



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

| | |
|-------------------------------|-------------------------------|
| Purpose Permit number: | CPS 7010/1 |
| Permit Holder: | Shire of Waroona |
| Duration of Permit: | 6 August 2016 – 6 August 2021 |

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 widening.

2. Land on which clearing is to be done

Buller Road reserve, Waroona (PINs 1346324, 1338838, 1346325, 11604214 and 11604213)
Richards Road reserve, Waroona (PIN 11602663)

3. Area of Clearing

The Permit Holder must not clear more than 1.5 hectares of native vegetation within the areas cross hatched yellow on attached Plan 7010/1.

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.

PART II – MANAGEMENT CONDITIONS

6. Avoid, minimise etc 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.

7. Dieback and weed control

When undertaking any clearing 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;
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared; and
- (d) only move soils in *dry conditions*.

DEFINITIONS

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

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

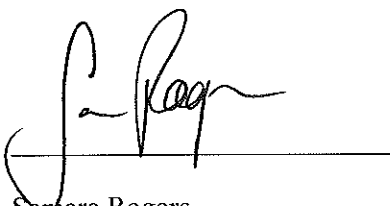
dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

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



Samara Rogers
A/MANAGER
CLEARING REGULATION

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

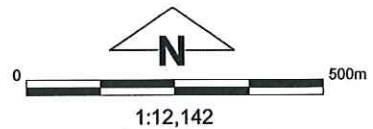
7 July 2016

Plan 7010/1



Legend

-  Localities
-  Roads
-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



Geocentric Datum of Australia 1994

S. Rogers Date *7/7/2016*
S. Rogers

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



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1. Application details

1.1. Permit application details

Permit application No.: 7010/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Shire of Waroona

1.3. Property details

Property: ROAD RESERVE - 11604213, WAROONA
ROAD RESERVE - 11604214, WAROONA
ROAD RESERVE - 1346325, WAROONA
ROAD RESERVE - 11602663, WAROONA
ROAD RESERVE - 1346324, WAROONA
ROAD RESERVE - 1338838, WAROONA

Local Government Authority: WAROONA, SHIRE OF
DER Region: Greater Swan
DPaW District: SWAN COASTAL
LCDC:
Localities: WAROONA

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|-------------------------------|
| 1.5 | | Mechanical Removal | Road construction or upgrades |

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 7 July 2016

Reasons for Decision:

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and it has been concluded that the proposed clearing is at variance to Principle (f), may be at variance to Principle (b) and is not likely to be at variance to any of the remaining clearing principles.

An assessment identified that the application area intersects a multiple use wetland. The vegetation at this location is completely degraded and already impacted by existing infrastructure, such as drains and culverts.

The proposed clearing may impact the environmental values of the Buller Nature Reserve located adjacent to the application area through the spread of weeds and dieback. Weed and dieback management measures will minimise the risk of impacts to the nature reserve.

Through assessment it has been determined that the clearing is unlikely to have any significant environmental impacts. State policies and other relevant policies have been taken into consideration in the decision to grant a clearing permit. The Delegated Officer notes that the road upgrade is required for public benefit in the interest of road safety.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

| Vegetation Description | Clearing Description | Vegetation Condition | Comment |
|--|--|---|--|
| Beard vegetation association 1000: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (<i>Melaleuca</i> spp.) (Shepherd et al., 2001). | The clearing permit application is to clear 1.5 hectares of native vegetation within Buller Road reserve and Richards Road reserve, Waroona, for the purpose of road widening. | Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To | The vegetation description and condition was determined through a site inspection undertaken by the Department of Environment Regulation on 20 May 2016. |
| Hedde vegetation complex – Southern River Complex: Open woodland of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus marginata</i> (Jarrah) - Banksia species with fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) - <i>Melaleuca raphiophylla</i> (Swamp Paperbark) along creek beds (Hedde et al., 1980). | | Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994) | The vegetation within the application area was burnt during the January 2016 Waroona fires. Vegetation communities have the ability to regenerate following natural disturbance events such as fire and with time the environmental values of the application area are likely to return. |

3. Assessment of application against clearing principles

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

Comments

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

The clearing permit application is to clear 1.5 hectares of native vegetation within Buller Road reserve and Richards Road reserve for the purpose of road widening. The vegetation within the application area was burnt during the January 2016 Waroona fires. Vegetation communities have the ability to regenerate following natural disturbance events such as fire and with time the environmental values of the application area are likely to return.

The composition of the vegetation under application is as follows;

The western end of the application area is mapped within a multiple use wetland and the vegetation consists of *Melaleuca preissiana*, *Corymbia calophylla* (marri) and scattered *Xanthorrhoea sp* over a ground cover of weeds (DER, 2016). *Melaleuca preissiana* which are indicative species of a wetland occurring within the application area. The vegetation along this section of the application area is in a completely degraded (Keighery, 1994) condition (DER, 2016) and there are areas that comprised of no native vegetation.

The central section of the application area consists of banksia, sheoak and marri over an emerging ground cover of *Hibbertia hypericoides*, *Stirlingia latifolia*, *Xanthorrhoea preissii* and *Drosera spp* (DER, 2016). The vegetation along this section of the application area is in a completely degraded to very good (Keighery, 1994) condition (DER, 2016).

The eastern section of the application area consists of marri and scattered *macrozamia sp* over a ground cover of weeds. The vegetation along this section of the application area is in a completely degraded (Keighery, 1994) condition (DER, 2016) and there are areas that comprised of no native vegetation.

A total of 24 priority flora species have been recorded in the local area (10 kilometre radius). The closest record is a priority 3 species (*Isopogon drummondii*) that has been mapped approximately 1.1 kilometres from the application area on the same soil and vegetation type. An additional priority 3 (*Boronia capitata subsp. gracilis*) and priority 4 (*Caladenia speciose*) flora species have also been mapped within the same soil and vegetation type as the application area. Priority 3 listed flora species are known from several locations, and these species do not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat (Jones, 2015). Priority 4 listed flora species are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change (Jones, 2015). Considering this it is unlikely the clearing of the application area will impact on the conservation status of these species.

Five rare flora species have been mapped within the local area. The closest of which has been mapped approximately 1.1 kilometres from the application area on the same soil and vegetation type. Throughout its range this rare flora species tends to favour areas of dense undergrowth. It prefers soils with deep grey-white sand usually associated with the Bassendean sand-dune system (DEC, 2009). Pre-fire imagery indicates that the application area does not consist of a dense understory therefore it is unlikely to provided habitat for the rare flora species. The four remaining rare flora species have been mapped as occurring more than five

kilometres from the application area and do not exist within the same vegetation and soil type as the application area.

Eight fauna species listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* have been recorded within the local area (10 kilometre radius). The central section of the application area comprises high quality foraging habitat for black cockatoo species and is less than one hectare (DER, 2016). Considering the size and linear nature of the application area and being located adjacent to Buller Nature Reserve, which contains 300 hectares of similar or better quality habitat, it is unlikely the proposed clearing will significantly impact on black cockatoo foraging habitat.

An ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al. 2009) intersects the application area. The SWREL report (Molloy et al. 2009) defines an ecological linkage 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". As the application area intersects this ecological linkage, the clearing of the application area may impact the ecological process of the linkage to adjacent conservation reserves. Noting the size and linear nature of the application area and that the existing road already intersects the linkage, impacts are not likely to be significant.

No threatened or priority ecological communities have been mapped within the application area.

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

Methodology References:
DEC (2009)
DER (2016)
Jones (2015)
Keighery (1994)
Molloy et al. (2009)

GIS Databases:
- SAC Bio Datasets - accessed June 2016

(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.

Comments Proposed clearing may be at variance to this Principle

The clearing permit application is to clear native vegetation within three metres on both sides of the current road, which includes the table drains and batters over a linear distance of approximately 2.4 kilometres.

Eight fauna species listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* have been recorded within the local area (10 kilometre radius). They are Carnaby's cockatoo (*Calyptorhynchus latirostris*), forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*), numbat (*Myrmecobius fasciatus*), southern brush-tailed phascogale (*Phascogale tapoatafa subsp. tapoatafa*), noisy scrub-bird (*Atrichornis clamosus*), chuditch (*Dasyurus geoffroii*) and carter's freshwater mussel (*Westralunio carteri*) (Parks and Wildlife, 2007-).

Carnaby's cockatoo is listed as endangered and Baudin's cockatoo and forest red-tailed cockatoo are listed as vulnerable under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Black cockatoos breed in large hollow-bearing trees, generally within woodlands or forests or former woodland or forest now present as isolated trees. These species nest in hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, York gum, powderbark, bullich and blackbutt. Black cockatoos have a preference for feeding habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as Banksia sp. Hakea sp. and Grevillea sp (Commonwealth of Australia 2012).

A site inspection of the application area identified potential cockatoo breeding trees (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. For most tree species, suitable DBH is 500 millimetres. For salmon gum and wandoo, suitable DBH is 300 millimetres). Of the potential cockatoo breeding trees identified within the application area none were observed to contain hollows (DER, 2016).

Basic ecological theory, expert opinion and recent evidence, suggests that the remaining native and pine plantation feeding habitat on the Swan Coastal Plain is just sufficient to support the current population of Carnaby's cockatoo. Therefore, it is considered that any reduction in feeding habitat will result in a reduction in the carrying capacity of the region and therefore a decline in the population of black cockatoo. A recent study involving population analysis modelling suggests that if clearing continues to occur at its current rate without effective habitat restoration, the species is likely to decline to extinction in less than 20 years (Cockerill et al. 2013).

The central section of the application area comprises high quality foraging habitat for black cockatoo species and is less than one hectare (DER, 2016). Considering the size and linear nature of the application area and being located adjacent to Buller Nature Reserve, which contains 300 hectares of similar or better quality habitat, it is unlikely the proposed clearing will significantly impact on black cockatoo foraging habitat.

An ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al. 2009) intersects the application area. The SWREL report (Molloy et al. 2009) defines an ecological linkage 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". As the application area intersects this ecological linkage the clearing of the application area may impact the ecological process of the linkage to adjacent conservation reserves. Noting the size and linear nature of the application area and that the existing road already intersects the linkage, impacts are not likely to be significant.

On the basis that the application area contains suitable habitat for black cockatoo's, the application area may comprise of significant habitat for indigenous fauna.

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

Methodology References:
Cockerill et al. (2013)
Commonwealth of Australia (2012)
DER (2016)
Molloy et al. (2009)
Parks and Wildlife (2007-)

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
Five rare flora species have been recorded in the local area (10 kilometre radius), however only one has been recorded within the same soil and vegetation type as the application area. This species has been recorded approximately 1.1 kilometres north of the application area within the Buller Nature Reserve.

This rare flora species occurs in areas of mixed woodland of jarrah, candlestick banksia (*Banksia attenuata*), holly banksia (*B. ilicifolia*) and firewood banksia (*B. menziesii*) with scattered sheoak (*Allocasuarina fraseriana*) and marri over dense shrubs of blueboy (*Stirlingia latifolia*), Swan River myrtle (*Hypocalymma robustum*), yellow buttercups (*Hibbertia hypericoides*), buttercups (*H. subvaginata*), balga (*Xanthorrhoea preissii*), coastal jugflower (*Adenanthos cuneatus*) and Conostylis species (DEC, 2009). Throughout its range the species tends to favour areas of dense undergrowth. Soil is usually deep grey-white sand usually associated with the Bassendean sand-dune system (DEC, 2009).

The application area may contain suitable habitat for this species, however a review of pre-fire imagery indicates that the application area does not consist of suitable dense understorey. Considering this, the application area is unlikely to be necessary for the continued existence of rare flora.

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

Methodology References:
DEC (2009)

GIS Databases:
- SAC Bio Datasets - accessed June 2016

(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.

Comments **Proposed clearing is not likely to be at variance to this Principle**
Seven threatened ecological communities (TEC's) have been recorded within 10 kilometres of the application area, with the closest TEC mapped approximately 4.3 kilometres away. This TEC is referred to as herb rich shrublands in clay pans. A DER (2016) site inspection identified the vegetation within the application area is not a representation of this TEC.

Given the distance of the mapped TECs, and linear nature of the application area, it's not likely that the proposed clearing will impact on these communities.

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

Methodology GIS Databases:
- SAC Bio Datasets - accessed June 2016

(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.

Comments

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

The application area is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 39 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2015).

The application area is mapped as Beard vegetation association 1000. This vegetation association has approximately 25 per cent of its pre-European extent remaining in the Swan Coastal Plain bioregion (Government of Western Australia, 2015). Approximately 19 per cent of this vegetation association is held within conservation estate.

The application area has also been mapped as Heddle vegetation complex 'Southern River' which retains approximately 18 per cent of its pre-European extent. Approximately two per cent of this complex is held in conservation estate (Parks and Wildlife, 2015).

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). Both mapped vegetation types fall below this level.

Aerial imagery indicates that the local area (10 kilometre radius) retains approximately 15 per cent vegetation.

An ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al. 2009) intersects the application area. The SWREL report (Molloy et al. 2009) defines an ecological linkage 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". As the application area intersects this ecological linkage the clearing of the application area may impact the ecological process of the linkage to adjacent conservation reserves. Noting the size and linear nature of the application area and that the existing road already intersects the linkage, impacts are not likely to be significant.

Noting the application area contains underrepresented vegetation complexes and the local area has been highly cleared, it is not considered as a significant remnant of native vegetation. Given this, the proposed clearing is not likely to be at variance to this principle.

| | Pre-European (ha) | Current Extent (ha) | Remaining (%) | Extent in Parks and Wildlife Managed Lands (%) |
|---|-------------------|---------------------|---------------|--|
| IBRA Bioregion* | | | | |
| Swan Coastal Plain | 1501221 | 579161 | 39 | 37 |
| Shire* | | | | |
| Waroona, Shire of | 83233 | 44082 | 53 | 79 |
| Beard Vegetation Association in Bioregion* | | | | |
| 1000 | 94175 | 23767 | 25 | 19 |
| Heddle Vegetation Complex** | | | | |
| Southern River Complex | 57970 | 10698 | 18 | 2 |

Methodology

References:
 Commonwealth of Australia (2001)
 Government of Western Australia (2015)*
 Molloy et al. (2009)
 Parks and Wildlife (2015)**

GIS Databases:
 - Pre-European Vegetation

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

Comments

Proposed clearing is at variance to this Principle

The western end of the application area is mapped within a multiple use wetland. Multiple use category wetlands are wetlands with few important ecological attributes and functions remaining. Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare (Water and Rivers Commission, 2001).

Melaleuca preissiana which are indicative species of a wetland occurring within the application area. The area where this species occur is in a completely degraded (Keighery, 1998) condition (DER, 2016).

Other wetlands including conservation category and resource enhancement wetlands are mapped within 10 kilometres of the application area. Wetlands not mapped within the application area are unlikely to be impacted due to the linear nature of the application area and the distances between the application area and the mapped wetlands.

Given the above, the proposed clearing is at variance to this principle. The impacts of the proposed clearing on wetlands are not considered significant.

Methodology

References:

DER (2016)
Keighery (1994)
Water and Rivers Commission (2001)

GIS Datasets:

- Geomorphic Wetlands, Swan Coastal Plain
- Hydrography linear

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

Comments

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

There are two soil types mapped within the application area. Ya26 soils are described as gently undulating with calcareous mounds or rises with the chief soils being sandy alkaline yellow mottled soils (Northcote et al., 1960-68). Cb38 soils are described as sandy dunes with intervening sandy and clayey swamp flats with chief soils being leached sands, sometimes with a clay horizon below five feet, on the dunes and sandy swamps (Northcote et al., 1960-68).

Land degradation in the form of wind erosion is unlikely to occur as a result of the clearing given the linear nature of the application area.

A site inspection of the application area noted the soil types present were predominately grey to white sands (DER, 2016). These types of soils are well drained and given the flat topography of the landscape, the proposed clearing is unlikely to cause land degradation in the form of water erosion.

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

Methodology

References:

DER (2016)
Northcote et al. (1960-68)

GIS Datasets:

-Soils, Statewide

(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.

Comments

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

Approximately half of the application area is adjacent to the Buller Nature Reserve. The nature reserve occupies an area of approximately 300 hectares.

The proposed clearing may impact upon the nature reserve by increasing edge effects such as increased light and the spread of weeds and dieback. Weed and dieback mitigation measures will assist in minimising this risk.

An ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al. 2009) intersects the application area. The SWREL report (Molloy et al. 2009) defines an ecological linkage 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". As the application area intersects this ecological linkage, the clearing of the application area may impact the ecological process of the linkage to adjacent conservation reserves. Noting the size and linear nature of the application area and that the existing road already intersects the linkage, impacts are not likely to be significant.

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

Methodology References:
Molloy et al. (2009)

GIS Datasets:
- Parks and Wildlife Tenure

(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.

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

Nineteen wetlands have been mapped within the local area (10 kilometre radius). A multiple use wetland has been mapped within the western end of the application area and the vegetation under application in this section is in a completely degraded (Keighery, 1994) condition (DER, 2016). Considering this and the linear nature of the application area it is not likely the proposed clearing will impact on quality of surface or ground water associated to the multiple use wetland.

Groundwater salinity mapped within the application area is between 500 and 1000 total dissolved solids milligrams per litre (marginal). Given this low salinity level, the proposed clearing is not likely to lead to a perceptible rise in the water table and thus an increase in groundwater salinity levels.

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

Methodology References:
DER (2016)
Keighery (1994)

GIS Datasets:
- Geomorphic Wetlands, Swan Coastal Plain
- Hydrography linear
- Salinity Statewide

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

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

Given the linear nature of the application area, 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 to this principle.

Methodology GIS Datasets:
- Geomorphic Wetlands, Swan Coastal Plain
- Hydrography linear

Planning instruments and other relevant matters.

Comments The road is required to be upgraded to service the Waroona landfill site for the purpose of handling and burying waste resulting from the January 2016 Waroona fires.

The application was advertised in the West Australian newspaper on the 18 April 2016. No public submissions were received in relation to this application.

No Aboriginal sites of significance are mapped within the application area.

Methodology GIS Datasets:
- Aboriginal Sites of Significance

4. References

- Cockerill, A., Lambert, T., Conole, L. & Pickett, E. (2013). Carnaby's cockatoo population viability analysis model report. Technical report, Report funded by the Department of Sustainability, Environment, Water, Population, and Communities through the Sustainable Regional Development Program. Parsons Brinckerhoff, Perth.
- 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. Carnaby's cockatoo (endangered) *Calyptorhynchus latirostris* Baudin's cockatoo (vulnerable) *Calyptorhynchus baudinii* Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*. Australia.
- DEC (2009). Grand Spider Orchid (*Caladenia huegelii*) Recovery Plan. Commonwealth Department of the Environment, Water, Heritage and the Arts, Canberra.
- DER (2016) Site Inspection Report for Clearing Permit Application CPS 7010/1, Shire of Waroona. Site inspection undertaken 20 May 2016. Department of Environment Regulation, Western Australia (RefA1112113).
- Government of Western Australia (2015) 2015 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full CPS 7010/1

- Report). Current as of May 2016. WA Department of Parks and Wildlife, Perth.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
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- Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed May 2016
- Parks and Wildlife (2015) 2015 South West Forest and Swan Coastal Plain Vegetation Complex Statistics: a report prepared for the Department of Environment Regulation. Current as of March 2015. Department of Parks and Wildlife, Perth, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.