



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 2886/1
<b>Permit Holder:</b>	Shire of Mundaring
<b>Duration of Permit:</b>	26 March 2009 – 26 March 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 gravel extraction
- 2. Land on which clearing is to be done**  
Lot 28654 on Plan 183302  
Lot 29087 on Plan 191171
- 3. Area of Clearing**  
The Permit Holder must not clear more than 10 hectares of native vegetation within the area cross-hatched yellow on attached Plan 2886/1.
- 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 for the authorised purpose of this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

## 8. Dieback and weed control

- (a) When undertaking any clearing, or other activity 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 *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 *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.

## 9. Fauna Management

- (a) Prior to undertaking any clearing authorised under this Permit, the area 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 2008(2)*.
- (b) Prior to clearing, any *habitat 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 2008(2)* 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.

## 10. Revegetation

- (a) The Permit Holder shall retain the vegetation material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) Within six months of any area no longer being required for gravel extraction, the Permit Holder must *revegetate* and *rehabilitate* the area cross-hatched yellow on attached Plan 2886/1 by:
  - (i) laying vegetation material and topsoil retained under condition 10(a), on the cleared area; and
  - (ii) deliberately *planting and/or direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing types in that area; and
  - (iii) ensuring only *local province* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.

- (c) Within twelve months of undertaking *revegetation* and *rehabilitation* in accordance with condition 10 (b) of this Permit, the Permit Holder must:
- (i) determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
  - (ii) where, in the opinion of an *environmental specialist*, the composition, structure and density determined under condition 10(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the Permit Holder must undertake additional *planting* or *direct seeding* of native vegetation in accordance with the requirements of 10(b)(ii) and (iii) of this Permit.

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

#### **11. 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 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 Fauna Management pursuant to condition 9:
  - (i) the location of each habitat tree identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) the species of fauna reasonably likely to utilise, or that have been observed utilising the habitat trees; and
  - (iii) the location and date where relocated fauna was released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.
- (c) In relation to *revegetation* and *rehabilitation* pursuant to condition 10 of this Permit:
  - (i) the location of any area *revegetated* or *rehabilitated*, 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 *revegetation* and *rehabilitation* activities undertaken;
  - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares) and
  - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.

#### **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 and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to the 26 December 2013, the permit holder must provide to the CEO a written report of records required under condition 11 where these records have not already been provided under condition 12(a).

#### **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;

**direct seeding** means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

**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;

**fauna clearing person** means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

**fauna specialist** means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

**fill** means material used to increase the ground level, or fill a hollow;

**habitat trees** means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

**local provenance** means native vegetation seeds and propagating material from natural sources within 10-40 kilometres of the area cleared.

**mulch** means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

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

**rehabilitate/ed/ion** means actively managing an area containing native vegetation in order to improve the ecological function of that area;

**revegetate/ed/ion** means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area; and

**weed** 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*.



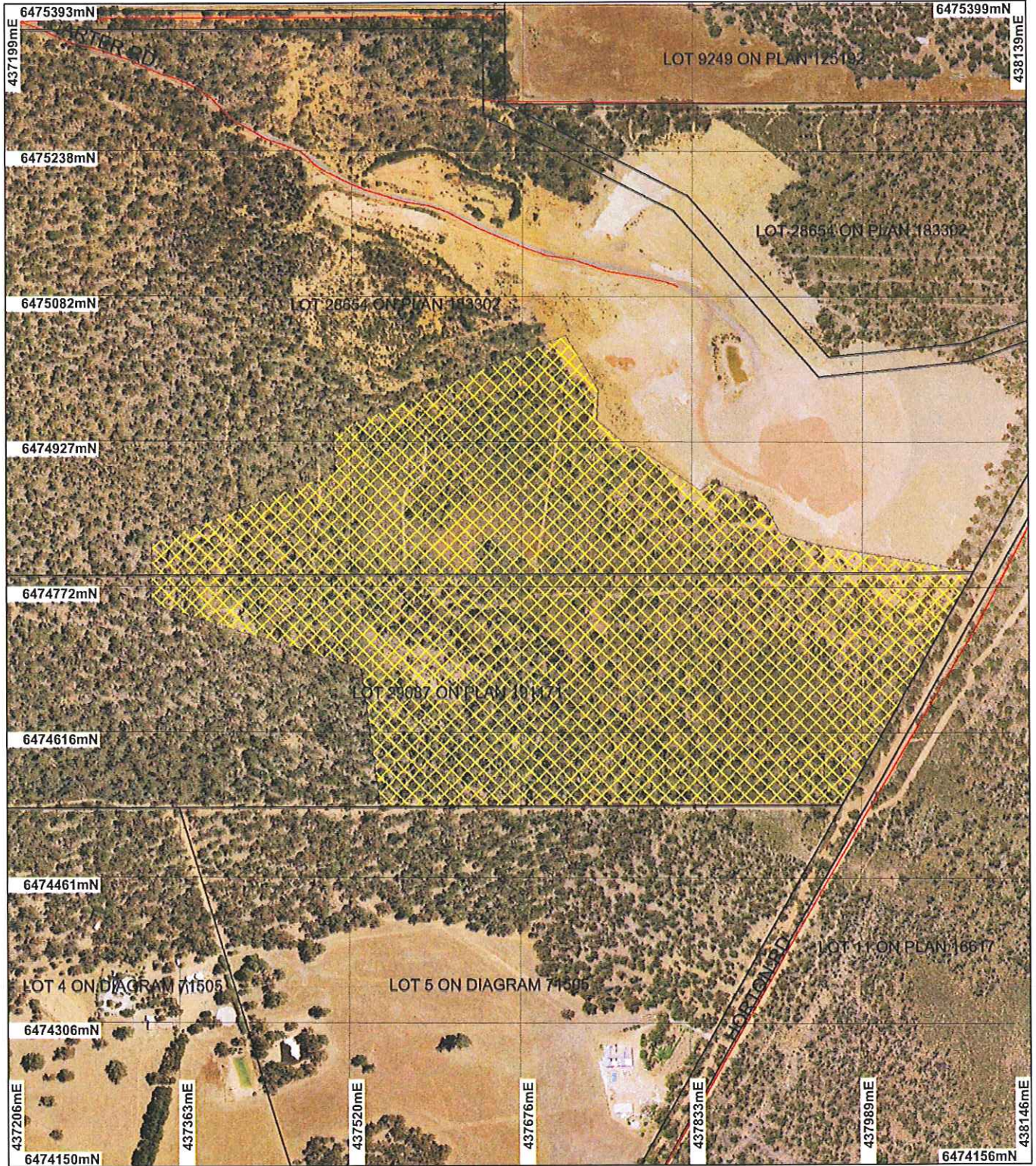
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Keith Claymore  
A/ ASSISTANT DIRECTOR  
NATURE CONSERVATION DIVISION

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

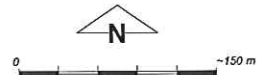
26 February 2009

# Plan 2886/1



## LEGEND

- Clearing Instruments
- Areas Approved to Clear
- Road Centrelines
- Swan Coastal Plain North  
20cm Orthomosaic - Landgate  
2006
- Cadastral for labelling



Scale 1:5500  
(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.

*Kate Claymore* 26/2/09  
K Claymore

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.: 2886/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Shire of Mundaring

### 1.3. Property details

Property: LOT 28654 ON PLAN 183302  
LOT 29087 ON PLAN 191171  
Local Government Area: Shire Of Mundaring  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
10		Mechanical Removal	Extractive Industry

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>Beard Vegetation Association: 3003 - Medium forest; jarrah &amp; marri on laterite with wandoo in valleys, sandy swamps with tea tree and Banksia. (SAC Bio Datasets 31/12/2008; Shepherd, 2007)</p> <p>Heddle Vegetation Complexes: Pindalup And Yarragil Complex In Low\To Medium Rainfall - No description available Yalanbee Complex In Low Rainfall - No description available. (Heddle et al, 1980)</p> <p>Mattiske Vegetation Complexes: Pindalup (Pn) - Open forest of Eucalyptus marginata subsp. thalassica-Corymbia calophylla on slopes and open woodland of Eucalyptus wandoo with some Eucalyptus patens on the lower slopes in semiarid and arid zones. Yalanbee (Y5) - Mixture of open forest of Eucalyptus marginata subsp. thalassica-Corymbia calophylla and woodland of Eucalyptus wandoo on lateritic uplands in semiarid to perarid zones. (Mattiske and Havel, 1998)</p>	<p>The area under application (clearing of 10 ha of native vegetation within a 22 ha area) is located within Crown Reserve 36125 known as the Beechina Gravel pit (Lot 28654 and Lot 29087). Beechina gravel pit has been operational since the 1970s. The proposed clearing is for construction of a new gravel pit adjacent to the current gravel pit.</p> <p>The vegetation under application is described as:</p> <ul style="list-style-type: none"> <li>- Jarrah-marri forest over diverse shrubland. The vegetation includes Eucalyptus marginata, Corymbia calophylla, Xanthorrhoea preissii, Xanthorrhoea gracilis, Calothamnus sp, Banksia lindleyana, Banksia sessilis, Mesomelaena sp, Drosera sp, Grevillea sp, Petrophile sp, Ptilotus sp, Stylidium sp and Hibbertia spp,</li> <li>- Wandoo woodland over diverse low shrubland. The vegetation includes Eucalyptus wandoo, Eucalyptus marginata, Xanthorrhoea preissii, Synaphea sp, Hibbertia spp, and Allocasuarina huegeliana, and</li> <li>- Closed low heath with some granite outcrops.</li> </ul>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>The condition of the native vegetation under application was sourced from the site inspection on 19 December 2008 (DEC, 2008).</p>

## 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 at variance to this Principle**  
The area under application is immediately adjacent to existing gravel operations that have been carried out within Crown Reserve 36125. Crown Reserve 36125 is known as the Beechina gravel pit and has been

operational since the 1970s.

The proposed clearing comprises the removal of up to 10 ha of native vegetation within a 22 ha area. The vegetation under application is in excellent condition with minimal disturbance from tracks and with no weed species observed over the majority of the area under application (DEC, 2008). The vegetation under application may provide suitable habitat for ground-dwelling fauna, and foraging and nesting habitat for avian species. During the site inspection tree hollows suitable for small birds such as the pardalote, and a potential trapdoor spider burrow was observed within the area under application (DEC, 2008).

Given the low level of disturbance and the excellent condition of the vegetation under application with intact community structure and significant habitat values, it is considered that the area under application comprises a high level of biological diversity. Therefore, the clearing as proposed is at variance to this Principle.

**Methodology** Reference:  
- DEC (2008)

**(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**

Ten fauna species of conservation significance have been recorded within the local area (10km radius). The nearest recorded fauna species, Chuditch and Western Brush Wallaby, are located approximately 800m and 1.3km south of the area under application. The Chuditch occupies large home ranges, is highly mobile and appears able to utilise bush remnants and corridors. The Western Brush Wallaby occurs in areas of forest and woodland supporting a dense shrub layer.

There are large tracts of intact native vegetation (~5,000ha) located within the local area (5km radius) and the native vegetation surrounding the area under application collectively forms effective corridors allowing fauna to move freely over large surrounding areas of native vegetation.

The vegetation under application is in excellent condition (DEC, 2008) with an intact structure that may provide suitable habitat for ground-dwelling fauna, and foraging and nesting habitat for avian species. During the site inspection tree hollows suitable for small birds such as the pardalote, and a potential trapdoor spider burrow were observed within the area under application (DEC, 2008).

An Environmental Protection Authority report (EPA, 2005) for an adjacent property, clearing of 85 ha of vegetation within Lots 11 and 14 for the proposed extension of the Voyager Quarry, identified the impacts of clearing on vertebrates and invertebrates. Targeted surveys for vertebrate fauna revealed possible evidence of foraging of Black Cockatoos, the Western Grey Kangaroo, and one record of Chuditch and echidna (EPA, 2005). Targeted surveys for invertebrate fauna, in particular trapdoor spiders and land snails indicates that a new species of trapdoor spider (*Gaius* sp) may have been discovered (EPA, 2005).

The vegetation under application is in excellent condition and comprises high habitat values, therefore may comprise significant habitat. Although, there is extensive remnant vegetation within the local area (5km radius) with ~66% native vegetation remaining, the remaining native vegetation within Crown Reserve 36125 (~75ha) is infected by *Phytophthora cinnamomi* (Brown et al, 2005) and therefore the habitat value in the long term could be compromised. Therefore, the proposed clearing may be at variance to this Principle.

**Methodology** References:  
- Brown et al (2005)  
- DEC (2008)  
- EPA (2005)  
GIS Databases:  
- NLWRA, Current Extent of Native Vegetation  
- SAC Bio Datasets 07/01/2009

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

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

There are no known records of rare flora in the local area (10km radius). The nearest known record is *Acacia aphylla* located approximately 11 km south-west of the area under application. This species of rare flora occurs on different soils and within different vegetation complexes as those of the area under application.

A spring flora and vegetation survey (Mattiske Consulting Pty Ltd, 2002) was undertaken within Lots 11 and 14, which are adjacent to Crown Reserve 36125 and on similar soils and in similar vegetation communities. This survey did not identify any rare flora. Given the rare flora in the local area is found in different vegetation and soils it is not considered likely that the area under application includes or is necessary for the maintenance of rare flora.

**Methodology** Reference:  
 - Mattiske Consulting Pty Ltd (2002)  
 GIS Databases:  
 - Heddle Vegetation Complexes  
 - Mattiske Vegetation  
 - SAC Bio Datasets 07/01/2009  
 - 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 are no known occurrences of Threatened Ecological Communities (TEC) within the local area (10km radius). The nearest recorded TEC is Floristic Community Type (FCT) 3c: E. calophylla - Xanthorrhoea preissii woodlands and shrublands located approximately 27 km west of the area under application.

FCT 3c: E. calophylla - Xanthorrhoea preissii woodlands and shrublands does not have similar species composition and generally occurs on the heavier clays of the Pinjarra Plain/Guildford Clays (eastern side of the Swan Coastal Plain) and is not likely to occur on the Darling Plateau, where the area under application is located.

Given the distance to the nearest TEC that is located on the Swan Coastal Plain, the area under application is not considered to support an occurrence of a TEC and occurs outside of the buffer of a TEC; therefore the proposed clearing is not considered likely to be at variance to this Principle.

**Methodology** Reference:  
 - DEC (2008)  
 GIS Database:  
 - Interim Biogeographic Regionalisation of Australia  
 - SAC Bio Datasets 22/01/2009  
 - 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 vegetation within the area under application is identified as a component of Beard vegetation type 3003 and Mattiske Pindalup and Yalenbee Complexes, of which there is 61.3%, 80.6% and 68.5% of Pre-European extent remaining respectively (Shepherd, 2007; Mattiske and Havel, 1998).

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). The vegetation associations are above the recommended minimum of 30% representation.

Given the relatively high representation of remnant vegetation within the Beard and Mattiske vegetation associations (61.3%, 80.6% and 68.5%) and the heavily vegetated local area (5km radius) with ~66% of native vegetation remaining; the vegetation under application is not considered to be a significant remnant within an extensively cleared area. Therefore, the clearing as proposed is not likely to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Jarrah Forest	4,506,655	2, 440,940	54.1	
Shire of Mundaring*	78,087	57,403	73.5	
Local area (5km radius)	7,850	~5,150	~66	
Beard vegetation type*				
3003	66,451	40,721	61.3	45.1
Mattiske vegetation complex**				
Pindalup (Pn)	1,666,912	1,343,956	80.6	NA
Yalenbee (Y5)	1,243,773	852,364	68.5	NA

\* (Shepherd, 2007)

\*\* (Mattiske and Havel, 1998)



**Methodology**    **References:**  
- Commonwealth of Australia (2001)  
- Mattiske and Havel (1998)  
- Shepherd (2007)  
**GIS Databases:**  
- Pre-European Vegetation  
- Interim Biogeographic Regionalisation of Australia  
- NLWRA, Current Extent of Native Vegetation  
- SAC Bio Datasets 31/12/2008

**(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**  
There are no wetlands or watercourses located within the area under application. The closest waterbodies are minor non perennial watercourses (tributaries of Wooroloo Brook) located approximately 815m east and 1.2km west of the area under application. It is considered that the vegetation under application is not associated with a watercourse or wetland, and therefore the proposed clearing is not likely to be at variance to this Principle.

**Methodology**    **GIS Database:**  
- Hydrography, linear

**(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**  
Soil-landscape mapping identifies ~80% of the area under application as Wundowie, Cook sub-system, which is described as residual granite, laterite and duricrust crests, shallow clayey sands and loams derived from granite and gneiss (Chittering Landcare Group, 2006). These soils are considered to be at high risk of water erosion that could result in the sedimentation of Wooroloo Brook if not managed; these soils also have a high risk of phosphorous export (Chittering Landcare Group, 2006).

Soil-landscape mapping identifies ~20% of the area under application (north-east and south-west sections) as Yalanbee 1 phase, which is described as well drained gently undulating lateritic uplands with moderately deep to deep fine gravelly brownish sands, pale brown sands and earthy sands (Chittering Landcare Group, 2006). These soils are considered to be at low risk of wind erosion, phosphorous export, water erosion and waterlogging (Chittering Landcare Group, 2006).

Given the section of clayey sands and loams and the associated high water erosion and phosphorous export risk, it is considered likely that the proposed clearing may cause appreciable land degradation.

**Methodology**    **Reference:**  
- Chittering Landcare Group (2006)

**(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**  
There are two conservation reserves within the local area (5km radius), being Mundaring State Forest located approximately 1.5km south-west and Beechina Nature Reserve located 1.8km west of the area under application. Aerial mapping of the local area shows partial connectivity from the area under application to the conservation areas.

The vegetation under application is considered to be in excellent condition (DEC, 2008) and may provide an ecological linkage or corridor to adjacent or nearby conservation areas. However, given the clearing is limited to 10 ha of vegetation within a 22 ha area and another ~75 ha of vegetation shall be remaining on the property, it is considered that the proposed clearing will have minimal [indirect] impact on the environmental values of the conservation areas through reduced ecological corridors and inhibited fauna movement.

**Methodology**    **Reference:**  
- DEC (2008)  
**GIS databases:**  
- DEC Managed Lands and Waters  
- Swan Coastal Plain North 40cm Orthomosaic - DLI05

**(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**

Soil-landscape mapping identifies ~80% of the area under application as Wundowie, Cook sub-system, which is described as residual granite, laterite and duricrust crests, shallow clayey sands and loams derived from granite and gneiss (Chittering Landcare Group, 2006). These soils are considered to be at high risk of water erosion that could result in the sedimentation of Wooroloo Brook if not managed; these soils also have a high risk of phosphorous export (Chittering Landcare Group, 2006).

Soil-landscape mapping identifies ~20% of the area under application (north-east and south-west sections) as Yalanbee 1 phase, which is described as well drained gently undulating lateritic uplands with moderately deep to deep fine gravelly brownish sands, pale brown sands and earthy sands (Chittering Landcare Group, 2006). These soils are considered to be at low risk of wind erosion, phosphorous export, water erosion and waterlogging (Chittering Landcare Group, 2006).

Given the section of clayey sands and loams and the associated water erosion risk, it is considered that the proposed clearing may cause appreciable land degradation, however with appropriate management water erosion can be controlled on-site.

**Methodology Reference:**

- Chittering Landcare Group (2006)
- GIS Databases:
  - Hydrography, linear
  - Public Drinking Water Source Areas (PDWSAs)
  - Salinity Risk LM 25m

**(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 no wetlands or watercourses located within the area under application. The closest waterbodies are minor non perennial watercourses (tributaries of Wooroloo Brook) located approximately 815m east and 1.2km west of the area under application. Given the distance to the nearest waterbodies the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

**Methodology GIS Database:**

- Hydrography, linear

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

**Comments**

Dieback disease caused by *Phytophthora cinnamomi* has been confirmed within Crown Reserve 36125 (Brown et al, 2005). An assessment was conducted by accredited personnel for the Shire of Mundaring. *P. cinnamomi* is considered to be widespread throughout Crown Reserve 36125 with approximately half of the western portion infected. The infected area does not include the area under application (Brown et al, 2005).

A spring flora and vegetation survey (Mattiske Consulting Pty Ltd, 2002) was commissioned by BGC Quarries and conducted within Lots 11 and 14 (Voyager Quarry), which are adjacent to Crown Reserve 36125, and on similar soils and in similar vegetation communities. This survey did not identify any rare flora; however, one species *Hemigenia viscida* (Priority 4) was recorded in heath communities within Lot 11 and Lot 14, and survey of nearby reserves recorded this species within the area under application (Crown Reserve 26125). DEC Hills District (2009) confirmed that *Hemigenia viscida* was removed from the priority list in 2004.

The proposal for Voyager Quarry, Lots 11 and 14 Horton Road, was approved by the Minister for the Environment (Statement No. 000706) subject to conditions including:

- Fauna relocation and habitat: Preparing a Fauna Relocation and Habitat Plan detailing the relocation of fauna and the salvaging and relocation of tree hollows and habitat logs;
- Restricted Area and Management of Trapdoor Spiders: Protection and management of the core population (~79 burrows) of trapdoor spiders located within the project area.

The Western Australian Statement of Planning Policy No 2.4 - Basic Raw Materials: identifies Crown Reserve 36125 as being an extraction area or an existing extraction area of basic raw material.

Lot 28654 and Lot 29087 are part of Crown Reserve 36125, which is vested with the Shire of Mundaring for the purpose of Gravel.

Crown Reserve 36125 is zoned Rural under the Metropolitan Regional Council and Public Purposes under the local Town Planning Scheme.

**Methodology References:**

- Brown et al (2005)
- Mattiske Consulting Pty Ltd (2002)

- Perth Hills District (2009)
- GIS databases:
  - Cadastre
  - Metropolitan Regional Council
  - Town Planning Scheme Zones

#### 4. Assessor's comments

##### Comment

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

#### 5. References

- Brown, E., Clapperton, G. and Van de Sande, A. (2005) Assessment Results and Management recommendations - *Phytophthora cinnamomi*: Shire of Mundaring - Beechina Gravel Pit, Glevan Consulting for the Shire of Mundaring. Trim Ref DOC70008
- Chittering Landcare Group (2006) LandSmart: Brockman River, Ellen Brook and Wooroloo Catchments (CD-Rom), Chittering Landcare Group and Swan Catchment Council.
- Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
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- DEC Hills District (2009) Flora advice for CPS 2886/1(Email), Flora Conservation officer, Perth Hills District, Department of Environment and Conservation. TRIM Ref DOC74238
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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)

