



## CLEARING PERMIT

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

### PERMIT DETAILS

Area Permit Number: 5495/1  
File Number: 2013/000786-1  
Duration of Permit: From 30 May 2015 to 30 May 2030

### PERMIT HOLDER

Bristle Holdings Ltd TA Austral Bricks (WA) Pty Ltd

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 1 on Diagram 34893, Morangup

### AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 11.54 hectares of native vegetation within the area hatched yellow on attached Plan 5495/1.

### CONDITIONS

#### 1. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 19 November 2023.

#### 2. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is 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.

#### 3. Fauna management

No clearing is take place between 1 July to 31 February, being the breeding season of *Calyptorhynchus latirostris* (Carnaby's cockatoo), unless otherwise approved by the CEO.

#### 4. Offset – conservation covenant

Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall:

- (a) give a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* setting aside the *covenant area* for the protection and management of vegetation in perpetuity; and
- (b) provide to the CEO a copy of the executed conservation covenant.

#### 5. Revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) prior to 19 November 2024, *revegetate* and *rehabilitate* within the area cross-hatched yellow on attached Plan 5495/1 by:

- (i) ripping the pit floor and contour batters within the extraction site; and
  - (ii) laying the vegetative material and topsoil retained under condition 5(a) on the cleared area.
- (c) within 24 months of undertaking *revegetation and rehabilitation* in accordance with condition 5(b) of this Permit:
- (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated and rehabilitated*; and
  - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 5(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
  - (iii) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area; and
  - (iv) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
- (d) Where additional planting or direct seeding of native vegetation is undertaken in accordance with condition 5(c)(ii) of this permit, the Permit Holder shall repeat condition 5(c)(i) and 5(c)(ii) within 24 months of undertaking the additional planting or direct seeding of native vegetation.
- (e) Where a determination by an environmental specialist that the composition, structure and density within areas revegetated and rehabilitated will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 5(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 5(c)(ii), the CEO may require the Permit Holder to undertake additional planting and direct seeding in accordance with the requirements under condition 5(c)(ii).

## 6. Records must be kept

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

- (a) In relation to the clearing of native vegetation authorised under this Permit:
- (i) the species composition, structure and density of the cleared area;
  - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (iii) the date that the area was cleared; and
  - (iv) the size of the area cleared (in hectares).
- (b) In relation to the *revegetation and rehabilitation* of areas pursuant to condition 5 of this Permit:
- (i) the location of any areas *revegetated and rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (ii) a description of the *revegetation and rehabilitation* activities undertaken;
  - (iii) the size of the area *revegetated and rehabilitated* (in hectares);
  - (iv) the date *revegetation and rehabilitation* activities were undertaken;
  - (v) the species composition, structure and density of *revegetation and rehabilitation*, and
  - (vi) a copy of the environmental specialist's report.

## 7. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
- (i) of records required under condition 6 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.

- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 28 February 2030, the Permit Holder must provide to the CEO a written report of records required under condition 6 of this Permit where these records have not already been provided under condition 7(a) of this Permit.

## DEFINITIONS

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

**covenant area** means the area of land cross-hatched red on attached Plan 5495/1;

**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 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, or who is approved by the CEO as a suitable environmental specialist.

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

**local provenance** means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion 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;

**regenerate/ed/ion** means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

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

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

**weed/s** means any plant -

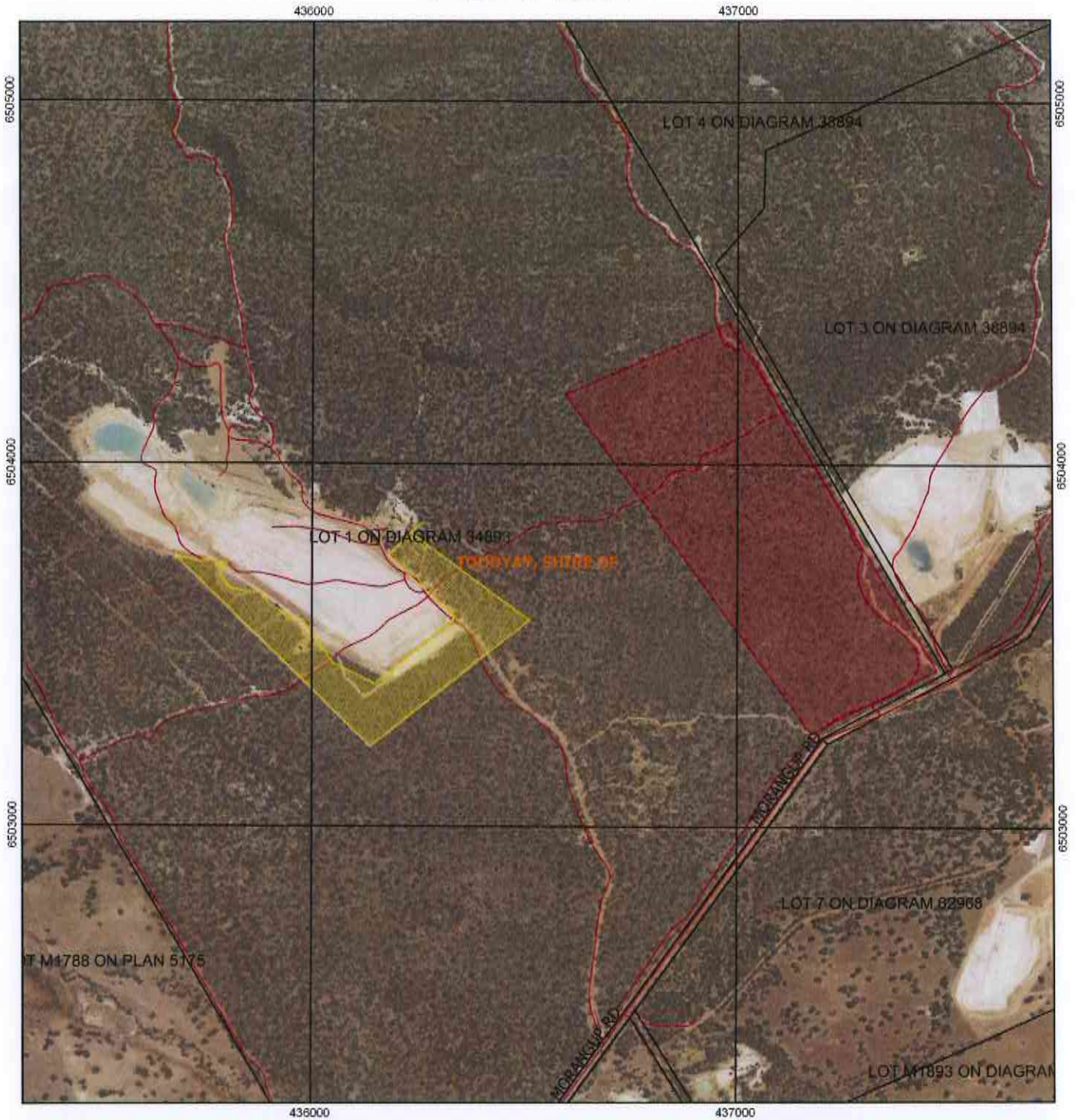
- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Jane Clarkson  
ACTING SENIOR MANAGER  
CLEARING REGULATION

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

# Plan 5495/1



## Legend

-  Local Govt. Authorities (LGA)
-  Clearing Instruments Conditions
-  Areas approved to clear
-  Roads
-  Cadastre
- Virtual Mosaic



1:10,000

MGA 94  
Geocentric Datum of Australia 1994

 Date 30.4.15

Jane Clarkson

Officer with delegated authority under Section 20  
of the Environmental Protection Act 1986



GOVERNMENT OF  
WESTERN AUSTRALIA



## 1. Application details

### 1.1. Permit application details

Permit application No.: 5495/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: **Bristle Holdings Pty Ltd T/As Austral Bricks WA Pty Ltd**

### 1.3. Property details

Property: LOT 1 ON DIAGRAM 34893 (MORANGUP 6083)  
Local Government Area: Shire of Toodyay

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 30 April 2015

## 2. Existing Environment and information

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

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard vegetation association 3003 is described as medium forest; jarrah and marri on laterite with wandoo in valleys, sandy swamps with teatree and banksia (Shepherd et al 2001).	To clear 11.54 hectares of native vegetation within lot 1 on diagram 34893 for the purpose of clay extraction.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)  To	The condition and description of the vegetation has been determined by a former Department of Environment and Conservation site inspection undertaken on 27 March 2013 (DEC 2013) and a flora survey report provided on behalf of the applicant (Del Botanics, 2012)
Mapped Matiske vegetation complex Y5 is described as a mixture of open forest of Eucalyptus marginata subsp. thalassica - Corymbia calophylla and woodland of Eucalyptus wandoo on lateritic uplands in semiarid to perarid zones (Matiske and Havel 1998).		Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994).	The vegetation proposed to be cleared is in very good to excellent (Keighery 1994) condition and consists of four distinct flora communities - wandoo woodland over dark brown sandy loam, jarrah marri woodland on laterite soils, banksia shrubland and a rehabilitation area of planted wandoo (DEC, 2013).

## 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 application is to clear 11.54 hectares of native vegetation for the purpose of clay extraction. Approximately 30 hectares has been previously cleared at the existing clay extraction site and the proposed clearing of 11.54 hectares is to expand the current site further south. The existing extraction site is in a valley surrounded by a vegetation remnant of approximately 900 hectares.

The vegetation under application is in very good to excellent (Keighery 1994) condition and consists of four distinct flora communities; wandoo woodland over dark brown sandy loam, jarrah marri woodland on laterite soils, banksia shrubland and a rehabilitation area of planted wandoo (DEC, 2013).

A survey of an approximately 40 hectare area including the proposed clearing area and surrounding vegetation identified 708 habitat trees approximately 100 of which contain large hollows suitable to be used for breeding by local and threatened fauna (Western Wildlife, 2012). The remainder of the habitat trees have the potential to develop hollows and become suitable breeding habitat for a range of fauna species, in particular Carnaby's cockatoo (*Calyptorhynchus latirostris*).

The area under application also provides suitable habitat for the shield-backed trapdoor spider (*Idiosoma nigrum*) and at least seven other threatened fauna species (DPaW 2007-).

Del Botanics (2012) conducted a flora survey of the application area in October 2012 and no flora of conservation significance was identified. The understorey species composition of the proposed clearing area is not likely to support priority flora recorded from the local area (DEC 2013).

The area under application occurs within the Jarrah Forest IBRA Bioregion which retains approximately 55 percent of original vegetation extent (Government of Western Australia 2011). The boundary between this bioregion and the Avon Wheatbelt IBRA Bioregion occurs five kilometres to the east. The Avon Wheatbelt IBRA Bioregion is extensively cleared with 19 percent of original extent remaining (Government of Western Australia 2011) due to agricultural practises. The application area is within the transitional zone between the two bioregions, at the eastern edge of the jarrah forest communities and the western edge of wandoo woodland communities and contains flora species representative of both bioregions.

The 900 hectare remnant of vegetation surrounding the area under application is likely to hold high biodiversity values in comparison to other remnants within the landscape of a smaller size, particularly extensively fragmented remnants to the east within the Avon Wheatbelt Bioregion. Larger fragments of native vegetation maintain a greater resilience to environmental impacts, ecologically intact functions, higher genetic diversity and greater long term viability as an ecological stepping stone. Smaller fragments are less resilient to edge effects and hold limited capacity to aid in flora and fauna dispersal.

The clearing of 11.54 hectares in the centre of this 900 hectare remnant, combined with the 30 hectare area already cleared and used for clay extraction may reduce the long term integrity of the remnant as an ecological stepping stone and compromise a unique flora community of high biodiversity values in the transitional phase between two bioregions. The 900 hectare remnant will be subject to further edge effects from the additional clearing, from within the centre of the remnant.

Considering the above, the area under application comprises a high level of biodiversity and is at variance to this clearing principle.

The applicant has provided an offset securing adjoining vegetation from future potential development/degradation in order to mitigate the impacts of clearing within this location. The offset area:

- Lies within vegetation contiguous with the application area.
- Contains significant black cockatoo feeding habitat.
- Contains suitable Carnaby's cockatoo breeding habitat.
- Contains high biodiversity values.

#### Methodology

##### References

- DPaW (2007- )
- DEC (2013)
- Del Botanics (2012)
- Government of Western Australia (2011)
- Keighery (1994)
- Western Wildlife (2012)

##### GIS Databases

- SAC Bio Datasets - accessed March 2015
- Pre-European Vegetation

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

Ten fauna species of conservation significance have been recorded in the local area (10 kilometre radius) (DPaW 2007- ). Of these, given the mapped and observed vegetation type, Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*), forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*), chuditch (*Dasyurus geoffroii*), shield-backed trapdoor spider (*Idiosoma nigrum*), western brush wallaby (*Macropus Irma*) and carpet python (*Morelia spilota imbricata*) may be present.

The vegetation under application is in a very good to excellent (Keighery 1994) condition and consists of four distinct flora communities; wandoo woodland over dark brown sandy loam, jarrah marri woodland on laterite soils, banksia shrubland and a rehabilitation area of planted wandoo (DEC, 2013).

An approximately 40 hectare fauna survey of the application area and adjoining vegetation identified 708 habitat trees of which 100 contained large hollows (Western Wildlife, 2012). The remainder of the habitat trees have the potential to develop hollows and become suitable breeding habitat for a range of fauna species.

Carnaby's cockatoo (*Calyptorhynchus latirostris*) is classified as endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and 'rare or likely to become extinct' under the Wildlife Conservation Act 1950 (WC Act). The vegetation under application occurs within a confirmed breeding and feeding area for this species. A fauna survey of the application area recorded Carnaby's cockatoo foraging within the application area (Western Wildlife, 2012). One of the major threats to Carnaby's cockatoo is the accumulative clearing of foraging and breeding habitat (SEWPaC 2012). All foraging and breeding habitat is considered significant and any clearing will contribute to the cumulative loss and fragmentation of habitat posing a significant threat to the long term survival of Carnaby's cockatoo (SEWPaC, 2012).

The Carnaby's cockatoo recovery plan (DEC, 2012) summarises habitat critical to the survival for Carnaby's cockatoos as:

- The eucalypt woodlands that provides nest hollows used for breeding, together with nearby vegetation that provides feeding, roosting and watering habitat that supports successful breeding;
- Woodland sites known to have supported breeding in the past and which could be used in the future, provided adequate nearby food and/or water resources are available or are re-established; and
- In the non-breeding season the vegetation that provides food resources as well as the sites for nearby watering and night roosting that enable the cockatoos to effectively utilise the available food resources.

The recovery plan also states, "Success in breeding is dependent on the quality and proximity of feeding habitat within 12 kilometres of nesting sites. Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's cockatoo is a critical requirement for the conservation of the species" (DEC, 2012). As the application area contains numerous potential nest sites, contains extensive feeding habitat and a tributary of the Avon River falls to the north east of the application area, it fulfils all habitat requirements deemed critical to Carnaby's cockatoo survival.

Baudin's cockatoo (*Calyptorhynchus baudinii*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*) are listed as vulnerable under the EPBC Act and 'rare or likely to become extinct' under the WC Act. Baudin's cockatoo has not been recorded breeding in the local area as their breeding range is further south, however they have been recorded foraging in the local area. This species feeds mainly on eucalyptus and banksia seeds, therefore the marri, jarrah and banksia woodland within the area under application may provide a foraging resource for this species (Western Wildlife, 2012).

Forest red-tailed black cockatoo's feed mainly on marri and jarrah seeds and have been observed feeding within the application area (Western Wildlife, 2012). As the application area falls within the northern extent of the range for this species they are not likely to breed within the application area. Although Baudin's cockatoo and forest red-tailed black cockatoo are not likely to breed within the application area, it contains significant feeding habitat for these species.

The chuditch (*Dasyurus geoffroii*) is listed as endangered under the EPBC Act and 'rare or likely to become extinct' under the WC Act. Although no chuditch were trapped or recorded on camera during a field survey undertaken by Western Wildlife (2012), as they are highly mobile with large home ranges they are likely to occur within the area under application. Given the extent of suitable habitat surrounding the application area, clearing the vegetation under application is not likely to significantly impact this species. Suitable habitat is also available in the surrounding 900 hectare vegetation remnant and the local area so the proposed clearing is unlikely to affect the conservation status of this species.

The shield-backed trapdoor spider (*Idiosoma nigrum*) is listed as 'rare or likely to become extinct' under the WC Act and has also been recorded within the local area. This species is distributed throughout the mid-west of Western Australia in Acacia and Eucalypt woodlands on heavy soils. Given this, the application area may provide suitable habitat for this species (Western Wildlife, 2012). Suitable habitat is also available in the surrounding 900 hectare vegetation remnant and the local area therefore, the proposed clearing is unlikely to affect the conservation status of this species.

The western brush wallaby (*Macropus irma*) is listed as Priority 4 by the Department of Parks and Wildlife (Parks and Wildlife) and was observed within the area under application (Western Wildlife, 2012). The home range for this species is estimated to be between 5 - 10 hectares so the area under application may provide significant habitat for several individuals (Western Wildlife, 2012).

The carpet python (*Morelia spilota imbricata*) is listed as Priority 4 by Parks and Wildlife and is likely to occur within the area under application. The carpet python occurs in a range of habitats however it requires large vegetation remnants in order to persist. Considering the area under application is within a large vegetation remnant of approximately 900 hectares and much of the surrounding landscape has been fragmented into smaller remnants of native vegetation, the area under application may comprise significant habitat for this species.

The vegetation under application is part of a larger remnant (approximately 900 hectares) of native vegetation which is likely to act as an ecological stepping stone between conservation areas and other remnants of native vegetation in the local area (Western Wildlife 2012). The 900 hectare vegetation remnant forms part of a semi-continuous band of native vegetation linking the Avon Valley National Park and timber reserves to the west with Hoddys Well and Clackline to the south east (Western Wildlife, 2012).

The proposed clearing would not create any isolated vegetation patches and does not significantly reduce the width of the linkage. However, it has the potential to impact upon the integrity of the 900 hectare remnant, reducing its longer term viability and ability to act as an ecological stepping stone (Western Wildlife, 2012).

Given the very good to excellent (Keighery 1994) condition of the vegetation under application, the presence of hollow-bearing habitat trees, black cockatoo foraging habitat and high biodiversity values, the area under application consists of significant habitat for local and conservation significant fauna.

Given the above, the application is at variance to this principle.

The applicant has provided an offset securing adjoining vegetation from future potential development/degradation in order to mitigate the impacts of clearing within this location. The offset area:

- Lies within vegetation contiguous with the application area.
- Contains significant black cockatoo feeding habitat.
- Contains suitable Carnaby's cockatoo breeding habitat.
- Contains high biodiversity values.

**Methodology**    **References**  
- DEC (2012)  
- DPaW (2007- )  
- Keighery (1994)  
- SEWPaC (2012)  
- Western Wildlife (2012)

**GIS Databases**  
- Carnaby's cockatoo breeding areas confirmed  
- SAC Biodatasets - accessed March 2015

**(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**

Three species of rare flora have been recorded within the local area (10 kilometre radius).

Given the observed species composition (DEC, 2013), one of these had the potential to be present within the application area.

A flora survey of the application area conducted by Del Botanics (2012) did not identify any rare flora species.

Given the above, the application is not likely to be at variance to this principle.

**Methodology**    **References**  
- DEC (2013)  
- Del Botanics (2012)  
**GIS Databases**  
- SAC Bio Datasets - accessed March 2015

**(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 threatened ecological communities (TEC) mapped within a 10 kilometre radius of the application area. A flora survey of the application area conducted by Del Botanics (2012) did not identify vegetation consistent with a TEC.

Therefore, the application is not likely to be at variance to this principle.

**Methodology**    **References:**  
Del Botanics (2012)  
  
**GIS Databases:**  
- SAC Biodatasets - accessed March 2015

**(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 is located within the Jarrah Forest Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This bioregion retains approximately 54 percent pre-European native vegetation (Government of Western Australia, 2013).

The application area is mapped within Beard Vegetation Association 3003. This vegetation association retains approximately 59 percent pre-European native vegetation within the Jarrah Forest bioregion (Government of Western Australia, 2013).

The vegetation under application is mapped within Mattiske Vegetation Complex Y5 which retains 68 percent pre-European extent (Mattiske and Havel 1998).



The local area (10 kilometre radius) surrounding the application area retains approximately 60 percent native vegetation.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The area under application is a significant remnant as it contains high biodiversity and significant fauna habitat, however it is not located within an area which has been extensively cleared.

Given the above, the proposed clearing is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion* Jarrah Forest	4,506,660	2,457,731	54	68
Shire* Shire of Toodyay	169,176	86,276	51	46
Beard Vegetation Association in Bioregion* 3003	66,451	39,495	59	46
Mattiske Vegetation Complex Y5	124,376	84,654	68	40

**Methodology**

**References:**

- Commonwealth of Australia (2001)
- \*Government of Western Australia (2013)

**GIS Datasets:**

- Mattiske vegetation
- Pre-European vegetation
- NWLRA, Vegetation Extent

**(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 at variance to this Principle**

No watercourses or wetlands area present within the application area. The closest major watercourse occurs approximately four kilometres to the north while Mortigup Brook, a minor tributary of the Avon River, is situated to the north-east of the existing pit area.

Therefore, the application is not at variance to this clearing principle.

**Methodology**

**GIS Databases:**

- 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**

The soil within the area under application is described as low hilly to hilly terrain which comprises of valleys that are frequently narrow and have short fairly steep pediments along with breakaways, mesas and occasional granite tors (Northcote et al 1960-1968).

The topography of the area under application ranges from 250 - 270 metres above sea level and receives an annual average rainfall of 700 millimetres.

Salinity within the area under application is moderate, recorded as 3000-7000mg/L. Considering the area under application is 11.54 hectares within a vegetation remnant of approximately 900 hectares, the proposed clearing is unlikely to result in an increased salinity level.

The proposed clearing of 11.54 hectares is adjacent to an area of approximately 30 hectares previously cleared for clay extraction, which would result in a total area of approximately 41.54 hectares of cleared land. Considering this and the sloping topography, the proposed clearing may create a potential for wind and water erosion to occur, resulting in land degradation.

Given the above, the application may be at variance to this principle.

In order to manage this potential risk an Excavation and Rehabilitation Management Plan (Belton, 2001) has been prepared. The management plan states that siltation ponds are used to capture any run-off and the current settlement pond is connected to the nearby stream line by a pipe under the access ramp. The pipe is inverted approximately five metres from the bottom of the pit, thus preventing siltage and export of clay particles into the local stream system.

The area under application slopes downwards towards the existing pit and any run-off is directed into and contained within the existing pit. During the summer operation period, the water from the settlement pond is used for dust suppression. Erosion of the final batters is controlled by the progressive replacement of the overburden and topsoil. Topsoil and overburden are stockpiled for later rehabilitation (Belton, 2001). The surrounding 900 hectare vegetation remnant acts as a buffer and prevents erosion from occurring beyond the excavation pit.

**Methodology**

References:

- Belton (2001)
- Northcote et al. (1960-68)

GIS Databases:

- Groundwater Salinity, statewide
- Rainfall, Mean Annual
- Soils, statewide
- Topographic Contours, Statewide

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments**

**Proposal may be at variance to this Principle**

The vegetation under application is part of a larger remnant (approximately 900 hectares) of native vegetation which is likely to act as an ecological stepping stone between conservation areas and other remnants of native vegetation in the local area (Western Wildlife 2012). The 900 hectare vegetation remnant forms part of a semi-continuous band of native vegetation linking the Avon Valley National Park and timber reserves to the west with Hoddys Well and Clackline to the south east (Western Wildlife, 2012).

The proposed clearing would not create any isolated vegetation patches and does not significantly reduce the width of the linkage. However, it has the potential to impact upon the integrity of the 900 hectare remnant, subsequently reducing its longer term viability as a remnant and the ability to act as an ecological stepping stone (Western Wildlife, 2012).

Given the above, the application may be at variance to this principle.

**Methodology**

References

- Western Wildlife (2012)

GIS Databases:

- DEC tenure

**(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**

No watercourses or wetlands are present within the application area. The closest major watercourse occurs approximately four kilometres to the north while three minor non-perennial watercourses occur within approximately 200 metres.

Salinity within the area under application is moderate, recorded as 3000-7000mg/L. Considering the area under application is 11.54 hectares within a vegetation remnant of approximately 900 hectares, the proposed clearing is unlikely to result in an increased salinity level.

An Excavation and Rehabilitation Management Plan (Belton, 2001) has been prepared in order to manage surface water across the site. The management plan states that siltation ponds are used to capture any run-off and the current settlement pond is connected to the nearby stream line by a pipe under the access ramp. The pipe is inverted approximately five metres from the bottom of the pit, thus preventing siltage and export of clay particles into the local stream system.

The area under application slopes downwards towards the existing pit and any run-off is directed into and contained within the existing pit. During the summer operation period, the water from the settlement pond is used for dust suppression. Erosion of the final batters is controlled by the progressive replacement of the overburden and topsoil. Topsoil and overburden are stockpiled for later rehabilitation (Belton, 2001). The surrounding 900 hectare vegetation remnant acts as a buffer and prevents erosion from occurring beyond the excavation pit.

Given the above, the proposed clearing is not likely to be at variance to this principle.

**Methodology** References:  
Belton (2001)

GIS Databases:  
- Hydrography, linear

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

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

The application area is approximately 265 metres above sea level on sloping topography and receives an average rainfall of 700 millimetres per year.

Considering the above, the application is not likely to cause or exacerbate flooding and is not likely to be at variance to this principle.

**Methodology** GIS Databases:  
- Rainfall, Mean Annual  
- Topographic Contours, Statewide

**Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.**

**Comments** The applicant has provided an Extractive Industry Licence and Planning Approval from the Shire of Toodyay for the project (Land insights, 2015).

The proposed action was referred to the Department of the Environment due to its potential impact to black cockatoos. On 2 September 2014 the proposed action was approved subject to condition's including:

- A conservation covenant being applied over an identified portion of the property.
- The approval of an Environmental Management and Offset Strategy.
- The implementation of dieback management procedures.

The applicant has provided an offset securing adjoining vegetation from future potential development/degradation in order to mitigate the impacts of clearing within this location. The offset area:

- Will be placed under Conservation Covenant.
- Lies within vegetation contiguous with the application area.
- Contains significant black cockatoo feeding habitat.
- Contains suitable Carnaby's cockatoo breeding habitat.
- Contains high biodiversity values.

The area under application is zoned as 'rural' under the Town Planning Scheme Zones.

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

No public submissions have been received in relation to this application.

**Methodology** References  
- Land insights (2015)

GIS Databases:  
- Aboriginal Sites of Significance  
- Town Planning Scheme Zones

#### **4. References**

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