



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 4133/1
File Number: 2010/010947-1
Duration of Permit: From 28 March 2011 to 28 March 2013

PERMIT HOLDER

City of Stirling

LAND ON WHICH CLEARING IS TO BE DONE

Lot 8 on Plan 240238
Lot 14 on Plan 191697
West Coast Drive road reserve

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 1.12 hectares of native vegetation within the area hatched yellow on attached Plan 4133/1a.

CONDITIONS

1. 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.

2. 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 in an area that has already been cleared.
- (b) within 12 months following clearing authorised under this permit, *revegetate* and *rehabilitate* the area hatched red on attached Plan 4133/1b by:
- (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) laying the vegetative material and topsoil retained under condition 2(a) on the area hatched red on attached Plan 4133/1b.

- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 2(b) of this Permit:
 - (i) engage an *environmental specialist* to 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 2(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, *revegetate* the area by 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 ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 2(c)(ii) of this permit, the Permit Holder shall repeat condition 2(c)(i) and 2(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 2(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 2(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 2(c)(ii).

3. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 2 of this Permit:

- (a) 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 or decimal degrees;
- (b) a description of the *revegetation* and *rehabilitation* activities undertaken;
- (c) the size of the area *revegetated* and *rehabilitated* (in hectares);
- (d) the species composition, structure and density of *revegetation* and *rehabilitation*, and
- (e) a copy of the environmental specialist's report.

4. 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 3 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) Prior to 28 December 2012, the Permit Holder must provide to the CEO a written report of records required under condition 3 of this Permit where these records have not already been provided under condition 4(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 10 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;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

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 natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area; 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*.

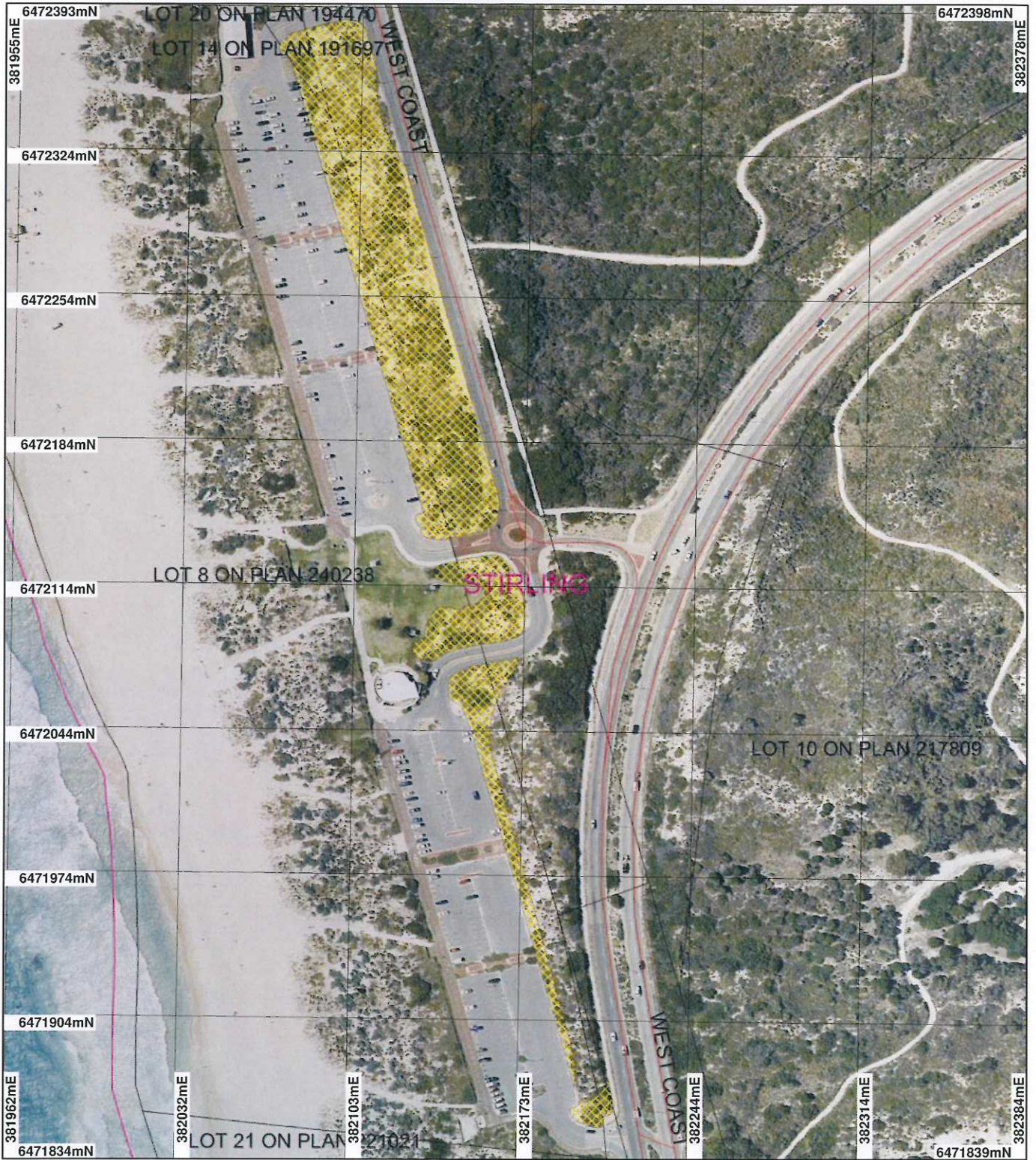


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

3 March 2011

Plan 4133/1a



LEGEND

-  Cadastre
-  Clearing Instruments
-  Areas Approved to Clear
-  Local Government Authorities
-  Road Centrelines
-  Swan Coastal Plain North
20cm Orthomosaic - Landgate
2009

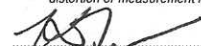


Scale 1:2475

(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 3/3/10
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.



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Plan 4133/1b



LEGEND

- Cadastre Clearing Instruments
- Areas Subject to Conditions
- Local Government Authorities

Swan Coastal Plain North
20cm Orthomosaic - Landgate
2009



0 ~62 m

Scale 1:2475

(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 3/3/09

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.



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Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 4133/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: City of Stirling

1.3. Property details

Property: LOT 8 ON PLAN 240238 (House No. 368 WEST COAST TRIGG 6029)
LOT 14 ON PLAN 191697 (House No. 366 WEST COAST TRIGG 6029)
ROAD RESERVE (TRIGG 6029)

Local Government Area: City of Stirling
Colloquial name: Trigg Beach

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 3 March 2011

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
<p>Beard Vegetation Association: 1007 (approximately 0.07ha of the eastern edge of the application area)</p> <p>Mosaic: Shrublands; <i>Acacia lasiocarpa</i> & <i>Melaleuca acerosa</i> heath / Shrublands; <i>Acacia rostellifera</i> & <i>Acacia cyclops</i> thicket (Shepherd, 2009)</p> <p>Hedde Vegetation Complex: Quindalup Complex (Qw): 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 <i>Melaleuca lanceolata</i> (Rottnest Teatree) - <i>Callitris preissii</i> (Rottnest Island Pine) and the closed scrub of <i>Acacia rostellifera</i> (Summer-scented Wattle). (Hedde et al., 1980)</p>	<p>Vegetation is described as open coastal scrub, consisting predominantly of ground cover and low vegetation with some bare sandy areas (DEC, 2011). Some of the southern application area appears to consist of vegetation from previous rehabilitation efforts.</p> <p>Vegetation condition ranges from degraded to very good (Keighery, 1994) depending on the level of weed cover, litter and density of vegetation. The majority of the area is considered to be in good (Keighery, 1994) condition. Generally the areas higher up the dune face and further from the car park are in better condition than the vegetation at the bottom of the dune, adjacent to the car park.</p> <p><i>Lepidosperma gladiatum</i> (coast sword sedge), <i>Scaevola crassifolia</i> (thick leaved fan flower), <i>Spinifex longifolius</i> (long leaved spinifex), <i>Leucophyta brownii</i> (cushion bush), <i>Olearia axillaris</i> (coast daisybush), <i>Carpobrotus virescens</i> (coast pigface), <i>Ficinia nodosa</i> (knotted club rush), <i>Myoporum insulare</i> (blueberry tree) and <i>Threlkeldia diffusa</i> (coast bonefruit) were found to be the dominant native species throughout application area.</p> <p>There are a few areas of larger shrubs and denser vegetation around the southern end of the northern application, with several <i>Acacia</i> species present.</p> <p>Weed species found throughout, in reasonably high densities include <i>Pelargonium capitatum</i> (Rose pelargonium),</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994)</p> <p>To</p> <p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994)</p>	<p>Vegetation condition was determined from aerial imagery, vegetation description by applicant provided in supporting documentation (City of Stirling, 2010) and DEC site inspection conducted in January 2011 (DEC, 2011).</p>

Tetragonia decumbens (Sea spinach),
Asphodelus fistulosus (Onion weed),
Trachyandra divaricata, Gazania linearis, .

Moderate weed invasion by species including, among others, Avena barbata, Briza maxima, Cynodon dactylon (couch) and Hordeum leporinum (barley grass) was noted in a number of places along the edges of the car park areas (western side of application area), up to ~5m in from the edges and mostly on the lower parts of the first dune.

Rubbish (mostly glass and bottles) is present in low to moderate levels throughout most of application area, mostly concentrated along the edges of the car park up to approximately 5 meters in from the edge.

The area under application is mostly fenced.

Vegetation is fairly uniform in composition and structure along entire length of application area.

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 proposed clearing is 1.12 hectares (ha) within a larger strip of coastal vegetation located between existing car park areas and West Coast Drive / West Coast Highway at Trigg Beach. The proposed clearing is approximately 550 meters in total length and ranges from approximately 2 to 40 meters in width.

The purpose of the proposal is to realign West Coast Drive, construct a dedicated cycleway and reconfigure car parks in accordance with the approved Trigg Beach Master Plan and Development Application (WAPC No. 20-50190-1).

Vegetation condition ranges from degraded to very good (Keighery, 1994), with the majority of the application area in good (Keighery, 1994) condition (DEC, 2011).

The proposed clearing is within Bush Forever Site 308 - Trigg Bushland and Adjacent Coastal Reserve, Trigg/Scarborough. Bush Forever identifies regionally significant bushland for protection. These areas have high conservation values (DoP, 2011).

The applicant intends to reinstate and revegetate 4461 square meters of existing road and car park areas to dune within the Bush Forever site (City of Stirling, 2010). Revegetation conditions will mitigate the loss of 1.12ha of vegetation from within Bush Forever site 308.

The application area is located approximately 17m to the west (separated by a road) of a known occurrence of a Priority 3 ecological community (PEC) SCP29b (Acacia shrublands on taller dunes) and 30m to the west of threatened ecological community type SCP 30a. This PEC is within Bush Forever Site 308 - Trigg Bushland and Adjacent Coastal Reserve, Trigg/Scarborough. The vegetation composition of the application area is not likely to be an occurrence of these community types.

The application area is within the highly cleared City of Stirling and there is less 5% native vegetation cover remaining in the local area (5km radius).

The vegetation under application is considered to have value as a coastal ecological linkage to vegetated remnants in the local area.

Soil disturbance and the movement of machinery whilst undertaking clearing activities poses a high risk of introducing or spreading weeds and dieback to the application area and the surrounding environment. Dieback and weed management conditions will mitigate this impact.

Considering the above, the proposal may be at variance to this Principle.

Methodology

References:

City of Stirling, 2010
DEC, 2011
DoP, 2011

Keighery, 1994

GIS Databases:

- DEC Managed Lands & Waters - DEC 28/10/09
- Evapotranspiration, Area Actual - BOM 30/09/01
- Groundwater Salinity, statewide - DoW 13/07/06
- Hydrogeographic Catchments, Catchments - DoW 01/06/07
- Hydrogeology, statewide - DoW 13/07/06
- Hydrography, linear - DoW 13/7/06
- Rainfall, Mean Annual - BOM 30/09/01
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 11/01/11
- Soils, Statewide - 30/11/99
- Swan Coastal Plain North 20cm Orthomosaic - Landgate 2009

(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

Five conservation significant fauna species were recorded in the local area (5km radius) including Black-striped snake (*Neelaps calonotos*), Indian Yellow-nosed Albatross (*Thalassarche cateri*), Carnaby's black cockatoo (*Calyptorhynchus latirostris*), Little Bittern (*Ixobrychus minutus*) and Graceful Sun Moth (*Synemon gratiosa*).

There are two known records of the Graceful Sun Moth (*Synemon gratiosa*) (Endangered, Environment Protection and Biodiversity Conservation Act 1999; Endangered, Wildlife Conservation Act 1950) approximately 5km north of the application area. The site of the current application was surveyed for butterflies in 2004/5, including surveys for the Graceful Sun Moth. No Graceful Sun Moths were recorded from this site.

The majority of the vegetation under application is in disturbed condition and was not found to contain *Lomandra maritima*, the coastal host plant for Graceful Sun Moth, however thorough vegetation survey has not been conducted. It is considered unlikely that the vegetation under application is significant habitat for this species.

Carnaby's black cockatoo (Endangered, Wildlife Conservation Act 1950; Endangered, Environment Protection and Biodiversity Conservation Act 1999) 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, 2011) it is not considered likely for the area to contain significant habitat for the Carnaby's black cockatoo.

Due to the disturbed condition of the vegetation and proximity to larger remnants of native vegetation in as good or better condition, the vegetation under application is not considered to be significant as habitat for other indigenous fauna and the proposed clearing is not likely to be at variance to this Principle.

Methodology References:

DEC, 2011
Valentine and Stock, 2008

GIS Databases:

- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 11/01/11
- Soils, Statewide - 30/11/99
- Swan Coastal Plain North 20cm Orthomosaic - Landgate 2009

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

Comments Proposal is not at variance to this Principle

There are no known records of declared rare flora species within a 10km radius of the application area and therefore the proposal is not at variance with this Principle.

Methodology GIS Databases:

- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 11/01/11
- Soils, Statewide - 30/11/99
- Swan Coastal Plain Central 20cm Orthomosaic - Landgate 2009

(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 application area is in close proximity to a threatened ecological community (TEC), being the vulnerable SCP30a (*Callitris preissii* (or *Melaleuca lanceolata*) forests and woodlands, Swan Coastal Plain) floristic community type. The application area is located approximately 30m to the west of this TEC and is separated from it by West Coast Highway. This TEC is within Bush Forever Site 308 - Trigg Bushland and Adjacent Coastal Reserve, Trigg/Scarborough.

The vegetation under application is described as open coastal scrub with a composition that is not likely to be an occurrence of this community type.

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

Methodology

GIS Databases:

- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 11/01/11
- Soils, Statewide - 30/11/99
- Swan Coastal Plain Central 20cm Orthomosaic - Landgate 2009

(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 National Objectives Targets for Biodiversity Conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30% of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The Environmental Protection Authority recognises that the Perth Metropolitan Region is a 'constrained area', where there is a modified objective to retain at least 10% of the pre-European of each ecological community (EPA, 2006).

The eastern edge of the vegetation under application is mapped as Beard vegetation association 1007 of which there is approximately 72% of pre-European extent remaining in the Swan Coastal Plain IBRA bioregion (Shepherd, 2009). The Heddle Vegetation complex for the area under application is Quindalup Complex, of which there is approximately 61% of pre-European vegetation extent remaining (Shepherd, 2007).

The area under application is located within the City of Stirling, of which there is approximately 6% of pre-European vegetation extent remaining (Shepherd, 2009). The local area is highly cleared and estimated to retain less than 5% vegetation cover.

The application area is part of a strip of coastal vegetation that is up to 60m in width, with the three areas extending a total length of approximately 550m. The vegetation under application is considered to have value as an ecological linkage to vegetated remnants in the local area. The proposed works to realign West Coast Drive will connect the remaining vegetation in this coastal strip to the Bush Forever vegetation that is currently separated by West Coast Drive.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	% In reserves DEC Managed Land
IBRA Bioregion				
Swan Coastal Plain*	1,501,209	587,889	39%	33% (195,834ha)
City of Stirling*	10,466	621	6%	0% (1ha)
Beard Vegetation Association within Bioregion*				
1007	30,108	21,593	72%	12% (2,500ha)
Beard Vegetation Association within City of Stirling*				
1007	217	83	38%	0%
Heddle Vegetation Complex**				
Quindalup Complex (Qw)	49,028	30,129	61%	6% (3,032ha)

* (Shepherd, 2009)

** (Shepherd, 2007)

Considering the above, the vegetation under application may be significant as a remnant of native vegetation in an area that has been extensively cleared.

Methodology References:
Commonwealth of Australia, 2001
EPA, 2006
Shepherd, 2007
Shepherd, 2009

GIS Databases:
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 11/01/11
- Swan Coastal Plain Central 20cm Orthomosaic - Landgate 2009

(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 mapped wetland is an artificial lake approximately 1.2km to the southeast of the application area. The Star Swamp Conservation Category wetland and EPP lake is located approximately 2.5km north-northeast of the application area.

No surface water or wetland dependent vegetation was observed during a site visit (DEC, 2011).

Considering the above, it is not likely that the proposed clearing is at variance to this Principle.

Methodology References:
DEC, 2011
GIS Databases:
- ANCA, Wetlands - 26/03/99
- Hydrogeology, statewide - DoW 13/07/06
- Hydrography, linear - DoW 13/7/06
- RAMSAR, Wetlands - 15/10/09
- Swan Coastal Plain North 20cm Orthomosaic - Landgate 2009

(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 calcareous deep sands and yellow sands of the Quindalup System, with coastal scrub vegetation.

Due to the coastal location and soil type, the application area is considered have a high risk of wind erosion.

However, given the relatively small area to be cleared (1.12ha), the long and linear shape of the applied area and the proposed end land use of road, car park and public open space, the proposed clearing is not considered likely to cause appreciable land degradation through wind erosion.

Methodology GIS Databases:
- Acid Sulfate Soils Risk Map, 50k - DEC 02/07/10
- Evapotranspiration, Area Actual - BOM 30/09/01
- Groundwater Salinity, statewide - DoW 13/07/06
- Hydrogeology, statewide - DoW 13/07/06
- Rainfall, Mean Annual - BOM 30/09/01
- Soils, Statewide - 30/11/99
- Topographic Contours, Statewide - DOLA 12/09/02

(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 proposed clearing is within Bush Forever site 308 - Trigg Bushland and Adjacent Coastal Reserve, Trigg/Scarborough.

Bush Forever identifies regionally significant bushland for protection and these areas have high conservation values (DoP, 2011).

Bush Forever site 308 is approximately 134.6ha in size (State of Western Australia, 2000) and the proposed clearing of 1.12ha within the area represents a loss of approximately 0.83% of the area of this Bush Forever site. The proposed clearing is not likely to have an impact on this conservation area.

The City of Stirling has advised it will reinstate and revegetate 4461 square meters of existing road and car park areas to dune within the Bush Forever site, in accordance with the approved Trigg Beach Master Plan (City of Stirling, 2010).

Revegetation conditions will mitigate the loss of 1.12ha of vegetation from within Bush Forever site 308.

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

Methodology References:
City of Stirling, 2010
DoP, 2011
State of Western Australia, 2000

GIS Databases:
- DEC Managed Lands & Waters - DEC 28/10/09
- Pre-European vegetation - DA 01/01
- Soils, Statewide - 30/11/99

(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 mapped wetland is an artificial lake approximately 1.2km to the southeast of the application area. The Star Swamp Conservation Category wetland and EPP lake is located approximately 2.5km north-northeast of the application area.

No surface water or wetland dependent vegetation was observed during a site visit (DEC, 2011).

The area under application is approximately 140m east of the Western Australian coastline.

Given, the large distance to the nearest wetland and watercourse, the relatively small (1.12ha) area proposed to be cleared 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 References:
DEC, 2011

GIS Databases:
- Hydrogeographic Catchments, Catchments - DoW 01/06/07
- Hydrogeology, statewide - DoW 13/07/06
- Public Drinking Water Source Areas (PDWSAs) - DoW 07/02/06
- Rainfall, Mean Annual - BOM 30/09/01
- RIWI Act, Areas - DoW 05/04/02
- RIWI Act, Groundwater Areas - DoW 13/07/06
- RIWI Act, Irrigation Districts - DoW 13/07/06
- Soils, Statewide - 30/11/99
- 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 likely to be at variance to this Principle

The closest mapped wetland is an artificial lake approximately 1.2km to the southeast of the application area. The Star Swamp Conservation Category wetland and EPP lake is located approximately 2.5km north-northeast of the application area.

Given, the large distance to the nearest wetland and watercourse, the relatively small (1.12ha) area proposed to be cleared 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:
- Evapotranspiration, Area Actual - BOM 30/09/01
- Hydrogeology, statewide - DoW 13/07/06
- Pre-European vegetation - DA 01/01
- Rainfall, Mean Annual - BOM 30/09/01
- Soils, Statewide - 30/11/99
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The application area is zoned for 'Parks and recreation'.

The application area reserved under management order for the purpose of recreation. The City of Stirling is the primary interest holder.

The purpose of the proposal is to realign West Coast Drive, construct a dedicated cycleway and reconfigure car parks in accordance with the approved Trigg Beach Master Plan and Development Application (WAPC No. 20-50190-1).

Development Approval for the proposal was granted by the Western Australian Planning Commission 30 July 2009 with the conditions that the removal of vegetation from Bush Forever Site 308 shall be restricted to that which is necessary for the proposed site works, and no further clearing shall occur; and that stormwater shall not be discharged into the adjoining West Coast Highway reserve.

Approximately 0.92 hectares of the application area is mapped within the boundary of Bush Forever site 308 - Trigg Bushland and Adjacent Coastal Reserve, Trigg/Scarborough. The northern application area is a road island and a small section of vegetation within the island (currently under application) extends beyond the mapped northern boundary of the Bush Forever site.

In December 2006 the Department of Planning and Infrastructure (DPI) advised the City of Stirling that in some instances the Bush Forever boundaries do not accurately reflect existing vegetation or other boundaries and that in these instances it is recommended that a common sense approach is applied with the aim of protecting regionally significant vegetation and avoiding fragmentation of the vegetation where possible (DPI, 2006). The DPI advised that it is expected that consideration be given to the protection and /or rehabilitation of the full extent of the vegetation within the road island where a small section of vegetation at the northern part of the island is outside of the mapped Bush Forever boundary (DPI, 2006).

The Department of Planning advised that assessment of any proposal that may affect a Bush Forever area should recognise and show due consideration of the high conservation values of the area (DoP, 2011). The DoP recommend that an offsets package be prepared and implemented prior to the commencement of site works based on a ratio of 2:1, in accordance with EPA Position Statement No. 9 and State Planning Policy 2.8 (DoP, 2011). DoP also recommends that no fill, construction materials, rubbish or any other deleterious matter be deposited in Bush Forever Area 308 (DoP, 2011). DoP also recommends DEC approve the species to be used for planting and rehabilitation.

The City of Stirling intends to reinstate 4461 square meters of road and car park areas to dune, within Bush Forever Area 308 (City of Stirling, 2010).

No public submissions were received in relation to this application.

There are no known Aboriginal Sites of Significance within the application area.

Methodology

References:

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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)