



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 5289/1
File Number: 2012/006766-1
Duration of Permit: From 29 March 2013 to 29 March 2015

PERMIT HOLDER

Schaffer Corporation Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 101 on Deposited Plan 64422, Jandakot
Lots 103 and 104 on Deposited Plan 71082, Jandakot

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 3.3 hectares of native vegetation within the area cross hatched yellow on attached Plan 5289/1.

CONDITIONS

1. Fauna management

- (a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* who shall identify habitat suitable to be utilised by the Southern Brown Bandicoot (*Isoodon obesulus subsp. fusciventer*);
- (b) Prior to clearing, any habitat identified by condition 1(a) shall be inspected by a *fauna specialist* for the presence of Southern Brown Bandicoot (*Isoodon obesulus subsp. fusciventer*).
- (c) Where Southern Brown Bandicoot (*Isoodon obesulus subsp. fusciventer*) are identified in relation to condition 1(b) of this Permit, the Permit Holder shall ensure that no taking of identified fauna occurs unless approved by the CEO.

2. Records must be kept

In relation to fauna management pursuant to condition 1 of this Permit:

- (a) the location of each Southern Brown Bandicoot (*Isoodon obesulus subsp. fusciventer*) recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
- (b) a copy of the fauna specialist's report.

3. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 2 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 29 December 2015, the Permit Holder must provide to the CEO a written report of records required under condition 2 of this Permit where these records have not already been provided under condition 3(a) of this Permit.

DEFINITIONS

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

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;



M Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH





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

7 March 2013

Plan 5289/1



LEGEND

-  Road Centrelines
-  Cadastre for labelling
-  Clearing Instruments
-  Areas Approved to Clear

Perth Metropolitan Central
15cm Orthomosaic - Landgate
2011



0 100 m

Scale 1:4102
(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 7/3/13
M Warnock

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

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1. Application details

1.1. Permit application details

Permit application No.: 5289/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Schaffer Corporation Ltd

1.3. Property details

Property: LOT 103 ON PLAN 71082 (Lot No. 103 JANDAKOT JANDAKOT 6164)
LOT 104 ON PLAN 71082 (House No. 7 JANDAKOT JANDAKOT 6164)
LOT 101 ON PLAN 64422 (House No. 27 JANDAKOT JANDAKOT 6164)

Local Government Area: City of Cockburn

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.3		Mechanical Removal	Industrial

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 7 March 2013

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
The vegetation under application has been mapped as Beard Vegetation Association 1001, which Shepherd et al (2001) describes as 'Medium very sparse woodland; jarrah, with low woodland; banksia & casuarinas'.	The area under application comprises two distinct sites. One is a rehabilitated sand extraction site, rehabilitated with a mixture of Western Australian and non-Western Australian shrub and tree species with little or no groundcover (3.7 hectares). The other a 100m x 20m disturbed banksia woodland strip bounded on the southern boundary by Jandakot Road and on the west, east and northern sides by existing industrial infrastructure. The vegetation here is comprised of scattered <i>Banksia menziesii</i> , <i>B. attenuata</i> , <i>B. olicifolia</i> , <i>Nuytsia floribunda</i> , <i>Agonis flexuosa</i> , <i>Xanthorrhoea preissii</i> , <i>Patersonia occidentalis</i> , <i>Allocasuarina</i> sp., <i>Callistomen</i> sp., <i>Jacksonia</i> sp., <i>Melaleuca</i> sp. and several non-endemic eucalyptus trees (0.2 hectares). This site is heavily infested with veldt grass, wild oats and gladioli (DEC, 2012 and PGV, 2012).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994) To Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the vegetation was determined from supporting information provided by PGV Environmental (2012) and a site visit (DEC, 2012a).

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 application is to clear approximately 2.8 hectares of disturbed native vegetation within Lot 103 on Deposited Plan 71082 and Lot 104 on Deposited Plan 71082, Jandakot and 1.1 hectares of a rehabilitated sand extraction site on Lot 101 on Deposited Plan 64422 and parts of Lot 103 and 104, for the purpose of expanding an industrial site.

The rehabilitated extraction site comprises a patchy distribution of non-endemic Western Australian and non-Western Australian tree and shrub species and includes: *Agonis flexuosa*, *Callistrix preissii*, *Corymbia maculate*, *Eucalyptus camaldulensis*, *E. platypus*, *Melaleuca armillaris* and *M. nesophila* over grey/white sand with little or no groundcover (PGV, 2012). Rehabilitation was for soil stabilisation only and not to replace lost biodiversity. This site has little or no biodiversity value but is considered 'native vegetation' under the Environmental Protection Act 1986 as the vegetation was planted as a requirement of another written law, that being a condition of an extractive industry licence granted by the City of Cockburn.

The 1.1 hectare area consists of altered and disturbed banksia woodland bounded to the south by Jandakot Road and on the west, east and northern sides by existing industrial infrastructure. The vegetation structure of this area has been impacted by these adjoining land uses and is in a degraded (Keighery) condition. The remaining vegetation comprises *Banksia menziesii*, *B. attenuata*, *B. illicifolia*, *Nuytsia floribunda*, *Agonis flexuosa*, *Xanthorrhoea preissii*, *Patersonia occidentalis*, *Allocasuarina* sp., *Callistomen* sp., *Jacksonia* sp., *Melaleuca* sp. and several non-endemic eucalyptus trees. This site is also heavily infested with veldt grass, wild oats and gladioli (DEC, 2012a; PGV, 2012). The vegetation condition ranges from being in a degraded to good (Keighery, 1994) condition (DEC, 2012a).

Based on the soil and vegetation types present it is possible that the banksia woodland could have historically supported either a rare orchid species or several priority listed flora species. However, given the small area, the disturbed nature and extensive weed coverage of the area under application, it is unlikely the area provides suitable habitat for these flora species (PVG, 2012; DEC, 2012a).

The area under application is not likely to be at variance to this principle.

Methodology

References:

DEC (2012a)
PVG (2012)
Keighery (1994)

GIS Database:

Pre European Vegetation
Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011
SAC Biodatsets - accessed November 2012

(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

Several fauna species of conservation significance have been recorded within the local area (10km radius). These include ground dwelling mammals (bandicoots, quokka, numbat, tammar) and avian fauna (Carnaby's cockatoo (*Calyptorhynchus latirostris*) and Rainbow Bee-eater (*Merops ornatus*)).

The 1.1 hectare, rehabilitated sand extraction site (rehabilitation is approximately 15 years old) is a mixture of non-endemic Western Australian and mostly non-Western Australian shrub and tree species with little or no groundcover or nesting hollows and is best described as disturbed fauna habitat (DEC, 2012a; PVG, 2012). No evidence of fauna utilising this site were observed during a site visit (DEC, 2012a).

The 2.8 hectare banksia woodland strip is in a degraded to good (Keighery, 1994) condition and is heavily infested with veldt grass, wild oats and gladioli. No nesting hollows were observed, but it's possible some of the banksia could be utilised as a food source for Carnaby's cockatoo. However, other more robust food sources occur within approximately 100-300m of the application area and the general Jandakot area (DEC, 2012a; PGV, 2012).

The Rainbow Bee-eater is a migratory species which utilises sandy habitats for constructing ground level nests between September and October and occupying them until they migrate between February and April. This species, if present within the application area, is unlikely to be impacted if the proposed clearing activity is conducted outside these months. There is suitable habitat adjacent to the application area and the local area that could be utilised by the species.

Potential evidence of the presence the Southern Brown Bandicoot (*Isoodon obesulus* subsp. *fusciventer* - a Priority 5 species), in the form of cone-shaped diggings, was noted at the base of a sheoak tree (PGV, 2012). Fauna management practices will assist to mitigate any impact to this species.

Given the above, the area under application may be at variance to this principle.

Methodology References:

DEC (2012a)
PVG (2012)
Keighery (1994)

GIS Database:

Pre European Vegetation
Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011
SAC Biodatasets - accessed November 2012

(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**

The area under application comprises two distinct sites. One is a rehabilitated sand extraction site, rehabilitated with a mixture of non-endemic Western Australian and non-Western Australian shrub and tree species with little or no groundcover (1.1 hectares). The other a 2.8 hectare, disturbed banksia woodland site heavily infested with weeds such as veldt grass, wild oats and gladioli (DEC, 2012a; PGV, 2012).

There are ten species of rare flora recorded with in the local area (10km radius) dominated by three orchid species whilst the other species are small shrubs. Only one of the orchid species has the potential to occur within the banksia site (WA Herbarium, 1998-; Brown et al, 1998).

Given the historical clearing and previous land use, the rehabilitated site no longer contains habitat suitable for rare flora.

As the banksia woodland site is disturbed, is in a degraded to good (Keighery, 1994) condition and heavily weed infested, it too is unlikely to support any of the orchid species which prefer a weed free and un-disturbed habitat (Brown et al, 1998).

Given the above, the area under application is not likely to be at variance to this principle.

Methodology References:

Brown et al (1998)
WA Herbarium (1998)
Keighery (1994)
DEC (2012a)
PVG (2012)

GIS Database:

SAC Biodatasets - accessed November 2012
Pre European Vegetation

(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 (TEC) have been recorded within the application area.

The closest recorded TEC is community type 10a (Shrublands on dry clay flats) which was recorded on a different soil type, approximately 7.5 km south east of the application area. This community is one of the five Clay Pan Communities of the Swan Coastal Plain. This community is found on a clay substrate and relies solely on rainfall rather than on groundwater (DSEWPC, 2011).

The chief soils of the application are leached sands (Northcote, 1960-68). Given that community type 10a is located on clay substrates the application area does not provide suitable habitat for this community.

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

Methodology References:
DSEWPC (2011)
PGV (2012)
Northcote (1960-68)

GIS Database:
Pre European Vegetation
SAC Biodatasets - accessed November 2012

(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 area under application is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 39 per cent of its Pre European vegetation extent remaining (Government of Western Australia, 2011).

The vegetation under application is mapped as Beard Vegetation Association 1001 which has approximately 25 per cent of its Pre European extent remaining in the Swan Coastal Plain bioregion (Government of Western Australia, 2011).

Digital imagery (Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011) indicates that the local area (10km radius) is a highly developed urban environment and retains approximately 20 per cent vegetation cover.

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). Within constrained areas (i.e. areas of urban development in cities and major towns) on the Swan Coastal Plain and within the Greater Bunbury Region Scheme and Peel Region Scheme the target for representation of the pre-clearing extent of a particular native vegetation complex is 10 per cent (Commonwealth of Australia 2001).

Given the application area is degraded and includes a previously rehabilitated area (rehabilitated for soil stabilisation only), the proposed clearing is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1 501 209	587 889	39	33
Shire*				
City of Cockburn	17 088	5 369	31	17
Beard Vegetation Association in Bioregion*				
1001	57 410	14 112	25	6

Methodology References:
Commonwealth of Australia (2001)
Government of Western Australia (2011)

GIS Database:
- Perth Metropolitan Area Central 20cm Orthomosaic - Landgate 2007
- Pre European Vegetation
- SAC Biodatasets - accessed July 2011

(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 at variance to this Principle

The vegetation under application is not growing in association with a mapped wetland or watercourse, however a mapped dampland occurs 500m, and a mapped sumpland occurs 720m, from the application area. The disturbed banksia area contains some scattered paperbark trees (*Melaleuca* sp., possibly *M. raphiophylla*) indicative of a wetland environment (WA Herbarium, 1998-).

Therefore the clearing as proposed is at variance to this principle.

Methodology References:
WA Herbarium (1998-)

GIS Database:

EPP Lakes Policy Area
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
Hydrography linear

(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 area under application has been mapped as soil type Cb39 which Northcote (1960-68) describes as subdued dune-swale terrain: chief soils are leached sands.

Given the exposed nature and sandy soils present, wind erosion is possible in the short term.

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

Methodology References:

Northcote (1960-68)

GIS database:

Average Annual Rainfall Isohyets
Topographic contours 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 is not likely to be at variance to this Principle

The vegetation under application does not directly link to any conservation area, but is within 200m of a Bush Forever site.

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

Methodology GIS Database:

Bush Forever
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 application area's topography is flat to gently sloping. No mapped watercourses or wetlands exist onsite and the groundwater is mapped at 3-11m below the surface.

Given the relatively small scale of the proposed clearing it is unlikely that this proposal will affect surface or groundwater quality.

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

Methodology GIS database:

Mean Annual Rainfall Isohytes
Topographic Contours, Statewide
EPP Lakes Policy Area
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
Hydrography linear

(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 sandy, leached nature of the soils (Northcote et al, 1960-68), it is unlikely the clearing proposal will increase the incidence or intensity of flooding.

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

Methodology References:

Northcote et al (1960-68)

GIS Database:

Mean Annual Rainfall Isohytes
Topographic Contours, Statewide

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

Comments

The area under application falls within the Jandakot Groundwater Area and is within a priority 2 Jandakot Public Drinking Water Source Area, proclaimed under the Right in Water and Irrigation Act 1914 (RIWI Act). If the applicant's existing production is to be expanded, an amendment to their existing RIWI Act licence is required (DoW, 2012). The applicant has advised that they do not need to amend their RIWI licence as they will not be expanding their production volume (DEC, 2012b).

A Town Planning Scheme 91 Amendment was referred to the Environmental Protection Authority (EPA) under section 48A of the Environmental Protection Act 1986. The EPA's decision was "Scheme Assessment - Not Assessed" (PGV, 2012).

City of Cockburn has provided planning approval (City of Cockburn, 2013).

Methodology

References:

- City of Cockburn (2013)
- DoW (2012)
- DEC (2012b)
- PGV (2012)

GIS Database:

RIWI, Groundwater area

4. References

- Brown A., Thomson-Dans C. and Marchant N. (1998) Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- City of Cockburn (2013) Planning approval for Clearing Permit Application CPS 5289/1 (DEC Ref: A563167).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2012a) Site inspection report for Clearing Permit Application CPS 5289/1, Department of Environment and Conservation, Western Australia.
- DEC (2012b) Supporting information received from applicant for Clearing Permit Application CPS 5289/1, (DEC Ref: A568920)
- DSEWPC (2011) Draft Description - Clay Pan Communities of the Swan Coastal Plain Ecological Community. Department of Sustainability, Environment, Water, Population and Communities:
<http://www.environment.gov.au/biodiversity/threatened/communities/pubs/clay-pans-swan-coastal-draft-description.rtf>.
- 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.
- 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.
- PGV (2012) PVG Environmental Clearing Permit Application CPS 5289/1 and Supporting Documentation (DEC Ref: A549141)
- 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed November 2012).

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)