



1. Application details

1.1. Permit application details

Permit application No.: 1769/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Rockingham Lifestyle Village Pty Ltd

1.3. Property details

Property: LOT 3 ON DIAGRAM 30054 (House No. 831 MANDURAH BALDIVIS 6171)
Local Government Area: City Of Rockingham
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.27		Mechanical Removal	Building or Structure

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:	The proposal is to clear 2.27 hectares of native vegetation within Lot 3 Mandurah Road for the purpose of buildings, structures and facilities associated with the development of a lifestyle village.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	Vegetation clearing description based on a site visit conducted by DEC officers on 3 April 2007 and a spring flora survey that was conducted by ENV Australia (2006) over Lots 1, 3 and 703 Mandurah Road. The vegetation under application on this lot ranges in condition from completely degraded to good, with the majority being completely degraded.
Cottesloe Complex Central and South - mosaic of woodland of <i>E. gomphocephala</i> and open forest of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>E. calophylla</i> ; closed heath on the limestone outcrops.	The vegetation under application has been historically grazed and previously parkland cleared. The majority of the vegetation under application comprises open Eucalyptus/Banksia woodland with an understorey comprising mainly weeds, and is considered to be in completely degraded condition.		
Beard Vegetation Association: 998 - Medium woodland; tuart	The vegetation under application in the western and eastern portions of the applied area comprises <i>Acacia rostellifera</i> shrubland that was identified by ENV (2006) to be in good condition.		
	Vegetation contained within the road reserve comprises <i>A. rostellifera</i> that has been recently burnt and is considered to be in degraded condition.		

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**
During a spring flora survey of a 29 hectare area, which included the applied area, 93 floral taxa, including 37 introduced species, were identified and the vegetation within Lot 3 was described as ranging in condition from completely degraded to good (ENV 2006).

Given the low species diversity of the vegetation under application, it is not considered likely that it comprises a high level of biodiversity in the local area when compared to the adjacent Rockingham Lakes Regional Park.

Methodology ENV (2006)
DEC site visit 3/4/07

~~(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 at variance to this Principle

During a fauna survey which included the area under application Dixon (2007) observed 21 bird species, 3 mammal species and 7 reptile species, including the Quenda (*Isodon obesulus fusciventer*), a species of conservation significance.

The vegetation under application ranges in condition from completely degraded to very good, and includes some understorey. This understorey is likely to provide some habitat for ground dwelling species such as Quenda, however when compared to the Regional Park and wetland environment located across the road, this habitat is not considered likely to be significant.

The mature Eucalyptus spp. under application have been noted to contain hollows that may have the potential to be utilised for nesting, by species such as the threatened Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*). The Banksia spp. under application also may provide some feeding habitat for this species, however is not considered likely to comprise significant feeding habitat when compared to the vegetation contained in the nearby Regional Park.

Given that the vegetation under application includes habitat hollows that may be utilised by Carnaby's Black Cockatoo, it is considered that the area under application may comprise significant habitat for fauna. A condition has been placed on the permit requiring identification of potential habitat hollows, and relocation of fauna as necessary.

Methodology Dixon (2007)
DEC site visit 3/4/07

~~(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 occurrences of Declared Rare Flora (DRF) or Priority Flora within the local area (5km radius) of the application and none were identified during the spring flora survey conducted by ENV (2006).

Given the absence of DRF in the local area, and that none were identified during the appropriately timed flora survey, it is not considered likely that the vegetation under application includes, or is necessary for the continued existence of, rare flora.

Methodology ENV (2006)
DEC site visit 3/4/07
GIS Database: Declared Rare and Priority Flora List - CALM 01/07/05

~~(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 15 known occurrences of Threatened Ecological Communities (TEC) within the local area (5km radius) of the application, the closest of which is located 2.3km to the south within a Bush Forever site.

The TEC located within the nearby Bush Forever site is identified as Sedgelands in Holocene dune swales (SCP 19b) which is generally located in seasonal wetlands (Government of Western Australia 2000). During the Spring Flora Survey of the property this community type was not identified within the proposed clearing area. This is due to lack of dune swales, and few of the vegetation species identified in the Swan Coastal Plain Floristic Survey as being associated with SCP19b, being identified within the proposed clearing area.

Given that no TECs were identified during the spring flora survey, and given the vegetation composition, it is not considered likely that the vegetation under application comprises a TEC. In addition, given the distance to the nearest TEC, the vegetation under application is not considered likely to be necessary for the maintenance of any TEC.

Methodology ENV (2006)
DEC site visit 3/4/07
Government of Western Australia (2000)

(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

Heddle et al. (1980) defines the vegetation under application as 'Cottesloe Complex - Central and South'. This complex has 41.1% of pre-European vegetation extent remaining (Shepherd et al. 2001) and is considered to be of 'depleted' status for biodiversity conservation (Department of Natural Resources and Environment 2002).

The vegetation under application is also classified as vegetation association 998, of which there is 35.9% of pre-European extent remaining and which is also considered to be depleted (Shepherd et al. 2001).

The identified vegetation types have representations above the recommended minimum level of 30%, as recognised by both the EPA and the State Government (EPA, 2003; Department of Natural Resources and Environment, 2002). Therefore the proposal is not considered likely to be at variance with this principle.

	Pre-European (ha)	Current (ha)	Remaining %	Conservation status***	% in reserves
Swan Coastal Plain	1,529,235	657,450	43.0*	Depleted	
City of Rockingham	24,326	8,534	35.1*	Depleted	
Local Area (~10km radius)					
Heddle vegetation complex			**		
Cottesloe Complex - Central and south	44,995	18,474	41.1	Depleted	8.8
Beard vegetation associations					
-998	51,094	18,320	35.9*	Depleted	32.9

* (Shepherd et al. 2001)

** (EPA, 2003)

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

Methodology Heddle et al. (1980)
Shepherd et al. (2001)
Department of Natural Resource and Environment (2002)
EPA (2003)
GIS Databases:
Heddle Vegetation Complexes - DEP 21/06/95
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 located approximately 70m to the east of Coo loongup Lake, which is a Conservation Category Wetland (CCW), however it is located outside the 50m buffer. The nearest watercourse is the Peel Main Drain located approximately 2.7km to the east of the applied area.

The area under application is located across the road from the nearest wetland on a sandy rise outside the buffer, and no wetland dependent vegetation was observed during the DEC site visit or recorded during the spring flora survey. It is therefore not considered likely that the vegetation under application is growing in, or in association with, a watercourse or wetland.

Methodology ENV (2006)
DEC site visit 17/1/07
GIS Databases:
EPP, Lakes - DEP 1/12/92
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC

(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

The soils within the area under application are identified as part of Spearwood S1b and S2a Phase, which are described as deep siliceous yellow-brown sands or pale sands. These soils are associated with a low risk of water erosion, waterlogging, salinity and acid sulphate soils, however there is a very high risk of wind erosion (State of Western Australia 2005).

The removal of vegetation from site will expose the sandy soils resulting in the potential to cause wind erosion.

Given the very high risk of wind erosion associated with the identified soil type, it is considered that the proposed clearing may result in appreciable land degradation.

The wind erosion risk should be adequately managed through the dust control measures and management strategies proposed by the applicant and as conditioned under the development approval.

Methodology DEC site visit
State of Western Australia (2005)

(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 area under application is 40m east of the Rockingham Lakes Regional Park, which is also a Bush Forever site. Coo loongup Lake, which is a Conservation Category Wetland (CCW) and an EPP Lake, is located within the Regional Park approximately 70m to the west of the area under application.

The soils identified within the area under application have a very high risk of phosphorus export (State of Western Australia 2005). The proposed land use includes public open space that may require fertiliser application and this has the potential to contribute to soil nutrient loads.

National Lifestyle Villages are required under the development approval and by the Department of Water to prepare a Nutrient and Irrigation Management Plan (NIMP) and an Integrated Urban Water Management Plan, which should adequately manage the risk of phosphorus export. It is therefore not considered likely that the proposal would impact on the environmental values of any adjacent or nearby conservation reserve.

Methodology DEC site visit
GIS Databases:
Bushforever - MFP 07/01_1
EPP, Lakes - DEP 1/12/92
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC

(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 may be at variance to this Principle

Groundwater salinity in the local area is 500-1000 mg/L and the area under application is not located within a Public Drinking Water Source Area (PDWSA). Watercourses in the area include Coo loongup Lake 70m to the west and the Peel Main Drain located 2.7km to the east.

The soils identified within the area under application have a very high risk of phosphorus export (State of Western Australia 2005). The proposed land use includes public open space that may require fertiliser application and this has the potential to contribute to soil nutrient loads. With the removal of deep-rooted perennial vegetation phosphorus export may occur that could result in a deterioration of ground water or surface water quality.

National Lifestyle Villages are required under a condition of the development approval and by the Department of Water to prepare a Nutrient and Irrigation Management Plan (NIMP) and an Integrated Urban Water Management Plan, which should adequately manage the risk of phosphorus export and deterioration of surface water quality.

Methodology DEC site visit 17/1/07
State of Western Australia (2005)
GIS Databases:
Groundwater Salinity, Statewide - 22/02/00
Hydrography, linear (hierarchy) - DOW
Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06

(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 located approximately 70m to the east of Coo loongup Lake, at an elevation of 5-10 metres. Given the location of the site on a sandy rise, and given the low risk of waterlogging associated with the soil type, it is not considered likely that the proposal would have an impact on peak flood height or duration.

Methodology State of Western Australia (2005)
GIS Databases:
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC

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

Comments

The City of Rockingham has issued a development approval for the proposal, and the proposed clearing is in accordance with the approved Vegetation Retention Plan as required by this approval. The City has authorised Rockingham Lifestyle Villages to conduct clearing and revegetation works in the road reserve.

The Department of Water has advised that Rockingham Lifestyle Villages has applied for a licence to take water but that they are only likely to get approval for irrigation purposes, and they will need to source potable water from the Water Corporation main.

The lot under application is part of a Native Title Claim however, since it is privately owned Native Title is extinguished under the Native Title Act. Therefore the clearing as proposed should not fall under the future acts process of the Native Title Act 1993.

Methodology GIS Database: Native Title Claims - DLI 7/11/05

4. Assessor's comments

Purpose	Method Applied	Comment
Building Structure	Mechanical Removal 2.27 area (ha)/ trees	<p>The assessable criteria have been addressed, and the clearing as proposed may be at variance to Principles b, g and i.</p> <p>Principle (b): Although the vegetation under application is not likely to comprise significant habitat for Quenda, the mature Eucalyptus spp. under application may contain hollows suitable for Carnaby's Black Cockatoo, and therefore the vegetation under application may comprise significant habitat for this species.</p> <p>Principle (g): Due to the soil type there is the potential for wind erosion however this will be managed through the dust control measures and phosphorus export causing land degradation.</p> <p>Principle (i): The soils on site have a very high risk of phosphorus export which may result in the deterioration of groundwater or surface water.</p> <p>The assessing officer therefore recommends that the permit be granted with a condition to ensure surveys are undertaken by a fauna specialist to identify trees that may be suitable as habitat for specially protected fauna under the Wildlife Conservation Act and, where applicable, translocation of fauna is undertaken. The assessing officer also recommends conditions relating to dieback and weed prevention, weed management and reporting.</p>

5. References

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.

Dixon (2007) Fauna survey, Lot 1 and 3 Mandurah Road, Baldivis. TRIM ref. DOC20718.

ENV Australia (2006) Lots 1, 3, 700 and 703 Mandurah Road Baldivis - Flora and Vegetation Survey. TRIM ref. DOC15780.

EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.

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.

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 Visit 3/4/07, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC20259.

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)