



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3530/1
Permit Holder:	Holcim (Australia) Pty Ltd
Duration of Permit:	4 April 2010 – 3 Feb 2017

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 establishing a quarry and supporting infrastructure.

2. Land on which clearing is to be done

Lot 26 on Plan 11648 (MINNENOOKA)

3. Area of Clearing

The Permit Holder must not clear more than 2.6 hectares of native vegetation within the area shaded yellow on attached Plan 3530/1.

4. Type of clearing authorised

The Permit Holder shall not clear any native vegetation after 3 Feb 2015

5. 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.

6. 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

7. 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 only move soils in *dry 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.

8. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil.
- (b) at an *optimal time* following clearing authorised under this Permit, *revegetate* and *rehabilitate* the area that is no longer required for the purpose for which it was cleared under this Permit by:
 - (i) laying the vegetative material and topsoil retained under condition 8(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 are used to *revegetate* and *rehabilitate* the area.
- (c) within 18 months of undertaking *revegetation* and *rehabilitation* in accordance with condition 8(b) of this Permit:
 - (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 8(c)(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 8(b)(iii) of this Permit.

PART III - RECORD KEEPING AND REPORTING

9. Records must 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 a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (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 8:
 - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (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*.

10. 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 9 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 3 November 2016, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(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;

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

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 20 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;

optimal time means the period from April to May for undertaking *direct seeding*, and the period from May to June for undertaking *planting*;

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 *Agriculture and Related Resources Protection Act 1976*.



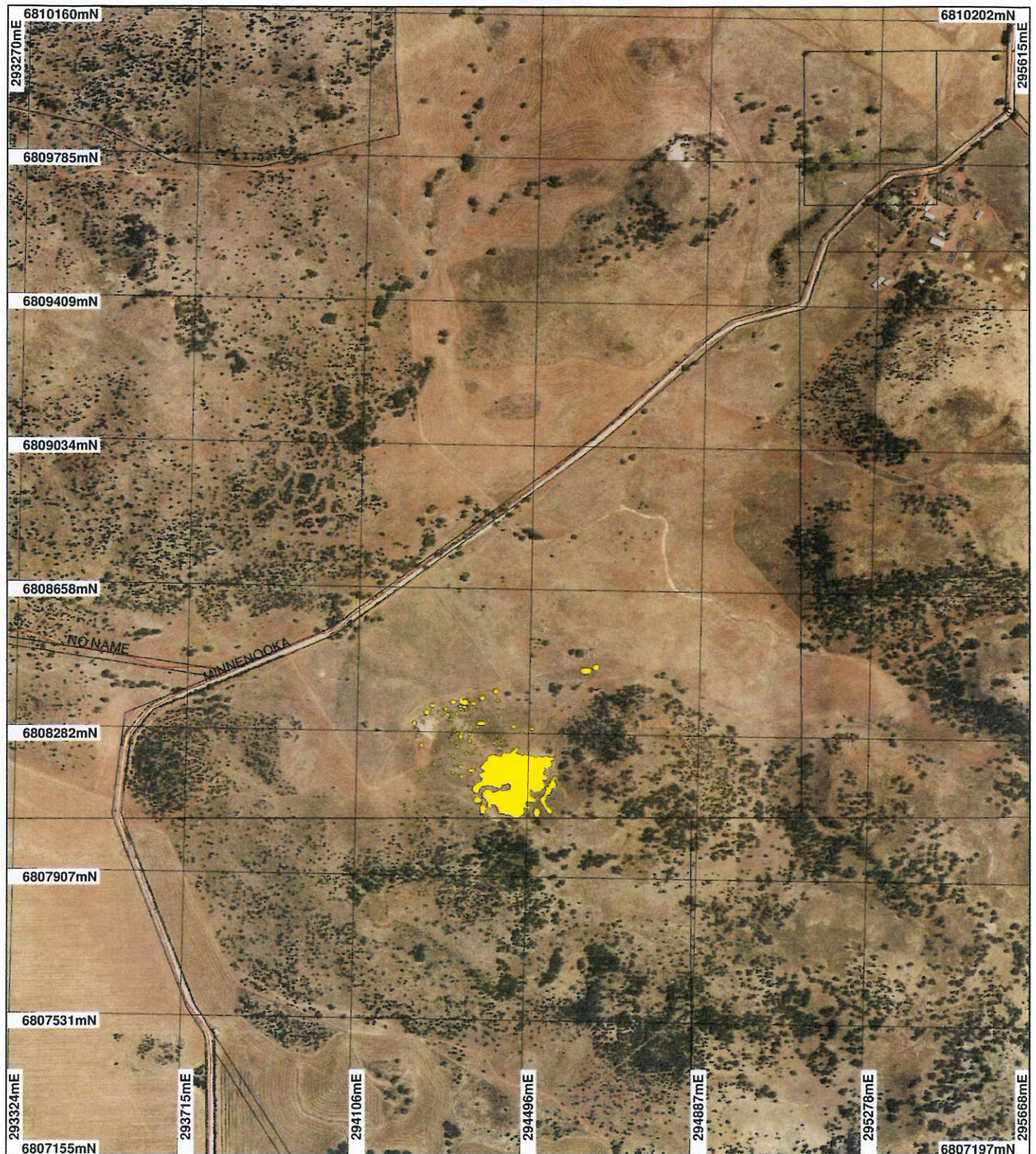
Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

4 March 2010

CPS 3530/1, 4 March 2010

Plan 3530/1



LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines
- Cadastre
- Geraldton 50cm Orthomosaic - Landgate 2006



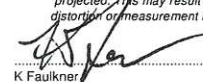
0 ~375 m

Scale 1:13453

(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.

 Date 6/3/10

K Faulkner
Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

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



Department of
Environment and Conservation

Our environment, our future
WA Crown Copyright 2002



1. Application details

1.1. Permit application details

Permit application No.: 3530/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Holcim (Australia) Pty Ltd

1.3. Property details

Property: LOT 26 ON PLAN 11648 (MINNENOOKA 6532)
Local Government Area: City of Geraldton - Greenough
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.6		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
Mapped Beard (1980) vegetation association 35 is described as Shrublands; jam scrub with scattered York gum.	This application proposes to clear 2.6 hectares of native vegetation. The vegetation under application has been described as loosely assembled trees and shrubs with an average height of 4 meters (Garry Ovens for EnviroWorks Consulting, 2009). This vegetation has been extensively grazed and as a result is in a degraded to completely degraded condition.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation condition was determined by photos provided in the consultants report (EnviroWorks Consulting, 2009) and digital imagery.
Association 675 - Shrublands; mixed thicket (melaluca & hakea).			

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 application proposes to clear 2.6 hectares of native vegetation within Lot 26 on Plan 11648, Minnenooka, for the purpose of establishing a quarry and supporting infrastructure. Lot 26 covers an area of 116ha of which about 80% is cleared. The remaining vegetation has been extensively grazed and is in a degraded to completely degraded condition (Keighery, 1994).

There were four priority flora species found on the same vegetation and soil type however due to the degraded condition of the vegetation it is unlikely that the project area will support any of these species.

Within the Local area (10km radius) there was one Specially Protected (Peregrine Falcon) and two Priority fauna species (Shield-blackened Trapdoor Spider and Gilled Slender Bluetongue) Fauna recorded. The vegetation proposed to be cleared is unlikely to provide critical habitat for these indigenous species.

Within the local area there are no recorded conservation areas. The removal of the vegetation under application is unlikely to sever any ecological linkages between larger remnant vegetation patches.

There are no threatened ecological communities of conservation significance or wetlands in the vicinity of the area under application.

Given the above the proposed clearing is unlikely to be at variance to this proposal.

Methodology Commonwealth of Australia (2001)
Keighery (1994)

GIS database:

- ANCA wetlands - Environment Australia 26/3/99
- DEC Tenure- CALM 01/06/05
- EPP Lakes Policy Area - DEP 14/05/97
- Geraldton 50am Orthomosaic, Landgate 2006
- Hydrography linear - DOW 13/7/06
- SAC Biodatasets - accessed 28 Jan 2010

(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**

Within the local area (10km radius), the following Specially Protected and Priority Fauna are known to occur:

- Shield-backed Trapdoor Spider (Arachnid a)
- Peregrine Falcon (Falco peregrinus)
- Gilled Slender Bluetongue (Cyclodomorphus branchialis)

The habitat critical for survival the Shield-backed Trapdoor Spider consist of open York gum (*Eucalyptus loxophleba*), salmon gum (*E. salmonophloia*), and wheatbelt Wandoo (*E. capillosa*) woodland, where Jam (*Acacia acuminata*) forms a sparse understorey in heavy clay soils (DEC, 2008). There is a possibility that the project area may provide necessary habitat for the Shield-backed Trapdoor Spider, however it is unlikely that the clearing of this vegetation will significantly impact any local populations. It is unlikely that the area to be cleared will support a significant population or sub-population in its own right (DEC, 2010).

The Peregrine Falcon is listed under Schedule 4 (other specially protected fauna) under the WA Wildlife Conservation Act. This species habitat is rocky ledges, cliffs, water courses and open woodland (EnviroWorks Consulting, 2009). There is a possibility the Peregrine Falcon will be present in the project area but given its highly mobile nature it is unlikely the species will be impacted.

The Gilled Slender Bluetongue prefers habitat with ground cover such as leaf litter and fallen timber (EnviroWorks Consulting, 2009). Photographs of the project area show that there is little ground cover and so the possibility of this species being present is low.

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

Methodology DEC (2008)
DEC (2010)
EnviroWorks Consulting (2009)

GIS database:

- SAC Biodatasets - accessed 28 Jan 2010

(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**

Six priority flora species have been recorded within a 10km radius. *Grevillea erinacea* (P3), *Baeckea staminosa* (P1), *Grevillea fililoba* (P1), *Baeckea* sp. Walkaway (P3), *Leucopogan* sp. Kojarena (P1) and *Schoenus griffinianus* (P3). *Leucopogan marginatus* was the only Declared Rare Flora species recorded in the local area.

Of the six priority flora species four were found on the same soil and vegetation type (*Grevillea erinacea*, *Baeckea staminosa*, *Grevillea fililoba* and *Leucopogan* sp. Kojarena). However, given the degraded condition (Keighery, 1994) of the vegetation under application, it is unlikely to provide habitat for the threatened or priority flora known in the local area.

Methodology Keighery (1994)

GIS database:

- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 11 Nov 09
- Soils, Statewide DA 11/99

(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**
 No Threatened Ecological Communities were recorded within a 10km radius of the application area.

Methodology GIS Database:
 - SAC Biodatasets - accessed 28 Jan 2010
 - Pre European Vegetation - DA 01/01
 - 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 may be at variance to this Principle**

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions*			
Geraldton Sandplains	3 136 024.64	1 341 266.64	42.77
Shire*			
Geraldton - Greenough			
Geraldton	2 409.39	489.5	10.56
Greenough	174 423.85	28 366.91	16.26
Beard Vegetation Association*			
35	184 501.78	19 486.29	10.56
675	51 850.63	10 991.70	21.20
Beard Vegetation Association with Bioregion*			
35	174 310.42	18 295.65	10.50
675	35 788.05	6 925.79	21.20

* (Shepherd et al. 2007)

** (Mattiske Consulting 1998)

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001, EPA 2000).

The vegetation under application is mapped as comprising two vegetation associations, 35 has approximately 10.5% and 675 has approximately 21.2% of its pre-clearing extent remaining within the Geraldton Sandplains bioregion (Shepherd et al.2007).

Although vegetation representations within these regions are low, the vegetation under application has been assessed as degraded and consequently is not a quality representation of these vegetation associations.

Therefore the proposed clearing maybe at variance to this principle.

Methodology Commonwealth of Australia (2001)
 EPA (2000)
 Mattiske Consulting (1998)
 Shepherd et al (2007)

GIS Databases:
 - Local Government Authorities
 - Pre European Vegetation
 - Sac Biodatasets

(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 application area falls within 1.2km of Greenough River. Greenough River is a major, non perennial river which does not flow for most of the year. Two unnamed minor, non perennial water courses run through the application area and into the Greenough River. A permit to interfere with bed and banks is not required (DoW, 2010).

Within the local area no other wetlands including EPP Lakes, RAMSAR or ANCA site were recorded.

Consultants report indicates that this proposal is not associated with riparian or wetland vegetation (EnviroWorks Consulting, 2009)

Methodology EnviroWorks Consulting (2009)

GIS Databases:

- ANCA wetlands - Environment Australia 26/3/99
- DEC Tenure- CALM 01/06/05
- DoW (2010)
- EPP Lakes Policy Area - DEP 14/05/97
- EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

(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**

Mapped soil type Pb29 is described as generally rolling but sometimes undulating or hilly terrain on granulate; some rock outcrops; some mesas and buttes of unit Uc2: chief soils are hard acidic red soils and neutral red soils (Northcote et al. 1960- 1968).

Due to the removal of vegetation the surface will be more exposed and will be more susceptible to erosion by wind and water. Although wind erosion may occur it is not likely to be a major issue because of the stony nature of the surface. Due to the project area being on a medium relief slope surface water runoff will flow downhill towards the Greenough River.

The mean annual rain fall over this area is relatively low (500mm) and given the rocky nature of the soil, infiltration rates are likely to be high which will mean that land degradation in the form of erosion will be kept to a minimum.

Methodology Northcote et al. (1960- 1968)

GIS Databases:

- Average Annual Rainfall Isohyets - WRC 29/09/98
- Annual Evaporation Contours (Isopleths) - WRC 29/09/98
- Hydrogeology, statewide - DOW 13/07/06
- Hydrography, linear - DOW 13/7/06
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide DA 11/99
- Topographic contours statewide - DOLA and ARMY 12/09/02
- Hydrogeology, Statewide 05 Feb 2002

(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 only conservation area within a 10km radius is an unnamed Nature Reserve which is located 9km North East of the application area.

Methodology GIS Databases:

- DEC Tenure - DEC Sept 08
- Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 02

(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 project area falls within the groundwater area of Greenough River Catchment which a proclaimed area under the Rights in Water and Irrigation Act 2004 (RIWI). This property also falls within the Gascoyne groundwater area. The Department of Water (DoW, 2010) has advised that the proposed clearing is not expected to impact the Greenough River or the local groundwater aquifer.

This proposal has potential to change surface water flow and quality. The proponent (EnviroWorks Consulting, 2009) will manage the potential effects on the water quality which will drain into the Greenough River. Practices will include: Minimal clearing to preserve natural habitat and minimize dust generation, stockpiles of

erodible material will be located away from roads to minimize sediment transport in runoff and a water cart will be used to minimize dust. Department of Water (DoW, 2010) are satisfied that the environmental strategy prepared by EnviroWorks Consulting for surface water is considered appropriate for minimising the risk of sediment runoff into the Greenough River.

Methodology EnviroWorks Consulting (2009)
DoW (2010)

GIS database:

- Groundwater Salinity Statewide DoW 13/07/06
- Hydrography, linear - DOW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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 at variance to this Principle**
Flooding is not likely to result from the proposed clearing

Methodology GIS database:
- Hydrography, linear - DoW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments
Planning approval and Extractive Industry Licence have been granted. Extractive Industry Licence expires 3 February 2015.

Department of Water have advised that a 5C licence to take water and a permit to interfere with bed and banks is not required (Dow, 2010).

Methodology DoW, 2010

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 assessment recommendation is that the proposed clearing maybe at variance to principle (e) and the remaining principles are not likely to be at variance.

5. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2008), Trapdoor Spider advice, DEC TRIM Ref: DOC120405
- DEC (2010), Trapdoor Spider advice, DEC TRIM Ref: DOC121040 and DOC120588
- Department of Water (2010) Rights in Water and Irrigation Advice. DEC TRIM Ref: DOC120304.
- EnviroWorks Consulting (2008), Extractive Industry Licence, Minnenooka Road Quarry, Holcim (Australia) Pty Ltd, DEC TRIM Ref: DOC114246.
- 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, 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.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment 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.
- 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.

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 (now DEC)
DMP	Department of Mines and Petroleum (ex DoIR)
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)