



1. Application details

1.1. Permit application details

Permit application No.: 1607/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Menzies

1.3. Property details

Property:

- LOT 15 ON PLAN 238440 (ULARRING 6436)
- UNALLOCATED CROWN LAND (ULARRING 6436)
- LOT 20 ON PLAN 238513 (ULARRING 6436)
- LOT 18 ON PLAN 238461 (MENZIES 6436)
- LOT 16 ON PLAN 238462 (ULARRING 6436)
- UNALLOCATED CROWN LAND (ULARRING 6436)
- UNALLOCATED CROWN LAND (ULARRING 6436)
- LOT 122 ON PLAN 30173 (MENZIES 6436)
- UNALLOCATED CROWN LAND (ULARRING 6436)
- UNALLOCATED CROWN LAND (ULARRING 6436)
- LOT 43 ON PLAN 220589 (MENZIES 6436)
- RAILWAY RESERVE (MENZIES 6436)
- LOT 30 ON PLAN 30618 (SANDSTONE 6639)
- LOT 14 ON PLAN 238440 (ULARRING 6436)
- WATER FEATURE (ULARRING 6436)
- UNALLOCATED CROWN LAND (KOOKYNIE 6431)
- LOT 71 ON PLAN 255719 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 41 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 42 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 43 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 44 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 33 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 34 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 35 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 36 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 37 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 38 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 39 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 51 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 9 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 10 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 11 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 12 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 13 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 14 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 15 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 52 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 25 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 26 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 27 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 28 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 29 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 30 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 1 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 2 (KOOKYNIE 6431)
- TAMPA TOWNSITE LOT 3 (KOOKYNIE 6431)

bluebush
- 483: Hummock
grasslands, mixed
sandplain - open mallee
over sparse dwarf shrubs
with spinifex; red mallee
over spinifex *Triodia*
scariosa

- 484: Shrublands; jam
thicket

- 863: Hummock
grassland, mixed
sandplain - sparse low
trees over sparse dwarf
shrubs with spinifex; red
mallee over mixed dwarf
shrubs with *Triodia*
scariosa

(Hopkins et al. 2001,
Shepherd et al. 2001)

the 194km length of
Menzies North-West Road.
Each gravel pit is proposed
as a circle with a 100 metre
radius. Each gravel pit will
thus have a maximum area
of 3.14 hectares.

Vegetation adjacent to the
Menzies North-West Road
proposed for widening
consists primarily of a low
open woodland of *Acacia*
aneura, with scattered
Eucalyptus sp. and
Allocasuarina sp. over a
relatively sparse
understorey of *Eremophila*
sp., *Atriplex* sp. and
Maireana sp. Vegetation
ranged in condition from
degraded to good, due to
impacts associated with
cattle grazing and previous
road widening and gravel
extraction activities.

Kookynie - Malcolm Road

Beard Vegetation
Association:

- 441: Succulent steppe
with open low woodland;
mulga & sheoak over
bluebush

(Hopkins et al. 2001,
Shepherd et al. 2001)

Vegetation clearing is
proposed for the widening
of 3 kilometres of Kookynie
- Malcolm Road (SLK 0 to
3). This portion of the
proposal involves the
clearing of an additional 1
metre each side of the
existing maintenance zone.

Vegetation clearing is also
proposed for the
exploration of, and access
to, gravel resources,
involving the expansion of
3 existing gravel pits
located adjacent to the
Kookynie - Malcolm
Roadway. Each gravel pit
is proposed as a circle with
a 100 metre radius. Each
gravel pit will thus have a
maximum area of 3.14
hectares.

Vegetation adjacent to the
existing roadway
predominantly consists of
Acacia aneura and
Maireana sp., and is
considered to be in
degraded condition due to
impacts associated with
previous road construction.
Vegetation adjacent to the
existing gravel pits ranges
in condition from degraded
to good, appearing to
primarily consist of
regrowth *Acacia aneura*,
Acacia tetragonophylla,
Solanum lasiophyllum, and
Eremophila georgei.

Good: Structure
significantly altered by
multiple disturbance;
retains basic
structure/ability to
regenerate (Keighery
1994)

Vegetation clearing description and overall condition
based on information obtained from a site inspection
conducted 8 March 2007 (TRIM Ref: DOC18036)

Mount Ida Road

Beard Vegetation
Associations:

- 39: Shrublands; mulga
scrub

Vegetation clearing is
proposed for the widening
of 29 kilometres of the
Mount Ida Road. This
clearing includes an
addition 2 metres each side
of the existing maintenance
zone, for the purpose of

Good: Structure
significantly altered by
multiple disturbance;
retains basic
structure/ability to
regenerate (Keighery
1994)

Vegetation clearing description and overall condition
based on information obtained from a site inspection
conducted 7 March 2007 (TRIM Ref: DOC18036)

- 251: Low woodland; mulga & Allocasuarina cristata
 - 441: Succulent steppe with open low woodland; mulga & sheoak over bluebush
 (Hopkins et al. 2001, Shepherd et al. 2001)

road safety due to increased traffic associated with mining. Proposed clearing of vegetation upon rises is for a width of 3 metres each side of the road, allowing for the reduction in height and the provision of adequate sight lines. Clearing of this 3 metres width is proposed for 800 metres of the Mount Ida Road.

Vegetation clearing is also proposed for the exploration of and access to gravel resources, involving the expansion of 4 existing gravel pits located adjacent to the Mount Ida Road. Each gravel pit is proposed as a circle with a 100 metre radius. Each gravel pit will thus have a maximum area of 3.14 hectares.

Vegetation of Mount Ida Road transitions south to north from an open woodland of Acacia aneura and Eucalyptus sp., to a woodland of Acacia aneura and Allocasuarina sp. The vegetation under application ranges in condition from degraded to good, being subject to cattle grazing and edge effects, and weeds in certain areas (cactus and melon).

Menzies - Evanston Road

Beard Vegetation Associations:

- 20: Low woodland; mulga mixed with Allocasuarina cristata & Eucalyptus sp.
 - 483: Hummock grasslands, mixed sandplain - open mallee over sparse dwarf shrubs with spinifex; red mallee over spinifex Triodia scariosa
 - 501: Medium woodland; Goldfields blackbutt
 - 502: Medium woodland; Goldfields blackbutt & red mallee
 - 529: Succulent steppe with open low woodland; mulga & sheoak over bluebrush
 (Hopkins et al. 2001, Shepherd et al. 2001)

Vegetation clearing is proposed for the exploration of, and access to, gravel resources, involving the expansion of 7 existing gravel pits located adjacent to the Menzies - Evanston Road. Each gravel pit is proposed as a circle with a 100 metre radius. Each gravel pit will thus have a maximum area of 3.14 hectares.

Vegetation within these areas is likely to be consistent with an open woodland of Acacia aneura, Eucalyptus sp, and Allocasuarina sp.

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)

Vegetation clearing description and overall condition based on the assumption that the applied vegetation is similar in characteristics to other gravel pits observed during the site inspection undertaken on 7 and 8 March 2007.

Goldfields Hwy

Beard Vegetation Association:

Vegetation clearing is proposed for the exploration of, and access to, gravel resources, involving the expansion of an existing gravel resource

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

Vegetation clearing description and overall condition based on information obtained from a site inspection conducted 8 March 2007 (TRIM Ref: DOC18036)

- 18: Low woodland; mulga (Acacia aneura) (Hopkins et al. 2001, Shepherd et al. 2001)

area, along multiple faces of the existing pit. Each gravel pit is proposed as a circle with a 100 metre radius. Each gravel pit will thus have a maximum area of 3.14 hectares.

Vegetation within the applied area transitions between a woodland to open woodland of Acacia aneura and Eucalyptus sp., over an understorey of Eremophila forrestii, Solanum lasiophyllum, and Acacia tetragonophylla.

Kookynie Road Railway Crossing

Vegetation clearing is proposed for the realignment of the existing Kookynie Road Railway crossing, for the provision of improved sightlines.

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)

Vegetation clearing description and condition based on information obtained from a site inspection conducted 8 March 2007 (TRIM Ref: DOC18036)

Beard Vegetation Association:

- 18: Low woodland; mulga (Acacia aneura) (Hopkins et al. 2001, Shepherd et al. 2001)

Vegetation within the area under application is extremely sparse, being limited to scattered Acacia aneura and sparse shrubs of Acacia sp. and Maireana sp.

Vegetation is also proposed for the exploration of, and access to, gravel resources, involving the expansion of 6 existing gravel pits. Each gravel pit is proposed as a circle with a 100 metre radius. Each gravel pit will thus have a maximum area of 3.14 hectares.

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 clearing as proposed consists of the widening of 3 sections of road, over a total distance of 76 kilometres, and the expansion of existing gravel pits within the Shire of Menzies. Impacts associated with the construction of the existing road systems, prior clearing and gravel extraction, and grazing activities have altered vegetation structure and composition, with areas under application being considered to be in an overall good condition, but containing areas of localised disturbance, which have resulted in conditions ranging from good to completely degraded (Site Inspection Report, 2007).

As all vegetation associations within the areas under application are well represented (all above 90% Pre-European extent remaining) (Shepherd et al 2001, Hopkins et al 2001), it is considered unlikely that the vegetation under application represents a higher biological diversity than that of surrounding vegetation which has been subject to fewer impacts.

Methodology

References:

Hopkins et al. (2001)
Shepherd et al. (2001)
Site Inspection Report (2007) (TRIM Ref: DOC18036)

GIS Databases:

- Pre-European Vegetation - DA01/01

(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 following specially protected fauna species are known to occur in the local area (50km radius) of the proposed clearing: *Leipoa ocellata* (Malleefowl); *Falco peregrinus* (Peregrine Falcon); *Ardeotis australis* (Australian Bustard); and *Charadrius rubricollis* (Hooded Plover).

While it is possible that these and other fauna species utilise the habitat within the areas under application, the proposed clearing is along already established transport routes and isolated, relatively small areas for the gravel pits, and given that the surrounding areas have large tracts of remnant vegetation remaining, it is unlikely that vegetation applied to be cleared comprises significant habitat for indigenous fauna.

Methodology Reference:
BCS (2007) (TRIM Ref: DOC19018)

(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

Declared Rare and Priority Flora mapping of the local area, defined as a 50km radius surrounding the areas under application, identifies one population of *Myriophyllum lapidicola* (Rare) and nine populations of *Hemigenia exilis* (Priority 4).

Florabase describes these species as follows:

Myriophyllum lapidicola. Aquatic herb. Sandy clay. Waterholes on granite outcrops.

Hemigenia exilis. Erect, multi-stemmed shrub, 0.5-2 m high. Fl. blue, purple, white, Apr/Sep-Nov. Laterite. Breakaways, slopes.

No areas of granite outcropping were observed in any of the locations under application (Site inspection report, 2007)

Of the populations of *Hemigenia exilis*, most are located at an approximate distance of 40km from areas under application, with the exception being two populations, which are located approximately 800 metres from the proposed widening of Mount Ida Road.

Given the habitat preferences of *Hemigenia exilis*, it is considered unlikely to be present within areas under application.

Methodology References:
Florabase (2007)
Site inspection report (2007) (TRIM Ref: DOC18036)

GIS Database:
- DEFL - DEC 26/3/2007

(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

The nearest known TEC are located approximately 60km north from the northern extent of the proposed Menzies North-West Road clearing, and are representative of the Depot Springs stygofauna communities.

Given the distance to the nearest TEC, proposed clearing is considered not likely to be at variance to this Principle.

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 at variance to this Principle

Native vegetation of the areas under application is identified as crossing 13 Beard Vegetation Associations.

The State Government is committed to the National Objective Targets for Biodiversity Conservation, which includes targets that prevent the clearing of ecological communities with an extent below 30% of that present pre-1750 (Department of Natural Resources and Environment 2002; EPA 2000)

Site inspections undertaken on the majority of the areas under application identified the vegetation conditions as ranging from Very Good to Completely Degraded. In almost all instances, understorey vegetation and structure was absent from site, having been impacted through grazing or previous clearing activities.

land	Pre-European (ha)*	Current Extent Remaining (ha)*	(%)*	Conservation status**	% In reserves / DEC managed
IBRA Bioregion					
- Murchison	28,206,195	28,206,195	100.0	Least concern	
Shire of Menzies	-	-	-	-	-
Beard Vegetation Associations					
- 18	24,675,970	24,659,110	99.9	Least concern	2.0
- 20	1,558,296	1,552,012	99.6	Least concern	13.1
- 39	5,382,170	5,380,712	100.0	Least concern	8.2
- 202	413,191	405,532	98.1	Least concern	1.1
- 251	206,446	206,446	100.0	Least concern	64.5
- 389	739,637	739,292	100.0	Least concern	0.3
- 441	3,257,346	3,257,346	100.0	Least concern	10.5
- 483	588,606	546,359	92.8	Least concern	0.3
- 484	80,740	80,557	99.8	Least concern	0.5
- 501	48,381	48,212	99.7	Least concern	15.8
- 502	48,474	48,474	100.0	Least concern	0.0
- 529	91,871	91,871	100.0	Least concern	1.3
- 863	64,022	64,022	100.0	Least concern	0.0

* (Shepherd et al. 2001)

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

Given the area proposed for clearing is relatively small compared to the area of remnant vegetation remaining within the Region, the vegetation proposed to be cleared is not likely to be significant as a remnant of native vegetation in the surrounding area.

Methodology References:
 Department of Natural Resources and Environment (2002)
 EPA (2000)
 JANIS Forests Criteria (1997)
 Shepherd et al. (2001)

GIS Database:
 - Pre-European Vegetation - DA01/01

(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**
 There are no major watercourses within the areas under application, however, almost all areas proposed for road widening and gravel extraction do contain minor, non-perennial watercourses.

In addition the closest mapped wetland is Lake Barlee (ANCA wetland) located approximately 1.5 kilometres southeast of the southern extent of the proposed Menzies North-West Road widening.

A site inspection of the areas under application (Site Inspection Report, 2007) did not identify any wetland dependant vegetation or significant drainage lines within the areas under application.

It is therefore considered that the vegetation within the areas under application is not growing in, or in association with a watercourse or wetland.

Methodology Reference:
 Site inspection report (2007) (TRIM Ref: DOC18036)

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

(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

Soil landscape within the Shire of Menzies transitions between numerous soils types, with soil mapping of the areas under application identifying soils as primarily shallow earthy loams and shallow soils, sometimes containing ironstone gravel, and being underlain by a red-brown hardpan (DAWA 2004).

A site inspection of the Menzies North-West Road, Mount Ida Road, and Kookynie-Malcolm Road did not identify any evidence of wind or water erosion, with all observable impacts being managed within the constructed stormwater runoff drains.

Some areas proposed for gravel extraction were observed as having experienced some forms of land degradation, most notably being water erosion and sheet erosion. While the sheet erosion can be attributed to the extensive grazing and relatively poor understorey vegetation, water erosion was identified in exposed active faces of the existing pits.

It is considered that the proposed clearing will not increased land degradation due to the small areas cleared.

Methodology References:
Site inspection report (2007) (TRIM Ref: DOC18036)
DAWA (2004)

GIS Database:
- Soils, Statewide - DA 11/99

(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

Nearby reserves vested for the purpose of conservation include an un-named reserve (150ha) located approximately 2km east of the proposed Kookynie Road rail crossing, the Goongarrie National Park (36,803ha) located approximately 40km south of the Kookynie Road Rail crossing, and the Mount Manning Range National Park (73,379ha) located approximately 50km south-west of the western extent of the Menzies-Evanston Road proposed clearing.

Given the distances to these reserves, the current representations of native vegetation within the Shire and the relatively small amount proposed to be cleared, it is considered that the vegetation subject of this proposal is unlikely to contribute to the environmental values of these conservation areas, act as a buffer to these areas, or provide significant ecological linkages to these reserves.

Methodology References:
Site inspection (2007) (TRIM Ref: DOC18036)

GIS Databases:
- CALM Managed Lands and Waters, CALM 1/07/05

(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

There are a number of salt lakes surrounding the areas under application, including two ANCA wetlands; Lake Barlee and Lake Marmion. Within the local area there are numerous flow lines with a flow direction towards these salt lakes. Given that the clearing as proposed is adjacent to and along existing transport corridors, additional clearing along these lines is unlikely to significantly effect surface water flow regimes. The groundwater salinity within the surrounding area varies from 1,000 - 35,000mg/L. In addition, there are no groundwater protection zones within the surrounding area.

With an average annual rainfall of 300mm and an annual evaporation rate of 3,000mm-3,400mm there is likely to be little surface flow during normal seasonal rains. In addition, there are no major drainage lines or major watercourses within the areas under application or in close proximity.

Methodology GIS Databases:
- Evaporation Isopleths - 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 likely to be at variance to this Principle

With an average annual rainfall of 300mm and an annual evaporation rate of 3,000mm-3,400mm there is little surface flow during normal seasonal rains. Given there are no major surface drainage lines within close proximity to areas under application, and that the rainfall infiltration rates will be high, it is considered unlikely that the proposed clearing would cause or increase the incidence or intensity of flooding.

Methodology GIS Databases:

- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Hydrography, linear - DOE 01/02/04

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

Comments

It is noted that the purpose of clearing (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 battering and revegetation on completion of the extraction.

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

There are three Aboriginal Sites of Significance which intersect areas under application for the purpose of gravel extraction. The applicant will be advised of their obligations under the Aboriginal Heritage Act 1972.

There are two Native Title Claims over the areas 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:

- Aboriginal Sites of Significance - DIA 28/02/03
- Cadastre - DLI 1/12/05
- Native Title Claims - DLI 7/11/05

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction or maintenance	Mechanical Removal	180.37	Assessment against the Principles for clearing native vegetation, as listed in schedule 5 of the Environmental Protection Act 1986, has been completed. The proposed clearing may be at variance to Principle (g) and not likely to be at variance to any of the other Principles. The assessing officer therefore recommends this application be approved subject to conditions relating to rehabilitation and the provision of an adequate offset.
Road construction or maintenance	Mechanical Removal		As above.

5. References

DAWA (2004) Soil-landscape mapping, Department of Agriculture Western Australia, Date accessed 01/05/04.

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.

FloraBase (2007) Descriptions by the Western Australian Herbarium, Department of Environment and Conservation. Text used with permission (<http://florabase.calm.wa.gov.au/help/copyright>). Accessed on Monday, 26 March 2007.

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.

Site Inspection Report (2007). TRIM Ref: DOC18036.

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
WRC	Water and Rivers Commission (now DEC)