



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 8457/1
<b>Permit Holder:</b>	Shire of Victoria Plains
<b>Duration of Permit:</b>	14 August 2020 – 14 August 2030

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

### PART I – CLEARING AUTHORISED

**1. Purpose for which clearing may be done**

Clearing for the purpose of road construction and upgrades.

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

Lot 10 on Deposited Plan, Mogumber  
Mogumber Road West Road Reserve (PIN 11744279), Mogumber

**3. Area of Clearing**

The Permit Holder must not clear more than 0.75 hectares of native vegetation within the area hatched yellow on attached Plan 8457/1a.

**4. Application**

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

**5. Clearing authorised**

The Permit Holder shall not clear any native vegetation after 14 August 2025.

### PART II – MANAGEMENT CONDITIONS

**6. Avoid, minimise and reduce the impacts and extent of clearing**

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

## 7. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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 *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.

## 8. Wind erosion management

The permit holder must commence road construction and upgrade activities no later than three months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

## 9. Flora Management

(a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage an *environmental specialist* to demarcate all *priority flora* individuals located within the area cross-hatched yellow on attached Plan 8457/1a, using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees; and

(b) The Permit Holder shall ensure that clearing of *priority flora* is limited to thirty-six individuals of *Banksia dallanneyi* subsp. *pollostia*, five individuals of *Banksia pteridifolia* subsp. *vernalis*, and four individuals of *Isopogon drummondii*.

## 10. Offset – Revegetation

Within 12 months of the commencement of clearing and no later than 14 August 2025, the Permit Holder shall implement and adhere to the revegetation commitments in '360 Environmental Lot 10 Mogumber Road West, Mogumber. *Native Vegetation Clearing Permit: Offset Revegetation Management Plan*. Prepared for Western Riverlands Poultry. June 2020', including but not limited to the following actions;

- (a) commence *revegetating* and *rehabilitating* 2.87 hectares within the area hatched red on Plan 8457/1b by;
  - (i) undertake an extensive pre-planting weed control program;
  - (ii) deliberately *planting* native vegetation that will provide primary foraging species for black cockatoos and enhance the species composition, structure and density of the Low open woodland; and
  - (iii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
- (b) establishing three 10 x 10 metre quadrat monitoring sites within the *rehabilitated* area;
- (c) fencing the *rehabilitated* area;
- (d) implementing hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the site;
- (e) undertaking annual weed control activities to maintain a minimum 85 per cent *weed* free state by the end of the project maintenance period;
- (f) achieve the following completion criteria after the five year monitoring period for the area *revegetated* and *rehabilitated* under this Permit; and

Criterion	Baseline floristic data	Completion targets	Completion Criteria	Monitoring
1	Total site species richness is 28 (native sp. only).	Minimum of 60% of native species returned, based on reference sites.	The revegetation site needs to achieve a minimum species richness of 16 native species, as recorded at the reference sites.	Monitor the revegetation site in years 1, 2, 3 and 5.

Criterion	Baseline floristic data	Completion targets	Completion Criteria	Monitoring
2	There are two dominant tree species.	Return dominant tree species present at reference sites.	The revegetation site needs to have the two dominant tree species ( <i>Eucalyptus tottiana</i> and <i>Banksia attenuata</i> ).	Monitor the revegetation site in years 1, 2, 3 and 5.
3	Clearing of black cockatoo foraging habitat that contains <i>Banksia attenuata</i> and <i>Eucalyptus tottiana</i> species	The site must be revegetated to at least the cover or density of the reference sites using <i>Banksia attenuata</i> and <i>Eucalyptus tottiana</i> which are high to medium priority food species	The revegetation site needs to have a minimum of stems/ha for: <ul style="list-style-type: none"> <li>• <i>Banksia attenuata</i> 150 stems/ha</li> <li>• <i>Eucalyptus tottiana</i> 100 stems/ha</li> </ul>	Monitor the revegetation site in years 1, 2, 3 and 5.
4	Weeds are absent at the reference site.	Weed cover is no greater than 15% weed cover	The revegetation site should have less than 15% weed cover at completion.	Monitor the revegetation site in years 1, 2, 3 and 5.
5	No declared weeds are present.	Managed as required by the <i>Biosecurity and Agriculture Management Regulations 2013</i> .	No declared weeds detected within the revegetation site.	Monitor the revegetation site in years 1, 2, 3 and 5.
6	Bare ground is 20% within reference sites	No more than 5% greater than in the reference sites.	No more than 25% of bare ground as an average for the revegetation site.	Monitor the revegetation site in years 1, 2, 3 and 5.
7	Vegetation condition is in excellent condition at the reference site	The entirety of the <i>rehabilitation</i> area is in a good condition or higher	<i>Rehabilitation</i> area is in good condition or higher	Vegetation condition to be assessed in years 1, 2, 3 and 5

- (g) undertake remedial actions for areas *revegetated* and *rehabilitated* where monitoring indicates that *revegetation* has not met the completion criteria, outlined in condition 10(f), including;
- (i) *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in the minimum targets detailed in condition 10(f) and ensuring only *local provenance* seeds and propagating material are used;
  - (ii) undertake further *weed control* activities; and
  - (iii) annual monitoring of the *revegetated* and *rehabilitated* site, until the completion criteria, outlined in condition 10(f) are met.

#### 11. Revegetation area conservation covenant

Prior to 14 August 2021, the Permit Holder shall:

- (a) give a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* setting aside the *rehabilitated* area hatched red on Plan 8457/1b for the protection of vegetation in perpetuity; and
- (b) provide to the *CEO* a copy of the executed conservation covenant.

### **PART III - RECORD KEEPING AND REPORTING**

#### **12. Records must be kept**

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
  - (i) the boundaries of clearing undertaken, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (ii) the date(s) that clearing occurred;
  - (iii) the size of the area cleared (in hectares);
  - (iv) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit;
  - (v) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 7 of this Permit; and
  - (vi) actions taken in accordance with condition 8 of the permit.
  
- (b) In relation to flora management pursuant to condition 9 of this Permit:
  - (i) the name and location of each *priority flora* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (ii) actions taken to demarcate each *priority flora* recorded; and
  - (iii) the number of individuals of each *priority flora* cleared.
  
- (c) In relation to the *revegetation* of areas pursuant to condition 10 of this Permit:
  - (i) a description of the *revegetation* and *rehabilitation* activities undertaken;
  - (ii) the size of the area *revegetated* and *rehabilitated* (in hectares);
  - (iii) the date that the area was *revegetated* and *rehabilitated*;
  - (iv) a description of the monitoring and remedial activities undertaken within the *revegetation* and *rehabilitation* area.

#### **13. Reporting**

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
  - (i) of records required under condition 12 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.
- (c) Prior to 14 May 2030, the Permit Holder must provide to the *CEO* a written report of records required under condition 12 of this Permit where these records have not already been provided under condition 13(a) of this Permit.

#### **DEFINITIONS**

The following meanings are given to terms used in this Permit:

***CEO*** means the Chief Executive Officer of the Department responsible for administering the clearing provisions contained within the *Environmental Protection Act 1986*;

***dieback*** means the effect of *Phytophthora* species on native vegetation;

***environmental specialist*** means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

***fill*** means material used to increase the ground level, or fill a hollow;

**local provenance** means native vegetation seeds and propagating material from natural sources within 100 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

**mulch** means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

**planting** means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

**priority flora** means those plant taxa described as priority flora classes 1, 2, 3 or 4 in the *Department of Biodiversity, Conservation and Attractions' Threatened and Priority Flora List for Western Australia* (as amended);

**rehabilitate/ed/ion** means actively managing an area containing native vegetation in order to improve the ecological function of that area;

**revegetate/ed/ion** means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area; and

**weed/s** means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



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Meenu Vitarana  
A/MANAGER  
NATIVE VEGETATION REGULATION

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

22 July 2020

# Plan 8457/1a

115°57'54.000"E

115°58'12.000"E

115°58'30.000"E

115°58'48.000"E

31°1'12.000"S

31°1'30.000"S

31°1'48.000"S

31°1'12.000"S

31°1'30.000"S

31°1'48.000"S






115°57'54.000"E

115°58'12.000"E


115°58'30.000"E

115°58'48.000"E

## CPS layers

-  CPS areas approved to clear
-  Road Centrelines
- Cadastre - LGATE 218
-  Local Government Authority (LGA) Boundaries (LGATE-233)



  
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Officer delegated under section 20 of the  
Environmental Protection Act 1986



GOVERNMENT OF  
WESTERN AUSTRALIA

# Plan 8457/1b

115°58'48.000"E

115°59'6.000"E

115°59'24.000"E

31°2'24.000"S

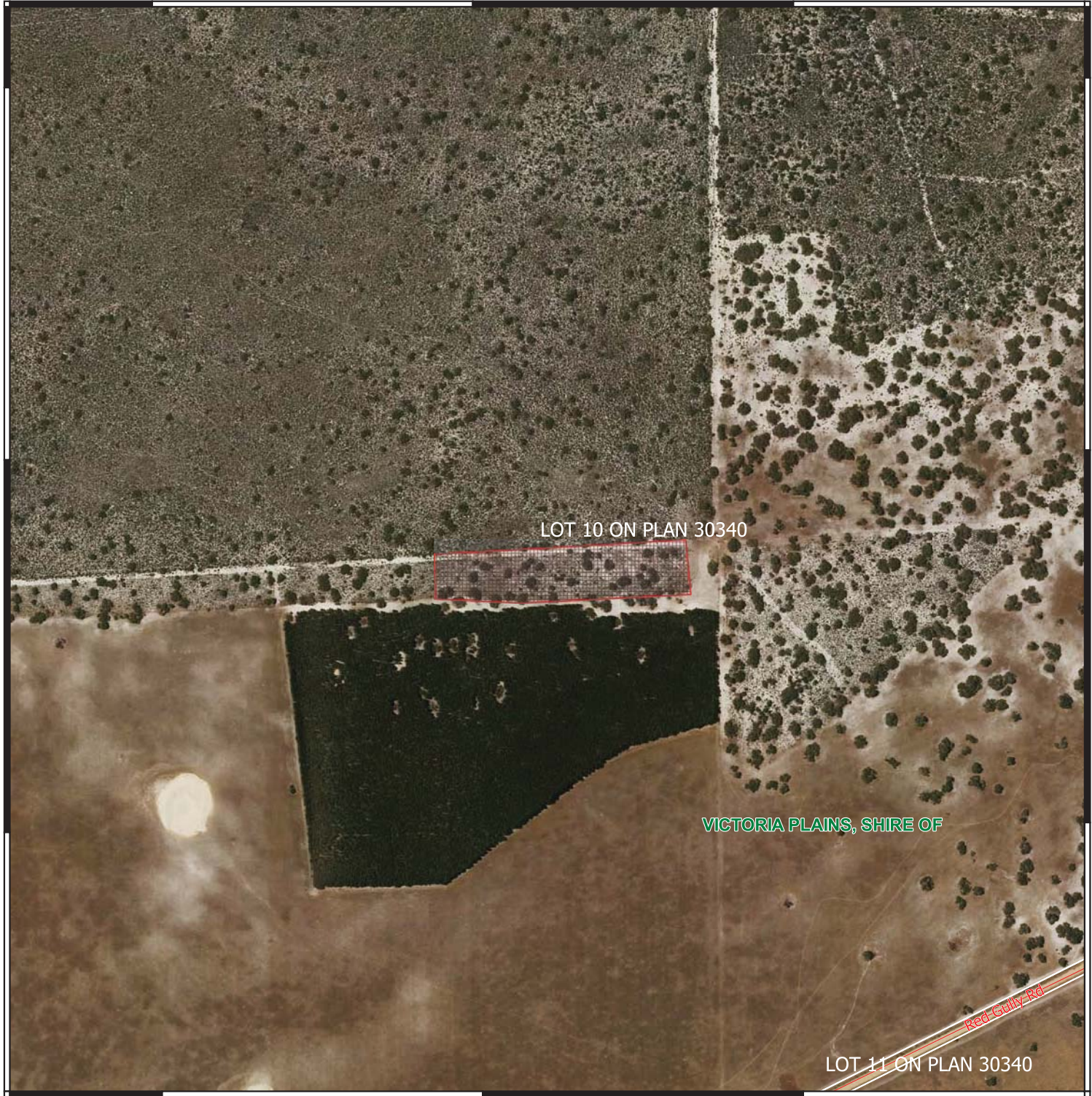
31°2'42.000"S

31°3'0.000"S

31°2'24.000"S

31°2'42.000"S

31°3'0.000"S






115°58'48.000"E

115°59'6.000"E

115°59'24.000"E

## CPS layers

-  CPS subject to conditions
-  Road Centrelines
- Cadastre - LGATE 218
-  Local Government Authority (LGA) Boundaries (LGATE-233)



MGA Zone 50  
Geocentric Datum of Australia 1994

0 100 200 m



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Officer delegated under section 20 of the  
Environmental Protection Act 1986



GOVERNMENT OF  
WESTERN AUSTRALIA



## 1. Application details

### 1.1. Permit application details

Permit application No.: 8457/1  
Permit type: Purpose Permit

### 1.2. Applicant details

Applicant's name: Shire of Victoria Plains  
Application received date: 11 April 2019

### 1.3. Property details

Property: Lot 10 on Deposited Plan 30340, Mogumber  
Mogumber Road West road reserve (PIN 11744279), Mogumber  
Local Government Authority: Shire of Victoria Plains  
Localities: Mogumber

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
0.75		Mechanical Removal	Road construction or upgrades

### 1.5. Decision on application

Decision on Permit Application: Granted

Decision Date: 22 July 2020

Reasons for Decision: The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing is at variance with principles (a) and (b) and is not likely to be at variance with the remaining principles.

Based on the assessment, the Delegated Officer determined that:

- the application area contains 0.75 hectares of significant foraging habitat for Carnaby's black cockatoo (*Calyptorhynchus latirostris*);
- the proposed clearing may result in the spread of weeds and dieback into a federally listed Banksia Woodlands of the Swan Coastal Plain (Banksia Woodlands) threatened ecological community (TEC) located adjacent to the application area; and
- the proposed clearing will impact upon three priority (P) flora species occurring within the application area, including *Banksia dallanneyi* subsp. *pollostae* (P3), *Banksia pteridifolia* subsp. *vernalis* (P3) and *Isopogon drummondii* (P3).

To minimise weed and dieback impacts to the Banksia woodlands TEC, a condition has been placed on the permit requiring the implementation of weed and dieback hygiene measures.

The Delegated Officer noted the advice received from the Department of Biodiversity, Conservation and Attractions (DBCA) which confirmed that all three priority flora species described above are considered to commonly occur within the Region and have a large range. Therefore, the proposed clearing is not likely have a significant impact on the conservation status of these species.

Consistent with the WA Environmental Offset Policy (2011) and WA Environmental Offsets Guidelines (2014), and pursuant to section 51(2)(b) of the EP Act, in order to mitigate the significant environment impacts described above, the Permit Holder is required to revegetate an area of 2.87 hectares within Lot 10 on Deposited Plan 30340, Mogumber as per the approved offset revegetation plan.

The Delegated Officer decided to grant a clearing permit subject to weed and dieback management and the implementation of an offset.

## 2. Site Information

### Clearing Description

The application is to clear 0.75 hectares of native vegetation within a footprint of 1.8 hectares within the Mogumber Road West reserve and Lot 10 on Deposited Plan 30340, Mogumber, for the purpose of expanding the existing road for truck access into private property (Figure 1).

The applicant has advised that the clearing proposed on the Southern side of the Mogumber Road West reserve will be within a two metre limit of the footprint area (360 Environmental, 2020a).



### Vegetation Description

Two Swan Coastal Plain vegetation complexes have been mapped within the project areas, described as (Hedde et al., 1980):

- Mogumber Complex-North: Open to closed heath of *Banksia* species - *Allocasuarina humilis* (Dwarf Sheoak); and
- Cullula Complex: Mixture of low open forest of *Banksia* species - *Eucalyptus tottiana* (Pricklybark) and open woodland of *Corymbia calophylla* (Marri) with second storey of *Eucalyptus tottiana* (Pricklybark) - *Banksia attenuata* - *Banksia menziesii* (Firewood Banksia) - *Banksia ilicifolia* (Holly-leaved Banksia).

The flora and vegetation survey conducted by 360 Environmental during 28 May 2018 recorded one vegetation association within the application area (360 Environmental, 2018a):

- EtBa: Low woodland of *Eucalyptus tottiana*, *Banksia attenuata*, *Banksia prionotes* over tall shrubland of *Adenanthos cygnorum*, *Lambertia multiflora* over mid sparse shrubland of *Allocasuarina humilis*, *Acacia pulchella*, *Xanthorrhoea drummondii* over low isolated shrubs of *Gastrolobium linearifolium*, *Acacia stenoptera*.

### Vegetation Condition

The flora and vegetation survey determined that the native vegetation under application ranges from good to excellent (Keighery, 1994) condition (360 Environmental, 2018a), described as:

- Excellent: Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species (Keighery, 1994).
- Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).
- Good: Vegetation structure significantly altered by very obvious signs of multiple disturbance; retains basic structure or ability to regenerate (Keighery 1994).

### Soil type

The following land subsystem has been mapped within the application area (Schoknecht et al., 2004):

- Capitella 3 gentle slope Phase: Very gently inclined slopes, plain, some dunes; pale deep and gravelly deep sand.

### Comment

The local area referred to in the assessment of this application is defined as a 10 kilometre radius measured from the perimeter of the application area. A review of available databases has determined that the local area retains approximately 37 per cent of its pre-European clearing extent of native vegetation.

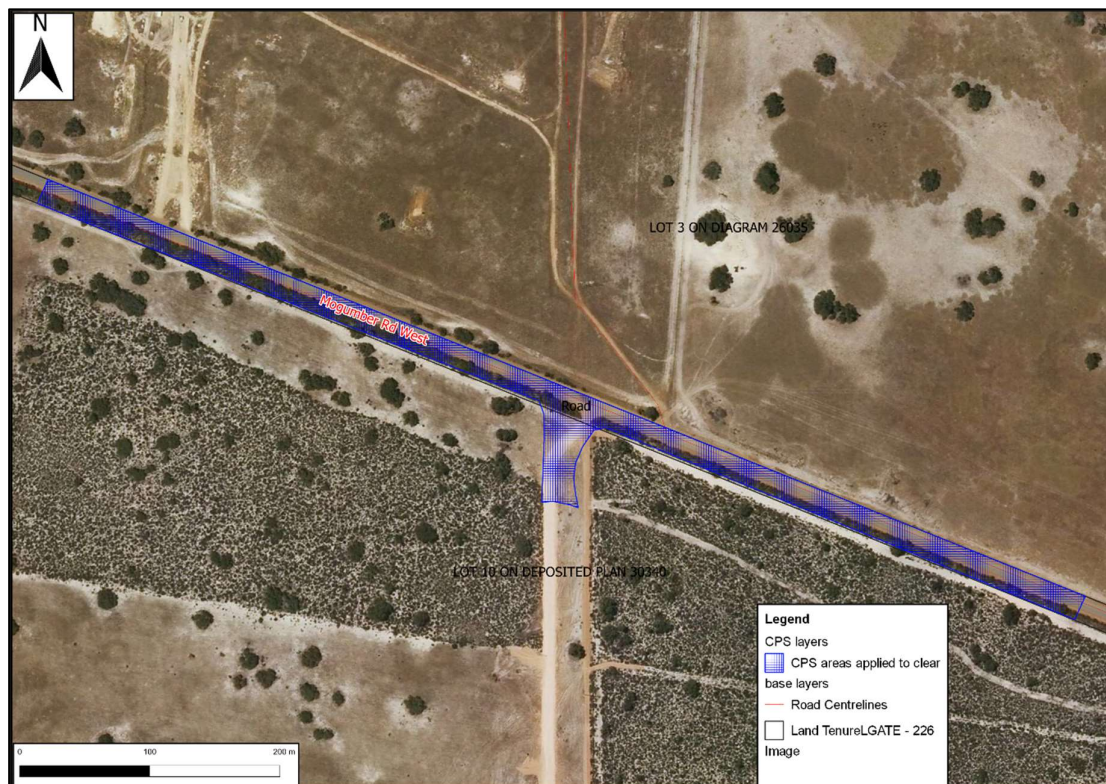


Figure 1. Application area (cross hatched blue)



Figure 2: Photographs of the application area (DWER, 2019).

### 3. Minimisation and mitigation measures

On 31 March 2020, 360 Environmental confirmed on behalf of the applicant that the proposed clearing is 0.75 hectares consistent with the vegetation mapping of the flora and vegetation survey (360 Environmental, 2020b). The application area was reduced from 0.85 hectares to 0.75 hectares within a 1.8 hectare footprint area as a result of this amendment.

It is understood that the proposed road upgrades are to create a dedicated right turn entry to cater for safe entry and exit to the driveway from a high speed section of the Mogumber West Road. It is noted that proposed road construction has been designed to Australian Standards and *Austrroads Guide to Road Design 2015* (Shire of Victoria Plains, 2019).

The applicant has demonstrated that alternative options were investigated during the road design process to avoid and minimise the clearing of native vegetation prior to submitting the clearing permit application. The applicant advised that the alternative options explored to reduce the size of the footprint area were not feasible given the high operating speed (110km/h) on this section of the road and the large number of heavy vehicles travelling fully laden in the downhill grade. Given this, it was determined that the length of the striplane proposed was required to ensure safety of the proposed access to the right turn entry (360 Environmental, 2020a).

The applicant investigated the option to shift the road realignment to the northern side of Mogumber West Road reserve (area that has been mostly cleared), however this was not a viable option as this would have required the relocation of existing Telstra assets and the purchasing of private land as the road reserve boundary was very close to the road (360 Environmental, 2020a).

As discussed further under Principle (b) of the assessment report, the proposed clearing will impact on 0.75 hectares of significant foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*). The applicant has committed to revegetating a 2.87 hectare area of Low woodland within Lot 10 on Deposited Plan 30340, Mogumber, with known black cockatoo foraging species in accordance with a Revegetation Plan approved by DWER. A conservation covenant will be placed over this area of the land parcel to ensure long-term security of the revegetation. Section 6 provides further information on the suitability of the revegetation offset.

### 4. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biodiversity.

##### Proposed clearing is at variance with this Principle

According to available databases, 12 threatened and 47 priority flora taxa has been recorded within the local area (Western Australian Herbarium, 1998-). A flora and vegetation survey conducted over the application area during May 2018 recorded three priority (P) flora species occurring within the application area, including *Banksia dallanneyi* subsp. *pollostata* (P3), *Banksia pteridifolia* subsp. *vernalis* (P3) and *Isopogon drummondii* (P3).

Thirty-six individuals of *Banksia dallanneyi* subsp. *pollostata*, five individuals of *Banksia pteridifolia* subsp. *vernalis*, and four individuals of *Isopogon drummondii* are proposed to be cleared (360 Environmental, 2018a). The total population size of the three recorded P3 flora species within the application area is unknown, however they are considered to commonly occur in the region based on advice received from the Department of Biodiversity, Conservation and Attractions (DBCA) and the results of a previous flora survey undertaken for clearing permit CPS 8211/1 located approximately 600 metres south of the application area. All three priority flora species are known to occur from at least ten locations over a relatively large range (*Banksia dallanneyi* subsp. *pollostata* occurs 110 kilometres east-west and 120 kilometres north-south; *Isopogon drummondii* occurs 250 kilometres north-south and 100 kilometres east west; *Banksia pteridifolia* subsp. *vernalis* occurs 220 kilometres north-south and 60 kilometres east-west) (DBCA, 2020a).

The flora survey undertaken by 360 Environmental for CPS 8211/1 covered an extensive area of 274.36 hectares and identified *Banksia dallanneyi* subsp. *pollostata* (P3) in 42 locations (25 within CPS 8211/1), *Banksia pteridifolia* subsp. *vernalis* in one location (no records within CPS 8211/1), and *Isopogon drummondii* in eight locations (no records within CPS 8211/1) (360 Environmental, 2018b). Based on this information, the proposed clearing is not likely to eliminate the entire population of each of these species given additional occurrences within remnant vegetation in close proximity to the application area. Noting that all three P3 flora species have a large home range and are considered to be locally common, the proposed clearing is not likely to have a significant impact on the conservation status of these species.

Based on the presence of suitable habitat, two other priority flora species, *Thelymitra apiculata* (P4) and *Anigozanthos humilis* subsp. *chrysanthus* (P4), were identified as potentially occurring within the application area. However, these species were not recorded during the survey (360 Environmental, 2018a). *Thelymitra apiculata* has been recorded to occur as close as 1 kilometre from the application area. This species flowers in June - July, however leaves may have been visible at the time of survey (DBCA, 2020b). *Anigozanthos humilis* subsp. *chrysanthus* is a perennial herb and should have been identifiable at least to family level. Given no individuals of the Haemodoraceae family were identified during the survey, it is unlikely to occur within the application area in significant numbers (DBCA, 2020b).

Given that *Thelymitra apiculata* or *Anigozanthos humilis* subsp. *chrysanthus* were not recorded during the survey, it is not considered likely that the application area supports these priority flora species. Both of these species are also known from approximately 15 different populations outside of the application area, therefore the proposed clearing is not likely to significantly impact either species at a local or species level (DBCA, 2020b).

As discussed further under Principle (c), no threatened flora species were recorded during the survey, and the proposed clearing is not likely to impact habitat supporting any threatened flora species.

As discussed under Principle (b) the proposed clearing is likely to impact on foraging habitat for the Carnaby's Cockatoo (*Calyptorhynchus latirostris*).

According to available databases there are no priority or threatened ecological communities (PEC, TEC) mapped within the application area. The survey identified vegetation association EtBa as being representative of the Banksia Woodlands of the Swan Coastal Plain ecological community, which is listed as Endangered under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and as Priority 3 by the DBCA.

In relation to the interpretation of the statistical analysis of the floristic community types (FCTs) in the survey, DBCA has advised that (DBCA, 2020a):

*'Based on the statements that the vegetation in the survey area aligns with FCT23a, 23b, 23c and S09 and S06, it is assumed that the proponent's quadrat data were assessed against Keighery, B., Keighery, G., Longman, V.M., and Clarke, K.A. 2012. Data compiled for the Departments of Environmental Protection and Conservation and Land Management. This dataset described additional FCTs on the Dandaragan Plateau – the location of this proposal area.*

*Notably, there is a quadrat in FCT20d (Dandaragan Plateau shrublands and woodlands) from the Keighery et al. (2012) dataset that occurs within 300 metres of this proposal area and is within the same patch of bushland...*

*... DBCA undertook a separate assessment of the species recorded in the quadrats in the proposal area against FCT20d as described in Keighery et al. (2012). There is 70-90% overlap of the native flora identified to species level in the consultant's quadrats with FCT20d as described in Keighery et al. 2012. The assignment of the 360 Environmental quadrats to FCT20d (Dandaragan Plateau shrublands and woodlands) is therefore considered more appropriate.*

*FCT20d that is considered to occur at the site is not listed as a priority or a threatened ecological community in Western Australia. The umbrella community – the Banksia Woodlands of the Swan Coastal Plain is ranked endangered under the EPBC Act.'*

Based on DBCA's advice above, the proposed clearing is not likely to impact on a state listed PEC or TEC, but is likely to impact on the Commonwealth listed Banksia Woodlands TEC.

The Commonwealth listed Banksia Woodlands TEC is defined as comprising a canopy that is commonly dominated or co-dominated by *Banksia attenuata* (candlestick banksia, slender banksia) and/or *Banksia menziesii* (firewood banksia). Other Banksia species that dominate in some examples of the ecological community are *Banksia prionotes* (acorn banksia) or *Banksia illicifolia* (holly-leaved banksia) (TSCC, 2016).

The Approved Conservation Advice for the patch size thresholds state that for vegetation in excellent condition, the minimum patch size should be 0.5 hectares, while vegetation in very good condition should be a minimum of one hectare, and vegetation in good condition should be a minimum of two hectares (TSCC, 2016). A patch is a discrete and mostly continuous area of the

ecological community. A patch may include small-scale (<30 metre) variations, gaps and disturbances, such as tracks, paths or breaks (including exposed soil, leaf litter, cryptogams and watercourses/drainage lines), or localised variations in vegetation that do not significantly alter the overall functionality of the ecological community (TSCC, 2016).

The flora survey determined that the entire application area is representative of the Banksia Woodlands TEC, of which 0.44 hectares is in excellent condition, 0.072 hectares is in a very good, 0.12 hectares is in a good-very good condition and 0.11 hectares is in a good condition (360 Environmental, 2018), and occurs adjacent (within 10 metres) to a mapped occurrence of the Banksia Woodlands TEC. Given this, the application area can be considered as part of this mapped TEC occurrence, which is approximately 262 hectares in size. The proposed clearing of 0.75 hectares of this TEC would result in the loss of approximately 0.32 per cent of this patch. Due to the close proximity of the application area and mapped TEC, the proposed clearing may increase the spread of weeds and dieback. Implementation of weed management and dieback management measures would reduce this risk.

On a local context, approximately 5,873 hectares of the Banksia Woodland TEC is mapped as occurring within the local area (defined as the area within a 10 kilometre radius from the perimeter of the application area). Of this, approximately 712 hectares (12 per cent) occurs within land managed by the DBCA. The proposed clearing of 0.85 hectares would result in the loss of approximately 0.014 per cent of the local representation. Noting the large extent of the TEC mapped within the local area, the application area is not considered necessary for the maintenance of this TEC and the proposed clearing will not result in a significant impact to the mapped occurrence of the TEC.

Given the application area comprises of vegetation in good to excellent (Keighery, 1994) condition, comprises priority flora species, a federally listed TEC, and foraging habitat for black cockatoo species, the application area is considered to comprise a high level of biodiversity. Therefore, proposed clearing is at variance with this principle.

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.**

**Proposed clearing is at variance with this Principle**

Five terrestrial fauna species, listed as threatened under the *Biodiversity Conservation Act 2016* (BC Act) or as priority fauna by the DBCA have been recorded within the local area. Of these species, it is considered that habitat for the Carnaby's Cockatoo (*Calyptorhynchus latirostris*) occurs within the application area.

The application area occurs within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, which is known foraging and breeding areas for this species. Black cockatoos nest in hollows in live or dead trees of wandoo, York gum, salmon gum, powderbark wandoo (*Eucalyptus accedens*), marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), flooded gum (*Eucalyptus rudis*), tuart (*Eucalyptus gomphocephala*) and karri (*Eucalyptus diversicolor*) (Commonwealth of Australia, 2012). None of the above-listed habitat tree species were recorded in the application area (360 Environmental, 2018). Given this, the application area does not contain suitable breeding or roosting habitat for Carnaby's cockatoo.

Common foraging items for black cockatoo species includes seeds, flowers and nectar of proteaceous plant species, *Eucalyptus* spp. and *Callistemon* spp. (Commonwealth of Australia, 2012). As described in section 2, the vegetation association, EtBa, recorded within the application area comprises *Eucalyptus todtiana* and *Banksia* spp, indicating that the entire application area provides suitable foraging habitat for Carnaby's Cockatoo. The Carnaby's cockatoo recovery plan states, "Success in breeding is dependent on the quality and proximity of feeding habitat within 12 kilometres of nesting sites. Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's cockatoo is a critical requirement for the conservation of the species" (Department of Parks and Wildlife (Parks and Wildlife), 2013). Loss of nesting habitat, together with foraging habitat and water sources within 12 kilometres of nesting sites is one of the key threatening processes contributing towards the decline of Carnaby's cockatoo (Saunders and Ingram, 1998; Parks and Wildlife, 2013). The application area contains suitable foraging habitat, is located approximately 640 metres from a wetland, is approximately seven kilometres from a confirmed breeding record. Noting this, the application area is considered to contain significant foraging habitat for Carnaby's cockatoo.

The vegetation under application has been given a value of 7 by the Roadside Conservation Committee, which is described as having a medium-high conservation value, with a 'range of native plants present; fairly good cover of native vegetation; small weedy patches; some habitat features present' (RCC, 2016). The application area may be utilised intermittently by ground dwelling fauna. However, it is not likely to be significant as an ecological linkage in the local area. Based on available databases and aerial imagery, there is continuous remnant vegetation to the north and south of the application area that is likely to be utilised as an ecological linkage to connect larger patches of remnant vegetation in the local area.

Given the above, the proposed clearing is at variance with this Principle.

The applicant has committed to revegetating a 2.87 hectare area within Lot 10 on Deposited Plan 30340, Mogumber, with known black cockatoo foraging species to counterbalance the significant residual impacts to the proposed clearing of black cockatoo foraging habitat.

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.**

**Proposed clearing is not likely to be at variance with this Principle**

The survey did not record any threatened flora species within the application area (360 Environmental, 2018). According to available databases, twelve threatened flora species occur within the local area. Of these species, *Banksia mimica* was considered as potentially occurring within the application area based on the presence of suitable habitat.

*Banksia mimica* is a prostate shrub that grows on flat to gentle slopes in grey and white sand in open woodlands (Department of the Environment, Water, Heritage and the Arts, 2008). According to available databases, the nearest record of *Banksia mimica*

is approximately 160 metres from the application area (Western Australian Herbarium, 1998-). There is also a known population of this species approximately 50 metres from the application area as recorded from a previous flora survey completed by 360 Environmental in 2018 (360 Environmental, 2018a).

Despite the survey being conducted in May, *Banksia mimica* is a perennial species and is therefore likely to have been detected if it was present in the application area.

Given the above, the proposed clearing is not likely to be at variance with this Principle.

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Proposed clearing is not likely to be at variance with this Principle**

According to available databases, there are no state listed TECs mapped within the local area. The flora and vegetation survey did not record any vegetation within the application area to represent any state listed TECs (360 Environmental, 2018a). The proposed clearing is not likely to be part of, or necessary for the maintenance of a state listed TEC.

Given the above, the proposed clearing is not likely to be at variance with this Principle.

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Proposed clearing is not likely to be at variance with this Principle**

The National Objectives and Targets for Biodiversity Conservation 2001-2005 include a target to have clearing controls in place that prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (i.e. pre-European settlement) (Commonwealth of Australia, 2001). This is the threshold level, below which species loss appears to accelerate exponentially.

The application area is located within the Swan Coastal Plain IBRA bioregion, which retains approximately 38 per cent of its pre-European vegetation extent (Government of Western Australia, 2019) (Table 1). The mapped Swan Coastal Plain 'Mogumber Complex-North' and 'Cullula' vegetation complexes retains approximately 47 per cent and 51 per cent of its pre-European vegetation extent within the bioregion, respectively (Government of Western Australia, 2019) (Table 1). In assessing the risk of further loss and subsequent cumulative effects, consideration has been given to the extent of native vegetation remaining within the local area. The local area retains approximately 37 per cent pre-European native vegetation cover.

Noting that all the abovementioned remnant vegetation extents are above the 30 per cent threshold, the proposed clearing is not likely to be significant as a remnant of native vegetation in an area that has been extensively cleared.

Given the above, the proposed clearing is not likely to be at variance with this Principle.

Table 1. Remnant vegetation extents (Government of Western Australia, 2019).

	Pre-European extent (ha)	Current extent (ha)	% remaining	Current extent in all DBCA managed land (ha)	Extent remaining in DBCA managed land (proportion of Pre-European extent) (%)
<b>IBRA bioregion:</b>					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
<b>Vegetation complexes:</b>					
Mogumber Complex-North	21,879.99	10,437.00	47.70	4,588.19	20.97
Cullula Complex	25,973.28	13,308.03	51.24	3,929.05	15.13

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Proposed clearing is not likely to be at variance with this Principle**

According to available databases, there are no watercourses or wetlands mapped within the application area. The nearest waterbody is a conservation category sumpland located 640 metres from the application area. An area subject to inundation has been mapped approximately 200 metres from the application area. The survey did not record any vegetation within the application area to be associated with watercourses or wetlands (360 Environmental, 2018a).

Given the above, the proposed clearing is not likely to be at variance with this Principle.

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Proposed clearing not likely to be at variance with this Principle**

As described in section 2, the application area is within the mapped Capitella 3 gentle slope Phase (Schoknecht et al., 2004).

Based on the land degradation risks of the mapped land subsystem, the application area has a high risk of wind erosion and a low risk of water erosion, waterlogging and flooding (van Gool et al., 2005).

Noting the linear shape of the application area, it is expected that the wind erosion risk can be managed through appropriate land management practices which do not expose the sandy soils for extended durations.

Given the above, the proposed clearing is not likely to be at variance with this Principle.

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Proposed clearing is not likely to be at variance with this Principle**

According to available databases, the application area does not occur within any conservation areas. The nearest conservation area is the Mogumber West Nature Reserve located approximately 1.8 kilometres north east of the application area.

Given this distance, the proposed clearing is not likely to be at variance with this Principle.

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Proposed clearing is not likely to be at variance with this Principle**

Groundwater salinity within the application area is mapped between 3,000-7,000 total dissolved solids, milligrams per litre. This level of groundwater salinity is classified as 'brackish'. It is not considered that the proposed clearing along an existing road would cause an increase in groundwater salinity.

As discussed in Principle (f), no watercourses or wetland areas occur within the application area. The proposed clearing is not likely to deteriorate the quality of surface water.

Given the above, the proposed clearing is not likely to be at variance with this Principle.

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Proposed clearing is not likely to be at variance with this Principle**

The application area has a low risk of flooding (van Gool et al., 2005), therefore the proposed clearing is not likely to cause or exacerbate, the incidence or intensity of flooding.

Given the above, the proposed clearing is not likely to be at variance with this Principle.

**Planning instruments and other relevant matters**

No Aboriginal sites of significance have been mapped within the application area.

The clearing permit application was advertised on the DWER website on 20 September 2019 with a 14 day submission period. Two public submissions have been received in relation to this application. The submissions raised the following concerns (Submission, 2019a; Submission 2019b):

- Impacts to the Banksia Woodlands TEC and priority flora species, namely *Banksia dallanneyi* subsp. *pollostata* (P3), *Banksia pteridifolia* subsp. *vernalis* (P3) and *Isopogon drummondii* (P3);
- Lack of avoidance and minimisation options;
- Considerations for the requirement of offsets; and
- The application should be referred to the former Department of the Environment and Energy (now the Department of Agriculture, Water and the Environment (DoAWE) under the EPBC Act.

The potential environmental impact to the Banksia Woodlands TEC and priority flora species have been addressed under the relevant clearing principles. The requirement of an offset is discussed further under Section 6 of this assessment report.

The proposal was referred to the DoAWE (EPBC Act Referral (2019/8609)) to determine whether the proposed action to upgrade an existing road and rail network for the transport of agricultural lime near Calingiri, Western Australia, requires approval under the EPBC Act. The Department was notified of the referral decision on 20 March 2020 by the DoAWE which determined that the proposed action is not a controlled action under Section 75 of the EPBC Act (DoAWE, 2020).

**5. Applicant's Submissions**

A preliminary assessment of the application identified a number of areas in which the information supplied by the applicant was insufficient for the requirements of the assessment. The Department of Water and Environmental Regulation (DWER) wrote to the applicant on the 24 March 2020 requesting further information to verify the impacts of the proposed clearing including:

- Additional information on the avoidance/mitigation measures that were considered to reduce the impacts to Carnaby's cockatoo foraging habitat and the Banksia Woodlands TEC;
- Further clarification on the amount of native vegetation proposed to be cleared (survey vegetation mapping indicates that the proposed clearing may only result in the loss of 0.75 hectares (not 0.85 hectares as applied for); and
- Further clarification on the total population size of the three P3 flora species identified within the application area, namely *Banksia dallanneyi* subsp. *pollostata*, *Banksia pteridifolia* subsp. *vernalis* and *Isopogon drummondii* and whether the proposed clearing will result in the loss of the entire population.

On 31 March 2020, 360 Environmental provided a response to DWER's letter of 24 March 2020 on behalf of the applicant including the following information:

- Confirmation that the size of the proposed clearing area is 0.75 hectares consistent with the vegetation mapping, not 0.85 hectares;
- Additional information on alternative road design options that were investigated to minimise the need for clearing; and
- Evidence that the three P3 flora species discussed above are considered to commonly occur in the region (360 Environmental, 2020b).

DWER contacted 360 Environmental on 7 April 2020 requesting further information on the alternative road designs that were considered to get the determination of the proposed clearing area as this information was not clear in the letter of response dated 31 March 2020. 360 Environmental provided the additional information as requested which is outlined under Section 3.

On 17 April 2020, DWER wrote to the applicant advising that a satisfactory environmental offset is required to counterbalance the significant residual impacts of the proposed clearing including:

- 0.75 hectares of native vegetation in a good to excellent (Keighery, 1994) condition that comprises of significant foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*).

DWER also provided a preliminary calculation of an appropriate revegetation offset using the Commonwealth Offsets Assessment Guide calculator which identified that the revegetation of 3.12 hectares of native vegetation from a completely degraded condition to good condition that provides suitable foraging habitat for Carnaby's cockatoos may be sufficient to adequately address the impacts of the proposed clearing. DWER also noted that a comprehensive revegetation plan would be required, and the site would have to be conserved in perpetuity.

On 12 June 2020, the applicant provided a response to DWER's letter of 17 April 2020 including the following information:

- An offset proposal including site assessment/surveys of the proposed offset site and an offset calculation using the Commonwealth Offsets Assessment Guide calculator which indicated a 1.9 hectare revegetation offset would be required; and
- A Revegetation Plan developed for the proposed offset site in accordance with DWER's *Guide to preparing Revegetation Plans for Clearing Permits (March 2018)*.

On 26 June 2020, DWER wrote to the applicant regarding the proposed revegetation offset and associated Revegetation Plan and advised the following:

- The revegetation offset of 1.9 hectares will not be sufficient to adequately address the impacts of the proposed clearing of 0.75 hectares of suitable foraging habitat for Carnaby's cockatoos;
- A revegetation offset of 2.87 hectares will be required to offset the significant residual impacts identified;
- The proposed methodology, hygiene and weed control, contingency measures and monitoring to be acceptable for the offset site; and
- A minor change to the completion criteria for the stem density for black cockatoo foraging species across the site is required to meet DWER's revegetation requirements for the offset site.

On 3 July 2020 and 13 July 2020, 360 Environmental provided a revised offset site area and updated Revegetation Plan with updated completion criteria which satisfied DWER's requirements (360 Environmental, 2020c).

## 6. Suitability of Proposed Offset

After avoidance, minimisation and mitigation (outlined in Section 3 of this report), it is considered that the proposed clearing will result in the following significant residual impacts:

- 0.75 hectares of native vegetation in a good to excellent (Keighery, 1994) condition that comprises of significant foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*).

The applicant has proposed a revegetation offset, to counterbalance the significant residual impacts listed above, consisting of:

- Revegetation of 2.87 hectares of native vegetation within Lot 10 on Deposited Plan 30340, Mogumber, to a good (Keighery, 1994) condition or higher with known black cockatoo foraging species in accordance with the commitments of the completion criteria within the Revegetation Plan approved by DWER. A conservation covenant will be placed over the offset site to ensure long-term security of the revegetation.

The offset site comprises of one vegetation type largely in a good (Keighery, 1994) condition with localised pockets in degraded condition (totalling 2.54 hectares) described as 'Low open woodland of *Eucalyptus todiana*, *Banksia attenuata* and *Nuytsia floribunda* over low open shrubland of *Allocasuarina humilis*, *Eremaea pauciflora* and *Xanthorrhoea drummondii* over low sparse sedgeland of *Patersonia occidentalis* and *Mesomelaena pseudostygia*' which is a similar vegetation type to vegetation type EtBa identified within the application area (360 Environmental, 2020c). A cleared track comprises 0.32 hectares of the offset site which is considered to be in a completely degraded (Keighery, 1994) condition. One threatened flora species (*Banksia mimica*) and one P3 flora species (*Banksia dallanneyi* subsp. *pollostata*) were recorded within the offset site. Approximately 50 plants of the threatened flora species *Banksia mimica* were opportunistically recorded and *Banksia dallanneyi* subsp. *pollostata* were found at numerous location within the offset site (360 Environmental, 2020c). The offset site is also going to be receiving 25 *Banksia mimica* plants that will be translocated as part of the clearing permit conditions associated to clearing permit CPS 8211/1. Evidence of Carnaby's black cockatoo foraging was also observed during a fauna survey undertaken by 360 Environmental in 2018 within Lot 10 in close proximity to the offset site (360 Environmental, 2020c).

In assessing whether the proposed offset is adequately proportionate to the significant environmental values listed above, DWER undertook a calculation using the Commonwealth Offsets Assessment Guide calculator. Noting the vegetation condition of the offset site described above, DWER's calculations determined that the revegetation of 2.87 hectares of native vegetation within Lot 10 to a good or better condition will adequately offset the significant residual impacts associated with black cockatoo foraging habitat.

In determining whether the proposed revegetation offset was appropriate, DWER reviewed the high priority foraging species at the impact site and compared them to the plant species within offset and reference sites to ensure that they are representative of each other. It was determined through this review that the majority of shrub species within the mid and understorey in both the impact, offset and reference sites are not listed as priority foraging species for Carnaby's cockatoos. Only the tree species *Eucalyptus tottiana* and *Banksia attenuata* that were identified in the impact area were listed as high priority foraging species. Therefore, the Delegated Officer determined that the applicant would only be required to replace the tree species *Eucalyptus tottiana* and *Banksia attenuata* species in the offset site. It is noted that the completion criteria for stem density for black cockatoo foraging species was amended in the final Revegetation Plan to ensure there was a higher stem density for *Banksia attenuata* species (150 stems/ha) as it is considered to be a high priority foraging species for Carnaby's black cockatoos compared to *Eucalyptus tottiana* which is considered medium priority. The completion criteria outlined in the Revegetation Plan and revegetation condition on the clearing permit are considered appropriate in achieving an appropriate environmental outcome for mitigating the impacts to black cockatoo foraging habitat.

## 7. References

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- 360 Environmental (2018b). Mogumber Poultry Farm Access Road, Application for a Native Vegetation Clearing Permit – Area Permit CPS 8211/1, Supporting document. September 2018. (DWER Ref: A1724999).
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- 360 Environmental (2020b) Additional information provided for clearing permit CPS 8457/1. 360 Environmental, Western Australia (DWER Ref: A1880741).
- 360 Environmental (2020c) Offset proposal and updated Revegetation Plan provided for clearing permit CPS 8457/1. 360 Environmental, Western Australia (DWER Ref: A1912732).
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- Department of the Environment and Energy (2019) Referral Decision. Baldivis District Sporting Complex, Baldivis (EPBC 2018/8323). Canberra, Australian Capital Territory (DWER Ref: A1785087).
- Department of Agriculture, Water and the Environment (DoAWE) (2020) Referral Decision. Agricultural Lime Sands Route Upgrade, near Calingiri, Western Australia (EPBC 2019/8609). Canberra, Australian Capital Territory (DWER Ref: A1880722).
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- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au> (Assessed July 2019).



**GIS databases:**

- Aboriginal Sites of Significance
- Camaby's cockatoo: breeding, roosting, feeding
- Department of Biodiversity, Conservation and Attractions, Managed Tenure
- Hydrography Linear – Linear
- Hydrography WA 250K – Surface Water Lines
- IBRA Australia
- PDWSA
- Pre-European Statistics
- RIWI Act Areas
- SAC bio datasets
- Soil Landscape Mapping - Best Available
- Soil landscape land quality
- Threatened and Priority Fauna Data
- TPFL Data
- WA Herb Data
- WA TECPEC Boundaries
- WA TECPEC Buffers