



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 1956 / 1

File Number: DEC3774

Duration of Permit: From 26 April 2009 to 26 April 2014

PERMIT HOLDER

City of Albany

LAND ON WHICH CLEARING IS TO BE DONE

LOT 3800 ON PLAN 195425 (KING RIVER 6330)

AUTHORISED ACTIVITY

Clearing of up to 3 hectares of native vegetation within the area hatched yellow on attached Plan 1956/1.

CONDITIONS

1. Type of clearing authorized

- (a) This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Local Government Act 1995* or any other written law.
- (b) Clearing authorised under this Permit must be completed by 26 April 2011, being two years from the date from which this Permit becomes valid.

2. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

3. Dieback and weed control

- (a) When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) shall not move soils in wet conditions;
 - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

4. Retain vegetative material and topsoil, ripping, revegetation and rehabilitation

- (a) The Permit Holder shall retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that is already cleared.
- (b) Prior to undertaking works pursuant to conditions 4(c), the Permit Holder shall rip the pit floor and contour batters within the extraction site.
- (c) Within six months following clearing authorised under this Permit, the Permit Holder must *revegetate* and *rehabilitate* the area cross-hatched yellow on attached Plan 1956/1 by:
 - (i) deliberately laying the vegetative material and topsoil retained under condition 4(a) on the cleared area;
 - (ii) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
 - (iii) ensuring only *local provenance* seeds and propagating material sourced from within 20 kilometres of the area cleared are used to *revegetate* and *rehabilitate* the area.
- (d) Within twelve months of undertaking *revegetation* and *rehabilitation* in accordance with condition 4(c) of this Permit, the Permit Holder must:
 - (i) determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 4(d)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the Permit Holder must undertake additional *planting* or *direct seeding* of native vegetation in accordance with the requirements of condition 4(c)(ii) and (iii) of this Permit.

5. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using Geocentric Datum Australia 1994;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares).
- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 4 of this Permit:
 - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using Geocentric Datum Australia 1994;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.

6. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 5 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 26 January 2011, the Permit Holder must provide to the CEO a written report of records required under condition 5 of this Permit where these records have not already been provided under condition 6(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

dieback means the effect of *Phytophthora* species on native vegetation;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

fill means material used to increase the ground level, or fill a hollow;

local provenance means native vegetation seeds and propagating material from natural sources within 10-40 kilometres of the area cleared.

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means *revegetation* that can be established from in situ seed banks contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

term means the duration of this Permit, including as amended or renewed;

weed/s means a species listed in Appendix 3 of the *Environmental Weed Strategy* published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agricultural and Related Resources Protection Act 1976*.



Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

26 March 2009



1. Application details

1.1. Permit application details

Permit application No.: 1956/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: City of Albany

1.3. Property details

Property: LOT 3800 ON PLAN 195425 (KING RIVER 6330)
 Local Government Area: City Of Albany
 Colloquial name: Plantagenet Location 3800

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3		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 Complex 978: Low forest; jarrah, Eucalyptus staeri & Allocasuarina fraseriana	The native vegetation under application to be cleared (3ha) is considered to be in Very Good (Keighery 1994) condition and exists in a bushland remnant. Geographical Information System (GIS) images of the local area (10km radius), indicate that much of the native vegetation has been cleared (approx. 75%).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition and description of the vegetation was obtained via the use of orthomosaic mapping and from the flora survey report of the applicatin area.

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 at variance to this Principle**
 The native vegetation under application to be cleared (3ha) is considered to be in Very Good (Keighery 1994) condition (Stewart 2008) and exists within a bushland remnant. Aerial imagery of the local area (10km radius) show that much of the surrounding vegetation has been cleared (approx. 30% remaining).

Within the local area there have been 38 priority flora species recorded. A targeted flora survey of the application area found *Banksia serra* (P4) to be present throughout (Stewart 2008), and therefore the proposed clearing will impact on this species.

Additionally, due to the size and condition of the area under application and the number of nature reserves within a 10km radius, the area may be representative of an area of high biodiversity.

To mitigate any impacts that the proposed clearing may have on the biodiversity values of the area, revegetation, weed and dieback conditions will be imposed on the permit.

Methodology Keighery (1994)
 Stewart (2008)
 SAC Bio datasets

GIS datasets:
 - Albany 1.4m Orthomosaic - DLI March 03
 - CALM Managed Lands and Waters - CALM 1/07/05

(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**
 There are 29 recorded occurrences of rare and priority fauna, consisting of 13 different species, within the local area (10km radius).

The area under application is part of a large remnant of vegetation and may support significant habitat, or be an area where 3 of these species frequent (Naturebase 2008). *Calyptorhynchus banksii* naso (Forest Red-tailed Black Cockatoos - Vulnerable) was recorded as close as 1.3km south east, *Isodon obesulus fusciventer* (Quenda - Priority 5) recorded 3.65km south east and the *Oreoica gutturalis gutturalis* (Crested bellbird - Priority 4), recorded 8.2km north west of the application area.

To mitigate the potential loss of fauna habitat, revegetation conditions will be imposed on the permit.

Methodology Keighery (1994)
Stewart (2008)
Naturebase (2008)
SAC Bio datasets

GIS datasets:
- Albany 1.4m Orthomosaic - DLI March 03
- Sac Biosets (fauna)

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal is not at variance to this Principle

Seven rare flora species have been recorded within the local (10km radius) area, and 3 of these occur in the same vegetation complex and soil type as the area under application. However, a targeted flora survey conducted throughout the application area found no occurrences of these species (Stewart 2008). The proposal is therefore not at variance to this principle.

Methodology Keighery (1994)
Stewart 2008
SAC Bio datasets

GIS datasets:
- Albany 1.4m Orthomosaic - DLI March 03
- Pre-European Vegetation - DA 01/01

(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 Threatened Ecological Communities (TEC) within 10km radius of the area under application. It is unlikely that the vegetation under application is necessary for the maintenance of a TEC.

Methodology SAC Bio datasets

GIS datasets:
- Albany 1.4m Orthomosaic - DLI March 03
- Pre-European Vegetation - DA 01/01

(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 may be at variance to this Principle

The proposed clearing occurs within the Jarrah Forest IBRA Region, where 53.4% of native vegetation remains, and within the City of Albany 35.6% is remaining. The vegetation under application is a component of Beard complex 978, of which 37.1% of the pre-European extent remains in the City of Albany (Shepherd et al. 2007).

Given that the vegetation under application to be cleared is 3ha of native vegetation considered to be in very good (Keighery 1994) condition (Stewart 2008), in a landscape which has approximately 30% vegetation remaining (10km radius), the vegetation under application may be considered locally significant. Additionally, the application area lies in the middle of a remnant of native vegetation, and the clearing as proposed is likely to cause fragmentation and disturbance to ecological linkages.

To mitigate the possible loss of native vegetation in the local area, a condition to revegetate the area to be cleared will be imposed on the permit.

Methodology Shepherd et al. (2007)
Keighery (1994)
Stewart (2008)

GIS datasets:

- Pre-European Vegetation - DA 01/01
- Albany 1.4m Orthomosaic - DLI March 03
- 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 likely to be at variance to this Principle

Mill Brook is located 545m west, and is a tributary of the King River, located 1.2km south of the area under application. Oyster Harbour, a nominated ANCA lake, is located 5.7km south east of the site. Given the distance, the vegetation under application is unlikely to be associated with a watercourse or wetlands, therefore is not likely to be at variance to this principle.

Methodology GIS datasets:

- Albany 1.4m Orthomosaic - DLI March 03
- Hydrography, linear (hierarchy) - DOW
- South Coast Significant Wetlands - DOE 4/8/03
- Geodata, Lakes - GA 28/06/02
- 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 application area occurs on low-lying wet plains with swamps and lakes, some estuarine areas, and the chief soils are leached sands, some of which have thin peaty surface horizons (Northcote et al. 1968).

The soil within the proposed area to be cleared are of low permeability, and as such the water erosion risk is considered to be very low. In addition to this, the wind erosion risk is also considered to be low-moderate (DAFWA 2007). Therefore, the proposed clearing of 3 ha is unlikely to cause appreciable land degradation.

**Methodology Northcote et al. (1968)
DAFWA(2007)**

- GIS Datasets:**
- Soils, statewide
 - Albany 1.4m Orthomosaic DLI March 03

(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

There are 4 areas reserved for conservation within a 10 km radius of the area under application, with the closest being Bakers Junction Nature Reserve, located 2.5km north east, and Bon Accord Nature Reserve, located 3.3km east. There is some ecological linkage between the reserves and the application area, however these reserves are located higher in the landscape, therefore it is unlikely that the proposed clearing will significantly impact on these reserves.

Methodology GIS datasets:

- Albany 1.4m Orthomosaic - DLI March 03
- CALM Managed Lands and Waters - CALM 1/07/05
- Register of National Estate - EA 28/01/03
- Pre-European Vegetation - DA 01/01

(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

Ground water salinity levels on the area under application are 500-1000 (TDS mg/L), however there is an area of land 5.5km to the north east where levels are presently 1000-3000 (TDS mg/L). Depth of groundwater within the local area (10km radius) ranges from 7 m to more than 20 m, while areas that drain into creeks have water within 5 m of the surface (Ryder 2004).

Groundwater pH is 6 to 7 (neutral), yet levels are currently rising at a rate of 0.10 - 0.15m/yr. The area under application is considered to have a medium risk of shallow watertables developing, due to the current depth and rate of rise (Ryder 2004).

There is currently no known risk of Acid Sulfate Soil (ASS) disturbance on the proposed cleared area, although there are sites within the local area which are classed as high to moderate ASS disturbance risks.

Given the size of the area to be cleared, and its position in the landscape, it is not likely that the proposed cleared area will impact on surface or groundwater quality.

Methodology Ryder (2004)

GIS Dataset:

- Salinity Mapping LM 25m DOLA00
- Soils, statewide
- Acid sulfate soils Risk Map Lower South West

(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 has an elevation of between 30-40m, with the site being described as having low relief consisting of gentle slopes and undulating rises (DAFWA 2007). It is considered to be unlikely that the proposed clearing will cause an increased flooding risk.

Methodology DAFWA (2007)

GIS datasets:

- Topographic Contours, Statewide
- Albany 1.4m Orthomosaic - DLI March 03

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

Comments

The land use is zoned public purpose, with a management order for "Gravel."

Methodology GIS datasets:

- Aboriginal sites of significance
- Town Planning Scheme Zones

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principle (a), may be at variance to Principles (b), and (e), is not at variance to Principle (c) and is not likely to be at variance to the remaining clearing Principles.

5. References

- DAFWA Land degradation assessment report (2007). Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref 35938.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Ryder, A., Department of Agriculture Western Australia (2004), Groundwater trends in the Albany Hinterland sub-region Shepherd, D.P. (2007). 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.
- Stewart, P. (2008) Flora Survey Millbrook Road Gravel Pit S018. City of Albany, TRIM ref DOC70329.

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)