GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	8213/1
Permit Holder:	AWE (WA) Investment Company Pty Ltd
Duration of Permit:	16 January 2019 – 16 January 2024

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 burying a poly water pipe.

2. Land on which clearing is to be done
Lot 10 on Deposited Plan 235109, Irwin
Lot 18 on Deposited Plan 235109, Irwin
Lot 114 on Deposited Plan 231555, Yardarino
Un-named Road reserve (PIN 1219245), Irwin

3. Area of Clearing
The Permit Holder must not clear more than 0.0175 hectares of native vegetation within the area cross hatched yellow on attached Plan 8213/1.

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.

PART II –MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of clearing
In determining the amount of native vegetation to be cleared authorised under 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.

6. 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*:
(a) clean any earth-moving machinery and other clearing equipment of soil and vegetation prior to entering and leaving the area to be cleared;
(b) ensure that no known *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 area to be cleared.

7. Fauna management

The Permit Holder shall retain all *habitat trees* found within the area cross hatched yellow on attached Plan 8213/1.

PART III - RECORD KEEPING AND REPORTING

8. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, in relation to the clearing of native vegetation authorised under this permit:

(a) 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 or decimal degrees;
(b) the date that the area was cleared;
(c) the size of the area cleared (in hectares);
(d) actions taken to avoid, minimise and reduce the impacts and the extent of clearing in accordance with condition 5 of this Permit; and
(e) actions taken to minimise the introduction and spread of *weeds* in accordance with condition 6 of this Permit.

9. Reporting

The Permit Holder must provide to the *CEO* the records required under Condition 8 of this Permit, when requested by the *CEO*.

DEFINITIONS

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

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986;*

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

habitat tree(s): means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 300 millimetres or greater;

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; 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 Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned; and
(d) that is a species permitted for planting under a Pastoral Diversification Permit issued by the Department of Regional Development and Lands

Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

17 December 2018

Plan 8213/1

Legend

- Imagery
- Clearing Instruments Activities
- Local Government Authority

N

0 1km

1:18,803

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

Mathew Gannaway

Date 2018.12.17 08:55:38 +08'00'

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

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: CPS 8213/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: AWE (WA) Investment Company Pty Ltd
Application received date: 4 October 2018

1.3. Property details

Property: Lots 10 and 18 on Deposited Plan 235109, Irwin
Lot 114 on Deposited Plan 231555, Yardarino
Unnamed Road Reserve (PIN 1219245), Irwin
Local Government Authority: Shire of Irwin
Localities: Irwin and Yardarino

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
0.0175		Mechanical Removal	Burying a poly water pipe

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 17 December 2018
Reasons for Decision: The clearing permit application was received by the Department of Water and Environmental Regulation (DWER) on 4 October 2018 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance to principle (f), may be at variance to Principles (b) and (i), and is not likely to be at variance to any of the remaining clearing principles.

Based on the assessment of the application area, the Delegated Officer determined that the proposed clearing will impact on vegetation growing in association with the Irwin River, and may impact on suitable breeding habitat for Carnaby's cockatoo.

The Delegated Officer noted the minimal extent of the proposed clearing, the condition of the vegetation within the application area, and that the application area would be covered over with soil to allow for natural regeneration post clearing. The Delegated Officer determined that the proposed clearing is not likely to significantly impact on the Irwin River, or on extensive areas of riparian habitat.

To minimise impacts to Carnaby's cockatoo breeding habitat, the clearing permit contains a condition requiring the retention of potentially suitable habitat trees, which are defined as trees that have a diameter at breast height of greater than 300 millimetres.

In determining to grant a clearing permit subject to conditions, the Delegated Officer considered that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

2. Site Information

Clearing Description: The application is for the proposed clearing of 0.0175 hectares of native vegetation within a footprint of 3.15 hectares within Lots 10 and 18 on Deposited Plan 235109, Irwin, Lot 114 on Deposited Plan 231555, Yardarino and Unnamed Road reserve 1219245, Irwin, for the burial of a poly water pipe. The application area is indicated in Figure 1. The applicant has advised that a three tonne rubber track excavator with a bucket width of approximately 25 centimetres wide will be used for the excavation. The applicant has advised that the excavator has low ground bearing pressure and a width of 1550 millimetres allowing negotiation around and between existing trees and shrubs along the route (AWE (WA) Investment Company Pty Ltd, 2018).

Vegetation Description: The vegetation within the application area is mapped as the following vegetation association: Beard vegetation association 352: Medium woodland; York gum (Shepherd et al., 2001).

In support of the application, the applicant provided photographs and GPS coordinates for photographs taken in the application area. The photographs indicate the vegetation

within the application area largely comprises mixed *Eucalyptus* trees over pasture grasses (Figures 2 and 3 below) (AWE (WA) Investment Company Pty Ltd, 2018).

Vegetation Condition:

The condition of the vegetation within the application area, based on photographs provided by the applicant, appears to range from good to degraded condition (Keighery, 1994) as described below (AWE (WA) Investment Company Pty Ltd, 2018):

- Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).
- Completely Degraded: Basic vegetation structure severely impacted by disturbance; scope for regeneration but not to a state approaching (Keighery, 1994).

Soil/Landform Type:

The application area is mapped as the following soil types:

- Greenough Alluvium Irwin Phase 2 - Level alluvial flats with sandy and loamy duplex soils. (Schoknecht et al., 2004).
- Greenough Alluvium Irwin Phase 1 - Level alluvial flats with loamy duplex soils and alkaline grey clays. (Schoknecht et al., 2004).

Comments:

The estimated size of disturbance is 0.0175 hectares as the proposed works only involves digging a thin, linear trench to lay a pipe. The applicant has indicated that no mature trees will be cleared during the proposed works. The trench would then get covered over with soil to allow the potential for natural regeneration.

The local area considered in the assessment of this application is a 10 kilometre radius measured from the perimeter of the application area. The local area retains approximately 20 per cent native vegetation cover.

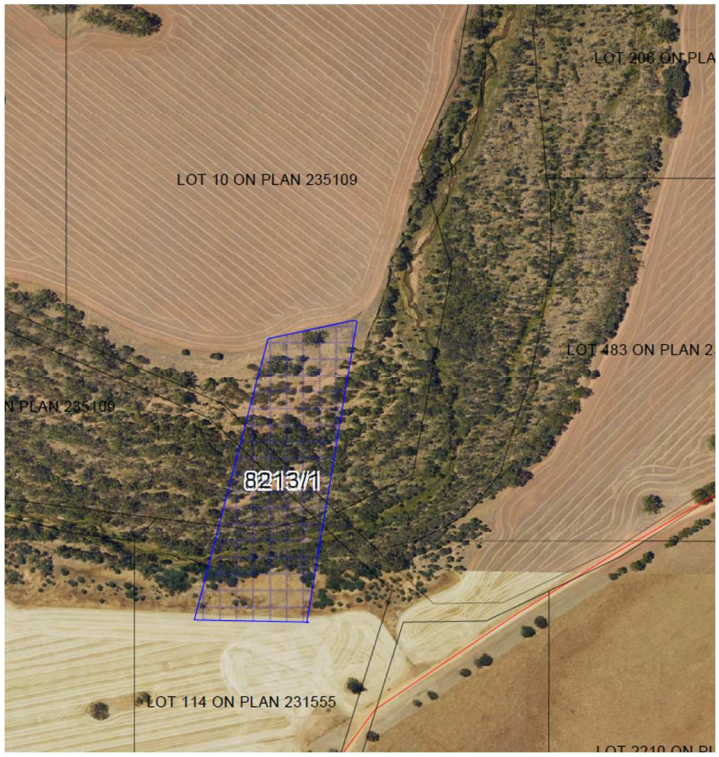

Figure 1: Map showing the footprint of application area

3. Minimisation and mitigation measures

The applicant has noted that vegetation clearing will be kept to a minimum and without mature tree disturbance, whereby the portion cleared would be covered over with soil to allow natural regeneration (AWE (WA) Investment Company Pty Ltd, 2018).

4. Assessment of application against clearing principles

Noting the extent of the proposed clearing and lack of native understorey density and diversity (AWE (WA) Investment Company Pty Ltd, 2018), the application area is not likely to comprise a high level of biological diversity.

According to available databases, one Threatened fauna species, being Carnaby's cockatoo (*Calyptorhynchus latirostris*) and one Priority 4 fauna species, being the water-rat (*Hydromys chrysogaster*), have been recorded within the local area (Department of Biodiversity Conservation and Attractions, 2007-). Noting the lack of dense native understorey, the vegetation within the application area is not likely to provide significant habitat for the water-rat.

With regards to Carnaby's cockatoo, the application area is on the northern extent of this species breeding range. Suitable Breeding habitat for this species includes trees which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, including jarrah and marri trees a suitable DBH is 500 millimetres. For salmon gum and wandoo, a suitable DBH is 300 mm (Commonwealth of Australia, 2012). The application area contains some large trees that may be of a suitable DBH (AWE (WA) Investment Company Pty Ltd, 2018) to provide breeding habitat for Carnaby's cockatoo. The applicant has made a commitment to retaining large trees, and the clearing permit will include a condition that requires the retention of trees with a diameter at breast height of greater than 300 millimetres, to minimise impacts to potential breeding habitat for Carnaby's cockatoo.

Noting that large trees will be retained, the application area will not sever the linkage values provided by the vegetation growing in association with the Irwin River.

According to available databases, three threatened flora species and 13 priority flora species have been recorded within the local area (Western Australian Herbarium, 1998-). Noting the photographs provided, which indicate that the application area is partly in a completely degraded (Keighery,1994) condition, and contains an understorey largely dominated by exotic species, the application area is not likely to impact on priority flora, or include, or be necessary for the continued existence of, rare flora.

According to available databases, there are no known threatened or priority ecological communities within the local area. Noting this, the minimal extent of proposed clearing and the condition of the vegetation within the application area, the application area is not likely to comprise the whole or part of, or be necessary for the maintenance of a threatened or priority ecological community.

According to available databases, a major non-perennial watercourse (Irwin River) bisects the application area. Photographs provided by the applicant indicate that the portion of the application area associated with the watercourse is almost completely devoid of middle and understory native vegetation (refer Figures 2 and 3 below). As discussed under Section 2, the vegetation within the application area largely comprises mixed *Eucalyptus* trees over pasture and the applicant has advised that no mature trees are proposed to be cleared. Noting that some native vegetation growing in association with the Irwin River is proposed for clearing, the proposed clearing is at variance to principle (f). However, as the application area is of minimal size, and retains little to no native understorey vegetation, impacts to riparian habitat are not likely to be significant.

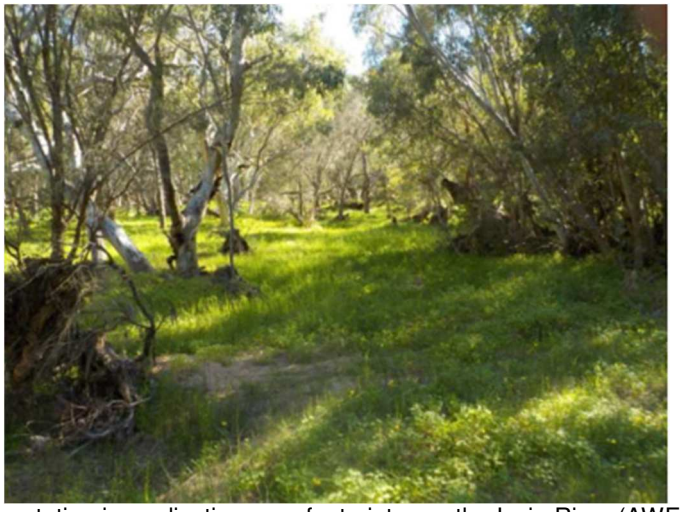

Figure 2: Photograph showing vegetation in application area footprint near the Irwin River (AWE (WA) Investment Company Pty Ltd, 2018)

Figure 3: Photograph showing vegetation in application area footprint near the Irwin River (AWE (WA) Investment Company Pty Ltd, 2018)

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The application area is located within the Geraldton Sandplains Interim Biogeographic Regionalisation of Australia bioregion, which retains approximately 18.24 per cent of the pre-European vegetation extent, and is mapped as Beard vegetation association 352, which retains approximately 8.92 per cent of the pre-European vegetation extent (Government of Western Australia, 2018). The local area retains approximately 20 per cent native vegetation cover.

While the application area occurs within an extensively cleared landscape and includes an extensively cleared vegetation association, given that large trees will be retained and that the understorey retains few native understorey species (AWE (WA) Investment Company Pty Ltd, 2018), the proposed clearing will not impact on a significant remnant. In addition, the topsoil will be replaced following the proposed activity to allow for regeneration of vegetation.

There are no conservation areas within the local area, the closest is a nature reserve over 13 kilometres to the south. Given the distance between this conservation area and the application area, the proposed clearing is not likely to have an impact on the environmental values of this conservation area.

Land degradation risk mapping indicates that the mapped land unit within the application area has a low risk of water erosion and wind erosion, however greater than 70 per cent of the mapped land unit has a high subsurface compaction risk, 30-50 per cent of the mapped land unit has a moderate to high salinity risk or is presently saline and 10-30 per cent of the mapped land unit has moderate to very high water logging risk (Department of Primary Industries and Regional Development, 2018). However, given the small size of the application area, that large trees will remain and the condition of the vegetation within the application area, the proposed clearing is not likely to cause appreciable land degradation.

Noting that a portion of the proposed clearing may impact vegetation growing in association with a non-perennial watercourse (the Irwin River), the main risk to water resources from the proposed clearing relates to the potential for soil erosion resulting in turbidity and siltation of surface water within the watercourse. On this basis the proposed clearing may cause deterioration to the quality of surface water. However, noting the minimal extent of the proposed clearing, that large trees bordering the watercourse will be retained, and condition of the vegetation within the application area, impacts to surface water quality are likely to be short-term and minimal. On this basis the proposed clearing is also unlikely to cause deterioration in the quality of underground water, or exacerbate the incidence or intensity of flooding.

Given the above, the proposed clearing is at variance to clearing principle (f), may be at variance to Principles (b) and (i) and is not likely to be at variance to any of the other clearing principles.

Planning instruments and other relevant matters

The application is to clear 0.0175 hectares on Lots 10 and 18 on Deposited Plan 235109, Irwin, Lot 114 on Deposited Plan 231555, Yardarino and Road Reserve 1219245, for the purpose of digging a trench to bury a poly pipe (water pipe). The application was amended by the applicant to a Purpose Permit as required to access Unnamed Road reserve 1219245.

The application was advertised on the Department of Water and Environmental Regulation (DWER) website on 19 November 2018 with a 14 day submission period. No public submissions were received.

The application area is within a registered Aboriginal site of significance – Lodged: site ID 5910 Jenkins Hut Valley (artefacts scatter). It is the applicant's responsibility to comply with the requirements of the *Aboriginal Heritage Act 1972* and to ensure that no Aboriginal sites of significance are disturbed as a result of any activities.

5. References

AWE (WA) Investment Company Pty Ltd (2018) Clearing Permit Application CPS 8213/1, Western Australia. Ref A1738250
Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
Commonwealth of Australia (2012) EPBC Act referral guidelines for three threatened black cockatoo species, Canberra.

Department of Biodiversity, Conservation and Attractions (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/.
Department of Primary Industries and Regional Development (DPIRD) (2018) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: https://maps.agric.wa.gov.au/nrm-info/ (accessed October 2018).
Government of Western Australia. (2018). 2017 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis, (Simplified). Current as of December 2017. WA Department of Biodiversity, Conservation and Attractions, Perth.
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Schoknecht, N., Tille, P. and Purdie, B. (2004) Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs' Resource Management Technical Report No. 280. Department of Agriculture.
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.
Western Australian Herbarium (1998-) FloraBase-the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. https://florabase.dpaw.wa.gov.au/ (accessed October 2018).

GIS Databases:

- Aboriginal Sites of Significance
- DAFWA Heritage
- DBCA Estate
- DEC Covenant
- Groundwater salinity
- Hydrography, linear
- National Trust WA Covenant
- Remnant vegetation
- SAC bio datasets (accessed October 2018)
- Soils, Statewide
- Topographic contours
- Wetlands