



1. Application details

1.1. Permit application details

Permit application No.: 1347/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Nannup

1.3. Property details

Property: ROAD RESERVE (EAST NANNUP 6275)
Local Government Area: Shire Of Nannup
Colloquial name: Brockman Highway

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
15		Mechanical Removal	Road construction or maintenance

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
Vegetation types in the areas under application have been recorded in table format under principle E due to space restrictions. Most vegetation types are of 'Least Concern' (>50%) in terms of biodiversity conservation (Department of Natural Resources and Environment, 2002). The western end of Chalwell Rd falls into Beard Vegetation type '999' with 11.8% remaining and Heddle complex 'Darling Scarp ' with 36.9% remaining, giving the area a conservation status between vulnerable and depleted.	The vegetation under application ranges from very good to excellent condition (Keighery, 1994). The purpose of the application is for widening of three roads by 2-3 metres on either side.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Site visit photos taken in September 2006 show the roadside vegetation under application.

3. Assessment of application against clearing principles

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

Comments **Proposal is not likely to be at variance to this Principle**
Aerial mapping and Site photographs shows the vegetation within the proposed clearing areas to be of a very good to excellent condition (Keighery, 1994), and is defined as being predominantly, tall open forest of *Corymbia calophylla-Eucalyptus marginata* subsp. *marginata*. The areas proposed to be cleared are found in existing road reserves, surrounded by large and contiguous state forest.

The proposed areas are long and linear in shape indicating possible edge effect disturbance.

Due to the high level of disturbance within the sites and the small, linear area to be cleared, it is unlikely that the proposed clearing areas contain a higher level of biodiversity than that found locally in the nearby reserves which are managed for conservation purposes.

Methodology DEC Site visit (2006)
EPA (2000)
Keighery (1994)
GIS Databases:
- Mattiske Vegetation - CALM 23/03/98
- CALM Managed Lands and Waters - CALM 01/06/04

(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 **Proposal may be at variance to this Principle**

The area proposed to be cleared lies within a larger area of intact native vegetation. It is unlikely that the proposed clearing, which is three separate, linear areas with a cumulative total of 15ha, would have a significant impact on native fauna species as this habitat type is well represented in the local area.

Biodiversity Coordination Section (BCS), DEC, stated that 'Vegetation may have potential habitat value for Southern Brush tailed Phascogale, Crested shrike-tit, Forest Red-tailed black Cockatoo and/or Baudin's Black Cockatoo'. BCS also advised that mature hollow bearing trees of all sizes should not be removed until it has been checked for fauna by a fauna expert.

Fauna management conditions will be placed on the permit resulting in a requirement to undertake a fauna survey and translocation where required.

Methodology Site Visit, 2006
GIS Database:
- Pemberton 1.4m Orthomosaic
- Busselton 50cm Orthomosaic

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

Comments **Proposal is not likely to be at variance to this Principle**

Several important taxa were found within a 10km radius of the clearing sites.

- * 3 x Declared Rare Flora (DRF) - *Caladenia harringtoniae*, *Drakaea micrantha* and *Dryandra squarrosa* subsp. *argillacea*
- * 2 x Priority 1 Flora - *Caladenia uliginosa* subsp. *patulens* and *Carex tereticaulis*
- * 2 x Priority 2 Flora - *Eucalyptus relictus* and *Gastrolobium whicherense*
- * 5 x Priority 3 Flora - *Synaphea otiosigma*, *Acacia semitrullata*, *Conospermum paniculatum*, *Isopogon formosus* subsp. *dasylopes* and *Rhodanthe pyrethrum*
- * 9 x Priority 4 Flora - *Caladenia arrecta*, *Stylidium plantagineum*, *Reedia spathacea*, *Aponogeton hexatepalus*, *Caladenia plicata*, *Chamelaucium erythrochlorum*, *Franklandia triaristata*, *Pultenaea skinneri* and *Villarsia submersa*

Most taxa are found to exist in within the same broad Beard vegetation type, however Mattiske mapping shows there to be some variation between vegetation types of important taxa and the proposed clearing sites.

The Declared Rare Flora, *Caladenia harringtoniae*, has been found along the Brockman Hwy clearing site, and the DEC Biodiversity Coordination Section has advised that is found throughout the Shire of Nannup. Due to this, a condition has been imposed to manage the identifying of DRF and the restrictions on clearing activities in relation to this species..

The Priority Species identified are within state forest boundaries and have a well represented vegetation type in the local area. Given the above and the small linear scale of roadside clearing the proposed clearing maybe at variance to this principle

Methodology CALM report (2006).
GIS Databases:
- Declared Rare and Priority Flora List - CALM 01/07/05
- Pre-European vegetation - DA 01/01
- Mattiske Vegetation - CALM 24/03/98
- Herbarium Specimen Collection Database y CALM (CALM 2004)*
- Threatened Flora Data Management System - CALM (CALM 2004)*.

(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 **Proposal is not likely to be at variance to this Principle**

There are no known occurrences of Threatened Ecological Communities within a 10km radius of each proposed

clearing sites

Methodology GIS Database:
- Threatened Ecological Communities - CALM 12/04/05

(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 Proposal is not likely to be at variance to this Principle

The areas under application are mapped within Warren and Jarrah Forest IBRA Region of which there is 86.8% and 58.7% consecutively remaining. Native vegetation extent within the Shire is 94%. Mapped vegetation complexes found within the clearing areas are shown below in Table 1.

	Veg Type	Pre - European	Current	Remaining %	Conservation
	Status				
Beard Unit	1	87,394	57,843	66.2	least concern
	3	3,046,385	2,197,837	72.1	least concern
	999	275,380	32,451	11.8	Vulnerable
Heddle	Darling	49,338	18,227	36.9	Depleted
	Scarp				
Mattiske	BE1	767,844	657,120	85.6	least concern
	BK	213,625	199,647	93.5	least concern
	BN	21,344	14,253	66.8	least concern
	KI	1,022,353	995,087	97.3	least concern
	LF	201,286	164,947	81.9	least concern
	LY	14,290	11,198	78.4	least concern
	WH1	183,280	142,945	78	least concern
	YN1	195,125	157,050	80.5	least concern

The western end of the Chalwell Rd clearing proposal that lies within the beard vegetation type 999, which has a conservation status of vulnerable* (10-30%) (Department of Natural Resources and Environment, 2002) and is described as being medium woodland;marri. The Shire of Nannup holds approx. 7096ha of this vegetation type, 27% of which is in secure tenure.

Revegetation conditions on exhausted gravel extraction sites, within the same vegetation complexes as the areas under application and weed and dieback management conditions have been imposed.

Additionally the shire have indicated that the clearing to be undertaken within the low vegetation representation area on Chalwell Road consists of approximately 30 mature trees

Methodology Department of Natural Resources and Environment, 2002
Sheperd at al 2001
Hopkins et al 2001
Heddle et al 1980
Havel (2002)
GIS Databases:
- Mattiske Vegetation - CALM 24/03/98
- Heddle Vegetation Complexes - DEP 21/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Pre-European Vegetation - DA 01/01
- Local Government Authorities y DLI 8/07/04

(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 Proposal is not likely to be at variance to this Principle

Mapping shows that Nannup Brook crosses the Brockman Hwy towards the western end and has been previously diverted under a bridge. There are no other mapped watercourses related to the areas under application.

There are no mapped wetlands within a 10km radius of the proposed clearing.

To ensure that water movement in dieback areas is diverted away from healthy vegetation, dieback management conditions have been imposed for all proposed clearing areas.

Methodology DEC site visit (2006)
GIS Databases:

- EPP Lakes - DEP 01/12/92
- ANCA Wetlands - CALM 08/01
- Hydrography, Linear (Hierachy) - DOW
- EPP South West Agricultural Zone Wetlands - DEP 10/10/01

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

Comments Proposal is not likely to be at variance to this Principle

Mapping shows that the landscape surrounding the area under application can be described as dissected plateau of hilly relief with the chief soils being a hard acidic, yellow mottled soil containing large amounts of ironstone gravel. Clearing vegetation within the road reserve's will not alter the soil structure and is unlikely to cause land degradation issues such as nutrient loading or water logging. The proposal to widen existing roads may cause some short term land degradation issues in terms of water logging and soil erosion during works. However these issues should be minimal as the existing roads already have road side infrastructure in place to prevent land degradation associated with roads i.e table drains and culverts

- Methodology** GIS Databases:
- Soils, Statewide - DA 11/99
 - Topographic Countours, Statewide - DOLA 12/09/02

(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 Proposal is not likely to be at variance to this Principle

The Road Reserves of River Rd and Brockman Hwy run through Millbrook, Ellis Creek, Nannup and North Donnelly state forests. The eastern end of Chalwell Rd runs through a timber reserve. The eastern end of Brockman Hwy also crosses through a System 6 reserve. Due to the small and linear nature of the clearing, which will occur in considerably large and contiguous areas that are managed for conservation values, the risk to the environmental values are thought to be minimal.

- Methodology** GIS Databases:
- CALM Managed Lands and Waters - CALM 01/07/05
 - System 6 Conservation Reserves - DEP 06/95
 - System 1 to 5 and 7 to 12 Areas - DEP 06/95

(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 Proposal is not likely to be at variance to this Principle

An average of the groundwater monitoring sites within a 10km radius of the proposed clearing showed a 52m groundwater level. Salinity in the area ranges between 500-1000mg/L indicating freshwater. There is an average annual rainfall of 1000-1100mm with an evaporation rate of 1200mm per year. Given these indicators and the small isolated scale of proposed clearing it is not likely that deterioration in the quality of surface or underground water will occur.

- Methodology** GIS Databases:
- WIN GroundwaterSites, Monitoring - non DEWCP (current)
 - Groundwater Salinity, Statewide - 22/02/00
 - Rainfall, Mean Annual - BOM 30/09/01
 - Evaporation Isopleths - BOM 09/98

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

Comments Proposal is not likely to be at variance to this Principle

Due to the scale and nature of the proposed clearing it is unlikely to exacerbate flooding in the local area.

- Methodology** GIS Databases:
- Topographic Contours, Statewide - DOLA 12/09/02

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

No submissions from the public have been received.

There is a Native Title Claim over the area under application. The Department of Environment and Conservation's advertising of the application in the West Australian newspaper constitutes legal notification of the native title representative body for the purpose of the future act procedures under the Native Title Act 1993.

No response was received from the representative body.

The Department advises that the proponent contact the relevant authorities to seek advice on whether or not the road works will impact upon the Aboriginal Site of Significance listed within the area under application.

The eastern end of Brockman Hwy is within a gazetted Rights in Water and Irrigation (RIWI) Act 1913 Area. The proposed clearing does not require regulation under the RIWI Act 1913. There is no works approval required for the proposed works.

Methodology GIS Databases:
 - Aboriginal Sites of Significance - DIA 28/02/03
 - Native Title Claims - DLI 07/11/05
 - RIWI Act, Areas - WRC 05/04/02

4. Assessor's recommendations

Purpose	Method Applied	area (ha)/ trees	Decision	Comment / recommendation
Road construction or maintenance	Mechanical Removal	15	Grant	It is recommended the areas proposed to be cleared are granted. Although 2 principles (b) and (e) may be at variance to the clearing principles conditions imposed on the clearing permit should mitigate any long term effect of the clearing of native vegetation

5. References

- Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC 4357
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.
- Havel, J.J. and Mattiske Consulting Pty Ltd (2002) Review of management options for poorly represented vegetation complexes, Conservation Commission.
- 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.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.
- 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.
- Site Visit Report (2006), Department of Environment and Conservation (DEC), Western Australia. TRIM ref SWB3793

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DoE)

