



1. Application details

1.1. Permit application details

Permit application No.: 1990/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: City of Wanneroo

1.3. Property details

Property: ROAD RESERVE (QUINNS ROCKS 6030)
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Local Government Area: City Of Wanneroo
Colloquial name: Road widening and re-construction

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.16		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
Beard Vegetation Association: -No. 1026: A mosaic of shrublands of <i>Acacia rostellifera</i> , <i>Acacia cyclops</i> (in the south) and <i>Melaleuca cardiophylla</i> (in the north). Thickets and shrublands of <i>Acacia lasiocarpa</i> and <i>Melaleuca acerosa</i> heath.	The proposal is for the widening and reconstruction of Ocean Drive, Quinns Rock. Road widening requires clearing of a narrow strip of native vegetation parallel to the existing road (TRIM ref DOC29771).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The remnant native vegetation proposed to be cleared is adjacent to Bush Forever Site 397. Sections affected by the proposal are within the road reserve (TRIM ref DOC29771). A desktop vegetation assessment was carried out for the proposal on July 2007 based on a flora and vegetation survey undertaken by Ecoscape in August 2003 (TRIM ref DOC29771).

The southern section of the application area south of Robert Road is not mapped.

Heddlle Vegetation Complex:

-Quindalup Complex - Coastal dune complex consisting mainly of two alliances, the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of *Melaleuca lanceolata*, *Callitris preissii* and the closed scrub of *Acacia rostellifera*.

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 proposal is for a clearing of 0.16ha of native vegetation to enable the widening and reconstruction of Ocean Drive, Quinns Rock (TRIM ref DOC29771).

There are no records of any known Threatened Fauna, Declared Rare or Priority Flora or Threatened Ecological Communities within the area proposed to be cleared.

Vegetation within the application area has been modified and some areas have been classified as degraded, All the vegetation associations mapped for this area have a greater than 10% retention (required in constrained areas), The application is relatively small 0.16ha and linear which will ameliorate the impact of the clearing over a large area.

It is not likely that the vegetation within the application area would comprise a high level of biodiversity therefore the proposal is not likely to be at variance to this principle.

Methodology SAC Bio Datasets (040907)
GIS Database:
-Swan Coastal Plain North 20cm Orthomosaic - DLI06

(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**
There are no records of any known threatened fauna within the area proposed for clearing.

There are 4 records of 1 'Endangered', 6 records of 2 'Priority' fauna species occurring within the 5km local area of the application (0.16ha). The closest record, Carnaby's Black-Cockatoo, *Calyptorhynchus latirostris* (Endangered), was from approximately 160m east of the application area (SAC Bio Datasets 040907).

It is unlikely that the vegetation would be utilised as roosting, feeding or nesting habitat for the Carnaby's Black-Cockatoo. It is also unlikely that the remaining priority species found within the 5km local area would utilise the vegetation within the application as these species are associated with different habitats.

The condition of the vegetation at the site was recorded as varying between 'Good' to 'Degraded' (TRIM ref DOC29771).

The fauna habitat within the application area is moderately represented in the 5km local area.

Given the past disturbance, the size of the application area (0.16ha), the linear shape which will ameliorate the impact of the clearing over a large area and the remaining remnants with the 5km local area the proposal is not likely to be at variance to this Principle.

Methodology SAC Bio Datasets (040907)
GIS Database:
-Swan Coastal Plain North 20cm Orthomosaic - DLI06
-Bushforever - MFP 07/01

(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 recorded occurrences of Declared Rare or Priority Flora within the area proposed to be cleared.

There are 3 records of 1 'Rare' and 1 record of 1 'Priority' flora species occurring within a 5km of the application area (0.16ha). The closest record, *Eucalyptus argutifolia* (Rare), is approximately 1.6km south-east of the application area (SAC Bio Datasets 040907).

The significant flora within the 5km local area are associated with slopes and gullies of limestone ridges and outcrops as well as limestone breakaways. The application area is more likely to be associated with coastal dunes.

The condition of the vegetation at the site was recorded as varying between 'Good' to 'Degraded' (TRIM ref DOC29771).

The floristic habitat within the application area is moderately represented in the 5km local area.

Given the past disturbance, the application size (0.16ha), the linear shape which will ameliorate the impact of the clearing over a large area, the significant flora within the 5km local area being associated with limestone ridges, outcrops and breakaways as well as the remaining remnants within the 5km local area the proposal is not likely to be at variance to this Principle.

Methodology SAC Bio Datasets (040907)
GIS Database:
-Swan Coastal Plain North 20cm Orthomosaic - DLI06
-Bushforever - MFP 07/01

(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 recorded occurrences of Threatened Ecological Communities within the area proposed to be cleared.

There are 18 records of 1 'Threatened Ecological Community' occurring within the 5km local area of the application (0.16ha). The closest record, community type Limestone Ridges SCP26a (Melaleuca huegellii and Melaleuca acerosa (currently M. systema) shrublands on limestone ridges) is situated approximately 1.5km north, north-west of the application area (SAC Bio Datasets 040907).

The application area has similar soils and vegetation associations as 3 of the Threatened Ecological Communities (TEC's) within the 5km local area. These TEC's are associated with limestone ridges and the application is more likely to be associated with coastal dunes. The TEC's are also associated with Melaleuca huegellii and Melaleuca acerosa (currently M. systema) which are not known to occur within the application.

The condition of the vegetation at the site was recorded as varying between 'Good' to 'Degraded' (TRIM ref DOC29771).

Given the past disturbance, the application size (0.16ha), the linear shape which will ameliorate the impact of the clearing over a large area, the TEC's within the 5km local area being associated with limestone ridges as well as the remaining remnants of the same vegetation association within the 5km local area the proposal is not likely to be at variance to this Principle.

Methodology SAC Bio Datasets (180707)
GIS Datasets:
-Hedde Vegetation Complexes - DEP 21/06/95
-Soils, Statewide - DA 11/99

(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 National Objective and Targets for Biodiversity Conservation 2001-2005 (AGPS, 2001) recognises that the retention of 30% or more of the pre-clearing extent of each ecological community is the target.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	Conservation** status	% In reserves DEC Managed Land
IBRA Bioregions*					
Swan Coastal Plain [^]	1,501,456	571,758	38.1	Least Concern	N/A
Shire****					
Wanneroo	78,809	45,361	57.6	Least Concern	N/A
Mattiske Vegetation Complex***					
N/A					
Beard Vegetation Complex*					
1026	70,704	63,068	89.2	Least Concern	N/A
Hedde Vegetation Complex+					
Quindalup	49,195	24,396	49.6	Least Concern	N/A

* (Shepherd et al. 2006)

** (Department of Natural Resources and Environment 2002)

*** (Mattiske Consulting 1998)

**** (Shepherd et al. 2001)

+ (Hedde et al. 2002)
^ Area within Intensive Land Use Zone

None of the vegetation associations are below the National Objective and Targets for Biodiversity Conservation 2001-2005 (AGPS, 2001) biodiversity target of 30%.

The proposed road construction is within the Perth metropolitan area and is restricted by the ocean to the west and residential development to the east. The application is on the Swan Coastal Plain within the constrained area of the Perth metropolitan area. In constrained areas a benchmark of 10% retention is applied. The native vegetation associations under assessment are all greater than 10%.

There are only small areas of remnant vegetation remaining within the immediate vicinity however, there are other similar areas of remnant vegetation within the 5km local area. It is unlikely that the 0.16ha hectares of vegetation within the application area would be considered 'significant' as a remnant in a local context.

The application area has been historically modified with the condition of the vegetation within the application ranging from 'Good' to 'Degraded'.

The application area has been modified and some areas have been classified as degraded, all the vegetation associations have a greater than 10% retention (required in constrained areas), there are remaining remnants within the 5km local area, the application is relatively small 0.16ha and linear in shape it is therefore likely that the vegetation within the application area would not be considered 'significant' thus the proposal is not likely to be at variance to this principle.

Methodology AGPS (2001)
Shepherd et al. (2006)
Shepherd et al. (2001)
Department of Natural Resources and Environment (2002)
Mattiske Consulting (1998)
Hedde et al. (2002)
GIS databases:
- Hedde Vegetation Complexes - DEP 21/06/95
- Interim Biogeographic Regionalisation of Australia - EM 18/10/00
- Local Government Authorities - DLI 8/07/04
- Pre European Vegetation - DA 01/01

(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

The area under application is not associated with any known watercourses or wetlands.

The closest record is Neerabup Lake which is approximately 4.8km east of the application area.

This proposal is not likely to be at variance to this principle.

Methodology GIS Databases:
-Hydrography, linear - DOE 1/2/04
-Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC
-Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC_1
-Geodata, Lakes - GA 28/06/02
-RAMSAR, Wetlands - CALM 14/02/03
-EPP, Wetlands 2004 (DRAFT) - DOE 21/7/04
-EPP, Lakes - DEP 1/12/92
-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 is not likely to be at variance to this Principle

The area under application has no known risk of Acid Sulphate Soils and potential Acid Sulphate Soils within 3 metres of the soil surface.

The application and the stormwater drainage system will be upgraded using water sensitive urban design principles (TRIM ref DOC29771). This infrastructure will help reduce the frequency of water-logging events.

The proposed clearing (0.16ha) may cause some short term land degradation issues in terms of surface water sedimentation and soil erosion during works. However, these issues should be minimal as the application area

is relatively small in size (0.16ha) and linear in shape occurring along areas with roadside infrastructure or that have pre-existing infrastructure in place which minimise land degradation.

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

Methodology GIS Database:
-Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC

(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 may be at variance to this Principle

GIS Database records indicate that the closest DEC reserve to the application area is Neerabup National Park approximately 3.5km east of the application area.

The application area is bordered to the west by Bush Forever Site 397 a system 6 conservation reserve.

The proposed clearing will impact on the native vegetation within the road reserve and therefore the buffer that separates the Bush Forever Site from the road and residential area of Quinns Rocks. The removal of this buffer will further increase the edge effects on the remaining areas of Bush Forever Site 397.

Even though the application area is relatively small (0.16ha) and linear which will ameliorate the impact of the clearing over a large area it should be noted that the coastal strip is an extremely sensitive landscape that is suitable for limited usage only, the area has high conservation value and the sand dunes are important wildlife habitats (DCE, 1981).

The reconstruction of the road is to comply with current standards and to enlarge its capacity to address increasing vehicle and pedestrian usage. The reconstruction will also improve road safety as traffic calming methods will be incorporated. The proposed works will be accommodated within the existing road reserve (TRIM ref DOC29771). This proposal could therefore be considered under section 51O IV of the EP Act 1986 'In considering a clearing matter the CEO shall have regard to any planning instrument, or other matter, that the CEO considers relevant'.

Given that the clearing proposal may impact on the vegetation that provides a buffer to the Bush Forever Site 397 conservation area this proposal may be at variance to this principle.

To mitigate the potential impacts of the clearing of remnant vegetation and whilst acknowledging the need to upgrade roads, the proposed clearing will be carried out in accordance with conditions requiring to avoid and minimise the clearing as well as addressing dieback, weeds, fencing along the bushforever site, recording and reporting.

Methodology Department of Conservation and Environment (1981)
GIS Database:
-Swan Coastal Plain North 20cm Orthomosaic - DLI06
-Bushforever - MFP 07/01

(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

The proposed clearing is located within the Coastal hydrographic catchment area.

The areas under application are not located within any Public Drinking Water Source Areas.

The application area is associated with areas where the groundwater salinity is mapped at 500-1000mg/L.

The area under application is not associated with any known watercourse or wetland and to minimise any land degradation associated with the proposal the stormwater drainage system will be upgraded using water sensitive urban design principles (TRIM ref DOC29771). This infrastructure will help prevent the possibility of the deterioration in the quality of surface or groundwater.

The proposed clearing (0.16ha) may cause some short term land degradation issues in terms of surface water sedimentation and soil erosion during works. However, these issues should be minimal as the road application area is linear, is relatively small (0.16ha), occurs adjacent to areas with roadside infrastructure or will have infrastructure in place to prevent land degradation issues. The application area is also associated with sandy soils that are likely to be free-draining, therefore it is not likely the proposal will be at variance to this principle.

Methodology GIS Database:
-Hydrographic Catchments - Catchments - DOW

- Hydrographic Catchments - Basins - DOW
- Public Drinking Water Source Areas (PDWSAs) - DOW
- Groundwater Salinity, Statewide - DOW

(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

The area under application is not associated with any known watercourse or wetland and to minimise any land degradation associated with the proposal the stormwater drainage system will be upgraded using water sensitive urban design principles (TRIM ref DOC29771). This infrastructure will help prevent the possibility of flooding.

The proposed clearing (0.16ha) may cause some short term land degradation issues in terms of surface water sedimentation and soil erosion during works. However, these issues should be minimal as the road application area is linear, is relatively small (0.16ha), occurs adjacent to areas with roadside infrastructure or will have infrastructure in place to prevent land degradation issues. The application area is also associated with sandy soils that are likely to be free-draining, therefore it is not likely the proposal will be at variance to this principle.

Methodology GIS Database:

- Hydrography, linear - DOE 1/2/04
- Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC
- Hydrographic Catchments - Catchments - DOW

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

Comments

The area under application is not located within a Native Title Claim area. Therefore, the clearing as proposed should not fall under the future acts process under the Native Title Act 1993.

The application area is within the Ocean Drive Road Reserve vested with the City of Wanneroo.

A submission from the Department of Planning and Infrastructure (Bush Forever) was received. There were no objections to the clearing permit subject to fencing between the road reserve and the bushforever site prior to clearing.

Methodology GIS Database:

- Native Title Claims - DLI
- Aboriginal Sites of Significance - DIA
- Town Planning Scheme Zones - MFP 8/98

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction or Removal maintenance	Mechanical	0.16	The assessable criteria have been addressed and it was found that the proposal may be at variance to principle (h) and not likely to be at variance to all remaining principles. If a permit is granted specific conditions will need to be included to avoid and minimise the clearing. Conditions will also be required to address dieback, weeds, fencing along the bushforever site recording and reporting.

5. References

AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.

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.

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 (updated 2002).

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

SAC Bio Datasets Advice (040907) Department of Environment and Conservation, Kensington, 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.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001a) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2006).

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)