



GOVERNMENT OF  
WESTERN AUSTRALIA

## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose permit number:</b>	CPS 2184/1
<b>Permit holder:</b>	City of Wanneroo
<b>Duration of permit:</b>	23 August 2009 – 23 August 2014

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 road construction.

**2. Land on which clearing is to be done**

- Lot 661 on Plan 49302
- Lot 8025 on Plan 49302
- Lot 8313 on Plan 7667
- Lot 9740 on Plan 182685
- Lot 10603 on Plan 186553
- Lot 13495 on Plan 220543
- Lot 13492 on Plan 220543
- Lot 13493 on Plan 220543
- Lot 13713 on Plan 220543
- Lot 13494 on Plan 220543
- Brazier Road Reserve (Yanchep)

**3. Area of Clearing**

The permit holder must not clear more than 2.5 hectares of native vegetation within the area hatched yellow on attached Plan 2184/1.

**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. Flora management**

- (a) Prior to undertaking any clearing authorised under this Permit, the site shall be inspected by a *flora specialist* for the presence of the following *priority flora taxa*:
  - (i) *Stylidium maritimum*;
  - (ii) *Leucopogon sp.* Perth Coastal; and
  - (iii) *Conostylis pauciflora* subsp *euryrhipis*
- (b) Where *priority flora taxa* are identified in relation to condition 8(a) the Permit Holder shall ensure that:
  - (i) all records of *priority flora* are submitted to the CEO
  - (ii) no clearing occurs with 10 metres of identified *priority flora*, unless approved by the CEO.

### **9. Dieback and weed control**

- (a) When undertaking any clearing, or other activity pursuant to this Permit, the Permit Holder must take the following steps to minimise the risk of 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 not move soil in wet conditions;
  - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch* or *fill* or other material are brought into the area to be cleared
  - (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.

### **10. Offsets**

The Permit Holder must implement an *offset* in accordance with conditions 10(a) and 10(b) of this Permit with respect to all clearing within Bush Forever site 397.

- (a) Determination of *offsets*:
  - (i) in determining the *offset* to be implemented with respect to a particular area of native vegetation proposed to be cleared under this Permit, the Permit Holder must have regard to the *offset* principles contained in condition 10(b) of this Permit;
  - (ii) once the Permit Holder has developed an *offset proposal*, the Permit Holder must provide that *offset proposal* to the CEO for the CEO's approval prior to undertaking any clearing to which the *offset* relates, and prior to implementing the *offset*;
  - (iii) clearing shall not commence until and unless the CEO has approved the *offset proposal* to which the clearing relates;
  - (iv) the Permit Holder shall implement the *offset proposal* approved under condition 10(a)(iii); and
  - (v) each *offset proposal* shall include a *direct offset*, timing for implementation of the *offset proposal* and may additionally include *contributing offsets*.



- (b) For the purpose of this condition, the *offset* principles are as follows:
- (i) *direct offsets* should directly counterbalance the loss of the native vegetation;
  - (ii) *contributing offsets* should complement and enhance the *direct offset*;
  - (iii) *offsets* are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted;
  - (iv) the environmental values, habitat, species, *ecological community*, physical area, ecosystem, landscape, and hydrology of the *offset* should be the same as, or better than, that of the area of native vegetation being *offset*;
  - (v) a ratio greater than 1:1 should be applied to the size of the area of native vegetation that is *offset* to compensate for the risk that the *offset* may fail;
  - (vi) *offsets* must entail a robust and consistent assessment process;
  - (vii) in determining an appropriate *offset*, consideration should be given to ecosystem function, rarity and type of *ecological community*, vegetation *condition*, habitat quality and area of native vegetation cleared;
  - (viii) the *offset* should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the *condition* of the natural environment;
  - (ix) *offsets* must satisfy all statutory requirements;
  - (x) *offsets* must be clearly defined, documented and audited;
  - (xi) *offsets* must ensure a long-term (10-30 year) benefit; and
  - (xii) an *environmental specialist* must be involved in the design, assessment and monitoring of *offsets*.

### **PART III - RECORD KEEPING AND REPORTING**

#### **11. Records to be kept**

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

- (a) In relation to the clearing of native vegetation authorised under this Permit:
  - (i) the species composition, structure and density of the cleared area;
  - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (iii) the date that the area was cleared; and
  - (iv) the size of the area cleared (in hectares).
- (b) In relation to flora management pursuant to condition 8 of this Permit:
  - (i) the location of each *priority flora taxa* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; and
  - (ii) the species name of each *priority flora taxa* identified.
- (c) In relation to the *offset* of areas pursuant to condition 10 of this Permit:
  - (i) the location of any area of *offsets* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) a description of the *offset* activities undertaken; and
  - (iii) the size of the *offset* area (in hectares).

#### **12. Reporting**

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 11 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 9 May 2014, the Permit Holder must provide to the CEO a written report of records required under condition 11 of this Permit where these records have not already been provided under condition 12(a) of this Permit.

## Definitions

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

**condition** means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

**contributing offset/s** has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

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

**direct offset/s** has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9: Environmental Offsets*, January 2006;

**ecological community/ies** means a naturally occurring biological assemblage that occurs in a particular type of habitat (English and Blythe, 1997; 1999);

**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;

**flora specialist** means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora;

**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;


**offset/s** means an offset required to be implemented under condition 10 of this Permit;

**offset proposal** means an *offset* determined by the Permit Holder in accordance with condition 10 of this Permit;

**priority flora taxa** means those plant taxa that described as priority flora classes 1, 2, 3 or 4 in the *Department's Declared Rare and Priority Flora List for Western Australia* (as amended);

**term** means the duration of this Permit, including as amended or renewed;

**weed/s** means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.



Keith Claymore  
A/ ASSISTANT DIRECTOR  
NATURE CONSERVATION DIVISION

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

23 July 2009

CPS 2184/1, 23 July 2009



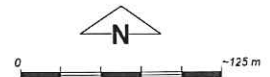
# Plan 2184/1



## LEGEND

- Clearing Instruments**
- Areas Approved to Clear
  - Road Centrelines
  - Cadastral

Perth Metropolitan Area  
North 20cm Orthomosaic -  
Landgate 2007



Scale 1:4500

(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.

*Keis Claymer* Date *23/7/05*  
K Claythorne

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.: 2184/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: City of Wanneroo

### 1.3. Property details

Property: LOT 13495 ON PLAN 220543  
LOT 8313 ON PLAN 7667  
LOT 8025 ON PLAN 49302  
LOT 13492 ON PLAN 220543  
LOT 13493 ON PLAN 220543  
LOT 13713 ON PLAN 220543  
LOT 9740 ON PLAN 182685  
LOT 13494 ON PLAN 220543  
LOT 10603 ON PLAN 186553  
LOT 661 ON PLAN 49302  
ROAD RESERVE (YANCHEP 6035)

Local Government Area: City Of Wanneroo

Colloquial name: Brazier Road road reserve

### 1.4. Application

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

## 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:</p> <p>1026 - Mosaic: Shrublands; Acacia rostellifera, A. cyclops (in the south) &amp; Melaleuca cardiophylla (in the north) thicket / Shrublands; Acacia lasiocarpa &amp; Melaleuca systema heath (Shepherd 2007).</p> <p>Hedde:</p> <p>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 M. lanceolata - Callitris preissii and the closed scrub of Acacia rostellifera (Hedde et al. 1980).</p>	<p>The area under application is 2.5ha for the purpose of realignment and widening of ~800m of Brazier Rd in Yanchep. Vegetation is best described in two main sections. The northern section and southern section of the proposed rd reserve.</p> <p>The northern section is best described as Open Heath to shrubland of coastal vegetation in very good to excellent condition. There is a high level of species diversity. Some of the plant species identified included Olearia axillaris, Melaleuca systema and Acacia rostellifera over Acanthocarpus preissii, Westringia sp., Lomandra maritima, Hardenbergia comptoniana and Conostylis sp.</p> <p>There is a low lying area (~0.01ha), adjacent to the surf club, consisting of a Closed Sedgeland of the Coastal Sword Sedge.</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>The vegetation and clearing description is based on information obtained during the site inspection (2007).</p>
As above	<p>The southern section is best described as Low Open Shrubland over native herb land in very good condition. Some of the plant species identified included Olearia axillaris, Acacia sp. over Lomandra maritima, and westringia sp. with some grass weeds. The introduced coloniser dune species such as Tetragonia sp. and Pelargonium capitatum are also present.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	As above
As above	<p>Weed invasion is occurring in disturbed areas along the edge of Brazier Rd and in the form of vehicle and</p>	<p>Degraded: Structure severely disturbed;</p>	As above

walking tracks through the applied area. Generally the disturbed areas are degraded.

regeneration to good condition requires intensive management (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 area applied to be cleared is 2.5ha of vegetation within 5ha for the realignment of Brazier Rd. The northern section of the area under application is best described as Open Heath to shrubland of coastal vegetation in very good to excellent (Keighery, 1994) condition with a high level of species diversity. The southern section comprises Low Open Shrubland over native herb land in very good (Keighery, 1994) condition (DEC, 2007).

It is noted that there are areas of localised disturbance within the applied area in the form of vehicle and walking tracks. These areas are considered to be degraded with an absence on native species and the presence of weeds.

There are seven records of four priority flora, *Leucopogon* sp. Perth coastal, *Conostylis pauciflora* subsp *euryrhipis*, *Hibbertia helianthemoides* and *Stylidium maritimum*, within the local area. Of these species it is considered *Leucopogon* sp. Perth coastal, *Conostylis pauciflora* subsp *euryrhipis* and *Stylidium maritimum* may occur within the area under application as these species are known to occur in the same soil type and vegetation association as the applied area. *Stylidium maritimum* is poorly reserved.

A flora survey of the Two Rocks Yanchep Foreshore, conducted in November and December 2002, did not identify any rare or priority flora within the survey area. This survey was conducted outside of the optimal flowering times and many of the plant species were not in flower at the time of the survey. As a result, a comprehensive list of species was not compiled. Further surveys may result in the identification of priority flora and other significant species (City of Wanneroo, 2007a). A spring survey would be required to ensure priority flora species do not occur within the area under application.

Given the vegetation under application is in very good to excellent (Keighery, 1994) condition with a high level of species diversity and may comprise priority flora including *Stylidium maritimum*, which is poorly reserved, it is considered that the area under application may comprise a high level of biodiversity.

To mitigate the potential impact to priority flora, a flora management condition will be placed on the permit.

##### Methodology

##### References:

- City of Wanneroo (2007a)
- DEC (2007)

##### GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- SAC Bio datasets (Accessed 8/07/09)

#### (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**

The following significant fauna have been identified in the local area (~5km radius of the applied area):

- Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*; Endangered)
- Carpet Python (*Morelia spilota imbricata*; Priority 4).

DEC Fauna Habitat Notes (DEC, 2007a) indicate Carnaby's move around seasonally in flocks and feed in areas of proteaceous scrubs and heaths and eucalypt woodlands and breed in mature hollow trees. The vegetation under application is best described as Open Heath to shrubland of coastal vegetation and comprises *Olearia axillaris*, *Melaleuca systema* and *Acacia rostellifera* over *Acanthocarpus preissii*, *Westringia* sp., *Lomandra maritima*, *Hardenbergia comptoniana* and *Conostylis* sp. (DEC, 2007). It is not considered likely that the vegetation under application would be utilised by Carnaby's as a food source.

Although a variety of fauna may utilise the area under application, given the limited extent of the clearing (2.5ha over ~800m) and the similar habitat available within the local area (~73% of which is vegetated), the vegetation under application is not considered likely to provide significant habitat in the local area for indigenous fauna.

##### Methodology

##### References:

- DEC (2007)
- DEC (2007a)



GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- Pre-European Vegetation
- SAC Bio datasets (Accessed 31/01/08)

**(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**

A flora survey of the Two Rocks Yanchep Foreshore, conducted in 2002, did not identify any rare flora within the survey area (City of Wanneroo 2007a).

There is one known record of the rare flora in the local area. *Eucalyptus argutifolia* has been recorded ~750m east of the area under application. This species is not considered likely to occur within the area under application as this species is known to occur in different soil types and vegetation associations.

Given the area is not considered to comprise *Eucalyptus argutifolia*, the proposed clearing is not considered likely to be at variance to this Principle.

**Methodology References:**

- City of Wanneroo (2007a)

GIS Databases:

- Pre-European Vegetation
- SAC Bio datasets (Accessed 8/07/09)
- Soils, Statewide

**(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**

There is one known record of Threatened Ecological Communities (TEC) ~3.9km east of the area under application. This TEC is known as Floristic Community Type (FCT) 26a, *Melaleuca huegelii* and *Melaleuca systema* shrublands on limestone ridges, does not occur in the same soils or vegetation complexes and associations as the area under application.

Given the distance to the nearest TEC and the different soil types and vegetation complexes and associations, it is considered that the vegetation under application does not comprise or is necessary for the maintenance of any TEC. Therefore, the proposed clearing is not considered likely to be at variance to this Principle.

**Methodology GIS Databases:**

- Pre-European Vegetation
- SAC Bio datasets (Accessed 8/07/09)
- Soils, Statewide

**(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 Heddle vegetation complex identified in the area under application is the Quindalup Complex which has a pre-European representation level of 49.5% remaining (EPA, 2006). Beard Vegetation Association 1026 is identified within the applied area with a current representation level of 90.7% (Shepherd, 2006). In addition, there is ~73% of native vegetation remaining in the local area.

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Commonwealth of Australia, 2001). Beard Vegetation Association 1026 has a remaining extent of 90.7% and the Heddle Complex has 49.5% remaining, which is more than the recommended 30% minimum of Pre-European extent remaining.

Given the extent of vegetation remaining in the local area (~73%) and the current representation levels of the Heddle complex and Beard vegetation association, it is not considered likely that the vegetation under application is significant as a remnant in an area that has been extensively cleared.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In reserves (%)
IBRA Bioregions*				
Swan Coastal Plain <sup>^</sup>	1,501,208	583,140	38.8	32.5



LGA*				
City of Wanneroo	67,697	33,637	49.6	N/A
Vegetation in the Local Area (~5km radius)	~4,892	~3,565	~73.0	N/A
Hedde Vegetation Complex**				
Quindalup Complex	36,013	17,820	49.5	10.7
Beard Vegetation in the Bioregion*				
1026	58,419	53,009	90.7	52.7

\* (Shepherd 2007)

\*\* (EPA 2006)

^ Area within Intensive Land Use Zone

#### Methodology

##### References:

- Commonwealth of Australia (2001)
- EPA (2006)
- Shepherd (2007)

##### GIS Databases:

- Hedde Vegetation Complexes
- Interim Biogeographic Regionalisation of Australia
- NLWRA, Current Extent of Native Vegetation
- Pre-European Vegetation

#### (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**

There are no mapped watercourses or wetlands within the area under application. The closest mapped water body is a Lake known as Loch McNess ~4.8km east of the applied area. Given the distance, vegetation is not considered to be growing in association with the Lake.

A small wetland area (which has not been mapped) occurs in the northern section of the area under application adjacent to the surf club (DEC, 2007). The low lying area is ~0.01ha, comprising of vegetation best described as a closed sedgeland of coastal sword sedge (*Lepidosperma gladiatum*). Bush Forever recognises this wetland as a structural unit of bush forever site 397 (Government of Western Australia, 2000). Given the area under application includes a wetland comprising of a closed sedgeland the proposed clearing is at variance to this Principle.

#### Methodology

##### References:

- Government of Western Australia (2000)
- DEC (2007)

##### GIS Databases:

- EPP, Lakes
- Geomorphic Wetlands (Classification), Swan Coastal Plain
- Hydrography, linear (hierarchy)
- Topographic Contours, Metropolitan Area

#### (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 is associated with coastal dune formations. Chief soils are calcareous sands on the coastal dunes (Northcote et al. 1968). Generally, these soils have a high risk of wind erosion and a low risk of water erosion due to the high infiltration rates associated with sands.

The majority of the area under application has a low risk of salinity. The salinity risk increases in the low lying areas.

The proposed clearing has a high risk of wind erosion given the sandy soils associated with the area under application, and without appropriate management for exposed surfaces the proposal may cause appreciable land degradation.

It is noted that appropriate management practices such as dust suppression, revegetation of the road side

batters and the installation of a bituminised road surface would likely limit land degradation caused by wind erosion.

**Methodology** Reference:  
- Northcote et al. (1968)

GIS Databases:  
- Salinity Risk LM 25m  
- Soils, Statewide  
- 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 at variance to this Principle**  
There are two DEC managed conservation areas, Yanchep National Park (~3.8km east) and Gngangara-Moore River State Forest (~5km north east) and five Bush Forever Sites within the local area.

The area under application is within Bush Forever Site 397, known as 'Coastal Strip from Wilbinga to Mindarie'. This Bush Forever site is part of a regionally significant fragmented bushland/wetland linkage (Government of Western Australia, 2000). The proposed clearing of 2.5ha will have a direct impact on the environmental values of this Bush Forever Site and the potential to indirectly impact the Bush Forever site through the spread or introduction of weed species by machinery. There is the potential for the spread of exotic species into areas reserved for conservation, which may result in the local extinction of species.

Given the area under application occurs within Bush Forever Site 397, the proposed clearing will have a direct impact on this conservation reserve; therefore, the proposal is considered to be at variance to this Principle.

An offset condition will be placed on the permit to offset the impacts this proposal will have on Bush Forever Site 397. To mitigate the role disturbance plays in the spread of weeds and dieback, a dieback and weed control condition will be placed on the permit.

**Methodology** Reference:  
- Government of Western Australia (2000)

GIS Databases:  
- Bushforever  
- CALM Managed Lands and Waters

**(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 may be at variance to this Principle**  
The area under application is ~6km west from the proclaimed groundwater area, Gngangara Underground Water Pollution Control Area (a Priority 1 Public Drinking Water Source Area (PDWSA)). Given the relatively small amount of clearing (2.5ha over 800m) and distance to the nearest PDWSA, the proposed clearing is not considered likely to cause the deterioration in the quality of groundwater.

The closest mapped water body is a Lake known as Loch McNess ~4.8km east of the area under application. A small wetland area (which has not been mapped) occurs in the northern section of the area under application adjacent to the surf club (DEC, 2007). The low lying area is ~0.01ha, comprising of vegetation best described as a closed sedgeland of coastal sword sedge (*Lepidosperma gladiatum*) (DEC, 2007). It is considered any development within 50m the boundary of a wetland can critically influence the wetland (Hill et al. 1996).

Given the occurrence of a wetland within the area under application, the proposed clearing may cause deterioration in surface water.

**Methodology** References:  
- DEC (2007)  
- Hill et al. (1996)

GIS Databases:  
- Hydrography, linear  
- Hydrography, linear (hierarchy)  
- Public Drinking Water Source Area (PDWSA)



**(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 area under application is associated with coastal dune formations. Chief soils are calcareous sands on the coastal dunes (Northcote et al. 1968). Generally, these soils have high infiltration rates.

Given the high infiltration rates associated with sandy soils, the clearing as proposed is not considered likely to cause or exacerbate the incidence of flooding.

**Methodology Reference:**

- Northcote et al. (1968)

**GIS Database:**

- Soils, Statewide

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

**Comments**

The property is zoned Parks and Recreation under the Metropolitan Regional Scheme. The City of Wanneroo (2007b) has advised that an application has been submitted to State Land Services to excise land from the Class A Reserve 12439 and to change the purpose of the Class C reserves 29352, 29694 and 48603. The applicant sent correspondence on 2 July 2009, confirming the proposal has passed the Parliamentary process.

A development approval application has been submitted to WAPC to carry out the road works. This approval was granted February 2008.

A submission letter received from Strategic Biodiversity Planning (formally Bush Forever) (2008) advises they have no objections to the clearing, however, recommends the following conditions:

- The road works, including earth works and drainage area restricted to the application area and shall not result in damage or disturbance the vegetation outside of the development area, to the satisfaction of WAPC.
- A spring flora vegetation survey be conducted.
- An Environmental Management Plan and a formal offset package, with a ratio of 2:1 be prepared.

The area under application is located within an area identified as a permanent Aboriginal Site of Significance. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

**Methodology** There is no other RIWI Act Licence or EP Act Licence that affects the area under application  
**References:**

- City of Wanneroo (2007b)
- Strategic Biodiversity Planning (2008)

**GIS Databases:**

- Aboriginal Sites of Significance
- Metropolitan Regional Scheme

**4. Assessor's comments**

**Comment**

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principles (f) and (h), may be at variance to Principles (a), (i) and (g) and is not likely to be at variance to the remaining clearing Principles.

**5. References**

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## 6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
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)