



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1836/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Shire of Ngaanyatjarraku

### 1.3. Property details

Property: LOT 8 ON PLAN 91735  
 LOT 9 ON PLAN 91722  
 Local Government Area: Shire Of Ngaanyatjarraku  
 Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5		Mechanical Removal	Road construction or maintenance
6.2		Mechanical Removal	Extractive Industry
11.3		Mechanical Removal	Road construction or maintenance
25.1		Mechanical Removal	Extractive Industry

## 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 18: Low woodland; mulga ( <i>Acacia aneura</i> ). (Hopkins et al. 2001; Shepherd et al. 2001).	The proposed clearing is for road realignment (16.3 ha) and gravel extraction (31.3 ha) within the Shire of Ngaanyatjarraku. The areas under application are for the purpose of the realignment of Patjarr Access Road (2km long) and Jameson-Blackstone Road (4.5km long) and four gravels pits (100m radius and 200m radius) for gravel extraction.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation under application is considered to be in very good condition based on information from the proponent (2007) (TRIM Ref ED1794), which states there was grazing in the area in the 1980's, but since then stock has been removed and the areas have fully recovered.
	The vegetation proposed to be cleared is described as Spinifex ( <i>Triodia</i> species), Mulga ( <i>Acacia aneura</i> ) and Flinders Grass ( <i>Iseilema</i> spp.) (Information provided by the proponent 2007) (TRIM Ref ED1794).		

## 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**  
 The areas under application are located within the Ranges of the Western Desert (Aboriginal Reserve 21471 and Aboriginal Reserve 17614). Aboriginal Reserve 17614 is an area listed on the Register of the National Estate. The Ranges, which extend over 8,000,000ha, are registered for natural values and are recognised as having 'Indigenous values of National Estate significance'. Given the linearity (road works) and size (road works and gravel pits) of the areas under application (47.6ha) relative to the area on the Register, it is unlikely that the clearing as proposed would have a significant impact on the natural values of the wider area.

The areas under application (proposed road realignments and gravel pits) are adjacent to existing roads, Patjarr

Access Road and Jameson-Blackstone Road and are therefore likely to have been subject to some disturbance. Further, the proposed two sections of road works are long and linear in shape, extending over a total area of 6.5km in length.

Given the existing road and associated infrastructure, it is considered unlikely the areas under application comprise a high level of biological diversity.

**Methodology** Reference:  
Information provided by the proponent (2007) (TRIM Ref ED1794)  
GIS databases:  
- System 1 to 5 and 7 to 12 Areas - DEP 06/95  
- Register of National Estate - EA 28/01/03

**(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 is not likely to be at variance to this Principle**  
The areas under application are located within Aboriginal Reserve 17614 and Aboriginal Reserve 21471, areas covering approximately 8,000,000ha, with extensive, well-represented habitat that will offset habitat loss arising from the proposed clearing. The vegetation proposed to be cleared for roadworks and gravel pits is adjacent to the existing roads, Patjarr Access Road and Jameson-Blackstone Road, within areas previously disturbed. It is therefore considered that the vegetation in these areas is not likely to be necessary for the maintenance of significant habitat for fauna indigenous to Western Australia.

A recent assessment for a nearby clearing proposal within the same local area (100km radius) included a report from the Biodiversity Coordination Section, DEC (2006), which advised that there are few fauna records in the local area (100km radius) and that comparable habitat is likely to be found in the surrounding areas. Therefore the clearing as proposed is not likely to be at variance to this Principle.

**Methodology** References:  
Biodiversity Coordination Section, DEC (DEC TRIM Ref ED1170)  
Information provided by the proponent (2006) (TRIM Ref ED1794)  
GIS database:  
- Cadastre - DLI 1/12/05

**(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**  
There are no known records of Declared Rare Flora (DRF) or Priority species in the local area (100km radius). The nearest recorded DRF (*Acacia denticulosa*) is located over 250km, south south-west from the proposed clearing.

The areas under application (proposed road realignments and gravel pit) are adjacent to existing roads, Patjarr Access Road and Jameson-Blackstone Road and are therefore likely to have been subject to some disturbance.

Given the above, it is unlikely that the vegetation proposed to be cleared includes or is necessary for the continued existence of rare flora.

**Methodology** GIS Database:  
- SAC Bio Datasets 160507

**(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 records of Threatened Ecological Communities (TECs) within close proximity of the areas under application with the nearest recorded TEC located over 700km from the proposed clearing. It is therefore unlikely that the vegetation proposed to be cleared comprises the whole or part of or is necessary for the maintenance of a TEC.

**Methodology** GIS Database:  
- SAC Bio Datasets 160507

**(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 at variance to this Principle**  
The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which

includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia 2001).

The Vegetation Complex within the area under application is above the recommended minimum of 30% representation.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	Conservation status***	In reserves/DEC managed land
IBRA Bioregions - Central Ranges*	5 132 641	5 132 641	100.0	Least Concern	
Shire of Ngaanyatjarraku	No information available				
Vegetation type: Beard: Unit 18**	19 892 436	19 890 348	100.0	Least Concern	5.8%

\* (Shepherd et al. 2001)

\*\* (Adapted from: Shepherd et al. 2001)

\*\*\* (Department of Natural Resources and Environment 2002)

Given there is 100% of remnant vegetation remaining within the Region and there is 100% (Beard 18) (Adapted from: Shepherd et al. 2001) of native vegetation remaining, the vegetation proposed to be cleared is not significant as a remnant of native vegetation in the surrounding area.

However, it is noted that the Beard Complex is not well represented in reserves.

**Methodology** References:  
Commonwealth of Australia (2001)  
Department of Natural Resources and Environment (2002)  
Hopkins et al. (2001)  
Shepherd et al. (2001)  
Adapted from: Shepherd et al (2001)  
GIS Databases:  
- Pre-European Vegetation - DA 01/01  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

**(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 at variance to this Principle**  
There are no watercourses within the areas under application with the nearest watercourse, a minor non-perennial watercourse, approximately 600m south of one of the areas under application (Section on Patjarr access road). Therefore the vegetation within the areas under application is not considered to be growing in, or in association with a watercourse or wetland.

**Methodology** GIS Databases:  
- Hydrography, linear - DOE 01/02/04  
- ANCA wetlands - CALM 08/01

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

**Comments** **Proposal may be at variance to this Principle**  
A recent assessment for a nearby clearing proposal within the same local area (100km radius) included DAFWA (2006) advice, which outlined that the landscape of the areas under application and surrounds can be described as a dune-field with sandy soils supporting Spinifex (*Triodia* spp.) together with some gravels supporting wattle scrub (*Acacia* spp.). DAFWA (2006) advised that the nearby clearing proposal was unlikely to cause appreciable land degradation.

In addition, DAFWA (2006) advised that some minor initial wind erosion may occur on the cleared sandy soils adjacent to the road. However, standard revegetation techniques using cleared vegetative material should stabilise these soils. DAFWA (2006) recommended that on completion of road works, gravel pit floors should be contour ripped to aid revegetation.

The proposed clearing of up to 31.3 hectares for gravel extraction may cause some short term land degradation issues related to soil erosion during works. To minimise long term land degradation associated with gravel extraction a condition has been imposed requiring revegetation on completion of the extraction.

**Methodology** Reference:

**(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 areas under application are located within the Ranges of the Western Desert (Aboriginal Reserve 21471 and Aboriginal Reserve 17614). Aboriginal Reserve 17614 is an area listed on the Register of the National Estate. The Ranges, which extend over 8,000,000ha are registered for natural values and are recognised as having 'Indigenous values of National Estate significance'. Heritage clearance surveys were undertaken for areas of proposed road works and gravel pits within the Shire of Ngaanyatjaraku in March 2007. As such, no heritage clearance requirements were listed for any proposed works within the Shire, including this proposal (Information provided by the proponent 2007). Furthermore, given the linearity and size of the areas under application (47.6 ha) relative to the area on the Register, it is unlikely that the clearing as proposed would have a significant impact on the natural values of the wider area.

The nearest DEC managed lands are located over 50km north-west (Gibson Desert Nature Reserve) and over 250km south south-west (Neale Junction Nature Reserve and Yeo Lake Nature Reserve) of the proposed clearing. Given the distance between the areas under application and the DEC managed lands the proposed clearing is not likely to have an impact on the environmental values of the surrounding conservation area.

**Methodology** Reference:  
Information provided by the proponent (2006) (TRIM Ref DOC18995)  
GIS databases:  
- System 1 to 5 and 7 to 12 Areas - DEP 06/95  
- DEC Managed Lands and Water - CALM 01/07/05  
- Register of National Estate - EA 28/01/03

**(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 at variance to this Principle**

With an average annual rainfall of approximately 200mm-250mm and an annual evaporation rate of approximately 3,400mm-3,500mm there is likely to be little surface flow during normal seasonal rains. In addition, there are no drainage lines or any watercourses within the areas under application.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater table, which at this site is between 1,000 mg/l and 3,000 mg/l and is considered to be marginal to brackish. The proposed clearing of 47.6 ha native vegetation for this proposal is unlikely to have an impact on regional groundwater considering the relatively small size and isolation of the proposal and the magnitude of the Musgrave Groundwater Province (3,240,400ha).

**Methodology** GIS Databases:  
- Evaporation Isoleths - BOM 09/98  
- Isohyets - BOM 09/98  
- Groundwater Salinity, Statewide - 22/02/00  
- Hydrography, linear - DOE 01/02/04  
- Groundwater Provinces - WRC 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 at variance to this Principle**

With an average annual rainfall of approximately 200mm-250mm and an annual evaporation rate of approximately 3,400mm-3,500mm there is little surface flow during normal seasonal rains. Given there is no surface drainage within the areas under application the rainfall infiltration rates will be high; therefore, the proposed clearing is not likely to cause or increase the incidence or intensity of flooding.

**Methodology** GIS Databases:  
- Evaporation Isoleths - BOM 09/98  
- Isohyets - BOM 09/98  
- Hydrography, linear - DOE 01/02/04

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

**Comments**

The areas under application are within the Proclaimed Groundwater Area of East Murchison. Therefore any abstraction of groundwater would require a licence. However, considering this application is only for Road Upgrades and Gravel Extraction, no licence will be necessary.

There is no other RIWI Act Licence, Works Approval or EPA Act Licence that affects the area under application.

There is one 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.

- Methodology** GIS databases:
- Cadastre - DLI 1/12/05
  - Native Title Claims - DLI 7/11/05
  - RIWI Act, Groundwater Areas - WRC 13/06/00
  - RIWI Act, Surface Water Areas - WRC 18/10/02

#### 4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Extractive Industry	Mechanical Removal	6.2	
Extractive Industry	Mechanical Removal	25.1	
Road construction or maintenance	Mechanical Removal	5	The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986. The clearing as proposed may be at variance to Principle (g) and is not likely to be at variance to the remaining Principles.
Road construction or maintenance	Mechanical Removal	11.3	

#### 5. References

- Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Biodiversity Coordination Section, DEC (2006) Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM Ref ED1170
- Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- DAFWA (2006) Land degradation advice. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. TRIM Ref DOC9055
- 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.
- 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.
- 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.

#### 6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
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

