GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5195/1
Permit Holder:	Brookfield Rail Pty Ltd
Duration of Permit:	11 January 2013 – 11 January 2018

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I –CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of upgrading infrastructure and fire hazard reduction.

2. **Land on which clearing is to be done**
   Lot 72 on Deposited Plan 183354 – Reserve 37062, Meenaar

3. **Area of Clearing**
   The Permit Holder must not clear more than 0.6 hectares of native vegetation within the area hatched yellow on attached Plan 5195/1.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Compliance with Assessment Sequence and Management Procedures**
   Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

6. **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.

7. **Weed control**
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*:
(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
(b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

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

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

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;

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 *Agriculture and Related Resources Protection Act 1976*.

M Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

20 December 2012

Plan 5195/1

LEGEND

Local Government Authorities
Cadastre
Road Centrelines
Clearing Instruments

Northam 50cm Orthomosaic - Landgate 2006

N

0 ~75 m

Scale 1:2500
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M Warnock ..... Date 20/12/12

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Department of
Environment and Conservation

Our environment, our future

** Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.*

Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5195/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Brookfield Rail

1.3. Property details

Property: LOT 72 ON PLAN 183354 (Lot No. 72 GREAT EASTERN MEENAAR 6401)
Local Government Area: Shire of Northam
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.6		Mechanical Removal	Hazard reduction or fire control

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 December 2012

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: 694 - Shrublands; scrub-heath on yellow sandplain banksia-xylomelum alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions (Shepherd et al. 2001).	The amended application is to clear up to 0.6 hectares of native vegetation within Lot 72 on Deposited Plan 183354, Meenar for the purpose of replacing the Brookfield Rail Meenar Radio Tower and increasing the surrounding firebreak.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Vegetation description and condition were determined through aerial imagery (Northam 50cm Orthomosaic - Landgate 2006) and information provided by proponent (Brookfield Rail Pty Ltd 2012; Niche Environmental Services 2012).

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

This amended application is to clear up to 0.6 hectares of native vegetation in good (Keighery 1994) condition within Lot 72 on Deposited Plan 183354, Meenaar for the purpose of replacing the Brookfield Rail Meenaar Radio Tower and increasing the surrounding firebreak.

The clearing proposed under the initial application was for one hectare of native vegetation. The assessment of this initial proposal concluded that the proposed clearing was at variance to principle (e), may be at variance to principle (a), (c) and (h) and was not likely to be at variance to the remaining principles.

The applicant was notified of these issues and asked to modify the application. In response the applicant reduced the clearing footprint from one hectare to 0.6 hectares and conducted a targeted flora survey to demonstrate that no priority or rare flora occurred within the application area.

The following assessment is for the amended area of 0.6 hectares.

There are several records of a priority 3 flora species (Wildlife Conservation Act 1950) within the Meenaar Nature Reserve, which surrounds the application area. This species occurs in sandy clay-loam soils in vegetation of Eucalyptus wandoo, Casuarina huegeliana and Acacia acuminata (DSEWPC 2009). Another priority 3 (Wildlife Conservation Act 1950) flora species also occurs within close proximity to the proposed clearing. A targeted flora survey was conducted by Niche Environmental Services in November 2012 and no priority flora species were recorded within the application area (Niche Environmental Services 2012).

The vegetation under application has been affected by historical disturbances including logging and clearing for access tracks and firebreaks (Niche Environmental Services 2012).

Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology References:

DSEWPC 2009
Keighery 1994
Niche Environmental Services 2012
GIS Databases:
- Northam 50cm Orthomosaic - Landgate 2006
- NLWRA, Current extent of Native Vegetation
- Pre European Vegetation
- SAC Biodatasets

(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 three fauna species of conservation significance recorded within the local area (10 kilometre radius). These are the Rainbow Bee-Eater (Merops ornatus; protected under international agreement), Peregrine Falcon (Falco peregrinus; specially protected) and the Australian Peregrine Falcon (Falco peregrinus subsp. Macropus; specially protected).

Given the mobile nature of these species, it is unlikely that the area under application comprises significant habitat and therefore the proposed clearing is unlikely to be at variance to this principle.

Methodology

References:
DEC 2007-

(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 several records of a rare flora species within close vicinity to the application area. This species occurs in wandoo woodlands on deep yellow sand over gravel (Brown et al. 1998).

A targeted flora survey was conducted by Niche Environmental Services in November 2012 and no rare flora species were recorded within the application area (Niche Environmental Services 2012).

Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology

References:
Brown et al. 1998
Niche Environmental Services 2012
GIS Databases:
- Northam 50cm Orthomosaic - Landgate 2006
- Pre European Vegetation
- SAC Biodatasets
- Soils, Statewide

(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 records of threatened ecological communities within 10 kilometres of the application area and therefore the proposed clearing is not likely to be at variance to this principle.

Methodology

GIS Databases:
- SAC Biodatasets

(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 application area is located within an extensively cleared and fragmented landscape, with the local area (10 kilometre radius) retaining approximately 10 percent native vegetation. The IBRA Bioregion (Avon Wheatbelt) and the local government agency (Shire of Northam) retain approximately 18 per cent and 24 percent of their respective pre-European extents (Government of Western Australia 2011).

The application area is mapped as Beard Vegetation Association 694, which retains approximately 12 192 hectares (seven percent) of its pre-European extent within the Avon Wheatbelt IBRA Bioregion. Approximately 13 percent of Beard 694 is held in secure land tenure (Government of Western Australia 2011).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss

appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

Although the local area (10km radius) has been extensively cleared, the vegetation under application has been previously disturbed through logging and clearing for access tracks and firebreaks (Niche Environmental Services 2012), does not contain rare or priority flora, and comprises 0.005 percent of the remaining Beard Vegetation Association, therefore it is unlikely to be a significant remnant.

Therefore the proposed clearing may be at variance to this principle.

The requirement to avoid and minimise clearing where possible will reduce the impact of the proposed clearing.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Avon Wheatbelt	9 517 110	1 732 027	18	10
Shire*				
Shire of Northam	143 126	33 909	24	24
Beard Vegetation Association in Bioregion*				
694	173 930	12 192	7	13

* Government of Western Australia 2011

Methodology

References:
Commonwealth of Australia 2001
Government of Western Australia 2011
Niche Environmental Services 2012
GIS Databases:
- Northam 50cm Orthomosaic - Landgate 2006
- NLWRA, Current extent of Native Vegetation

(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 watercourses or wetlands intersecting the application area. Therefore, the proposed clearing is unlikely to be at variance to this principle.

Methodology

GIS Databases:
- ANCA Wetlands
- Hydrography, Linear
- Northam 50cm Orthomosaic - Landgate 2006
- Ramsar Wetlands

(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 soil within the application area is mapped as Uf1, which Northcote et al. (1960-1968) describes as undulating terrain with ridges, spurs, and lateritic mesas and buttes: chief soils on the broad undulating ridges and spurs are hard, and also sandy, neutral, and also acidic, yellow mottled soils, all containing ironstone gravels. Associated are a variety of soils on the shorter pediment slopes and dissection products of the lateritic mesas and buttes.

The application area is located mid slope on relatively gradual terrain and the area is mapped as having 400 millilitres annual rainfall.

Given the porous nature of the soils, low rainfall and the low gradient of the application area water erosion is unlikely to occur.

Land degradation in the form of soil erosion is unlikely as the area under application will be buffered on all sides by vegetation.

The proposed clearing is not likely to cause appreciable land degradation, therefore the application is not likely to be at variance to this principle.

Methodology

References:
Northcote et al. (1960-1968)

GIS Databases:
- Mean Annual Rainfall
- Topography, Statewide

(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

The application area is surrounded by the Meenar Nature Reserve. The disturbance caused by the proposed clearing may increase the risk of weeds and dieback spreading into the adjacent nature reserve. The clearing may also increase rabbit activity in the adjacent nature reserve.

Therefore, the application may be at variance to this principle.

Weed management practices and rabbit control will assist in reducing the potential impacts.

Methodology

References:
DEC 2012
GIS Databases:
- Northam 50cm Orthomosaic - Landgate 2006
- DEC Tenure

(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 groundwater salinity within the application area is 14000 - 35000 milligrams per litre of Total Dissolved Solids. This level of groundwater salinity is considered to be highly saline. Given the surrounding vegetation and the lack of watercourses within close proximity to the application area, groundwater deterioration is unlikely to be an issue.

There are no watercourses or wetlands in close proximity to the application area, therefore surface water is not likely to be negatively impacted by the proposed clearing.

Therefore, the proposed clearing is unlikely to be at variance to this principle.

Methodology

GIS Databases:
- Northam 50cm Orthomosaic - Landgate 2006
- Salinity, Statewide
- Pre European Vegetation
- SAC Biodatasets

(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

Given the relatively small area under application and the surrounding vegetation, the proposed clearing is unlikely to cause or exacerbate flooding. Therefore the application is not likely to be at variance to this principle.

Methodology

GIS Databases:
- Bunbury 50cm Orthomosaic - Landgate 2008
- Donnybrook 50cm Orthomosaic - Landgate 2004
- Soils, Statewide

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

Comments

In response to the Department of Environment and Conservation's letter dated 27 September 2012, the applicant reduced the proposed clearing from one hectare to 0.6 hectares and had a targeted survey by conducted (Niche Environmental Services 2012).

The application area is located within the Avon River Catchment area, a surface water area covered by the Rights in Water and Irrigation Act 1914. Given the purpose of the proposed clearing, the applicant is unlikely to require a Department of Water license.

No public submissions have been received in responses to this application.

Methodology

References:
Niche Environmental Services 2012
GIS Databases:

- RIWI Act areas

4. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed 22/08/2012.

DEC (2012) Regional Advice for Clearing Permit Application CPS 5195/1, Lot 72 on Deposited Plan 183354. Department of Environment and Conservation, Western Australia (DEC REF: A546358).

DSEWPC (2009) Flora of Australia Online. Department of Sustainability, Environment, Water, Populations and Communities, Commonwealth of Australia. <http://www.environment.gov.au/biodiversity/abrs/online-resources/flora/main/>

Government of Western Australia (2011); 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.

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

Niche Environmental Services (2012) Findings of a targeted flora search over the proposed extension of the Meenaar Radio Mast. Niche Environmental Services (DEC REF: A580776).

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.

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.

5. 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)