



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10003/1
Permit Holder:	Co-operative Bulk Handling Limited
Duration of Permit:	From 09 November 2023 to 09 November 2035

ADVICE NOTE

Allocation of offset site

In relation to condition 15 of this Permit, it is noted that 0.36 hectares of Lot 1260 on Plan 409752 and Lot 530 on Plan 222197, Broomehill, and 3.59 hectares of Lot 55 and 56 on Plan 230522, Cranbrook, will be attributed to the offset for this project. The nominated areas contain vegetation representative of the 'Western Australian Wheatbelt Woodlands' Threatened Ecological Community, habitat for black cockatoo species and vegetation that is a significant remnant within an extensively cleared landscape, in addition to other environmental values.

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

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of constructing a new railway out loading facility.

2. Land on which clearing is to be done

Plantagenet Location 2358, Cranbrook
Lot 63 on Deposited Plan 70765, Cranbrook
Lot 1505 on Deposited Plan 420309, Cranbrook
Carlisle Road Reserve (PIN 11428687), Cranbrook
Hardy Street Road Reserve (PIN 11723577), Cranbrook

3. Clearing authorised

The permit holder must not clear more than 1.09 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 09 November 2028.

PART II – MANAGEMENT CONDITIONS

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

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

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

6. Weed and dieback management

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

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Directional clearing

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

8. Land degradation – Wind erosion

The permit holder must begin construction works within three (3) months of the cessation of clearing to mitigate against land degradation through wind erosion.

9. Mitigation – Rehabilitation and revegetation

Within 24 months of undertaking clearing authorised under this permit, and no later than two years after permit issued, for the areas hatched red in Figure 1 of Schedule 2, the permit holder must implement and adhere to the ‘Mitigation and Rehabilitation Plan’ prepared by Tranen (Tranen, 2023a), including but not limited to the following actions:

- (a) commence *revegetation* and *rehabilitation* by;
 - (i) deliberately *planting* and/or *direct seeding native vegetation*, of which provides:
 - i. species which provide suitable foraging habitat for *black cockatoo species*, and
 - ii. species representative of the ‘Western Australian Wheatbelt

Woodlands' Threatened Ecological Community as described in *Approved Conservation Advice*.

- (ii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate*.
- (b) establish 5 x 5 metre quadrat monitoring sites as specified in the attached Schedule 4 (Completion criteria);
- (c) undertake *weed* control activities prior to *planting*, and bi-annually thereafter until the completion criteria in the attached Schedule 4 have been met;
- (d) achieve the completion criteria specified in the attached Schedule 4 after a five year monitoring period for areas *revegetated* and *rehabilitated* under this condition;
- (e) undertake remedial actions for areas *revegetated* and *rehabilitated*, where monitoring indicates that *revegetation/rehabilitation* has not met the completion criteria detailed in the attached Schedule 4 (Completion criteria), including;
 - (i) *revegetate/rehabilitate* the area by deliberately *planting* and/or *direct seeding native vegetation* that will result in the minimum completion criteria detailed in the attached Schedule 4 and ensuring only *local provenance* seeds and propagating material are used;
 - (ii) additional *weed* control activities; and
 - (iii) monitoring of the *revegetated* and *rehabilitated* areas by an *environmental specialist*, until the completion criteria in the attached Schedule 4 are met.
- (f) where a determination is made by an *environmental specialist* that the completion criteria in the attached Schedule 4 are met, that determination shall be submitted to the *CEO* within three months of the determination being made by the *environmental specialist*.

10. Vegetation management - Fencing

- (a) Within 24 months of undertaking clearing authorised under this permit, and no later than two years after permit issued, the permit holder must construct a fence enclosing the area cross-hatched red in Figure 1 of Schedule 2.
- (b) The fence should allow for the movement of wildlife by being raised 15 centimetres from the ground.
- (c) The permit holder must notify the *CEO* within three months of the completion of the fence constructed under 10(a).

11. Threatened Ecological Community Assessment

Within 6 months of undertaking clearing authorised under this permit, the permit holder must engage an *environmental specialist* to undertake a Threatened Ecological Community Assessment of the areas cross-hatched orange in Figure 2 of Schedule 3 (Lot 55 and 56 on Plan 230522) to determine:

- (a) the extent and vegetation condition of the 'Eucalypt woodlands of the Western Australian Wheatbelt' Threatened Ecological Community, as described in the *Approved Conservation Advice*;
- (b) the permit holder must submit the results of the Threatened Ecological Assessment to the *CEO* within three months of the assessment being undertaken.

12. Offset – Land allocation

Within six (6) months of undertaking clearing authorised under this permit, the permit holder must provide to the *CEO* for approval, the location and boundary of the 3.59 hectare offset area within the area cross-hatched orange on Figure 2 of Schedule 3 (Lot 55 and 56 on Plan 230522) that:

- (a) contains 3.59 hectares of the ‘Eucalypt woodlands of the Western Australian Wheatbelt’ Threatened Ecological Community in Good to Very Good condition as identified under condition 12 of this Permit; and
- (b) contains 3.59 hectares of native vegetation which provides suitable foraging habitat for *black cockatoo* species.

13. Offset – Conservation covenant

Within 12 months of undertaking clearing authorised under this permit, and no later than one year after permit issued, the permit holder must provide to the *CEO* a copy of a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* over:

- (a) the areas cross-hatched red in Figure 1 of Schedule 3 (Lot 1260 on Plan 409752 and Lot 530 on Plan 222197); and
- (b) the areas cross-hatched orange in Figure 2 of Schedule 3 (Lot 55 and 56 on Plan 230522)

14. Offset - Revegetation Plan

- (a) Within 12 months of undertaking clearing authorised under this permit, and no later than one year after permit issued, the permit holder must submit an Offset Revegetation Plan for the offset area cross-hatched orange on Figure 2 of Schedule 3, to the *CEO* for approval.
- (b) The Offset Revegetation Plan shall be developed in accordance with *A Guide to Preparing Revegetation Plans for Clearing Permits* (Department of Water and Environmental Regulation, 2018).
- (c) the Offset Revegetation Plan must be prepared by an *environmental specialist*.
- (d) the Offset Revegetation Plan must include the following:
 - (i) the location/s of the *revegetation* and *rehabilitation* area/s as required under condition 15(a) of this permit;
 - (ii) site preparation;
 - (iii) weed control;
 - (iv) *regeneration, direct seeding or planting, at an optimal time;*
 - (v) a *vegetation* establishment period;
 - (vi) *revegetation* success completion criteria based on selected reference sites, including but not limited to target weed cover, target vegetation condition, target density and target structure;
 - (vii) remedial actions to be undertaken if completion criteria are not met;
 - (viii) ongoing maintenance and monitoring of the area to be *revegetated* and *rehabilitated*;
 - (ix) timeframes for completion of the activities; and

- (x) management commitments that will be achieved.
- (e) if the *CEO*, having had regard to conditions 14(c) and 14(d) of this permit, does not approve the Offset Revegetation Plan, the permit holder must revise and resubmit the Offset Revegetation Plan within 1 month of the date of the *CEO*'s decision.
- (f) the permit holder must obtain the approval of the *CEO*, prior to implementing the Offset Revegetation Plan.
- (g) the permit holder must implement the Offset Revegetation Plan within 12 months of the date of approval by the *CEO*.

15. Offset – Vegetation Management

- (a) the permit holder must maintain or improve the condition of:
 - (i) at least 0.36 hectares of *native vegetation* in Excellent condition over the areas cross-hatched red in Figure 1 of Schedule 3 (Lot 1260 on Plan 409752 and Lot 530 on Plan 222197) by:
 - i. adhering to the 'Revegetation Implementation Plan', prepared by Tranen (Tranen, 2023b), and
 - ii. achieving the completion criteria specified in the attached Schedule 5 (Completion criteria).
 - (ii) at least 3.59 hectares of *native vegetation* representative of the Eucalypt Woodlands of the Western Australian Wheatbelt in Good to Very Good condition within the areas cross-hatched orange in Figure 2 of Schedule 3 (Lot 55 and 56 on Plan 230522) by:
 - i. adhering to the 'Offset Revegetation Plan' prepared in accordance with condition 14 of this permit, and
 - ii. maintaining the condition of vegetation in a 'Good' to 'Very Good' condition as specified in attached Schedule 6 (Table 1).
- (b) within 24 months of the commencement of *clearing*, and at least every 2 years subsequent, the permit holder must obtain a determination by an *environmental specialist* to assess whether the vegetation condition rating over the area under conditions 15(a) has been maintained or improved.
- (c) where, in the opinion of an *environmental specialist*, the vegetation condition rating under conditions 15(a) and 15(b) of this permit have not been maintained, remedial actions must be implemented including:
 - (i) *weed* control and/or;
 - (ii) *rehabilitating* the area by deliberately *planting* and/or *direct seeding native vegetation* ensuring only *local provenance* seeds and propagating material are used that will result in the areas under conditions 15(a) achieving the completion criteria specified in the attached Schedule 6 (Completion criteria).
- (d) where deliberate *planting*, *direct seeding*, or *weed* control is undertaken in accordance with condition 15(c) of this permit, the permit holder shall repeat condition 15(b) within 24 months of undertaking the deliberate *planting*, *direct seeding*, or *weed* control and repeat remedial actions in accordance with condition 15(c) until the completion criteria outlined in the attached Schedule 6 (Completion criteria) are achieved.

- (e) if the *CEO* does not agree with the determinations made by an *environmental specialist* under condition 15(b) of this permit, the *CEO* may require the permit holder to undertake remedial actions including additional *planting*, *direct seeding*, or *weed* control in accordance with the requirements under condition 15(c).

PART III - RECORD KEEPING AND REPORTING

16. 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	<ul 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 Geocentric Datum Australia 2020 (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 5; (f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 6; (g) actions taken in accordance with condition 7; (h) actions taken to mitigate against wind erosion in accordance with condition 8; and (i) evidence of fencing undertaken in accordance with condition 10.
2.	In relation to the <i>revegetation</i> and <i>rehabilitation</i> activities, pursuant to condition 9	<ul style="list-style-type: none"> (a) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken; (b) the size of the area <i>revegetated</i> and <i>rehabilitated</i>; (c) the date/s on which the <i>revegetation</i> and <i>rehabilitation</i> was undertaken; (d) the boundaries of the area <i>revegetated</i> and <i>rehabilitated</i> (recorded digitally as a shapefile); (e) determinations made by an <i>environmental specialist</i>; and (f) other actions taken in accordance with

No.	Relevant matter	Specifications
		condition 9.
3.	In relation to the Threatened Ecological Community Assessment, pursuant to condition 11	<ul style="list-style-type: none"> (a) the date the assessment was undertaken; (b) the survey methodology used; (c) the relevant qualifications of the <i>environmental specialist</i> undertaking the assessment; (d) the vegetation condition of the community; and (e) the boundaries of the community, (recorded digitally as a shapefile).
4.	In relation to offset management, pursuant to conditions 12, 13, 14 and 15.	<ul style="list-style-type: none"> (a) the location and boundaries of the allocated 3.59 hectare offset area within Lot 55 and 56 on Plan 230522 (recorded digitally as a shapefile). (b) a copy of the relevant conservation covenant under section 30B of the <i>Soil and Land Conservation Act 1945</i> in accordance with condition 13; (c) a copy of the Offset Revegetation Plan for approval by the <i>CEO</i>, and (d) actions undertaken in accordance with condition 15.

17. Reporting

The permit holder must provide to the *CEO* the records required under condition 16 of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
Approved conservation advice	means Approved Conservation Advice for the ‘Western Australian Wheatbelt Woodlands’ Threatened Ecological Community, available at: Eucalypt Woodlands of the Western Australian Wheatbelt: a nationally protected ecological community (dcceew.gov.au) .
Black cockatoo species	means one or more of the following species: <ul style="list-style-type: none"> (a) <i>Zanda latirostris</i> (Carnaby’s cockatoo); (b) <i>Zanda baudinii</i> (Baudin’s cockatoo); and/or (c) <i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo).
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental</i>

Term	Definition
	<i>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.
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.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of two (2) years work experience relevant to the type of environmental advice that an environmental specialist is required to provide under this permit, or who is approved by the <i>CEO</i> as a suitable environmental specialist.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
local provenance	means native vegetation seeds and propagating material from natural sources within 100 kilometres and the same IBRA subregion of the area cleared.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
optimal time	means the period from April to June.
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
rehabilitate/ed/ing/ion	means the re-establishment of a cover of <i>local provenance</i> native vegetation in an area using methods such as natural regeneration, direct seeding and/or <i>planting</i> , so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.
revegetate/ed/ing/ion	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

Term	Definition
	and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

REFERENCES

Tranen (2023a) *Mitigation and Rehabilitation Plan*. Prepared in September 2023 for CBH. Received by the department on 9 October 2023 (ref: DWERDT822261) Available at [Index of /permit/10003 \(dwer.wa.gov.au\)](https://dwer.wa.gov.au/index_of/permit/10003)

Tranen (2023b) *Revegetation Implementation Plan*. Prepared in July 2023 for CBH. Received by the department on 5 September 2023 (ref: DWERDT838226) Available at [Index of /permit/9445 \(dwer.wa.gov.au\)](https://dwer.wa.gov.au/index_of/permit/9445)

END OF CONDITIONS



Mathew Gannaway
 MANAGER
 NATIVE VEGETATION REGULATION

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

16 October 2023

Schedule 1 - Plan CPS 10003/1

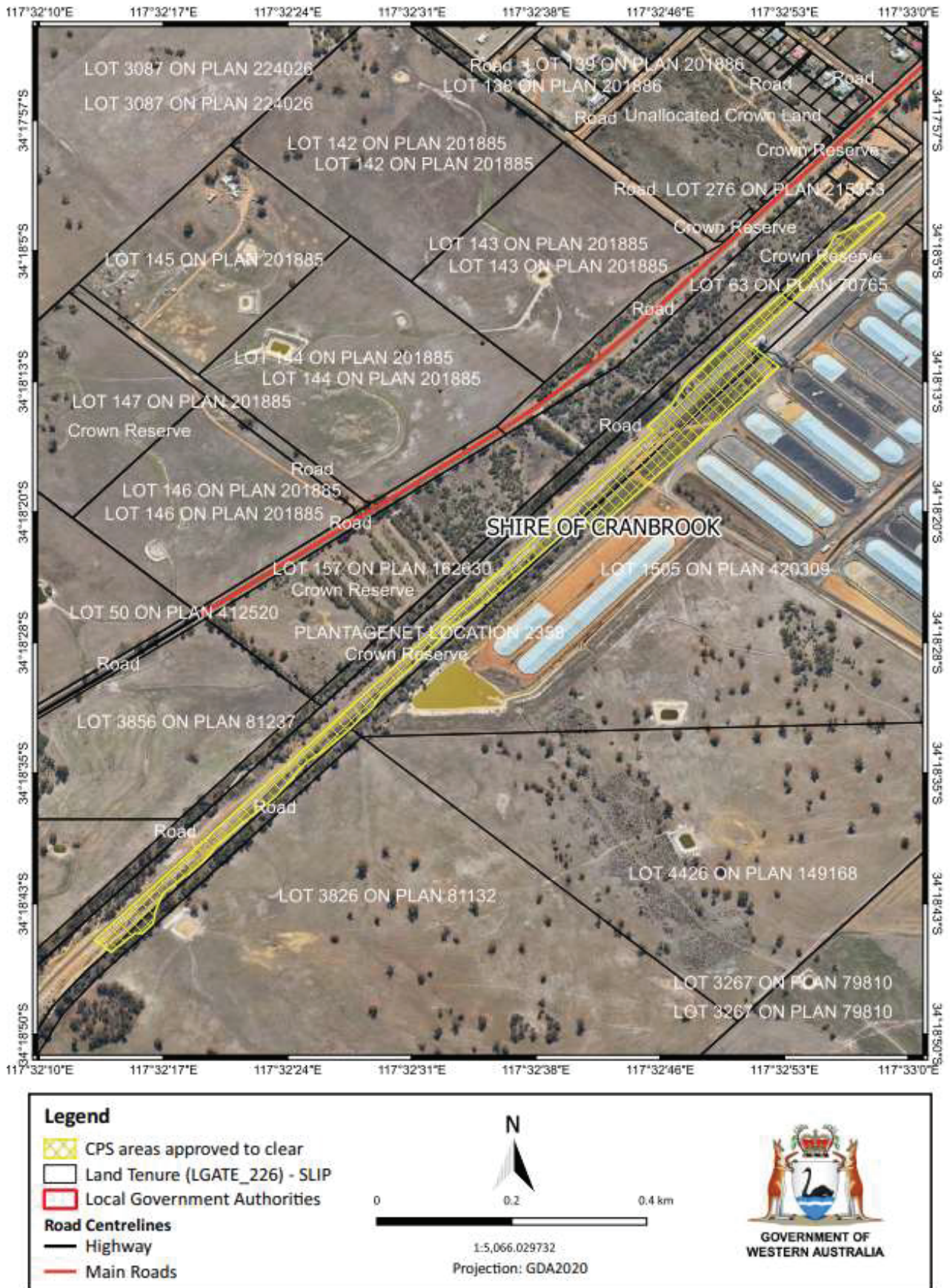


Figure 1: Map of the boundary of the area within which clearing may occur

Schedule 2

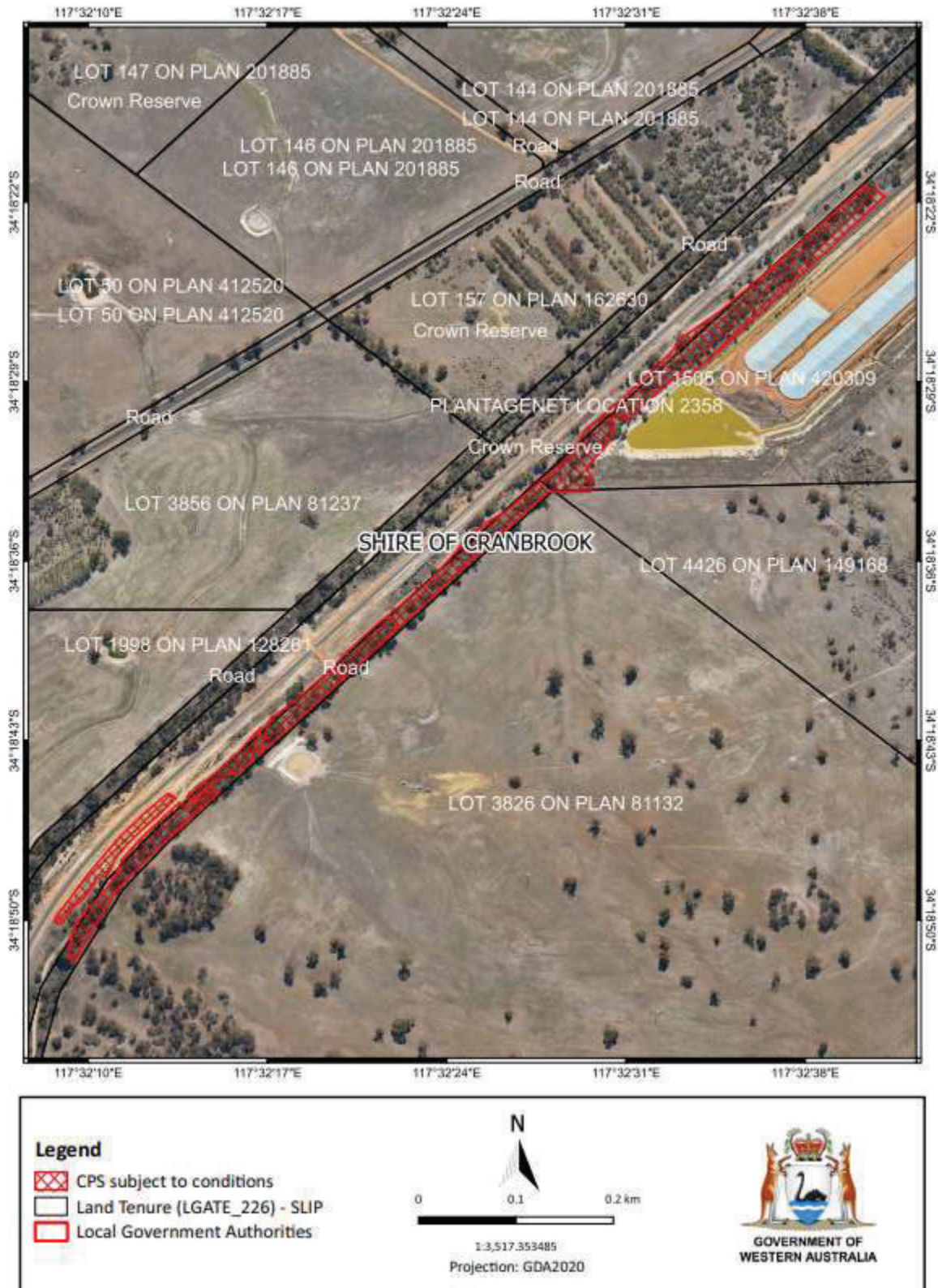


Figure 1: Map of the boundary of the area to be revegetated and fenced.

Schedule 3



Figure1: Map of the offset boundary area to be managed as an offset



Figure 2: Map of the offset boundary area to be managed as an offset

Schedule 4

Table 1. The revegetation and rehabilitation completion criteria are shown in the table below.

Characteristic	Completion targets	Actions and timing	Monitoring
Vegetation - species composition	≥60% of species installed represented in each management zone after 5 years	<p><u>Year 2 – Planting</u></p> <ul style="list-style-type: none"> • Management Zones 1-4: <ul style="list-style-type: none"> ○ Tubestock will be planted into augered holes (90 - 150 mm in diameter and 150 - 300 mm in depth) ○ Maximum density of planted seedlings in any patch or clearing will be 1 plant per m². • Management Zone 5: <ul style="list-style-type: none"> ○ Soil will be cross ripped to a depth of 500 mm at 2 m spacings. ○ Maximum density of planted seedlings in any patch or clearing will be 1 plant per 1.75 m². <p>A native fertiliser tablet will be installed with each seedling (except for species in the Proteaceae family) to provide immediate nutrients to establishing plants.</p>	<p>Years 1-3 - each monitoring zone will be monitored bi-annually (spring and autumn)</p> <p>Years 4-5 - each monitoring zone will be monitored annually (spring) (or until required)</p> <p>Monitoring quadrat (5m x 5m) installation per management zone:</p> <ul style="list-style-type: none"> • Management Zone 1 <ul style="list-style-type: none"> ○ 10 monitoring quadrats • Management Zone 2 <ul style="list-style-type: none"> ○ 4 monitoring quadrats • Management Zone 3 <ul style="list-style-type: none"> ○ 2 monitoring quadrats • Management Zone 4 <ul style="list-style-type: none"> ○ 1 monitoring quadrats • Management Zone 5 <ul style="list-style-type: none"> ○ 1 monitoring quadrat
Vegetation - density	1,500 stems installed per hectare across the site and/or 70 percent cover of installed plants.		
Vegetation - condition	Vegetation is self-sustaining (i.e., evidence of plant maturity, flowering and seed set observed).	<p>Infill planting will occur as determined by the results of monitoring.</p>	<p>Data recorded within monitoring quadrats will record:</p> <ul style="list-style-type: none"> • Density (stems / m²) installed plants • Native species present (species diversity) • Estimated native foliage cover (% cover)

Characteristic	Completion targets	Actions and timing	Monitoring
Weed management	≤20% weed cover of grassy and pasture weeds. No declared weeds or exotic woody weeds present onsite	<p><u>Weed control:</u></p> <ul style="list-style-type: none"> Will occur for at least one full year prior to seed and tubestock installation across the site, including in areas not requiring in-fill planting or seeding to encourage natural regeneration. Will continue, as a minimum, in autumn and spring each year <p><u>Dieback management:</u></p> <ul style="list-style-type: none"> All personnel, machinery and vehicles are to be cleaned down prior to arriving onsite to prevent any foreign soil or seeds entering the site. 	<ul style="list-style-type: none"> Estimated total weed cover (% cover) The health of native vegetation Soil movement Fauna and pest activity Comparison of quadrats to remainder of site <p>A photo of the quadrat shall be taken from the NW corner.</p> <p>The rabbit proof fence will be inspected (quarterly) and repaired when necessary</p>
Site maintenance	Rabbit proof fence intact. No rubbish on site	<p><u>Fence installation</u></p> <ul style="list-style-type: none"> A rabbit proof fence will be installed in year 1. 	

Schedule 5

Table 1. The revegetation completion criteria for Offset Site (Lot 1260 on Plan 409752 and Lot 530 on Plan 222197) are shown in the table below.

Characteristic	Completion targets	Actions and timing	Monitoring
Vegetation - species composition	≥60% of species installed represented in each management zone after 5 years	<p>Year 2 – Planting</p> <ul style="list-style-type: none"> • Management Zones 1-4: <ul style="list-style-type: none"> ○ Tubestock will be planted into augered holes (90 - 150 mm in diameter and 150 - 300 mm in depth) ○ Maximum density of planted seedlings in any patch or clearing will be 1 plant per m². <p>A native fertiliser tablet will be installed with each seedling (except for species in the Proteaceae family) to provide immediate nutrients to establishing plants.</p> <p>Infill planting will occur as determined by the results of monitoring.</p> <p><u>Weed control:</u></p> <ul style="list-style-type: none"> • Will occur for at least one full year prior to seed and tubestock installation across the site, including in areas not requiring in-fill planting or seeding to encourage natural regeneration. • Will continue, as a minimum, in autumn and spring each year <p><u>Dieback management:</u></p>	<p>Years 2 and 3 - each monitoring zone will be monitored bi-annually (spring and autumn)</p> <p>Years 4 and 5 - each monitoring zone will be monitored annually (spring) (or until required)</p> <p>Monitoring quadrat (5m x 5m) installation per management zone:</p> <ul style="list-style-type: none"> • Management Zone 1 <ul style="list-style-type: none"> ○ 10 monitoring quadrats • Management Zone 2 <ul style="list-style-type: none"> ○ 0 monitoring quadrats ○ monitored via site traverse • Management Zone 3 <ul style="list-style-type: none"> ○ 3 monitoring quadrats • Management Zone 4 <ul style="list-style-type: none"> ○ 2 monitoring quadrats <p>Data recorded within monitoring quadrats will record:</p> <ul style="list-style-type: none"> • Density (stems / m²) installed plants • Native species present (species diversity) • Estimated native foliage cover (% cover) • Estimated total weed cover (% cover) • The health of native vegetation • Soil movement • Fauna and pest activity • Comparison of quadrats to remainder of site
Vegetation - density	1,500 stems installed per hectare across the site and/or 70 percent cover of installed plants.		
Vegetation - condition	Vegetation is self-sustaining (i.e., evidence of plant maturity, flowering and seed set observed).		
Weed management	≤20% weed cover of grassy and pasture weeds. No declared weeds or exotic woody weeds present onsite		

Characteristic	Completion targets	Actions and timing	Monitoring
		<ul style="list-style-type: none"> All personnel, machinery and vehicles are to be cleaned down prior to arriving onsite to prevent any foreign soil or seeds entering the site. 	<p>A photo of the quadrat shall be taken from the NW corner.</p> <p>The rabbit proof fence will be inspected (quarterly) and repaired when necessary</p>
Site maintenance	Fencing fit for purpose. No rubbish on site	<u>Fence installation</u> <ul style="list-style-type: none"> A rabbit proof fence will be installed in year 1. 	

Schedule 6

Table 1. 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 'pankland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10003/1
Permit type:	Purpose permit
Applicant name:	Cooperative Bulk Handling Limited (CBH)
Application received:	9 December 2022
Application area:	1.09 hectares of native vegetation within a 5.82 hectare clearing footprint
Purpose of clearing:	Railway construction
Method of clearing:	Mechanical
Property:	Plantagenet Location 2358 Lot 63 on Deposited Plan 70765 Lot 1505 on Deposited Plan 420309 Carlisle Road Reserve (PIN 11428687) Hardy Street Road Reserve (PIN 11723577)
Location (LGA area/s):	Shire of Cranbrook
Localities (suburb/s):	Cranbrook

1.2. Description of clearing activities

Co-operative Bulk Handling Limited (CBH), a Western Australian based agricultural co-operative, proposes to construct new railway out loading and associated grain storage infrastructure as part of upgrades to the CBH Grain Receival Point at Cranbrook. The vegetation proposed to be cleared is located along either side of the current road and railway reserve in the intensive land use zone of Western Australia (see Figure 1, Section 1.5).

1.3. Decision on application

Decision:	Granted
Decision date:	16 October 2023
Decision area:	1.09 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 (the department) 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 findings of a biological survey (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 Delegated Officer also took into consideration that the Cranbrook infrastructure upgrade is required to cater for the growing quantities of grain receivals around the Cranbrook region and surrounding catchments. In addition, the project has Federal and State funding as part of the Agricultural Supply Chain Improvement (ASCI) initiative.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing will result in the following significant residual impacts:

- the loss of native vegetation that represents:
 - the Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community (Wheatbelt Woodlands TEC) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
 - suitable foraging habitat and potentially future breeding habitat for black cockatoos; and
 - a significant remnant of native vegetation in an area that has been extensively cleared.

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

- Revegetation and rehabilitation of 2.91 hectares of vegetation adjacent to the proposed clearing area to enhance the existing vegetation (see section 3.1) as per the *Mitigation and Rehabilitation Plan* prepared by Tranen (2023a), including:
 - planting and direct seeding of native vegetation that provides suitable foraging habitat for black cockatoos and is representative of the Wheatbelt Woodlands TEC; and
 - ongoing weed management and monitoring against completion criteria (see section 3.1)
- Conservation and management of 0.36 hectares of native vegetation within Lot 1260 on Plan 409752 and Lot 530 on Plan 222197, as detailed below:
 - conservation of native vegetation in very good to excellent condition, representative of the Wheatbelt Woodland TEC, provides suitable habitat for black cockatoos and is considered significant remnant vegetation within a highly cleared landscape, and
 - vegetation management activities such as supplementary planting, clearing of rubbish, fence installation and/or repair and weed control will aim to prevent further degradation and maintain the quality and condition of existing environmental values of the site (CBH, 2023).
- Conservation and management of 3.59 hectares of native vegetation within Lot 55 and 56 on Plan 230522, as detailed below:
 - conservation of native vegetation in good to very good condition, representative of the Wheatbelt Woodland TEC, provides suitable habitat for black cockatoos and is considered significant remnant vegetation within a highly cleared landscape, and
 - vegetation management activities such as supplementary planting, clearing of rubbish, fence installation and/or repair and weed control will aim to prevent further degradation and maintain the quality and condition of existing environmental values of the site (CBH, 2023).

The Delegated Officer determined that the above mitigation revegetation and offset was sufficient to counterbalance the significant residual impacts associated with this project. Further information on the suitability of the offset provided is summarised in Section 4.

In addition to the significant residual impacts identified above, the Delegated Officer determined the proposed clearing may result in the following impacts:

- potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- potential risk of land degradation from minor wind erosion; and
- potential direct impacts to fauna utilising the application area during the time of clearing.

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

- avoid, minimise to reduce the impacts and extent of clearing
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback
- staged clearing to minimise wind erosion
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity,
- undertake rehabilitation and revegetation within the railway reserve (see section 3.1 below),
- provision of an offset, as outlined above (see Section 4).

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

1.5. Site map

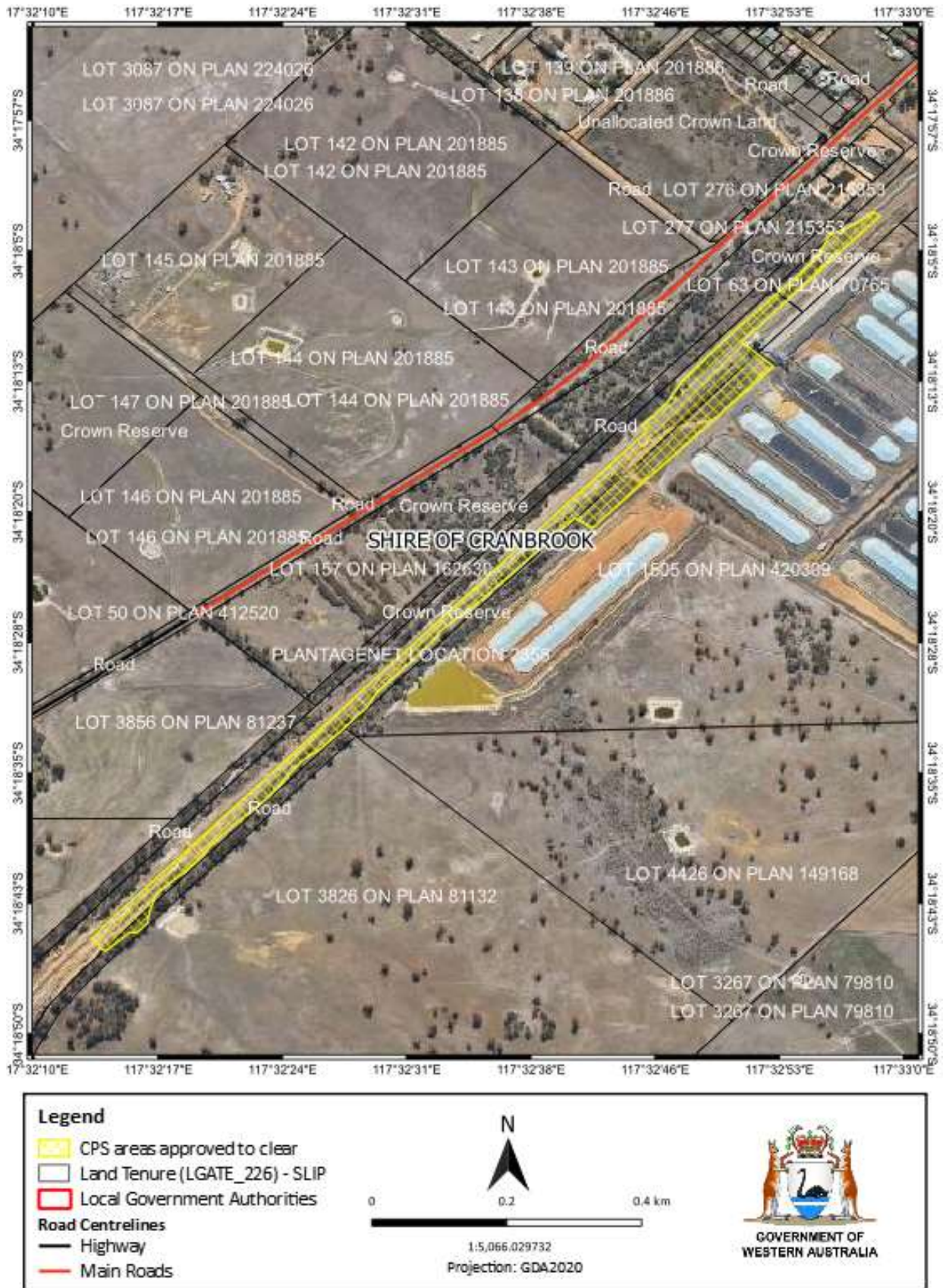


Figure 1 Map of the application area

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

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- 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, 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, in particular, CBH provided the following comments:

Avoidance and minimisation:

CBH has worked with project designers and engineers to undertake an extensive options analysis and to avoid and minimise impacts to environmental values as far as reasonably practicable. This design work has enabled CBH to avoid and reduce impacts to key environmental values as follows:

- Reduction of potential clearing of the Wheatbelt Woodlands TEC to 0.89 ha,
- Reduction of impacts to mapped native vegetation communities to 1.09 ha of which 0.94 ha is in Good condition and 0.14 ha is in Very Good condition, and
- Avoidance of all trees suitable for breeding by Carnaby's cockatoo and by reducing as far as possible impacts to Wandoo (*Eucalyptus wandoo*) and Flat-topped Yate (*Eucalyptus occidentalis*) and to specimens that do not contain hollows.

Rehabilitation and revegetation:

CBH have proposed to rehabilitate 0.12 hectares of temporary clearing within the Hardy Street Road Reserve (PIN 11723577) (see Figure 2 and Appendix F) and revegetation of 2.79 hectares of vegetation adjacent to the proposed clearing area within the Hardy Street Road Reserve (PIN 11723577), Plantagenet Location 2358 and Lot 1505 on Deposited Plan 420309 (see Figure 3 and Appendix F).

A Mitigation and Rehabilitation Plan was provided for the rehabilitation and revegetation proposed (Tranen, 2023a). Details of the plan include:

- Objectives:
 - To develop a woodland mitigation and rehabilitation plan focussed on regenerating and improving condition of remnant vegetation adjacent to the proposed development footprint at CBH's Cranbrook facility.
 - To put in place the mechanisms for native vegetation to become self-sustaining through a comprehensive weed control effort, as well as installing native plants in degraded and cleared

patches between woodland remnants, as well as increasing understorey diversity in and around remnant trees.

- The plan also includes an ongoing maintenance schedule based on formal site monitoring until completion criteria are met.
- Implementation method:
 - The site is separated into four management zones or parcels, each with its own implementation strategy:
 - Management Zone 1 – Infill Yate
 - Management Zone 2 – Infill Wandoo
 - Management Zone 3 – Wandoo Open
 - Management Zone 4 – Closed Canopy
 - Management Zone 5 – Unused Rehab
- Fencing: due to the presence of rabbits within and surrounding the site, a rabbit proof fence will be installed. Fencing will protect any tubestock from being grazed, encourage natural recruitment, delineate the area from construction works (when being undertaken) and will assist with keeping unauthorised vehicle and foot traffic off the site.
- Weed management: use herbicides selected for the target species, that consider the surrounding environment. Where appropriate, selective herbicides (i.e., grass or broadleaf-specific) shall be favoured over general knockdown herbicides to keep off-target damage to a minimum. In some instances, alternative control methods such as manual removal shall be considered where appropriate.
- Dieback management: the site will be treated as dieback uninterpretable, and all personnel, machinery and vehicles are to be cleaned down prior to arriving onsite to prevent any foreign soil or seeds entering the site.
- Species selection and plant allocations:
 - The species used in this plan will be based on previously conducted flora surveys by other consultants, DBCA herbarium records, and visual observations made during the on-ground site assessment.
- Seedling propagation and planting:
 - All seedlings shall be sourced from Nursery Industry Accreditation Scheme, Australia (NIASA) certified nurseries, with preference also given to local suppliers where possible.
 - All tubestock shall be either forestry tubes or deep cells and propagation material will be collected within 100 km of the site in the early stages of the plan implementation.
- Site maintenance:
 - On-going weed management (spring/summer, autumn/winter);
 - Re-planting in areas of poor response (winter);
 - Fence inspection / repair (quarterly); and
 - Disease and pest control (as required)
- Monitoring and reporting: Each management zone will be monitored bi-annually (spring and autumn) for the first 3 years, and annually (spring), for the remaining 2 years (or until required) after installation.
- Completion criteria: It is based primarily on the success of weed control and installed plants but will also capture any natural regeneration over the site.
- Contingency and management actions: A report is to be provided for each monitoring event to document the findings and provide recommendations for any additional actions or contingency plans required to achieve the project targets. These contingency measures include:
 - On-going weed management,
 - Re-planting in areas of poor response,
 - Fence repair; and
 - Disease and pest control

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



Figure 2 Map of the 0.12 hectare rehabilitation area proposed by CBH



Figure 3 Map of the 2.79 hectare revegetation areas proposed by CBH

After consideration of avoidance and mitigation measures, it was determined that an offset to counterbalance the significant residual impacts to the Wheatbelt Woodlands TEC, black cockatoo foraging habitat and significant remnant vegetation was 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), and significant remnant vegetation. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora and vegetation) - Clearing Principles (a) and (d)

Assessment

The application area is located within the Avon Wheatbelt IBRA region of Western Australia. An environmental survey was conducted by Ecoscape in 2022 including a single phase flora and vegetation survey and targeted searches for conservation significant flora. The vegetation within the proposed clearing area was identified by Ecoscape (2022) to be in degraded to very good condition (Keighery, 1994) consisting of four vegetation types:

- Mosaic of *Eucalyptus wandoo* and *Eucalyptus occidentalis* mid woodland and *Eucalyptus occidentalis* low open woodland;
- *Eucalyptus wandoo* and *Eucalyptus occidentalis* mid woodland;
- *Leptospermum erubescens*, *Calothamnus quadrifidus* and **Acacia pycnantha* mid shrubland; and
- *Eucalyptus decipiens* mid mallee woodland over *Baumea juncea* and **Asparagus asparagoides* low closed sedgeland/vineland

During the field survey, nineteen introduced flora species were recorded, representing 16.81 per cent of the overall flora inventory. One of the introduced flora, **Asparagus asparagoides* is a Declared Pest plant and Weed of National Significance (WoNS) species (Ecoscape, 2022).

Conservation significant flora

According to available databases, a total of 41 conservation significant flora species are recorded within the local area. Of these, 20 species are found on the same soil type as the application area. A likelihood assessment for the occurrence of conservation significant flora conducted by Ecoscape (2022) considered nine taxa to have a Possible likelihood of occurring within the survey area.

The flora and vegetation survey was conducted during Spring (November). According to the *Technical guidance for Flora and Vegetation Surveys for Environmental Impact Assessment*, Spring is considered to be the optimal period for a primary survey within the bioregion (EPA, 2016). During the field survey, no conservation significant flora species were recorded (Ecoscape, 2022). A post-survey likelihood occurrence, taking into account vegetation condition, disturbances, actual habitat availability and search effort, determined that two taxa remained to have a Possible likelihood of occurring or suitable habitat occurring within the survey area (Ecoscape, 2022). The two taxa are the Priority 2 species *Stylidium diuroides* subsp. *nanum* and the Priority 3 species *Stylidium exappendiculatum* (Ecoscape, 2022).

Stylidium exappendiculatum and *Stylidium diuroides* subsp. *nanum* occur throughout the Avon Wheatbelt, Esperance Plains and Jarrah Forest. Given this, that the flora and vegetation survey was conducted at the appropriate time to detect these species in flower (Spring) and given *Stylidium* records were found during the flora survey, the department considers the likelihood of occurrence within the proposed clearing area to be low.

Threatened and Priority Ecological communities

According to available databases, two Threatened Ecological Communities (TEC) occur within the local area, both of which have Western Australian Priority Ecological Community (PEC) equivalents:

- *Eucalypt woodlands of the Western Australian Wheatbelt* (Critically Endangered under the EPBC Act), and

- *Proteaceae dominated kwongkan shrublands of the southeast coastal floristic province of Western Australia* (Kwongkan Shrublands) (Endangered under the EPBC Act),

The Kwongkan Shrublands ecological community is found in the south coast region of WA and is defined as a Proteaceous species dominated shrubland that ranges from being sparse to a dense thicket (DoE 2014). No vegetation similar to the EPBC-listed Kwongkan Shrublands was recorded within the application area (Ecoscape, 2022).

According to available databases, the Wheatbelt Woodlands have been mapped over the majority of the application area. The approved conservation advice for the Wheatbelt Woodlands community is detailed by the Commonwealth of Australia (2016), and the Commonwealth of Australia (2016) provide a guide to identify and assess the Wheatbelt Woodlands community. Patch size and vegetation condition are important determinants in assessing the presence of this community. The vegetation condition thresholds to confirm the Wheatbelt Woodlands community generally exclude degraded patches such as roadside remnants that are too small and narrow, or where the tree canopy has become discontinuous, and the understorey has lost considerable elements of its native structure and diversity. The minimum patch width for roadsides should be over five metres based upon the native understorey component (Commonwealth of Australia, 2016).

Ecoscape considered vegetation types EwEoW and EwEoW/EoW mosaic met the basic descriptive requirements of the community, given they contained Eucalypt woodlands characterised by two of the listed dominant species with a combined crown cover of over 10 per cent. According to the extent and condition thresholds required for inclusion in this TEC (Commonwealth of Australia, 2016), vegetation type EwEoW on the western side of the railway meets the criteria to be considered representative of the Wheatbelt Woodlands TEC as there is over two hectares in good to very good condition. On the eastern side of the railway, the combined vegetation types EwEoW and EwEoW/EoW mosaic is considered representative of the Wheatbelt Woodlands TEC (Figure 4).

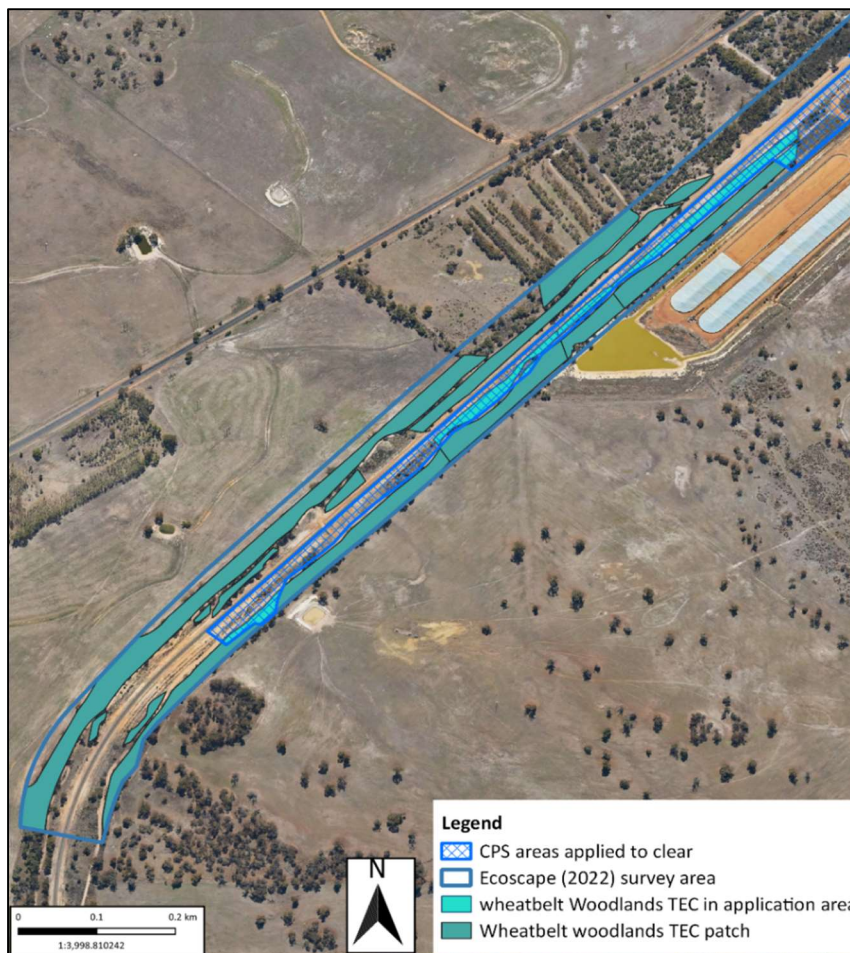


Figure 4. Distribution of the Wheatbelt Woodland TEC as mapped by Ecoscape (2022).

In total, 0.89 hectares of vegetation within the application area is considered representative of the Wheatbelt Woodland community. The community likely extends further south as the vegetation continues in a similar condition (Ecoscape, 2022). To mitigate the impacts of clearing 0.89 hectares of this community, CBH have proposed to undertake rehabilitation of 2.79 hectares of vegetation adjacent to the proposed clearing area to enhance the existing

Wheatbelt Woodland TEC (see section 3.1) as per the *Mitigation and Rehabilitation Plan* prepared by Tranen (2023a).

Given invasive plant species were recorded across the application area (Ecoscape, 2022), the proposed clearing may increase the distribution of weeds within adjacent vegetation representative of this community.

Noting the above, it is considered that the proposed clearing of 0.89 hectares of vegetation representative of the Wheatbelt Woodlands TEC constitutes a significant residual impact. In accordance with the Government of Western Australia's Environmental Offsets Policy and Environmental Offsets Guidelines, this significant residual impact has been addressed through the conditioning of an environmental offset requirement, see Section 4 below.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 0.89 hectares of vegetation representing the Wheatbelt Woodlands TEC and corresponding PEC. In addition, the clearing activities may lead to the introduction and spread of existing weed species or spread dieback disease currently not present in the application area, and may compromise the condition of adjacent native vegetation.

It is considered that the impacts of the proposed clearing on native vegetation can be managed by providing an offset to counterbalance the loss of 0.89 hectares of native vegetation representative of the Wheatbelt Woodlands, and by taking actions to minimise the risk of the introduction and spread of weeds and dieback.

Condition:

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

- Take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback; and
- Offsets (as described in Section 4).

3.2.2. Biological values (fauna) - Clearing Principle (b)

Assessment

According to available databases, 21 conservation significant fauna species have been recorded within the local area (10 kilometre radius of the application area). In determining the likelihood of conservation significant fauna occurring within the proposed clearing area, consideration was given to the results of the preferred habitat types, proximity of records to the application area, and the type and condition of the vegetation within the application area.

From the likelihood assessment, the application area is considered to comprise habitat for three conservation significant fauna species:

- *Zanda latirostris* (Carnaby's cockatoo), listed as Endangered under the EPBC Act and BC Act;
- *Zanda baudinii* (Baudin's cockatoo), listed as Endangered under the EPBC Act and BC Act; and
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), listed as Vulnerable under the EPBC Act and BC Act.

Black cockatoos

The Wheatbelt contains open woodlands of Eucalypt species that are known to be used by Carnaby's Cockatoo for breeding and some parts of the Wheatbelt region, near the margins of the Jarrah forest, includes breeding habitat for Baudin's Cockatoo and the Forest Red-tailed Black-cockatoo (DAWE, 2022).

The proposed clearing area occurs within the known range of Baudin's black cockatoo, the breeding habitat range for Carnaby's cockatoo and the core habitat range for the Forest red-tailed black cockatoo. According to available databases, there are 23 records of black cockatoos within the local area (see Appendix C.4). Habitat requirements for black cockatoos can be categorised as foraging habitat, breeding habitat and night roosting habitat (DAWE, 2022).

Breeding habitat for species of black cockatoos is described within the 'EPBC Act referral guidelines for threatened black cockatoo species' (DAWE, 2022) which includes a list of trees species known to support breeding which either, have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 50 cm (DAWE, 2022). Black cockatoos will generally breed in woodland or forest, but may also breed in partially cleared woodland or forest, including isolated trees. They nest in hollows in live or dead trees, many eucalypt species may provide suitable hollows.

Black cockatoos will generally forage up to 12 kilometres from an active breeding site (DAWE, 2022). Following breeding, they will flock in search of food, usually within six kilometres of a night roost (DAWE, 2022). Food resources within the range of breeding sites and roost sites are important to sustain populations, and foraging resources are therefore viewed in the context of known breeding and night roosting sites (DAWE, 2022). A review of available desktop data revealed ten confirmed 'white-tailed black cockatoo' (either Carnaby's or Baudin's black cockatoo) breeding records within 12 kilometres of the application area. No confirmed roost sites are recorded within the local area.

During the field survey an individual Carnaby's black cockatoo was opportunistically observed flying and calling over the survey area (Ecoscape, 2022). Ecoscape (2022) recorded a total of 175 trees of sufficient size to potentially have or develop suitable hollows (DBH > 50 cm), including eight with hollows of sufficient size. Of the recorded 175 potential habitat trees, four (without hollows) were recorded within the proposed clearing area, consisting of two *Eucalyptus occidentalis* trees and two *Eucalyptus wandoo* trees.

Of the fauna habitats mapped across the proposed clearing area (Ecoscape, 2022), the Shrubland and Woodland habitats were considered to provide habitat values for black cockatoos. The Shrubland habitat was considered as 'valued' for black cockatoos, due to the presence of Proteaceous species, however they were not dominant within this habitat. The Woodland habitat was considered likely to provide foraging and nesting resources for black cockatoo species (Ecoscape, 2022). According to Ecoscape, the Woodland habitat type was considered as not suitable for Carnaby's Cockatoo or Baudin's Cockatoo foraging but 'valued' as foraging for Forest red-tailed black cockatoos. However, given the presence of *Eucalyptus wandoo* within the Woodland habitat type and the foraging preferences identified within the 'EPBC Act referral guidelines for threatened black cockatoo species' (DAWE, 2022) and by Bamford (Bamford, 2012), the Woodland habitat type is considered by the department to suitable provide foraging resources for all three species of black cockatoos.

Given the application area is within 12 kilometres of recorded breeding sites and contains potential future breeding trees, the proposed clearing area likely contributes to the foraging resources for breeding individuals. Connecting patches of vegetation between foraging resources, breeding habitat and night roosting habitat are essential to enable black cockatoos to access resources across their range. Black cockatoos have been significantly impacted by historical clearing of its habitat, resulting in fragmentation of breeding and foraging habitat, loss of breeding hollows, changes in the species distribution, and genetic partitioning (DAWE, 2022). Therefore, remnant patches of vegetation are considered important in maintaining black cockatoo habitat connectivity across the landscape.

Given the above, it is considered that the remaining suitable habitat for these species' within its current range is likely to be significant. Specifically, it is considered that the 0.89 hectares of foraging habitat within the application area is significant for black cockatoo due to the presence of nearby breeding sites, dominance of preferred foraging species and the highly cleared nature of the surrounding local area.

Other fauna species

The application area is considered to contain suitable habitat for Woylie (*Bettongia penicillata ogilbyi*), Numbat (*Myrmecobius fasciatus*), South-Western Brush-Tailed Phascogale (*phascogale tapoatafa wambenger*), Western Brush Wallaby (*Notamacropus irma*), chuditch (*Dasyurus geoffroii*), and Quenda (*Isoodon fusciventer*) that have been recorded within 1.2 kilometres of the application area. In particular, Chuditch was considered to have a High post-survey likelihood of occurring within the survey area due to the presence of fallen hollow standing trees. Targeted searches were undertaken during the field survey, looking for tracks, scats and dens throughout the Woodland habitat. Given the large home ranges of up to 1,500 hectares required by individual Chuditch in order to meet high resource needs (DEC 2012), and a dispersal range of more than 10 kilometres for juveniles, it is highly likely that Chuditch could either utilise or disperse into habitat of the survey area (Ecoscape, 2022).

Given the low density of these species within the local area (three or less) and the lack of recent records (all records over 20 years old), the proposed clearing area is not considered to contain significant habitat or habitat necessary for the continued existence of these species. It is considered that they may be transient visitors to the proposed clearing area given the area provides a linkage corridor across the landscape connecting remnant patches of native vegetation. Undertaking slow, progressive directional clearing will minimise any impacts to fauna that may be present at the time of clearing.

Ecological linkage

Given the extent to which the local area has been previously cleared, the application area may contribute towards fauna dispersal within the landscape. Due to the vegetation that will remain within the rail reserve after the proposed clearing, and the 2.79 hectares of revegetation and rehabilitation areas proposed by CBH (see Section 3.1), it is not considered likely that the proposed clearing will have a significant impact to linkage and dispersal values of fauna within the local area. The proposed clearing may cause degradation of habitat values of adjacent and nearby remnant

native vegetation by facilitating the spread of weeds and dieback. It is considered that the impact of clearing can be mitigated through a weed and dieback condition on the permit.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 0.89 hectares of significant foraging habitat for black cockatoos. For the reasons set out above, it is considered that the impacts of the proposed clearing on black cockatoo foraging habitat constitutes a significant residual impact. The proposed clearing is not likely to impact significant habitat for the remaining conservation significant fauna that have been recorded in the local area. However, individuals may utilise the application area to disperse through the landscape and mechanical clearing activities may pose a risk of fauna fatalities should individuals occur within the application area. Slow, directional clearing to allow for dispersal of species into other areas of remnant vegetation will mitigate this risk.

Conditions

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

- Slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise impact to individuals; and
- Offset (see Section 4)

3.2.3. Significant remnant vegetation and conservation areas - Clearing Principle (e)

Assessment

The Avon Wheatbelt IBRA region currently retains 18.51 per cent of the pre-European vegetation extent (Commonwealth of Australia, 2019). The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearing of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

At a local scale, the application area is mapped within the Tambellup_967 vegetation association, described as: Mixed heath with scattered tall shrubs *Acacia* spp., Proteaceae and Myrtaceae. The Tambellup_967 vegetation complex retains 15.23 per cent of its pre-European extent (Commonwealth of Australia, 2019a). The flora and vegetation survey mapped four vegetation types within the application area (Appendix G). Given the occurrence of Proteaceae species and the dominance of Eucalypt species within the vegetation types, the vegetation across the application area is considered representative of the Tambellup_967 vegetation association.

Within the local area (10 kilometres from the application area), the extent of native vegetation remaining is approximately 18.47 per cent native vegetation cover and is inconsistent with the national targets (Commonwealth of Australia, 2001). As mentioned above (section 3.2.1 and 3.2.2), the application area contains vegetation representative of the Wheatbelt woodlands TEC, foraging habitat for black cockatoos, and may provide a linkage function for fauna within the local area. Given this, the application area is considered to be a significant remnant located within an extensively cleared landscape.

To mitigate the impacts of the proposed clearing, CBH have proposed to undertake rehabilitation of 2.91 hectares of vegetation adjacent to the proposed clearing area to enhance the existing vegetation (see section 3.1) as per the *Mitigation and Rehabilitation Plan* prepared by Tranen (2023a).

Noting the above, it is considered that the proposed clearing of 1.09 hectares of significant remnant vegetation constitutes a significant residual impact. In accordance with the Government of Western Australia's Environmental Offsets Policy and Environmental Offsets Guidelines, this significant residual impact has been addressed through the conditioning of an environmental offset requirement, see Section 4 below.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 1.09 hectares of significant remnant vegetation within an extensive cleared landscape. For the reasons set out above, it is considered that the impacts of the proposed clearing constitutes a significant residual impact, and an offset is required (see Section 4).

Conditions

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

- Revegetation and rehabilitation of 2.91 hectares of native vegetation (see section 3.1); and
- Offset (see Section 4)

3.3. Relevant planning instruments and other matters

Project Justification

The CBH facility at Cranbrook is one of the top ten sites in the network with regards to rail tonnage movements and is forecast to grow significantly. There is a defined shortfall in CBH's current state-wide export capacity relative to its future targets. Cranbrook has been identified as a priority site in the Albany zone for increased rail loading capability to address this shortfall. This project is part of the Revitalising Agricultural Region Freight Strategy (RARF) (released in mid 2020) that identified and prioritised approximately 130 infrastructure projects that would make freight more productive, efficient and safe (CBH, 2023). These projects have received Federal and State funding as part of the ASCI initiative.

This project aims to move CBH toward its future export capability targets. It will also provide a longer rail passing lane at Cranbrook, allowing trains to pass by without interrupting rail loading at the site. Key benefits resulting from implementation of the Project include:

- Enabling sprint capacity by having on average two trains of grain stored and ready to rapidly out-load to rail at 1500 tph peak rates.
- Improving loading accuracy using accurate and repeatable batch weighting technology.
- Enable 601 wagons to be stored and loaded off the mainline without fouling the Salt River Road level crossing.
- Extending the passing lane at Cranbrook thereby allowing passing without interrupting loading activities, improving rail logistics for the region.
- Cycle time to port reductions by reducing total site dwell time from 7 hours to less than 4 hours.
- Improving safety and community impact by locating the facility away from road-rail interactions currently occurring on-site.
- Reducing the area of native vegetation required to be cleared through siding type choice.

Planning and approvals

The development footprint is surrounded by land to the southeast zoned 'Industrial' and 'Rural', to the west zoned 'Recreation and Open Space' and to the northwest and north-northeast zoned 'Residential'. Much of the surrounding area has been historically cleared for urban residential development (Cranbrook townsite), Great Southern Highway and areas of dryland agriculture (CBH, 2023).

The development footprint comprises Lot 1505, Hardy Street Road reserve (unmade road identified as Landgate ID 3464480), Carlisle Street Road reserve (unmade road identified as Landgate ID 3464480) and Rail Reserves 10315 and 16969 (CBH, 2023).

CBH's application for Development Approval was considered by the Regional Joint Development Assessment Panel and in accordance with the provisions of the Shire of Cranbrook Town Planning Scheme No.4 it was approved in August 2023.

The application area does not intersect any Surface Water Areas, Groundwater Areas, or rivers proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The application area is not located within any *Country Areas Water Supply Act 1947* (CAWS Act) clearing control catchments or Public Drinking Water Source Areas (PDWSA). No additional licencing or permitting under the RIWI Act or CAWS Act is required.

Several Aboriginal sites of significance have been mapped within the local area. It is the permit holder's responsibility to 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 (SRI) remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- 1.09 hectares of vegetation considered significant as remnant vegetation in a highly cleared landscape,
- 0.90 hectares of significant foraging habitat for Carnaby's black cockatoo (Endangered), and
- 0.89 hectares of vegetation representative of the Wheatbelt Woodlands TEC (Critically Endangered).

The applicant proposed the following offset sites:

Offset site 1 is a 10.95 hectare site within Lot 1260 on Plan 409752 and Lot 530 on Plan 222197, located in Broomehill approximately 50 kilometres from the proposed clearing area (see Figure 5). A total of 6.7 hectares of this site has been previously allocated to CBH's clearing permit CPS 9445/1, with the remaining native vegetation 'banked' for future use. The areas were surveyed by GHD in 2022 and contains the following:

- Vegetation in very good to excellent condition, considered significant as remnant vegetation within a highly cleared landscape;
- Vegetation representative of the Wheatbelt Woodland TEC; and
- High quality black cockatoo foraging habitat containing hollows considered suitable for black cockatoo breeding (GHD, 2022).

Offset site 2 is a 134 hectare site within Lot 55 and 56 on Plan 230522, located in Cranbrook approximately 6.5 kilometres from the proposed clearing area (see Figure 6). A site inspection conducted by Eco Logical Australia (ELA, 2022) and a basic fauna survey conducted by Bamford (2023) identified the following within the offset site:

- Vegetation in good to very good condition considered likely to be representative of the Wheatbelt Woodland TEC;
- Wandoo woodland with suitable black cockatoo foraging species including *Eucalyptus Wandoo*, *Banksia fraseri*, *Hakea lissocarpha* and *Hakea prostrata*;
- The wandoo woodland contains potential Carnaby's black cockatoo breeding trees (i.e., DBH over 300 mm) with some observed to contain potential hollows (ELA, 2022); and
- Vegetation considered to be significant remnant vegetation within a highly cleared landscape.

Both sites will be conserved in perpetuity under a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945*.



Figure 5. Offset site 1, Lot 1260 on Plan 409752 and Lot 530 on Plan 222197, Broomehill (CBH, 2023)

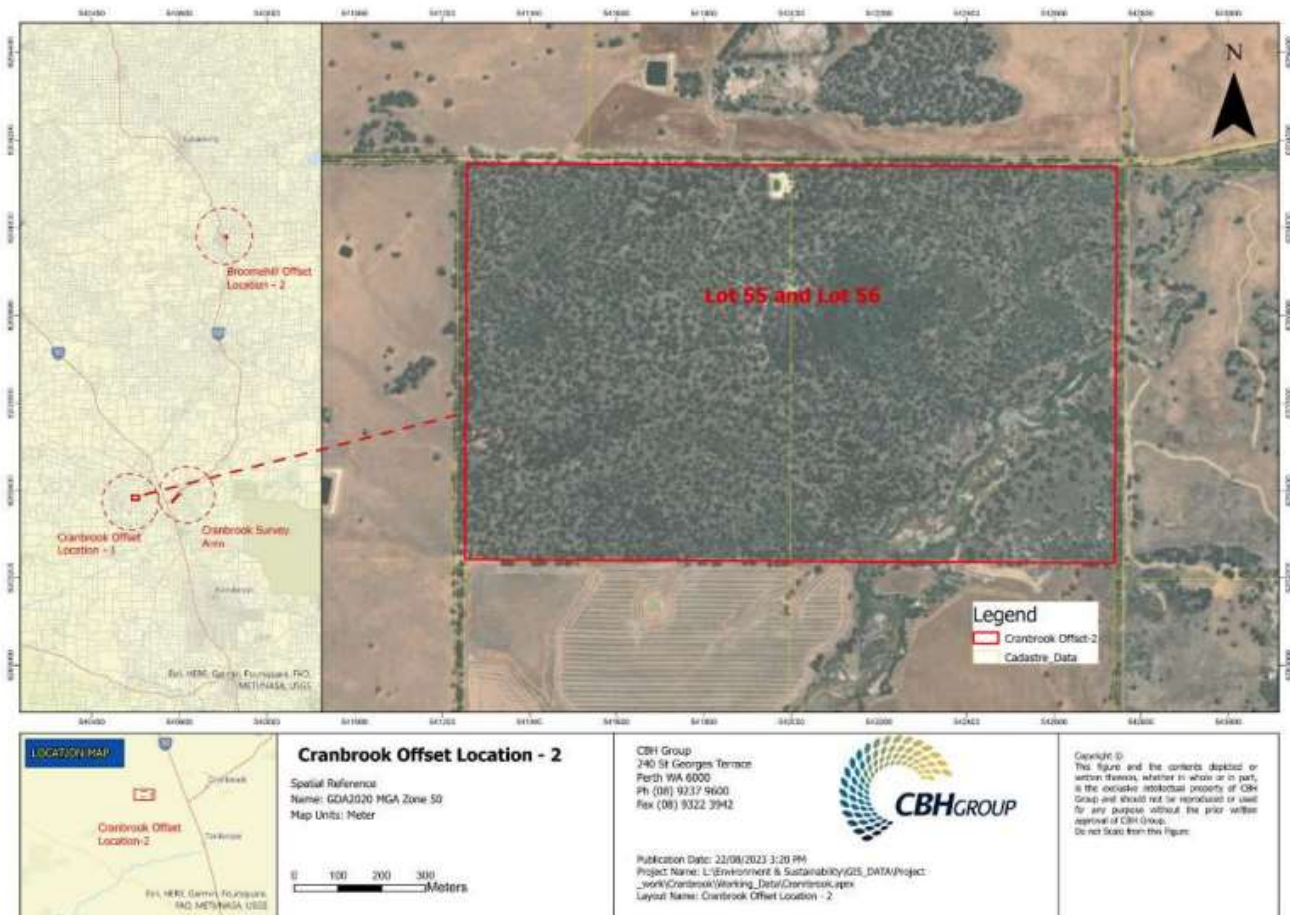


Figure 6. Offset site 2, Lot 55 and 56 on Plan 230522, Cranbrook (CBH, 2023)

Offset calculations

Using the WA State Offset Metric calculator, the following values are required to offset the significant residual impact of the proposed clearing (see Table 1):

- Conservation and management of **0.36 hectares** of native vegetation in very good to excellent condition within Offset site 1 (Lot 1260 on Plan 409752 and Lot 530 on Plan 222197) containing:
 - vegetation representative of the Wheatbelt Woodland TEC, suitable habitat for black cockatoos and is considered significant remnant vegetation within a highly cleared landscape;
- Conservation and management of approximately **3.59 hectares** of native vegetation in good to very good condition within Offset site 2 (Lot 55 and 56 on Plan 230522) containing:
 - vegetation representative of the Wheatbelt Woodland TEC, suitable habitat for black cockatoos and is considered significant remnant vegetation within a highly cleared landscape.

In addition to the offset calculations above, an assessment of the proposed mitigation planting (see section 3.1) was undertaken using the WA Environmental Offsets Metric calculator. These calculations assisted in determining what significant residual impacts remained after the consideration of the mitigation planting and the subsequent offset requirements (Table 1 below).

Mitigation calculations

Upon review of the combined mitigation planting proposed by CBH, including the rehabilitation of 0.12 hectares of temporarily cleared areas and the revegetation of 2.79 hectares within the rail reserve (see Section 3.1), the Delegated Officer took into consideration the following:

- The starting condition of the proposed rehabilitation areas (0.12 hectares) will be completely degraded (being recently cleared),
- The starting condition of the proposed revegetation areas (2.79 hectares) ranged from degraded to very good (Ecoscape, 2022),

- The department considers the recreation of the Wheatbelt Woodlands TEC to be very difficult from a completely degraded condition due to the vegetation patch size, canopy connectivity and condition requirements of the TEC.

Given the above, the Delegated Officer did not consider the 0.12 hectare revegetation efforts (from completely degraded condition) to be considered a suitable mitigation measure for the impacts to the Wheatbelt Woodland TEC. The Delegated Officer, however, did consider the 2.79 hectare rehabilitation efforts to be a suitable mitigation measure for the Wheatbelt Woodland TEC which has been considered in the below calculations.

For the remaining values (i.e. Carnaby's black cockatoo habitat and significant remnant vegetation), the Delegated Officer considered both the 0.12 hectare revegetation and 2.79 hectare rehabilitation efforts in the below calculations.

Table 1. Summary of the mitigation and offset areas, and calculated proportions of SRI offset.

Value to be offset	Mitigation planting	Proportion of SRI offset	Offset site 1	Proportion of SRI offset	Offset site 2	Proportion of SRI offset	Total SRI offset
Wheatbelt Woodlands TEC	2.79 ha	17.7%	0.36 ha	7.9%	3.59 ha	74.4%	100%
Carnaby's black cockatoo habitat	2.91 ha	29.5%	0.36 ha	8.3%	2.88 ha	62.2%	100%
Significant remnant vegetation	2.91 ha	67.4%	0.36 ha	8.1%	1.16 ha	24.5%	100%

Given the above, the Delegated Officer considers that the mitigation revegetation and offset provided by CBH 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

Information provided	Reference
A rehabilitation plan for the proposed mitigation planting areas (Section 3.1)	Tranen (2023a)
Offset proposal provided by the applicant in support of the application (Section 4)	CBH (2023)
An offset rehabilitation plan for the banked offset site (Lot 1260 on Plan 409752 and Lot 530 on Plan 222197, Broomehill) (Section 4)	Tranen (2023b)

Appendix B. Site characteristics

B.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to the department at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

Characteristic	Details
Local context	<p>The application area is located within the intensive land use zone of the Wheatbelt region of Western Australia. It is surrounded by rural industry, farms, dwellings and intact remnant native vegetation, some of which are mapped as the Wheatbelt Woodlands TEC.</p> <p>Aerial imagery indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 18.47 per cent of the original native vegetation cover.</p>
Ecological linkage	The application area is not located within any mapped formal ecological linkages. Due to the highly cleared nature of the landscape, and the good condition of the application area, it is likely that this vegetation serves a linkage function.
Conservation areas	The application area is not located within a conservation area. The nearest conservation area is the Orchid Nature Reserve located 4.82 kilometres south of the application area.
Vegetation description	<p>The flora and vegetation survey (Ecoscape, 2022) indicates the vegetation within the proposed clearing area consists of four vegetation types:</p> <ul style="list-style-type: none"> • Mosaic of <i>Eucalyptus wandoo</i> and <i>Eucalyptus occidentalis</i> mid woodland and <i>Eucalyptus occidentalis</i> low open woodland • <i>Eucalyptus wandoo</i> and <i>Eucalyptus occidentalis</i> mid woodland • <i>Leptospermum erubescens</i>, <i>Calothamnus quadrifidus</i> and <i>*Acacia pycnantha</i> mid shrubland • <i>Eucalyptus decipiens</i> mid mallee woodland over <i>Baumea juncea</i> and <i>*Asparagus asparagoides</i> low closed sedgeland/vineland <p>Representative photos, descriptions and maps are available in Appendix F.</p> <p>This is partially consistent with the Tambellup mapped vegetation type described as:</p> <ul style="list-style-type: none"> • Mixed heath with scattered tall shrubs <i>Acacia</i> spp., Proteaceae and Myrtaceae. <p>The mapped vegetation type retains approximately 15.23 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>The flora and vegetation survey (Ecoscape, 2022) indicates the vegetation within the proposed clearing area is in good to very good (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D. Representative photos, descriptions and maps are available in Appendix F.</p>
Climate and landform	The southwest of Western Australia is described as having a Mediterranean-type climate of mild, wet winters and warm to hot, dry summers. The mean annual rainfall

Characteristic	Details
	for Broomehill is 445.4 millimetres with 43 per cent falling during the winter months BOM, 2022). The application area is located within the Southern Zone of Rejuvenated Drainage with erosional surface of gently undulating rises to low hills.
Soil description	The soil is mapped as: <ul style="list-style-type: none"> • North Stirlings 1 Subsystem: Basin floor with salt lakes, lunettes and saline flats. Saline groundwater close to the surface. Alkaline grey deep sandy duplex and grey deep sandy duplex soil, with saline wet soil, salt lake soil and semi-wet soil. • Jaffa 2 Subsystem: Foothslopes, gently undulating rises and undulating plains. Grey deep sandy duplex is widespread with grey shallow sandy duplex and semi-wet soil.
Land degradation risk	The mapped soil type within the application area has a high risk of land degradation in the form of subsurface acidification and salinity. The soils have a moderate to low risk of land degradation from wind erosion and waterlogging.
Waterbodies and Hydrogeography	The application area is located within the Nornalup Inlet Frankland River catchment. The application area intersects a minor non-perennial drainage line (Pinjalup Creek) at the northern end. The application area is not located within an area proclaimed under the RIWI Act, CAWS Act clearing control catchments, or Public Drinking Water Source Areas.
Flora	A total of 41 conservation significant flora species are recorded in the local area. Of these, 20 species are found on the same soil type as the application area. No conservation significant flora species were recorded during the flora and vegetation survey conducted across the application area (Ecoscape, 2022).
Ecological communities	There are two conservation significant ecological communities within the local area. The flora and vegetation survey (Ecoscape, 2022) identified 0.89 hectares of the Wheateblt Woodlands TEC and associated PEC.
Fauna	There are records of 20 fauna of conservation significance within the local area. The application area is within the mapped distribution of all three black cockatoo species. There are 10 white-tailed black cockatoo breeding records within the local area (closest is 2.3 kilometres from the application area).

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*					
Avon wheatbelt	9517109.95	1761187.42	18.51	174980.68	1.84
Vegetation complex*					
TAMBELLUP_967	174907.84	26637.79	15.23	381.03	0.22
Local area					
10km radius	34987.79	6463.07	18.47	-	-

*Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information (Ecoscape, 2022), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Acacia microneura</i>	1	N	Y	Y	0.10	7	Y
<i>Thomasia dielsii</i>	1	N	Y	Y	0.10	6	Y
<i>Stylidium diuroides</i> subsp. <i>nanum</i>	2	Y	Y	Y	0.10	4	Y
<i>Gastrolobium lehmannii</i>	T	N	N	Y	0.10	1	Y
<i>Stylidium lepidum</i>	3	Y	Y	Y	0.10	2	Y
<i>Calothamnus microcarpus</i>	4	N	Y	Y	0.10	8	Y
<i>Conospermum spectabile</i>	2	N	Y	Y	0.30	1	Y
<i>Melaleuca ordinifolia</i>	2	N	Y	Y	0.30	2	Y
<i>Chorizema carinatum</i>	3	N	Y	Y	0.30	2	Y
<i>Verticordia coronata</i>	3	N	Y	Y	0.30	4	Y
<i>Diuris drummondii</i>	T	N	Y	Y	0.30	1	Y
<i>Calytrix pulchella</i>	3	N	Y	Y	0.32	2	Y
<i>Orthrosanthus muelleri</i>	4	N	Y	Y	1.52	9	Y
<i>Thysanotus gageoides</i>	3	N	Y	Y	2.44	2	Y
<i>Verticordia huegelii</i> var. <i>tridens</i>	3	N	Y	Y	4.90	2	Y
<i>Acacia prismifolia</i>	T	N	Y	Y	4.97	9	Y

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

B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Numbat (<i>Myrmecobius fasciatus</i>)	EN	N	Y	0.10	3	Y
Peregrine falcon (<i>Falco peregrinus</i>)	OS	Y	Y	0.10	2	Y
South-western brush-tailed phascogale, wambenger (<i>Phascogale tapoatafa wambenger</i>)	EN	N	Y	0.10	3	Y
White-tailed black cockatoo (<i>Zanda</i> sp. 'white-tailed black cockatoo')	EN	Y	Y	0.10	4	Y
Woylie (<i>Bettongia penicillata ogilbyi</i>)	CR	N	Y	0.10	1	Y
Carnaby's cockatoo (<i>Zanda latirostris</i>)	EN	Y	Y	0.29	16	Y
Western brush wallaby (<i>Notamacropus Irma</i>)	P4	Y	Y	0.33	2	Y
Chuditch (<i>Dasyurus geoffroii</i>)	VU	N	Y	0.77	1	Y
Bilby (<i>Macrotis lagotis</i>)	VU	N	Y	1.18	2	Y

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Quenda (<i>Isoodon fusciventer</i>)	P4	N	Y	1.18	1	Y
Western barred bandicoot (<i>Perameles bougainville</i>)	VU	N	Y	1.18	1	Y
Baudin's cockatoo (<i>Zanda baudinii</i>)	EN	Y	Y	4.95	2	Y
Forest red-tailed black cockatoo (<i>Calyptorhynchus banksii naso</i>)	VU	Y	Y	5.72	1	Y

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

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> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>Biological surveys conducted across the application area (Ecoscape, 2022) did not record any conservation significant flora species, however a portion of the application area is mapped as the Wheatbelt Woodlands PEC.</p> <p>In addition, the area proposed to be cleared contains foraging and potential breeding habitat for the threatened black cockatoo species (Ecoscape, 2022).</p>	At variance	Yes <i>Refer to Section 3.2.1 and 3.2.2, above.</i>
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains foraging and potential breeding habitat for threatened black cockatoo species (Ecoscape, 2022).</p>	At variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is considered unlikely to contain habitat for Threatened flora. According to available databases no threatened flora are recorded within the application area and none were recorded during the flora and vegetation surveys (Ecoscape, 2022).</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> "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."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains vegetation representative of the Wheatbelt Woodlands TEC.</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
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></p> <p>The extent of the mapped vegetation type and the native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is considered to provide and ecological linkage in the local area.</p>	At variance	Yes <i>Refer to Section 3.2.3, above.</i>
<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></p> <p>Given the distance to the nearest conservation area is over 4 kilometres from the application area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.</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></p> <p>The flora and vegetation survey (Ecoscape, 2022) identified the presence of a minor non-perennial drainage line (Pinjalup Creek), located to the north of the development footprint. No wetlands or significant drainage lines were identified within the application area.</p> <p>Given this, the proposed clearing areas do not support native vegetation growing in, or in association with, an environment associated with a watercourse or wetland.</p>	Not likely to be 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></p> <p>The mapped soil type within the application area has a high risk of land degradation in the form of subsurface acidification and salinity. The soils have a moderate risk of land degradation from wind erosion and waterlogging.</p> <p>Noting the extent of the application area, and the revegetation/rehabilitation proposed, the proposed clearing is not likely to have an appreciable impact on land degradation.</p> <p>A condition will be placed on the permit to commence construction activities no later than three months after undertaking the authorised clearing to minimise the impact of wind erosion.</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></p> <p>Given no water courses or wetlands were recorded within close proximity to the application area (Ecoscape, 2022), the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (j)</u>: “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment</u>:</p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.</p> <p>Given no water courses or wetlands were recorded within close proximity to the application area (Ecoscape, 2022), the proposed clearing is unlikely to contribute to waterlogging.</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

Calculation	Score/Area	Rationale
Significant impact - Conservation significance		
Threatened Ecological Community (TEC)	0.89 hectares	Vegetation representative of the Critically Endangered Wheatbelt Woodlands TEC , in good to very good condition (Keighery, 1994).
Fauna habitat	0.9 hectares	Foraging habitat for the Endangered Carnaby's black cockatoo .
Significant remnant vegetation	1.09 hectares	Vegetation considered significant as remnant vegetation in a highly cleared landscape, that contains the Wheatbelt Woodlands TEC and Carnaby's black cockatoo foraging habitat.
Significant impact – Quality		
Threatened Ecological Community (TEC)	7	Vegetation representative of the Wheatbelt Woodlands TEC, in good to very good condition (Keighery, 1994).
Fauna habitat	7	Foraging habitat (low-moderate quality) for Carnaby's black cockatoos within a highly cleared landscape and within 12 kilometres of known breeding and roost sites.
Significant remnant vegetation	6	Vegetation condition ranges from degraded to very good condition (Keighery, 1994).
Mitigation planting (road and rail reserve)		
Description	Revegetation	0.12 hectares of temporarily cleared areas will be revegetated to good condition. A Rehabilitation Plan has been provided (see Section 3.1)
	Rehabilitation	2.79 hectares of vegetation in degraded to very good condition will be rehabilitated to very good/excellent condition within the adjacent road and rail reserves. A Rehabilitation Plan has been provided (see Section 3.1).
Current quality of mitigation area	7	Afforded to Wheatbelt Woodlands TEC for the 2.79 hectare rehabilitation areas containing vegetation in degraded to very good condition (Tranen, 2023a).
	7	Afforded to Carnaby's black cockatoo habitat for the combined 2.91 hectare rehabilitation and revegetation areas containing low to high quality foraging habitat for Carnaby's black cockatoos (Tranen, 2023a).
	7	Afforded to significant remnant vegetation for the combined 2.91 hectare rehabilitation and revegetation areas containing vegetation in degraded to very good condition (Tranen, 2023a).
Future quality WITH rehabilitation and revegetation actions	8	Afforded to Wheatbelt Woodlands TEC as on-ground management and rehabilitation actions are expected to improve the current condition of the community (Tranen, 2023a).
	8	Afforded to Carnaby's black cockatoo habitat as on-ground management and rehabilitation actions are expected to improve the current foraging values of the vegetation (Tranen, 2023a).
	8	Afforded to significant remnant vegetation as on-ground management and rehabilitation actions are expected to improve the current condition of the vegetation (Tranen, 2023a).
Time until ecological benefit (years)	10	Time required for vegetation to establish and the completion criteria of the Rehabilitation Plan (Tranen, 2023a) to be achieved.
Confidence in offset result (%)	90%	High confidence that the Rehabilitation Plan (Tranen, 2023a) provided will be implemented and the rehabilitation/revegetation actions implemented will achieve the desired outcomes.

Calculation	Score/Area	Rationale
Risk of future loss WITHOUT offset (%)	15%	Moderate risk of loss as the rehabilitation/revegetation areas are located within the road and rail reserves.
Risk of future loss WITH offset (%)	15%	The risk of loss remains unchanged as no conservation covenant can be placed over the road and rail reserves.
Offset – Conservation of 0.36 hectares (Lot 1260 on Plan 409752 and Lot 530 on Plan 222197)		
Description	0	Conservation of 0.36 hectares of vegetation within Lot 530 on Plan 222197 and Lot 126 on Plan 409752, located approximately 50 kilometres north from the application area.
Proposed offset (area in hectares)	0.36	The offset site is 10.95 hectares in size, a total of 0.36 hectares is proposed to be used for this application.
Current quality of offset site	7	Afforded to Wheatbelt Woodlands TEC as the vegetation is considered to be in very good to excellent condition (GHD 2022).
	7	Afforded to Carnaby's black cockatoo habitat as the site contains high quality foraging habitat (GHD 2022), and breeding habitat including ten trees containing medium hollows considered suitable for Black Cockatoo breeding (GHD 2022).
	7	Afforded to significant remnant vegetation as the vegetation is considered to be in very good to excellent condition, representing the Wheatbelt Woodlands TEC and providing fauna habitat within an extensively cleared landscape (GHD 2022).
Future quality WITHOUT offset	6	Afforded to Wheatbelt Woodlands TEC as the quality of the community may decrease without the security and management actions of the offset due to ongoing native vegetation degradation processes in the wheatbelt including weed invasion and fragmentation, clearing for exempt purposes, or other land degradation factors.
	6	Afforded to Carnaby's black cockatoo habitat as it is considered that the quality of the foraging habitat may decrease without the security and management actions of the offset due to ongoing native vegetation degradation processes in the wheatbelt including rural dieback, fragmentation, clearing for exempt purposes, or other land degradation factors.
	6	Afforded to significant remnant vegetation as it is considered that the quality of the vegetation may decrease without the security and management actions of the offset due to ongoing native vegetation degradation processes in the wheatbelt including rural dieback, fragmentation, clearing for exempt purposes, or other land degradation factors.
Future quality WITH offset	7	Afforded to Wheatbelt Woodlands TEC as on-ground management and rehabilitation (Tranen, 2023b) has been proposed as part of the offset, to at least maintain or improve the current condition of the community and thus the site's quality is considered unlikely to decline beyond its current quality.
	7	Afforded to Carnaby's black cockatoo habitat as on-ground management and rehabilitation (Tranen, 2023b) has been proposed as part of the offset, to at least maintain or improve the current foraging quality and thus the site's quality is considered unlikely to decline beyond its current quality.
	7	Afforded to significant remnant vegetation as on-ground management and rehabilitation (Tranen, 2023b) has been proposed as part of the offset, to at least maintain or improve the current vegetation condition and thus the site's quality is considered unlikely to decline beyond its current quality.
Time until ecological benefit (years)	1	The reduction in risk of loss will occur as soon as the land is covenanted, and management actions are undertaken.

Calculation	Score/Area	Rationale
Confidence in offset result (%)	90%	High confidence of confidence that the <i>Revegetation Implementation Plan</i> (Tranen, 2023b) provided will be implemented and the rehabilitation/revegetation actions implemented will achieve the desired outcomes.
Duration of offset implementation (maximum 20 years)	20.00	The offset site will be protected in perpetuity.
Time until offset site secured (years)	1.00	It is expected that it will take 1 year for a conservation covenant to be placed over the offset site.
Risk of future loss WITHOUT offset (%)	15.0%	The land is zoned as Rural Residential and can be cleared with current exemptions afforded to agriculture, as well as the potential for this land to be developed for residential purpose adjacent to Broomehill.
Risk of future loss WITH offset (%)	5.0%	A conservation covenant will be placed over the offset site, thus the risk of loss is considered to be low.
Offset – Conservation of 3.59 hectares (Lot 55 and 56 on Plan 230522)		
Description	0	Conservation of 3.59 hectares of vegetation within Lot 55 and 56 on Plan 230522, located 6.5 kilometres from the application area, that provides vegetation representative of the Wheatbelt Woodlands TEC, foraging habitat for black cockatoo and significant remnant vegetation.
Proposed offset (area in hectares)	3.59	The offset site is 134 hectares in size, a total of 3.59 hectares is proposed to be used for this application.
Current quality of offset site	7	Afforded to Wheatbelt woodlands TEC as a site visit conducted by ELA (2022) and Bamford (2023) identified that a large portion of the offset site contains Wandoo Woodland in very good condition.
	7	Afforded to Carnaby's black cockatoo habitat as the site provides moderate foraging habitat with potential breeding and roosting habitat (Bamford, 2023). The site is within 12 kilometres of known roosting and breeding sites.
	7	Afforded to significant remnant vegetation as the vegetation is considered to be in very good condition within an extensively cleared landscape (ELA, 2022).
Future quality WITHOUT offset	6	Afforded to Wheatbelt woodlands TEC as it is considered that the quality of the community may decrease without the security and management actions of the offset due to ongoing native vegetation degradation processes in the wheatbelt including weed invasion and fragmentation, clearing for exempt purposes, or other land degradation factors.
	6	Afforded to Carnaby's black cockatoo habitat as it is considered that the quality of the foraging habitat may decrease without the security and management actions of the offset due to ongoing native vegetation degradation processes in the wheatbelt including weed invasion and fragmentation, clearing for exempt purposes, or other land degradation factors.
	6	Afforded to significant remnant vegetation as it is considered that the quality of the vegetation may decrease without the security and management actions of the offset due to ongoing native vegetation degradation processes in the wheatbelt including weed invasion and fragmentation, clearing for exempt purposes, or other land degradation factors.
Future quality WITH offset	7	Afforded to Wheatbelt Woodlands TEC as on-ground management has been proposed as part of the offset, to at least maintain or improve the current community condition and thus the site's quality is considered unlikely to decline beyond its current quality.



Calculation	Score/Area	Rationale
	7	Afforded to Carnaby's black cockatoo habitat as on-ground management has been proposed as part of the offset, to at least maintain or improve the current foraging habitat condition and thus the site's foraging quality is considered unlikely to decline beyond its current quality.
	7	Afforded to significant remnant vegetation as on-ground management has been proposed as part of the offset, to at least maintain or improve the current vegetation condition and thus the site's quality is considered unlikely to decline beyond its current quality.
Time until ecological benefit (years)	1	The reduction in risk of loss will occur as soon as the land is covenanted, and management actions are undertaken.
Confidence in offset result (%)	80%	The land is currently owned by the applicant and there is a high level of confidence that the land will be covenanted, and management actions implemented will improve the condition of the vegetation.
Duration of offset implementation (maximum 20 years)	20.00	The offset site will be protected in perpetuity.
Time until offset site secured (years)	1.00	It is expected that it will take 1 year for a conservation covenant to be placed over the offset site.
Risk of future loss WITHOUT offset (%)	15.0%	The site is currently zoned as rural, therefore there is a moderate risk of future loss.
Risk of future loss WITH offset (%)	5.0%	A conservation covenant will be placed over the offset site, thus the risk of loss is considered to be low.





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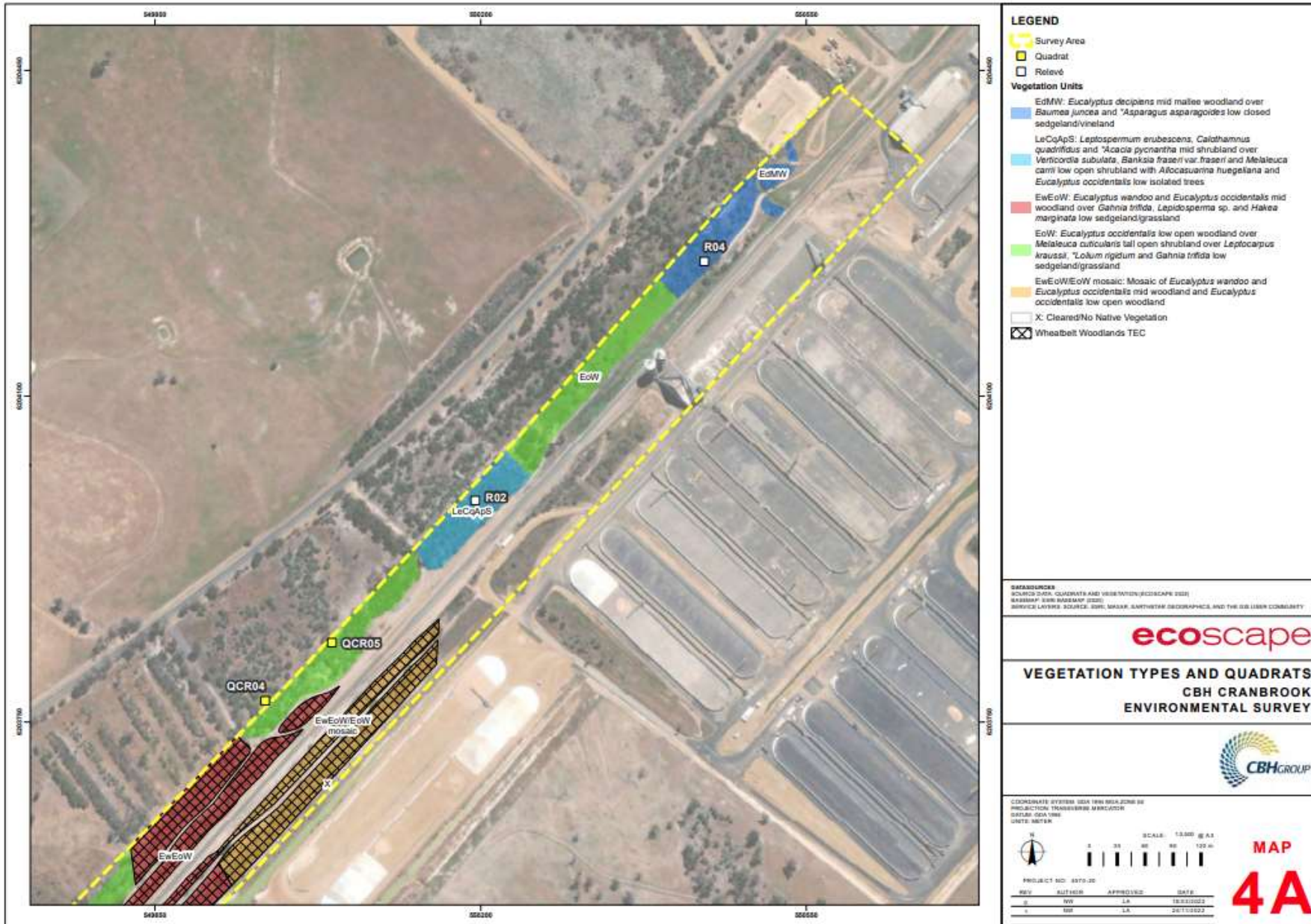
Appendix F. Biological survey information excerpts (Ecoscape, 2022; Tranen, 2023a)

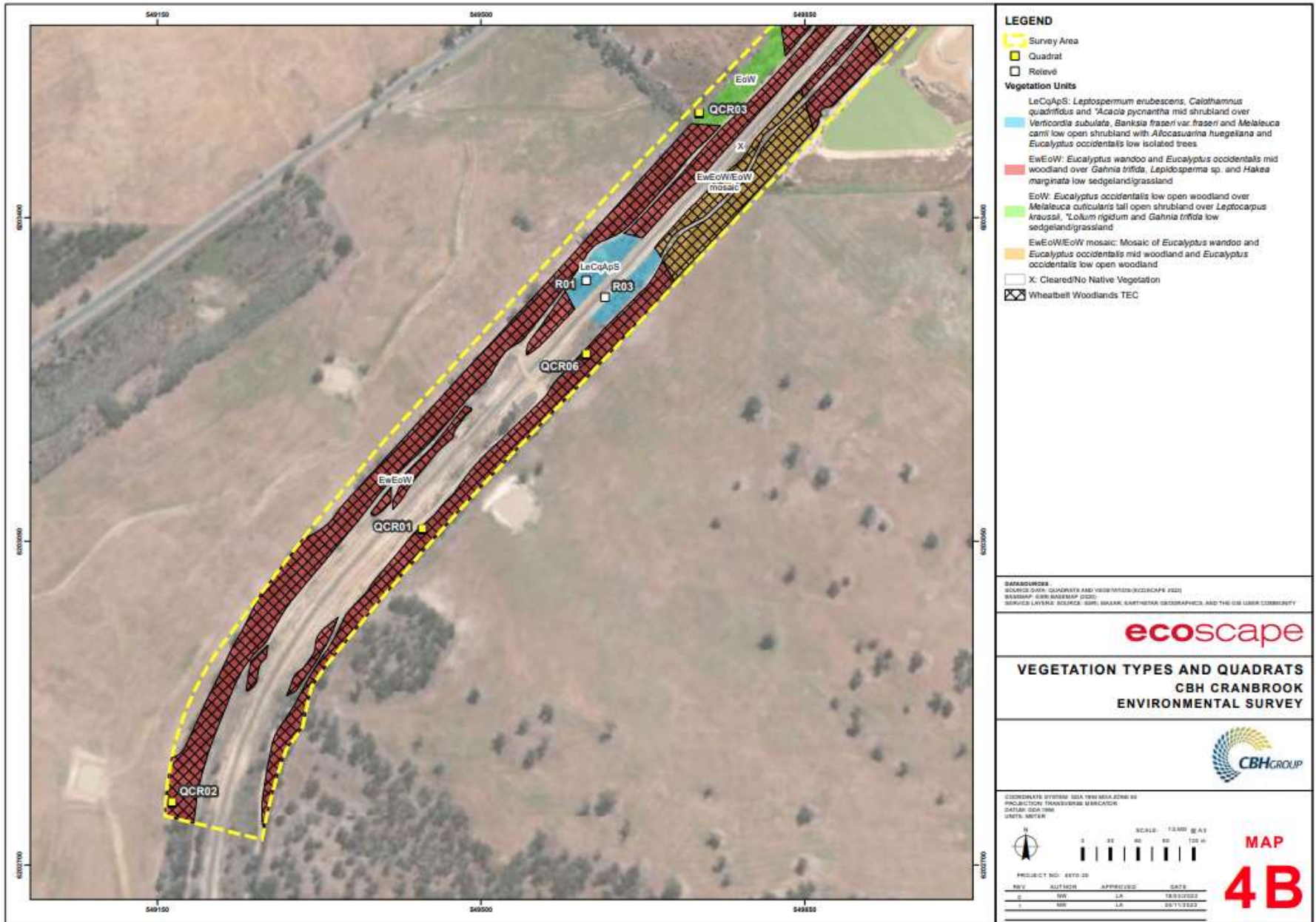
Vegetation types within the survey area (Ecoscape, 2022)

Mapping unit	Vegetation type	Floristic quadrats /relevés	Representative photograph	Other characteristic species	Area (ha) and extent (%)
EdMW	<i>Eucalyptus decipiens</i> mid mallee woodland over <i>Baumea juncea</i> and * <i>Asparagus asparagoides</i> low closed sedgeland/vineland	R04		<i>Billardiera fusiformis</i> <i>Briza maxima</i> <i>Ehrharta longiflora</i> Indicator species: <i>Baumea juncea</i> <i>Eucalyptus decipiens</i>	0.58 ha 2.31%
EoW	<i>Eucalyptus occidentalis</i> low open woodland over <i>Melaleuca cuticularis</i> tall open shrubland over <i>Leptocarpus kraussii</i> , * <i>Lolium rigidum</i> and <i>Gahnia trifida</i> low sedgeland/grassland	QCR03 QCR04 QCR05		<i>Briza maxima</i> , <i>Hypochaeris glabra</i> , <i>Rytidosperma caespitosum</i> , <i>Ursinia anthemoides</i> Indicator species: <i>Melaleuca cuticularis</i>	1.72 ha 6.85%
EwEoW/ EoW mosaic	Mosaic of <i>Eucalyptus wandoo</i> and <i>Eucalyptus occidentalis</i> mid woodland and <i>Eucalyptus occidentalis</i> low open woodland				1.87 ha 7.43%

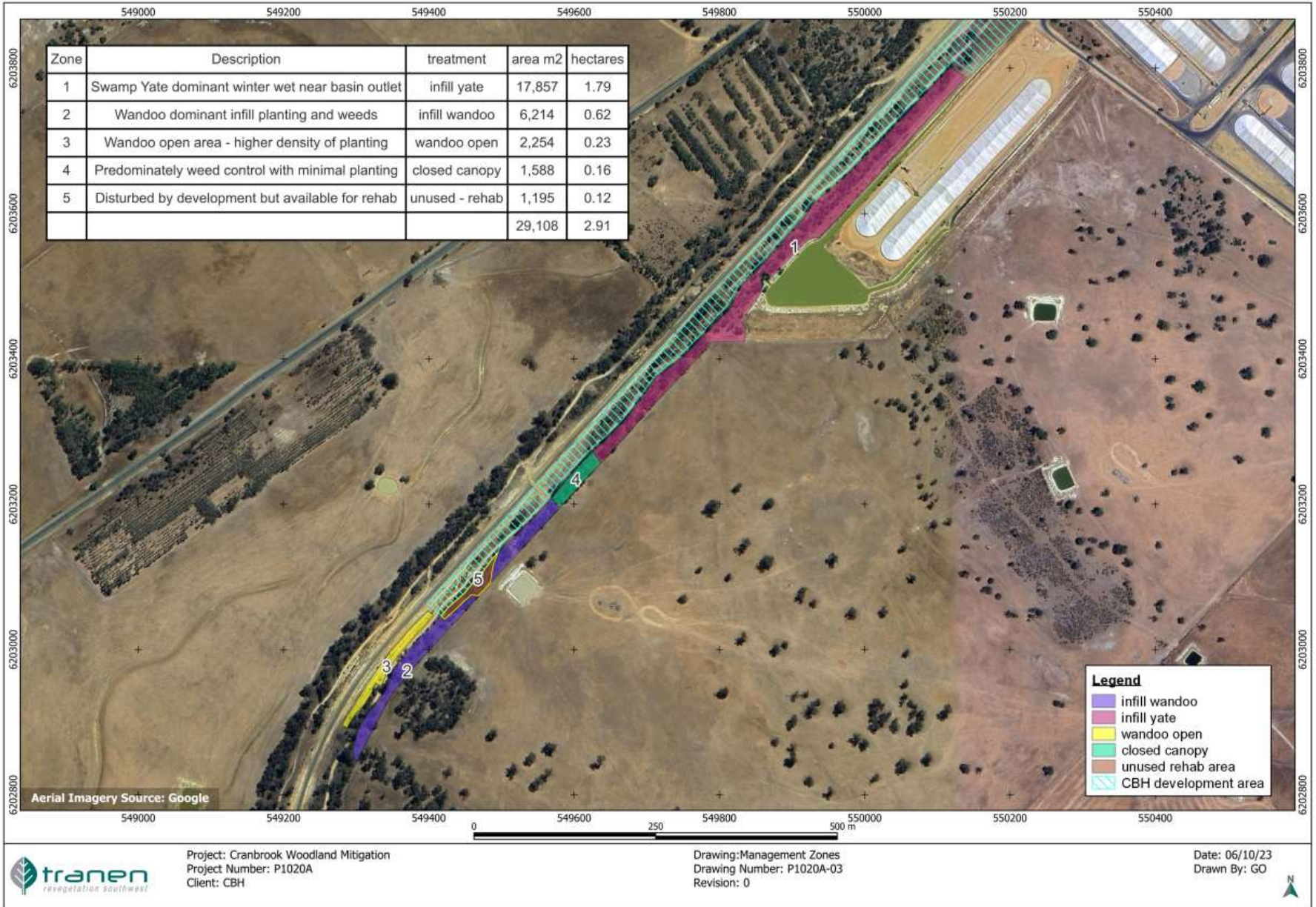
EwEoW	<i>Eucalyptus wandoo</i> and <i>Eucalyptus occidentalis</i> mid woodland over <i>Gahnia trifida</i> , <i>Lepidosperma</i> sp. and <i>Hakea marginata</i> low sedgeland/shrubland	QCR01 QCR02 QCR06		<i>Asparagus asparagoides</i> , <i>Ehrharta calycina</i> , <i>Ehrharta longiflora</i> , <i>Neurachne alopecuroidea</i> , <i>Tetraria</i> sp. Mt Madden (C.D. Turley 40 BP/897) Indicator species: <i>Eucalyptus wandoo</i> <i>Lepidosperma pubisquamum</i>	5.67 ha 22.55%
LeCqApS	<i>Leptospermum erubescens</i> , <i>Calothamnus quadrifidus</i> and * <i>Acacia pycnantha</i> mid shrubland over <i>Verticordia subulata</i> , <i>Banksia fraseri</i> var. <i>fraseri</i> and <i>Melaleuca carrii</i> low open shrubland with <i>Allocasuarina huegeliana</i> and <i>Eucalyptus occidentalis</i> low isolated trees	R01 R02 R03		<i>Acacia stenoptera</i> , <i>Borya sphaerocephala</i> , <i>Briza maxima</i> , <i>Dianella revoluta</i> , <i>Disa bracteata</i> , <i>Hakea prostrata</i> , <i>Hypochaeris glabra</i> , <i>Kunzea recurva</i> , <i>Neurachne alopecuroidea</i> , <i>Stackhousia monogyna</i> , <i>Ursinia anthemoides</i> Indicator species: <i>Leptospermum erubescens</i> <i>Melaleuca carrii</i> <i>Stackhousia monogyna</i> <i>Verticordia subulata</i>	0.93 ha 3.69%
Not native vegetation (infrastructure, tracks and weedy grasses)					14.37 ha 57.17%
TOTAL EXTENT					25.13 ha 100%

Vegetation type mapping and extents of vegetation representative of the Wheatbelt Woodlands TEC (Ecoscape, 2022)







Rehabilitation and revegetation management zones (Tranen 2023a)






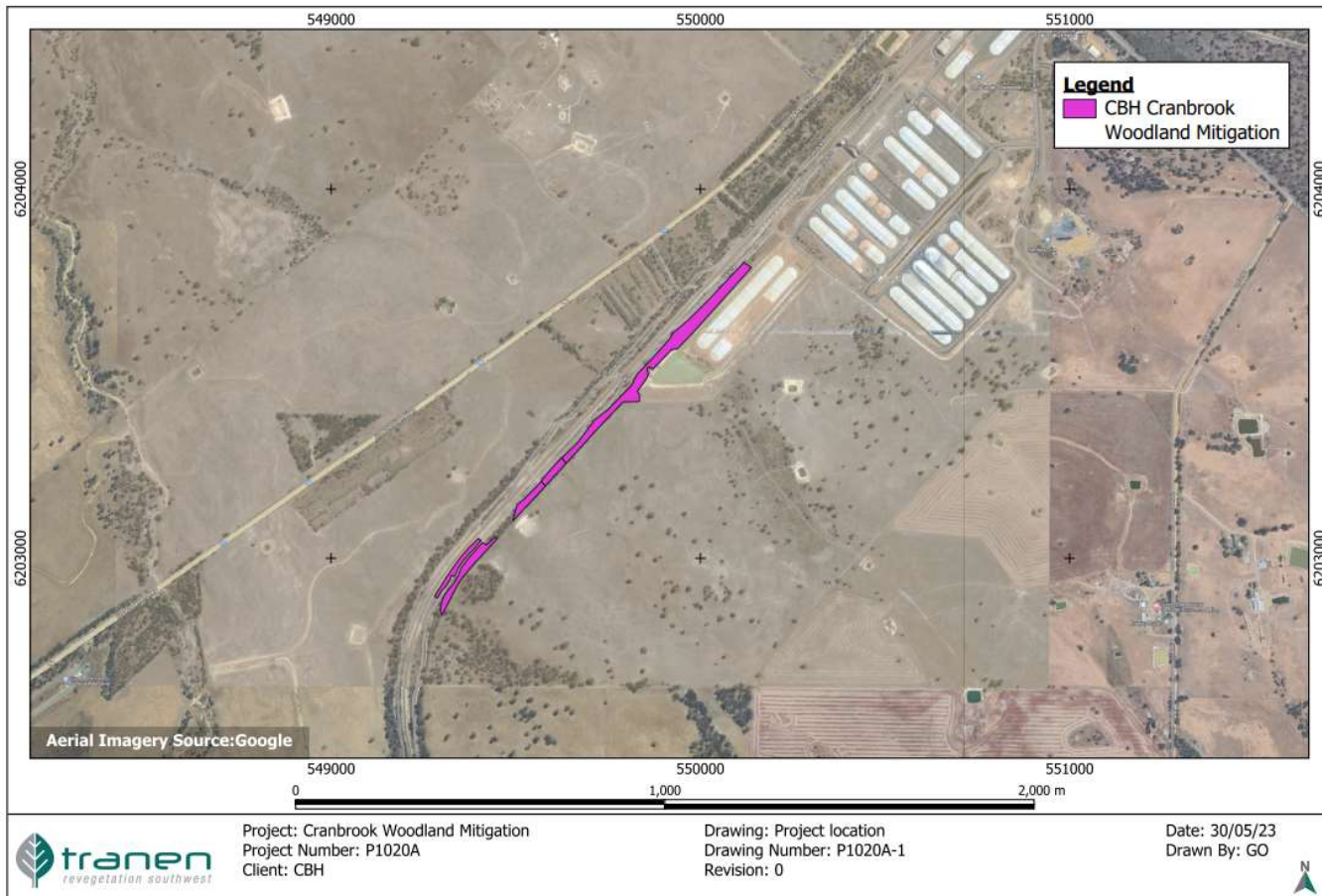
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Fauna habitat types within the survey area (Ecoscape, 2022)

Habitat type	Description	Photograph
Woodland	<p>Woodland of Eucalypt trees, low understorey.</p> <p>The woodland habitat consists of Eucalypt trees (Wandoo <i>Eucalyptus wandoo</i> and Swamp Yate <i>Eucalyptus occidentalis</i>) over a low understorey of sedges, grasses (at times largely introduced species) and low shrubs, typically without a middle shrub that would provide shelter from native and introduced predators and food sources for a range of mainly avian species.</p> <p>Due to the lack of shelter, the Woodland provides suitable habitat and foraging resources for more generalist bird species including leaf gleaning insectivorous birds, aerial insectivores and some seed eaters that inhabit the tree canopy. The grassy and sedgy understorey provides resources for larger parrots and cockatoos.</p> <p>Swamp Yate rarely produces tree hollows of any significant size whereas Wandoo can develop tree hollows suitable for a wide range of bird species.</p> <p>The lack of ground shelter and hard and frequently wet soil surface restricts the suitability of this habitat type for fossorial species including reptiles.</p> <p>Extent: 8.11 ha; 32.29%</p>	
Grassland	<p>Grassland of mainly introduced annual and perennial grasses</p> <p>This habitat type provides shelter for smaller fauna species, reptiles, grass seeds for granivore bird species and habitat for a range of insect species.</p> <p>Extent: 5.29 ha; 21.06%</p>	

Habitat type	Description	Photograph
Shrubland	<p>Shrubs with occasional emergent trees</p> <p>The Shrubland habitat consisted of two broad subunits, with one having more shrub species and one being largely species poor and occurring in damper parts of the survey area.</p> <p>The shrubland habitat provides shelter from predators and suitable nesting sites for smaller bird species and also provides a range of food sources including nectar from flowering shrubs, insects that are attracted to flowering shrubs and various leaf types available in this more diverse habitat, and seed sources. Some Proteaceous species are present and may be used by Black Cockatoos as a food source, however, they are not dominant and form only a relatively minor component of available resources.</p> <p>Other fauna suites are also likely to be attracted to the diversity of shelter and food sources available including fossorial species including reptiles (and amphibians in wetter areas).</p> <p>Extent: 2.65 ha; 10.54%</p>	

Rehabilitation areas (Tranen, 2023a)



Photos from Bamford's basic fauna assessment of Offset site 2 Lot 55 and 56 on Plan 230522 (Bamford, 2023)



Photos from the ELA site visit of Offset site 2 Lot 55 and 56 (ELA, 2022)



PL1: Wandoo (*Eucalyptus wandoo*) Open Woodland over sparse shrubs and sedges/herbs. Understorey is mostly intact.



PL2: Wandoo (*Eucalyptus wandoo*) and Flat-topped Yate (*E. occidentalis*) Open Woodland over sparse shrubs and sedges/herbs. Understorey is mostly intact.



PL3: Wandoo (*Eucalyptus wandoo*) and Flat-topped Yate (*E. occidentalis*) Open Woodland over sparse shrubs and sedges/herbs. Understorey is mostly intact.

Black cockatoo habitat trees Offset site 1, Lot 1260 on Plan 409752 and Lot 530 on Plan 222197 (GHD, 2022)





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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

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