GOVERNMENT OF
WESTERN AUSTRALIA

# CLEARING PERMIT

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

| | |
|---|---|
| **Purpose Permit number:** | CPS 10009/1 |
| **Permit Holder:** | Claymont Development Pty Ltd |
| **Duration of Permit:** | From 8 January 2024 to 8 January 2034 |

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

## PART I – CLEARING AUTHORISED

### 1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of road upgrades.

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

Cheriton Road Reserve (PIN 1358457, 1358473 and 11726123), Ginginup.

### 3. Clearing authorised

The permit holder must not clear more than eight (8) native trees 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 8 January 2029.

## PART II – MANAGEMENT CONDITIONS

### 5. Avoid, minimise, and reduce impacts and extent of clearing

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

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

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

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

## 6. Weed and dieback management

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

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

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

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

## 7. Wind erosion management

The permit holder must commence road upgrades no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

## 8. Surface water management

(a) Where practicable, the permit holder shall avoid clearing riparian vegetation.

(b) Where a watercourse or wetland is to be impacted by clearing, the Permit Holder shall maintain the existing surface flow by use of culverts.

## 9. Vegetation management – Mitigation planting

The permit holder must, within 24 months of undertaking clearing authorised under this permit:

(a) undertake deliberate *planting* of at least ten (10) native trees within the area cross-hatched red in Figure 2 of Schedule 1;

(b) ensure only *local provenance* propagating material of plants are used;

(c) ensure *planting* is composed of species that provide foraging habitat for *black cockatoo* species;

(d) ensure *planting* is undertaken at the *optimal time*;

(e) ensuring *plantings* are of a suitable size of at least one (1) metre in height.

(f) undertake weed control and watering of *plantings* for at least three years post planting;

(g) the permit holder must, within 24 months of planting the native plants in accordance with condition 9(a) of this permit;

  (i) engage an *environmental specialist* to make a determination that ten (10) native trees will survive; and

  (ii) if the determination made by the *environmental specialist* under condition 9(g)(i) that at least ten (10) native trees will not survive, the permit holder must plant additional native trees that will result in at least ten (10) native trees persisting within the area cross-hatched red in Figure 2 of Schedule 1.

(h) where additional *planting* of native trees is undertaken in accordance with condition 9(g)(ii), the permit holder must repeat the activities required by condition 9(b), 9(c), 9(d), 9(e) and 9(f) of this permit.

## PART III - RECORD KEEPING AND REPORTING

### 10. 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;<br>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings;<br>(c) the date that the area was cleared;<br>(d) the size of the area cleared (in trees);<br>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5;<br>(f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 6. |
| 2. | In relation to actions required under condition 9 | (a) the date *planting* activities commenced;<br>(b) the number of trees planted;<br>(c) the species planted, including the number of each species planted;<br>(d) weed control and watering activities undertaken;<br>(e) determination by an *environmental specialist*;<br>(f) the date and activities undertaken where additional planting is required. |

### 11. Reporting

The permit holder must provide to the *CEO* the records required under condition 10 of this permit when requested by the *CEO*.

## DEFINITIONS

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

**Table 2: Definitions**

| Term | Definition |
|---|---|
| black cockatoo species | means one or more of the following species:<br>(a) *Zanda laterostris* (Carnaby's cockatoo); and/or<br>(b) *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo). |
| CEO | Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*. |

| Term | Definition |
|---|---|
| clearing | has the meaning given under section 3(1) of the EP Act. |
| condition | a condition to which this clearing permit is subject under section 51H of the EP Act. |
| dieback | means the effect of *Phytophthora* species on native vegetation. |
| department | means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3. |
| EP Act | *Environmental Protection Act 1986* (WA) |
| environmental specialist | means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the CEO as a suitable environmental specialist |
| fill | means material used to increase the ground level, or to fill a depression. |
| local provenance | means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same IBRA subregion of the area cleared. |
| mulch | means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation. |
| native vegetation | has the meaning given under section 3(1) and section 51A of the EP Act. |
| optimal time | means the period from May to July for undertaking planting. |
| planting | means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species. |
| weeds | means any plant –<br>(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or<br>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or<br>(c) not indigenous to the area concerned. |

**END OF CONDITIONS**

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by Ryan Mincham
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Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

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

15 December 2023

# Schedule 1

## Plan 10009/1

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**

The boundary of the area subject to conditions is shown in the map below (Figure 2).

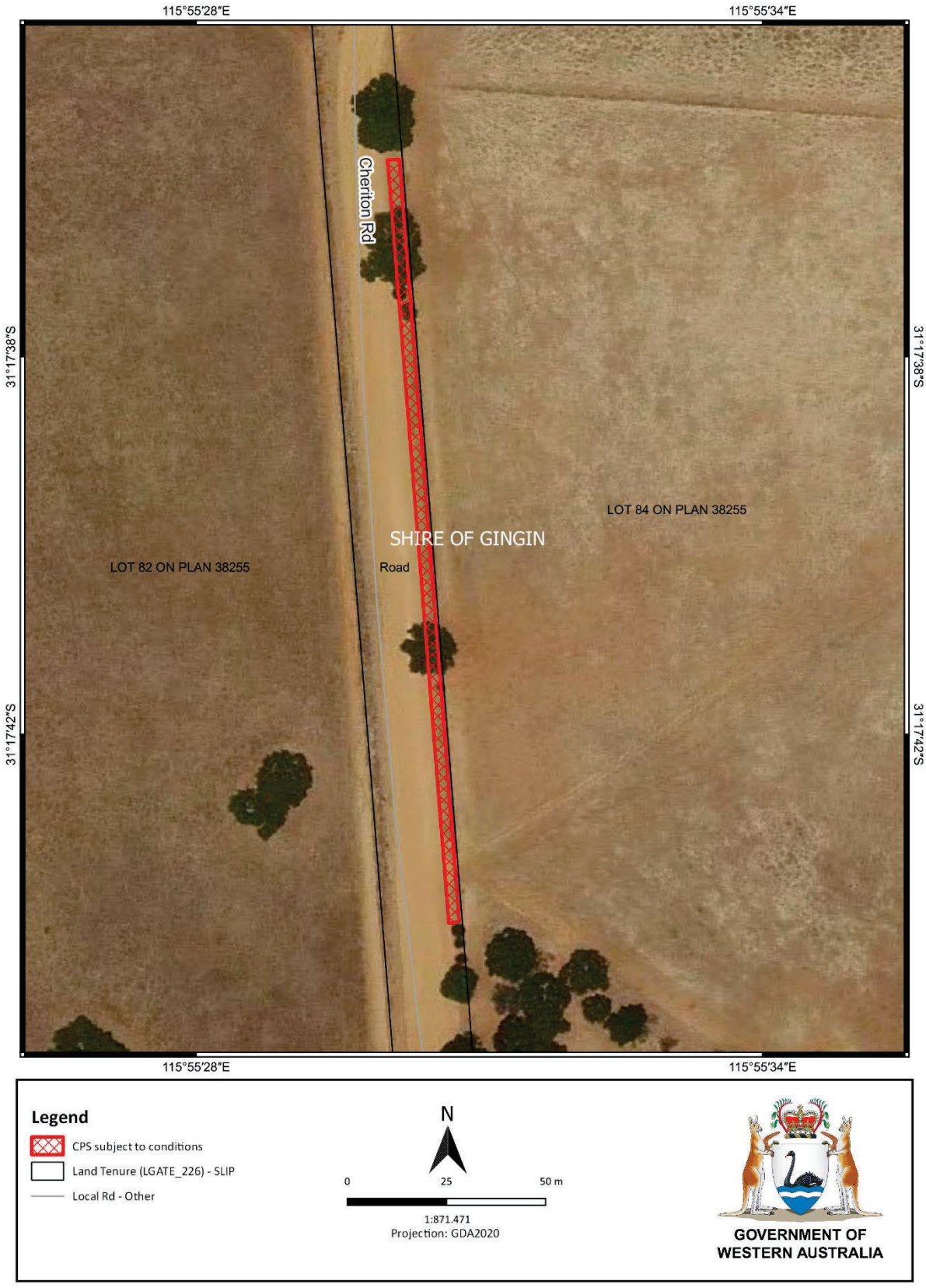


**Figure 2: Map of the area subject to revegetation conditions**

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 10009/1 |
| **Permit type:** | Purpose permit |
| **Applicant name:** | Claymont Development Pty Ltd |
| **Application received:** | 13 December 2022 |
| **Application area:** | Ten (10) native trees (as revised) |
| **Purpose of clearing:** | Road upgrades |
| **Method of clearing:** | Mechanical |
| **Property:** | Cheriton Road reserve (PINs 1358457, 1358473 and 11726123) |
| **Location (LGA area/s):** | Shire of Gingin |
| **Localities (suburb/s):** | Ginginup |

### 1.2. Description of clearing activities

The application is to clear trees within a road reserve for the purpose of widening and upgrading a road. The vegetation originally proposed to be cleared comprised ten (10) trees within an approximately 1.18 km strip of road reserve within Cheriton Road in Ginginup, north of Gingin (see Figure 1, Section 1.5).

The application area was revised during assessment to eight (8) trees as it was established that two of the trees had been cleared since the application was submitted. The applicant has advised that these two trees were likely removed by Western Power since they were located directly below a powerline (Claymont Development Pty Ltd, 2023d).

### 1.3. Decision on application

| | |
|---|---|
| **Decision:** | Granted |
| **Decision date:** | 15 December 2023 |
| **Decision area:** | Eight (8) native trees, as depicted in Section 1.5, below. |

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), as well as supporting photographs that were submitted during the assessment by the applicant (see Appendix E). Relevant planning instruments and any other matters considered relevant to the assessment were considered (see Section 3). The Delegated Officer took into consideration that the purpose of the clearing is for improving the safety of Cheriton Road.

The assessment identified that the proposed clearing would result in:

- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- the loss of vegetation mapped as an under-represented vegetation complex within a highly cleared landscape that also contributes to ecological linkage function; and
- potential land degradation in the form of wind and water erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined that impacts from the proposed clearing can be minimised and managed to unlikely lead to an unacceptable risk to environmental values.

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback;
- planting and ensuring long term survival of at least ten (10) native trees of local provenance which comprise of black cockatoo foraging species;
- commencement of construction of road upgrades within three months of clearing to limit the impacts of land degradation.

## 1.5. Site map


**Figure 1.** Map of the application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit. The area cross-hatched in red indicates the area within which revegetation conditions apply.

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Rights in Water and Irrigation Act 1914* (WA) (RiWI Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

## 3 Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The new road has been designed by consulting engineers in such a way as to minimise the effect on surrounding vegetation inside the road reserve. Only trees that have been deemed a hazard and/or essential to create the road of the required width have been selected for removal. Furthermore, the design of the road considered potential land degradation by keeping in line with the existing landscape where possible and the installation of drainage on each side of the road (Claymont, 2023d).

During assessment it was identified that the vegetation within the proposed clearing area is the Gingin complex which has 11.5 per cent of its pre-European extent remaining. A mitigation plan was requested to account for the loss of eight (8) native trees. Based on a mitigation calculation conducted using the WA environmental offset metric calculator, it was determined that to mitigate the above environmental impact, Claymont Development Pty Ltd would be required to plant at least ten (10) native trees of local provenance.

It was noted during assessment that the proposed clearing may provide foraging habitat for threatened black cockatoos. Given that the application is located within the Swan Coastal Plain, the Department recommended that the applicant utilise species of local provenance that are known black cockatoo foraging species when selecting the tree species for revegetation.

The applicant proposed to plant ten (10) trees within the Cheriton Road Reserve (PIN 1358457), approximately 0.72 km north of the proposed clearing area. The trees to be planted are a mix of the following species:

- *Corymbia calophylla* (marri)
- *Eucalyptus marginata* (jarrah); and
- *Eucalyptus todtiana* (coastal blackbutt).

All three of these species are found locally and are known foraging species for black cockatoos. The trees to be planted will be within the eastern portion of road reserve due to the presence of powerlines on the western side of the road reserve.

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

### 3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values (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.

### *3.2.1. Biological values (fauna) - Clearing Principle (b)*

Assessment:
The desktop assessment identified 17 species of fauna within ten kilometres of the proposed clearing area, comprising of five birds, one fish, two invertebrates, eight mammals and one reptile. A likelihood of occurrence assessment determined that the proposed clearing contains suitable habitat for black cockatoos.

The proposed clearing is mapped within the breeding distribution for *Zanda latirostris* (Carnaby's cockatoo) and the vagrant distribution for *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo). There are 134 records of Carnaby's cockatoo within the local area, the nearest being 0.16 km from the proposed clearing and one record of the forest red-tailed black cockatoo approximately 3.93 km from the proposed clearing. There are also nine records of *Calyptorhynchus* sp. 'white tailed-black cockatoo' within the local area. While habitat requirements for the species of black cockatoos differ, the requirements in general can be categorised as breeding habitat, foraging habitat and night roosting habitat.

Breeding habitat
Suitable breeding habitat for black cockatoos includes trees which either have a suitable nest hollow, or are of a suitable diameter at breast height (DBH) to develop a nest hollow (DAWE, 2022). The application is located within an area with known breeding habitat for Carnaby's cockatoo. This species generally occurs in woodland or forest and nests in hollows in live or dead trees of *Eucalyptus salmonophloia* (salmon gum), *Eucalyptus wandoo* (wandoo), *Eucalyptus gomphocephala* (tuart), *Eucalyptus marginata* (jarrah), *Eucalyptus rudis* (flooded gum), *Eucalyptus loxophleba* subsp. *loxophleba* (York gum), *Eucalyptus accedens* (powderbark), *Eucalyptus diversicolor* (karri) and *Corymbia calophylla* (marri) (DAWE, 2022). Habitat trees considered potentially suitable for black cockatoo breeding have a DBH greater than 500 millimetres (for salmon gum and wandoo, suitable DBH is 300 millimetres) (DAWE, 2022). No breeding sites are recorded within ten kilometres of the proposed clearing, the nearest being approximately 13.2 km from the application.

Several of the trees within the proposed clearing area were identified as Flooded gum (*Eucalyptus rudis*), however, photographs supplied by the applicant indicate that there are no observable tree hollows within the trees proposed to be cleared (Appendix E). Carnaby's cockatoo are generally associated with breeding in areas of woodland and forest (DAWE, 2022), and while they have been known to breed within partially cleared woodland and forest, the lack of vegetation surrounding the proposed clearing area may not make these trees a preferred breeding location for Carnaby's cockatoo. It is considered unlikely that the proposed clearing would provide significant breeding habitat.

Foraging habitat
The proposed clearing is located on the Swan Coastal Plain which is primarily utilised for foraging by black cockatoos (DAWE, 2022). Foraging habitat differs between Carnaby's cockatoo and the forest red-tailed black cockatoo:

- Carnaby's cockatoo - Native shrubland, kwongan heathland and woodland on seeds, flowers and nectar of native proteaceous plant species (Banksia spp., Hakea spp. and Grevillea spp.), as well as Callistemon spp. and marri.
- Forest red-tailed black cockatoo - Primarily seeds of jarrah and marri in woodlands and forest, and edges of karri forests, including wandoo and blackbutt. Forages on Allocasuarina cones, fruits of *Persoonia longifolia* (snottygobble) and *C. haematoxylon* (mountain marri). Other less important foods include blackbutt, bullich, *Allocasuarina fraseriana*, Hakea spp., tuart, *E. decipiens* (redheart Moit) and *E. lehmanni* (bushy yate).

Only a small portion of the proposed clearing is mapped as suitable foraging habitat and given the preferred foraging species listed above, it is unlikely that the trees within the proposed clearing area would provide significant foraging habitat for Carnaby's cockatoo or Forest red-tailed black cockatoos.

Roosting habitat
Black cockatoo night roosts are usually located in the tallest trees of an area, and in close proximity to both a food supply and surface water (DAWE, 2022). Flooded gum is known to be a preferred night roosting species for Carnaby's cockatoo, and riparian areas in general are known to be the preferred roosting sites for all three species (DAWE, 2022). Black cockatoo flocks will utilise different roosts, often for weeks or until the local food supply is exhausted. Black cockatoo flocks show some consistency in roost site preference, with sites used in most years to access high-quality feeding sites. One black cockatoo roosting site is mapped within the local area, approximately 4.5 km south of the proposed clearing.

While Flooded gum is considered to be a key roosting species for Carnaby's cockatoo, the potential value of the proposed clearing area as a night roost is considered in the context of surrounding habitat since black cockatoos rely upon the availability of night roosting habitat in proximity to foraging resources and access to watering points, usually

within two kilometres of a night roost (DAWE, 2022). Given that foraging habitat and water are available nearby, the proposed clearing area may provide suitable roosting habitat, however, the confirmed roosting site to the south is more likely to be utilised as mapping suggests a greater availability of foraging resources in proximity to the roosting site compared to the proposed clearing area (See Appendix F, Figure 13).

Conclusion
Based on the above assessment, the trees proposed to be cleared are not likely to provide significant habitat for Carnaby's cockatoo or forest red-tailed black cockatoo. It is noted that while not significant, the trees may provide suitable habitat for black cockatoos and the applicant has committed to including species suitable for black cockatoo foraging as part of their mitigation planting (see section 3.1.).

Conditions
No fauna management conditions required.

### *3.2.2. Significant remnant vegetation and conservation areas (remnant vegetation) - Clearing Principle (e)*

Assessment
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The local area (10 kilometre radius) retains approximately 36 per cent of its pre-European vegetation, however, the application is mapped within the Gingin Vegetation Complex which retains approximately 11.5 per cent of its pre-European extent.

The Gingin Complex is described as open woodland of *Corymbia calophylla* (Marri) with second story of *Banksia grandis* (Bull Banksia) and *Nuytsia floribunda*. Fringing woodland of *Eucalyptus rudis* (Flooded Gum) – *Melaleuca rhaphiophylla* (Swamp Paperbark) along streams. While the vegetation within the application area is considered to be in completely degraded condition (Keighery, 1994), the presence of Flooded gum within the proposed clearing area indicates that there may be some affinity with the mapped vegetation type.

The areas surrounding the application area are largely cleared agricultural lands with small remnants scattered throughout. The trees proposed to be cleared may facilitate the movement of fauna into surrounding remnants by acting as 'stepping stones' in the landscape.

Conclusion:
Based on the above assessment, the Delegated Officer has determined that the proposed clearing will result in the loss of significant remnant vegetation within an extensively cleared area and the loss of vegetation that forms part of an ecological linkage.

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

- undertake planting and ensure long-term survival of at least ten (10) native trees which comprise of black cockatoo foraging species including *Corymbia calophylla*, *Eucalyptus marginata*, and *Eucalyptus todtiana*.

### *3.2.3. Land and Water Resources - clearing principle (f), (g), (j)*

Assessment:
The application area is mapped as having a high to extreme risk to wind erosion, phosphorous export risk, subsurface acidification, waterlogging and flooding (Appendix B.5). The proposed clearing also transects two watercourses.

The removal of trees may further contribute to land degradation from wind erosion since large trees can act as a barrier to slow strong winds with roots further acting as a mechanism to hold soil together. Furthermore, the proposed clearing may increase risk to land degradation from water erosion due to the presence of two waterways that will be altered from clearing and post-clearing activities associated with road construction.

To manage the risk of land degradation from the proposed clearing, the road was designed to minimise the requirement to clear vegetation which would further minimise the risk of land degradation (See section 3.1.). The applicant gave consideration to potential land degradation risks from construction by designing the road to be as consistent with the existing road and landscape where possible and by installing drainage channels on either side of the road (Claymont, 2023d).

Based on the above, along with the small size of the proposed clearing area, the proposed clearing is unlikely to significantly impact on the risk of land degradation, however, to further minimise the risk, it is recommended that

construction works are commenced shortly after clearing as areas of land left bare for extended periods can contribute to land degradation through wind erosion. A further condition has been imposed requiring that surface water flow be maintained during the clearing period.

Conclusion:
Based on the above assessment, the proposed clearing is not likely to have a significant impact on land degradation, however, may pose a risk of degradation from wind erosion if there is an extended period between clearing and the commencement of construction.

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

- activities associated with the road upgrades must commence within three (3) months of clearing.
- surface water management to maintain water flow.

## 3.3. Relevant planning instruments and other matters

The Shire of Gingin commented on the application and advised that they had no objection for the access of the land (road reserve) provided that the clearing was approved (Shire of Gingin, 2023).

No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

***Rights in Water and Irrigation Act 1914*** **(RIWI Act)**

The desktop assessment identified that two watercourses transect the proposed clearing area. Advice sought from the Department's water licencing section indicated that a permit to interfere with the bed and banks of a watercourse under the RIWI Act would likely be required since the hydrology of the two waterbodies that pass through the application area would be altered from the road upgrades (Appendix E, Figure 13) (DWER, 2023).

The bed and banks permit was granted on 28 November 2023 with the following conditions:

- the permit holder shall ensure that the authorised modification does not act as an artificial barrier or levee, causing water to pond upstream; and
- the permit holder must undertake the works authorised by this permit with minimal disturbance to the bed and banks of the watercourses.

**End**

# Appendix A. Additional information provided by applicant

| Reference | Description of information (in timeline order) |
|---|---|
| Claymont Development Pty Ltd (2023a) | Photographs and GPS coordinates of the trees were received and Applicant advice DWER that two trees (trees 8 and 9) have been removed from the application area |
| Claymont Development Pty Ltd (2023b) | Applicant confirms revised application area (removed trees 8 and 9) |
| Claymont Development Pty Ltd (2023c) | Further photographs of the trees were received |
| Claymont Development Pty Ltd (2023d) | Avoidance and mitigation measures and land use |
| Claymont Development Pty Ltd (2023e) | Mitigation planting proposal. |
| Claymont Development Pty Ltd (2023f) | Granted permit to interfere with the bed and banks of a watercourse under the RIWI Act |

# Appendix B. Site characteristics

## B.1. Site characteristics

| Characteristic | Details |
|---|---|
| Local context | The eight trees proposed to be cleared are surrounded by areas of farmland within the intensive land use zone. The proposed clearing area is along a roadside which comprises intermittent vegetation.<br><br>Aerial imagery indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 36 per cent of the original native vegetation cover. |
| Ecological linkage | The vegetation within the application is not mapped within a formal ecological linkage. The trees could be considered to have ecological linkage value as 'stepping stones' between nearby remnant vegetation. |
| Conservation areas | The closest conservation area is Boonanarring Nature Reserve, located 4.5 kilometres north of the application area. |
| Vegetation description | The vegetation within the application area is mapped as the Gingin complex, which is described as open woodland of *Corymbia calophylla* (Marri) with second story of *Banksia gradis* (Bull Banksia) and *Nuytsia floribunda*. Fringing woodland of *Eucalyptus rudis* (Flooded Gum) – *Melaleuca rhaphiophylla* (Swamp Paperbark) along streams<br><br>The mapped vegetation type (Gingin complex) retains approximately 11.5 per cent of the original extent (Government of Western Australia, 2019).<br><br>Representative photographs are available in Appendix E. |
| Vegetation condition | Photographs supplied by the applicant indicate the vegetation within the proposed clearing area is completely degraded (Keighery, 1994) condition, described as:<br>• 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.<br><br>The full Keighery (1994) condition rating scale is provided in Appendix D.<br>Representative photographs and mapping are available in Appendix E. |
| Climate and landform | The application area is subject to a Mediterranean climate. The average maximum temperature for the Gingin region is 25.7 degrees celsius with a mean annual rainfall of 290 millimetres (BOM, 2023). |
| Soil description | The soils within the application area are mapped as (DPIRD, 2019):<br>• Dandaragan Gingin Brook terrace phase which is described as: Terraces, semi wet sandy and sandy soils. Map unit Symbol: 222DaGBt<br>• Dandaragan Gingin Brook subsystem which is described as: Flood plains with terraces. Semi wet sandy soils. Map unit Symbol: 222DaGB |

| Characteristic | Details |
|---|---|
| Land degradation risk | The proposed clearing area is mapped as high to extreme risk of wind erosion and phosphorous export and mapped as high risk for subsurface acidification. |
| Waterbodies | The desktop assessment and aerial imagery indicates that there is a major, perennial watercourse (Gingin Brook) that runs parallel to the application area, which is located 150 metres east at its nearest point to the application area. There are two minor, non-perennial watercourses that intersect the application area. |
| Hydrogeography | The application area is located within the Gingin Groundwater area, proclaimed under the RiWI Act 1914.The application area is also within a Surface Water Area and Irrigation District, the Gingin Brook Catchment Area. There are no Public Drinking Water Source Areas (PDWSA) that intersect the application area.<br><br>The groundwater salinity level (Total Dissolved Solids) within the application area is 1000-3000 milligrams per litre. |
| Flora | There are 105 records across 32 species of flora within the local area (10-kilometre radius), four of which are listed as threatened. There is one flora species recorded within one kilometre of the application area, *Ptychosema pusillum* (Threatened), which is located approximately 0.70 km from the application area. |
| Ecological communities | There are no threatened or priority ecological communities within the application area. The nearest mapped buffer to a Threatened Ecological Community (TEC) is located approximately 225 metres east of the application area, that being the EPBC Act listed Banksia Woodlands of the Swan Coastal Plain TEC. |
| Fauna | A total of 190 records across 17 species of conservation significant fauna are recorded within the local area (10-kilometre radius). Three species are recorded within one kilometre of the application area, namely:<br>• *Galaxiella munda* (western dwarf galaxias) (Vu) – 0.16 km<br>• *Westralunio carteri* (Carter's freshwater mussel) (Vu) – 0.16 km<br>• *Zanda latirostris* (Carnaby's cockatoo) (En) – 0.30 km<br>One black cockatoo roost is mapped within the local area, approximately 4.50 km south of the proposed clearing. |

## B.2. Vegetation extent

| | Pre-European extent (ha) | Current extent (ha) | Extent remaining (%) | Current extent in all DBCA managed land (ha) | Current proportion (%) of pre-European extent in all DBCA managed land |
|---|---|---|---|---|---|
| IBRA bioregion | | | | | |
| Swan Coastal Plain | 1,501,221.93 | 579,813.47 | 38.62 | 222,916.97 | 38.45 |
| Vegetation association | | | | | |
| Gingin Complex | 7,113.48 | 822.79 | 11.57 | 266.01 | 3.74 |
| Local area | | | | | |
| 10km radius | 33,664.71 | 12,206.56 | 36.25 | - | - |

*Government of Western Australia (2019a)

### B.3. Fauna analysis table

| Species | Conservation status | Suitable habitat features? [Y/N] | Distance of closest record to application area (km) | Number of known records (total) | Likelihood of occurrence | Surveys adequate to identify? [Y, N, N/A] |
|---|---|---|---|---|---|---|
| *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) | VU | N | 3.93 | 1 | Possible | N/A |
| *Calyptorhynchus sp.*- White-tailed black cockatoo (white-tailed black cockatoo) | EN | Y | 4.23 | 9 | Likely | N/A |
| *Zanda latirostris* (Carnaby's cockatoo) | EN | Y | 0.30 | 134 | Likely | N/A |

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

### B.4. Land degradation risk table

| Risk categories | *Land Unit 1* |
|---|---|
| Wind erosion | M2: 30-50% of the map unit has a high to extreme risk |
| Subsurface Acidification | H2: >70% of the map unit has a high subsurface acidification risk or is presently acid |
| Flood risk | M1: 10–30% of the map unit has a moderate to high flood risk.<br>M2: 30-50% of the map unit has a moderate to high flood risk |
| Water logging | H1: 50-70% of the map has a moderate to very high waterlogging risk.<br>H2: >70% of the map has a moderate to high waterlogging risk |
| Phosphorus export risk | M1: 10-30% of the map unit has a high to extreme phosphorous export risk.<br>M2: 30-50% of the map unit has a high to extreme phosphorous export risk |

## Appendix C. 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."*<br>Assessment:<br>Due to the small scale and the completely degraded vegetation condition, the area proposed to be cleared is not likely to contain regionally significant flora, fauna, habitats or assemblages of plants, Due to the small scale and the completely degraded vegetation condition, | 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."*<br>Assessment:<br>The small size of the application area is unlikely to significantly impact on fauna, however, trees within the proposed clearing area were identified as potentially suitable habitat for black cockatoos. | May be at variance | Yes<br>*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."*<br>Assessment:<br>Based on the completely degraded vegetation condition within the road reserve, the area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act. | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."*<br><br>Assessment:<br><br>The area proposed to does not contain species that are indicative of a threatened ecological community. | Not likely to be at variance | No |
| **Environmental value: significant remnant vegetation and conservation areas** | | |
| Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."*<br><br>Assessment:<br><br>The extent of the mapped vegetation type (Gingin Complex) is inconsistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area. | At variance | Yes<br><br>*Refer to Section 3.2.2, above.* |
| Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."*<br><br>Assessment:<br><br>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas. | Not likely to be at variance | No |
| **Environmental value: land and water resources** | | |
| Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."*<br><br>Assessment:<br><br>A portion of the application area (two trees) traverses over the mapped boundaries of two minor, non-perennial watercourses. The Gingin Brook is a perennial watercourse located approximately 150 metres from the application area. The proposed clearing will not result in significant impacts to the environmental attributes of these watercourses. | At variance | Yes<br><br>*Refer to Section 3.2.3, above.* |
| Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."*<br><br>Assessment:<br><br>The mapped soils are moderately to highly susceptible to wind and water erosion, phosphorous export. Noting the size of the application area and the condition of the vegetation (completely degraded), the proposed clearing is not likely to have an appreciable impact on land degradation. | Not likely to be at variance | Yes<br><br>*Refer to Section 3.2.3, above.* |
| Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."*<br><br>Assessment:<br><br>The application area is within the Gingin Brook Catchment area under the RIWI Act 1914 however, it is not located within a protection zone or PDWSA. The small scale of proposed clearing is not likely to have adverse impacts on surface or groundwater quality. | Not likely to be at variance | No |

| Assessment against the clearing principles | Variance level | Is further consideration required? |
|---|---|---|
| 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."*<br><br>Assessment:<br><br>The mapped soils and topographic contours in the surrounding area indicate that areas are prone to flooding. However, the clearing of eight trees is not likely to exacerbate or increase the intensity of flooding.<br><br>There is a watercourse are recorded within 150 metres of the application area, the proposed clearing may contribute to waterlogging. Part of the application area (two trees) are on a floodplain. | Not likely to be at variance | Yes<br><br>*Refer to Section 3.2.3, above.* |

## Appendix D. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

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

## Appendix E. Photographs of the vegetation

**Figure 2.** Tree 1 proposed to be cleared (Southern most tree)

**Figure 3.** Tree 2 proposed to be cleared

**Figure 4.** Tree 3 proposed to be cleared

**Figure 5.** Tree 4 proposed to be cleared

**Figure 6.** Tree 5 proposed to be cleared

**Figure 7.** Tree 6 proposed to be cleared

**Figure 8.** Tree 7 proposed to be cleared

**Figure 9.** Location of trees 8 and 9 which have since been cleared

**Figure 10.** Tree 10 proposed to be cleared (northern most tree)

## Appendix F. Application area maps

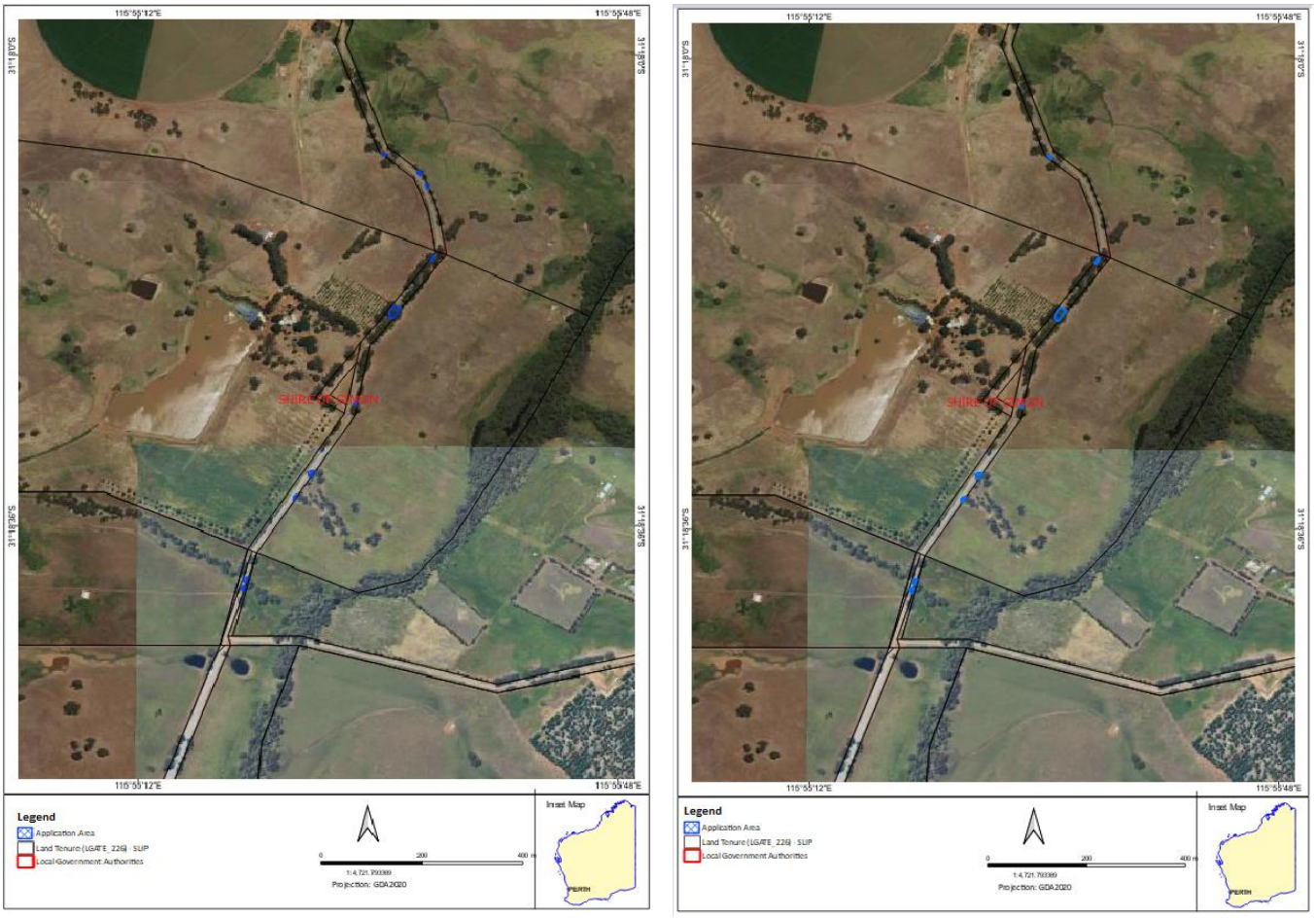


**Figure 11.** Maps of the original (left) and revised (right) application areas


**Figure 12.** Mapped watercourses throughout the application area

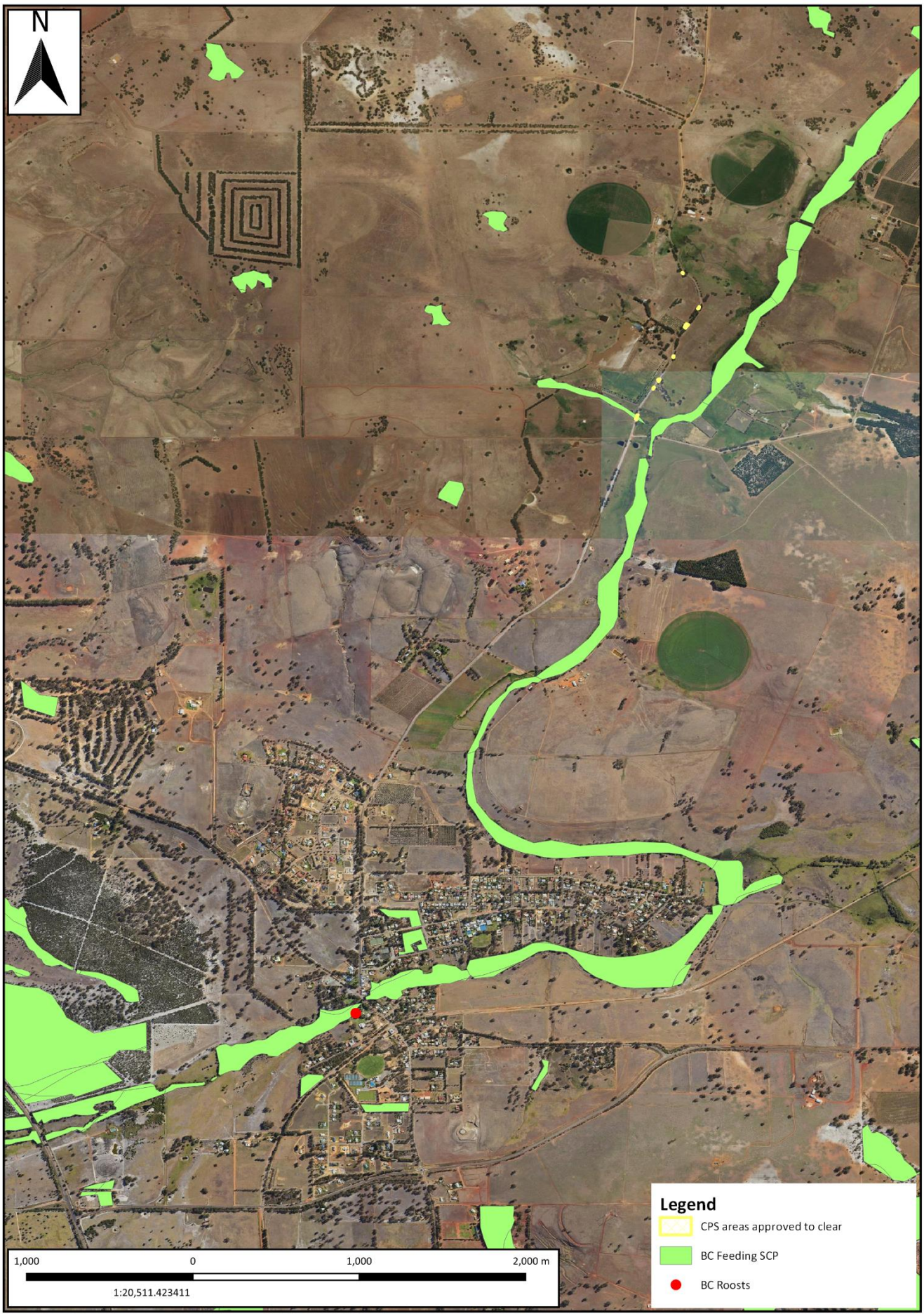


**Figure 13:** Black Cockatoo feeding areas mapped within the local area

# Appendix G. Sources of information

## G.1. GIS databases

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

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

Restricted GIS Databases used:

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

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