



1. Application details

1.1. Permit application details

Permit application No.: 916/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: David Thomas Project Manager Commissioner of Main Roads WA

1.3. Property details

Property: LOT 602 ON PLAN 23292
LOT 260 ON PLAN 20444
LOT 20 ON PLAN 17078
LOT 14057 ON PLAN 25659

Local Government Area: City Of Joondalup & City Of Wanneroo

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
19		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
Hedde vegetation complex - Cottesloe Complex Central and South: mosaic of woodland of Eucalyptus gomphocephala and open forest of E. gomphocephala, E. marginata, E. calophylla, closed heath on limestone outcrops (Hedde et al 1980).	The proposed clearing is to facilitate the next stage of the Mitchell Freeway in the northern suburbs. The 19ha under application is principally long and linear in shape with some areas devoid of native vegetation (towards northern end).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation condition of the area under application has been described as ranging from 'excellent' to 'completely degraded' with localised disturbance along the railway line and tracks (GHD 2005). As such, the condition used in this assessment will be 'very good' as it is the mid-point.
Beard vegetation association 1948: low woodland, Banksia on limestone.	Approximately 219 species were identified within the area under application with 81 of the species being introduced weeds or planted shrubs (GHD 2005). The dominant families include Proteaceae, Myrtaceae, Papilionaceae, Orchidaceae and Mimosaceae (GHD 2005). Two dominant vegetation types were identified and these are described as Dryandra sessilis closed heath over a low shrubland on sand over limestone and Banksia attenuata, B. menziesii with Allocasuarina fraseriana open woodland over a tall shrubland on yellow sands (GHD 2005).		
Beard vegetation association 998: medium woodland, Tuart. (Shepherd et al 2001, Hopkins et al 2001)			
	The project area has been historically used as a stock route which was evidenced by distribution of grassy weed species (GHD 2005). Herbaceous and woody weeds were associated with firebreaks, tracks and cleared areas adjacent to developed areas (GHD 2005).		

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 vegetation condition of the area under application ranges from excellent to completely degraded with various grassy weed species including two declared weed species (GHD 2005). Although the area under application does provide feeding and potentially breeding qualities for a number of fauna species, it is considered that equal or better habitat would be found in the nearby Neerabup National Park (CALM 2006). The Priority 3 species *Jacksonia sericea* is also present within the area under application, however this species is also present within the Neerabup National Park as well as other sites within the local area (GHD 2005). It is considered that the area under application would not be of higher biodiversity than the Neerabup National Park which is located in close proximity to the proposed clearing.

Methodology GHD (2005) (DoE Trim Ref EI4494)
CALM (2006) (DoE Trim Ref CRN218642)

(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**

A number of Specially Protected and Priority fauna species are known to occur within the local area (10km radius) of the proposed clearing and include:

Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*);
Graceful Sunmoth (*Synemon gratiosa*);
Peregrine Falcon (*Falco peregrinus*);
Black Bittern (*Ixobrychus flavicollis australis*)
Austrosaga spinifer;
Hylaeus globuliferus;
Crested Shrike-tit (south western species) (*Falcunculus frontatus leucogaster*);
Little Bittern (*Ixobrychus minutes*);
Western Brush Wallaby (*Macropus irma*); and
Quenda (*Isodon obesulus fusciventer*)
(CALM 2006).

A number of these species are habitat specialists which would reduce the likelihood of them occurring within the area under application (GHD 2005). Carnaby's Black Cockatoo has been observed within the area under application, however it is likely that it would be an occasional visitor for feeding rather than breeding (GHD 2005, CALM 2006). CALM (2006) have advised that the proposed clearing would reduce the available habitat in the local area and have recommended that mitigation should be through an offset. The proponent has agreed to a condition being placed on the permit which would see approximately 4ha of degraded bushland adjacent to Neerabup National Park be rehabilitated using species that the Carnaby's Black Cockatoo are known to feed on and could be used for breeding purposes.

Methodology GHD (2005) (DoE Trim Ref EI4494)
CALM (2006) (DoE Trim Ref CRN218642)

(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**

One Declared Rare Flora (*Eucalyptus argutifolia*) and 16 Priority species are known to occur in the local area (10km radius) (CALM 2006). No species of Declared Rare Flora were identified within the area under application, however the Priority 4 species *Jacksonia sericea* was recorded with specimens estimated to be in the hundreds (GHD 2005). CALM (2006) in its advice, acknowledges that the intended landuse of the proposed clearing could not be realigned to avoid the Priority 4 species due to the presence of surrounding landuses and infrastructure. The proponent has agreed to a condition being placed on the permit for the collection of seed and other propagation material from this *Jacksonia* species for use in revegetation works.

Methodology GHD (2005) (DoE Trim Ref EI4494)
CALM (2006) (DoE Trim Ref CRN218642)

(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**

One of the communities present within the area under application was thought to be the Threatened Ecological Community (TEC) SCP26a 'Melaleuca huegelii - Melaleuca acerosa (currelty M. systema) shrublands on limestone ridges' (GHD 2005). However two sites visits involving CALM's Species and Communities Branch determined that the community is unlikely to be TEC SCP26a due to the absence of massive limestone outcropping, yellow sands and did not contain the suite of flora species that characterise that particular

community (CALM 2006). Therefore, it is considered that the clearing as proposed is not likely to be at variance to this Principle.

Methodology GHD (2005) (DoE Trim Ref EI4494)
CALM (2006) (DoE Trim Ref CRN218642)

(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 vegetation within the area under application has been described as consisting of Beard vegetation associations 1948 of which there is 17,315ha remaining and association 998 of which there is 18,320ha remaining (Shepherd et al 2001, Hopkins et al 2001). The vegetation under application can also be described as consisting of the Heddle vegetation complex Cottesloe Complex Central and South of there is 18,474ha remaining (Heddle et al 1980). Of these vegetation classifications, the Beard vegetation association 998 is the only vegetation complex that is considered vulnerable (Department of Natural Resources and Environment 2001). However, as this complex has over 32.9% in reserves, which is above the 15% outlined in the JANIS Forests Criteria (1997), it is considered that the clearing as proposed would not significantly affect the conservation status of this vegetation type. Beard vegetation type 1948 and Heddle vegetation complex Cottesloe Complex Central and South are considered to be depleted (Department of Natural Resources and Environment 2001), however these vegetation associations are also above 15% representation in reserves (15.6% and 41.1% respectively) (Shepherd et al 2001, Hopkins et al 2001, Heddle et al 1980).

Methodology Department of Natural Resources and Environmental (2001)
JANIS Forests Criteria (1997)
Shepherd et al (2001)
Hopkins et al (2001)
Heddle et al (1980)

(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 wetlands, lakes or other hydrographic features within the area under application. The nearest wetland is Lake Joondalup which is 2km to the west. The Melaleuca community found within the area under application is not indicative of wetland vegetation, rather is associated with limestone cliffs and dunes (GHD 2005). As such, the proposed clearing is not likely to be at variance to this Principle.

Methodology GHD (2005) (DoE Trim Ref EI4494)
GIS Databases:
- Geomorphic Wetlands (Mgmt categories) - Swan Coastal Plain - DOE 15/09/04
- EPP, Lakes - DEP 28/07/03
- 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

The area under application has a terrain that is associated with the Spearwood Formation which is predominantly sand over limestone (GHD 2005). Advice from DAWA (2006) indicates that given the urban location it is unlikely that the proposed clearing would cause appreciable land degradation. The Acid Sulphate Soil risk associated with the area under application is considered to be Class 3 which is little to no known risk. Given the intended landuse and the advice from DAWA, it is considered that the clearing as proposed is unlikely to be at variance to this Principle.

The proponent has also outlined a number of management techniques that will be employed during the construction of the intended landuse including staging of vegetation clearing and dust suppression techniques (GHD 2005).

Methodology GHD (2005) (DoE Trim Ref EI4494)
DAWA (2006)
GIS Databases:
- Acid Sulphate Soil Risk Map, SCP - DOE 01/02/04

(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

A number of conservation estates are known to occur within the local area (10km radius) of the proposed clearing including:

Gnangara-Moore River State Forest;
Neerabup National Park;
Neerabup Nature Reserve;
Jandabup Nature Reserve;
Marmion Marine Park;
Lake Joondalup Nature Reserve;
Woodvale Nature Reserve;
Yeelagonga Regional Park; and
56 Bush Forever Sites
(CALM 2006).

Neerabup National Park is located approximately 300m from the northern boundary of the proposed clearing, with the area under application providing a vegetated link (CALM 2006, GHD 2006). However, it is likely that the effectiveness of this link has already been compromised due to disturbance from historic and current land uses as well as the infrastructure in the surrounding areas (CALM 2006). The habitats represented within the area under application are likely to be equally if not better represented within Neerabup National Park (CALM 2006).

Methodology CALM (2006) (DoE Trim Ref CRN218642)
GHD (2005) (DoE Trim Ref EI4494)

(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 are no wetlands or other surface water bodies within the area under application. The nearest surface water body is Lake Joondalup which is 2km to the west. However this lake is unlikely to be affected, as the proposed clearing would occur down gradient of the lake system (GHD 2005).

The area under application is located with a Priority 3 (P3) zone of the Perth Coastal Underground Water Pollution Control Area. These P3 zones allow for the co-existence of water quality protection and other landuses that would not have a significant impact on the water source (Department of Environment 2004). According to these guidelines, the intended landuse of road infrastructure is unlikely to have a significant impact on the groundwater quality.

As such, it is considered that the clearing as proposed is not likely to be at variance to this Principle.

Methodology Department of Environment (2004)
GHD (2005) (DoE Trim Ref EI4493)
GIS Databases:
- Hydrography, Linear - DOE 01/02/04
- Public Drinking Water Source Areas (PDWSAs) - DOE 09/08/05

(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 soils and bedrock within the area under application, medium dense sands and limestone, are highly permeable (GHD 2005). As such, a relatively small percentage of rainwater is likely to run-off as surface water (GHD 2005). In addition, the distance to nearest surface water body (over 2 km) and the undulating landscape under application, indicates that the proposed clearing is unlikely to increase or exacerbate the incidence or intensity of flooding.

Methodology GHD (2005) (DoE Trim Ref EI4493)
GIS Databases:
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

A submission was received from the City of Joondalup indicating that the City had no objection and provided the following conditions: - that the City of Joondalup staff be permitted to access site prior to commencement of clearing to collect propagation material; - that only minimum native vegetation is cleared; - that City of Joondalup staff be permitted access to transplant suitable specimens of Grass Trees, Xamia Palms and Christmas Trees; and - that all clearing be conducted within the Regional Road Reservation.

No submission was received from the City of Wanneroo.

The proposal has also been referred to the Environmental Protection Authority. A level of assessment of "Not Assessed - Public Advice Given and Managed under Part V of EP Act (Clearing)" was advertised on 3 April

Methodology 2006. No appeals were received on the level of assessment set.
 Submission from City of Joondalup (DoE Trim Ref EI4340)
 Environmental Protection Authority website (www.epa.wa.gov.au) - Monday advertisements

4. Assessor's recommendations

Purpose	Method Applied	area (ha)/ trees	Decision	Comment / recommendation
Road construction or maintenance	Mechanical Removal	19	Grant	<p>The proposal has been assessed and the clearing as proposed may be at variance to Principle b. In relation to Principle b, there are a number of Specially Protected fauna species that could potentially occur within the area under application (CALM 2006). In addition, the area under application contains species that Carnaby's Black Cockatoo (Threatened) are known to feed upon. The proponent has proposed a mitigation of revegetating an area of 4ha close by with species that the Carnaby's Black Cockatoo are known to feed. This has been incorporated into a condition on the permit.</p> <p>Therefore, the assessing officer recommends that this permit be granted with the following conditions:</p> <ol style="list-style-type: none"> 1. The Permit Holder shall revegetate the area cross-hatched red on attached Plan 916/1 a. The revegetation shall be established and maintained to an average planting density of 6,500 plants per hectare. The species shall consist of overstorey, midstorey and understorey species that are native to the area and shall include the species from the genus Eucalyptus, Banksia and Hakea. Seed shall be sourced from within a 10km radius of the property. 2. The Permit Holder shall collect seed and other propagation material from the Priority 4 species Jacksonia sericea within the area authorised to clear. The seed and propagation material shall be used for revegetation conducted under Condition 1. 3. The Permit Holder shall commence clearing authorised under this Permit at the southern end of the area approved to be cleared at Shenton Avenue, and move northward in the following sequence: Shenton Avenue to Moore Drive; Moore Drive to Burns Beach Road; and north of Burns Beach Road. 4. The Permit Holder shall complete the revegetation works under Condition 1 by 1 June 2011.

5. References

- CALM (2006) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref CRN218642.
- DAFWA (2005) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. E-mail received 24 November 2005.
- Department of Environment (2004) Water Quality Protection Notices: Land Use Compatibility in Public Drinking Water Source Areas (PDWSAs).
- 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.
- GHD (2005) Mitchell Freeway Extension - Shenton Avenue to Burns Beach Road - Environmental Impact Assessment. Prepared for Main Roads Western Australia. DoE Trim Ref EI4494
- 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.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- 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
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)