



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: CPS 10281/1
File Number: DWERVT13296
Duration of Permit: From 08 January 2024 to 08 January 2031

PERMIT HOLDER

Carey Baptist College Inc.

LAND ON WHICH CLEARING IS TO BE DONE

Lot 2 on Diagram 75868, Forrestdale

AUTHORISED ACTIVITY

The permit holder must not clear more than 2.015 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 08 January 2026.

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

4. Offset – revegetation and rehabilitation

Within 12 months of the commencement of clearing and at an *optimal time*, the Permit Holder must implement and adhere to the *Revegetation Plan Carey Baptist College, Forrestdale (Stage 4) (Revision 1 November 2023)*, including but not limited to the following actions:

- (a) commence *revegetation* and *rehabilitation* of the area cross-hatched red on Figure 2 of Schedule 1 by;
 - (i) deliberately *planting* tube stock and salvaged *native vegetation* and/or direct seeding *native vegetation* seeds;
 - (ii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area; and
 - (iii) undertake *revegetation* and *rehabilitation* in up to four progressive stages, to be completed within the duration of the permit
- (b) construct a fence along the perimeters of the area/s;
- (c) implement hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the *revegetation* and *rehabilitation* area;
- (d) establish at least two 5 x 5 metre quadrat monitoring sites within the *revegetation* and *rehabilitation* area;
- (e) monitor quadrats specified in condition 4(d) at least annually;
- (f) monitoring of quadrats specified in condition 4(d) is to be undertaken by an *environmental specialist*;
- (g) achieve the completion criteria specified in Schedule 2 after the three-year monitoring period for the areas *revegetated* and *rehabilitated* under this Permit;
- (h) undertake *weed* control activities on an 'as needs' basis to maintain a minimum criteria in the attached Schedule 2;
- (i) undertake remedial actions for areas *revegetated* and *rehabilitated* where monitoring indicates that *revegetation* and *rehabilitation* has not met the completion criteria, outlined in the attached Schedule 2 including:
 - (i) *revegetate* and *rehabilitate* the areas by deliberately planting and/or direct seeding *native vegetation* seeds that will result in the minimum targets specified in the attached Schedule 2, ensuring only *local provenance* seeds and propagating material are used;
 - (ii) undertake further *weed* control activities;
 - (iii) undertake annual monitoring of the *revegetated* and *rehabilitated* areas, until the completion criteria outline in the attached Schedule 2 are met; and
 - (iv) inspect, monitor and repair the fence every 12 months for the duration of this Permit to ensure the fence is protecting the *revegetation* and *rehabilitation* areas.

5. Offset - Native vegetation conservation (conservation covenant)

In respect to the areas cross-hatched red on Figure 2 of Schedule 1, the Permit Holder must, within 24 months of the commencement of clearing authorised under this Permit: and no later than 8 January 2026:

- (a) give a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* for the protection and management of vegetation in perpetuity; and
- (b) Within 1 month of executing the conservation covenant, provide a copy of the executed conservation covenant to the *CEO*.

6. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner from west to east to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

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 activities generally	<ol style="list-style-type: none">(a) the species composition, structure, and density of the cleared area;(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings;(c) the date that the area was cleared;(d) the size of the area cleared (in hectares);(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 2;(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 3;(g) actions taken to give a conservation covenant in accordance with condition 5; and(h) actions taken in accordance with condition 6.
2.	In relation to <i>revegetation</i> and <i>rehabilitation</i> pursuant to conditions 4	<ol style="list-style-type: none">a) the size of the areas <i>revegetated</i> and <i>rehabilitated</i>;b) the date(s) on which the <i>revegetation</i> and <i>rehabilitation</i> was undertaken;c) the boundaries of the areas <i>revegetated</i> and <i>rehabilitated</i> (recorded digitally as a shapefile);d) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken;

No.	Relevant matter	Specifications
		e) photographic evidence of the <i>revegetation</i> and <i>rehabilitation</i> work undertaken; f) remedial actions undertaken; and (g) actions taken to inspect, monitor and repair the fence in accordance with condition 4(i)(iv).

8. Reporting

- (a) The permit holder must provide to the *CEO*, on or before 30 June of each calendar year, a written report containing:
- (i) the records required to be kept under condition 7; and
 - (ii) records of activities done by the permit holder under this permit between 1 January and 31 December of the preceding calendar year.
- (b) If no clearing authorised under this permit has been undertaken, a written report confirming that no clearing under this permit has been undertaken, must be provided to the *CEO* on or before 30 June of each calendar year.
- (c) The permit holder must provide to the *CEO*, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under condition 7, where these records have not already been provided under condition 8(a).

DEFINITIONS

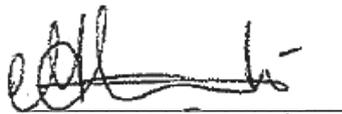
In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
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.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same IBRA subregion of the area cleared.

Term	Definition
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 October for undertaking planting and seeding
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species
rehabilitate / rehabilitated / rehabilitation	means actively managing an area containing native vegetation in order to improve the ecological function of that area;
weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; 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



Meenu Vitarana
Manager

NATIVE VEGETATION REGULATION

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

8 December 2023

Schedule 1

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

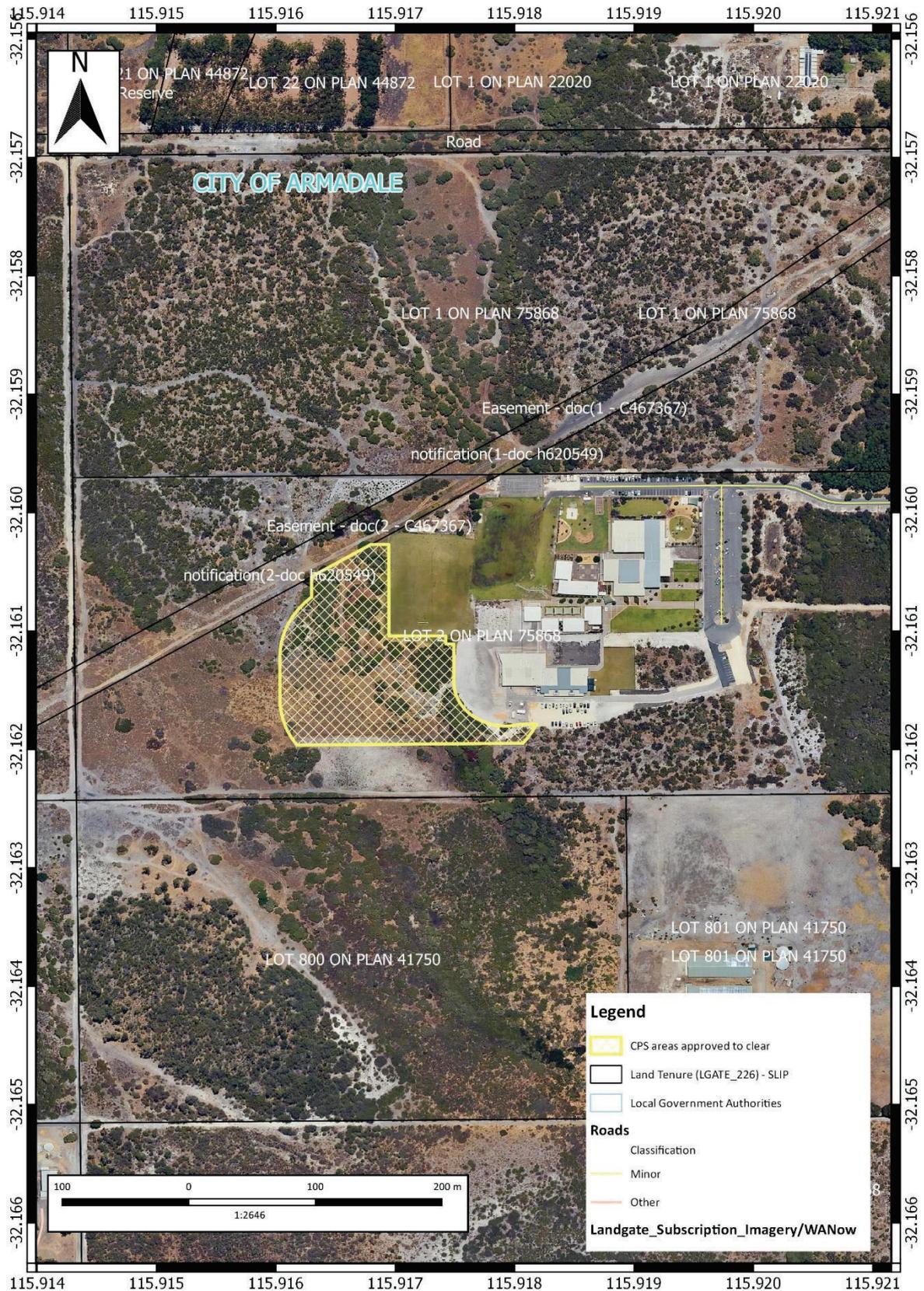


Figure 1: Map of the boundary of the area within which clearing may occur (cross hatched yellow)

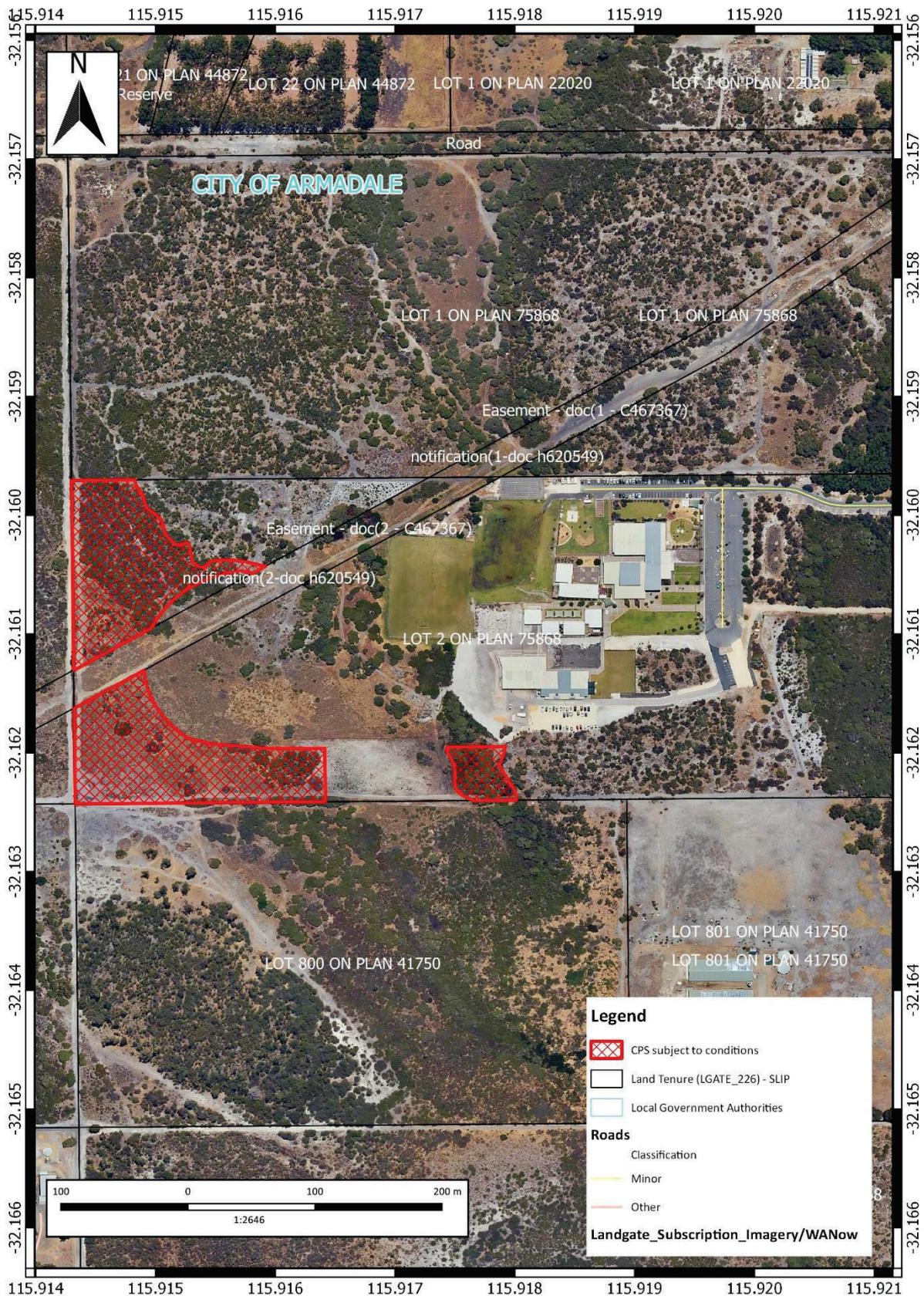


Figure 2: Map of the boundary of the area within which offset condition 4 and 5 applies (cross-hatched red)

Schedule 2

Characteristic	Measure	Baseline floristic data	Completion Target	Completion Criteria
			Vegetation in Good to Very Good condition as per Keighery (1994)	
A. Species richness	i. Total species richness (site)	11 to 37 species (trees, shrubs and herbs) have been recorded in the vegetation types proposed to be cleared. The average species richness is 21.3.	Minimum of 60% native species, based on baseline data, including any existing vegetation	Minimum of 13 species (trees, shrubs and herbs) to be present in the revegetation areas, including any existing vegetation
B. Species density	i. Total	Information not previously recorded. An average plant density of 2 plants/m ² in Banksia woodland environments is used as the baseline measure.	Minimum of 60% stems/ha, based on baseline data, including any existing vegetation	Minimum of 1.2 stem/m ² on average across the revegetation areas, including any existing vegetation
C. Black Cockatoo habitat	i. Species Diversity	4 of the 37 native species recorded in the Banksia vegetation are identified to provide black cockatoo habitat opportunities.	Equal or exceed species richness of reference site providing black cockatoo foraging habitat, including any existing vegetation.	A minimum of 4 species which provide Black Cockatoo habitat opportunities are present across the revegetation areas, including any existing vegetation
	ii. Species Density	The percentage cover of species providing black cockatoo habitat opportunities recorded in the Banksia vegetation was 15% which equates to 0.0049 ha potential habitat to be cleared.	Replace greater than 0.0049 ha black cockatoo foraging habitat when plants are mature. In order to achieve this minimum cover of 0.008 ha black cockatoo foraging habitat to be set as the target.	A minimum of 3 plants from the species listed to be present within the 0.073ha dryland vegetation area, including existing vegetation.
D. Weed Cover	i. General weed species	Weed observed in the clearing area reference site were generally competitive species. The highest weed cover recoded was: <i>Ehrharta calycina</i> (50% cover) <i>Ehrharta longiflora</i> (5% cover) <i>Ursinia anthemoides</i> (2% cover) Total coverage of all weed was 61%.	Reduction in weed cover lower than reference site	Less than 15% weed cover
	ii. Declared weeds	No declared weeds were present onsite.	No declared weeds to be present within revegetation area.	0% cover

As per *Revegetation Plan Carey Baptist College, Forrestdale (Stage 4)* - Revision 1 (dated November 2023)



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10281/1
Permit type:	Area permit
Applicant name:	Carey Baptist College Inc.
Application received:	21 July 2023
Application area:	2.015 hectares
Purpose of clearing:	Constructing additional school buildings and infrastructure
Method of clearing:	Mechanical clearing
Property:	Lot 2 on Diagram Plan 75868
Location (LGA area/s):	City of Armadale
Localities (suburb/s):	Forrestdale

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within a single contiguous area (see Figure 1, Section 1.5). The application is to clear 2.015 hectares of native vegetation to accommodate a sports hall with a bushfire Asset Protection Zone (APZ) which is sized to address the 'Shelter on site' requirements (Carey Baptist College, 2023).

There have been three previous permits and one amendment granted on the site for the phased college construction.

1.3. Decision on application

Decision:	Granted
Decision date:	8 December 2023
Decision area:	2.015 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

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

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix G.1), the photographs and findings of a flora survey and DWER site inspection (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that the proposed clearing will result in:

- increased risk of spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent native vegetation and fauna habitat values.
- loss of 0.033 hectares of native vegetation which provides foraging habitat for Carnaby's cockatoo.

- 1.98 hectares of vegetation growing in association with a wetland mapped within the Directory of Important Wetlands of Australia dataset, of which 0.67 hectares is commensurate with a conservation category wetland (CCW) with the remainder providing ecological linkage and support the functionality of the adjoining CCW values.
- Impacts to ground dwelling fauna and migratory birds that may utilise the application area during the time of the clearing.

After consideration of the above information, as well as the avoidance, minimisation and mitigation actions taken by the applicant, DWER determined that the proposed clearing will result in significant residual impacts (SRI) to Carnaby's black cockatoo and a mapped wetland.

To address the above SRI the applicant has agreed to the following offsets:

- revegetation of 0.08 hectares (at a minimum) of black cockatoo foraging habitat.
- revegetation of 2.87 ha of vegetation growing in association with a wetland.

The Delegated Officer determined that the offset proposed by the applicant (refer section 4 for details) is sufficient to counterbalance the loss of 0.033 hectares of native vegetation which provides foraging habitat for Carnaby's cockatoo and 1.98 hectares of vegetation growing in association with a wetland.

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

- avoid, minimise to reduce the impact and extent of clearing.
- weed and dieback management to minimise the risk of introduction and spread of weeds.
- revegetation of 0.08 hectares of foraging habitat for Carnaby's cockatoo in accordance with the *Revegetation Plan Carey Baptist College – Stage 4 – November 2023 (Coterra, 2023d)*.
- revegetation of 2.87 hectares of vegetation growing in association with a wetland in accordance with *the Revegetation Plan Carey Baptist College – Stage 4 – November 2023 (Coterra, 2023d)*.
- a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* be given for the conservation in perpetuity of the revegetation area.
- fauna management to allow fauna a reasonable time to move to adjacent native vegetation ahead of the clearing activity.

1.5. Site map

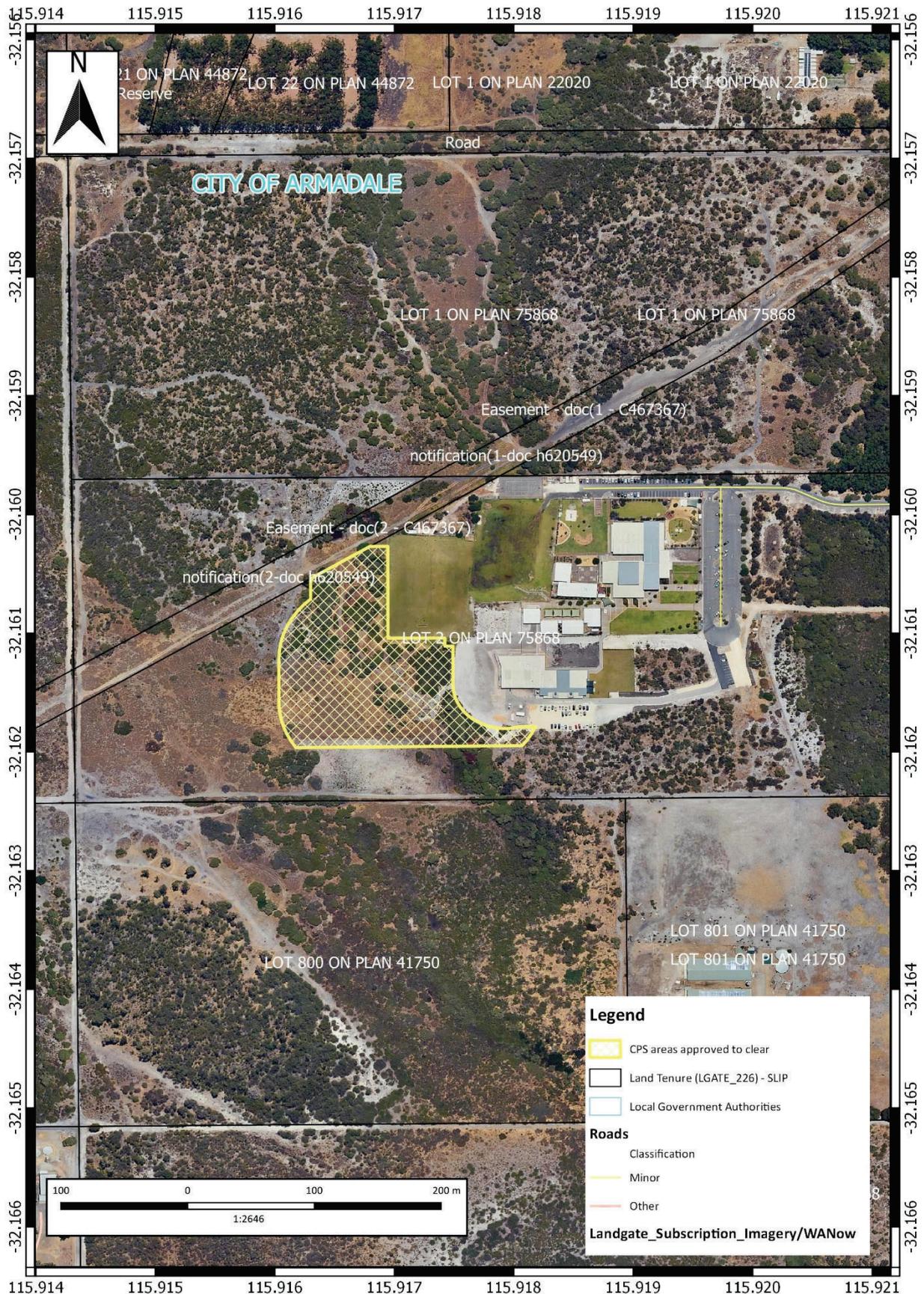


Figure 1 Map of the application area

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

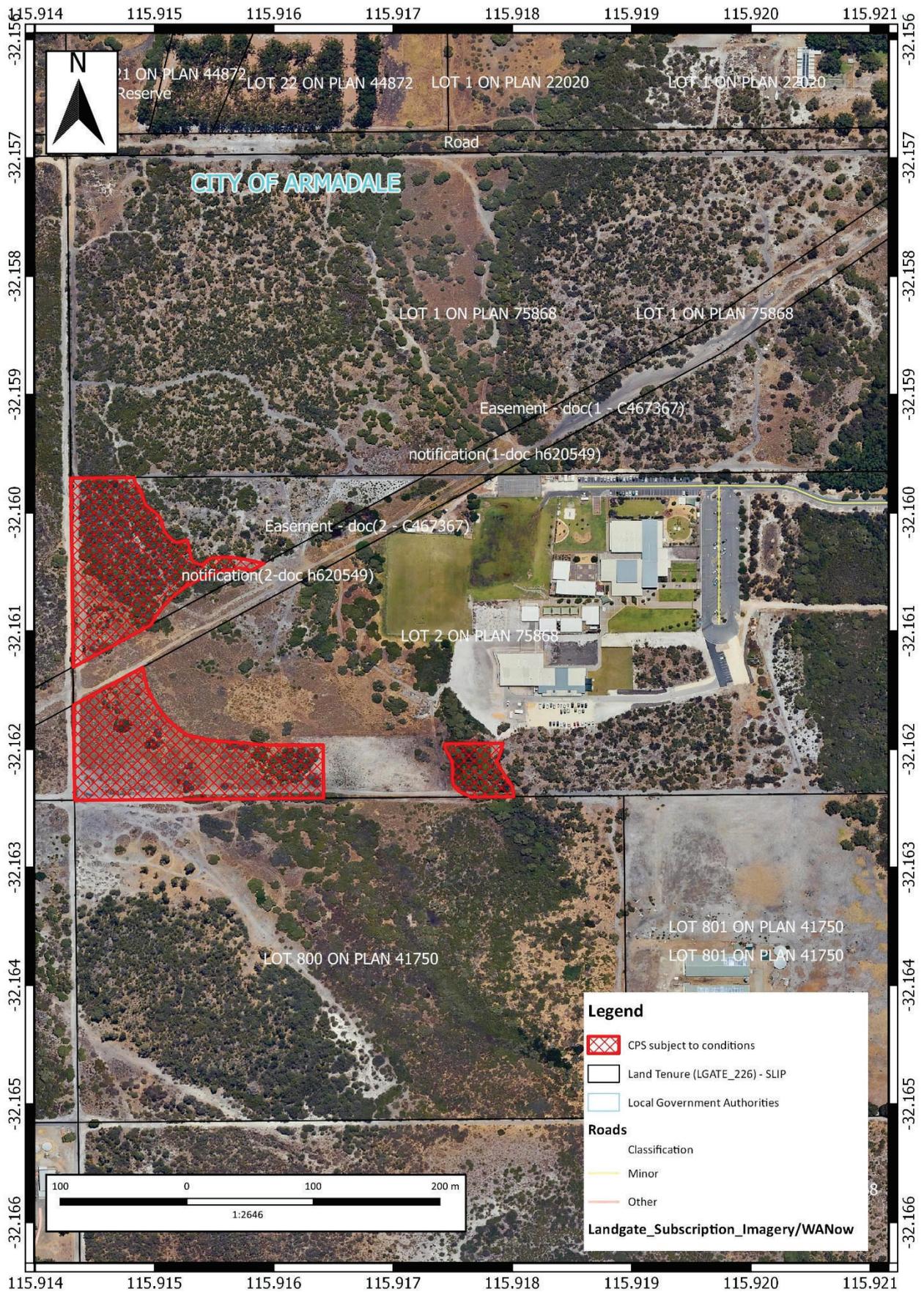


Figure 2 Map of the offset area

The area cross-hatched red indicates area within which specific 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 principle of intergenerational equity
- the polluter pays principle
- 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)

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* (DER, 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

Evidence was submitted by the applicant, demonstrating that avoidance and mitigation measures had been considered (Carey Baptist College, 2023, Coterra, 2023a, b & c):

- Construction within the site is limited due to the building restrictions associated with the Bunbury Dampier Natural Gas Pipeline Easement, that extends through the site.
- Development has been considerate of the 50 meter buffer to the Conservation Category Wetland, which borders the southwest of the site.
- Implementing vegetation management and revegetation programs for the 50 meter setback zone to improve the ecological value of this area and provide a more effective buffer to adjacent higher value areas.
- Drainage design for the central and western portions of the campus collects stormwater in soak wells for infiltration back into the ground as close as practicable to the source to reflect pre-development conditions.
- Recreational spaces which form the majority of the land uses proposed have lower separation to groundwater requirements compared to more intensive school development area (e.g. school buildings) which required less changes to the landform and topography than would otherwise be required.
- The Asset Protection Zone (APZ) which comprises the majority of the clearing extent will be utilised for school sporting facility purposes to ensure this clearing will provide a dual function (e.g. bushfire protection and provision of recreational areas).
- Grouping of facility locations to ensure developed space at the site is fully utilised and reduce the overall disturbance footprint.
- Locating land uses in the western end of the site which required less alternation to natural ground levels and therefore less disturbance from batters needed to connect to topographic contours between developed and undeveloped areas.
- Minimising onsite parking provided at the school, with use of drop off/pick up zones (i.e. kiss and ride) encouraged.

After consideration of avoidance and mitigation measures proposed by the applicant above and the limited options for further expansion of the school site, it was determined that an offset to counterbalance the significant residual impacts to black cockatoo foraging habitat and wetland habitat 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 offset 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 B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values (fauna and ecological communities) as well as 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. Environmental value: biological values (ecological communities) – Clearing Principles (d)

Assessment – vegetation

A Level 2 Flora and Vegetation Survey was completed by Bennett Environmental Consulting (2011) for the entire site in October 2011. The findings of the survey have subsequently been verified by previous site visits for CPS 8768/1 and CPS 9928/1 by Coterra and a site inspection by DWER in September 2023 (DWER, 2023a).

During the Level 2 Flora and Vegetation survey, a total of eight different vegetation units were identified which consisted of upland and wetland vegetation of which Coterra Environmental (2023a) identified the following three vegetation types within the application area:

- Ba – Low Woodland A of *Banksia attenuata*, *Banksia menziesii*, *Nuytsia floribunda* and *Eucalyptus tottiana* over Heath B dominated by *Acacia pulchella* var. *glaberrima* over Tall Grass dominated by **Ehrharta calycina* in grey sand - 0.033 hectares (1.6% of clearing footprint).
- Ec – Dense Tall Grass of **Eragrostis curvula* (African Lovegrass), **Paspalum urvillei* (Vasey's grass), and/or **Pennisetum clandestinum* (Kikuyu) or Tall Sedges of *Juncus pallidus* or Herbs dominated by **Lotus subbiflorus* (hairy bird's-foot trefoil), **Moraea flaccida* (one-leaf Cape tulip) and **Euphorbia terracina* (Geraldton carnation weed) in damp grey sand - 1.08 hectares (53.5% of clearing footprint).
- Mr – Low Forest A of *Melaleuca raphiophylla* over Dense Herbs dominated by **Zantedeschia aethiopicum* (Arum Lily) and **Lotus subbiflorus* (hairy bird's-foot trefoil) in very damp grey sand - 0.90 hectares (44.9 % of clearing footprint).

In addition, 0.03 hectares (1.5%) of the footprint did not contain any vegetation.

The vegetation within the application area is mostly in Degraded to Completely Degraded condition (Keighery, 1994) (Coterra, 2023a):

- Very Good-Good – 0.33 hectares (1.64% of clearing footprint)
- Good – 0.67 hectares (33.2% of clearing footprint)
- Degraded-Completely Degraded- 1.21 hectares (60.2% of clearing footprint)
- Completely Degraded – 0.1 hectares (4.96% of clearing footprint)

According to available databases, there are records of 49 conservation significant flora species within the local area. No flora species listed as Threatened flora under the BC Act were recorded on Site. *Schoenus pennisetis* (Priority 2) and *Jacksonia gracillima* (Priority 3) flora species have been found outside the boundary of the application area.

Assessment - Threatened Ecological Communities (TECs)

According to the approved conservation advice for the Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region threatened ecological community (Banksia Woodland TEC), the key diagnostic criterion for the TEC includes the presence of at least one of the four diagnostic Banksia species, and distinct low woodland to forest structure comprising a canopy co-dominated by *Banksia attenuata* or *Banksia menziesii*, where the emergent tree layer often includes marri, jarrah, or tuart, over a diverse shrub or herbaceous understorey (DoEE, 2016). The community typically occurs on well drained, low nutrient soils on sandplain landforms, particularly deep Bassendean and Spearwood sands and occasionally on Quindalup sands and is also common on sandy colluvium and aeolian sands of the Ridge Hill Shelf, Whicher Scarp and Dandaragan Plateau (DoEE, 2016). The thresholds for patch size and condition for the Banksia Woodlands TEC state that a patch should meet at least Good (Keighery, 1994)

condition to be considered part of the listed community, and minimum patch size is dependent on vegetation condition and its overall contribution to beta diversity, connectivity, and function of the ecological community across the landscape (DoEE, 2016).

A portion of the application area is mapped as Banksia Woodland TEC, however the vegetation mapping indicated that only the Ba vegetation type would potentially meet the key diagnostic criterion. This vegetation type only represents 0.033 hectares of the application area and was mapped as in a 'good' to 'very-good' condition by Bennett in 2011.

Subsequently in March 2021, Focused Vision Consulting Pty Ltd (FVC) was commissioned by Coterra to conduct an out of season vegetation assessment to determine the condition and map the extent of Banksia Woodland TEC south of the current school precinct. The survey was of a targeted area of Banksia woodland vegetation to update the condition mapping and identify if this was likely to represent the Banksia Woodland of the Swan Coastal Plain Priority Ecological Community (PEC). This survey only encompasses a portion of the Ba vegetation within the area proposed to be cleared but mainly comprised of the connected Banksia Woodland area to the east (Coterra, 2023a). This survey identified that the condition of the banksia woodland patch in and to the east of the site was predominately in Degraded (Keighery, 1994) condition (FVC, 2022). Further the Ba unit has also been confirmed to have dieback present during a Dieback Assessment by NPC Consulting in 2014 (Coterra, 2019). This may contribute to a reduction in condition and values of this area over time. Based on the 2021 vegetation survey of the adjoining banksia patch and the presence of dieback and edge effects, the Ba unit vegetation within the clearing area is likely to be lower than assessed in 2011 and may fall below the TEC minimum patch size thresholds.

The 0.033 hectares Banksia area in the application area is thus firstly too small on its own to meet the diagnostic criteria for the Banksia Woodlands TEC and secondly the Banksia area it borders is in a Degraded (Keighery, 1994) condition.

Noting the above, the proposed clearing is unlikely to have a significant impact on the occurrence of the Banksia Woodland TEC in the local area.

A total of 66 weed species were recorded onsite during the Level 2 flora and vegetation survey (Bennett, 2011) and dieback has been recorded on site (Coterra, 2023a). The increased risk of adverse impacts to nearby native vegetation as a result of clearing increasing the mobilisation of weeds and dieback may indirectly impact the biodiversity of nearby native vegetation. Management conditions to manage the spread of weeds and dieback as a result of clearing will mitigate the potential risk to nearby native vegetation and its biodiversity values.

3.2.2. Environmental value: biological values (ecological communities) – Clearing Principles (d)

According to available databases, 55 conservation significant fauna species have been recorded within the local area. The closest record to the application area is a historical record for numbat (*Myrmecobius fasciatus*). The closest current record is for Carnaby's cockatoo (*Zanda latirostris*) approximately 60 meters east of the application area.

Three broad fauna habitats occur over the application area namely, banksia woodland, grasslands, and a melaleuca low forest (Coterra, 2023a). The majority of the application area consists of grasslands with the melaleuca low forest associated with the wetland area.

Of the mammals, several records of the Quenda (*Isoodon fusciventer*) (P4) occur within three kilometres to the east, west, north and south of the application area. This species is associated with dense vegetation, often in conjunction with wetland habitat, and may occur within the application area, particularly in wetland areas associated with melaleuca low forest.

Slow directional clearing towards areas of remnant native vegetation will minimise impacts to individuals potentially utilising the site at the time of clearing.

Of the bird species recorded within the local area, the majority are migratory (including priority and threatened) shorebirds that breed in northern latitudes. Most are coastal but some species will also utilise flooded inland waters. It is these species that may occur over the application area at least intermittently. These include the common greenshank (*Tringa nebularia*) and sharp-tailed sandpiper (*Calidris acuminata*) recorded within 600 meters of the application area. They may possibly occur during their time in Australia, particularly after summer-autumn flood events when any flooded areas may be temporarily utilised within and adjacent to the melaleuca low forest habitat (DAWE 2020b; 2020c).

The migratory Glossy Ibis (*Plegadis falcinellus*) recorded within 600 metres of the application area may also intermittently utilise these habitats. The migratory fork-tailed swift (*Apus pacificus*), as well as the peregrine falcon (*Falco peregrinus*) (other specially protected fauna) and Letter-winged kite (*Elanus scriptus*) (P4) may overfly the application area without utilising any of the habitats present. Diving waterbirds such as the blue billed duck (*Oxyura australis*) (P4) are unlikely to occur due to the absence of standing water at depth.

Slow directional clearing towards areas of remnant native vegetation will minimise impacts to any opportunistic birds present within the application area at the time of clearing.

Of the species recorded within the local area, two species were considered highly likely to occur within the application area based on their known habitat preferences and the habitat available within the application areas. These included Carnaby's cockatoo (*Zanda latirostris*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*).

Other fauna of conservation significance may use the site infrequently or as part of a larger patch. Impacts to these other conservation significance species are considered negligible due to the predominately degraded condition of vegetation to be removed as well as the occurrence of vegetation in better condition in conservation areas onsite and in the neighbouring Jandakot Regional Park and Bush Forever Site 390.

A fauna survey was undertaken on 10 August 2012 by Coterra Environment. The survey did not identify any conservation significant species utilising and / or occurring within the site. Fauna identified at the site included the tiger snake (*Notechis ater*), western grey kangaroo (*Macropus fuliginosus*) and the European rabbit (*Oryctolagus cuniculus*), which appears to have colonised many of the drier areas of the site. The DWER site visit in September 2023, identified western grey kangaroo (*Macropus fuliginosus*) scats throughout the property and signs of black cockatoo foraging in an area of banksia dominated vegetation on the neighbouring property to the north of the application area (DWER, 2023a).

Black cockatoos

The application area is within Carnaby's cockatoo and forest red-tailed black cockatoo known distribution range. A review of the available databases indicated the application area is within 10 kilometres of 44 mapped black cockatoo roosting sites, the closest being 2.26 kilometres southwest of the application area. The local area does not contain any mapped black cockatoo breeding sites but does contain 1 765 previous records of black cockatoo species, the closest located 60 metres away. The nearest confirmed breeding location for black cockatoos is located approximately 15 kilometres northeast of the application area.

The proposed clearing area does not contain any potential black cockatoo breeding or roosting habitat, due to the absence of large, tall trees.

The referral guidelines indicate while breeding, black cockatoos will generally forage within a 6–12-kilometre radius of their nesting site. Following breeding, black cockatoos assemble into flocks and move through the landscape searching for food, usually foraging within 6 kilometre of a night roost (Commonwealth of Australia, 2022). This variable range indicates large areas of foraging habitat are required to support black cockatoo populations. Cumulative impacts of the loss of remnant vegetation restrict the availability of food sources for black cockatoos (Commonwealth of Australia, 2022). The revised referral guidelines identifies that any native vegetation that is used for foraging by black cockatoos at any time is important for the species recovery. Forest red-tailed black cockatoos primarily feed on the seeds of jarrah and marri and therefore foraging habitat for the forest red-tailed black cockatoos is not present over the application area. Carnaby's Cockatoo diet, however, also includes seeds of native proteaceous plant species such as Banksia spp (Commonwealth of Australia, 2022). The applicant proposes to remove a total of 0.033 hectares of native vegetation mapped as vegetation type Ba which contains Carnaby's cockatoo foraging habitat, including Banksia trees.

The Delegated Officer determined the application is not likely to remove significant breeding or roosting habitat for any of the black cockatoo species in Western Australia. The proposed revegetation of 0.08 hectares of black cockatoo foraging habitat in the lot (as discussed in Section 3.1), is deemed to adequately mitigate the loss of 0.033 hectares native vegetation to be cleared.

Ecological linkage

The application area forms part of the Perth Regional Ecological Linkage (nr 52) and the neighbouring properties to the west and south are part of the Jandakot and Bush Forever Site 390. The area would thus function as a direct ecological linkage for fauna dispersal. However, by concentrating the development footprint to the northeastern section and increasing the habitat quality directly bordering the conservation areas through the proposed

rehabilitation offset requirements discussed in Section 4, the clearing is not considered likely to significantly impact ecological linkage values in the local area or significantly reduce the capacity for fauna to disperse through the local area.

Conclusion

Based on the above assessment, the proposed clearing may result in impacts to individual fauna if present during the clearing, however, this is not likely to impact on the conservation status of any species that may have potential to occur within the application areas. The proposed revegetation of 0.08 hectares of back cockatoo foraging habitat in the lot (as discussed in Section 4), is deemed to adequately mitigate the loss of 0.033 hectares native vegetation to be cleared. In addition, the revegetation area will be managed in perpetuity as back cockatoo foraging habitat via a conservation covenant placed on the property title under section 30B of the *Soil and Land Conservation Act 1945*.

Conditions

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

- weed and dieback management to minimise the risk of introduction and spread of weeds.
- fauna management to allow ground dwelling fauna (including shorebirds) a reasonable time to move to adjacent native vegetation ahead of the clearing activity.
- offset – revegetation of 0.8 hectares of specified area for black cockatoo foraging habitat in accordance with permit conditions; and
- a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* be given for the revegetation area.

3.2.3. Land and water resources (wetland) - Clearing principles (f) and (i)

The application area is as part of the basin dampland UFI 7088, mapped as Multiple Use Wetland (MUW) in the 'Geomorphic Wetlands Swan Coastal Plain' (GWSCP) dataset. This wetland is also part of the Gibb Road Swamp System which is mapped within the Directory of Important Wetland (DIWA) dataset. In accordance with DBCA 2017 Wetland Methodology preliminary evaluation criteria (DBCA, 2017), a wetland mapped as DIWA is commensurate with CCW. Further, UFI-7088 also abuts CCW UFI-14835 and CCW UFI-15304, also mapped as basin damplands within the DBCA managed Gibbs Road Nature Reserve R48797 (Bush Forever Site 344). These adjoining wetlands are also part of the larger Gibb Road Swamp System DIWA site.

As such DWER sought advice from DBCA with regards to the potential impact of the proposed clearing on wetland values within the application and adjacent areas (DBCA, 2023). The advice noted that the areas mapped as Good condition vegetation by the Bennett, 2011 survey are likely to support values commensurate with CCW and the Degraded-Completely Degraded areas are still providing ecological linkage and support to the functionality of the adjoining CCW values within the application area and the neighbouring DBCA managed Gibbs Road Nature Reserve R48797 (Bush Forever Site 344). DBCA advised that generally clearing, excavation and introducing fill to a site can change the geomorphology of wetlands which may have impacts to hydrology. Key impact is likely to be increased fragmentation and disruption of the ecological linkage to the surrounding wetlands and DBCA managed lands.

DBCA recommended to undertake adequate dieback and weed management to protect wetland values, adjoining wetland values, in particular DIWA and CCW, and values within surrounding DBCA managed lands, and to maintain pre-disturbance hydrological regimes to support existing wetland values and functions.

It should be noted that the formal classification of the wetland within DBCA's Geomorphic Wetlands of the Swan Coastal Plain dataset cannot be changed without a delineation assessment, followed by an evaluation of the wetland values and determination of the appropriate management category (DBCA, 2023). Therefore, while the portion of UFI 7088 within the application area is considered to have values commensurate with a CCW, the wetland has not been formally reclassified.

In considering the above, the proposed clearing will result in the loss of 1.98 hectares of wetland vegetation that has values commensurate with a CCW or support the functionality of the adjoining CCW values. CCWs support a high level of ecological attributes and function through various mechanisms (Water and Rivers Commission, 2001). Noting the significant ecological functions performed by CCWs and the cumulative impact of clearing wetland vegetation on the Swan Coastal Plain (DBCA, 2023b), the proposed clearing of wetland vegetation is considered a significant residual impact.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 1.98 hectares of significant wetland vegetation and may result in indirect impacts to adjacent significant wetland vegetation within Lot 800 on Plan 41750, Forrestdale.

The management measures proposed by the applicant including detailed drainage design (refer section 3.1 above) are considered adequate to manage the indirect impacts to the significant wetland vegetation within the adjacent Lot 800 on Plan 41750. However, for the reasons set out above, it is considered that the direct impacts of the proposed clearing on wetland vegetation that is commensurate with a CCW constitutes a significant residual impact.

In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *WA Environmental Offsets Guidelines* (2014), this significant residual impact has been addressed through the conditioning of environmental offset requirements, as outlined under section 4.

It should be noted that the applicant chose to provide an offset to mitigate impacts to the wetland based on the presumption that it contains values of a CCW, without undertaking a formal evaluation of the wetland values.

Conditions

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

- Dieback and weed control, which ensures protocols are put in place to limit the introduction and transportation of dieback- and weed-affected materials, and
- Offset –2.87 hectares of vegetation that is growing in or in association with a wetland containing values that within the Gibbs Road Swamp System is to be rehabilitated from Completely Degraded – Degraded to Good or better condition (Keighery, 1994); and
- a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* be given for the revegetation areas.

3.3. Relevant planning instruments and other matters

In accordance with section 51O(4) of the EP Act, in considering a clearing matter the Delegated Officer shall have regard to any development approval, planning instrument, or other matter, that they consider relevant. The planning instruments and other matters considered relevant by the Delegated Officer in determining to grant Clearing Permit CPS 10281/1, are outlined below.

Necessity of the clearing

DWER's 'A guide to the assessment of applications to clear native vegetation' (DER, 2013) indicates that the necessity of the clearing is an 'other relevant matter' to be considered when making decisions as to whether a clearing permit should be granted. The assessment guideline prioritises clearing for public use over private benefit or commercial gain (DER, 2013).

In addition, the following benefit and necessity for the clearing purposes was also considered:

- The proposed clearing is to facilitate the construction of a school sports hall, which is considered to provide a public benefit.
- The proposed sporting facilities are provided to address the compulsory teaching and learning needs of the school students in line with the Western Australian Curriculum standards.
- The extent of clearing proposed is required to achieve an acceptable Bushfire Attack Level (BAL) for the building use. The maximum BAL permitted for school use is BAL 29 under State Planning Policy SPP 3.7. Additionally, the National Construction Code NCC 2022 requires school buildings to have a maximum BAL 12.5 to satisfy "Deemed to Comply" provisions of the code. The proposed extent of clearing provides an Asset Protection Zone (APZ) achieving a BAL 19 which meets the requirements of SPP 3.7, but not the Deemed to Comply provisions of NCC 2022; in this instance the proposed buildings are reliant upon a fire engineered Alternative Solution to achieve compliance under NCC 2022.

EPBC Act referral

The masterplan was referred to the (then) Federal Department of Sustainability, Environment, Water, Population and Communities under the *Environment Protection and Biodiversity Conservation Act 1999* in 2012 (EPBC Ref:

2012/6561) (Coterra, 2023a). Following assessment of the proposal, including the proposed onsite revegetation works, the referral decision was issued as 'Not a Controlled Action'.

Relevant planning instruments

The City of Armadale advised DWER that the Development approval was granted for the proposed works (Forrestdale Stage 4 Sports Centre) on 6 September 2023 and that is consistent with the masterplan for the school expansion.

Other relevant matters

The Delegated Officer noted that the EPA's Guidance Statement No. 33, 'Environmental Guidance for Planning and Development' (EPA, 2008) discusses the need for protection of conservation category wetlands. As outlined in Section 3.2 of this decision report, the proposed clearing will impact 1.98 hectares of vegetation that has been determined to have values that are commensurate with a conservation category wetland. Given this, the Delegated Officer considered Guidance Statement No. 33 to be a relevant 'other matter' for this application.

In having regard to Guidance Statement No. 33, the Delegated Officer noted that the statement considers conservation category wetlands to be wetlands of high conservation significance and of high priority for protection, and that the statement does not consider clearing within conservation category wetlands to be appropriate. Also in accordance with section 51O(4) of the EP Act, the Delegated Officer had regard to the planning context for the proposal and, as a relevant 'other matter', the necessity of the clearing and associated public benefit. As outlined above, the Delegated Officer noted that the proposal had been granted DA by the City of Armadale, the surrounding existing land uses and its land zoning being deemed appropriate for the development, and that the proposal is expected to provide direct public benefit through increased schooling and employment opportunities.

Therefore, in relation to the wetland, having had regard to the environmental impacts to the wetland values in question, the content and status of Guidance Statement No. 33, the planning context for the proposal and the public benefit associated with the proposed clearing, the Delegated Officer considered that, on balance, the environmental impacts associated with the proposed clearing of the wetland were not so significant that they outweighed the necessity of the clearing. The Delegated Officer therefore determined that it was appropriate to grant the clearing permit in relation to the wetland, on the basis that an environmental offset was implemented to counterbalance the impacts to the wetland.

The proposed site is classified under the *Contaminated Sites Act 2003* as Decontaminated after unauthorised disposal of wastes including asbestos-containing material (ACM) was removed and soil was excavated immediately adjacent to where waste was identified (DWER, 2022).

The site has been successfully remediated and is suitable for all land uses, classified as 'decontaminated'. However, given the risks associated with the potential to encounter unidentified contaminated soil or buried ACM during native vegetation clearance and Acid sulfate soils (ASS), the department recommends the following (DWER, 2022):

- An appropriate 'unexpected finds protocol' should be implemented incorporating work health and safety controls to address the risks associated with the potential to encounter contaminated soil or buried ACM during mechanical clearing works.
- Acid sulfate soils (ASS) risk mapping indicates that the site is located within an area identified as representing a low to moderate risk of ASS occurring within 3 metres of the natural soil surface. Please refer to Department of Water and Environmental Regulation's acid sulfate soil guidelines for information to assist with the management of ground and/or groundwater disturbing works. <https://www.der.wa.gov.au/your-environment/acid-sulfate-soils/69-acidsulfatesoils-guidelines>

No Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

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:

- 0.033 hectares low quality foraging habitat for Carnaby's black cockatoo.
- 1.98 hectares of vegetation growing in association of a wetland mapped within the Directory of Important Wetlands, of which 0.67 hectares is commensurate with a conservation category wetland (CCW), with the remainder providing ecological linkage and support the functionality of the adjoining CCW values.

The applicant put forward an environmental offset consisting of a revegetation and rehabilitation program to establish and protect 2.866 hectares of vegetation providing wetland values, of which 0.08 hectares at a minimum also provides black cockatoo habitat opportunities. The program is outlined within the *Revegetation Plan Carey Baptist College (Stage 4), Revision 1 November 2023* prepared by Coterra Environment and is in line with the previous revegetation plans approved for the current clearing permits on the site. The purpose of the revegetation program is to improve the condition of the mapped wetland and therefore improve the hydrological function of the wetland suites in the area. As such, 2.87 hectares of vegetation within the wetland mapped as the Gibbs Road Swamp System will be improved from Completely Degraded-Degraded to a Good condition via fencing, weed control and infill planting. The revegetation program will also establish and protect an additional 0.08 hectares of Carnaby's cockatoo foraging habitat which will include revegetation of 0.08 hectares of dryland vegetation in 'Degraded to Completely Degraded' condition to 'Good -Very Good' condition and provide Carnaby's Cockatoo foraging habitat with a target coverage of at least 20 per cent (Coterra, 2023d).

In assessing whether the proposed offset is adequately proportionate to the significance of the environmental values being impacted, a calculation using the WA Offsets calculator was undertaken. The calculation indicates that the rehabilitation of 0.08 hectares of native vegetation with black cockatoo foraging values as an offset is sufficient to adequately address the impacts of the proposed clearing, mitigating impact by 130 per cent and rehabilitation of 2.87 hectares of wetland vegetation as an offset is sufficient to adequately address the impacts of the proposed clearing, mitigating impact by 104 per cent.

The Delegated Officer considers that this adequately counterbalances the significant residual impacts listed above. The justification for the values used in the offset calculation is provided in Appendix E.

End

Appendix A. Additional information provided by applicant

During the assessment, the applicant was responded to several request for information on the following:

- Further information on avoidance and minimisation
- Proposed revegetation as an offset measure

Summary of comments	Consideration of comment
Applicant provided additional information as to avoidance measures and wetland values (Coterra, 2023b)	DWER sought additional information from the applicant in regard to evidence of efforts taken to avoid and/or mitigate significant environmental or a suitable offset proposal. The applicant provided additional information on avoidance measures and mitigating impacts to wetland values.
Applicant provided details of revegetation measures and environmental offsets (Coterra, 2023c) - response to request for additional information	The Applicant provided a suitable offset proposal which was reviewed and endorsed by DWER. Discussed in Section 3 and 4 The Revegetation Plan was prepared to identify the specific revegetation areas and task which will be undertaken including sections on the details of the revegetation works, performance targets, monitoring, contingency action and implementation. Discussed in Section 4 and Appendix E

The applicant provided adequate responses which has been included within relevant sections of this report (Section 3.1 Avoidance and minimisation, Section 4 Suitability of offset and Appendix F).

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. It is located towards the southwest of the current school development footprint. To the north is located a rehabilitated wetland area. The development property is bordered by Bush Forever sites to the north, west and south, and Nicholson Road to the east, separating the property from rural residential plots and the Forrestdale and Thomsons Lakes RAMSAR site (Convention on Wetlands of International Importance Especially as Waterfowl Habitat).</p> <p>Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 23.07 per cent of the original native vegetation cover.</p>
Ecological linkage	The application area is within the Perth Regional Ecological Linkage (nr 52) mapped by WA Local Government Association's (WALGA) biodiversity project.
Conservation areas	The entire application area is located within an Environmentally Sensitive Area (ESA) (ID 1900) associated with wetlands. The land parcel within which the application area is located (Lot 2 on Diagram 75868) is surrounded by DBCA managed lands to the south and east, associated with the Jandakot Regional Park and the Gibbs Road Swamp System, as well as Bush Forever Site 344.
Vegetation description	<p>Photographs and information submitted by applicant (Coterra, 2023) and Bennett Environmental Consulting (2011) indicate the vegetation within the proposed clearing area consists of:</p> <ul style="list-style-type: none"> Ba: Low Woodland A of <i>Banksia attenuata</i>, <i>Banksia menziesii</i>, <i>Nuytsia floribunda</i> and <i>Eucalyptus todtiana</i> over Heath B dominated by <i>Acacia pulchella</i> var. <i>glaberrima</i> over Tall Grass dominated by <i>Ehrharta calycina</i> in grey sand (0.033 ha) Ec: Dense Tall Grass of <i>Eragrostis curvula</i>, <i>Paspalum urvillei</i>, and/or <i>Pennisetum clandestinum</i> or Tall Sedges of <i>Juncus pallidus</i> or Herbs dominated by <i>Lotus subbiflorus</i>, <i>Moraea flaccida</i> and <i>Euphorbiaterracina</i> in damp grey sand (1.078 ha) Mr: Low Forest A of <i>Melaleuca raphiophylla</i> over Dense Herbs dominated by <i>Zantedeschia aethiopicum</i> and <i>Lotus subbiflorus</i> in very damp grey sand (0.904 ha) <p>A site visit undertaken by DWER in September 2023, confirmed the vegetation description and condition (DWER, 2023a). Representative photos and the full survey descriptions and maps are available in Appendix F.</p> <p>This is inconsistent with the mapped vegetation type, Southern River Complex of Open Woodland, which is described Open woodland of <i>Corymbia calophylla</i> (Marri) – <i>Eucalyptus marginata</i> (Jarrah) – <i>Banksia</i> species with fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) – <i>Melaleuca raphiophylla</i> (Swamp Paperbark) along creek beds.</p> <p>The mapped vegetation type retains approximately 18.43 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Vegetation survey (Bennett Environmental Consulting, 2011) indicate the vegetation within the proposed clearing area is in the following condition (Keighery, 1994):</p> <ul style="list-style-type: none"> Very Good-Good – 0.03 hectares (1.6% of clearing footprint) Good – 0.69 hectares (33.2% of clearing footprint) Degraded-Completely Degraded- 1.21 hectares (60.2% of clearing footprint) Completely Degraded – 0.10 hectares (5.0% of clearing footprint) <p>The full Keighery (1994) condition rating scale is provided in Appendix D. The full survey descriptions and mapping are available in Appendix F.</p>
Climate and landform	<p>Rainfall – Mean Annual: 900 millimetres</p> <p>Evapotranspiration – Areal Actual: 800 millimetres</p> <p>Extremely low to very low relief dunes, undulating sandplain and discrete sand rises</p>
Soil description	The soils are mapped as:

Characteristic	Details
	<ul style="list-style-type: none"> Bassendean B1 phase described Extremely low to very low relief dunes, undulating sandplain and discrete sand rises with deep bleached grey sands sometimes with a pale yellow B horizon or a weak iron-organic hardpan at depths generally greater than 2 meters; banksia dominant. Bassendean B4 Phase described as road poorly drained sandplain with deep grey siliceous sands or bleached sands, underlain at depths generally greater than 1.5 m by clay or less frequently a strong iron-organic hardpan.
Land degradation risk	The application area has a high risk of acidification and phosphorus export, moderate risk of waterlogging, moderate to low risk of wind erosion, and low risk of subsurface compaction, water erosion, salinity.
Waterbodies	The desktop assessment and aerial imagery indicated the application area is mapped as the basin dampland UFI-7088, mapped as Multiple Use Wetland (MUW) in the 'Geomorphic Wetlands Swan Coastal Plain' (GWSCP) dataset. This wetland is also part of the Gibb Road Swamp System – WA078 is a Directory of Important Wetland (DIWA). In accordance with DBCA 2017 Wetland Methodology preliminary evaluation criteria, a wetland mapped as DIWA is commensurate with CCW.
Hydrogeography	The application area: <ul style="list-style-type: none"> is mapped within Perth Groundwater Area, as proclaimed under the RIWI Act is not within a proclaimed surface water area does not fall within a public drinking water source area (PDWSA) or within protection zones for PDWSA.
Flora	According to available databases, a total of 11 flora species listed as threatened under the BC Act and 38 Priority listed flora by DBCA have been recorded within the local area. Bennett (2011) undertook a survey of the application area and no threatened or priority flora species were found within the clearing extent. <i>Schoenus pennisetis</i> (Priority 2) and <i>Jacksonia gracillima</i> (Priority 3) flora species were found within Lot 2, however this is outside the boundary of the application area.
Ecological communities	A portion of the application area is mapped as Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region (Priority 3). Focused Vision Consulting Pty Ltd (2022) conducted an out of season assessment and determined the vegetation condition as being Degraded (Keighery, 1994).
Fauna	According to available databases, a total of 55 conservation significant fauna species have been recorded within the local area. Noting the habitat requirements, distribution of the recorded species and the mapped vegetation type, the condition of the vegetation within the application area, the application area is likely to comprise suitable habitat for Carnaby's cockatoo (<i>Zanda latirostris</i>) and forest red-tailed black cockatoo (<i>Calyptorhynchus banksii naso</i>).

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	14.85
Vegetation complex					
Southern River Complex of Open Woodland	58,781.48	10,832.18	18.43	656.44	1.59
Local area					
10km radius	31,607.82	7,291.76	23.07	-	-

*Government of Western Australia (2019a)

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u> The proposed clearing area is not likely to contain locally or regionally significant flora or assemblages of plants. The application area:</p> <ul style="list-style-type: none"> • contains vegetation in a Degraded (Keighery, 1994) condition, • provides habitat for conservation significant fauna, however, the proposed offset will ensure no nett loss will result from the proposed clearing, • does not comprise threatened or priority flora, and • does not contain native vegetation which represents a TEC or PEC. <p>Whilst the native vegetation proposed to be cleared is not considered to have high biodiversity values it provides habitat for conservation significant fauna.</p>	May be at variance	No
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u> The proposed clearing area provides habitat for conservation significant fauna. The proposed environmental offset will ensure no nett loss will result from the proposed clearing.</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u> No threatened flora species listed under the BC Act were recorded within the proposed clearing area (Coterra, 2022).</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u> No Threatened Ecological Communities (TECs) listed under the BC Act or the EPBC Act have been mapped within six kilometres of the application area. The vegetation over the application area does not align with any known TECs.</p> <p>A small portion of the application area to the west is mapped as the commonwealth listed Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region TEC and is contiguous with the larger patch of the mapped Banksia woodland TEC to the west. However, noting the Degraded condition of the vegetation within the application area and the disturbance immediately east of the small area mapped as the TEC, impacts to the TEC from the proposed clearing are not considered to be significant.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u> The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. The application area is classified as a constrained area on the SCP, where the threshold for representation of the pre-clearing of native vegetation is 10 per cent.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Vegetation in the proposed clearing area is not considered to be part of a significant ecological linkage in the local area, however, may contribute to linkage function with adjacent areas of native vegetation. The proposed offset will improve linkage functions in the local area.</p>		
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u> The proposed clearing forms a component of the Carey Baptist College Forrestdale Campus Concept Master Plan, and the applicant is not proposing to clear within 50 metres of the Jandakot Regional Park Bush Forever site 344. Given the distance to the nearest conservation area and the small extent of the clearing, the proposed clearing is not likely to have a significant impact on the environmental values of adjacent conservation areas. Weed and dieback management techniques conditioned on the permit will mitigate any potential impacts to nearby conservation reserves.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u> The proposed clearing will impact 1.98 hectares of vegetation growing in association of a wetland mapped within the Directory of Important Wetlands, of which 0.67 hectares is commensurate with a CCW, with the remainder providing ecological linkage and support the functionality of the adjoining CCW values. A revegetation offset proposed by the applicant will mitigate impacts to wetland values.</p>	At variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u> Noting condition of the vegetation within application area and the mapped soil types, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u> DBCA advised that clearing, excavation and introducing fill to a site can change the geomorphology of the mapped wetland (Gibb Road Swamp System) which may have impacts to hydrology. Detailed drainage design will mitigate some impacts. The revegetation of an adjacent area of this wetland will mitigate long term impacts.</p>	May be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u> The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. The application area is located outside of any recognised floodplain areas.</p>	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

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

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

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

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
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. Offset calculator value justification

Offset calculator value justification – wetland

Environmental value to be offset			
Calculation	Score (Area)		Rationale
Conservation significance			
Description	1.98 ha of vegetation growing in association with a wetland of conservation category values		1.98 ha of vegetation growing in association of a wetland mapped within the Directory of Important Wetlands, of which 0.67 ha is commensurate with a conservation category wetland (CCW) with the remainder providing ecological linkage and support the functionality of the adjoining CCW values. This wetland is also part of the Gibb Road Swamp System – WA078 is a Directory of Important Wetland (DIWA). In accordance with DBCA 2017 Wetland Methodology preliminary evaluation criteria, a wetland mapped as DIWA is commensurate with CCW.
Type of environmental value	Wetland/watercourse		The application area is mapped as the basin dampland UFI-7088 and is mapped within the DIWA.
Conservation significance of environmental value	A category or type of wetland or watercourse for which an offset is required		DBCA re-evaluated this wetland. DWER site inspection also confirmed the wetland values to be representative of conservation management category
Landscape-level value impacted	yes/no		
Significant impact			
Description	1.98 ha of good to degraded condition vegetation indicative of CC wetland		Application area comprises of 1.98 ha of vegetation indicative of conservation category
Significant impact (hectares) / Type of feature	1.98		area in hectares of vegetation representative of CCW
Quality (scale) / Number	4.00		The quality of the wetlands is based on the condition of the vegetation stated in Bennet report 2011 and confirmed through DWER site inspection - Degraded to Good.
Rehabilitation credit			
Description	0		
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Onground management and conservation of an adjacent wetland area within the Gibbs road swamp system		The applicant has proposed improving the condition of the vegetation within the adjacent wetland mapped as the Gibbs Road Swamp System from Completely Degraded-Degraded to a Good condition using on-ground management measures including fencing, weed control and infill planting of riparian species (Coterra, 2023c).
Proposed offset (area in hectares)	2.87		An area of 2.87 hectares is proposed which mitigate the impacts by 104.3%.
Current quality of offset site / Start number (of type of feature)	3.00		Based on aerial imagery, site visit and Bennet report 2011, the majority of the adjacent wetland areas are in Degraded to Completely Degraded condition.
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	3.00		It is assumed the condition will not change without any onground management and conservation.
Future quality WITH offset (scale) / Future number WITH offset	6.00		The vegetation condition is expected to improve with onground management measures including fencing, weed control and infill planting with wetland plant species.
Time until ecological benefit (years)	10.00		It is expected that infill planting will become established and the other onground management measures will result in the expected a quality improvement within ten years.
Confidence in offset result (%)	0.9		There is a high level of confidence that the proven rehabilitation strategies and onground management measures will result in improving the condition of the mapped wetland values, based upon the applicant's track record of previous successful revegetation at the site.
Duration of offset implementation (maximum 20 years)	20.00		The maximum duration of 20 years is applied, as per DWER's Guideline for quantifying environmental offsets
Time until offset site secured (years)	2.00		Time for the rehabilitation to commence and vegetation to be established, upon which the conservation covenant can be applied.
Risk of future loss WITHOUT offset (%)	15.0%		The site is zoned Rural under the City of Armadale Town Planning Scheme No. 4. There is a high level of risk of loss due to the zoning of the site.
Risk of future loss WITH offset (%)	5.0%		The offset site will be required to be conserved in perpetuity via a conservation covenant, which will reduce the risk of loss in the future.
Offset ratio (Conservation area only)	N/A		

Offset calculator value justification – black cockatoo foraging habitat

Environmental value to be offset		
Calculation	Score (Area)	Rationale
Conservation significance		
Description	0.033 ha of black cockatoo foraging habitat	Banksia Woodland vegetation (Ba Unit) that provide foraging habitat for Carnaby's black cockatoos.
Type of environmental value	Species (flora/fauna)	fauna habitat
Conservation significance of environmental value	Rare/threatened species - endangered	Carnaby's Cockatoo is listed as endangered.
Landscape-level value impacted	yes/no	
Significant impact		
Description	0.033 ha of black cockatoo foraging habitat	The proposed clearing will impact 0.033 hectares of low quality foraging habitat for Carnaby's black cockatoo.
Significant impact (hectares) / Type of feature	0.03	
Quality (scale) / Number	5.00	The application area is within Carnaby's cockatoo and forest red-tailed black cockatoo known distribution range. 0.2 hectares of the application is mapped as black cockatoo feeding habitat. There are 44 confirmed black cockatoo roosting sites mapped within the local area. Of these, 14 occur within a 6-kilometre buffer of the application area. The Ba vegetation unit mapped within the application area equates to 0.033 hectares and is described as a low Woodland of Banksia attenuata, Banksia menziesii, Nuytsia floribunda and Eucalyptus todtiana over Heath [Coterra, 2023a]. Noting the plant species present, this area provides primary foraging resources for Carnaby's black cockatoo only.
Rehabilitation credit		
Description	0	None proposed
Proposed rehabilitation (area in hectares)	0.00	
Current quality of rehabilitation site / Start number (of type of feature)	0.00	
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00	
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00	
Time until ecological benefit (years)	0.00	
Confidence in rehabilitation result (%)	0	
Offset		
Description	Rehabilitation of an adjacent area with BC foraging species similar to the impact site	The applicant has proposed a revegetation and rehabilitation program to establish and protect 2.866 ha of vegetation providing wetland values, of which 0.08 ha at a minimum also provides black cockatoo habitat opportunities.
Proposed offset (area in hectares)	0.08	Onsite revegetation within the area as proposed for the wetland improvements will include at least 0.08 ha of black cockatoo foraging habitat
Current quality of offset site / Start number (of type of feature)	1.00	A start quality of 1 has been assigned based on the vegetation condition of the offset site being degraded-completely degraded and lacking cockatoo habitat species. This is consistent with the values applied as part of the CPS 8768/1 offset.
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	1.00	A score of 1 has been assigned as without management this area is unlikely to improve in quality.
Future quality WITH offset (scale) / Future number WITH offset	5.00	A score of 5 has been assigned based on the foraging habitat values proposed to be established and the proponents proven track record of successful rehabilitation. Rehabilitation species will include several banksia species including Banksia mericanu, Banksia illicifolia, Banksia menziesii and Banksia littoralis, as well as jarrah, marri, blackbutt and flooded gum.
Time until ecological benefit (years)	15.00	It is assumed rehabilitation would take 15 years to establish and improve the vegetation to provide moderate to good quality foraging habitat for Carnaby's cockatoo.
Confidence in offset result (%)	0.8	There is a high level of confidence that the proven rehabilitation strategies and onground management measures will result in improving the condition of the foraging habitat within the site, based upon the applicant's track record of previous successful revegetation at the site.
Duration of offset implementation (maximum 20 years)	20.00	The maximum duration of 20 years is applied, as per DWER's Guideline for quantifying environmental offsets
Time until offset site secured (years)	2.00	Time for the rehabilitation to commence and vegetation to be established, upon which the conservation covenant can be applied.
Risk of future loss WITHOUT offset (%)	15.0%	The site is zoned Rural under the City of Armadale Town Planning Scheme No. 4. There is a high level of risk of loss due to the zoning of the site.
Risk of future loss WITH offset (%)	5.0%	The offset site will be required to be conserved in perpetuity via a conservation covenant, which will reduce the risk of loss in the future.

Appendix F. Vegetation assessment information excerpts and photographs of the vegetation and Rehabilitation program

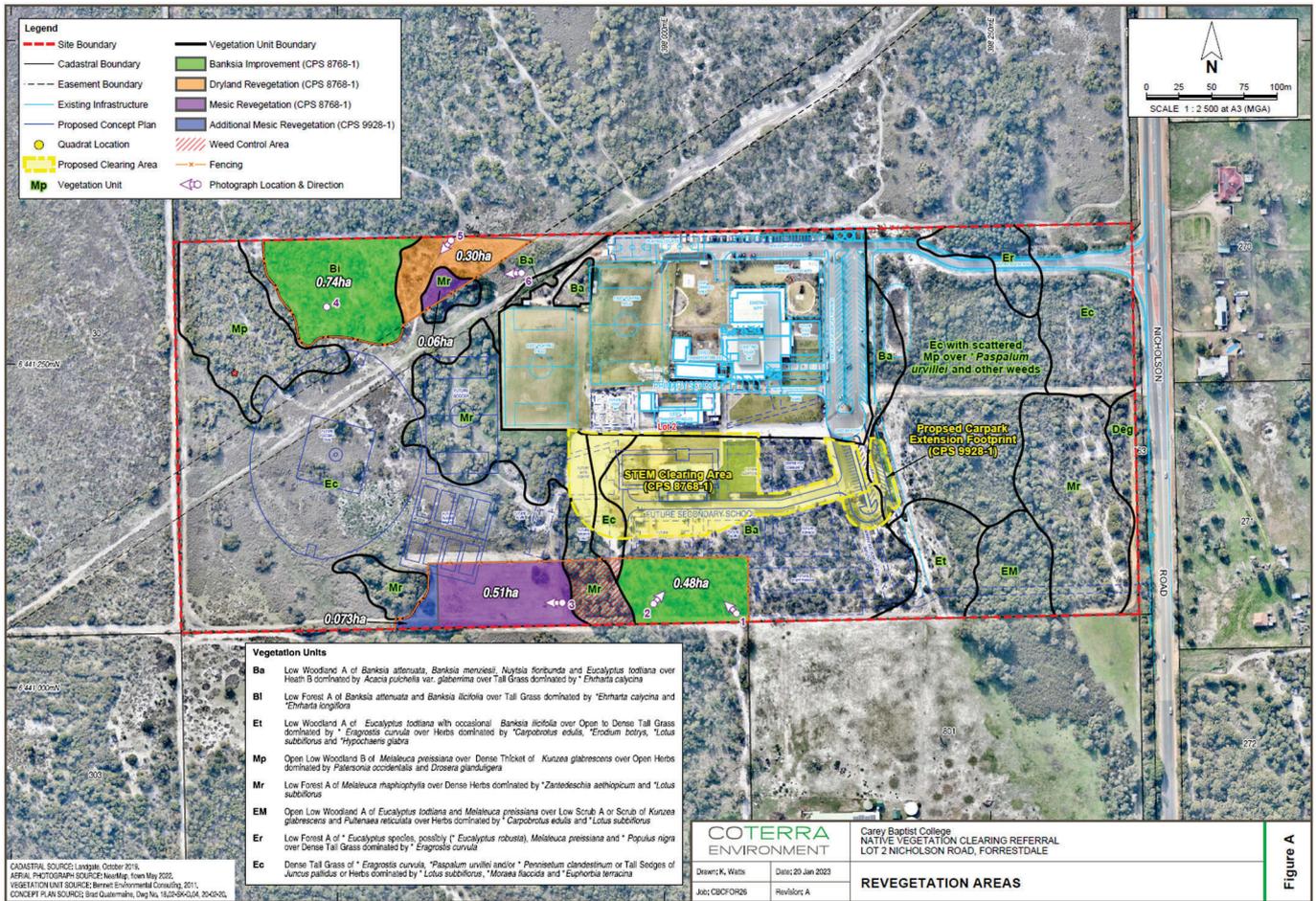


Table 3-7: Vegetation units

Vegetation Type	Vegetation Unit	Description
Upland Vegetation	Ba	Low Woodland A of <i>Banksia attenuata</i> , <i>Banksia menziesii</i> , <i>Nuytsia floribunda</i> and <i>Eucalyptus todtiana</i> over Heath B dominated by <i>Acacia pulchella</i> var. <i>glaberrima</i> over Tall Grass dominated by <i>*Ehrharta calycina</i> in grey sand
	Bi	Low Forest A of <i>Banksia attenuata</i> and <i>Banksia ilicifolia</i> over Tall Grass dominated by <i>*Ehrharta calycina</i> and <i>*Ehrharta longiflora</i> in grey sand
	Et	Low Woodland A of <i>Eucalyptus todtiana</i> with occasional <i>Banksia ilicifolia</i> over Open Dense Tall Grass dominated by <i>*Eragrostis curvula</i> over Herbs dominated by <i>*Carpobrotus edulis</i> , <i>*Erodium botrys</i> , <i>*Lotus subbiflorus</i> and <i>*Hypochaeris glabra</i> in pale grey sand
Wetland Vegetation	Mp	Open Low Woodland B of <i>Melaleuca preissiana</i> over Dense Thicket of <i>Kunzea glabrescens</i> over Open Herbs dominated by <i>Patersonia occidentalis</i> and <i>Drosera glanduligera</i> in damp dark grey sand
	Mr	Low Forest A of <i>Melaleuca raphiophylla</i> over Dense Herbs dominated by <i>*Zantedeschia aethiopicum</i> and <i>*Lotus subbiflorus</i> in very damp grey sand
	EM	Open Low Woodland A of <i>Eucalyptus todtiana</i> and <i>Melaleuca preissiana</i> over Low Scrub A or Scrub of <i>Kunzea glabrescens</i> and <i>Pultenaea reticulata</i> over Herbs dominated by <i>*Carpobrotus edulis</i> and <i>*Lotus subbiflorus</i> in grey sand
	Er	Low Forest A of <i>*Eucalyptus</i> species (possibly <i>*Eucalyptus robusta</i>), <i>Melaleuca preissiana</i> and <i>*Populus nigra</i> over Dense Tall Grass dominated by <i>*Eragrostis curvula</i> in grey sandy loam
	Ec	Dense Tall Grass of <i>*Eragrostis curvula</i> , <i>*Paspalum urvillei</i> , and/or <i>*Pennisetum clandestinum</i> or Tall Sedges of <i>Juncus pallidus</i> or Herbs dominated by <i>*Lotus subbiflorus</i> , <i>*Moraea flaccida</i> and <i>*Euphorbia terracina</i> in damp grey sand

Source: BEC, 2011

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)
- 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
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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)

G.2. References

Carey Baptist College (2023) *Clearing permit application CPS 10281/1*, received 20 July 2023 (DWER Ref: DWERDT811203).

City of Armadale (2023) *Advice for clearing permit application CPS 10281/1*, received 26 September 2023 (DWER Ref: DWERDT847709).

Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

Commonwealth of Australia (2022) Referral guidelines for three WA threatened black cockatoo species. Carnaby's Cockatoo (*Zanda latirostris*), Baudin's Cockatoo (*Zanda baudinii*) and the Forest Red-tailed Black-cockatoo (*Calyptorhynchus banksii naso*). Available from: <https://www.dcceew.gov.au/sites/default/files/documents/referral-guideline-3-wa-threatened-blackcockatoo-species-2022.pdf>

Coterra Environment (Coterra) (2019) Native Vegetation Clearing Permit. Application Supporting Information. Carey Baptist College, Forrestdale (Stage 2). Revision 0 December 2019. (DWER Ref: A1875028).

Coterra Environment (2023a) *Supporting information for clearing permit application CPS 10281/1*, received 20 July 2023 (DWER Ref: DWERDT811204).

Coterra Environment (2023b) *Additional information for clearing permit application CPS 10281/1*, received 26 October 2023 (DWER Ref: DWERDT857300).

Coterra Environment (2023c) *Additional information for clearing permit application CPS 10281/1*, received 28 November 2023 (DWER Ref: DWERDT876102).

- Coterra Environment (2023d) Revegetation Plan Carey Baptist College, Forrestdale (Revision 4 - November 2023), received 28 November 2023 (DWER Ref: DWERDT876102).
- Bennett Environmental Consulting (Bennett) (2011) Botanical Assessment of Lot 2 Nicholson Road Forrestdale. Prepared for: Coterra Environment 19/336 Churchill Avenue, Subiaco WA 6008 by Bennett Environmental Consulting Pty Ltd. December 2011. (DWER Ref: A1875030).
- Department of Agriculture, Water and the Environment (DAWE) (2020b) *Tringa nebularia* - Common Greenshank, Greenshank in Species Profile and Threats Database (SPRAT), Department of Agriculture, Water and the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed December 2023.
- Department of Agriculture, Water and the Environment (DAWE) (2020c) *Calidris acuminata* - Sharp-tailed Sandpiper, in Species Profile and Threats Database (SPRAT), Department of Agriculture, Water and the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed December 2023.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2017) A methodology for the evaluation of wetlands on the Swan Coastal Plain, Western Australia, draft prepared by the Wetlands Section of the Department of Biodiversity, Conservation and Attractions and the Urban Water Branch of the Department of Water and Environmental Regulation, Perth.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2023) Species and Communities Branch advice for clearing permit application CPS 10068/1, received 23 October 2023. Department of Biodiversity, Conservation and Attractions, Western Australia (DWER Ref: DWERDT856870).
- Department of Environment Regulation (DER) (2013). *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf.
- Department of the Environment and Energy (DoEE) (2016) Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community. Department of the Environment and Energy, Canberra. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>.
- Department of Primary Industries and Regional Development (DPIRD) (2019). *NRInfo Digital Mapping. Department of Primary Industries and Regional Development*. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (accessed January 2023).
- Department of Water and Environmental Regulation (DWER) (2019). *Procedure: Native vegetation clearing permits*. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.PDF.
- Department of Water and Environmental Regulation (DWER) (Contaminated Sites – Science and Planning) (2022) Contaminated Sites Advice Request – Decontaminated - advice for clearing permit application CPS 9928/1, received 14 November 2022 (DWER Ref: DWERDT700148).
- Department of Water and Environmental Regulation (DWER, 2023a) Site Inspection Report for Clearing Permit Application CPS 10281/1, 7 September 2023. Department of Water and Environmental Regulation, Western Australia (DWER Ref: DWERDT835596).
- Department of Water and Environmental Regulation (DWER, 2023b) (Contaminated Sites – Science and Planning) (2022) *Contaminated Sites Advice Request – Decontaminated - advice for clearing permit application CPS 9928/1*, received 14 November 2022 (DWER Ref: DWERDT700148).
- Environmental Protection Authority (EPA) (2008) Environmental Guidance for Planning and Development Guidance Statement No 33. Environmental Protection Authority, Western Australia.
- Environmental Protection Authority (EPA) (2016). *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment*. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf.

- Focused Vision Consulting (2022) *Supporting information for clearing permit application CPS 9928/1*, received 21 October 2022 (DWER Ref: DWERT11083).
- Government of Western Australia. (2019) *2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019*. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) *Vegetation Complexes of the Darling System, Western Australia*. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils*, Sheets 1 to 10, with explanatory data. CSIRO and Melbourne University Press: Melbourne.
- Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs* Resource Management Technical Report No. 280. Department of Agriculture.
- Shah, B. (2006) *Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia*. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) *Native Vegetation in Western Australia, Extent, Type and Status*. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area*. Edith Cowan University and Department of Environment and Conservation. December 2008.