



## 1. Application details

### 1.1. Permit application details

Permit application No.: 980/1

Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Chief Executive Officer City of Wanneroo

### 1.3. Property details

Property: LOT 970 ON PLAN 247637 (House No. 499 GNANGARA GNANGARA 6065)  
LOT 51 ON DIAGRAM 65224 (House No. 525 GNANGARA GNANGARA 6065)  
LOT 50 ON DIAGRAM 65223 (House No. 626 ALEXANDER GNANGARA 6065)

Local Government Area: City Of Wanneroo

Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.4		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
Beard Vegetation association 1001: Medium very sparse woodland; jarrah, with low woodland; banksia and casuarina (Hopkins et al. 2001, Shepherd et al. 2001).	Due to the proposal being for road widening purposes, the nature of clearing is fragmented and linear in shape.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The condition of the vegetation under application varied from good to completely degraded. Given the quality and well developed condition of the vegetation, an overall condition of good was considered most appropriate (Site Visit, 2006).
Heddlie Vegetation complex: 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. tottiana</i> in the vicinity of Perth (Heddlie et al. 1980).	The vegetation of the proposal area has been described comprising of Medium very sparse woodland; jarrah, with low woodland; banksia and casuarina (Hopkins et al. 2001, Shepherd et al. 2001) to woodland of <i>E. marginata</i> - <i>C. fraseriana</i> - <i>Banksia</i> spp. to low woodland of <i>Melaleuca</i> species (Heddlie et al. 1980)		
	The area is described as a <i>Banksia</i> low to open woodland and low to open forest with various understorey species and some weed species (City of Wanneroo, 2005).		
	The vegetation applied to be cleared consist of <i>Banksia menziesii</i> , <i>Banksia attenuata</i> and <i>Xanthorrhoea preisii</i> with evidence of weeds on the boundaries. The condition of vegetation at the site was recorded as varying between Excellent and Completely Degraded (Site Visit, 2006).		

### 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 to be cleared is predominantly medium to low woodland Jarrah, Banksia and Casuarina (Hopkins et al. 2001, Shepherd et al. 2001). The vegetation present in the area under application contains vegetation belonging to the Bassendean Complex - Central and South and was recorded as varying between Excellent and Completely Degraded (Site Visit, 2006).

Bush Forever site 193 lies on the northern boundary of the proposal area and Bush Forever site 196 lies approximately 30m south of the area, separated by Gnangara Road. This site contains ten distinct vegetation community types (City of Wanneroo, 2005).

The area under application is also identified as being within the buffer of TEC's within Bush Forever site 196.

Bush Forever (2006) have indicated that the proposed area currently contains vegetation that is of a high quality and therefore increased protection measures would be required for the rest of this site if the clearing permit were to be supported by the Bush Forever office. Further advice also indicated support for a cumulative offset package of 2.27ha for CPS 978 and 980 following advice from the DEC that the revegetation area would provide the largest amount of environmental benefits if used as an offset and revegetated and rehabilitated.

Targeted advice from the Biodiversity Coordination Section (i) (2006) indicates that the area under application is likely to have been subjected to a number of impacts such as weed encroachment, roading and altered hydrology, and cumulatively, and that these impacts can mask the original floristic makeup of the area. Furthermore, a report from the Biodiversity Coordination Section (ii) (2006) indicates that the area proposed to be cleared is unlikely to comprise a TEC.

The Applicant has agreed to revegetate and fence a cumulative offset package of 2.27ha for CPS 978 and 980. CPS 978 consisted of clearing 0.2ha of road reserve vegetation, adjacent to Alexander Drive and south of the CPS 980 area, for road widening purposes.

Revegetation and Fencing conditions will be placed on the clearing permit to ensure environmental benefits for offsets and revegetation are achieved. Therefore the proposed clearing is not likely to be at variance to this principle.

##### Methodology

Biodiversity Coordination Section (i) (2006) (DEC TRIM ref: DOC 3214)  
Biodiversity Coordination Section (ii) (2006) (DoE TRIM ref: DOC 2154)  
Bush Forever (2006) (DEC TRIM ref: DOC 3242)  
Site Visit (2006) (DoE TRIM ref: DOC 335)  
GIS Databases:  
- Bushforever - MFP 07/01

#### (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**

Carnaby's Cockatoo (Endangered) and Quenda (P5) have been recorded within 800m of the area under application (CALM (i) 2006). However, Bush Forever sites north and south of the site are likely to be of better habitat value for these species than the area under application (CALM (i) 2006).

Subsequent advice from the Biodiversity Coordination Section (2006) have indicated that clearing contractors should undertake clearing of the proposed areas should be carried out in a south to north direction so that any Southern Brown Bandicoots have time to move out of the way of machinery, into adjoining bushland. The Biodiversity Coordination Section (2006) have also indicated that the rehabilitation of an area, that will be subject to the burying of Western Power underground cables, will need to be tailored in terms of species selection so that the revegetation does not provide attraction to Carnaby's Cockatoo. The City of Wanneroo have agreed to both of the above conditions

Therefore the clearing as proposed is unlikely to impact upon significant fauna within the local area.

##### Methodology

Biodiversity Coordination Section (iii) (2006) (DEC TRIM ref: DOC 3194)  
CALM (i) (2006) (DoE TRIM Ref: EI 6601)

#### (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**

Based on DEC datasets no Declared Rare Flora species are known to occur within the area under application.

The following flora species have been recorded within 1300m of the proposed clearing; *Pityrodia axillaris* (Declared Rare), *Caladenia huegelii* (Declared Rare), *Hibbertia helianthe* (P3), *Cyathochaeta teretifolia* (P3), *Jacksonia sericea* (P4) (CALM (i) 2006). Both Declared Rare flora species occur on the same vegetation type as the area under application.

However, based on a report from the Biodiversity Coordination Section (2006), the area proposed to be cleared is unlikely to contain DRF or flora of conservation significance. The clearing as proposed, therefore, is not likely to be at variance to this Principle.

**Methodology** Biodiversity Coordination Section (ii) (2006) (DoE TRIM ref: DOC 2154)  
CALM (i) (2006) (DoE TRIM Ref: EI 6601)  
GIS Databases:  
- Declared Rare and Priority Flora List - CALM 13/08/03

**(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**

A number of Threatened Ecological Communities (TECs) were recorded within close proximity to the western segment of the area under application (90m, 220m and 560m south). The area under application is therefore identified as being within the buffer of these TEC's to the south of the proposed area.

Given the separation of the proposal area from the TEC locations by a major road and the relatively large distance between the two areas, it is unlikely that the proposed clearing will have an effect on these TEC's.

Furthermore, targeted advice from the Biodiversity Coordination Section (i) (2006) indicates that the area under application is likely to have been subjected to a number of impacts such as weed encroachment, roading and altered hydrology, and cumulatively, and that these impacts can mask the original floristic makeup of the area. Furthermore, a report from the Biodiversity Coordination Section (ii) (2006) indicates that the area proposed to be cleared is unlikely to comprise a TEC. The clearing as proposed, therefore, is not likely to be at variance to this Principle.

**Methodology** Biodiversity Coordination Section (i) (2006) (DEC TRIM ref: DOC 3214)  
Biodiversity Coordination Section (ii) (2006) (DoE TRIM ref: DOC 2154)  
GIS Databases:  
-Threatened Ecological Communities - CALM 12/4/05  
-Clearing Regulations - Environmentally Sensitive Areas - DOE 8/03/05

**(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 area under application consists of 1.4ha which when compared to 18,907ha remaining for Beard vegetation association 1001 and 23,624ha remaining for Hedde complex Bassendean Complex Central and South is not a significant reduction in the amount of vegetation remaining for the two vegetation complexes. The City of Wanneroo have agreed to a cumulative offset package for CPS 978 and 980 to fence and revegetate a 2.27ha area to the north of the proposed clearing area with locally endemic species.

Therefore, given the small size of the area under application (1.4ha) and a cumulative revegetation offset of 2.27ha, it is unlikely that the proposed clearing will have an impact on the vegetation remaining for both vegetation complexes representative of the area.

**Methodology** Shepherd et al. (2001)  
Hopkins et al. (2001)  
Hedde et al. (1980)

**(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**

No watercourse or wetland is present in the area under application. However there is a Conservation Category Wetland noted in close proximity. The conservation wetland, Gngangara Lake, lies approximately 20m north-west of the western part of the area under application. The presence of a number of *Banksia* species in the area and lack of wetland dependent species suggests that the vegetation under application is unlikely to be dependent on a damp, moist environment. Also, given the lack of ecological continuity between the area under application and the wetland it is unlikely that the clearing as proposed will impact on the nearby wetland.

**Methodology** GIS Databases:  
-Geomorphic Wetlands (Classification), Swan Coastal Plain - DOE 15/9/04

**(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 characteristic landscape of the area is subdued dune-swale terrain with the chief soils being leached sands. The area under application lies within a Class 2 Moderate to Low risk Acid Sulfate area. The area is also in a low salinity risk area with salinity <500mg/l. Given the proposed clearing is small (1.4ha), it is unlikely that the clearing will cause any appreciable land erosion or degradation.

**Methodology GIS Databases:**

-Acid Sulfate Soil Risk Map, SCP - DOE 04/11/04  
-Groundwater Salinity, Statewide - 22/02/00  
-Soils, Statewide - DA 11/99

**(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**

A portion of the northern boundary of the area under application is located within Bush Forever site 193. Bush Forever site 196 is located approximately 30m south east of the proposed area, however, is separated by Gngangara Road.

Bush Forever (2006) have identified that the proposed clearing area is within and adjacent to Bush Forever Site 193. Subsequently, the Bush Forever Office have indicated that the area currently contains vegetation that is of a high quality and that increased protection measures would be needed for the rest of Site 193 for the clearing permit to be supported by the Bush Forever Office.

Bush Forever (2006) have also indicated their support for the cumulative offset package of 2.27ha for CPS 978 and 980 following advice from the DEC that the revegetation area would provide the largest amount of environmental benefits if used as an offset and revegetated and rehabilitated.

Given the cumulative offset package of 2.27ha for CPS 978 and 980 has been agreed to by the City of Wanneroo and supported by the Bush Forever Office, it is unlikely that the clearing as proposed will be at variance to this Principle.

**Methodology Bush Forever (2006) (DEC TRIM ref: DOC 3242)**

**GIS Databases:**  
-CALM Managed Lands and Waters - CALM 01/08/04  
-Bushforever - MFP 07/01

**(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 Gngangara Mound Groundwater Area is located approximately 270m north of the proposal area and Gngangara Lake is located approximately 20m north-west of the western segment of the proposal area. The proposal is also located within Policy Use P1 (Mirrabooka Underground) and Policy Use P2 (Gngangara Underground Water Pollution) Public Drinking Water Source Areas. The guiding principle for these areas is risk avoidance and risk minimisation respectively (DoE 2004). However, given the small size (1.4ha) and lineal nature of the area proposed to be cleared, there is little perceived impact on the quality of the surface and underground water in the area.

**Methodology DoE (2004)**

**GIS Databases:**  
-Public Drinking Water Source Areas (PDWSAs) - DoE 29/11/04  
-EPP, Areas - DEP 06/95- EPP, Lakes - DEP 1/12/92

**(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**

Flooding impacts are unlikely to occur in the proposal area due to the small scaling, lineal nature of clearing. Further, due to the area being of relatively flat terrain, with the fragmented and limited connectivity of the intended clearing area, it is unlikely that the clearing of such a small area will impact on the incidence and intensity of flooding.

**Methodology GIS Databases:**

- Topographic Contours, Statewide - DOLA 12/09/02

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

### Comments

There is no other RIWI Act Licence, Works Approval, or EP Act Licence that will affect the area that has been applied to clear.

CALM (2006) advised that the agreed area for rehabilitation within a degraded section of State Forest 65 is regularly used by off road vehicles and is highly disturbed with only scattered remnant vegetation present. Thus CALM advises that the area will need to be fenced, prior to the rehabilitation works. This will achieve greater rehabilitation success by preventing access and subsequent damage of the revegetated areas.

CALM also advises that the fence should also provide appropriate controlled access to allow the City of Wanneroo and DEC to carry out management activities and also to provide access in the case of a wildfire.

CALM (2006) also supports the City of Wanneroo's proposal to utilise the topsoil and mulched vegetative matter collected from the cleared areas for spreading over the rehabilitation area.

CALM have also recommended that the area be further rehabilitated with both seed and plant stock of appropriate endemic flora species (with a list provided).

CALM also advised that direct seeding of the site should occur in spring with seed collected from plants in the local vicinity. Tube stock should also be propagated from this seed for planting at the site in spring 2007. It is satisfactory for the seedlings to be planted at approximately 1000-1500 stems per hectare at this site. After seed germination in autumn, the site should be inspected to determine whether weeds are present and need to be controlled prior to planting tube stock.

DEC recommends that the City of Wanneroo manage the rehabilitated area for a period of two years to ensure successful rehabilitation is achieved. CALM agrees to accepting management of the rehabilitation after the area permit has expired.

Bush Forever (2006) have identified that the area proposed to be cleared is within and adjacent to Bush Forever Site 193, and is within an area that currently contains vegetation that is of a high quality and therefore increased protection measures would be required for the rest of this site if this clearing permit were to be supported by the Bush Forever Office.

The Bush Forever Office have also requested that environmental offsets at a ratio of 2:1 with land of the same or similar values is provided if the proposed clearing occurs, in the form of rehabilitation and revegetation.

The Office also confirmed the support of the proposed revegetation of the cleared area within Lot 5199 Lindley Road, Gnangara, after confirmation from DEC that this area would provide the largest amount of environmental benefits if used as an offset and revegetated and rehabilitated.

The Bush Forever Office recommended that the following conditions be placed on the clearing application if granted:

- All construction and clearing work is to be done in an environmentally sensitive manner with minimum disturbance to the natural vegetation
- Remediation and rehabilitation works on the land are not required for the carriageway
- No development, including fill, temporary fencing, building materials, rubbish or any other deleterious matter should be deposited on the Parks and Recreation Reserve
- Development of the road should be planned to avoid and minimise impact on bushland areas where possible and to mitigate 'edge effects' and ensure that the regionally significant vegetation on Bush Forever Site No. 193 is not adversely affected through indirect impacts (such as weed invasion, spread of dieback and littering).

The Biodiversity Coordination Section (2006) have recommended that the proposed clearing should be carried out in a south to north direction so that any Southern Brown Bandicoots have time to move out of the way of machinery, into adjoining bushland. The Section has also recommended that species selection for the area that contains the underground Western Power cabling needs to be tailored so that it does not provide attraction to Carnaby's Cockatoos.

**Methodology** Biodiversity Coordination Section (2006) (DEC TRIM ref: DOC 3194)  
Bush Forever (2006) (DEC TRIM ref: DOC 3242)  
CALM (ii) (2006) (DEC TRIM ref: DOC 3243)

## 4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Road construction or Removal maintenance	Mechanical	1.4	Grant	<p>The application has been assessed and the clearing as proposed may be at variance to Principle (a).</p> <p>Following negotiations with the City of Wanneroo a combined offset package of 2.27ha within Lot 5129 Lindley Road has been agreed upon for CPS 978 (0.2ha) and CPS 980 (1.4ha), commensurate with the value of the vegetation that will be removed.</p> <p>The assessing officer recommends a clearing permit be granted subject to the following conditions:</p> <ol style="list-style-type: none"><li>1. The Permit Holder shall complete the authorised activity by 25 September 2007.</li></ol>

2. The Permit Holder shall undertake the authorised activity by undertaking clearing in a southerly to northerly direction.
3. The Permit Holder shall retain the vegetative material and topsoil removed by clearing in accordance with this Permit and shall lay the vegetative material and topsoil within the area cross hatched red on attached Plan 980/1 Map 1 and 980/1 Map 2.
4. On completion of the authorised activity the Permit Holder shall construct a fence along the northern boundary of the areas cleared, as per the area delineated in green on attached plan 980/1 Map 1 .
5. The Permit Holder must revegetate the area cross hatched red on attached Plan 980/1 Map 1 and 980/1 Map 2 by:
  - a.) Deliberately planting and/or 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
  - b.) Ensuring only local provenance seeds and propagating material from within 10km of the proposed clearing are used to revegetate the area cross hatched in red in accordance with condition 5.
  - c.) Ensure revegetation commences by September 2007.
6. The Permit Holder shall construct a fence enclosing the area cross hatched red on attached Plan 980/1 Map 1. The fence shall be constructed and maintained so as to be adequate to exclude public vehicle access. Construction of the fence shall be completed by December 2007.
7. Commencing by September 2008, and at least once in each 12 month period for the term of this Permit, the Permit Holder must
  - a.) determine the species composition, structure and density of the area revegetated in accordance with condition 5; and
  - b.) where, in the opinion of an environmental specialist, the composition structure and density determined under condition 7(a) will not result in a similar species composition, structure and density to pre-clearing vegetation types in that area the Permit Holder must undertake additional planting or seeding of native vegetation in accordance with the requirements of condition 5(a) and (b).
8. 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, revegetated and rehabilitated under this Permit
9. When undertaking any clearing, revegetation and rehabilitation, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of weeds:
  - a.) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
  - b.) ensure that no weed-affected road building materials, mulch or fill are brought into the area to be cleared; and
  - c.) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
10. When undertaking any clearing, revegetation and rehabilitation, the Permit Holder must take the following steps to minimise the risk of introduction and spread of dieback:
  - a.) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
  - b.) avoid the movement of soil in wet conditions;
  - c.) ensure that no dieback-affected road building materials, mulch or fill are brought into an area that is not affected by dieback; and
  - d.) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
11. The Permit Holder must maintain the following record for activities in relation to the clearing of native vegetation undertaken pursuant to condition 1:
  - a.) the location where the clearing occurred, recorded using Geocentric Datum Australia 1994;
  - b.) the date that the area was cleared; and
  - c.) the size of the area cleared (in hectares)
12. The Permit Holder must maintain the following record for activities in relation to the revegetation and rehabilitation of areas pursuant to conditions 5 and 7:
  - a.) the location of any area revegetated and rehabilitated recorded using Geocentric Datum Australia 1994;
  - b.) a description of the revegetation and rehabilitation activities undertaken; and
  - c.) the size of the area revegetated and rehabilitated undertaken (in hectares).
13. The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records requested under conditions 11 and 12 and activities done

## 5. References

- Bush Forever (2006) Direct Interest Submission - Clearing Application 980/1 (DEC TRIM ref: DOC 3242)
- CALM (2006) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref EI 6601.
- CALM (ii) (2006) Proposed Rehabilitation Offsets for Clearing Application CPS 980 & 978 (DEC TRIM ref: DOC 3243)
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- DoE (2004) Water Quality Protection Note - Land use compatibility in Public Drinking Water Source Areas.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Information provided from the Biodiversity Coordination Section (i) (2006) (DEC TRIM ref: DOC 3214)
- Information provided from the Biodiversity Coordination Section (ii) (2006) (DEC TRIM ref: DOC 2154)
- Information provided from the Biodiversity Coordination Section (iii) (2006) (DEC TRIM ref: DOC 3194)
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia. Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

## 6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)

