of this extent. A significant portion of the suitable foraging habitat occur at properties which are protected in perpetuity, such as Wooroloo Regional Park, Mundaring State Forest, and other lands managed by DBCA (Figure 1).

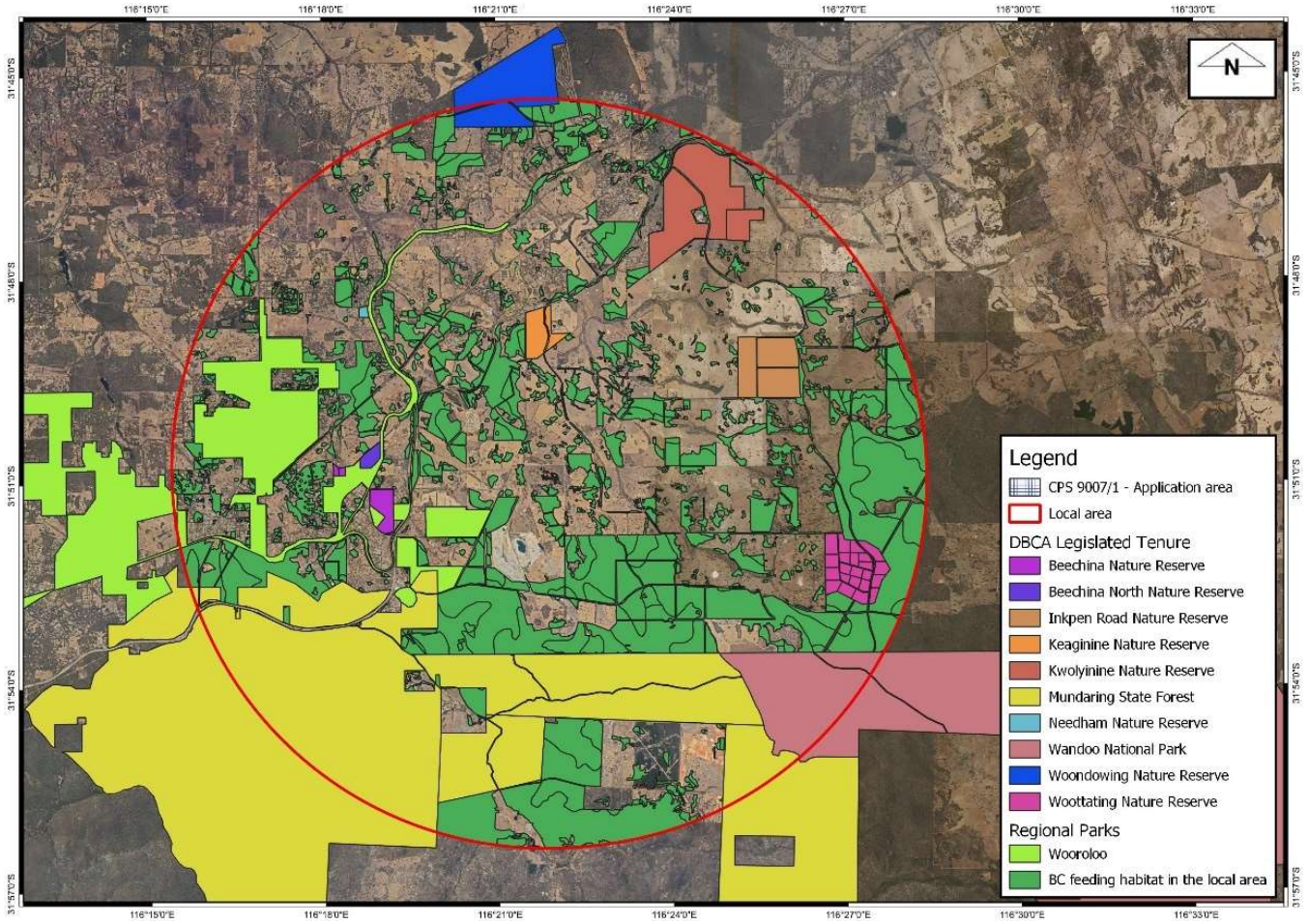

Figure 2 Black cockatoo foraging habitat in local area

The vegetation within the application area does not contain black cockatoo foraging habitat which supports its breeding. While breeding, black cockatoos will generally forage within a 6–12 km radius of their nesting site (Commonwealth of Australia, 2012). The application is not located within the mapped confirmed breeding area for Carnaby's cockatoo. According to available databases, there are no confirmed breeding points within the local area. The closest confirmed breeding site is a natural, confirmed breeding tree of forest red-tailed cockatoo located approximately 15 kilometres southwest of the application area.

The assessment has further identified that the application area provides foraging habitat that may support black cockatoo roosting. Roosting habitat is defined as a suitable tree (generally the tallest) or group of tall trees, native or introduced, usually close to an important water source, within an area of quality foraging habitat within the range of each black cockatoo species which provide black cockatoos with shelter during the heat of the day and safe resting places at night (Department of the Environment and Energy, 2017). PGV Environmental (2019) did not record any evidence of roosting within the application area.

Individual night roosting sites need suitable foraging habitat and water within six kilometres (EPA, 2019). Overlapping foraging ranges within 12 kilometres also support roosting sites and maintain habitat connectivity and movement across the landscape (EPA, 2019). There are six confirmed black cockatoo roosting sites within the local area. Of these, one occurs approximately six kilometres from the application. No evidence of black cockatoos has been recorded at this site. A 6-kilometre buffer of this roosting retains approximately 46 per cent (approximately 5,172.7 hectares) of the original extent of suitable black cockatoo foraging habitat. A majority of the habitat occurs within Wooroloo Regional Park and Mundaring State Forest. The proposed clearing will reduce the extent of suitable foraging habitat which may support the potential roosting site by approximately 0.048 per cent.

Considering the relatively small extent of the application area and that native vegetation within adjacent properties provides similar habitat, the proposed clearing is not likely to restrict black cockatoo ability to move across the landscape.

Peregrine falcon

The species is found in most habitats, from rainforests to the arid zone and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water and may even be found nesting on high city buildings (Australian Museum, 2020). This species is widespread, highly mobile and is found in various habitats. The application area may comprise suitable habitat for this species, however, noting habitat preferences and the small extent of the proposed clearing, the application area is unlikely to comprise a significant habitat for this species.

3.3. Relevant planning instruments and other matters

On 21 December 2020 and 20 August 2021, the Shire of Northam issued Development Approval in accordance with *Planning and Development Act 2005* and Extractive Industry Licence in accordance with the *Shire of Northam Extractive Industries Amendment Local Law 2018*, respectively.

The closest Aboriginal Site of Significance is located approximately 3.4 kilometres south-west of the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are impacted through the clearing process.

Appendix A – Site specific information

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 B.

1. Site characteristics

Site characteristic	Details
Local context	The application area occurs within the Jarrah Forest IBRA bioregion, Northern Jarrah Forest sub-bioregion. It is located within a paddock used for agricultural purposes as it consists of areas of cleared land with the understorey devoid of native vegetation. The vegetation within the application area is not a contiguous stand of vegetation that is linked with other stands of vegetation within the property or adjacent with others on properties within the local area. The site has previously been burnt (PGV Environmental, 2019). Spatial data indicates the local area (a 10-kilometre radius of the proposed clearing area, which is equal to approximately 32,860 hectares) retains approximately 55 per cent (approximately 18,103 hectares) of the original native vegetation cover.
Ecological linkages	The application area is not mapped as an ecological linkage. The closest mapped linkage is Perth Regional Ecological Linkage mapped by WA Local Government Association's (WALGA) biodiversity project (Del Marco et al., 2004) approximately 2.8 kilometres north of the application area.
Conservation areas	Agreement to Reserve native vegetation in perpetuity is placed over three portions of Lot 13. The closest portion is within the north-eastern corner of the property, approximately 50 metres from the application area. Wooroloo Regional Park occurs approximately 1.6 kilometres south-west of the application area. The closest DBCA managed estate is Keaginine Nature Reserve mapped approximately 2.9 kilometres north of the application area.
Vegetation description	The vegetation in the survey area, which encompasses the application area, consists or marri and a few scattered jarrah and two wandoo trees close to the creekline. The only other native species recorded on the site was harsh hakea (*Hakea prostrata*) (PGV Environmental, 2019). Mattiske and Havel (1998) mapped two South-West Forest vegetation complexes within the application area: • Murray 2, which is described as open forest of *Eucalyptus marginata* subsp. *thalassica, Corymbia calophylla, Eucalyptus patens* and woodland of *Eucalyptus wandoo* with some *Eucalyptus accedens* on valley slopes to woodland of *Eucalyptus rudis-Melaleuca rhaphiophylla* on the valley floors in semiarid and arid zones. (Heddle et al., 1980); and • Yalanbee: Mixture of open forest of *Eucalyptus marginata* subsp. *thalassica, Corymbia calophylla* and woodland of *Eucalyptus wandoo* on lateritic uplands in semiarid to perarid zones. The vegetation within the application area may represent a degraded patch of Yalanbee complex. Murray 2 and Yalanbee complexes retain approximately 69 and 66 per cent of their original extents within the Jarrah Forest IBRA bioregion.
Vegetation condition	The vegetation within the application area is considered to be in a completely degraded (Keighery, 1994) condition (PGV Environmental, 2019). Refer to Appendix C for full Keighery (1994) condition rating scale descriptions.
Climate and landform	Rainfall – Mean Annual: 800 millimetres Evapotranspiration – Areal Actual: 700 millimetres Topography: the site slopes down from a high point at around 293 metre Australian Height Datum (AHD) in the south-west corner down towards the creekline along the

Site characteristic	Details
	north-east boundary at an elevation of around 274 to 280 metres AHD (PGV Environmental, 2019).
Soil description	The soil within the application area is mapped by Department of Primary Industries and Regional Development (DPIRD) (2021) as Yalanbee Subsystem (253WnYa). This subsystem is described as residual plateau at the top of the landscape shallowly dissected by Pindalup valleys, Pisolitic gravelly, yellowish brown soils that vary in texture from loamy sands to clays, with pockets of pale sands and areas of outcropping laterite (Schoknecht et al., 2004).
Land degradation risk	The mapped soil subsystem has elevated risks of acidification, sub surface compact and water repel. The risk of wind erosion is low. The risks of land degradation in the form of water erosion, salinity, eutrophication and flooding (including waterlogging) are very low (DPIRD, 2021).
Waterbodies	No watercourses and wetlands have been mapped or identified within the application area. The closest mapped watercourse is a minor, non-perennial tributary of the Swan River which occurs approximately 85 meters east of the application area. There are no known wetlands within the local area.
Hydrogeography	The application area is mapped within Swan River system Surface Water Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The application area does not fall within a proclaimed Groundwater Area or Public Drinking Water Source Areas.
Flora	The local area contains records of 12 conservation significant flora (DBCA, 2021a): • one flora species listed as threatened under the BC Act; and • 11 Priority listed flora by DBCA. Noting the vegetation identified within the application area and its condition, the application area is unlikely to provide suitable habitat for the recorded species.
Ecological communities	No threatened (TEC) or priority ecological communities (PEC) are mapped within the local area. The vegetation within the application area does not represent any TECs or PECs (PGV Environmental, 2019).
Fauna	According to available databases, 15 conservation significant fauna species have been recorded within the local area (DBCA, 2021b). Noting the habitat requirements, distribution of the recorded species, the mapped vegetation type, the condition of the vegetation within the application area, and the findings of the fauna survey (PGV Environmental, 2019), the application area is likely to comprise suitable habitat for: • *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo) • *Calyptorhynchus baudinii* (Baudin's cockatoo) • *Calyptorhynchus latirostris* (Carnaby's cockatoo) • *Falco peregrinus* (Peregrine Falcon)

2. Flora, fauna and ecosystem analysis

Given the application area contains jarrah, marri, wandoo and harsh hakea over completely degraded (Keighery, 1994) understorey, the application area is not likely to provide habitat for conservation significant flora or contain native vegetation which represents TECs or PECs.

With consideration for the site characteristics set out above, relevant datasets (see Appendix E) and the vegetation assessment (PGV Environmental, 2019), four significant fauna species could occur within the application area.

Fauna Species	Conservation Code	Suitable habitat?	Number of records in local area	Most recent record	Are surveys adequate to identify?
Calyptorhynchus banksii naso (Forest red-tailed black cockatoo)	VU	Yes	11	2019	Y
Calyptorhynchus baudinii (Baudin's cockatoo)	EN	Yes	6	2015	Y
Calyptorhynchus latirostris (Carnaby's cockatoo)	EN	Yes	44	2018	Y
Falco peregrinus (Peregrine Falcon)	OS	Yes	2	2010	Y

3. Vegetation extent

	Pre-European extent (hectares)	Current extent (hectares)	% remaining	Current extent in all DBCA managed land (hectares)	% current extent in all DBCA managed land (proportion of pre-European extent)
IBRA bioregion					
Jarrah Forest	4,506,660.25	2,399,838.15	53.25	1,673,614.25	37.14
Vegetation complex					
Murray 2	59, 317.10	40,952.07	69.04	23,956.38	40.39
Yalanbee	126,609.77	83,829.11	66.21	49,111.54	38.79

Appendix B – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The proposed clearing area is not likely to contain locally or regionally significant flora or assemblages of plants. The application area: • has been parkland cleared and is in a completely degraded (Keighery, 1994) condition • does not resemble habitat for threatened or priority flora; and • does not contain native vegetation which represents a TEC or PEC.	Not likely to be at variance	No
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The proposed clearing area provides foraging habitat for the black cockatoos and peregrine falcon. No black cockatoo hollow-bearing trees were recorded within the application area (PGV Environmental, 2019). Noting the extent of native vegetation within the local area and the extent of vegetation proposed to be cleared, the application area does not represent significant habitat for the abovementioned species.	Not likely to be at variance	Yes: Refer to Section 3.2.1 above.
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The application area is unlikely to contain habitat for threatened flora species listed under the BC Act due to the completely degraded condition (Keighery, 1994) of the vegetation within the application area.	Not likely to be at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community."* Assessment: The proposed clearing area does not contain species representative of a TEC listed under the BC Act or EPBC Act.	Not likely to be at variance	No
Environmental values: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. Vegetation in the proposed clearing area is not considered to be part of a significant ecological linkage in the local area.	Not likely to be at variance	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."*	Not likely to be at variance	No

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Assessment: Given the separation distance between the application area and the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.		
Environmental values: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: No wetlands or watercourses are mapped within the application area. Vegetation within the application area does not grow in association with a watercourse or wetland.	Not likely to be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are susceptible to wind erosion, acidification, sub surface compact and water repel. However, noting the extent, condition and location of the proposed clearing, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Noting the relatively flat landscape in the vicinity of the proposed clearing and the distance to the closest watercourse, the clearing is unlikely to impact surface or ground water quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of* flooding." Assessment: Given the distance to the nearest watercourse and mapped soil types, the proposed clearing is unlikely to contribute to flooding or waterlogging.	Not likely to be at variance	No

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.

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 – Biological surveys of the application area and photographs of the vegetation

B&J Catalano commissioned PGV Environmental to undertake flora, vegetation and black cockatoo habitat assessment of the proposed clearing area. Figure 2 shows the boundaries of the survey areas.

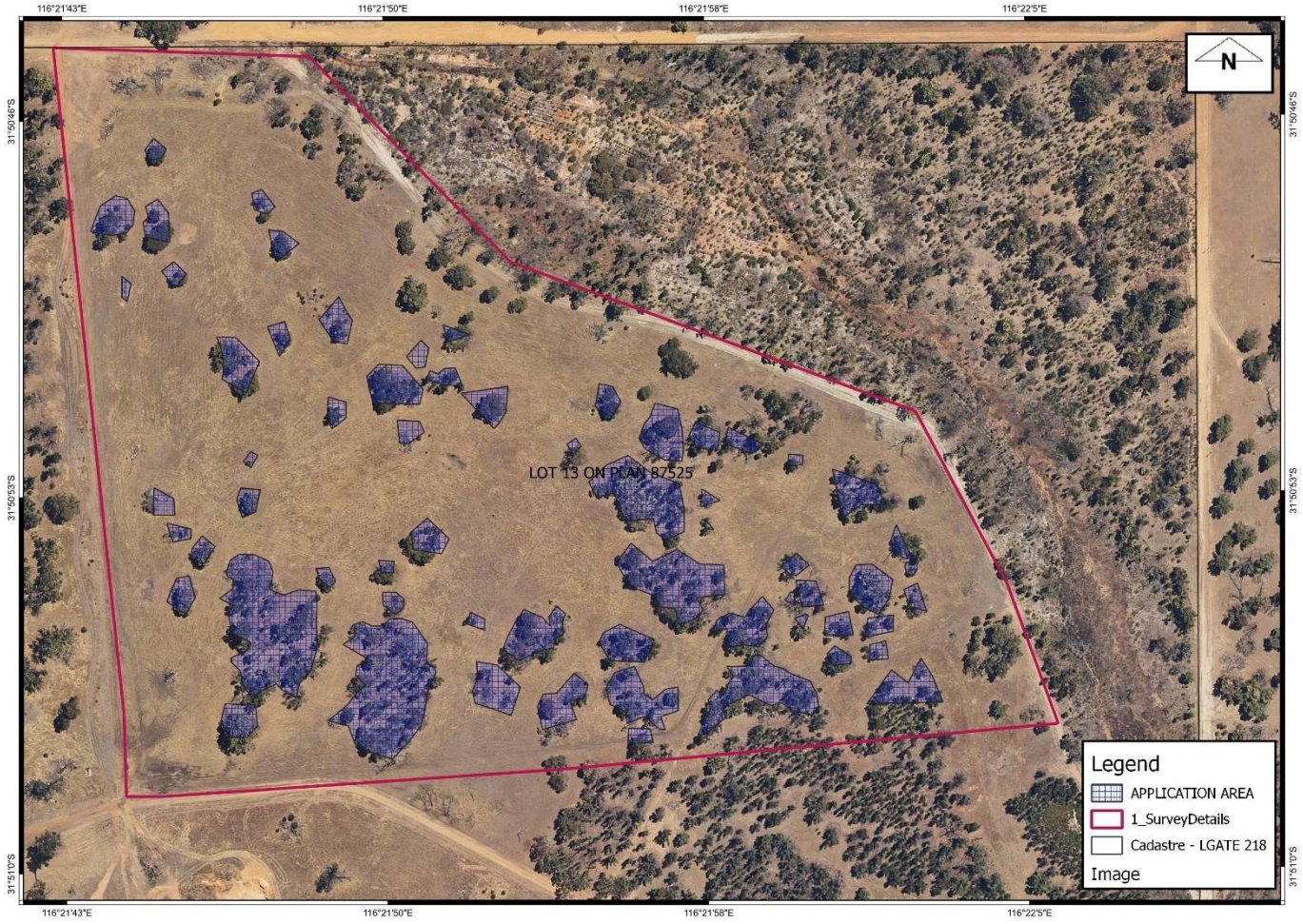

Figure 3 Boundaries of the survey area (PGV Environmental, 2019)

The flora and vegetation survey conducted was a detailed survey planned in accordance with the EPA Technical Guidance: Flora and Vegetation Surveys (2016). The survey included the following:

- desktop search and review of DBCA's databases
- a search of the Commonwealth Government's Protected Matters Search Tool to identify species potentially occurring within the application area that are protected under the EPBC Act
- examination of historic and recent aerial photography and contour and soil maps to provisionally identify vegetation types and condition
- field survey using quadrats to record native and introduced species as well as a thorough site walkover of any areas of native vegetation
- recording of any significant plant species using a hand-held GPS
- description and mapping of vegetation types and vegetation condition; and compilation of a flora list.

The black cockatoo habitat assessment was conducted to:

- describe the black cockatoo habitat on the site
- determine the impact of potential development on black cockatoos f the site was to be cleared; and
- assess the clearing in the context of the significant of the impact on black cockatoos.

The findings of the biological surveys are described throughout the report.

Figure 4 Area of burnt vegetation identified within the application area (PGV Environmental, 2019)

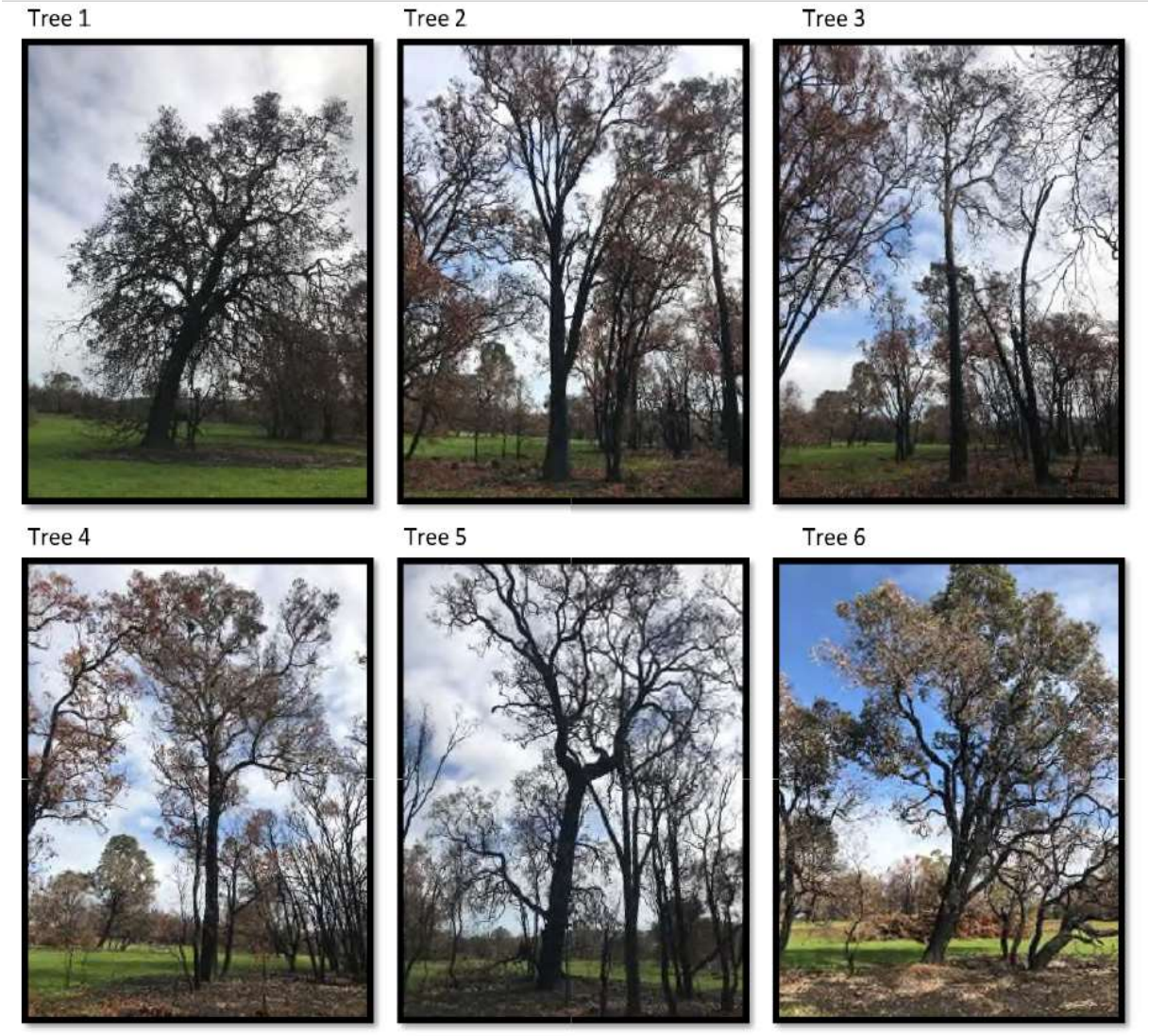

Figure 5 Habitat trees recorded within the application area (PGV Environmental, 2019)

Appendix E – References and databases

1. GIS datasets

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)
- Consanguineous Wetlands Suites (DBCA-020)
- 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)
- Geomorphic Wetlands Leeuwin Naturaliste Ridge and Donnybrook to Nannup - Unreviewed (DBCA-043)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Remnant Vegetation, All Areas
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- RIWI Act, Groundwater Areas (DWER-034)

Restricted GIS Databases used:

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

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