GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

ADVICE NOTE

The funds referred to in condition 6 of this permit are intended for contributing towards the purchase of 12.13 hectares of *native vegetation* comprising of black cockatoo foraging habitat and 'Tuart *(Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain (SCP) Interim Biogeographic Regionalisation for Australia (IBRA) region' Threatened Ecological Community

PERMIT DETAILS

Area Permit Number:	CPS 9543/1
File Number:	DWERVT9329
Duration of Permit:	From 23 July 2023 to 23 July 2038

PERMIT HOLDER

Discovery Holiday Parks Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 304 on Plan 50276, Coogee (Crown Reserve 49220)

AUTHORISED ACTIVITY

The permit holder must not clear more than 2.77 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

CONDITIONS

1. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 23 July 2028.

2. Avoid, minimise, and reduce impacts and extent of clearing

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

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

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

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

3. Weed and dieback management

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

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

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

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

4. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner and in one direction towards adjacent *native vegetation*, to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

5. Offset – Revegetation and rehabilitation

(a) Within 6 months of clearing commencing, the permit holder must submit a Project Revegetation Plan to the *CEO* for approval for the *revegetation and rehabilitation* of 1.85 hectares of *native vegetation* within the area cross-hatched red in Figure 2 of Schedule 1 (Crown Reserve 49220, Lot 500 on Plan 56133), prepared in liaison with the Department of Biodiversity Conservation and Attractions. The Project Revegetation Plan shall be developed in accordance with *A Guide to Preparing Revegetation Plans for Clearing Permits* (Department of Water and Environmental Regulation (DWER) 2018).

(b) The Project Revegetation Plan must *revegetate* and *rehabilitate* 1.85 hectares of *native vegetation* within the area cross-hatched red in Figure 2 of Schedule 1 (Crown Reserve 49220, Lot 500 on Plan 56133) of this permit which provides:

  (i) species which provide suitable foraging habitat for Carnaby's black cockatoo (*Zanda lateriosis*); and

  (ii) species of the '*Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain Threatened Ecological Community as described in *Approved Conservation Advice.*

(c) The Project Revegetation Plan must be prepared by an *environmental specialist.*

(d) The Project Revegetation Plan must include the following:

(i) the location/s of the *revegetation* and *rehabilitation* area as required under condition 5(a) of this permit;

(ii) *site preparation*;

(iii) *weed* control;

(iv) *regeneration, direct seeding* or *planting*, at an *optimal time*;

(v) a *vegetation establishment period*;

(vi) *revegetation* success *completion criteria* based on selected *reference sites*, including but not limited to target weed cover, target vegetation condition, target density and target structure;

(vii) remedial actions to be undertaken if *completion criteria* are not met;

(viii) ongoing maintenance and monitoring of the area to be *revegetated* and *rehabilitated*;

(ix) timeframes for completion of the activities; and

(i) management commitments that will be achieved.

(e) If the *CEO*, having had regard to conditions 5(b) and 10(d) of this permit, does not approve the Project Revegetation Plan, the permit holder must revise and resubmit the Project Revegetation Plan within 1 month of the date of the *CEO's* decision.

(f) If the *CEO*, having had regard to conditions 5(b) and 5(d) of this permit, does not approve a revised Project Revegetation Plan submitted in accordance with condition 5(e) of this permit, the permit holder must again revise and resubmit the Project Revegetation Plan in accordance with condition 5(e) of this permit.

(g) The permit holder must obtain the approval of the *CEO*, prior to implementing the Project Revegetation Plan.

(h) The permit holder must implement the Project Revegetation Plan within 12 months of the date of approval by the *CEO*.

6. Offset – monetary contributions to the Offsets Fund

Prior to undertaking any clearing authorised under this permit, the permit holder must provide documentary evidence to the *CEO* that funding of $65,380 has been transferred to the Department of Water and Environmental Regulation for the purpose of establishing or maintaining native vegetation as an environmental offset for the clearing activities authorised under this permit.

7. 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	(a) the species composition, structure, and density of the cleared area;

No.	Relevant matter	Specifications
	activities generally	(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 direction of clearing; (e) the size of the area cleared (in hectares); (f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2; and (g) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 3; and (h) actions taken in accordance with condition 6
2.	In relation to *revegetation* and *rehabilitation* pursuant to condition 5	(a) A copy of the approved Project Revegetation Plan developed in consultation with the Department of Biodiversity Conservation and Attractions (b) a description of the *revegetation* and *rehabilitation* activities undertaken; (c) the size of the areas *revegetated* and *rehabilitated* (in hectares); (d) the date that *revegetation* and *rehabilitation* works began; (e) any remediation works undertaken; (f) a copy of *environmental specialist* reports; and (g) the date that completion criteria are considered to be met

8. Reporting

The permit holder must provide to the *CEO* the records required under condition 7 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
Approved conservation advice	means Approved Conservation Advice for the '*Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain Threatened Ecological Community, available at: http://www.environment.gov.au/biodiversity/threatened/communities/pubs/153-conservation-advice.pdf
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.
completion criteria	means a measurable outcome based on suitable *reference sites*, used to determine *revegetation/rehabilitation* success.
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.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
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.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of two (2) years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the *CEO* as a suitable *environmental specialist*.
EP Act	*Environmental Protection Act 1986* (WA)
fill	means material used to increase the ground level, or to fill a depression.
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.
optimal time	means the period from April to July for undertaking *planting* and *direct seeding*.
planting	means the re-establishment of vegetation by creating favourable soil conditions and *planting* seedlings of the desired species.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
reference sites	means nearby sites used to provide baseline data for planning a *revegetation* project. Measurements from fixed reference points or plots where biodiversity components are measured are used to set measurable completion criteria for *revegetation* projects.
rehabilitation/ed/ing	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
revegetation/ed/ing	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

Term	Definition
	pre-clearing vegetation types in that area.
site preparation	means management of existing site topsoil and preparation of the finished soil surface, for example by ripping or tilling the soil surface and respreading site topsoil and chipped native vegetation.
vegetation establishment period	means a period of at least two summers after the *revegetation* during which time replacement and infill *revegetation* works may be required for areas in which *revegetation* has been unsuccessful, and involves regular inspections of *revegetation* sites to monitor the success of *revegetation*.
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.

END OF CONDITIONS

Mathew Gannaway
A/SENIOR MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

29 June 2023

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

Figure 2: Map of the boundary of the area within which revegetation and rehabilitation

must 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 9543/1
Permit type:	Area permit
Applicant name:	Discovery Holiday Parks Pty Ltd
Application received:	23 December 2021
Application area:	2.77 hectares of native vegetation
Purpose of clearing:	Extension of Woodman Point holiday and caravan park
Method of clearing:	Mechanical
Property:	Lot 304 on Plan 50276
Location (LGA area/s):	City of Cockburn
Localities (suburb/s):	Coogee

1.2. Description of clearing activities

The application is to clear native vegetation to facilitate future development of the expansion to the Woodman Point holiday and caravan park. The extended facilities will provide an additional 115 accommodation sites and additional supporting facilities and structures. The expansion to the Woodman Point holiday and caravan park is a Negotiated Planning Outcome (NPO). NPO's are only considered for priority government-initiated projects or important regional development projects.

Discovery Parks bought the existing operating caravan park adjacent to the application area in 2016. The area is zoned predominately for recreation in the Woodman Point Regional Management Plan (WPRMP). The expansion of the park into the application area will increase the size of the caravan park, while remaining within the designated recreation zone (GHD, 2021a).

The application area includes 1.47 hectares of revegetation and planted native vegetation established by the Department of Biodiversity, Conservation and Attractions (DBCA) and 1.30 hectares of the original extent of native vegetation. The application area equates to 2.77 hectares of native vegetation as defined by the *Environmental Protection Act 1986* (EP Act).

1.3. Decision on application

Decision:	Granted
Decision date:	29 June 2023
Decision area:	2.77 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

The clearing permit application was submitted, accepted, assessed and determined in accordance with section 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. No public submissions were received.

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

- 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)
- a detailed assessment of the impacts of the clearing on environmental values (see Section 3.2 of this report)
- other matters considered relevant to the assessment (see Section 3.3 of this report). This included:
    - advice from City of Cockburn on matters regulated under its jurisdiction
    - advice from the DWER's Water team on matters regulated under the *Rights in Water and Irrigation Act 1914* (RIWI Act)
    - advice from DBCA regarding the management of Woodman Point Regional Park
    - advice from the Department of Planning, Lands and Heritage (DPLH) (Bush Forever) regarding the management of Bush Forever site 341.
- the application area site characteristics (see Appendix A)
- the 10 Clearing Principles set out in Schedule 5 of the EP Act (see Appendix B)
- photographs of the vegetation within the application area (see Appendix E)
- an environmental impact assessment of the application area conducted by GHD Pty Ltd (2021a) (see Appendix E)
- relevant datasets available at the time of the assessment (Appendix F).
- a summary of a flora and vegetation and targeted vertebrate fauna surveys undertaken by GHD Pty Ltd in September 2019 and additional surveys undertaken in March 2020 (2021b) (see Section 1.2 of this report)
- economic and social matters associated with the application (see Section 2.6 of this report)
- the detailed description of the vegetation types within the application area (Appendix A)
- an assessment of the native vegetation within the application area against the key diagnostic criteria for the 'Tuart *(Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain (SCP) Interim Biogeographic Regionalisation for Australia (IBRA) region', listed as 'Priority 3' priority ecological community (PEC) by DBCA and as 'Critically Endangered' threatened ecological community (TEC) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (hereafter referred to as the Tuart Woodland TEC) (Appendix E)
- an assessment of potential black cockatoo breeding, roosting and foraging habitat within the application area (Appendix E)
- other matters considered relevant to the assessment (see Section 2 of this report)
- advice from DBCA (2021a and 2021b) and DPLH (2021a and 2021b) on the offset alternatives identified by the applicant
- the proposed clearing being a NPO, which are only considered for priority government-initiated projects or important regional development projects

After consideration of the above information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined that the proposed clearing:

- may increase the risk of spread of weed and dieback into native vegetation adjacent to the application area
- will impact on native vegetation which provides habitat for conservation significant fauna.
- impacts to approximately 2.77 hectares of native vegetation within Bush Forever site 341 and Woodman Point Regional Park.
- loss of 0.55 hectares of native vegetation which represents the *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC
- loss of 1.59 hectares of native vegetation which represents the Tuart Woodland TEC
- will impact 1.53 hectares of foraging habitat for black cockatoos.

The Delegated Officer determined that the proposed clearing will result in the following significant residual impacts (SRI):

- loss of 1.53 hectares of native vegetation which provides significant foraging habitat for black cockatoos (including 0.15 hectares of native vegetation and 1.38 hectares of revegetation)
- loss of 2.77 hectares of native vegetation within a conservation area (Bush Forever site 341 and Woodman Point Regional Park)
- loss of 0.55 hectares of native vegetation which represents the *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC (including 0.01 hectares of native vegetation and 0.54 hectares of revegetation)
- loss of 1.59 hectares of native vegetation which represents the Tuart Woodland TEC (including 0.33 hectares of native vegetation and 1.25 hectares of revegetation)

In accordance with the Government of Western Australia's *Environmental Offsets Policy and Environmental Offsets Guidelines*, the Delegated Officer determined that the following offsets are required to address the above significant residual impacts:

- revegetate 1.85 hectares of degraded land containing the Callitris preissii TEC and black cockatoo foraging habitat within Woodman Point Regional Park across three locations; and
- provide a momentary contribution to the WA offset fund for the purchase of 12.13 hectares of vegetated land, consisting of Tuart Woodland TEC and black cockatoo habitat in very good condition.

The Delegated Officer determined that the above offset was sufficient to counterbalance the significant residual impacts associated with the proposed clearing. Further information on the suitability of the offsets provided are summarised in Section 4.

The Delegated Officer therefore decided to grant a clearing permit subject to the following conditions, which have been imposed on the clearing permit, to manage and address the impacts of clearing:

- avoid, minimise to reduce the impact and extent of clearing
- weed and dieback management to minimise the risk of introduction and spread of weeds and dieback
- fauna management to provide fauna an opportunity to move into adjacent native vegetation ahead of the clearing activity
- offsetting to counterbalance the significant residual impacts of the proposed clearing.

Given the above and noting that the offset provided (see Section 4) counterbalances the significant residual impacts, the Delegated Officer determined that the proposed clearing is unlikely to lead to an unacceptable risk to the environment.

1.5. Site map

Figure 1 Map of the application area

2 Legislative context

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

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

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Aboriginal Heritage Act 1972*
- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- EPBC Act
- *Planning and Development Act 2005* (WA) (P&D Act)
- RIWI Act

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

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)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

In relation to any actions which had been considered to avoid or minimise the need for clearing, the applicant advised that the native vegetation proposed to be cleared has a long history of disturbance with a large proportion of the application area having been cleared, and then revegetated, within the last 40 years. The applicant noted that avoidance of TECs is not possible in this instance as the surrounding vegetation is also likely to be representative of a TEC in better condition (GHD Pty Ltd, 2021a).

Further, the applicant commits to retaining some Tuart and Rottnest Island Cypress trees, where possible, subject to the requirements for bushfire management zones. Clearing will be restricted to the minimum area required for construction works and will be clearly demarcated on site to prevent accidental clearing. These measures will be included in the Construction Environmental Management Plan (CEMP) once developed (GHD Pty Ltd, 2021a).

Given the above, the Delegated Officer recognises that the applicant has adequately demonstrated reasonable efforts to avoid and minimise potential impacts on the environmental values.

After consideration of avoidance and mitigation measures, it was determined that offsets to counterbalance the significant residual impacts to biodiversity, conservation significant fauna, threatened ecological communities and conservation areas were necessary. In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offsets provided are summarised in Section 4.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing present a risk to biological values (fauna, flora and vegetation), significant remnant vegetation and conservation

areas. 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. Environmental value: biological values (biodiversity, fauna and threatened ecological communities) – Clearing Principles (a), (b), (d) and (h)

Outcome:
The proposed clearing will result in the:

- loss of 1.53 hectares of native vegetation which provides significant foraging habitat for black cockatoos (including 0.15 hectares of native vegetation and 1.38 hectares of revegetation)
- loss of 2.77 hectares of native vegetation within a conservation area (Bush Forever site 341 and Woodman Point Regional Park)
- loss of 0.55 hectares of native vegetation which represents the *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC (including 0.01 hectares of native vegetation and 0.54 hectares of revegetation)
- loss of 1.59 hectares of native vegetation which represents the Tuart Woodland TEC (including 0.33 hectares of native vegetation and 1.25 hectares of revegetation)

Conditions:
The Delegated Officer imposed a weed and dieback management condition on the clearing permit to minimise the risk of introduction and spread of weeds and dieback and offset conditions to counterbalance the significant residual impacts of the clearing. The Delegated Officer determined that the significant residual impacts can be addressed through a suitable offset (as conditioned on the clearing permit). Section 4 of this report provides further information on the offset provided.

The Delegated Officer imposed fauna management conditions on the clearing permit to minimise the risk of clearing on black cockatoos and terrestrial fauna including:

- fauna management condition to provide fauna an opportunity to move into adjacent native vegetation ahead of the clearing activity

Assessment:
Fauna
According to available databases, a total of 78 conservation significant fauna species have been recorded within the local area (DBCA, 2022a). 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 (GHD Pty Ltd, 2021b), it is considered that the application area is likely to comprise suitable habitat for the following species:

- Carnaby's cockatoo *(Zanda latirostris)* – Endangered (EPBC Act and BC Act)
- Forest red-tailed black cockatoo *(Calyptorhynchus banksii naso)* – Vulnerable (EPBC Act and BC Act)
- Peregrine falcon *(Falco peregrinus)* – Other Specially Protected Fauna (BC Act)
- Osprey *(Pandion cristatus)* – Migratory (EPBC Act and BC Act)
- Masked owl *(Tyto novaehollandiae* subsp*. novae-hollandiae)* – Priority 3 (DBCA)
- Quenda *(Isoodon fusciventer)* – Priority 4 (DBCA)
- Perth lined skink *(Lerista lineata)* – Priority 3 (DBCA); and
- Black-striped snake *(Neelaps calonotos)* – Priority 3 (DBCA)

A fauna survey of the application area identified use of the application area by Carnaby's cockatoo but did not identify any evidence of other fauna listed as likely to occur within the application area (GHD Pty Ltd, 2021b).

Black cockatoos
The application area falls within the modelled distribution of Carnaby's cockatoo (*Zanda latirostris*) and forest red-tailed black cockatoo (*Calyptorhynchus banksia* subsp. *naso*) (collectively referred to as 'black cockatoos' herein this report). 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 application area may provide suitable breeding habitat for black cockatoos which includes trees that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) (of 500 millimetres) to develop a nest hollow (Commonwealth of Australia, 2012). Carnaby's cockatoo typically nests in eucalypt woodlands, primarily in the hollows of wandoo (*Eucalyptus wandoo*), salmon gum (*E. salmonophloia*) and marri (*Corymbia calophylla)* (Groom, 2015). 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 (Johnston, Kirkby and Sarti, 2013).

GHD Pty Ltd (2021b) identified three potential habitat trees within the application area, all of which are Tuart trees with no visible hollows. No suitable roosting habitat for black cockatoos was identified within the application area (GHD Pty Ltd, 2021b).

Noting typical food resources for black cockatoos, the application area contains approximately 1.53 hectares of foraging habitat for these species. Forest red-tailed black cockatoo feed on the seeds of marri and jarrah, as well as other *Eucalyptus* species and *Allocasuarina* cones (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, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008).

A targeted black cockatoo habitat assessment identified suitable black cockatoo foraging species within the application area to include tuarts (*E. gomphocephala*) and Rottnest Pines (*Callitris preissii*). Carnaby's cockatoo were also observed foraging within the application area, during the habitat assessment (GHD Pty Ltd, 2021b). These species were scattered throughout the survey area but mostly associated with VT04 (Revegetation) and VT02 (Melaleuca shrubland).

The assessment of the application further identified that the application area provides foraging habitat that supports black cockatoo breeding. While breeding, black cockatoos will generally forage within a 6–12 kilometre radius of their nesting site (Commonwealth of Australia, 2012; EPA, 2019). The application area is located within the mapped confirmed breeding area for Carnaby's cockatoo and is within 8.3 km from confirm breeding habitat including 20 artificial nesting hollows located at Murdoch University.

The assessment also determined that the application area is considered to provide foraging habitat that supports black cockatoo roosting sites. Individual roost sites need suitable foraging habitat and a water source within 6 kilometres (EPA. 2019). Overlapping foraging ranges within 12 kilometres also support roosting sites and maintain habitat connectivity and movement across the landscape (EPA, 2019). Available databased indicate that there are 34 known roosting sites for black cockatoos within the local area with a total of 12 within a 6 km radius.

It is estimated that the local area comprises approximately 1953 hectares of native vegetation which is mapped as black cockatoo foraging habitat. The application area represents approximately 0.14 per cent of this extent. However, considering that the local area is extensively cleared with only 16 percent pre-European vegetation extent remaining, the application area is considered significant in supporting the viability of the local populations of black cockatoos.

Considering the above the application area is considered to represent critical habitat for black cockatoos.

Other conservation significant fauna

Noting the vegetation identified (GHD Pty Ltd, 2021b) within the application area and its quality, the habitat requirements and distribution of the above species, the application area provides suitable habitat for each of these species. Taking into consideration the extent of the proposed clearing relative to the surrounding native vegetation, the proportion of the vegetation within the application area that is revegetation or planted vegetation and the abundance of native vegetation within lands managed by DBCA for conservation which are likely to comprise vegetation in similar or better condition than that present within the application area, the habitat within the application area is not considered significant in the local context.

Whilst not considered significant habitat, impacts to individual terrestrial fauna may occur at the time of clearing. To minimise these potential impacts, the applicant will be required to undertake slow, progressive one directional clearing to allow terrestrial fauna to disperse ahead of the clearing activity should they occur on site at the time of clearing.

Table 1: Fauna descriptions of species likely to have habitat within the application area

Osprey	Terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia. They require extensive areas of open fresh, brackish or saline water for foraging. They frequent a variety of wetland habitats including inshore waters, reefs, bays, coastal cliffs, beaches, estuaries,

	mangrove swamps, broad rivers, reservoirs and large lakes and waterholes. They exhibit a preference for coastal cliffs and elevated islands in some parts of their range but may also occur on low sandy, muddy or rocky shores and over coral cays. They may occur over atypical habitats such as heath, woodland or forest when travelling to and from foraging (DSEWPaC 2016).
Quenda	The Quenda is listed as priority 4 by DBCA, is known to inhabit scrubby, swampy vegetation with low, dense understorey, located nearby water courses, pasture, or forest/woodland that is regularly burnt and is in areas of pasture and cropland lying close to dense cover. Populations which inhabit jarrah and wandoo forests are usually associated with watercourses. Quendas will thrive in more open habitat subject to exotic predator control. For example, quenda have become abundant in Lake Magenta Nature Reserve (Western Australia) in Mallee scrub and woodland following fox control (Department of Conservation, 2012a).
Black-striped snake, black-striped burrowing snake	Black-striped snake, black-striped burrowing snake (*Neelaps calonotos*) is one of five species of small burrowing elapids in the Perth region. The species is more abundant north of the Swan River, whereas records are comparatively scarcer to the south. *N. calonotos* typically occupy Banksia woodlands atop soft calcareous sand and, to a lesser extent, coastal heathlands and shrublands. Although relatively abundant in both habitats, scientists recorded higher capture rates of *N. calonotos* in Banksia woodlands which are also the preferred habitat for skinks, such as *Aprasia* and *Lerista spp*., which are exclusive food resources for *N. calonotos*. *N. calonotos* is rarely found in small urban bushland remnants as these are more susceptible to weed infestation, bushfires and predation by feral species, with weeds having an adverse effect on the composition of microhabitats required by fossorial species (He, 2021).
Masked owl (southwest)	Masked owl, listed as Priority 3 by DBCA, inhabits forests, woodlands, timbered waterways and open country on the fringe of these areas and usually roosts in vertical hollows in large trees. The main requirements are tall trees with suitable hollows for nesting and roosting and adjacent areas for foraging (Birdlife Australia, 2020).
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.
Perth slider, lined skink	Perth slider, lined skink (*Lerista lineata*) is largely restricted to the Swan Coastal Plain including Garden and Rottnest Island, mostly within the highly developed southern Perth Metropolitan Area. The species likely has poor dispersal abilities and relies on litter ground cover and other debris for shelter, which makes it vulnerable to fire. *L. lineata* is known to occur in several bush remnants near Perth, including Forrestdale Lake Nature Reserve, Jandakot Airport, Modong Nature Reserve and Woodman Point. The species unlikely occupies small remnants of native vegetation (Threatened Species Scientific Committee, 2020).

Flora

According to available databases, two threatened and 24 Priority flora species are known to occur within the local area. Based on the similarities shared between the soil and vegetation types in habitats for these flora taxa and within the application area, the application area may provide suitable habitat for *Jacksonia sericea* (P4). To confirm the presence/absence of these species within the application area, the applicant commissioned GHD Pty Ltd (2021b) to undertake:

a) a vegetation assessment of the application area; and
b) a single-season detailed flora survey of the application area on 9 September 2019.

The GHD Pty Ltd (2021b) flora survey undertaken in September, which is considered an appropriate month for vegetation surveys on the Swan Coastal Plain (EPA, 2016), identified a total of 63 species from 31 families. Of these, no flora listed as threatened or Priority by DBCA was identified within the application area.

Noting the survey efforts, survey timing and flowering periods of the species considered as potentially occurring within the application area, it is considered that the application area is unlikely to provide habitat for other conservation significant flora known to occur within the local area.

Threatened Ecological Community

A survey undertaken by GHD Pty Ltd in September 2019 concluded that none of the vegetation within the application area was representative of a TEC. However, in March 2020 GHD Pty Ltd undertook surveys of additional areas and determined that the vegetation within the whole of the application area is representative of two TECs; the Tuart Woodland TEC and *Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands TEC (GHD Pty Ltd, 2021b).

The Tuart Woodland TEC consists of *Eucalyptus gomphocephala* (tuart) open woodland with occasional scattered *Callitris preissii* over *Acacia cochlearis*, *Spyridium globulosum* and *Melaleuca huegelii* open shrubland to scattered tall shrubs over *Acanthocarpus preissii, Eremophila glabra* and *Rhagodia baccata* low open shrubs over an predominantly cleared ground cover dominated by weedy grasses and herbs (dominant species **Lagurus ovatus*, **Avena barbata, *Asparagus asparagoides*, and **Cenchrus setaceus*). Based on the additional footprint, the Revegetation vegetation type (VT04) was determined to be representative of Tuart woodland TEC (GHD Pty Ltd, 2021b).

The Conservation Advice for this TEC states that if revegetated sites meet the key diagnostics and minimum condition thresholds for the Tuart woodlands TEC then it is considered a part of the nationally protected ecological community (Commonwealth of Australia, 2016).

The proposed clearing will result in the loss of 1.59 hectares of native vegetation which represents the Tuart Woodland TEC (including 0.33 hectares of native vegetation and 1.25 hectares of revegetation).

The follow-up survey by GHD Pty Ltd in March 2021 also identified additional patches of *Callitris preissii* trees within the extended footprint, which were growing in association with *Eucalyptus gomphocephala*, *Spyridium globulosum*, *Acanthocarpus preissii*, *Rhagodia baccata* and **Asparagus asparagoides*, which are all considered typical and common native and introduced taxa associated with the *Callitris preissi* TEC.

The critical habitat for this community is the sandy soils on which the community occurs, and the fresh superficial groundwater that probably helps to sustain key dominant trees. Occurrences within Bush Forever sites, and occurrences with comparatively large intact areas of the community that are in relatively good condition outside of Bush Forever, are considered important occurrences. Locations on Garden Island, Woodman Point, Rottnest Island and Trigg are the most extensive, and are all in Bush Forever sites in areas that are managed, in part, for conservation (DPaW, 2014).

The proposed clearing will result in the loss of 0.55 hectares of native vegetation which represents the *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC (including 0.01 hectares of native vegetation and 0.54 hectares of revegetation).

Ecological linkage

According to available databases, the application area is mapped within the Perth Regional ecological linkage (Link 76) mapped by WA Local Government Association's (WALGA) biodiversity project (Del Marco et al., 2004). Approximately 2.27 hectares of the western portion of the application area intersects this regional ecological linkage and the remaining vegetation within the application area is contiguous with this linkage and therefore provides similar ecological function.

This linkage provides value as a north-south ecological linkage within a highly fragmented landscape, particularly as a refuge as part of the Woodman Point Regional Park. Noting the location of the application area and the linkage, the proposed clearing will not fragment this ecological linkage but will further degrade the linkage and increase barriers for fauna movement.

Conservation significant vegetation

The vegetation within the application area is wholly within Woodman Point Regional Park, managed by the DBCA. Woodman Point Regional Park, including the application area, is also mapped as Bush Forever site 341. The vegetation adjacent to the application area will remain within these conservation areas and holds similar or better environmental value as the vegetation within the application area.

Land clearing can adversely affect adjacent native species diversity and promote weed invasion because of increasing areas of disturbance, fragmentation of habitat. Increased presence of weed species decreases the likelihood of persistence of many native species (Ritchie et al., 2021). *Phytophthora cinnamomi* disease centres are more commonly found in deeper soils where they can alter the root system to provide refugia for persistence. Many common plant families are susceptible to *P. cinnamomi*, including Proteaceae, Fabaceae, Ericaceae, Xanthorrhoeaceae, and Zamiaceae, causing mortality by hydraulic failure, leading to changes in plant species abundance and community structure. The change in plant community composition and structure, and potential localised loss of key species can have flow- on effects for fauna dependent on specific habitat and food sources (Ritchie et al., 2021).

Given that the vegetation within the application area is part of a conservation reserve and is adjacent to native vegetation with similar or better levels of biodiversity, conditions to mitigate the risk of weeds and dieback spreading from the application area into adjacent native vegetation will be conditioned on the permit.

3.3. Relevant planning instruments and other matters

The application is to clear native vegetation to facilitate future development of the expansion to the Woodman Point holiday and caravan park. The extended facilities will provide an additional 115 accommodation sites and additional supporting facilities and structures. The expansion to the Woodman Point holiday and caravan park is a NPO. NPO's are only considered for priority government-initiated projects or important regional development projects.

Discovery Parks bought the existing operating caravan park adjacent to the application area in 2016. The area is zoned predominately for recreation in the Woodman Point Regional Management Plan (WPRMP). The expansion of the park into the application area will increase the size of the caravan park, while remaining within the designated recreation zone (GHD, 2021a). The purpose of the proposed clearing is consistent with the NPO and current land zoning.

The application area is located within the Cockburn Groundwater Area proclaimed under the RIWI Act. There are no existing licences to take water for the Caravan Park and no licence applications have been received for the proposal to date. Groundwater resource in this area is fully allocated and therefore the department would be unlikely to grant new requests for water. However, the department can consider temporary licences for earthworks and dust suppression. There is scheme water available to the property which may be used for irrigation of the park or some areas of the park may be unirrigated.

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

No registered Aboriginal sites of significance have been mapped within the application area. The nearest Aboriginal Heritage Places are Registered Site 'Cockburn Road' located approximately 50 metres east of the application area. Given the separation distance, the proposed clearing is unlikely to impact on this site. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

State Planning Policy 2.8

In determining CPS 9543/1, the Delegated Officer considered Clause 5.1.2.1 (i) (e) of the *State Planning Policy 2.8 Bushland Policy for the Perth Metropolitan Region* (SPP 2.8), which states proposals should support a general presumption against the clearing of regionally significant bushland or other degrading activities, except where a proposal or decision:

> *is consistent with the overall purpose and intent of the existing Crown reserve or can be reasonably justified with regard to wider environmental, social, economic or recreational needs, and all reasonable alternatives have been considered in order to avoid or minimise any direct loss of regionally significant bushland, and reasonable offset strategies are secured to offset any loss of regionally significant bushland, where appropriate and practical.*

The Delegated Officer had regard to the extent of the proposed clearing as well as the avoidance and minimisation measures proposed by the applicant (as detailed in section 3.1 of this report). The Delegated Officer determined that the proposed clearing of 2.77 ha of native vegetation in completely degraded to good (Keighery, 1994) condition within Bush Forever site 341 is likely to have a significant environmental impact on this site, and that an offset is required.

Appendix 4 of SSP 2.8 identifies offset requirements for clearing of native vegetation within Bush Forever sites.

Based on the assessment of the environmental values impacted by the proposed clearing, it is considered that the application area is of high conservation significance area under SPP 2.8. Therefore, the offset must meet the following criteria to be consistent with SPP 2.8:

- Net gain of at least 1.5 times the calculated loss of habitat hectares
- The same vegetation / habitat type OR a Very High significance vegetation / habitat in the same Bioregion.

- Similar or more effective ecological function AND land protection function as impacted by the loss
- The existing vegetation proposed as the basis of an offset must be at least 70% of the quality in the area being lost

Further details of the offset are provided in section 4 of this report. It is considered that the proposed offset is consistent with SPP 2.8.

4 Suitability of offsets

Through the detailed assessment outlined in Section 3.2 above, the Delegated Officer has determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- loss of 1.53 hectares of native vegetation which provides significant foraging habitat for black cockatoos (including 0.15 hectares of native vegetation and 1.38 hectares of revegetation)
- loss of 2.77 hectares of native vegetation within a conservation area (Bush Forever site 341 and Woodman Point Regional Park) (of which 1.23 hectares is in good condition and 1.54 hectares of degraded to completely degraded condition)
- loss of 0.55 hectares of native vegetation which represents the *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC (including 0.01 hectares of native vegetation and 0.54 hectares of revegetation)
- loss of 1.59 hectares of native vegetation which represents the Tuart Woodland TEC (including 0.33 hectares of native vegetation and 1.25 hectares of revegetation)

To counterbalance the above impacts and as a result of discussions with the applicant, DBCA and DPLH, the following offset has been proposed:

- revegetation of 1.85 hectares of degraded vegetation that consists of the *Callitris preissii* TEC and black cockatoo foraging habitat within Woodman Point Regional Park (see figure 7); and
- providing funding to the WA offset fund for the purchase of 12.13 hectares of vegetated land, consisting of Tuart Woodland TEC and black cockatoo habitat in very good or better condition. This land will be managed by DBCA in perpetuity for the purpose of conservation.

A condition on the permit will require the applicant to develop and implement a revegetation plan, in consultation with DBCA for the revegetation offset site.

Figure 8: Location of site for revegetation offset (consists of 1.85 hectares of degraded *Callitris preissii* TEC)

WA Metric calculations

In assessing whether the proposed offset is adequately proportionate to the significance of the environmental values being impacted, calculations using the WA Offsets calculator were undertaken. These calculations indicate that the revegetation and acquisition offsets proposed are sufficient to adequately counterbalance the significant residual impacts of the proposed clearing. Table 3 provides a summary of the impacts, proposed offset and percentage of the significant residual impacts counterbalanced.

Table 3: Summary of proposed offset metric calculations percentage counterbalanced.

Impact	**Proposed Offset**	**% Counterbalanced**
loss of 1.53 hectares of native vegetation which provides foraging habitat for black cockatoos (including 0.15 hectares of native vegetation and 1.38 hectares of revegetation)	Revegetation of 1.85 hectares of *Callitris preissii* TEC and Tuart Woodland TEC within Woodman Point Regional Park. Purchase of 11.42 hectares of native vegetation by contribution of funds to the Part V offset fund.	26.2% 73.8% Total: 100%
loss of 2.77 hectares of native vegetation within a conservation area (Bush Forever site 341 and Woodman Point Regional Park) (of which 1.23 hectares is in good condition and 1.54 hectares of degraded to completely degraded condition)	Revegetation of 1.85 hectares of native vegetation within Woodman Point Regional Park (Bush Forever Site 341). Purchase of 2.3 hectares of native vegetation by contribution of funds to the Part V offset fund.	44.5% 55.5% Total 100% 1.5:1 ratio
loss of 0.55 hectares of native vegetation which represents the *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC (including 0.01 hectares of native vegetation and 0.54 hectares of revegetation)	Revegetation of 1.85 hectares of native vegetation within Woodman Point Regional Park.	100%
loss of 1.59 hectares of native vegetation which represents the Tuart Woodland TEC (including 0.33 hectares of native vegetation and 1.25 hectares of revegetation)	Purchase of 12.13 hectares of native vegetation by contribution of funds to the Part V offset fund.	100% Total: 100%

Justification for the values used in the offset calculation are provided in Appendix D.

Appendix A. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to the department 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. The 'local area' is considered a ten kilometre radius of the application area.

A.1. Site characteristics

Characteristic	Details
Local context	The application area occurs within the City of Cockburn in the Perth Metropolitan Region within the Swan Coastal Plain IBRA bioregion. As the application area is mapped in the Perth Metropolitan Area, the Environmental Protection Authority (EPA) has a modified objective to retain at least 10 percent of the pre-clearing extent of vegetation complexes for defined constrained areas (EPA, 2008). Spatial data indicate the local area (5-kilometre radius of the application area, which is equal to approximately 4,300 hectares of terrestrial vegetation) retains approximately 16.27 per cent (700 hectares) of the original native vegetation cover.
Ecological linkage	The application area is mapped within the Perth Regional ecological linkages (Link 76) mapped by WALGA biodiversity project (Del Marco et al., 2004). Approximately 2.27 hectares of the western portion of the application area intersects this regional ecological linkage.
Conservation areas	All of the application area is mapped within Woodman Point Regional Park, managed by DBCA. Woodman Point Regional Park, including the application area, is also mapped as Bush Forever site 341.
Vegetation description	GHD Pty Ltd (2021) mapped the vegetation within the application area on 9 September 2019. Vegetation survey (GHD Pty Ltd, 2021) indicate the vegetation within the proposed clearing area consists of five vegetation types as well as cleared/highly degraded areas. The full survey descriptions and maps are available in Appendix E. These vegetation types include: • *Acacia* closed shrubland (VT01) • *Melaleuca* shrubland (VT02) • **Cenchrus* grassland (VT03) • Revegetation (VT04) • Planted (VT05) This is consistent with the mapped vegetation type: • Cottesloe Complex – Central and South, which is described as mosaic of woodland of *Eucalyptus gomphocephala* (Tuart) and open forest of *Eucalyptus gomphocephala* (Tuart) - *Eucalyptus marginata* (Jarrah) – *Corymbia calophylla* (Marri); closed heath on limestone outcrops (Heddle et al., 1980) The mapped vegetation type retains approximately 32 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	Vegetation survey (GHD Pty Ltd, 2021a) indicate the vegetation within the proposed clearing area is in completely degraded to good (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix C. The full survey descriptions and mapping are available in Appendix E.
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 north-east boundary at an elevation of around 274 to 280 metres AHD

Characteristic	Details
	• Groundwater Salinity (Total Dissolved Solids): 500-1000 milligrams per litre total dissolved solids.
Soil description	DPIRD (2022) mapped the soil within the application area as: • 211Qu__S13 which is described as CALCAREOUS SAND - white, medium-grained, rounded quartz and shell debris, well sorted, of eolian origin (Schoknecht et al., 2004)
Land degradation risk	The mapped soil subsystem has elevated risks of water repel; all remaining land degradation risks are low (DPIRD, 2021). Given the mapped land degradation risks and the purpose for clearing the risks of appreciable land degradation are very low.
Waterbodies	No watercourses and wetlands have been mapped or identified within the application area. The closest mapped wetland occurs 930 metres to the east.
Hydrogeography	According to available databases, the application area: • is mapped within a proclaimed Groundwater Area (Cockburn) • is not within any other proclaimed area under the RIWI Act • is not within a Public Drinking Water Source Area
Flora	According to available databases, a total of two flora species listed as threatened under the BC Act and 24 Priority listed flora by DBCA have been recorded within the local area. Based on the similarities shared between the soil and vegetation types in habitats for these flora taxa and within the application area, several flora species as detailed in Appendix B may occur within the application area. Noting the soils and vegetation identified within the application area and its condition, the application area may provide suitable habitat for *Jacksonia sericea* (P4), however given the extent of known populations and results of flora surveys it is unlikely to occur within the application area.
Ecological communities	Four federally listed TEC's and two state listed PEC's are recorded within the local area. The vegetation within the application area represents two known TECs or PECs (GHD Pty Ltd, 2021a) being: • 0.55 hectares of native vegetation which represents the *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC • 1.59 hectares of native vegetation which represents the Tuart Woodland TEC
Fauna	According to available databases, a total of 78 conservation significant fauna species have been recorded within the local area (DBCA, 2022). Given the boundary of the local area overlaps the ocean, the majority of the recorded species are exclusively associated with marine, estuarine or freshwater habitats that do not occur within the application area. 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 (GHD Pty Ltd, 2021a), the application area is likely to comprise suitable habitat for: • Carnaby's black cockatoo *(Zanda latirostris)* – Endangered *(EPBC Act and BC Act)* • Forest red-tailed black cockatoo *(Calyptorhynchus banksii naso)* – Vulnerable *(EPBC Act and BC Act)* • Peregrine falcon *(Falco peregrinus)* – Other Specially Protected Fauna *(BC Act)* • Osprey *(Pandion cristatus)* – Migratory *(EPBC Act and BC Act)* • Masked owl *(Tyto novaehollandiae subsp. novae-hollandiae)* – Priority 3 (DBCA) • Quenda *(Isoodon fusciventer)* – Priority 4 (DBCA) • Perth lined skink *(Lerista lineata)* – Priority 3 (DBCA)

Characteristic	Details
	• Black-striped snake *(Neelaps calonotos)* – Priority 3 (DBCA)

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 application area contains values which are considered to indicate a high level of biodiversity; namely, vegetation representative of two listed TEC's and significant habitat for conservation significant fauna.	At variance	Yes *Refer to Section 3.2.1, above.*
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 contains significant foraging habitat for Carnaby's and forest red-tailed black cockatoos. Ground dwelling conservation significant fauna may also utilise the application area. To mitigate any potential impacts on ground dwelling fauna which may use the application area for dispersal, the applicant will be required to conduct directional clearing. For impacts to black cockatoos, an offset is required to counterbalance the significant residual impacts of the clearing.	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 due to available habitats within the application area and based on an appropriately timed flora survey of 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 contain species composition indicative of two TEC listed under the BC Act and/or EPBC Act.	At variance	Yes *Refer to Section 3.2.1, above.*
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."* Assessment: The application area is classified as a constrained area on the Swan Coastal Plain, where the threshold for representation of the pre-clearing of native vegetation is 10 per cent (modified from 30%).	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."* Assessment: The application area falls within Bush Forever site 341, Woodman Point Regional Park.	At variance	Yes *Refer to Section 3.2.1, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
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."* 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 soil subsystem has elevated risks of water repel; all remaining land degradation risks are low (DPIRD, 2021). Given the mapped land degradation risks and the purpose for clearing, the risks of appreciable land degradation is low.	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 no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging. The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.	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.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from:

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

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

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

Appendix D. Offset calculator value justification

Field Name	Description	Justification for value used
IUCN Criteria	The IUCN criteria for the value being impacted	**1.2%** - Afforded to Carnaby's cockatoo habitat as this species is listed as Endangered under the BC Act and the EPBC Act.
		6.8% - Afforded to Tuart Woodland TEC as this community is listed as Critically Endangered under the EPBC Act.
		6.8% - Afforded to *Callitris preissii* (or *Melaleuca lanceolata*) Woodlands and Forests of the Swan Coastal Plain TEC as this community is listed as Critically Endangered under the BC Act.
		N/A – Conservation Area – 1.5:1 ratio applies instead
Area of impact (habitat/community) or Quantum of impact (features/individuals)	The area of habitat/community impacted or number of features/individuals impacted	**1.53 ha** - The application area comprises 1.53 hectares of Carnaby's cockatoo foraging habitat
		1.59 - The application area includes 1.59 hectares of vegetation representative of Tuart Woodland TEC
		0.55 – The application area includes 0.55 hectares of vegetation representative of *Callitris preissii* TEC
		2.77 – The application area includes 2.77 hectares of vegetation within Bush Forever site 341
Quality of impacted area (habitat/community)	The quality score for area of habitat/community being impacted - a measure of how well a particular site supports a particular threatened species or ecological community and contributes to its ongoing viability	**7** - best fit (average) for the combination of vegetation condition (moderate to low), site context (high) and habitat attributes (high) for **Carnaby's cockatoo** on the SCP
		5 - best fit (average) for the combination of vegetation condition (0.33 degraded to good, remaining revegetation), site context (high) and habitat attributes (moderate) for **Tuart Woodland TEC on the SCP**
		5 - best fit (average) for the combination of vegetation condition (0.01 good and remaining revegetation), site context (high) and habitat attributes (moderate) **for *Callitris preissii* TEC on the SCP**
		10 – a value of 10 is used as per the Draft Metric Procedure to represent that all of the vegetation impacted is within the **conservation area.**
Duration (habitat/community)	This describes the timeframe over which changes in the level of risk to the	**20** - The offset site will be vested as 'conservation'. 20 years is the

	proposed mitigation site can be considered and quantified	maximum value associated with this field.
Time until ecological benefit (habitat/community) or Time horizon (features/individuals)	This describes the estimated time (in years) that it will take for the main benefit of the quality (habitat/community) or value (features/individuals) improvement of the proposed mitigation to be realised	**1** - 1 year has been assigned, being the time until a fund contribution can be made **10 – 10** years has been assigned for revegetation offset site representing the expected age to maturity to provide black cockatoo foraging habitat **6 – 6** years has been assigned for the revegetation offset site to represent the *Callitris preissii* TEC, that includes management actions including weed control, representing the expected time to improve the quality of vegetation and present TEC
Start quality (habitat/community)	The quality score for the area of habitat/community proposed as mitigation - a measure of how well a particular site supports a particular threatened species or ecological community and contributes to its ongoing viability	**7** - A quality score of (7) (Very Good to Excellent) has been assigned for financial contribution offsets based upon the assumption that the vegetation should represent quality vegetation within the conservation reserve.
		4 – A quality score of (4) has been assigned for the revegetation offset based on the offset area being of similar quality as the impact site.
Future quality without offset (habitat/community) or Future value without offset (features/individuals)	The predicted future quality score (habitat/community) or value (features/individuals) of the proposed mitigation site without the mitigation	**7** - A quality score of (7) (Very Good to Excellent) has been assigned for financial contribution offsets based upon the assumption that the vegetation should represent quality vegetation within the conservation reserve.
		4 – A quality score of (4) has been assigned for the revegetation offset for black cockatoo foraging habitat based on the offset area being managed for conservation under a business as usual model and that the quality of black cockatoo foraging habitat is unlikely to change
		3 – A quality score of (3) has been assigned for the revegetation offset for *Callitris preissii* TEC based on the offset area comprising a high weed load which may out compete native species currently present and degrade the condition of the TEC.
Future quality with offset (habitat/community) or Future value with offset (features/individuals)	The predicted future quality score (habitat/community) or value (features/individuals) of the proposed mitigation site with the mitigation	**7** - A quality score of (7) (Very Good to Excellent) has been assigned for financial contribution offsets based upon the assumption that the vegetation should represent quality vegetation within the conservation reserve.

		6 – A quality score of (6) has been assigned for the revegetation offset based on the provision of a revegetation plan
Risk of loss (%) without offset (habitat/community)	This describes the chance that the habitat/community on the proposed mitigation site will be completely lost (i.e. no longer hold any value for the protected matter of concern) over the foreseeable future without the mitigation	**15%** - standard agreed value for financial contribution offsets
		5% - A risk of loss percentage without offset of 5% has been assigned as revegetation is proposed to take place within Woodman Point Regional Park (Bush Forever site 341) which is currently managed for conservation.
Risk of loss (%) with offset (habitat/community)	This describes the chance that the habitat/community on the proposed mitigation site will be completely lost (i.e. no longer hold any value for the protected matter of concern) over the foreseeable future with the mitigation	**5%** - Standard agreed value for financial contribution offsets
		5% - A risk of loss percentage without offset of 5% has been assigned as revegetation is proposed to take place within Woodman Point Regional Park (Bush Forever site 341) which is currently managed for conservation.
Confidence in result (%) – risk of loss (habitat/community)	The capacity of measures to mitigate risk of loss of the mitigation site	**90%** - A confidence in result (risk of loss) value of (90%) has been assigned due to the high level of certainty about the risk without the proposed offset due to the ability to condition the payment of funds on the clearing permit.
Confidence in result (%) – Change in quality (habitat/community) or Change in value (features/individuals)	The level of certainty about the successful achievement of the proposed change in quality (habitat/community) or value (features/individuals)	**80%** - A confidence in result (risk of loss) value of (80%) has been assigned due to the high level of certainty about the risk without the proposed offset due to the delivery agent for revegetation.
Revegetation credit (net present value)	The net present value of the mitigation (area of habitat/community or number of individuals/features) that will be applied to the quantum of impact	Carnaby's cockatoo 26.2% from revegetation of 1.85 hectares within WPRP 73.83% from financial contribution to purchase 11.42 hectares
		Tuart Woodland TEC 100% from financial contribution to purchase 12.13 hectares
		Callitris preissii TEC 100% from revegetation of 1.85 hectares of *Callitris preissii* TEC within WPRP
		Conservation Area 4.155 ha to provide a 1:1.5 offset ratio 1.85 ha revegetation within WPRP equates to 44.5% of the required offset

		2.3 ha purchased from financial contribution equates to 55.5% of required offset

Appendix E. Biological survey information excerpts

The applicant commission GHD Pty Ltd to undertake flora and vegetation survey and Level 1 fauna survey (including Black cockatoo assessment) in September 2019 and prepare a consolidated report which would include the findings of subsequent surveys of the expanded application area in March 2021.

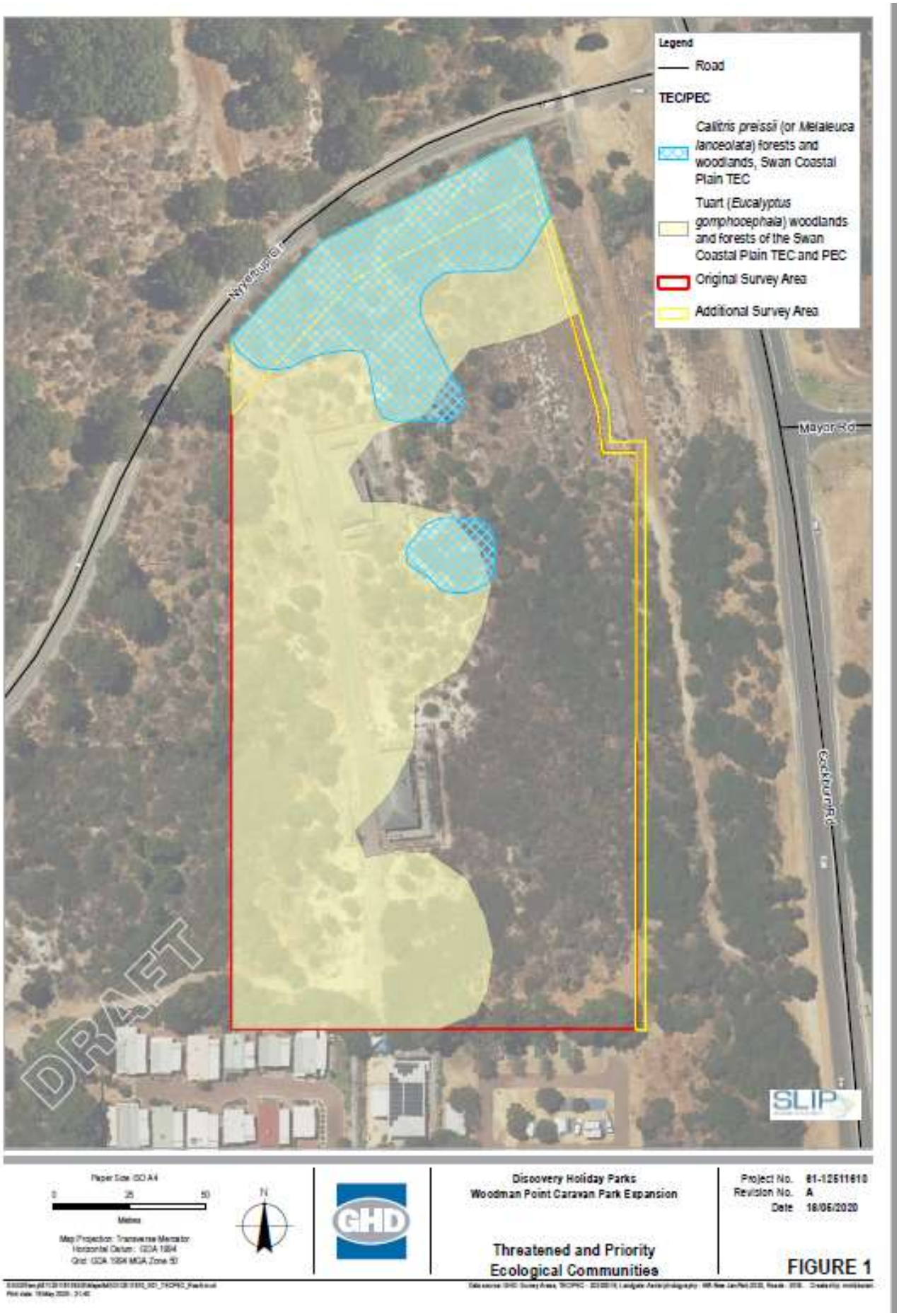


Figure 4. Location of TECs within the application area

Table 6 Vegetation types recorded within the survey area

Vegetation type	Vegetation type description	Landform/substrate	Representative photograph
Acacia Closed Shrubland (VT01)	*Acacia rostellifera* and *Spyridium globulosum* closed shrubland with scattered emergent *Eucalyptus gomphocephala* over **Fumaria capreolata*, **Oxalis pes-caprae*, *Spergularia marina* and **Euphorbia* spp. herbland over **Asparagus asparagoides* and *Clematis linearifolia* open vineland.	Tertiary dunes and dune swales. White/grey sand.	
Melaleuca Shrubland (VT02)	*Melaleuca systena, Spyridium globulosum* and **Leptospermum laevigatum* shrubland with scattered emergent *Eucalyptus gomphocephala* over *Leucopogon parviflorus, Rhagodia baccata* and *Acanthocarpus preissii* low open shrubland over *Austrostipa elegantissima, *Lagurus ovatus* and **Avena barbata* open grassland over *Spergularia marina, *Fumaria capreolata* and **Pelargonium capitatum* open herbland over *Asparagus asparagoides and Clematis linearifolia open vineland.	Low undulating dunes.	

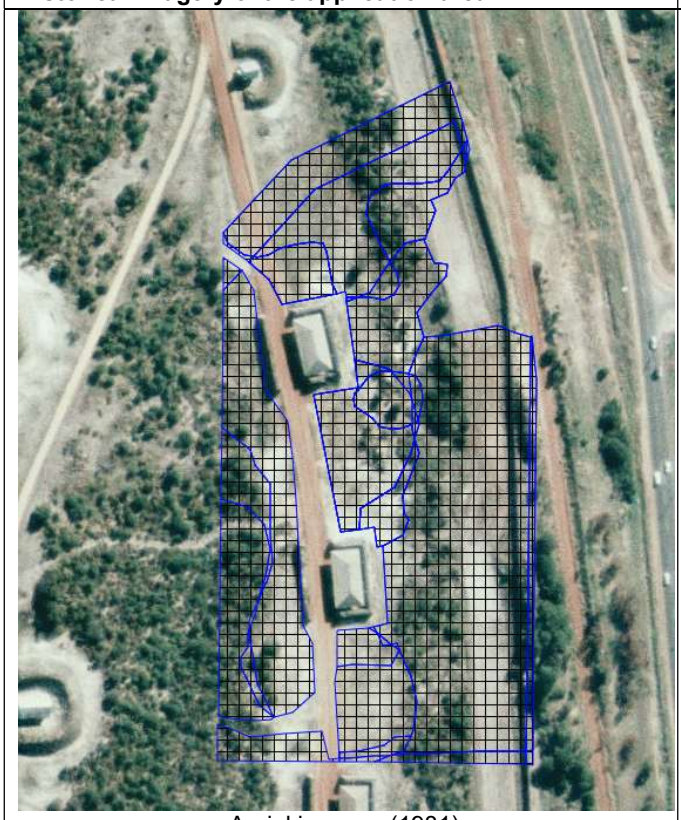
Vegetation type	Vegetation type description	Landform/substrate	Representative photograph
**Cenchrus* Grassland (VT03)	*Acanthocarpus preissii, Acacia cochlearis* and *Spyridium globulosum* scattered shrubs over **Cenchrus setaceus, Schoenus grandiflorus* and **Lagurus ovatus* grassland over **Brassica tournefortii, *Euphorbia terracina* and **Pelargonium capitatum* open herbland.	Sandy upper dune. White/grey sand.	
Revegetation (VT04)	Previously cleared areas where natural regrowth of some native plant species has occurred. Natural regrowth is scattered with an understorey dominated by introduced grasses and herbs. Evidence of revegetation of native trees and shrubs (plastic plant bags) was present around a number of tree species including *Eucalyptus gomphocephala* (tuart) and *Callitris preissii* (Rottnest Pine).	Sandy plain and low undulating dunes. Grey/brown sand.	

Vegetation type	Vegetation type description	Landform/substrate	Representative photograph
Planted (VT05)	Planted trees and shrubs located along the boundary of the existing caravan park. Species include non-native *Eucalyptus*, *Agonis flexuosa*, *Adenanthos sericeus* and *Grevillea* sp.	Grey/brown sand. Plain.	
Cleared/ Highly disturbed	Generally completely cleared of native vegetation and consists of roads, tracks, planted non-native vegetation and building structures.	-	

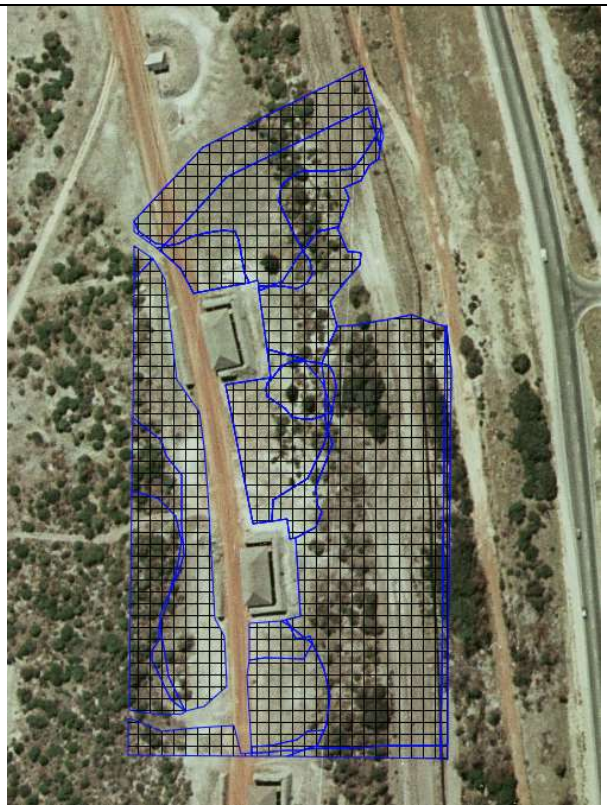
Figure 5: Vegetation types (GHD Pty Ltd, 2021b)

Figure 6: Black Cockatoo habitat (GHD Pty Ltd, 2021b)

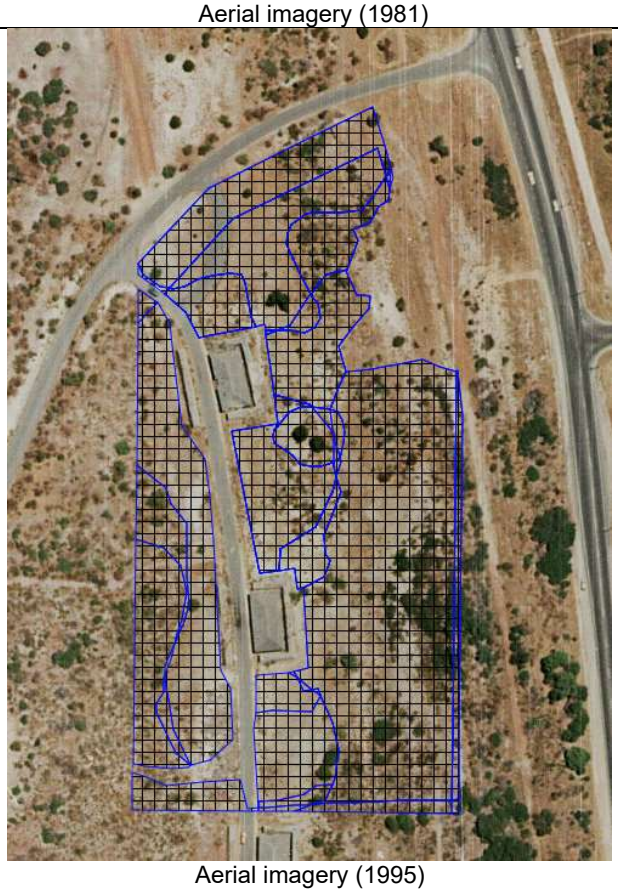
Historical imagery of the application area



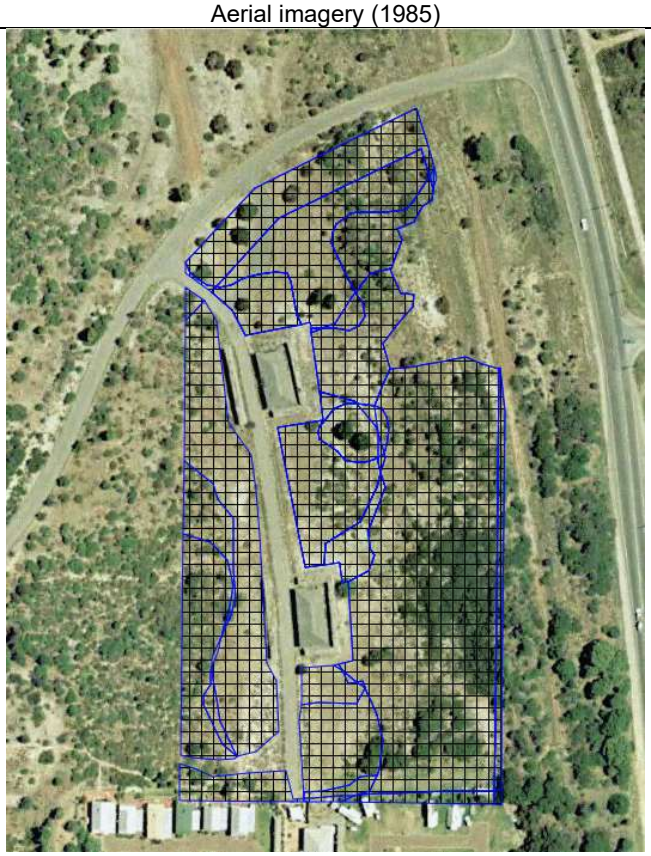
Aerial imagery (1981)



Aerial imagery (1985)



Aerial imagery (1995)



Aerial imagery (2000)

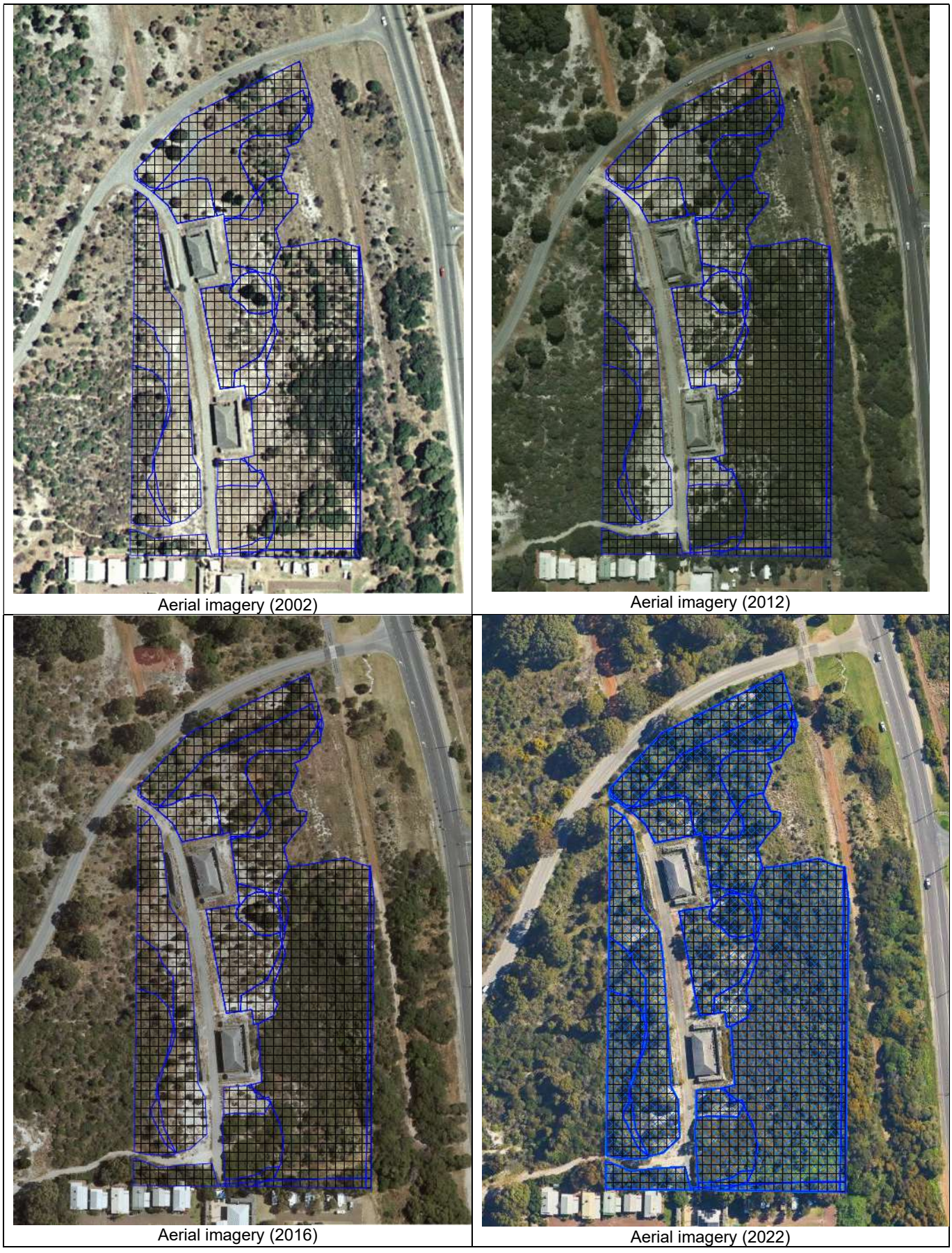


Figure 7: Historical imagery of application area (GHD 2021).

Appendix F. Sources of information

F.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- 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

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

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