



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 8755/1
File Number: DWERVT5008
Duration of Permit: From 1 May 2020 to 1 May 2022

PERMIT HOLDER

Shire of Augusta Margaret River

LAND ON WHICH CLEARING IS TO BE DONE

Rosa Glen Road Reserve (PIN 1252485), Rosa Glen

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.012 hectares of native vegetation and 24 trees within the area cross-hatched yellow on attached Plan 8755/1.

CONDITIONS

1. 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.

2. 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 known *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this Permit:

- (a) 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 or decimal degrees;
- (b) the date that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of *dieback* and *weeds* in accordance with condition 2 of this Permit.

4. Reporting

The Permit Holder must provide to the *CEO* the records required under condition 4 of this Permit, when requested by the *CEO*.

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;

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

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;

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 Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Samara Rogers
MANAGER
NATIVE VEGETATION REGULATION

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

9 April 2020

Plan 8755/1

115°10'55.200"E

115°11'11.400"E

115°11'27.600"E

115°11'43.800"E



34°1'22.800"S

34°1'33.600"S

34°1'44.400"S

34°1'55.200"S

34°2'6.000"S

34°1'22.800"S

34°1'33.600"S

34°1'44.400"S

34°1'55.200"S

34°2'6.000"S

115°10'55.200"E


115°11'11.400"E

115°11'27.600"E


115°11'43.800"E

Legend

CPS layers

 CPS areas approved to clear

base layers

 Road Centrelines

LGA Boundaries (LGATE-233)

N



0 150 300 450 600 m



Samara Rogers

Samara Rogers

2020.04.09 08:40:27 +08'00'

Officer delegated under section 20 of the
Environmental Protection Act 1986



GOVERNMENT OF
WESTERN AUSTRALIA



1. Application details

Permit application details

Permit application No.: 8755/1
Permit type: Area Permit

Applicant details

Applicant's name: Shire of Augusta Margaret River
Application received date: 11 December 2019

Property details

Property: Rosa Glen Road Reserve (PIN 1252485), Rosa Glen
Local Government Authority: Shire of Augusta Margaret River
Localities: Rosa Glen

Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.012	24	Mechanical	Road upgrades

Decision on application

Decision on Permit Application: Grant

Decision Date: 9 April 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*. It has been concluded that the proposed clearing is not likely to be at variance with any of the clearing principles.

During the assessment it was identified that the proposed clearing may facilitate the spread of weeds and dieback into adjacent vegetation. A weed and dieback management condition has been applied to minimise this risk.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description

The application is for the proposed clearing of 0.012 hectares of native vegetation and 24 trees within Rosa Glen Road Reserve (PIN 1252485), Rosa Glen for the purpose of road upgrades.

Vegetation Description

The vegetation within the application area is mapped within the following South West vegetation complexes:

- Treeton complex, described as woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* with some *Allocasuarina fraseriana* on mild slopes in the perhumid zone (Mattiske and Havel, 1998); and
- Preston complex, described as woodland of *Eucalyptus rudis*-*Agonis flexuosa*-*Banksia seminuda* along streams, open forest of *Corymbia calophylla*-*Eucalyptus patens* on slopes in the humid zone (Mattiske and Havel, 1998).

Photographs supplied by the applicant and a site inspection conducted by the Department of Water and Environmental Regulation (DWER) indicate that the vegetation within the application area consists predominantly of sparse *Corymbia calophylla* (marri) trees interspersed with introduced *Eucalyptus robusta* (swamp mahogany), and is almost entirely devoid of native mid- and understorey-species, with the exception of a 0.012 hectare section in the centre of the application area (Shire of Augusta Margaret River, 2019; DWER, 2020). Within this 0.012 hectare section, vegetation within the application area consists of several *Agonis flexuosa* (peppermint) trees over a mid-storey of *Astartea* sp. with an understorey of *Leucopogon* sp. and *Desmocladius* sp. (DWER, 2020). DWER officers observed that much of the application area has been subject to severe weed invasion (DWER, 2020).

Vegetation Condition

The condition of the vegetation within the application area ranges from Degraded to Completely Degraded (Keighery, 1994) condition, defined as:

- Degraded: Basic vegetation structure severely impacted by disturbance, scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994); and
- Completely degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994).

The vegetation condition of the application area was determined through photographs supplied by the applicant and a site inspection undertaken by DWER officers (Shire of Augusta Margaret River, 2019; DWER, 2020).

Soil Type:

The soil type within the application area is mapped as Treeton hillslopes Phase (214ThTRh), described as slopes with gradients generally ranging from 2-15% and gravelly duplex (Forest Grove) and pale grey mottled (Munglte) soils (DPIRD, 2017).

Local Area:

The local area referred to in the assessment of this application is defined as a 10 kilometre (km) radius measured from the perimeter of the application area.



Figure 1. Application area (outlined in blue).





Figure 2. Photographs of the application area (DWER, 2020).

3. Avoidance and minimisation measures

The Shire of Margaret River (the Shire) has advised that measures have and will be taken to avoid and minimise the clearing of native vegetation wherever possible (Shire of Augusta Margaret River, 2019). The Shire has advised that the clearing of native vegetation could not be limited to one side of the road reserve due to the proximity to fence lines of neighbouring properties, as road upgrades needed to be undertaken to widen the road by two metres to allow two vehicles to pass safely (DWER, 2020). Considering this, the road has been designed to avoid eight large marri trees and to intersect already cleared or disturbed areas (Shire of Augusta Margaret River, 2019).

The Shire has also advised that eight trees included in the application area are likely to be retained, however the proposed works may result in impacts to the trees' root systems, which have established in the existing embankments of the road reserve (Shire of Augusta Margaret River, 2020). The Shire has advised that it will take every effort to avoid disturbance to these trees (Shire of Augusta Margaret River, 2020).

Where possible, the Shire has undertaken pruning of trees as an alternative to clearing (Shire of Augusta Margaret River, 2019; DWER, 2020).

The Shire have also advised that drainage within the road reserve has been designed to minimise runoff, erosion and sedimentation to surrounding vegetation (Shire of Augusta Margaret River, 2019).

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 with this principle

A review of available databases determined that a total of 15 threatened or priority flora have been recorded within the local area, comprising four Priority 1 (P1) flora, one Priority 2 (P2) flora, seven Priority 3 (P3) flora, two Priority 4 (P4) flora, and one threatened flora (Western Australian Herbarium, 1998-). None of these records occur within the application area. Based on the habitat preferences of the above species, including soil type, vegetation association and records within disturbed and degraded vegetation, the application area may contain suitable habitat for two priority species; *Acacia tayloriana* (P4), and *Calothamnus lateralis var. crassus* (P3). However, based on the number of records of the above priority species in the local area and the distribution of these species, the proposed clearing is not likely to have an impact on the conservation status of these species should they be present. As assessed under Principle (c), the application area does not contain suitable habitat for the one threatened flora species recorded within the local area. Noting the above, and that a DWER site inspection determined that the application area consists of vegetation in Degraded to Completely Degraded (Keighery, 1994) condition, the application area is not likely to comprise suitable habitat for threatened or priority flora and is not likely to comprise a high level of floristic diversity.

According to available databases, there are no mapped state-listed threatened ecological communities (TECs) within the local area. One state-listed priority ecological community (PEC), *Reedia spathacea - Empodisma gracillimum - Sporadanthus rivularis* dominated floodplains and paluslopes of the Blackwood Plateau, is mapped within the local area and occurs approximately 6.8 kilometres from the application area. Noting the distance and separation from TECs and PECs within the local area, the vegetation within the application area is not likely to comprise whole or part of, or be necessary for the maintenance of a TEC or PEC.

The application area is not within any mapped ecological linkage. The application area may provide some linkage for fauna moving through the landscape, however given the sparse and degraded condition of vegetation within the application area and the abundance of more suitable linkages within the landscape, the application area is not likely to act as a significant ecological linkage and the proposed clearing is not likely to significantly impact vegetation connectivity within the landscape.

As assessed under Principle (b), the application area may contain suitable habitat for five threatened and one other specially protected fauna species; *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), *Calyptorhynchus baudinii* (Baudin's

cockatoo), *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Dasyurus geoffroi* (chuditch), *Phascogale tapoatafa wambenger* (south-western brush-tailed phascogale) and *Pseudocheirus occidentalis* (western ringtail possum). Given the application area does not contain suitable breeding hollows, that mapped potential feeding habitat is abundant in the local area, and that some suitable foraging habitat within the road reserve will be retained, the application area is not likely to comprise significant breeding or foraging habitat for any black cockatoo species (forest red-tailed black cockatoo, Baudin's cockatoo, and Carnaby's cockatoo). Noting the application area does not contain adequate den resources, that canopy connectivity and continuity is sparse, and that larger remnants of suitable habitat are abundant in the local area, the application area is also not likely to comprise significant habitat for chuditch, south-western brush-tailed phascogale or western ringtail possum. As discussed above and under Principle (b), the application area is also not likely to be significant as an ecological linkage for fauna moving through the landscape.

Noting the above, the application area is not likely to comprise a high level of biodiversity and the proposed clearing is not likely to be 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 not likely to be at variance with this principle

A total of 17 threatened or priority fauna have been recorded within the local area, including nine threatened fauna, six priority fauna, one species protected under international agreement and one other specially protected fauna species (DBCA, 2007-). None of these records occur within the application area. Based on the existing records, habitat preferences and habitat requirements of the above species, the application area may contain suitable habitat for five threatened and one other specially protected fauna species; Baudin's cockatoo, Carnaby's cockatoo, the forest red-tailed black cockatoo, chuditch, south-western brush-tailed phascogale and the western ringtail possum.

Black cockatoo species

'Breeding habitat' for black cockatoo species is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (Commonwealth of Australia, 2012). Suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). While breeding, black cockatoos also generally forage within a 6 to 12 km radius of their nesting site (Commonwealth of Australia, 2012). According to available datasets, mapped potential black cockatoo feeding habitat is recorded within the application area and surrounding bushland, making it a suitable location for breeding if appropriate hollows are present. A site inspection undertaken by DWER officers identified two of the 24 marri trees within the application area had a DBH greater than 500 millimetres, however no trees within the application area were observed to contain hollows (DWER, 2020). Advice received from the Department of Biodiversity Conservation and Attractions (DBCA) noted that the marri trees within the road reserve did not appear to have developed suitable nesting hollows, and expressed no concern in regards to nesting impacts on black cockatoo species with regard to this application (DBCA, 2020). Given that the application area does not contain suitable breeding hollows, the application area is not likely to provide significant breeding habitat for black cockatoo species.

Black cockatoo species are noted to forage on a range of plant species, predominantly the seeds and flowers of marri, *Eucalyptus marginata* (jarrah) and proteaceous species (e.g. *Banksia* spp., *Hakea* spp. and *Grevillea* spp.) (Commonwealth of Australia, 2012). As the application area consists predominantly of marri trees, and is mapped within 12 kilometres of known breeding sites, the application area is likely to provide suitable foraging habitat for black cockatoo species. However, no evidence of foraging by black cockatoo species was identified during the DWER site inspection (DWER, 2020). Further, given the extent of the proposed clearing, that mapped potential feeding habitat in larger remnants of vegetation is abundant in the local area, and that some suitable foraging habitat within the road reserve will be retained, the application area is not likely to comprise significant foraging habitat for black cockatoo species.

Chuditch

The chuditch is a carnivorous marsupial, typically associated with riparian jarrah forest or other forest, woodland or shrubland habitats that contain suitable den sites and sufficient prey biomass (DEC, 2012a). Suitable den sites for chuditch usually include hollow logs, earth burrows, tree hollows, or rock crevices (DEC, 2012a). Given the application area consists of an open woodland, including sparse marri trees, swamp mahogany and a section of peppermint woodland over native mid- and understorey species, the application area may provide suitable habitat for chuditch if sufficient den resources are present. However, a DWER site inspection identified no hollow-bearing trees, hollow logs or other suitable den resources for chuditch (DWER, 2020). Given the above, and that larger remnants of suitable habitat are abundant in the local area, the application area is not likely to comprise significant habitat for chuditch.

South-western brush-tailed phascogale

The south-western brush-tailed phascogale is an arboreal dasyurid, associated with dry sclerophyll forests and open woodlands that contain hollow-bearing trees, characterised by high canopy cover and connectivity (DEC, 2012b). Given the application area consists of a canopy of sparse marri trees interspersed with introduced swamp mahogany, or a sparse canopy of peppermint trees, canopy connectivity within the application area and adjacent road reserve is limited and unlikely to be suitable to support south-western brush-tailed phascogales. No evidence of arboreal fauna was observed during the DWER site inspection (DWER, 2020). Further, no trees within the application area have been observed to contain hollows (DWER, 2020), and the application area is not likely to provide suitable diurnal refuge sites or breeding habitat for the species. Noting the above, that some adjacent vegetation, including several large marri trees, within the road reserve will be retained, and that larger remnants of suitable habitat are abundant in the local area, the application area is not likely to comprise significant habitat for the south-western brush-tailed phascogale.

Western ringtail possum

The western ringtail possum is an arboreal folivore, associated with long unburnt mature remnant peppermint woodlands along the Swan Coastal Plain management zone from Mandurah to Augusta, characterised by high canopy cover and connectivity (DPAW, 2017). Throughout the range of the western ringtail possum, suitable habitat also includes marri and *Eucalyptus marginata* (jarrah) woodlands and other *Eucalyptus* dominated forests with appropriate canopy, that provide suitable foraging habitat and tree hollows for breeding and diurnal refuge (DPAW, 2017). Although the application area includes a canopy of peppermint trees as well as marri trees interspersed with introduced swamp mahogany, the available peppermint woodland is minimal and canopy connectivity within the application area and adjacent road reserve is limited. Advice received from DBCA also noted that, given impact to habitat containing peppermint trees was limited and possums would likely to be able to disperse into surrounding habitat if present, significant impacts to western ringtail possums was unlikely (DBCA, 2020). Further, a site inspection undertaken by DWER officers identified no hollow-bearing trees or evidence of western ringtail possums within the application area (DWER, 2020). Noting the above, that some adjacent vegetation, including several large marri trees, within the road reserve will be retained, and that larger remnants of suitable habitat are abundant in the local area, the application area is not likely to comprise significant habitat for western ringtail possums.

As discussed under Principle (a), the application area may provide some linkage for fauna moving through the local area. However, given the sparse and degraded condition of vegetation within the application area, the abundance of more suitable linkages within the landscape, and that the proposed clearing does not sever connectivity to larger remnants of suitable habitat in the local area, the application area is not likely to act as a significant ecological linkage for fauna moving through the landscape.

Given the above, the application area is not likely to comprise significant habitat for fauna and the proposed clearing is not likely to be at variance with this principle.

(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

As discussed in Principle (a), a review of available databases determined one threatened flora species has been recorded within the local area; *Reedia spathacea* (Western Australian Herbarium, 1998-). *Reedia spathacea* is a caespitose sedge, typically associated with permanently waterlogged tall sedgeland, or in Eucalyptus woodland over sedgeland or mixed heath, directly adjacent to swamps or river edges (TSSC, 2009). Given the application area is a disturbed roadside consisting predominantly of sparse marri trees with little to no native mid- or understorey species, in Degraded to Completely Degraded (Keighery, 1994) condition, and separated from the nearest wetland or watercourse by existing cleared land, the application area is not likely to provide suitable habitat for *Reedia spathacea*. Noting the above, the proposed clearing is not likely to include or be necessary for the continued existence of any threatened flora species. Advice received from the Department of Biodiversity Conservation and Attractions (DBCA) is consistent with this finding, noting that the proposed clearing is very unlikely to impact any currently threatened flora or vegetation (DBCA, 2020).

Noting 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 mapped state-listed TECs in the local area. The closest mapped TEC, Aquatic Root Mat Community Number 2 of Caves Leeuwin Naturaliste Ridge (Strongs Cave), occurs approximately 15 kilometres west of the application area.

Given the above, the application area is not likely to comprise the whole or a part of, or be necessary for the maintenance of a state-listed TEC and 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 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 application area is located within the Jarrah Forest Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion which retains approximately 53.2 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The mapped South West vegetation complexes Treeton and Preston retain approximately 43.7 per cent and 53 per cent, respectively, of their pre-European vegetation extent within the Jarrah Forest IBRA Bioregion (Table 1). The local area retains approximately 60.4 per cent vegetation cover.

Noting the current vegetation extent for the Jarrah Forest IBRA Bioregion, the mapped South West Vegetation Complexes and the local area are all above the 30 per cent threshold, the local area is not considered to be extensively cleared. Given the above, the application area is not likely to be significant as a remnant of native vegetation in an area that has been extensively cleared.

The proposed clearing is not likely to be at variance with this principle.

Table 1: Vegetation representation statistics (Government of Western Australia, 2018)

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in DBCA Managed Lands	
				(ha)	(%)
IBRA Bioregion					
Jarrah forest	4,506,660.25	2,399,838.15	53.25	1,673,614.25	39.43
South West vegetation complex					
Treeton	36,265.70	15,853.75	43.72	9,492.95	26.18
Preston	9,834.96	5,209.58	52.97	4,268.96	43.41
Local Area remnant vegetation					
10 kilometre radius	31,405.35	18,971.81	60.41	-	-

(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 datasets, the application area is adjacent to a non-perennial tributary of Upper Chapman Brook and a seasonally inundated paluslope, located approximately 100 to 150 metres west of the application area. However, the application area does not intersect any natural source of surface water and is separated from the above-mentioned watercourse and wetland by previously cleared agricultural land. This was confirmed during the site inspection undertaken by DWER officers, which identified no characteristic riparian vegetation within the application area (DWER, 2020).

Given the above, the vegetation within the application area is not considered to be growing in association with a watercourse or wetland and 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 is not likely to be at variance with this principle

The soil type within the application area is mapped as the Treeton hillslopes Phase (214ThTRh), described as slopes with gradients generally ranging from 2-15% and gravelly duplex (Forest Grove) and pale grey mottled (Munglte) soils (DPIRD, 2017).

As indicated in Table 2, the soil type mapped within the application area presents a low risk of land degradation resulting from water erosion, salinity, flooding, waterlogging and phosphorous export. The application area is mapped at upwards of 50 per cent, high to extreme risk for wind erosion and subsurface acidification. The Shire has advised that the potential for erosion and sediment run-off into nearby vegetation or watercourses has been considered and mitigated in the road upgrade designs (Shire of Augusta Margaret River, 2019). Noting this, and given the extent of the proposed clearing, that some adjacent vegetation within the road reserve will be retained, and that the existing vegetation is in Degraded to Completely Degraded (Keighery, 1994) condition, the proposed clearing is not considered likely to cause appreciable land degradation.

It is noted that, as the application area has been subject to heavy weed invasion, the proposed clearing may facilitate the spread of weeds and dieback to remnant vegetation in the local area. A weed and dieback condition is considered to minimise this risk.

The proposed clearing is not likely to be at variance with this principle.

Table 2: Land degradation risk levels

Risk categories	Treeton hillslopes Phase (214ThTRh)
Wind erosion	50-70% of map unit has a high to extreme wind erosion risk
Water erosion	<3% of map unit has a high to extreme water erosion risk
Salinity	<3% of map unit has a high salinity risk or is presently saline
Subsurface Acidification	>70% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	<3% of the map unit has a high flood risk
Waterlogging	10-30% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	3-10% of map unit has a high to extreme phosphorus export risk

(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 datasets, there are no conservation areas mapped within or directly adjacent to the application area. The closest conservation area, unnamed Department of Biodiversity Conservation and Attractions (DBCA) managed land, is located approximately 1.5 kilometres east of the application area. As discussed in Principle (a), the application area may provide some linkage to local conservation area for fauna moving through the landscape, however given the sparse and degraded condition of vegetation within the application area and the abundance of more suitable linkages within the landscape, the application area is not likely to act as a significant ecological linkage to nearby conservation area. Noting this and the extent of the proposed clearing, it is not likely that the proposed clearing will impact on the environmental values of any adjacent or nearby conservation area.

Given the above, 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

The application area lies within the Lower Blackwood River Surface Water Area, a proclaimed surface water area under the *Rights in Water and Irrigation Act 1914* (the RIWI Act). However, as discussed in Principle (f), the application area is separated from the closest watercourse by 100 to 150 metres of previously cleared agricultural land. Further, the Shire has advised that the proposed road upgrades have been designed to improve drainage and prevent any sediment run-off into nearby vegetation or watercourses. Given the separation from the nearest surface water source and minimisation methods implemented by the Shire, the proposed clearing is not likely to cause deterioration in the quality of surface water.

Groundwater salinity within the application area is mapped at less than 500 milligrams per litre total dissolved solids. The application area lies within the Blackwood Groundwater Area, a groundwater area proclaimed under the *Rights in Water and Irrigation Act 1914* (the RIWI Act). Noting this, the extent of the proposed clearing, that some adjacent vegetation within the road reserve will be retained, including six large marri trees, and that the application area is in Degraded to Completely Degraded (Keighery, 1994) condition, the proposed clearing is not likely to cause deterioration in the quality of underground 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 mean annual rainfall for the local area is recorded at 1100 millimetres. However, as discussed in Principle (g), the soil type within the application area is mapped as a low risk of both flooding and waterlogging. As previously mentioned, the Shire has also advised that the proposed road upgrades have been designed to improve drainage within the road reserve and reduce the risk of flooding. Noting the soil type, the extent of the proposed clearing, the minimisation methods implemented by the Shire, that some adjacent vegetation within the road reserve will be retained, and the condition of the vegetation, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.

The proposed clearing is not likely to be at variance with this principle.

Planning instruments and other relevant matters.

The clearing permit application was advertised on the Department of Water and Environmental Regulation's website on 11 January 2020, inviting submissions from the public within a 21 day period. No submissions were received in relation to this application. The application was readvertised on 30 March 2020 for a seven day period due to an increase from 0.12 hectares and 16 native trees to 0.12 hectares and 24 native trees. No submissions were received.

One Aboriginal Site of Significance, a registered mythological site along the Blackwood River, is located approximately 100 to 150 metres west of the application area. Given the separation between the application area and the Aboriginal Site of Significance through previously cleared agricultural land, it is not anticipated that the proposed clearing will result in any impacts to the Site. It is the applicant's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

4. References

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.
Department of Biodiversity, Conservation and Attractions (2007-). NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. Available from: <http://naturemap.dpaw.wa.gov.au/> (accessed February 2020).
Department of Biodiversity, Conservation and Attractions (DBCA) (2020). DBCA South West Region comments regarding CPS 8755/1 and CPS 8780/1. DWER Ref: A1876251.
Department of Environment and Conservation (2012a). Chuditch (*Dasyurus geoffroii*) Recovery Plan. Wildlife Management Program No. 54. Department of Environment and Conservation, Perth, Western Australia.

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5. GIS Datasets

- Aboriginal Sites of Significance
- CAWS Clearing Control Catchments (DWER)
- DBCA Managed Estate
- Directory of Important Wetlands
- Geomorphic Wetlands Swan Coastal Plain
- Hydrography, hierarchy
- Hydrography, linear
- IBRA Vegetation Statistics
- Land Degradation datasets
- Local Planning Scheme – Zones and Reserves
- NatureMap
- Perth Groundwater Mapping (DWER)
- Remnant Vegetation
- SAC Bio Datasets
- Soil and Landscape Quality - Risks
- Soils, Statewide
- TPFL Data
- South West Vegetation Complexes
- WA Herbarium Data
- WA TEC/PEC Boundaries and Buffers