



1. Application details

1.1. Permit application details

Permit application No.: 1487/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: EDL LNG (WA) Pty Ltd

1.3. Property details

Property: PART LOT 264 ON PLAN 220363 (MOUNT ANKETELL 6714)
Local Government Area: Shire of Roebourne
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.2		Mechanical Removal	Miscellaneous

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
Beard Vegetation Association 157: Hummock grasslands, grass steppe; hard spinifex (<i>Triodia wiseana</i>) (Hopkins et al., 2001).	The proposed site is dominated by hummock grasslands of <i>Triodia pungens</i> and tussock grasslands of <i>Eragrostis xerophila</i> , with low lying areas dominated by the grass <i>Xerochloa barbata</i> and ephemeral herbs (Douglas Partners, 2004). Much of the area proposed for clearing has been previously disturbed by human activity, grazing by stock and fire.	Pristine: No obvious signs of disturbance (Keighery 1994)	The description of the vegetation to be cleared was obtained from a flora assessment conducted by Ecologia Environment (2003) (DoE TRIM Ref:) and verified by a DoE site visit on 14 June 2005.
Beard Vegetation Association 589: Mosaic: Short bunch grassland - Savannah / Grass Plain (Pilbara) / Hummock Grasslands, grass steppe; soft spinifex (<i>Triodia pungens</i>) (Hopkins et al., 2001).			

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 proposed area is dominated by hummock grasslands of *Triodia pungens* and tussock grasslands of *Eragrostis xerophila*, with low lying areas dominated by the grass *Xerochloa barbata* and ephemeral herbs (Douglas Partners 2004). E.M Mattiske and Associates reported that 34 species of vascular flora, from 16 families and 30 genera were located during surveys conducted in April and October 1994 (Ecologia Environment, 2003). The low number of species recorded at this site was attributed to the poor condition of the site which has been significantly disturbed by human activities, grazing of stock and fire (Ecologia Environment, 2003; Energy Developments Ltd, 2005; DoE Site Visit 2005).

Therefore, the site to be cleared is unlikely to be of higher biodiversity significance than the vegetation in the local region and the thus the proposal is unlikely to be at variance to this principle.

Methodology DoE Site Visit (2005);
Douglas Partners (2004);
Ecologia Environment (2003);
Energy Developments Ltd (2005);
GIS Database:
- Pre-European Vegetation - DA 01/01

(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

Fauna and habitat surveys were carried out at the Maitland Estate by E. M. Mattiske and Associates in April and October 1994 (Ecologia Environment, 2003).

- A total of 70 bird species have been recorded within a 50km radius of the area under application. Several of these are protected by the Japan Australia Migratory Bird Agreement (JAMBA) and/or the China Australia Migratory Bird Agreement (CAMBA), the majority of which are species likely to inhabit the mangrove areas along the coast (Douglas Partners, 2004). The Grey Falcon (*Falco hypoleucos*), Bush Stone-curlew (*Burhinus grallarius*), Eastern Curlew (*Numenius madagascariensis*) and the Flock Bronzewing (*Phaps histrionica*) are all Priority 4 species expected to occur within 50km of the Maitland Estate.

- Ten species of reptiles and frogs have been recorded by Mattiske (1994) and a further 116 species are expected to occur in the Maitland Estate (Ecologia Environment 2003). Of these only the skink *Notoscincus butleri* (P4) was of conservation significance. Clearing of the proposed 3.2 ha is unlikely to significantly reduce the available habitat for this species. Given the large area of this vegetation association remaining in the vicinity of the area under application, it is unlikely the proposed clearing will significantly reduce the available habitat for this species.

- A total of 38 mammal species has been recorded within a 50 km radius of the Maitland Estate (Ecologia Environment, 2003). Only one of these species is of conservation significance, the Orange Leaf-nosed Bat (*Rhinonictis aurantius*), listed under Schedule 1 of the Wildlife Conservation Act 1950. The area under application is unlikely to provide habitat to support this species.

None of the listed species are restricted to this habitat type, nor dependent on this vegetation community type alone. Furthermore, given that the habitat values of the site have been significantly disturbed in the past by heavy grazing and human activity, and the small area under application (3.2 ha), it is unlikely that the proposed clearing will be at variance to this principle.

It is also recognised that the proponent will implement a Flora and Fauna Management Procedure. Procedures include fencing the construction area to prevent fauna movement into the site and immediately contacting local wildlife rescue services should any fauna be injured (EDL NDG (WA) Pty Ltd, 2006).

Methodology

Douglas Partners (2004);
Ecologia Environment (2003);
Energy Developments Ltd (2005);
EDL NDG (WA) Pty Ltd (2006);
GIS Database:
- Threatened Flora - CALM 30/9/05

(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

A desktop survey found there were no Declared Rare or Priority Flora within the area proposed to be cleared.

Five Priority flora species have been recorded from within 50 km of the Maitland Estate project site (Ecologia Environment, 2003). A survey by E.M. Mattiske and associates in 1994 reported that although Priority flora has been recorded within the vicinity of the site, the likelihood of any of these species occurring within the Maitland Estate is considered low due to the degraded condition and homogenous nature of the vegetation (Ecologia Environment, 2003; DoE Site Visit, 2005).

Therefore it is unlikely that the area is necessary for the continued existence of significant flora due to the highly disturbed condition of the area from human activity, grazing of stock and fire (Energy Developments Ltd, 2005; DoE Site Visit 2005).

Methodology

DoE Site Visit (2005);
Douglas Partners (2004);
Ecologia Environment (2003);
Energy Developments Ltd (2005);
GIS Database:
- Declared Rare and Priority Flora List - CALM 13/08/03

(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

A desktop survey found there were no known Threatened Ecological Communities within the area proposed to be cleared, nor within a 50km radius of the area.

There is one ecosystem that has been identified as being at risk within the Roebourne Plains area, the Roebourne Plains stony chenopod association (Kendrick and Stanley, 2001). The threatening process affecting this ecosystem are grazing pressure, feral animals and exotic weeds, particularly buffel grass. The proposed clearing is not likely to increase the pressure from any of these threatening processes, therefore the proposal is not likely to be at variance to this principle.

Methodology Kendrick and Stanley (2001);
GIS Database:
- Threatened Ecological Communities - CALM 12/4/05
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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 State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment, 2002).

	Pre-European area (ha) *	Current extent (ha) *	Remaining %*	Conservation Status**	% in reserves/CALM-managed land
IBRA Bioregion - Pilbara	19,310,549	19,310,549	~100	Least concern	15.1
IBRA Sub-region PIL 4	2,008,983	2,008,983	~100	Least concern	13.6
Shire of Roebourne	No information available				
Beard vegetation association					
- 159	542,861	542,861	~100	Least concern	17.6
- 589	848,201	848,201	~100	Least concern	1.6

* Shepherd et al. (2001)

** Department of Natural Resources and Environment (2002)

The vegetation of the site is a component of Beard Vegetation Associations 157 and 589 (Hopkins et al, 2001). 17.6% of association 157 and 1.% of association 589 are located within IUCN Class I-IV Reserves (Shepherd et al, 2001). There is 542,861 hectares of association 157 and 848,201 hectares of association 589 remaining, approximately 100% of the pre-European extent (Shepherd et al, 2001), which indicates they are well represented in the natural environment. Therefore, these associations are of least concern for biodiversity conservation (Department of Natural Resources and Environment, 2002).

Clearing of 3.2 hectares of vegetation will not significantly reduce the remaining extent of these associations, therefore the proposal is not likely to be at variance to this principle.

Methodology Department of Natural Resources and Environment (2002);
Hopkins et al. (2001);
Shepherd et al. (2001);
GIS Database:
- 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

The proposed site is located in the Maitland Industrial Estate on the coastal plain south-west of Karratha. The coastal plain is dissected by a series of minor non-perennial watercourses. These watercourses have not been identified as having significant environmental values nor does the vegetation to be cleared provide a buffer area for significant watercourses or wetlands.

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

It is noted that the proponent will implement a Surface Water Management Plan which involves the installation of a site drainage system to prevent uncontrolled, off-site water movement in relation to the construction and ongoing processes of the proposed pipeline (EDL NDG (WA) Pty Ltd, 2006).

Methodology EDL NDG (WA) Pty Ltd (2006);
GIS Database:
- Hydrography, linear - DOE 1/2/04
- Dampier 2m Orthomosaic - DOLA 00

(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 clearing is likely to be blade down, resulting in the removal of all root systems that currently stabilise soils and prevent erosion. The proposal area is comprised of steep stony hills in the south and alluvial plains in the north (Northcote et al, 1960-68). Soils of the hills are generally shallow and stony earthy loams with extensive areas without soil cover, however the soils of the alluvial plains are deep cracking clays (Northcote et al, 1960-68). These soils both have a low potential for erosion (Schoknecht, 2002), therefore the proposed clearing is not likely to cause appreciable land degradation.

It is noted that the proponent will implement a Soil Erosion Management Plan which involves the installation of a site drainage system to prevent erosion in relation to the construction and ongoing processes of the proposed pipeline (EDL NDG (WA) Pty Ltd, 2006).

Methodology Northcote et al (1960-68);
Schoknecht (2002);
EDL NDG (WA) Pty Ltd (2006);
GIS Database:
- Soils, Statewide - DA 11/99

(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

A desktop survey did not locate any conservation reserves within the area proposed to be cleared, nor within a 20km radius of the area.

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

Methodology GIS Database:
- CALM Managed Lands and Waters - CALM 1/06/04

(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

A series of non-perennial drainage lines are present in the area proposed to be cleared, that drain from the hills in the south to the plains in the north. The soils of the hills are shallow and stony earthy loams, whereas the plains are deep cracking clays (Northcote et al, 1960-68). Both soil types have a low potential for erosion (Schoknecht, 2002). The area receives an average of 300mm of rain annually which, combined with the low erosion potential of the soil, is unlikely to result in increased siltation of the non-perennial drainage lines.

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

It is noted that the proponent will implement a Surface Water Management Plan which involves the installation of a site drainage system to prevent uncontrolled, off-site water movement in relation to the construction and ongoing processes of the proposed pipeline (EDL NDG (WA) Pty Ltd, 2006).

Methodology Northcote et al (1960-68);
Schoknecht (2002);
EDL NDG (WA) Pty Ltd (2006);
GIS Database:
- Hydrography, linear - DOE 1/2/04
- Soils, Statewide - DA 11/99
- Rainfall, Mean Annual - BOM 30/09/01

(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 proposed site is potentially subject to flooding from three sources:

- sea storm surges (100 year Annual Recurrence Interval (ARI) is 7.8m AHD);
- flooding of the Maitland River (100 year ARI is approximately 12.2 metres); and
- surface runoff from the ranges to the south of the Maitland Industrial Estate, which is buffered by the North West Coastal Highway. (Douglas Partners, 2004).

The proposed site is located at an elevation of ~20m above Australian Height Datum (AHD) which is well above these 100 year ARI flood levels (Douglas Partners, 2004). Therefore clearing of native vegetation is unlikely to lead to an incremental increase in peak flood height or duration.

Methodology

- Douglas Partners (2004);
- GIS Database:
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

No submissions have been received in regards to this clearing application.

The Shire of Roebourne issued Planning Approval No 1434 for the project on 17/02/2005.

The Environmental Protection Authority set the assessment status as Not Assessed - Public Advice Given for the Mini LNG Facility, Maitland Estate for the proponent to liaise with the DoE in relation to licence requirements under Part V of the *Environmental Protection Act 1986* (EPA, 2004). The pipeline does not have to be licensed as it is not a Prescribed Premises under the *Environmental Protection Act 1986*.

The proposed clearing and subsequent land use do not require water, therefore a water licence under the *Rights in Water and Irrigation Act 1914* is not required.

There is one Native Title claim over the area under application by the Ngaluma and Injibandi peoples. The claimants signed the Burrup and Maitland Industrial Estates Agreement with the State Government on 1 November 2002, stipulating terms under which the Government could compulsorily acquire native title rights and interests in the region and confer these rights and interests to other parties (Douglas Partners, 2004; Office of Native Title, 2005). Therefore the granting of a clearing permit does not constitute a future act under the *Native Title Act 1993*.

Methodology

- Douglas Partners (2004);
- Energy Developments (2005);
- Office of Native Title (2005);
- GIS Database:
- Native Title Claims - DLI 19/12/04

4. Assessor's recommendations

Purpose	Method Applied	Applied area (ha)/ trees	Decision	Comment / recommendation
Miscellaneous	Mechanical Removal	3.2	Grant	<p>Assessable criteria have been addressed and no objections were raised. The proposal was found not likely to be at variance to all principles, supported by the proposed implementation of the following internal management plans:</p> <ul style="list-style-type: none"> • Flora and Fauna Management Plan • Soil and Groundwater Management Plan • Surface Water and Soil Erosion Management Plan. <p>The Assessing Officer therefore recommends the proponent adhere to these Plans, as specified in Energy Developments (2006) West Kimberley Power Project Construction Environmental Management Plan 2060-STD-00-PC-001 Revision C.</p>

The Assessing Officer recommends that the permit should be granted.

5. References

- Department of Environment (2005) DoE Site Visit. 14 June 2005.
- 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.
- Douglas Partners Pty Ltd (2004) Works Approval Application: Referral Document Volume 1 - Text and Figures, Mini-LNG Facility, West Kimberley Power Project, Maitland Industrial Estate, Karratha Western Australia. Unpublished Document. Department of Environment Reference: TRIM KTI4015
- Ecologia Environment (2003) West Kimberley Power Project: Flora and Fauna Survey. Ecologia Environmental Consultants. Department of Environment Reference: TRIM KTI 5349
- EDL NDG (WA) Pty Ltd (2006) West Kimberley Power Project Supporting Information for Land Clearing Permit Application. Maitland Pipeline - Additional Construction Area. Revision A. DEC TRIM Ref: DOC1942
- Energy Developments Limited (2005) Land Clearing Permit Application: Maitland Liquefied Natural Gas (LNG) Facility & Pipeline West Kimberley Project. Unpublished Document. Department of Environment Reference: TRIM KNI779
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Kendrick, P. and Stanley, F. (2001) Pilbara 4 (PIL4 - Roebourne synopsis). From "Bioregional Summary of the 2002 biodiversity Audit for Western Australia". Department of Conservation and Land Management.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubbie G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Office of Native Title (2005) Land Use Agreements: Burrup and Maitland Estate. Office of Native Title website. <www.nativetitle.dpc.wa.gov.au>
- Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3
- 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.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)