



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1833/1

Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Ballbro Services Pty Ltd

### 1.3. Property details

Property: LOT 504 ON PLAN 42002 (House No. 29 FIELDS PINJARRA 6208)

Local Government Area: Shire Of Murray

Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.78		Mechanical Removal	Building or Structure

## 2. Site Information

### 2.1. Existing environment and information

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

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Heddlle Vegetation Complex: 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 sedge lands on the moister sites. This area includes the transition of <i>E. marginata</i> to <i>E. tottiana</i> in the vicinity of Perth.	The proposal is to clear 0.78 hectares of native vegetation for the purpose of constructing buildings associated with an industrial development.  Bennett Environmental Consulting (2007) identified the following two vegetation units within the area under application:	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation clearing description based on site visits conducted by DEC officers on 2 April 2007 and 7 June 2007. A Flora and Vegetation Survey was conducted by Bennett Environmental Consulting (2007) throughout spring on 30 August 2007, 8 November 2007 and 1 December 2007.
Beard Vegetation Association 999 - Medium woodland; marri	- Open low woodland of <i>Corymbia calophylla</i> over thicket of <i>Jacksonia sternbergiana</i> over low sedges dominated by <i>Hypolaena exsulca</i> , <i>Mesomelaena tetragona</i> or <i>Patersonia occidentalis</i> in grey sand,  - Open low woodland of <i>Corymbia calophylla</i> over low heath of <i>Pericalymma ellipticum</i> over open tall sedges of <i>Cyathochaeta avenacea</i> and low sedges dominated by <i>Patersonia occidentalis</i> in sandy clay.		
(Adapted from: Shepherd et al. 2001)	There is extensive weed invasion around the edge of the applied area, with some weed invasion in the middle of the northern portion, and very little weed presence in the middle of the southern portion.		
	The vegetation ranges in		

condition, with DEC Species and Communities Branch (DEC 2008) describing the majority (~0.4ha) to be in excellent condition, approximately 0.2ha to be in very good to excellent condition, 0.1ha to be in good to very good condition, and the remainder being in degraded to completely degraded condition.

As above.

As above.

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

As above.

### 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 seriously at variance to this Principle**

The vegetation under application is located within an industrial area and has been previously cleared, however the majority of the vegetation is considered to be in excellent condition, with 87 native plant taxa and 12 weeds being recorded within the 8000m<sup>2</sup> site (Bennett Environmental Consulting 2007).

The vegetation under application includes over 300 plants of the Declared Rare Flora (DRF) *Synaphea stenoloba*; and includes the Priority 1 species *Schoenus pennisetis* (Bennett Environmental Consulting 2007).

In addition, a Nearest Neighbour Analysis showed a portion of the vegetation under application to be most similar to Floristic Community Type 3a, which is listed as a Threatened Ecological Community (TEC) (Bennett Environmental Consulting 2007). DEC Species and Communities Branch confirmed that a portion of the vegetation under application comprises the 3a TEC, which is listed by the Minister for the Environment as 'Critically Endangered' in Western Australia, and as 'Endangered' under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

Given that the vegetation under application is in excellent condition, has a high floral diversity, includes DRF and Priority flora, and a portion is considered to comprise a TEC, it is considered that the vegetation under application comprises a very high level of biodiversity. In addition, given that the area under application is located in the Pinjarra locality, which has approximately 8% vegetation remaining, it is considered that the vegetation under application has a high level of biodiversity in a local context. It is therefore considered that the proposed clearing is seriously at variance to this Principle.

**Methodology** Bennett Environmental Consulting (2007)  
DEC Site visit 2/4/07  
GIS Databases:  
SAC Bio datasets accessed 29/5/07

#### (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**

Within a 10km radius of the applied area the following significant fauna have been recorded:

- Chuditch (*Dasyurus geoffroii* - Vulnerable)
- Shield-backed Trapdoor Spider (*Idiosoma nigrum* - Vulnerable)
- Peregrine Falcon (*Falco peregrinus*)
- Water Rat (*Hydromys chrysogaster* - Priority 4)
- Quenda (*Isodon obesulus fusciventer* - Priority 5)
- Eastern Curlew (*Numenius madagascariensis* - Priority 4).

Eastern Curlews and Water Rats are found in and adjacent to waterbodies and it is not considered that the applied area would provide suitable habitat for these species.

Chuditch are known to have occupied a wide range of habitats, with a preference for woodland and mallee habitat, however they are mostly found in the Jarrah forests (Department of Environment and Conservation 2007). Shield-backed Trapdoor Spiders are confined to eucalypt-acacia dry woodlands and sclerophyll open forests east of the Darling Range and north to Moore River (Department of the Environment and Water Resources 2006). It is therefore not considered that the low shrubland under application contains suitable habitat for these two species.

The Peregrine Falcon has a large home range and given the small size of the area under application, it is not considered likely to comprise significant habitat for this species.

The vegetation under application includes a dense groundcover that has the potential to be utilised by ground dwelling fauna such as the Quenda, however no diggings were observed during the site visit.

The area under application is surrounded on three sides by industrial development, therefore limiting the value of the vegetation under application as an ecological corridor.

Although the vegetation under application may provide some habitat for fauna species including the Quenda, it is not considered likely to comprise significant habitat given the limited size of the applied and restricted connectivity to other remnant vegetation.

**Methodology** Department of Environment and Conservation (2007)  
Department of the Environment and Water Resources (2006)  
GIS Database: SAC Bio datasets accessed 29/5/07

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

**Comments Proposal is seriously at variance to this Principle**

Within the local area (5km radius of the applied area) there are nine known populations of the Declared Rare Flora (DRF) *Diuris purdiei*, *Synaphea stenoloba*, and *Diuris drummondii*. There are also 15 known populations of Priority listed flora within the local area.

*D. purdiei* is a tuberous, perennial herb 0.15-0.35 m high with yellow flowers during September-October on moist grey-black sand in winter-wet swamps (Western Australian Herbarium 1994). This species only flowers after fire and therefore is not likely to be observed on site, and was not recorded during the spring flora survey by Bennett Environmental Consulting (2007).

*S. stenoloba* is a shrub 0.3-0.45 m high with yellow flowers during August-October on sandy or sandy clay soils in winter-wet flats, granite (Western Australian Herbarium 1994). A portion of the vegetation under application comprises a low shrubland on an area with low relief and is considered to provide suitable habitat for this rare flora species.

During the spring flora survey Bennett Environmental Consulting (2007) recorded more than 100 plants of *S. stenoloba*, and during a subsequent inspection, DEC Species and Communities Branch identified more than 300 individual *S. stenoloba* within the area under application. *S. stenoloba* is Declared Rare Flora under the Wildlife Conservation Act 1950 (WA) and is listed as 'Critically Endangered' under the Environmental Protection Biodiversity Conservation (EPBC) Act 1999. Species that are 'Critically Endangered' are 'facing an extremely high risk of extinction in the wild in the immediate or near future' (EPBC Act 1999). *S. stenoloba* also meets the World Conservation Union (IUCN) Red List category 'CR' under criterion B1 + 2c as the populations are severely fragmented with continued decline in the extent and quality of the habitat, with *S. stenoloba* being restricted to a six kilometre range near Pinjarra (Bennett Environmental Consulting 2007).

Given that the DRF species *S. stenoloba* was recorded during the spring flora survey, it is considered that the vegetation under application includes, and is necessary for the continued existence of, rare flora. In addition, given that *S. stenoloba* is Critically Endangered and is known only from limited locations; and that more than 300 plants were identified, it is considered that the proposed clearing would further contribute to the decline of the species and is therefore seriously at variance to this Principle.

**Methodology** Bennett Environmental Consulting (2007)  
DEC site visit 7/6/07  
Western Australian Herbarium (1994)  
Western Australian Herbarium (1998)  
GIS Database:  
SAC Bio datasets accessed 29/5/07

**(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 seriously at variance to this Principle**

There are four known occurrences of Threatened Ecological Communities (TEC) within a 5km radius of the applied area, which have been identified as the following Floristic Community Types (FCT):

- 9 - Dense shrub lands on clay flats - located 160m to the southeast and 300m to the east;
- 3a - *Eucalyptus calophylla* - *Kingia australis* woodlands on heavy soils - located 200m southeast.

The area under application is located within the 500m buffer for these nearby TECs, and is located within the

same vegetation complex, however is located within a different mapped soil association.

Using a PATN analysis Bennett Environmental Consulting (2007) concluded that a portion of the vegetation under application is aligned with FCT3a, but advised that the results should be interpreted with caution as the analysis does not strongly indicate which FCT the vegetation under application should best fit.

DEC Species and Communities Branch confirmed and mapped approximately 0.23 hectares of the vegetation under application as FCT 3a, which is a TEC listed by the Minister for the Environment as 'Critically Endangered' in Western Australia, and as 'Endangered' under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

Given that a portion of the vegetation under application has been mapped as FCT 3a, which is considered 'Critically Endangered', it is considered that the proposed clearing is seriously at variance to this Principle.

**Methodology** Bennett Environmental Consulting (2007)  
 DEC site visit 2/4/07  
 GIS Databases:  
 SAC Bio datasets accessed 29/5/07

**(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 at variance to this Principle**

Heddle et al (1980) defines the vegetation under application as Bassendean Complex Central and South, which has a pre-European representation of 27.0% (EPA 2006).

The vegetation under application is also classified as Beard vegetation association 999, which has 13.1% of the pre-European extent remaining (Shepherd 2006).

In addition, the local area (10km radius) has been historically extensively cleared for agriculture and has approximately 17.5% of pre-European extent remaining, with the majority of this vegetation being concentrated adjacent to the Peel-Harvey Estuary. In the Pinjarra locality, which includes the applied area, there is approximately 8% of pre-European vegetation remaining, with the majority being concentrated along the Murray River and in DEC managed reserves.

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Commonwealth of Australia 2001).

The remaining ecological communities for both Heddle and Beard are considered vulnerable and are below the minimum 30% vegetation present pre-1750 target within the National Objectives for Biodiversity Conservation.

The vegetation under application is considered to be in excellent condition and is located on the coastal plain east of the estuary, which has been historically extensively cleared for agriculture, and therefore the vegetation under application is considered to be significant as a remnant in an area that has been extensively cleared.

	Pre-European (ha)	Current (ha)	Remaining %	% in reserves
Swan Coastal Plain	1,529,235	657,450	43.0**	
Shire of Murray	181,523	98,552	54.3*	
Local area (10km radius)	31,400	~5500	~17.5	
Pinjarra locality	~3,000	~260	~8	
Heddle vegetation complex			***	
Bassendean Complex - Central and South	87,477	23,624	27.0	0.7
Beard vegetation association 999				
	115,712	15,161	13.1**	5.8

\* (Shepherd et al. 2001)

\*\* (Shepherd 2006)

\*\*\* (EPA, 2006)

**Methodology** Commonwealth of Australia (2001)  
 DEC site visit 2/4/07  
 EPA (2006)  
 Heddle et al. (1980)  
 Shepherd et al. (2001)  
 Shepherd (2006)  
 GIS Databases:  
 Localities  
 Heddle Vegetation Complexes  
 NLWRA, Current Extent of Native Vegetation

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments Proposal is at variance to this Principle**

The area under application is located within a large multiple use palusplain wetland and a Conservation Category Wetland (CCW) is located approximately 270m east. The nearest watercourse is the Murray River located approximately 1.7km to the east of the area under application.

The vegetation under application in the northern portion of the property comprises a low shrubland, which is associated with a winter-wet depression from which water does not drain freely (Bennett Environmental Consulting 2007). The Declared Rare Flora *Synaphea stenoloba* that was found throughout the site is generally found in winter-wet flats (Western Australian Herbarium 1998).

Given that the area under application is located within a multiple use wetland, and given the presence of a winter-wet depression and wetland dependent vegetation on site, it is considered that the vegetation under application is found in association with a wetland.

**Methodology** Bennett Environmental Consulting (2007)  
DEC site visit 7/6/07  
Western Australian Herbarium (1998)  
GIS Databases:  
Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC  
Hydrography, linear (hierarchy) - DOW

**(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**

Soils within the applied area are part of the Bassendean Dune System and comprise deep grey siliceous sands or bleached sands, which have a very high risk of phosphorus export and water logging (State of Western Australia 2005). The applied area also has a high risk of salinity and a moderate to low risk of Acid Sulphate Soils.

Given that the area under application is 0.78 hectares located within an industrial estate, it is not considered likely that the proposed clearing would result in salinity, phosphorus export, or waterlogging causing appreciable land degradation.

**Methodology** State of Western Australia (2005)  
GIS Databases:  
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC  
Salinity Risk LM 25m - DOLA 00

**(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**

The closest DEC managed reserve to the applied area is located 270m to the east; however there is a reserve to the south of the applied area, which is managed by the Shire of Murray for conservation. Given that the proposed clearing is not within a conservation area, it is not considered likely that it would have a direct impact on the environmental values of any conservation area.

The area under application is surrounded on three sides by industrial development, therefore limiting the value of the vegetation under application as an ecological corridor to conservation reserves. In addition, the applied area is separated from the Shire conservation reserve by a drainage reserve and it is therefore not considered likely that the proposed clearing would have an indirect impact on the environmental values of nearby conservation areas.

**Methodology** DEC site visit 2/4/07  
GIS Databases:  
CALM Managed Lands and Waters - CALM 1/07/05  
Swan Coastal Plain South 20cm Orthomosaic - DLI06

**(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 area under application has a moderate to low risk of acid sulphate soils and a high salinity risk. The soils

identified on site also have a high risk of phosphorus export. A Conservation Category Wetland (CCW) is located approximately 270m to the east of the applied area.

Given that the proposed clearing is limited to 0.78ha within an industrial area, it is not considered that it would result in deterioration in the quality of groundwater. In addition, the area under application has an extremely low relief and it is not considered likely that the proposed clearing would cause water erosion resulting in a deterioration in the quality of surface water in the wetland.

**Methodology** State of Western Australia (2005)  
GIS Databases:  
Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC  
Hydrography, linear (hierarchy) - DOW  
Salinity Risk LM 25m - DOLA 00

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

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

The area under application is located at an elevation of 5 metres and has an extremely low relief. The deep grey Bassendean sands identified on site have a very high risk of water logging (State of Western Australia 2005).

Although there is a very high risk of water logging within the area under application, it is not considered likely that the proposed clearing of 0.78 hectares of vegetation would cause or exacerbate the incidence or intensity of flooding.

**Methodology** DEC site visit 2/4/07  
State of Western Australia (2005)  
GIS Databases:  
Topographic Contours, Statewide - DOLA 12/09/02

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

**Comments**

The land proposed to be cleared is part of a Native Title Claim however, since it is privately owned the Native Title has been extinguished under the Native Title Act. Therefore the clearing as proposed should not fall under the future acts process of the Native Title Act 1993.

In a submission the Shire of Murray advised of their concern with the proposed clearing due to the potential for Declared Rare Flora (DRF) on the property. The Shire recommended a survey to determine the presence of DRF and retention of vegetation where practicable into the landscape plan. A survey has subsequently been conducted and the results have been incorporated into this assessment.

The lot is zoned industrial and is located within an industrial estate. The proponent has an industrial subdivision approval and planning approval which was granted on 29 September 2005, and proposes to clear the lot prior to sale.

The proponent advised that they were not aware of the rare flora on the property until prospective buyers were advised of potential problems getting permission to clear vegetation, and a subsequent letter received from the DEC on 18 May 2007. The proponent advised that being unable to use or sell the property would have financial implications. The company has spent a significant amount of money developing plans for building approval. The proponent has submitted an application to take Declared Rare Flora pursuant to Section 23F of the Wildlife Conservation Act 1950.

In addition, the Environmental Protection and Biodiversity Conservation Act 1999 requires that a person must not take an action that has, will have, or is likely to have, a significant impact on a listed threatened species or listed Threatened Ecological Community, without approval from the Commonwealth Minister for the Environment and Water Resources. To obtain approval, an action must undergo an environmental assessment and approval process.

Bennett Environmental Consulting (2007) notes in the flora report that the DRF *Synaphea stenoloba* has been successfully propagated and this will be followed by micro-propagation of plants for the future recovery of this very rare species. It is also noted that due to significant amounts of weed on site, intensive management or removal of the weeds would be required to ensure that further invasion did not continue to the detriment of the rare flora. *S. stenoloba* are spread throughout the property under application, and therefore it would not likely be possible to only develop a portion of the property without impacting the species.

**Methodology** GIS Database: Native Title Claims - DLI 7/11/05

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Building or Structure	Mechanical Removal	0.78	The assessable criteria have been addressed, and the proposed clearing is seriously at variance to Principles a, c and d; and is at variance to Principles e and f.

## 5. References

- Bennett Environmental Consulting Pty Ltd (2007) Flora and Vegetation Survey - Lot 504 Field Street Pinjarra. DEC TRIM ref. DOC41385.
- Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- Department of Environment and Conservation (2007) Fauna species profiles - Chuditch. Accessed 29 May 2007.
- Department of the Environment and Water Resources (2006) Species Bank - Shield-backed trapdoor spider. Accessed 29 May 2007.
- EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.
- Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.
- Heddle, 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.
- 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 (2006) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- 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.
- Site Visit 2/4/07 & 7/6/07, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC41458.
- State of Western Australia (2005) Agmaps Land Manager CD Rom.
- Western Australian Herbarium (1994) Department of Environment and Conservation. Text used with permission (<http://florabase.calm.wa.gov.au/help/copyright>). Accessed on Tuesday, 29 May 2007.
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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)

