



**1. Application details**

**1.1. Permit application details**

Permit application No.: 1596/1  
 Permit type: Area Permit

**1.2. Proponent details**

Proponent's name: Water Corporation

**1.3. Property details**

Property: JANDAKOT AGRICULTURAL AREA LOT 481 (House No. 24 Bartram Rd SUCCESS 6164)  
 Lot 491 on Plan 183242 (Bartram Rd SUCCESS 6164)  
 Local Government Area: City Of Cockburn  
 Colloquial name: Lot 481 Success  
 Lot 491 Success

**1.4. Application**

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.95		Mechanical Removal	Bore construction

**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 sedgelands on the moister sites. This area includes the transition of <i>E. marginata</i> to <i>E. todliana</i> in the vicinity of Perth.	The proposal includes the clearing of 0.95 hectares of native vegetation within a 1.3 hectare area for the purpose of constructing a bore and installing the associated electrical cables.  The vegetation under application in the northern section comprises scattered <i>Eucalyptus marginata</i> and <i>E. calophylla</i> with no understorey. Vegetation in the centre of the applied area comprises <i>Banksia</i> woodland with scattered <i>Nuytsia floribunda</i> , and the occasional <i>Macrozamia reidii</i> and <i>Xanthorrhoea preissii</i> . Vegetation in the southern portion comprises introduced tea tree and <i>Adenanthos</i> sp. Vegetation ranges in condition from degraded to completely degraded.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	Vegetation clearing description based on a site visit conducted by DEC officers on Tuesday 2 January 2007. Vegetation ranges in condition from Degraded to Completely Degraded.
Beard Vegetation Association: 1001 - Medium very sparse woodland; Jarrah with low woodland; banksia and casuarina			

**3. Assessment of application against clearing principles**

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

**Comments** **Proposal is not likely to be at variance to this Principle**  
 The vegetation under application ranges in condition from degraded to completely degraded, with a lack of understorey and weed invasion in the majority of the applied area. During the spring flora survey 76 native flora species were identified, however this was over the entire study area of which the applied area comprises less than half. Therefore it is likely that the number of native flora species in the applied area is significantly less (360 Environmental 2006).  
  
 Given the degraded to completely degraded condition of the vegetation under application and the low species diversity it is not considered likely that it is representative of a high biodiversity.

**Methodology** 360 Environmental (2006)  
 DEC site visit 2/1/07

**(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**

The vegetation under application is considered to be in a degraded to completely degraded condition with no understorey in the majority of the applied area. The remainder of the applied area primarily comprises weeds, not providing significant habitat for ground for indigenous ground-dwelling fauna species. During the site visit no tree hollows were observed within the vegetation under application that could potentially provide nesting habitat, and no other signs of fauna were observed.

Given that no potential nesting hollows were observed and the lack of understorey within the vegetation under application, it is not considered likely to comprise significant habitat for indigenous fauna.

**Methodology** DEC site visit 2/1/07

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

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

Within the local area (5km radius of the application) there are 5 known occurrences of Declared Rare Flora (DRF), the closest of which is located approximately 2.2km to the north of the applied area. There are also 14 known occurrences of Priority flora within the local area of the application.

A spring flora survey was conducted within the applied area and the immediately adjacent area and no DRF or Priority flora were identified (360 Environmental 2006).

Given that no DRF species were identified during the appropriately timed flora survey of the applied area, the vegetation under application is not considered likely to include, or be necessary for the continued existence of, rare flora.

**Methodology** 360 Environmental (2006)  
GIS Database: Declared Rare and Priority Flora List - CALM 01/07/05

**(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 (5km radius) of the application. During the spring flora survey 360 Environmental (2006) described the vegetation as being most similar to Floristic Community Type (FCT) 23a (Central Banksia *attenuata* - *B. menziesii*), which is not identified as a TEC (Government of Western Australia 2000).

Given the absence of known occurrences of TEC in the local area and that the applied vegetation was not identified as a TEC during the appropriately timed flora survey, the vegetation under application is not considered likely to comprise, or be necessary for the maintenance of, a TEC.

**Methodology** 360 Environmental (2006)  
Government of Western Australia (2000)  
GIS Database: Threatened Ecological Communities - CALM 12/4/05

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

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

The vegetation under application is identified by Hedde et al. (1980) as 'Bassendean Complex - Central and South' of which there is 27.0% of pre-European vegetation remaining, and which is considered to be vulnerable (Department of Natural Resources and Environment 2002).

The vegetation under application is also part of Beard vegetation association 1001 of which there is 27.6% remaining (Shepherd et al. 2002), and which is also considered to be vulnerable (Department of Natural Resources and Environment 2002).

Although the identified vegetation complexes have below the minimum 30% of pre-European representation target set in the National Objectives Targets for Biodiversity Conservation, the vegetation under application is considered to be in degraded to completely degraded condition. The applied vegetation is therefore not considered likely to be representative of the identified vegetation complexes and the proposal is not likely to be at variance to this Principle.

	Pre-European area (ha)	Conservation status****%	Current extent (ha)	in reserves/DEC- managed land	Remaining	%
Swan Coastal Plain	1,529,235	657,450	43.0*	Depleted		
City of Cockburn			*			
Local Area (~10km radius)						
Hedde vegetation complex						
Bassendean Complex C & S	87,477	23,624	27.0**	Vulnerable	0.7	
Beard vegetation associations						
1001	68,475	18,907	27.6*	Vulnerable	13.0	

\* (Shepherd et al. 2001)

\*\* (EPA, 2003)

\*\*\* (Department of Natural Resources and Environment 2002)

**Methodology** DEC Site visit 2/1/07  
 Department of Natural Resources and Environment (2002)  
 EPA (2000)  
 Shepherd et al. (2001)  
 GIS Databases:  
 Hedde Vegetation Complexes - DEP 21/06/95  
 Pre-European Vegetation - DA 01/01

**(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 a number of wetlands located within the local area of the application, the nearest of which is a Multiple Use Wetland located approximately 160m to the east. Thomsons Lake, which is a Conservation Category Wetland (CCW), is also located approximately 800m to the west of the area under application.

Given the distance to the nearest wetland, and that no wetland dependent vegetation was identified during the flora survey and the DEC site visit, the applied vegetation is not considered likely to be growing in, or in association with, an environment associated with a watercourse or wetland.

**Methodology** DEC site visit 2/1/07  
 GIS Databases:  
 Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain  
 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**

The removal of vegetation from the area under application has the potential to increase the risk of wind erosion due to the Bassendean sands present on site, however given the limited amount of vegetation present, its removal is not considered likely to cause an appreciable increase in erosion.

Although not likely to be affected through the removal of vegetation, the majority soil within the applied area is defined as having a moderate to low Acid Sulphate Soil (ASS) risk. The applied area also has a low risk of salinity.

Given that the proposed clearing comprises sparse vegetation in a degraded to completely degraded condition over a narrow area, it is not considered likely that it would result in appreciable land degradation.

**Methodology** 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**

There are a number of conservation reserves within the local area of the application, the closest of which is Thomsons Lake Nature Reserve located 700m to the west, which is also a part of a large Bush Forever site.

The vegetation under application is in a degraded to completely degraded condition and is limited in extent, and therefore is not likely to provide connectivity between larger tracts of vegetation.

Given the degraded to completely degraded condition and limited area of the applied vegetation and the distance to the nearest conservation reserve, it is not considered likely that the proposed clearing would have an impact on the environmental values of any nearby conservation reserve.

**Methodology** DEC site visit 2/1/07  
 GIS Databases:  
 Bushforever - MFP 07/01  
 CALM Managed Lands and Waters - CALM 1/07/05

**(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 applied area is located approximately 700m from Thomsons Lake, which is a Conservation Category Wetland (CCW), and is situated at an elevation of 30-35 metres. The applied area is not located within a Public Drinking Water Source Area (PDWSA). Groundwater salinity in the local area is less than 500 mg/L and there is a moderate to low risk of acid sulphate soils.

Given that the proposed clearing comprises a limited amount of sparse vegetation in a degraded to completely degraded condition, it is not expected to impact groundwater tables or cause deterioration in the quality of surface or underground water.

**Methodology** DEC site visit 2/1/07  
 GIS Databases:  
 Acid Sulfate Soil Risk Map, SCP - DOE 04/11/04  
 Groundwater Salinity, Statewide - 22/02/00  
 Hydrography, linear (hierarchy) - DOW  
 Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06

**(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 approximately 700m from Thomsons Lake, at an elevation of 25-30 metres. The applied area is located on sandy soils with a high permeability and given the limited amount of vegetation within the applied area it is not considered likely that the proposal would have an impact on peak flood height or duration.

**Methodology** DEC site visit 2/1/07  
 GIS Databases:  
 Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain  
 Topographic Contours, Metropolitan Area - DLI

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

**Comments**  
 The area under application contained within two lots both of which are part of a Native Title Claim. Lot 491 on Plan 183242 is privately owned by the Water Corporation and therefore Native Title has been extinguished under the Native Title Act 1993. Lot 481 is Crown Land that is vested in the Water Corporation for the designated purpose of 'Water supply; pump station' and therefore the clearing as proposed should not fall under the future acts process of the Native Title Act 1993.

The Water Corporation has applied to the Department of Water (DoW) for a licence to construct a bore on the property, however this has not yet been approved. The taking of water will be within Water Corporations current allocation through DoW.

No other statutory approvals are required by the Department of Environment and Conservation or the Department of Water to undertake the proposed clearing.

**Methodology**

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Bore construction	Mechanical Removal	0.95	The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted with the following condition to minimise the amount of vegetation that is cleared.

CONDITION:

1. In determining the amount of native vegetation to be cleared for the construction of the bore and associated infrastructure 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.

## 5. References

360 Environmental (2006) Flora and Vegetation Assessment. Jandakot Water Treatment Plant.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

EPA (2003) 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.

Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

Site Visit 02/01/2007, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC12848.

## 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)

