



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3727/1

File Number: 2010/002800-1

Duration of Permit: From 4 December 2010 to 4 December 2012

PERMIT HOLDER

City of Stirling

LAND ON WHICH CLEARING IS TO BE DONE

Lot 14388 on Plan 18169 (DIANELLA 6059)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.043 hectares of native vegetation within the area hatched yellow on attached Plan 3727/1.

CONDITIONS

1. Dieback and 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* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) shall only move soils in *dry conditions*;
- (c) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (d) 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:

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

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

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; and

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*.

A handwritten signature in cursive script, appearing to read "M G Warnock", written over a horizontal line.

M G Warnock
A/ MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

4 November 2010

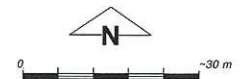
Plan 3727/1



LEGEND

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

Swan Coastal Plain North
20cm Orthomosaic - Landgate
2009



Scale 1:1245
(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 G Warnock Date *4/11/10*
M G 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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* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.



1. Application details

1.1. Permit application details

Permit application No.: 3727/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: City of Stirling

1.3. Property details

Property: LOT 14388 ON PLAN 18169 (House No. 347C MORLEY DIANELLA 6059)

Local Government Area:

Colloquial name: Dianella Regional Open Space

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.043		Mechanical Removal	Road construction or maintenance

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 04 November 2010

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 Type: 1001- Medium very sparse woodland; jarrah, with low woodland; banksia & casuarina.	The proposal is to clear 0.043ha for the purpose of constructing an access road.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation condition was determined from a site visit conducted by DEC officers on the 6 May 2010 (DEC 2010).
Hedde Vegetation Complex: Bassendean Complex Central/ South - Vegetation ranges from woodland of Eucalyptus marginata (Jarrah) - Allocasuarina fraseriana (Sheoak) - Banksia species to low woodland of Melaleuca species, and sedgelands on the moister sites. This area includes the transition of Eucalyptus marginata (Jarrah) to Eucalyptus todtiana (Pricklybark) in the vicinity of Perth.	The vegetation under application consists predominantly of Low Open Woodland of Banksia menziesii and Banksia attenuata woodland with Eucalyptus todtiana, Allocasuarina sp. and Nuytsia floribunda over open shrubland of Xanthorrhoea preissii over Conospermum stoechadis, Alexgeorgea nitens and Mesomelaena pseudostygia in excellent condition (DEC 2010).		
(Shepherd 2007, Hedde et al 1998).	Small areas to the southeast occur in good condition and contain introduced Eucalyptus species over a scattered native understorey containing Xanthorrhoea preissii (DEC 2010).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	

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 vegetation under application consists predominantly of Low Open Woodland of *Banksia menziesii* and *Banksia attenuata* woodland with *Eucalyptus todtiana*, *Allocasuarina* sp. and *Nuytsia floribunda* over open shrubland of *Xanthorrhoea preissii* over *Conospermum stoechadis*, *Alexgeorgea nitens* and *Mesomelaena pseudostygia* in excellent (Keighery, 1994) condition (DEC 2010).

Small areas to the southeast occur in good (Keighery, 1994) condition and contain introduced *Eucalyptus* species over a scattered native understorey containing *Xanthorrhoea preissii* (DEC 2010).

A flora survey undertaken in March 2009 did not identify this species within the application area (City of Stirling 2009). However, as the survey was undertaken outside of the flowering season for this species and that the area under application contains *Eucalyptus* and *Banksia* woodland on sandy soils in excellent condition (DEC 2010), *Caladenia huegelii* may occur within the application area. In addition the area under application may be considered a part of a significant remnant in an extensively cleared area as there is only 6.5% of pre-European vegetation remaining in the City of Stirling.

Although, the majority of the vegetation under application is considered to be in excellent (Keighery 1994) condition, given the relatively small area proposed to be cleared (0.043ha) and that the area is connected to areas of remnant vegetation, the proposed clearing is not likely to be at variance to this Principle.

Methodology References
-DEC (2010)
-Keighery (1994)
GIS Databases
-SAC Bio Datasets (4/2/2010)

(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**

Seven species of conservation significance occur within the local area of the area under application (5km radius). These include the Black striped snake (*Neelaps calonotos*), Quenda (*Isodon obesulus fusciventer*), Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*), Native Bee (*Hylaeus globuliferus*), Muirs Corella (*Cacutua pastinator pastinator*), Western Brush Wallaby (*Macropus irma*) and the Graceful Sun Moth (*Synemon gratiosa*).

Four species of conservation significance have been observed within Dianella Regional Open Space including Carnaby's Black Cockatoo, Baudin's Black Cockatoo (*Calyptorhynchus baudinii*), Teddy Bear Bee (*Amegilla Asaropoda*) and the Haylaeine bee (City of Stirling 2010). In addition, a fauna survey undertaken in March 2009 has established that Dianella Regional Open Space may contain habitat for the Graceful Sun Moth, Carnaby's Black Cockatoo and the Native Bee (City of Stirling 2009).

Therefore, it is believed that the area under application may provide habitat for conservation significant species. However, given the relatively small area proposed to be cleared (0.043ha) and that the area is connected to areas of remnant vegetation, the proposed clearing is not likely to be at variance to this Principle.

Methodology References
-City of Stirling (2009)
-City of Stirling (2010)
GIS Databases
-SAC Bio datasets (4/2/2010)

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

Comments **Proposal may be at variance to this Principle**

Within the local area (~5km radius) there is one known record of the rare flora species *Caladenia huegelii* occurring approximately 4km north-east of the area under application.

Caladenia huegelii is a tuberous, perennial herb, 0.25-0.6 m high with green, cream and red flowers during September to October (WA Herbarium, 1998-). This species is found in deep sandy soil in mixed woodland of jarrah and banksia and favours areas of lush undergrowth with minimum weed evasion (Brown et al, 1998).

A flora survey undertaken in March 2009 did not identify this species within the application area (City of Stirling 2009). However, as the survey was undertaken outside of the flowering season for this species and that the area under application contains *Eucalyptus* and *Banksia* woodland on sandy soils in excellent condition (DEC 2010), *Caladenia huegelii* may occur within the application area.

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

- Methodology** References
 -DEC (2010)
 -City of Stirling (2010)
 -WA Herbarium (1998-)
 -Brown et al (1998)
 GIS Databases
 - SAC Bio Datasets (4/5/2010)

(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**
 Within the local area (~5km radius) there are two known occurrences of Floristic Community Type (FCT) 20a: Banksia attenuata woodland over species rich dense shrublands, which is a Threatened Ecological Community (TEC). The nearest known occurrences of this TEC are located approximately 2km north of the area under application.

The bushland within Dianella Regional Open Space, which includes the area under application have been identified as: - FCT 4: Melaleuca preissiana damplands, and
 - FCT 23a: Central Banksia attenuata-Banksia menziesii woodlands (Government of Western Australia, 2000).

In addition, the flora survey undertaken in March 2009 identified the vegetation under application as FCT 23a (City of Stirling 2009).

Given the area under application is likely to be identified as floristic community type 23a; it is not considered likely that the vegetation under application comprises or is necessary for the maintenance of a threatened ecology community.

- Methodology** References
 -City of Stirling (2009)
 - Government of Western Australia (2000)
 GIS Databases
 -SAC Bio datasets (4/5/2010)

(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 vegetation within the areas under application are identified as part of Beard vegetation type 1001, and Heddl Bassendean Complex Central and South, of which there is 24.58% and 27% of Pre-European extent remaining respectively (Shepherd, 2009; EPA, 2006).

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia, 2001). However, the EPA (2006) recognises the Perth Metropolitan Region as a 'constrained area', providing for the reduction of vegetation complexes to a minimum of 10% of the Pre-European extent.

Both vegetation communities associated with the area of vegetation under application are above the minimum 10% target set by the EPA within the Metropolitan Region.

There is only 5.94% of remnant vegetation remaining in the City of Stirling and approximately 10% remaining within the local area (~5km radius). Given this and that the proposed clearing is within a bush forever site which are recognised as containing significant vegetation, the proposed clearing may be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain [^]	1,501,456	571,758	38.1	
City of Stirling**	10,500	657	6.5	
Local area (5km radius)	7,850	~798	~10.2	
Beard vegetation type*				
1001	57,410	14,545	25.3	4.8

Heddle vegetation complex**					
Bassendean-Central & South	87,477	23,624	27.0	0.7	

* (Shepherd, 2009)

** (EPA, 2006)

^ Area within Intensive Land Use Zone

Methodology References
 -EPA (2006)
 -Shepherd (2009)
 -Commonwealth of Australia (2001)
 GIS Databases
 -SAC Bio Datasets (7/5/2010)
 -Heddle Vegetation Complexes

(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 nearest wetland and watercourse is a Conservation Category Wetland (CCW) located ~470m south and a minor tributary (Bayswater Main Drain) located ~340m east of the area under application. In addition, an area of inundation occurs 200m north of the application area.

No wetland dependant species were observed within the area under application (DEC, 2010).

Given the distance to the nearest wetland and watercourse, and that there is no wetland dependant vegetation within the area under application; the proposed clearing is not likely to be at variance to this Principle.

Methodology References
 - DEC (2010)
 GIS Databases
 -Hydrography, Linear
 -Geomorphic Wetlands (Mgt categories), Swan Coastal Plain

(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 chief soils that occur within the application area are leached sands (Northcote et al 1960-68). These soils have a high risk of wind erosion (Department of Agriculture 2005).

However, given the relatively small area proposed to be cleared (0.043ha), the proposed clearing is unlikely to cause appreciable land degradation through wind erosion. Therefore the proposed clearing is not likely to be at variance to this Principle.

Methodology References
 -Northcote et al (1960-68)
 -Department of Agriculture (2005)
 GIS Databases
 -Soils, 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 at variance to this Principle**
 The area under application is located within Bush forever site 280 (Dianella Regional Open Space; also identified as a System 6 Conservation Reserve), which comprises 16ha of bushland.

The proposed clearing is likely to impact on the environmental values of this conservation area through direct removal of vegetation within the Bush forever site and the spread or introduction of weed species or dieback by machinery. There are serious consequences associated with the spread of such exotic species into areas reserved for conservation, including the potential local extinction of species.

Given the area under application is located within a conservation area, which will directly impact the area through the spread of weeds and dieback it is considered the proposal at variance to this Principle. Weed and dieback control conditions will mitigate the risk of weed and dieback invasion.

Methodology GIS Databases

-Bushforever
-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 nearest wetland and watercourse is a Conservation Category Wetland (CCW) located ~470m south and a minor tributary (Bayswater Main Drain) located ~340m east of the area under application. In addition, an area of inundation occurs 200m north of the application area.

Given the distance to the nearest wetland or watercourse and the relatively small area proposed to be cleared (0.043 ha), it is not considered likely for the proposed clearing to impact surface or ground water quality.

Methodology GIS Databases
-Hydrography, Linear
-Geomorphic Wetlands (Mgt categories), Swan Coastal Plain

(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 nearest wetland and watercourse is a Conservation Category Wetland (CCW) located ~470m south and a minor tributary (Bayswater Main Drain) located ~340m east of the area under application. In addition, an area of inundation occurs 200m north of the application area.

Given the distance to the nearest wetland or watercourse and the relatively small area proposed to be cleared (0.043 ha) it is not considered likely for the proposed clearing to cause or exacerbate the incidence or intensity of flooding.

Methodology GIS Databases
-Hydrography, Linear
-Geomorphic Wetlands (Mgt categories), Swan Coastal Plain

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

Comments

The proposal is to clear 0.043ha for the purpose of constructing an access road.

The area under application is zoned Parks and Recreation under the Metropolitan Regional Scheme and is under management order to the City of Stirling

In 2004 the City of Stirling began a master planning process to balance the sport/recreational needs of the Dianella Regional Open Space and to continue with the conservation of flora and fauna in the bushland. This process resulted in the Council endorsing the Master Plan in May 2008. In July 2008 the Master Plan was submitted to WAPC for approval and WAPC advised that an Environmental Management Plan (EMP) was required. The EMP was endorsed by the Council in April 2010 and it has been submitted to WAPC (City of Stirling 2010).

The proposed road is a part of the Dianella Regional Open Space Master Plan which is currently under assessment with the Western Australian Planning Commission (WAPC).

State Strategic Policy section of the Department of Planning (2010) has no objections to the clearing however recommends that all construction work is to be done in an environmentally sensitive manner and that temporary fencing should be constructed for the duration of the works between the proposed clearing and the remaining vegetation. They also recommend that rehabilitative works be carried out in equivalence to the clearing of native vegetation within Bush Forever area 280.

Methodology References
- City of Wanneroo (2010)
- Department of Planning (2010)
GIS Databases
-Metropolitan Regional Scheme Zones

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 Stirling (2010) Area Permit Application form for CPS 3727/1 - Lot 14388 Morley Dr, Dianella (Reserve 46683) and additional information. DEC ref A300117

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (Year) Site Inspection Report for Clearing Permit Application CPS 3727 Lot 14388 Morley Drive, Dianella. Site inspection undertaken 6 May 2010. Department of Environment and Conservation, Western Australia (DEC Ref. A302772).
- Department of Agriculture (2005) AgMaps Land Manager CD-rom for the Shires of Serpentine-Jarrahdale, Kwinana, Rockingham, Mandurah, Murray, Boddington, Waroona and Harvey. Department of Agriculture, Western Australia. ISSN: 1448-235X.
- Department of Planning (2010) Advice from State Strategic Policy section regarding CPS 3727/1 - Lot 14388 Morley Drive, Dianella. DEC Ref A305608
- EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.
- Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.
- Heddle, 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.
- 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. (2009) 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 5/05/2010).

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)