GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3511/1
Permit Holder:	City of Joondalup
Duration of Permit:	11 December 2010 – 11 December 2015

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 the shared pathway between Hillarys Boat Harbour and Burns Beach.

2. **Land on which clearing is to be done**
   Lot 11176 on Plan 217295, Whitfords (Hillarys 6025)
   Lot 12803 on Plan 15142, Ocean Reef (Iluka 6028)
   Lot 15446 on Plan 40340 (Ocean Reef 6027)

3. **Area of Clearing**
   The Permit Holder must not clear more than 2 hectares of native vegetation within the combined areas hatched yellow on attached Plan 3511/1a and Plan 3511/1b and Plan 3511/1c.

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. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Local Government Act 1995* or any other written law.

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. **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.

8. 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.

(b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

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;

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 G Warnock
A/ MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

11 November 2010

Plan 3511/1a

LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines

N

0 ~75 m

Scale 1:2986
(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 11.11.10

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 acknowleged 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.*

Plan 3511/1b

LEGEND

Clearing Instruments

- Areas Approved to Clear
- Road Centrelines

N

0 ~75 m

Scale 1:3181
(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 11.11.10

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 acknowleged by the agency acronym in the legend.

Department of Environment and Conservation

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Plan 3511/1 c

LEGEND

Clearing Instruments

Areas Approved to Clear

Road Centrelines

N

0 ~75 m

Scale 1:2574

(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 11.11.10

M G Warnock

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

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Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3511/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: City of Joondalup

1.3. Property details

Property: LOT 11176 ON PLAN 217295 (House No. 115 WHITFORDS HILLARYS 6025)
LOT 12803 ON PLAN 15142 (Lot No. 1000 OCEAN REEF ILUKA 6028)
LOT 15446 ON PLAN 40340 (OCEAN REEF 6027)

Local Government Area:

Colloquial name: Burns Beach to 1.6km south

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: GRANT

Decision Date: 11 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 Association 949: Low woodland; banksia (area 1) 1007: Mosaic: Shrublands; Acacia lasiocarpa & Melaleuca acerosa heath / Shrublands; Acacia rostellifera & Acacia cyclops thicket (0.3ha of Area 1 and all of Area 2) Heddle Vegetation Complex Cottesloe Complex - Central and south: Mosaic of woodland of Eucalyptus gomphocephala (Tuart) and open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri); closed heath on the Limestone outcrops. Quindalup Complex: Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of Melaleuca lanceolata (Rottnest Teatree) - Callitris preissii (Rottnest Island Pine) and the closed scrub of Acacia rostellifera (Summer-scented Wattle).	The proposal is to clear 2 for the purpose of widening an existing shared use pathway along Burns Beach to Hillarys. The vegetation under application occurs in two areas. Area 1 consists of closed heath dominated by Acacia saligna, Melaleuca cardiophylla, Acacia rostellifera, Hemiandra pungens and Rhagodia baccata over Olearia axillaris, Hardenbergia comptoniana, Santalum acuminatum and Acanthocarpus preissii over Carpobrotus virescens and some small patches in the southern portion of Lomandra maritima in an excellent condition. This area also includes the introduced sea spinach (Tetragonia decumbens).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation condition was determined from site visit conducted by DEC officers on the 20 January 2010 (DEC 2010).
As above	Area 2 consists of Melaleuca huegelii, Acacia cyclops, Acacia saligna and Hemiandra	Good: Structure significantly altered by	As above

pungens over spinifex longifolius with some weed invasion of Lagurus ovatus and other non-native grasses in a good condition. Small low lying areas occur in the centre of this area and are dominated by rushes.	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 may be at variance to this Principle

The vegetation under application occurs in two areas. Area 1 consists of closed heath dominated by Acacia saligna, Melaleuca cardiophylla, Acacia rostellifera, Hemiandra pungens and Rhagodia baccata over Olearia axillaris, Hardenbergia comptoniana, Santalum acuminatum and Acanthocarpus preissii over Carpobrotus virescens and some small patches in the southern portion of Lomandra maritima in an excellent condition. This area also includes the introduced sea spinach (Tetragonia decumbens).

Area 2 consists of Melaleuca huegelii, Acacia cyclops, Acacia saligna and Hemiandra pungens over spinifex longifolius with some weed invasion of Lagurus ovatus and other non- native grasses in a good condition. Small low lying areas occur in the centre of this area and are dominated by rushes.

The closest Priority Ecological Community (PEC) to the applied area is Floristic Community Type (FCT) 29a Coastal shrublands on shallow sands. This PEC was recorded 770 m east of the applied area. The area under application consists of coastal shrublands on shallow sands (DEC 2010) and the combination of the species found on site (Acacia rostellifera, A. saligna, Acanthocarpus preisii, Hardenbergia comptoniana, Hemiandra pungens, Lomandra maritima, Olearia axillaris and Rhagodia baccata) can occur in the FCTs 24, 26b, 29a or 29b all of which are PEC's except 26b.

In addition, numerous priority flora species have been recorded within the same soil and vegetation type as the applied area including, Hibbertia spicata subsp. Leptotheca (P3), Conostylis bracteata (P3), and Lecania turicensis ar. turicensis and may occur within the application area. A targeted survey found that no specimens of Grevillea sp. Ocean Reef (P1) were within the application area (Jean-Paul Orsini and Associates, 2010).

The area under application contains Lomandra maritima, however not at a density that would provide significant breeding and foraging habitat for the conservation significant, Graceful sunmoth.

The area under application provides habitat for the Quenda and the Black-striped snake which have been recorded in the local area (~5km radius). Given the above, the area under application may be at variance to this Principle.

Methodology

References
-DEC (2010)
-Jean-Paul Orsini and Associates (2010)
GIS Databases
-SAC Bio Databsets (12 January 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 may be at variance to this Principle

Eight conservation significant fauna species were recorded in the local area (~5km radius) including the Quenda (Isoodon obesulus fusciventer), Carnaby's black cockatoo (Calyptorhynchus latirostris), Graceful sunmoth (Synemon gratiosa), Western brush wallaby (Macropus irma), Black- striped snake (Neelaps calonotos) and the White-chinned petrel (Procellaria aequinoctialis aequinoctialis).

Carnaby's black cockatoo favours species from the proteaceae family including Banksia, Hakea, and Grevillea as well as species from Allocasuarina and Eucalyptus (Valentine and Stock 2008). As the area under application does not contain these species (DEC 2010) it is not considered likely for the area to contain significant habitat for the Carnaby's black cockatoo.

The Graceful sunmoth has been recorded 1 km northeast and within the same bush forever site of the proposed clearing in area 1. This species requires Lomandra spp. as host plants and shows some preference for high quality vegetation (DEC 2008, Williams 2009). This species is known to occur in open areas of herbland, heathland and shrubland on Quindalup soils (sand and limestone) close to the coast where it breeds on Lomandra maritima, which is often present in reasonable numbers and may even be a dominant understorey herb (Bishop et al, 2009). The area under application consists of costal heath and shrublands in an excellent condition on Quindalup dunes. The Lomandra species (L. maritima) were recorded during the site visit (DEC 2010) however not at densities that would provide significant breeding and foraging habitat for the sunmoth.

The area under application contains dense vegetation and therefore it is also considered likely for the area under application to provide habitat for the conservation significant Quenda and the Black-striped snake which

have been recorded in the local area.

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

Methodology References:
-Bishop et al (2009)
-DEC (2010)
-DEC (2008)
-Williams (2009)
-Valentine and Stock (2008)

GIS Databases:
-SAC Bio Databsets (12 January 2010)

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

Comments **Proposal is at variance to this Principle**
There are two rare flora species recorded in the local area, these are the critically endangered Marianthus paralias and Eucalyptus argutifolia. It is unlikely that E. argutifolia occurs within the application area.

A population of M. paralias was recorded in the same Bush Forever site as the area under application and occurs ~ 5 m west of the shared use pathway. It is considered that this population may be impacted by the proposed clearing. There are two populations of this species and the applied area occurs ~5m east of a recorded population. A targeted survey identified one specimen of M. paralias within the application area (Jean-Paul Orsini and Associates, 2010). The proponent is aware of the existence of this plant and has undertaken to avoid it.

The proposed clearing is at variance to this Principle.

Methodology References:
- Jean-Paul Orsini and Associates (2010)

GIS Databases:
-SAC Bio Datasets (12 January 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**
The closest Threatened Ecological Community (TEC) to the area under application is Floristic Community Type (FCT) 20a Banksia attenuata woodlands over species rich dense shrublands and occurs 9.6km east of the applied area.

As the vegetation under application consists of coastal Acacia and Melaleuca heathland over shallow sands (DEC 2010) it is not considered to contain the FCT 20a.

Therefore, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology References
-DEC (2010)
GIS Databases
-SAC Bio Datasets (12 January 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 under application is described as Beard vegetation association 949 and 1007 of which there is 57.29% and 71.72%, of pre-European extent remaining respectively (Shepherd 2007). The Heddle Vegetation complex for the area under application is Cottesloe Complex - Central and South and Quindalup Complex of which there is 41.1% and 49.5% of pre-European vegetation extent remaining respectively (EPA 2006).

In addition, there is approximately 31.6% of pre-European vegetation remaining in the local area (~5km radius).

The Beard and Heddle vegetation associations of the vegetation under application retains more than the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation within the Swan Coastal Plain bioregion; below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

However, the area under application is located within the City of Joondalup of which there is only 11% of pre-European vegetation extent remaining (Shepherd 2009). Beard vegetation complex 1007 has 7.69% pre-European vegetation extent remaining in the City of Joondalup with 213.53 ha from 2775.82 ha remaining (Shepherd 2009).

Given this, the vegetation under application may constitute part of a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European (ha)	Current extent (ha)	Remaining %
IBRA Bioregion			
Swan Coastal Plain*	1501208.8	583140.8	38.84*
Shire of Joondalup*	9664.06	1348.86	13.96*
Local Area (~10km radius)	8412.0	3873.0	31.60
Beard type in Bioregion*			
949	218,193.94	125,008.96	57.29
1007	30108.44	21,593.94	71.72
Heddle Vegetation Complex **	44995.0	18474.0	41.10
Cottesloe Complex - Central And south	36613.0	17820.0	49.50
Quindalup Complex			

* (Shepherd 2009)
** (EPA 2006)

Methodology

References
-EPA (2000)
-EPA (2006)
-Shepherd (2009)
GIS Databases
-Interim Biogeographic Regionalisation of Australia
-NLWA, Curent Extent of Native Vegetation
- SAC Bio Databases (12 January 2010)

(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 closest watercourse and wetland to the area under application is the Bayswater main drain and Lake Joondalup which occur approximately 21.5 km southeast and 5.2km east of the applied area, respectively.

Given, the large distance to the nearest wetland and watercourse it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology

GIS Databases
-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 is not likely to be at variance to this Principle

The area under application consists of coastal dune formations with chief soils of calcareous sands on the dunes and coastal dune systems with a central core of limestone or ancient coral with chief soils of siliceous and calcareous sands (Northcote et al 1960-68).

The areas under application occurs on the Quindalup dune system and contain calcareous and siliceous sands over a core of limestone (Northcote et al 1960-68) and have a high risk of wind erosion (Department of Agriculture 2005).

However, given the relatively small area to be cleared (2ha) and the long and linear shape of the applied area, it is not considered for the proposed clearing to cause appreciable land degradation through wind erosion.

Methodology References
-Department of Agriculture (2005)
-Northcote et al. (1960-68)
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 within Bush Forever site 325 (Coastal Strip from Burns Beach to Hillarys) and therefore will have an impact on this conservation area by the removal of native vegetation.

In addition, the proposed clearing will contribute to the fragmentation of the eastern portion of this Bush Forever site from the western portion and may influence the movement of fauna through the site.

The proposed clearing may also impact on this conservation area through the spread and introduction of weeds species or dieback by machinery. Weed and dieback management conditions will mitigate this impact.

Given the proposed clearing impacts the conservation area it is considered that the proposal is at variance to this Principle.

Methodology References
-Government of Western Australia (2000)
GIS Databases
-Bush Forever
-DEC Tenure
- Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007

(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 closest watercourse and wetland to the area under application is the Bayswater main drain and Lake Joondalup which occur approximately 21.5 km southeast and 5.2km east of the applied area, respectively. The area under application also occurs ~ 50m east of the shoreline.

Given, the large distance to the nearest wetland and watercourse, the relatively small area proposed to be cleared (2ha) and the long and linear shape of the applied area, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology GIS Databases
-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**
The closest watercourse and wetland to the area under application is the Bayswater main drain and Lake Joondalup which occur approximately 21.5 km southeast and 5.2km east of the applied area, respectively.

Given, the large distance to the nearest wetland and watercourse, the relatively small area proposed to be cleared (2ha) and the long and linear shape of the applied area, it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology GIS Databases
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
-Hydrography, linear

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

Comments

The proposal is to clear 2 ha for the purpose of widening an existing shared use pathway along Burns Beach to Hillarys.

The City of Joondalup has received two grants through the Department of Education, Employment and Workforce Relations Job Fund initiative.

The area under application is zoned Parks and Recreation under the Metropolitan Regional Scheme.

No submissions were received.

Methodology GIS Databases
-Metropolitan Regional Scheme zones

4. References

Bishop C, Williams M & Gamblin T,(2009) Graceful Sunmoth Information Kit and Survey Methods, Version 1.0. Department of Environment and Conservation.

DEC (2008), Science Division, Science Research Centre, Advice on the Graceful Sunmoth. TRIM Ref DOC27059

DEC (2009) Marianthus paralius - Interm Recovery Plan 2009-2014, Department of Environment and Conservation. TRIM ref DOC118085

DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3511/1, Various lots along Burns Beach to Hillarys. Site inspection undertaken 20/01/2010. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC116480).

DEC (2010a) Advice from the Species and Communities Branch, DEC on likelihood of Priority Ecological Community (PEC) occurring within application area for CPS 3511/1 - City of Joondalup. Department of Environment and Conservation.TRIM Ref DOC117113

DEC (2010b) Advice from Science Division, DEC on likelihood of Graceful sunmoth (Synemon gratiosa) occurring within the application area for CPS 3511/1 - City of Joondalup. Department of Environment and Conservation. TRIM Ref DOC117743

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.

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.

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.

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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.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Valentine and Stock (2008) Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) in the Gnangara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008

Williams M.R (2009) Butterflies and Day-flying Moths in a Fragmented Urban Landscape, South-west Western Australia: Patterns of Species Richness. Pacific Conservation Biology V15,p 32-46. TRIM Ref DOC88237

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)