



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	8121/1
Permit Holder:	Shire of Capel
Duration of Permit:	5 January 2019 – 5 January 2029

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 and bridge construction.
- 2. Land on which clearing is to be done**
Lot 428 on Deposited Plan 18980, North Boyanup
Lot 1 on Diagram 51029, Crooked Brook
Lot 411 on Diagram 51029, Crooked Brook
Dardanup Road West road reserve, Pin 1314651, North Boyanup
Dardanup Road West road reserve, Pin 1314642, North Boyanup
Dardanup Road West road reserve, Pin 1314643, Crooked Brook
Dardanup Road West road reserve, Pin 1314644, Crooked Brook
Dardanup Road West road reserve, Pin 1314641, Crooked Brook
Unallocated crown land, Pin 510834, Crooked Brook
- 3. Area of Clearing**
The Permit Holder must not clear more than 2.55 hectares of native vegetation within the area hatched yellow on attached Plan 8121/1.
- 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. Type of clearing authorised**
This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.
- 6. Clearing not authorised**
This Permit does not authorise the Permit Holder to clear native vegetation after 5 January 2024.

PART II – MANAGEMENT CONDITIONS

7. 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:

- (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.

8. Western Ringtail Possum Management

- (a) In relation to the area cross-hatched yellow on attached Plan 8121/1, the Permit Holder must engage a *fauna specialist* to inspect that area immediately prior to, and for the duration of clearing, for the presence of Western Ringtail Possum(s) (*Pseudocheirus occidentalis*).
- (b) Clearing must cease in any area where fauna referred to in condition 8(a) above are identified until either:
 - (i) the Western Ringtail Possum(s) individual has been removed by a *fauna specialist*; or
 - (ii) the Western Ringtail Possum(s) individual has moved on from that area to adjoining *suitable habitat*.
- (c) Any Western Ringtail Possum (*Pseudocheirus occidentalis*) individuals removed in accordance with condition 8(b)(i) of this Permit must be relocated by a *fauna specialist* to *suitable habitat*.
- (d) Where fauna is identified under condition 8(a) of this Permit, the Permit Holder must provide the following records to the *CEO* as soon as practicable:
 - (i) the number of individuals identified;
 - (ii) the date each individual was identified;
 - (iii) the location where each individual was identified 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;
 - (iv) the number of individuals removed and relocated;
 - (v) the date each individual was removed;
 - (vi) the date each individual was relocated;
 - (vii) the location where each individual was relocated to, recorded using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
 - (viii) details pertaining to the circumstances of any death of, or injury sustained by, an individual.

9. Revegetation and Rehabilitation

The Permit Holder shall:

- (a) within 6 months following completion of works authorised under this permit, *revegetate* and *rehabilitate* the redundant road alignment, hatched red on attached Plan 8121/1, by:
 - (i) ripping the ground to remove soil compaction; and
 - (ii) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to vegetation within adjacent Lot 428 on Plan 18980, and that maintains suitable habitat for Western Ringtail Possum(s) (*Pseudocheirus occidentalis*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*), ensuring only *local provenance* seeds and propagating material are used.
- (b) within 18 months of *revegetation* in accordance with condition 9(a) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 9(b)(i) of this Permit will not result in a similar species composition, structure and density as described under condition 9(a)(ii), *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to that described under condition 9(a)(ii) and ensuring only *local provenance* seeds and propagating material are used.

- (c) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 9(b)(ii) of this permit, the Permit Holder shall repeat condition 9(b)(i) within 12 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (d) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that described under condition 9(a)(ii), as determined in condition 9(b)(i) and (ii) of this permit, that determination shall be submitted for the *CEO*'s consideration. If the *CEO* does not agree with the determination made under condition 9(b)(ii), the *CEO* may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 9(c).

10. 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) at least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within the redundant road alignment, hatched red on attached Plan 8121/1.

PART III - RECORD KEEPING AND REPORTING

11. 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 species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (iii) the date that the area was cleared;
 - (iv) the size of the area cleared (in hectares).
 - (v) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 7 of this Permit;
 - (vi) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 10 of this Permit; and
 - (vii) the dates *weed* management occurred within the redundant road alignment, hatched red on attached Plan 8121/1.
- (b) In relation to fauna management pursuant to condition 8 of this Permit:
 - (i) the name of the *fauna specialist* employed;
 - (ii) the qualifications of the *fauna specialist* employed; and
 - (iii) the date and duration of the pre-clearing inspection.
- (c) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 8 of this Permit:
 - (i) the location of any areas *revegetated* and *rehabilitated*, 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) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*; and
 - (v) a copy of the environmental specialist's report.

12. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 1 March of each year, a written report:
 - (i) of records required under condition 11 (records to be kept) of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit 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 year, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 1 March of each year.
- (c) Prior to 5 October 2028, the Permit Holder must provide to the *CEO* a written report of records required under condition 11 (records to be kept) of this Permit where these records have not already been provided under condition 12(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 the administration of the clearing provisions under the *Environmental Protection Act 1986*;

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

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist: means a person 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, or who is approved by the *CEO* as a suitable environmental specialist;

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the *CEO* as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*;

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 50 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;

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

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;

suitable habitat: means habitat known to support western ringtail possums (*Pseudocheirus occidentalis*) within the known current distribution of the species. This often includes stands of myrtaceous trees (usually Peppermint Tree (*Agonis flexuosa*)) growing near swamps, watercourses or floodplains, and at topographic low points which provide cooler, often more fertile, conditions; 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.

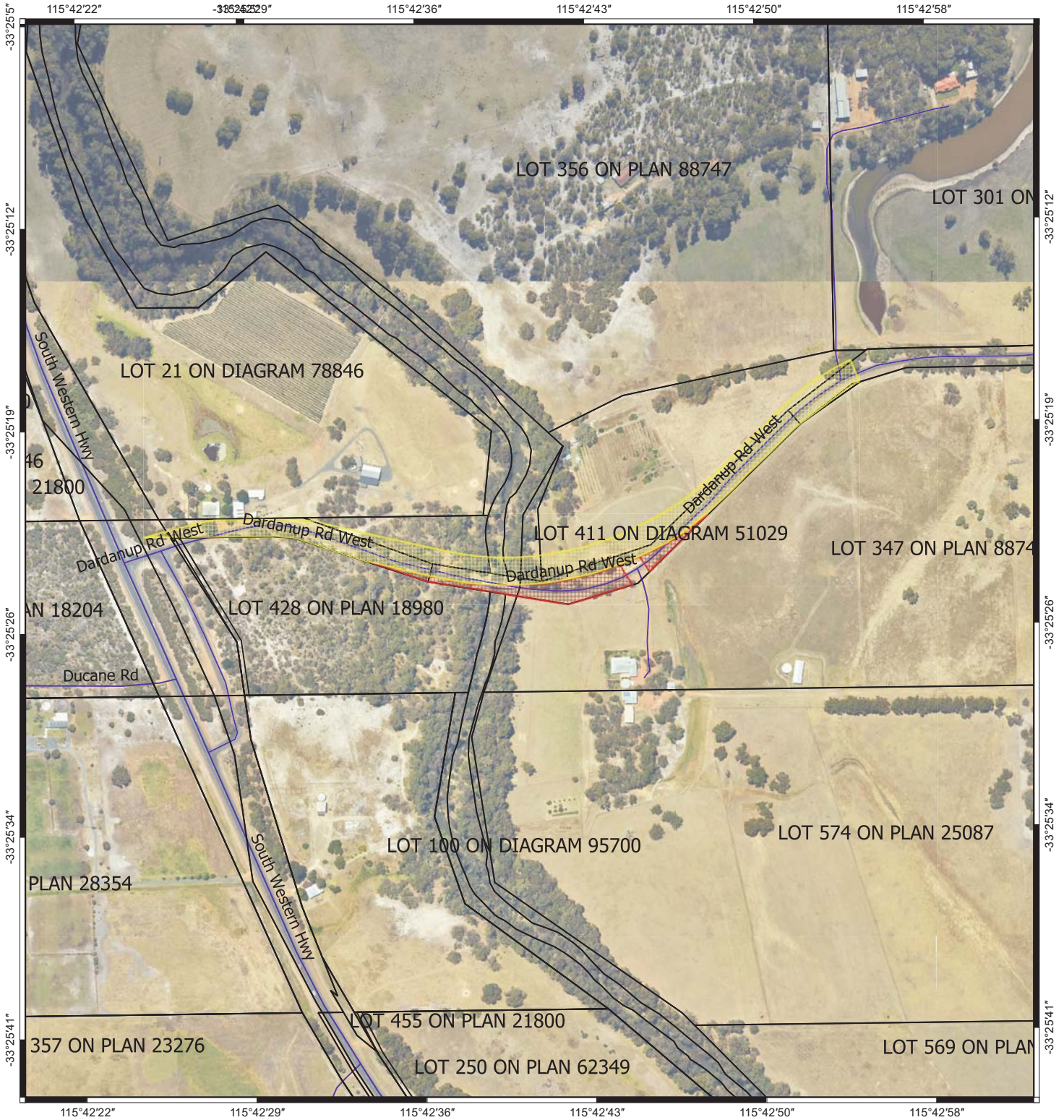


Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION



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

6 December 2018

Plan 8121/1



Legend

-  CPS areas approved to clear
 -  CPS subject to conditions
- Virtual Mosaic - WA Now



MGA 94
Geocentric Datum of Australia 1994


.....Date 6/12/2018
Mathew Gannaway

Officer with delegated authority under Section 20
of the Environmental Protection Act 1986





Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8121/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Shire of Capel
Application received date: 4 July 2018

1.3. Property details

Property: Lot 428 on Deposited Plan 189807, North Boyanup
Lot 411 on Diagram 51029, Crooked Brook
Lot 1 on Diagram 51029, Crooked Brook
Dardanup Road West Road Reserve – (PINs 1314641 and 1314644), Crooked Brook
Dardanup Road West Road Reserve – (PINs 1314643, 1314642 and 1314651), North Boyanup
Unallocated Crown Land (PIN 510834), Crooked Brook
Local Government Authority: Capel, Shire of and Dardanup, Shire of
Localities: North Boyanup and Crooked Brook

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
2.55	0	Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 6 December 2018

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 to clearing Principle (f), may be at variance to Principles (b), (d) and (e) and is not likely to be at variance to the remaining Principles.

Through assessment it was determined that the proposed clearing will impact on riparian vegetation. The Delegated Officer considered impacts are minor and short term, and that further management conditions are not required.

Through assessment it was determined that the proposed clearing may impact on;

- adjoining vegetation mapped as a threatened ecological community;
- Western Ringtail Possum(s) (*Pseudocheirus occidentalis*) habitat; and
- a significant remnant within a highly cleared area.

To mitigate these potential impacts, revegetation of the redundant road alignment and WRP management actions have been conditioned on the permit. The area revegetated is required to be consistent with vegetation within adjoining Lot 428 on Plan 18980, and maintains suitable habitat for Western Ringtail Possum(s) and Carnaby's cockatoo(s) (*Calyptorhynchus latirostris*).

To mitigate potential impacts to vegetation adjoining the application area, a weed and dieback management condition has been placed on the permit.

Given the above, the Decision Maker determined to grant a clearing permit subject to conditions.

2. Site Information

Clearing Description The application is to clear 2.55 hectares of native vegetation along Dardanup Road West road reserve for road and bridge construction (Figure 1). Large portions of the application area contain little to no native vegetation with only approximately 0.7 hectares of native vegetation within the application area.

Vegetation Description The vegetation under application has been mapped within Swan Coastal Plain vegetation association 33 which is described as Fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca raphiophylla* (Swamp Paperbark) with localised occurrence of low open forest of *Casuarina obesa* (Swamp Sheoak) and *Melaleuca cuticularis* (Saltwater Paperbark) (Government of Western Australia, 2017).

A Department of Water and Environment Regulation (DWER) site inspection recorded the vegetation under application as (DWER, 2018), *Agonis flexuosa* and *Corymbia calophylla* over a completely degraded

(Keighery, 1994) understorey of introduced species including Veldt grass (*Ehrharta longiflora*), *Watsonia meriana* var. *bulbillifera*, *Acacia longifolia* and *Oxalis* sp.

Similar observations were identified through site inspections conducted by the Department of Biodiversity, Conservation and Attractions (DBCA) and Capel Land Conservation District Committee (LCDC) (DBCA, 2018; Capel LCDC, 2018).

Vegetation Condition

Vegetation condition within this assessment has been assessed using the vegetation condition scale developed by Keighery (1994). All references to vegetation condition throughout this assessment therefore, reference this scale.

A site inspection of the application area undertaken by DWER recorded the vegetation in a degraded to completely degraded condition, described as:

- Completely degraded - 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.
- 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; grazing.

A majority of the application area is in a completely degraded condition.

Local area

The local area is defined as 10 kilometres from the edge of the application area (Figure 2).

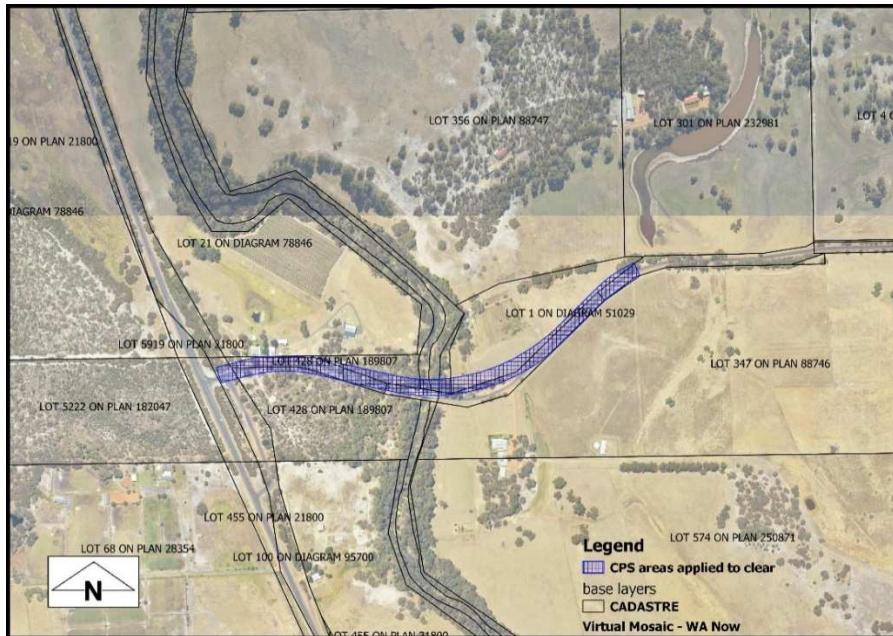


Figure 1: Vegetation under application.

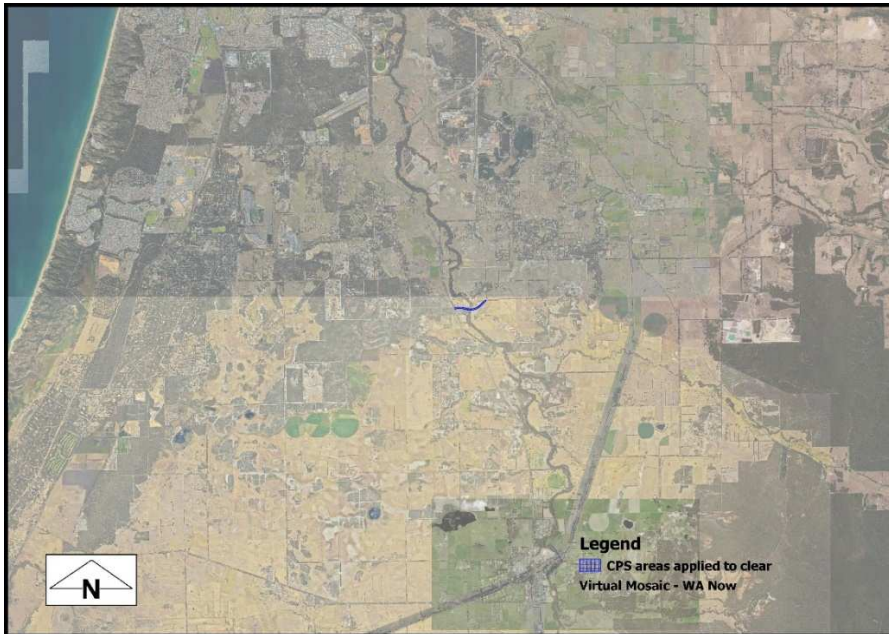


Figure 2: Vegetation within the local area.

3. Avoidance and minimisation

Although vegetation within Lot 428 on Deposited Plan 189807 occurs within the area applied to clear (as submitted by the applicant), the applicant has advised that no vegetation within this Lot will be cleared. A site inspection undertaken by DWER noted that the surveyed alignment of the road avoids a majority of the vegetation and does not encroach within Lot 428. This was evident as the proposed new alignment was staked out and flagged at the time of the inspection (DWER, 2018).

Given this, the area approved to clear does not include this vegetation, with only approximately 0.7 hectares of native vegetation within the application area proposed to be cleared.

4. Assessment of application against clearing principles

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

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

As assessed within Principle (e), the local area surrounding the application area is approximately 26.4 per cent vegetated (Figure 2), this indicates that the application area is in a highly cleared landscape. As assessed within Principle (e), the vegetation under application forms part of mapped ecological linkages, facilitating the movement of fauna and flora through the landscape.

A site inspection of the application area undertaken by DWER (2018) recorded the vegetation in a degraded to completely degraded condition. A majority of the application area is in a completely degraded condition with little to no native vegetation present, and an understorey dominated by introduced species.

Seven species of rare flora and 32 species listed as Priority by DBCA have been recorded in the local area. Given the degraded to completely degraded condition of the vegetation, they are not likely to be present within the application area. Site inspections of the application area undertaken by DWER and DBCA did not record conservation significant species. DBCA (2018) has advised that rare flora species may be present within areas of intact vegetation however, these areas have been removed from the application area. Given this, conservation significant species are not likely to be impacted by the proposed clearing.

As assessed within Principle (d), a small portion (0.09 hectares) of the vegetation under application has been mapped within the '*Corymbia calophylla* woodlands on heavy soils of the southern Swan Coastal Plain' threatened ecological community (TEC). Given the dominance of *Corymbia calophylla* within the application area, this community may once have been present. However, given the degraded to completely degraded condition of the vegetation, it is not likely to contain the key diagnostic species to form part of the mapped TEC.

As assessed within Principle (b), the vegetation within the application area forms foraging habitat for Carnaby's cockatoo, Baudin's cockatoo and forest red-tailed black cockatoo. Given the size of the application area and degraded condition, the foraging habitat present is not likely to be significant. A DWER site inspection noted that *Eucalyptus/Corymbia* of an age and size as to contain breeding habitat for Black cockatoo species are not present (DWER, 2018). Large habitat trees were identified within the application area, however these have been avoided by the Shire.

DBCA (2018) has advised that the proposed clearing contains *Agonis flexuosa* and is very likely to be providing habitat for western ringtail possums (WRP's) (*Pseudocheirus occidentalis*). As assessed within Principle (b), given the presence of *Agonis* and the occurrence of two ecological linkages within the application area, the proposed clearing may impact on this species. Management measures that include the requirement to survey for WRP's to ensure individuals are not present at the time of clearing is likely to minimise the direct impact on this species. Revegetation of the redundant road alignment is likely to mitigate the long term impact to the ecological linkages.

Given the above, the proposed clearing is not likely to be at variance to 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 indigenous to Western Australia.

Proposed clearing may be at variance to this Principle

As assessed within Principle (e), the application area occurs at the junction of two ecological linkages (Molloy et al., 2009). Ecological linkages have been defined as “a series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape” (Molloy et al., 2009). Although clearing the vegetation under application will increase the exposed distance fauna are required to traverse, as road infrastructure is already in place and given the degraded condition of the vegetation, this impact is not likely to be significant. Revegetation of the redundant road alignment is likely to mitigate the long term impact to the ecological linkages.

Eight terrestrial fauna species, listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act) have been recorded within the local area (DBCA, 2007-):

- Baudin's cockatoo (*Calyptorhynchus baudinii*);
- forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*);
- Carnaby's cockatoo (*Calyptorhynchus latirostris*);
- woylie (*Bettongia penicillata* subsp. *ogilbyi*);
- chuditch (*Dasyurus geoffroii*);
- WRP's;
- quokka (*Setonix brachyurus*); and
- carter's freshwater mussel (*Westralunio carteri*).

Seven fauna species listed as Priority by DBCA have been recorded within the local area (DBCA, 2007-):

- pouched lamprey (*Geotria australis*);
- coastal plains skink (*Ctenotus ora*);
- quenda (*Isoodon obesulus*);
- western false pipistrelle (*Falsistrellus mackenziei*);
- western brush wallaby (*Macropus irma*);
- blue-billed duck (*Oxyura australis*); and
- graceful sunmoth (*Synemon gratiosa*).

As the records for the woylie and quokka are historical, with the species ranges contracting since recorded within the local area, the proposed clearing is not likely to impact on these species.

Black cockatoo's (Baudin's, Carnaby's and forest red-tailed black cockatoo) nest in large hollows of *Eucalyptus* trees and forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea*, *Grevillea*), *Eucalyptus*, *Corymbia* and a range of introduced species (DotEE, 2013; Valentine and Stock, 2008). 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” (DotEE, 2013).

A DWER site inspection noted that fauna habitat within the application area was limited and *Eucalyptus/Corymbia* of an age and size as to contain breeding habitat for Black cockatoo species are not present within the application area (DWER, 2018). Large habitat trees were identified outside of the proposed clearing area. The surveyed alignment indicated that these have been avoided by the Shire. Given the size of the application area and degraded condition, significant foraging habitat is also not likely to be present within the application area.

WRP's occur within the South West of Western Australia with *Agonis flexuosa* forming a core habitat requirement. Given the presence of *Agonis* and the occurrence of two ecological linkages within the application area, the proposed clearing may impact on this species. DBCA has advised that the proposed clearing contains *Agonis flexuosa* and is very likely to be providing habitat to WRP's. Management measures that include the requirement to survey for WRP's to ensure they are not present at the time of clearing is likely to minimise the direct impact to individuals. Revegetation of the redundant road alignment is likely to mitigate the long term impact to the ecological linkage and the ability for WRP to move through the landscape..

Chuditch populations occur in varying densities in jarrah forests and woodlands in the south west corner of Western Australia, and in woodlands, mallee shrublands and heaths along the south coast, east to the Ravensthorpe area (Department of Environment and Conservation, 2012). While the vegetation within the application area may contain potential dispersal habitat for this species, based on the condition of the vegetation and lack of large fallen trees forming den sites, potential habitat within the application area is not likely to be significant.

As assessed within Principle (f), although the application area crosses a watercourse, little to no native riparian vegetation is present. The banks of the watercourse are in a degraded condition and dominated by invasive species. Given this, clearing the native vegetation within the application area is not likely to impact on the watercourse and fauna within it. Therefore if present, carter's freshwater mussel is not likely to be impacted.

Given the degraded condition and small size of the proposed clearing, it is not likely to form significant habitat for the Priority listed fauna mentioned above.

Given the potential impact to WRP's, the proposed clearing may be at variance to this Principle.

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

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

Seven species of rare flora have been recorded in the local area. DBCA has advised that areas with intact understorey may be supporting rare flora (DBCA, 2018). These areas have been removed from the application area through avoidance and mitigation.

A site inspection of the application area undertaken by DBCA officers confirmed that one of the rare flora species known to occur within the local area is not found within the application area (DBCA, 2018).

A site inspection of the application area undertaken by DWER on 25 September 2018, coinciding with the flowering times of rare flora recorded within the local area, recorded the vegetation in a degraded to completely degraded condition. A majority of the application area is in a completely degraded condition with an understorey dominated by introduced species. The species of rare flora known to occur within the local area were searched for, however none were recorded.

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

A small portion (0.09 hectares) of the vegetation within the application area has been mapped within the 'Corymbia calophylla woodlands on heavy soils of the southern Swan Coastal Plain' TEC. Given the dominance of *Corymbia calophylla* within the application area, this community may once have been present. However, given the degraded to completely degraded condition of the vegetation, it is not likely to contain the key diagnostic species to form part of the mapped TEC.

The vegetation adjoining the application area is in a good condition and likely to be representative of the abovementioned TEC (DBCA, 2018). Given this and the linkage value of the application area (as assessed within Principle (e)), the proposed clearing may impact on this vegetation.

Given the above, the proposed clearing may be at variance to this Principle. Weed and dieback management measures and revegetating the redundant road alignment to restore the linkage value is likely to mitigate this risk.

(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 may be at variance to this Principle

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

The mapped Swan Coastal Plain vegetation association, Swan complex, retains 28.09 per cent native vegetation. The local area retains approximately 26.4 per cent native vegetation. As the mapped vegetation association and the local area fall below the 30 per cent threshold, the proposed clearing occurs within a highly cleared landscape.

The application area occurs at the junction of two ecological linkages, defined by the South West Regional Ecological Linkage Report (Molloy et al., 2009). Although the proposed clearing will increase the exposed distance fauna are required to traverse, as road infrastructure is already in place, this impact is not likely to be significant. Revegetation of the redundant road alignment is likely to mitigate the long term impact to the ecological linkages.

As assessed within Principles (d) and (h), the vegetation within the application area adjoins a larger remnant of vegetation that is representative of a TEC and is currently under consideration for inclusion into conservation estate. This remnant also adjoins a larger remnant that is representative of a Priority Ecological Community (PEC) and contains threatened flora populations (DBCA, 2018). Although the proposed clearing area is not likely to be representative of a TEC or PEC and is not likely to contain conservation significant flora, given the linkage value of the application area, it may aid in the support of these environmental values. Revegetation of the redundant road alignment is likely to ensure that adjoining environmental values are maintained.

Given the above, the proposed clearing may be at variance to this Principle.

Table 1: Vegetation extents.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,221.93	578,997.37	38.57	38.5
Swan Coastal Plain Vegetation complex *				
33 – Swan complex	6,144.37	1,726.06	28.09	9.6
Local Area				
10km radius	33,306.49	8,782.29	26.37	-

(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 at variance to this Principle

The application area crosses the Preston River, classified as a major perennial river. Given this, the vegetation within the application area is growing in association with a watercourse. A site inspection of the application area noted that little to no native vegetation is present along the banks of the watercourse, with these areas dominated by the introduced, highly invasive **Watsonia meriana* var. *bulbillifera*.

Given this, although the application area crosses a major river, little to no native riparian vegetation will be removed and removal of the native vegetation is not likely to have a significant impact on the watercourse.

The construction of the bridge may have further impacts on the watercourse, however these impacts are separate from that of clearing the native vegetation. It is recommended that appropriate watercourse management measures are documented and implemented prior to the construction of the bridge.

Given the above, the proposed clearing is at variance to this Principle, however impacts are likely to be short term and minimal.

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

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

As assessed within Principle (f), although the application area crosses a major perennial river, little to no native vegetation is present along the banks of the watercourse. Given this, the condition of the vegetation and minimal native vegetation to be cleared, the proposed clearing is not likely to cause appreciable land degradation.

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

The closest DBCA managed reserve occurs approximately six kilometres east of the application area. A 'C class' Shire reserve for the purposes of Conservation and Recreation adjoins the application area. DBCA with the support of the Shire is seeking a change of vesting of this reserve, and the adjoining Franklandia reserve (Reserve 1167), to the Conservation Commission for the purpose of conservation.

As the proposed clearing occurs outside of this reserve, it is not likely to be directly impacted by the proposed clearing. Weed and dieback management measures are likely to ensure that adjoining vegetation is not impacted by the proposed clearing.

As assessed within Principle (e), the application area occurs at the junction of two ecological linkages. Ecological linkages act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape (Molloy, 2009). Although the proposed clearing will impact on these linkages, as road infrastructure is already in place and given the degraded condition of the vegetation, the environmental values of adjoining reserves are not likely to be impacted.

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

As assessed within Principle (f), although the application area crosses a major perennial river, little to no native vegetation is present along the banks of the watercourse. Given this, the condition of the vegetation and minimal native vegetation to be cleared, the proposed clearing is not likely to impact on the quality of surface or underground water.

The construction of the bridge may have further impacts on the watercourse, however these impacts are separate from that of clearing the native vegetation. It is recommended that appropriate watercourse management measures are documented and implemented prior to the construction of the bridge.

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

The proposed clearing is not of a size or scale as to cause or exacerbate flooding. Given this, the proposed clearing is not likely to be at variance to this Principle.

Planning instruments and other relevant matters.

An Aboriginal site of significance has been mapped within the application area. The applicant is advised to contact the Department of Planning Lands and Heritage in relation to their requirements under the *Aboriginal Heritage Act 1972*.

The clearing permit application was advertised on the DWER website on 30 April 2018 with a 21 day submission period. One public submission was received in relation to this application. Concerns raised relate to;

- The potential for rare flora to be present within the application area;
- The potential for threatened fauna species to be impacted by the proposed clearing; and
- The potential for impacts to the Preston River.

The concerns raised have been addressed under the assessment against the clearing Principles.

The Capel Land Conservation District Council has advised that (Capel LCDC, 2018):

- The proposed clearing may form habitat for the western ringtail possum and three threatened black cockatoo species;
- The Shire has advised that it intends to revegetate the old road alignment; and
- Given the prevalence of weeds, weed management would be required as part of any revegetation.

The concerns raised by the Capel Land Conservation District Council in relation to potential fauna impacts have been addressed in the assessment against the clearing Principles. Weed and dieback management conditions and a condition requiring the revegetation of the redundant road alignment have been placed on the permit in order to mitigate the identified potential environmental impact.

5. References

- Capel Land Conservation District Council (LCDC) (2018) Submission received from the Capel Land Conservation District Council in relation to CPS 8121/1. 30 August 2018 (DWER ref: A1715687).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Environment and Conservation (DEC) (2012) Chuditch (*Dasyurus geoffroii*) Recovery Plan. Wildlife Management Program No. 54. Department of Environment and Conservation, Perth, Western Australia.
- Department of the Environment and Energy (DotEE) (2013) Environment Protection and Biodiversity Conservation Act 1999 referral guidelines for three threatened black cockatoo species: Carnaby's cockatoo (endangered) *Calyptorhynchus latirostris*, Baudin's cockatoo (vulnerable) *Calyptorhynchus baudinii*, Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*. DotEE, Canberra.
- Department of Biodiversity Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed October 2018.
- Department of Biodiversity Conservation and Attractions (DBCA) (2018) Parks and Wildlife regional advice for Clearing Permit Application CPS 8121/1. 26 October 2018. Department Parks and Wildlife, Western Australia. DWER Ref: A1741327.
- Department of Water and Environmental Regulation (DWER) (2018) Site Inspection Report for Clearing Permit Application CPS 8121/1. Site inspection undertaken 25 September 2018 (DWER Ref: A1714535).
- *Government of Western Australia (2016) 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.
- **Government of Western Australia (2017) 2016 South West Vegetation Complex Statistics. Current as of December 2016. WA Department of Parks and Wildlife, Perth
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South Western Regional Ecological Linkages Technical report, Western Australian Local Government Association and Department of Environment and Conservation, Perth.
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gngangara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.

GIS Database List

- SAC Bio datasets (May 2018)
- Hydrography, linear
- Aboriginal Sites of Significance
- RIWI Areas
- Hydrography, linear
- Groundwater Salinity
- Pre-European vegetation
- DPaW Estate
- Soils, statewide
- Salinity Risk