



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 2371/2
<b>Permit Holder:</b>	City of Swan
<b>Duration of Permit:</b>	26 July 2008 – 26 July 2013

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**

Hepburn Avenue road reserve, Ballajura

**3. Area of Clearing**

The Permit Holder must not clear more than 20.4 hectares of native vegetation within the area shaded yellow on attached Plan 2371/2a and 2371/2b.

**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 for the purpose of road upgrades, 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 pursuant to this Permit the Permit Holder must take the following steps to minimise the risk of introduction and spread of *dieback*:
- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
  - (ii) avoid the movement of soil in wet conditions;
  - (iii) ensure that no *dieback*-affected *road building materials, mulch* or *fill* or other material are brought into an area that is not affected by *dieback*; and
  - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) When undertaking any clearing, or other activity pursuant to this Permit the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
  - (ii) ensure that no *weed*-affected *road building materials, mulch, fill* or other material are brought into the area to be cleared; and
  - (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (c) 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.

## 9. Fauna Management

- (a) Prior to clearing within the areas described in Clearing Authorised above, the areas shall be inspected by a *fauna specialist* who shall identify trees that contain hollows suitable to be utilised as habitat by fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2005*.
- (b) Prior to clearing, any trees identified by condition 9(a) that contain hollows suitable to be utilised as habitat by fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2005* shall be inspected by a *fauna specialist*.
- (c) Prior to clearing the Permit Holder shall ensure that any fauna identified in condition 9(b) shall be removed and relocated by a *fauna clearing person*, in accordance with a licence issued by the Department of Environment and Conservation.

## PART III – RECORD KEEPING AND REPORTING

### 10. Records must be kept

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

- (a) In relation to the clearing of native vegetation undertaken pursuant to this clearing permit:
- (i) the species composition, structure and density of the cleared area;
  - (ii) the location where the clearing occurred, recorded using Geocentric Datum Australia 1994;
  - (iii) the date that the area was cleared; and
  - (iv) the size of the area cleared (in hectares).
- (b) In relation to Fauna Management pursuant to condition 9:
- (i) the location of each habitat tree identified recorded using Geocentric Datum Australia 1994;
  - (ii) the species of each habitat tree identified;
  - (iii) the species of fauna reasonably likely to utilise, or that have been observed utilising the habitat trees;



- (iv) the species and number of each species relocated; and
- (v) the location and date where relocated fauna was released, using Geocentric Datum Australia 1994.

## 11. 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 10 and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 26 April 2013, the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11 (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;

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

*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;

*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;

*road building materials* means rock, gravel, soil, stone, timber, boulders and water;

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

*weed* 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 *Agricultural and Related Resources Protection Act 1976*.

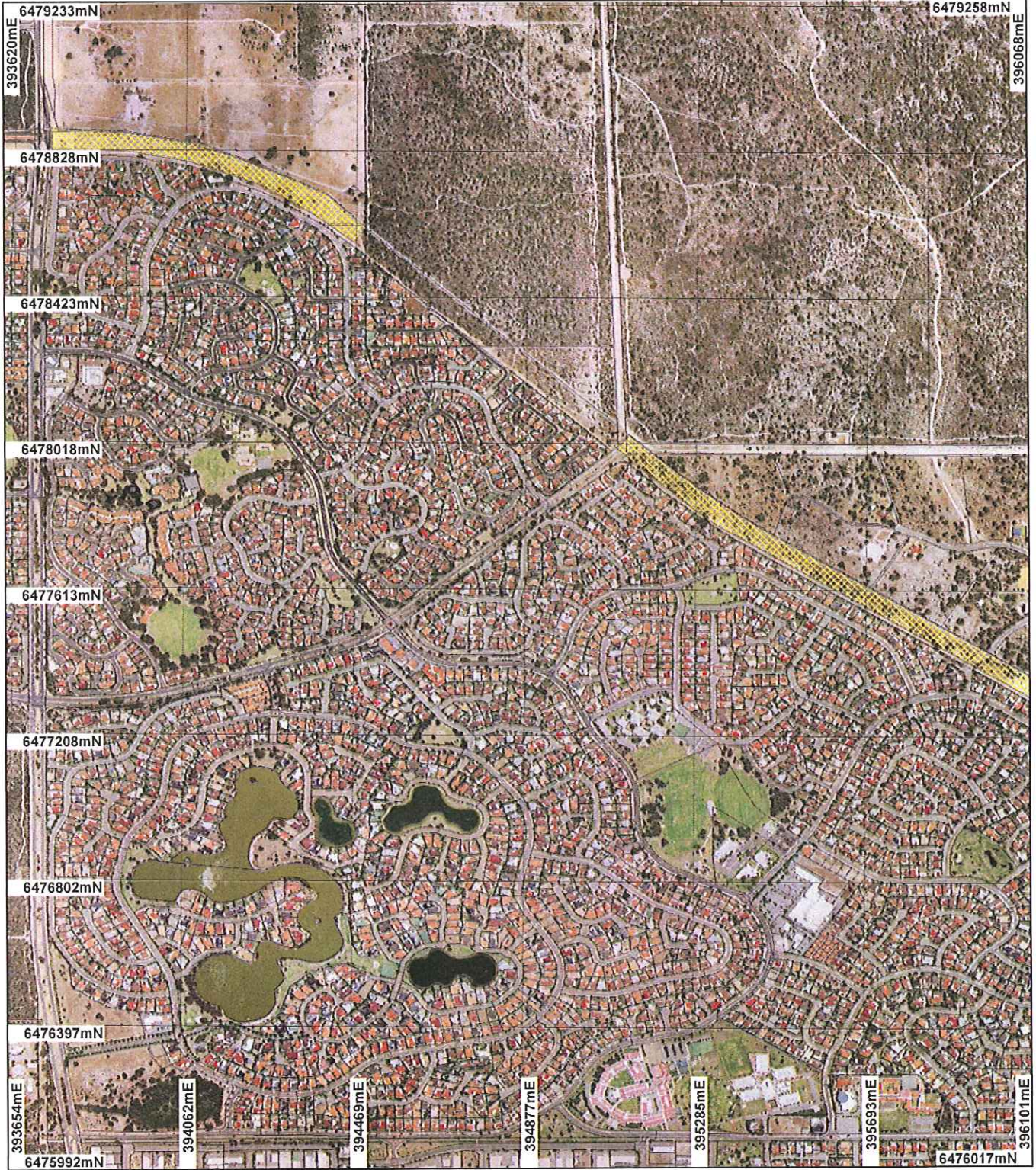


Kelly Faulkner  
MANAGER  
NATIVE VEGETATION CONSERVATION BRANCH

26 March 2009



# Plan 2371/2a



## LEGEND

### Clearing Instruments

-  Areas Approved to Clear
  -  Cadastre
- Swan Coastal Plain North  
20cm Orthomosaic -  
Landgate 2006



Scale 1:14999

(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.

*KV Faulkner* Date 26/3/09  
K.V. 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.

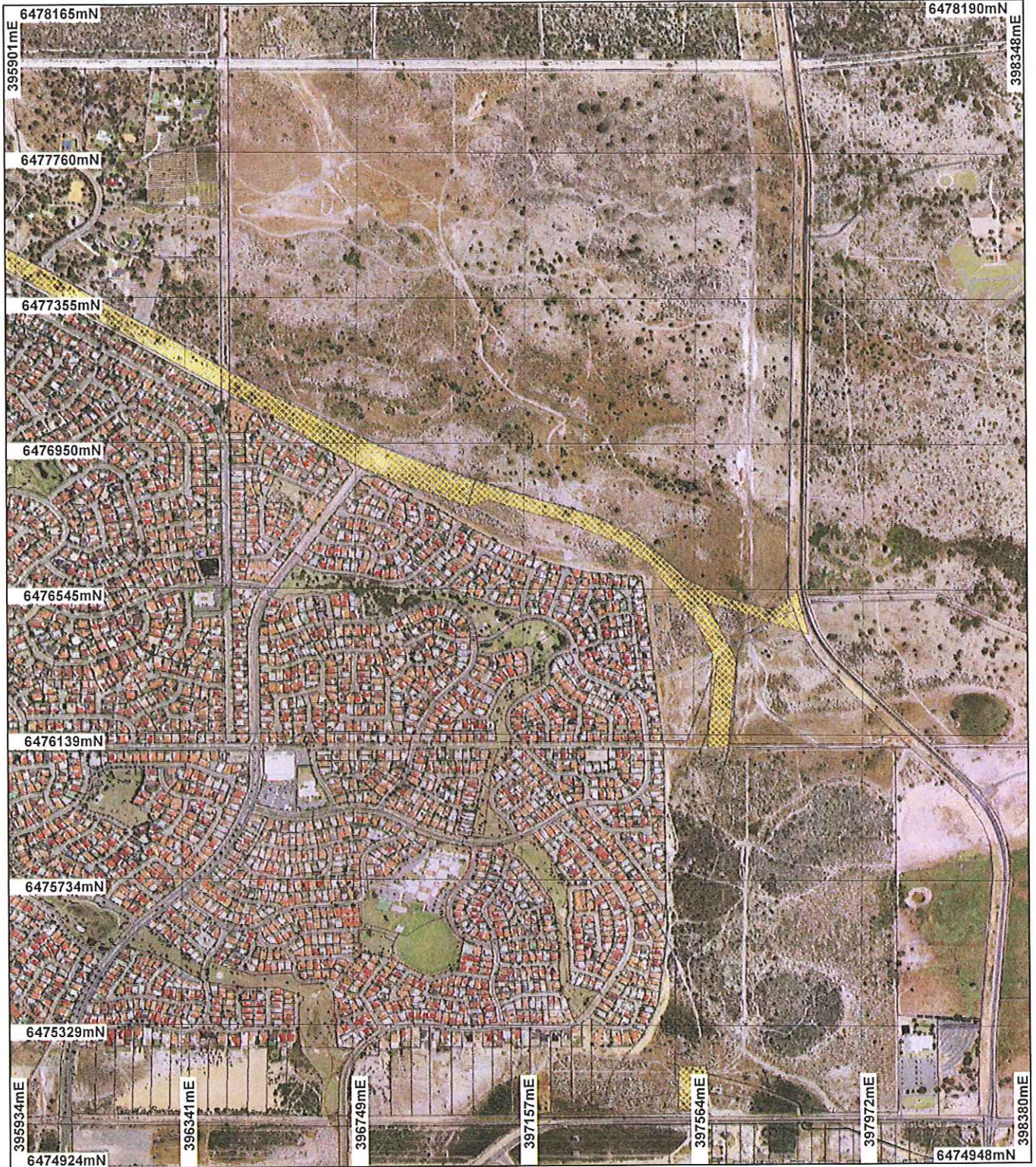


Department of Environment and Conservation

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# Plan 2371/2b



## LEGEND

### Clearing Instruments

-  Areas Approved to Clear
  -  Cadastre
- Swan Coastal Plain North  
20cm Orthomosaic -  
Landgate 2008



0  -375 m

Scale 1:14998

(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 26/3/09

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.



Department of  
Environment and Conservation

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## 1. Application details

### 1.1. Permit application details

Permit application No.: 2371/2  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: City of Swan

### 1.3. Property details

Property: ROAD RESERVE ( BALLAJURA 6066)  
 ROAD RESERVE ( BALLAJURA 6066)  
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 ROAD RESERVE ( BALLAJURA 6066)

Local Government Area: City Of Swan & City Of Wanneroo

Colloquial name: Hepburn Road Reserve

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20.4		Mechanical Removal	Road construction or maintenance
		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
Heddlle Vegetation Complex:	The proposal is to clear 20.4 hectares of native vegetation for the purpose of road construction to extend Hepburn Avenue.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on a site visit conducted by DEC officers on 19 March 2008 and from aerial photography
Southern River Complex - Open woodland of <i>E. calophylla</i> - <i>E. marginata</i> - <i>Banksia</i> species with fringing woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> along creek beds.	The vegetation under application comprises <i>Banksia</i> woodlands and <i>Melaleuca preissiana</i> wetlands with varying species in a degraded to completely degraded condition.		
Bassendean Complex Central and South - Vegetation ranges from woodland of <i>E. marginata</i> - <i>C. fraseriana</i> - <i>Banksia</i> spp. to low woodland of <i>Melaleuca</i> species, and sedgelands on the moister sites. This area includes the transition of <i>E. marginata</i> to <i>E. todtiana</i> in the vicinity of Perth.	Approximately 14 hectares of the vegetation under application are considered to be in degraded condition, comprising a monoculture of <i>Xanthorrhoea preissii</i> with the occasional <i>Melaleuca</i> spp. and <i>Eucalyptus</i> spp., and a high level of weed invasion.		
Beard Vegetation Association 1001: Medium very sparse woodland; jarrah, with low woodland; <i>banksia</i> & <i>casuarina</i> (Shepherd 2007, SAC Databases 17/02/09).			

<p>Approximately 6.4 hectares of the applied vegetation are considered to be completely degraded, comprising individual <i>Melaleuca</i> spp. or <i>Eucalyptus</i> spp. with an understorey comprising weeds.</p>	<p>Completely Degraded: As above No longer intact; completely/almost completely without native species (Keighery 1994)</p>
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### 3. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

**Comments**      **Proposal is not likely to be at variance to this Principle**

The vegetation under application is in degraded to completely degraded condition, and comprises a monoculture of *Xanthorrhoea preissii* with an occasional *Melaleuca* spp. and *Eucalyptus* spp., and has a high level of weed invasion (DEC 2008a).

The vegetation under application is not likely to include rare flora or comprise a threatened ecological community.

There are approximately 20 known occurrences of the following priority listed flora within the local area (10km radius):

- *Cyathochaeta teretifolia* (P3),
- *Stachystemon axillaris* (P4),
- *Aotus cordifolia* (P3),
- *Stylidium longitubum* (P3),
- *Drosera occidentalis* subsp. *occidentalis* (P4),
- *Jacksonia sericea* (P4),
- *Hibbertia helianthemoides* (P3),
- *Verticordia lindleyi* subsp. *lindleyi* (P4).

However, given the degraded to completely degraded condition of the vegetation under application, it is not considered likely that the vegetation includes priority flora in the local area. The vegetation under application therefore, is not considered likely to comprise a high level of biodiversity.

**Methodology**      **References**  
 -DEC (2008a)  
 -Western Australian Herbarium (1998-)  
 GIS Databases  
 -SAC Bio databases 19/02/09

#### (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 may be at variance to this Principle**

Within the local area (5km radius) there are 46 recorded occurrences six fauna species of conservation significance.

The vegetation under application is in degraded to completely degraded condition with an understorey limited mostly to *Xanthorrhoea preissii*, (DEC 2008a) and is therefore not likely to provide suitable habitat for ground-dwelling fauna such as the Quenda (*Isodon obesulus fusciventer*) which has been recorded in the local area (~5 km radius).

The vegetation under application does include mature *Eucalyptus* trees that may contain habitat hollows with the potential to be utilised by fauna such as Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) and possums.

Given that the vegetation under application includes mature trees with the potential to contain hollows suitable for the conservation significant Carnaby's Cockatoo, it is considered that the vegetation under application may comprise significant habitat for this species.

To minimise the impact of the clearing on fauna habitat, fauna management conditions will be imposed on the clearing permit.

**Methodology**      **Referenses**  
 -DEC (2008a)  
 GIS Database:  
 -SAC Bio databases 19/02/09



**(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**

Within the local area (5km radius) there are five recorded populations of the rare flora species *Epiblema grandiflorum* var. *cyaneum*, *Pityrodia axillaris* and *Caladenia huegelii*, located approximately 800m, 4.2km and 3.1km respectively from the area under application.

The vegetation under application is in degraded to completely degraded condition and comprises a monoculture of *Xanthorrhoea preissii* with an occasional *Melaleuca* spp. and *Eucalyptus* spp.

*P. axillaris* is a diffuse shrub, 0.15-0.3 m high with red flowers during Jul-Dec in sandy soils, but is generally not found on the Swan Coastal Plain (Western Australian Herbarium 1998-). This species is therefore not likely to be found in the applied area.

*C. huegelii* is a tuberous, perennial herb, 0.25-0.6 m high with green, cream and red flowers during Sep-Oct in grey or brown sand, clay loam (Western Australian Herbarium 1998-). *C. huegelii* is generally found on deep sands in woodlands of *Banksia attenuata* and *Eucalyptus marginata* (CALM 2004), and is therefore not likely to be found in the applied vegetation.

*E. grandiflorum* var. *cyaneum* is a tuberous, perennial herb, 0.25-0.8 m high with blue flowers during Nov-Dec in winter-wet swamps (Western Australian Herbarium 1998-). However, as the vegetation under application has an understorey mostly limited to *Xanthorrhoea preissii* and weeds, it is not likely that the vegetation provides suitable habitat for this species.

Given that the vegetation under application does not provide suitable habitat for the rare flora in the local area, it is not considered likely that the proposed clearing is at variance to this Principle.

**Methodology References**

-Western Australian Herbarium (1998-)  
-DEC (2008a)  
-CALM (2004)  
GIS Databases:  
-SAC Bio datasets 19/02/09

**(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 are 35 known occurrences of the Threatened Ecological Community (TEC) 20a - *Banksia attenuata* woodland over species rich dense shrublands, which is associated with the Bassendean Dune System. The nearest known occurrence of this TEC is located approximately 50m to the west of the western extent of the applied area.

The vegetation under application is in degraded to completely degraded condition and comprises *Eucalyptus* spp. and *Melaleuca* spp. over *Xanthorrhoea preissii*.

Vegetation adjacent to the applied area is in very good to excellent condition. DEC (2008b) Species and Communities Branch advise that given the number of sites nearby containing the TEC 20a it is possible that this adjacent vegetation comprises the same TEC. It is therefore considered that the current vegetation under application may provide some buffer to the potential adjacent TEC.

Given the degraded to completely degraded condition of the vegetation under application it is not considered likely that the vegetation comprises a TEC. Although the vegetation under application is directly adjacent to a potential TEC, this has not yet been confirmed through flora surveys, and therefore the vegetation is not likely to be necessary for the maintenance of a TEC.

**Methodology References**

-DEC (2008a)  
-DEC (2008b)  
GIS Databases:  
-SAC Bio datasets 19/02/09

**(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**

Heddlie et al. (1980) defines the majority (~16.4 ha) of the vegetation under application as Southern River Complex, of which there is 19.8% of pre-European extent remaining (EPA 2006). The remainder of the applied vegetation (~4.0ha) has been defined as Bassendean Complex ? Central and South of which there is



27.0% of pre-European extent remaining (EPA 2006). The vegetation under application is also described as Beard vegetation association 1001, of which there is 25.3% of pre-European extent remaining (Shepherd 2007).

The area under application is located within the City of Swan, within which there is 52.7% of pre-European extent remaining; however there is approximately 13% of pre-European vegetation remaining in the local area (~10km radius), which has been extensively cleared for agriculture and urban development.

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia, 2001).

Although the vegetation complexes identified on site have less than the recommended 30% threshold remaining, the applied area is considered to be within a constrained area. The EPA (2006) recognises the Perth Metropolitan Region as a 'constrained area', providing for the variation of the minimum % of vegetation complexes remaining to 10% of the pre-European extent.

In addition, the area under application is not a significant remnant in the local area as it is a linear strip of vegetation connected to a very large bushland remnant to the north. Therefore, the proposal is not considered likely to be at variance to this Principle.

	Pre-European (ha)	Current (ha)	Remaining %	% in reserves
Swan Coastal Plain*	1,501,208	583,140	38.8	32.5
City of Swan	103,944	54,792	52.7	
Local Area (~10km radius)	31,400	~4000	~13	
Hedde vegetation complex**				
Bassendean Complex				
Central/South	87,477	23,624	27.0	0.7
Southern River Complex	57,979	11,501	19.8	1.5
Beard vegetation association				
1001	57,410	14,543	25.3	5.1

\* (Shepherd 2007)

\*\* (EPA, 2006)

#### Methodology

#### References

- Commonwealth of Australia (2001)
- EPA (2006)
- Hedde et al. (1980)
- Shepherd (2007)
- GIS Databases:
  - Hedde Vegetation Complexes
  - 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 numerous wetlands in the local area (5km radius). Approximately 3.5 hectares of the area under application are located within mapped Resource Enhancement Wetlands and 10.4 hectares are located within Multiple Use Wetlands. The nearest watercourses are Bennet Brook, located 1.8km to the northeast, and Bayswater Main Drain located 5.6km to the southwest.

Resource Enhancement Wetlands are priority wetlands with the objective for management, restoration and protection towards improving their conservation value (Water and Rivers Commission 2001).

The vegetation under application includes *Melaleuca preissiana* which is a species considered to be wetland dependent (DEC 2008a).

Although the vegetation under application is degraded to completely degraded, it is considered that the removal of vegetation from the wetlands may alter their hydrology and impact on the wetland processes and functions. DEC (2008c) Wetlands Program advise that the proposed clearing itself is not likely to significantly impact the wetlands within and adjacent to the area under application if the existing landform is retained.



Given that the vegetation under application is located within mapped Resource Enhancement Wetlands, which are a priority for restoration and protection, and Multiple Use Wetlands; and given that the vegetation under application includes wetland dependent vegetation, it is considered that the proposed clearing will impact vegetation found in, and in association with, wetlands.

**Methodology**    **References**  
-DEC (2008a)  
-DEC (2008c)  
-Water and Rivers Commission (2001)  
**GIS Databases:**  
-Geomorphic Wetlands (Classification), Swan Coastal Plain  
-Hydrography, linear (hierarchy)

**(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 soils within the area under application are part of the Bassendean Dune System and comprise leached sands (Northcote et al. 1960-68), which are considered to have a high risk of wind erosion (Department of Agriculture 2005). It is considered that the removal of vegetation from site will further expose the soils and may result in wind erosion.

There is a low salinity risk within the applied area except for portion to the centre of the applied area which has a high salinity risk. Given that the vegetation under application is degraded to completely degraded, and the area of high salinity risk is limited to 1 hectare, it is not considered likely that the proposed clearing would result in salinity.

Given that the proposed clearing may result in wind erosion, it is considered that the proposal may be at variance to this Principle.

**Methodology**    **References**  
-Department of Agriculture (2005)  
-Northcote et al. (1960-68)  
**GIS Databases:**  
-Salinity Risk LM 25m - DOLA 00  
-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 may be at variance to this Principle**

A portion of the vegetation under application is located directly adjacent to Bush Forever site 198.

While it is not considered likely that the proposed clearing would have a direct impact on the environmental values of the adjacent Bush Forever site, the proposed clearing may have an indirect impact through the spread or introduction of dieback and weeds by machinery. There are consequences associated with the spread of such exotic species into areas reserved for conservation, including the potential local extinction of species.

Given that the proposed clearing may have an indirect impact on the environmental values of the adjacent conservation reserve, the proposal therefore may be at variance to this principle. Conditions have been imposed on the permit requiring weed and dieback prevention measures.

**Methodology**    **References**  
-DEC (2008a)  
**GIS Databases:**  
-Bushforever  
-DEC 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 is not likely to be at variance to this Principle**

There are numerous wetlands in the local area (5km radius). Approximately 3.5 hectares of the area under application are located within mapped Resource Enhancement Wetlands and 10.4 hectares are located within Multiple Use Wetlands. The nearest watercourses are Bennett Brook, located 1.8km to the northeast, and Bayswater Main Drain located 5.6km to the southwest.

Soils within the applied area are leached sands (Northcote et al. 1960-68), which are generally considered to have a low risk of water erosion.



There is a low salinity risk within the applied area except for portion to the centre of the applied area which has a high salinity risk. It is not considered likely that the proposed clearing would result in salinity causing deterioration in groundwater quality.

**Methodology**    **References**  
-Northcote et al. (1960-68)  
**GIS Databases:**  
-Geomorphologic Wetlands (Classification), Swan Coastal Plain  
-Hydrography, linear (hierarchy)  
-Public Drinking Water Source Areas (PDWSAs)  
-Salinity Risk LM 25m - DOLA 00  
-Soils, Statewide

**(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**  
There are numerous wetlands in the local area (5km radius). Approximately 3.5 hectares of the area under application are located within mapped Resource Enhancement Wetlands and 10.4 hectares are located within Multiple Use Wetlands. The nearest watercourses are Bennett Brook, located 1.8km to the northeast, and Bayswater Main Drain located 5.6km to the southwest.

The soils within the area under application comprise leached Bassendean sands (Northcote et al. 1960-68), which are generally considered to have high infiltration rates and therefore a low risk of water logging.

Although portions of the area under application are mapped as Resource Enhancement Wetlands and Multiple Use Wetlands, the vegetation under application is in degraded to completely degraded condition, and it is not considered likely that the proposed clearing would cause or exacerbate the incidence of flooding.

**Methodology**    **References**  
-Northcoate et al. (1960-68)  
**GIS Databases:**  
-Geomorphologic Wetlands (Classification), Swan Coastal Plain  
-Hydrography, linear (hierarchy)  
-Soils, Statewide

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

**Comments**  
This application is an amendment to the permit for CPS 2371/1. The area applied for under that permit was 14.34 hectares. The calculation for this area was done based on the assumption that noise barriers would only be created at intersections along Hepburn Avenue. The City of Swan now plan to create noise barriers along the majority of Hepburn Avenue and a 2.5m wide footpath. Consequently, the City of Swan has put this application in for additional 6.05 hectares to allow for the noise barrier and footpath. This increases the area under application to 20.4 hectares (City of Swan, 2009).

The road reserve under application has been identified as 'Other regional road' in the Metropolitan Region Scheme.

The area under application includes three Aboriginal Sites of Significance, two of which are on the Permanent Register, and the other is on the Interim Register. In order to ensure compliance with the provisions of the Aboriginal Heritage Act the City of Swan commissioned ethnographic and archaeological surveys of the project area in 2000. As a result, the Aboriginal people have given their approval of the project on the grounds that it will not disturb any sites or areas of Aboriginal significance.

DEC (2008c) Wetlands Program advise that the proposed road construction that is likely to include filling or excavation, has the potential to impact Conservation Category Wetland areas within Bush Forever Site 198 by modifying the existing hydrological regime, and the road may also introduce pollutants and potentially impact fauna through light pollution and road kill.

The area under application is located within a Priority 3 Public Drinking Water Source Area (PDWSA), and a portion towards to the southern end is located within a Priority 1 PDWSA. Priority 1 classification areas are 'managed to ensure that there is no degradation of the drinking water source by preventing the development of potentially harmful activities in these areas'. Priority 3 classification areas are 'defined to manage the risk of pollution to the water source from catchment activities' (Department of Environment 2004).

Major transport infrastructure (i.e. roads) are considered to be an 'incompatible' land use in Priority 1 areas, but are 'acceptable' in Priority 3 areas. The Department of Water recognise that there may be special circumstances in which 'incompatible' land uses are approved. In this case 'project proponents must



demonstrate an overriding community benefit and that the land use will not increase the risk of contamination to the PDWSA' (Department of Environment 2004).

Department of Water advised the City of Swan in 2007 that non-kerbed carriageways should be constructed for the length of the road construction with the exception of the length that passes through the Well Head Protection Zone, through which kerbing is required.

The area under application is also located within the Environmental Protection (Gnangara Mound Crown Land) Policy 1992 which states that 'person shall not clear, destroy or remove any vegetation on or from the policy area unless the person is authorised under the Act to do so and is acting in accordance with that authorisation'. No authorisation exists for clearing in accordance with section 51C of the Environmental Protection Act 1986 (EP Act). Accordingly, DEC formally referred this application to the Environmental Protection Authority (EPA).

The EPA advised that they have previously decided to 'not assess' the proposal in 2001 and provided the following advice:

- Retention of as much vegetation as possible and revegetation, as set out in the Management plan (Not provided to the DEC)
- Maintenance of fencing adjacent to remnant vegetation to prevent movement of fauna onto the road
- Development of a wetland management plan to improve the ecological and hydrological values of the remaining wetlands, including a drainage and nutrient management plan for the protection of groundwater quality.

The area under application has a moderate to low acid sulphate soil risk except for the southern extent of the applied area which is mapped as having a high to moderate risk, however it is not considered likely that the proposed clearing would significantly disturb these soils.

#### Methodology

#### References

- City of Swan (2009)
  - DEC (2008c)
  - Department of Environment (2004)
- GIS Databases:
- Aboriginal Sites of Significance
  - EPP Areas

## 4. Assessor's comments

#### Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principle (f), and may be at variance to Principles (b) (g) and (h).

## 5. References

CALM (2004) Grand Spider Orchid (*Caladenia huegelii*) Identification Key. Department of Conservation and Land Management (CALM). Western Australia.

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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)