



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 6535/1
File Number: DER2015/000598-1
Duration of Permit: From 17 October 2015 to 17 October 2017

PERMIT HOLDER

Lunard Pty Ltd trading as Stoneridge Quarries WA

LAND ON WHICH CLEARING IS TO BE DONE

Lot 571 on Plan 3475, Hope Valley
Lot 572 on Plan 3475, Hope Valley

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.796 hectares of native vegetation within the area hatched yellow on attached Plan 6535/1.

CONDITIONS

1. Fauna management

- (a) Prior to undertaking any clearing authorised under this Permit between 1 April to 31 December, the Permit Holder shall engage a *fauna specialist* to identify *black cockatoo habitat tree/s* being utilised by:
 - (i) *Calyptorhynchus latirostris* (*Carnaby's cockatoo*); and
 - (ii) *Calyptorhynchus banksii naso* (*forest red-tailed black cockatoo*).
- (b) where fauna are identified under condition 1(a) of this Permit, the Permit Holder shall ensure that:
 - (i) no clearing occurs within 10 metres of *black cockatoo habitat tree/s* being utilised, unless first approved by the CEO; and
 - (ii) no taking of identified fauna occurs, unless first approved by the CEO.

DEFINITIONS

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

black cockatoo habitat tree/s: means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater; and

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*.

A handwritten signature in black ink, appearing to read "M Warnock", written over a horizontal line.

M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

17 September 2015

Plan 6535/1



Legend

-  Cadastre
-  Roads
-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



1:2,976

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

M. Warnock Date 1.7.15

M. Warnock

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



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1. Application details

1.1. Permit application details

Permit application No.: 6535/1
Permit type: Area Permit

1.2. Applicant details

Applicant's name: Lunard Pty Ltd trading as Stoneridge Quarries

1.3. Property details

Property: LOT 572 ON PLAN 3475, HOPE VALLEY
LOT 571 ON PLAN 3475, HOPE VALLEY
Local Government Authority: KWINANA, CITY OF
DER Region: Greater Swan
DPaW District: SWAN COASTAL
Localities: HOPE VALLEY

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 0.796 | | Mechanical Removal | Hardstand |

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 17 September 2015

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 998 is described as medium woodland; tuart (Shepherd et al, 2001). | This application is to clear 0.796 hectares of native vegetation within Lots 571 and 572 on Plan 3475, Hope Valley, City of Kwinana for the purpose of constructing a hardstand. | Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). | The vegetation under application consists of open woodland of Eucalyptus marginata (Jarrah) with a middle storey of scattered Allocasuarina and Xanthorrhoea species. Some Banksia trees were present at the southern section of the application area (DER, 2015). Ground cover consists predominately of Hibbertia hypericoides, Hakea and Daviesia species with weeds species present. |
| Beard Vegetation Association 6 is described as medium woodland; tuart & jarrah (Shepherd et al, 2001). | | To | |
| Heddle Vegetation Karrakatta Complex-Central And\South is described as 'Predominantly open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) and woodland of Eucalyptus marginata (Jarrah) - Banksia species' (Heddle et al, 1980) | | Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994). | The vegetation condition and description was determined from a Department of Environment Regulation (DER) site visit undertaken on 11 June 2015 (DER, 2015). |

3. Assessment of application against clearing principles

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
This application is to clear 0.796 hectares of native vegetation within Lots 571 and 572 on Plan 3475, Hope Valley, for the purpose of constructing a hardstand area.

The vegetation under application consists of open woodland of Eucalyptus marginata (Jarrah) with a middle storey of scattered Allocasuarina fraseriana and Xanthorrhoea sp. (DER, 2015). Ground cover consists predominately of Hibbertia hypericoides, Hakea and Daviesia species with weeds species present. The vegetation under application is in a good to very good (Keighery, 1994) condition (DER, 2015).

Three species of priority flora have been recorded within five kilometres of the applied area. Of the mapped priority flora none have been recorded within the same soil and vegetation types as the application area.

There are two known rare flora species occurring within five kilometres of the area under application. These species are associated with winter-wet swamps or seasonally inundated plains and these habitat types are not present within the area under application.

There have been no priority ecological communities (PEC) or threatened ecological communities (TEC) mapped within five kilometres of the area under application.

Nine fauna species of conservation significance have been recorded within five kilometres of the area under application. A site inspection of the applied area recorded a number of suspected quenda diggings (DER, 2015). The site inspection also identified trees with hollows that could potentially be suitable for breeding purposes for Carnaby's cockatoo (*Calyptorhynchus latirostris*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) (DER, 2015).

The area under application may provide suitable breeding habitat for black cockatoos and habitat for quenda, however the area proposed to be cleared is not likely to support habitat for priority or rare flora and the vegetation within the applied area is not representative of a PEC or TEC. Considering this and the small size of proposed clearing, the application is not likely to be at variance to this principle.

Methodology References:
DER (2015)
Keighery (1994)

GIS Databases:
-SAC Bio Datasets - Accessed June 2015

(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 Proposed clearing may be at variance to this Principle

Within five kilometres of the area under application nine fauna species of conservation significance have been recorded. This includes but is not limited to, Carnaby's cockatoo (*Calyptorhynchus latirostris*), forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*), quenda (*Isoodon obesulus subsp. fusciventer*), chuditch (*Dasyurus geoffroii*), numbat (*Myrmecobius fasciatus*) and quokka (*Setonix brachyurus*) (Parks and Wildlife, 2007-).

A Carnaby's cockatoo confirmed roosting area is mapped approximately five kilometres east of the proposed clearing.

A site inspection undertaken by DER (2015) identified trees within the applied area that may have hollows that could potentially be suitable for breeding purposes for both of the abovementioned cockatoo species. Inspection of these trees during the known breeding season would be required to determine the presence or absence of cockatoos nesting within the trees. The site inspection determined that the area under application also contains foraging habitat (DER, 2015), however, given the small size of the proposed clearing (0.8 hectares) it is unlikely to provide significant foraging habitat for black cockatoos.

The vegetation within the area under application is comprised of a dense understorey of native species and weeds. The dense understorey provides suitable habitat for quenda. A site inspection of the applied area identified a number of suspected quenda diggings (DER, 2015). Clearing in a north to south direction will allow quenda to move out of the clearing area and avoid being impacted by the clearing.

The area under application was identified within a previous application as being an area that supports a north-south bushland linkage. However, since this assessment clearing for development and the installation of the Bunbury to Perth gas pipeline has disturbed this linkage, therefore the proposed clearing areas linkage value has been reduced. Additionally, the vegetation within the adjacent road reserve and property will remain intact and aerial imagery suggest that this remnant of vegetation will provide a more viable north – south linkage than the area under application.

Given that the application area contains suitable habitat for quenda and trees with hollows that may be suitable for breeding purposes for black cockatoos, the proposed clearing may be at variance to this principle.

Methodology References:
DER (2015)
Parks and Wildlife (2007-)

GIS Databases:
-SAC Bio Datasets - Accessed June 2015

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
 There are two rare flora species recorded within five kilometres of the area under application. One of these species was recorded in an area with the same soil and vegetation type as the applied area. This species is known to occur in winter-wet swamps in shallow water (Brown et al, 1998).
 The second species has been recorded within a different soil and vegetation type to the application area. This species is known to occur in sandy loams and seasonally inundated plains (Brown et al, 1998).
 The area under application does not comprise winter-wet swamps or seasonally inundated plains, therefore it is unlikely that the abovementioned rare flora will be impacted upon from the proposed clearing.
 The proposed clearing is not likely to be at variance to this principle.

Methodology References:
 Brown et al. (1998)
 GIS Databases:
 -SAC Bio Datasets - Accessed June 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 **Proposed clearing is not at variance to this Principle**
 There are no threatened ecological communities (TEC) mapped within five kilometres of the area under application. The closest known TEC occurs approximately seven kilometres northwest of the area under application and is described as 'Callitris preissii Forest and Woodlands of the Swan Coastal Plain'.
 The vegetation under application is not representative of the known TEC, therefore the proposed clearing is not at variance to this principle.

Methodology GIS Databases:
 -SAC Bio Datasets - Accessed June 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 **Proposed clearing is not likely to be at variance to this Principle**
 The area under application is mapped as Beard Vegetation Associations 6 and 998 which have 24 and 37 per cent of their pre-European vegetation remaining in the Swan Coastal Plain IBRA bioregion respectively (Government of Western Australia, 2014). Heddl Vegetation Complex, Karrakatta Complex Central and South, has also been mapped within the area under application. Approximately 23 per cent of its pre-European vegetation extent remains (Parks and Wildlife, 2015).
 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 Environmental Protection Authority (EPA, 2006) recognises the Perth metropolitan Region as a constrained area, providing for the reduction of vegetation complexes to a minimum of 10 per cent of the pre-European extent. The three mapped vegetation associations are all above this 10 per cent minimum, consistent with the EPA's recommendation.
 The local area surrounding the application (five kilometre radius) retains approximately 35 per cent pre-European vegetation.
 The application area provides suitable habitat for quenda and may provide breeding habitat for black cockatoos (DER, 2015), however the subject land does not occur within an extensively cleared landscape and the mapped vegetation associations are above the 10 per cent minimum as recommended by the EPA.
 Therefore, the proposed clearing is not likely to be at variance to this principle.

| | Pre-European (ha) | Current Extent (ha) | Remaining (%) | Extent in Parks and Wildlife Managed Lands (%) |
|------------------------|----------------------|------------------------|------------------|--|
| IBRA Bioregion* | | | | |
| Swan Coastal Plain | 1,501,222 | 580,697 | 39 | 37 |
| Shire* | | | | |
| City of Kwinana | 12,012 | 4,260 | 35 | 11 |

Beard Vegetation Association in Bioregion*

| | | | | |
|-----|--------|--------|----|----|
| 998 | 50,868 | 18,866 | 37 | 42 |
|-----|--------|--------|----|----|

| | | | | |
|---|--------|--------|----|----|
| 6 | 56,343 | 13,543 | 24 | 37 |
|---|--------|--------|----|----|

Heddlle Vegetation Complex **

Karrakatta Complex (central and south)

| | | | |
|--------|--------|----|---|
| 49,912 | 11,374 | 23 | 6 |
|--------|--------|----|---|

Methodology References:
Commonwealth of Australia (2001)
EPA (2006)
DER (2015)
*Government of Western Australia (2014)
**Parks and Wildlife (2015)

(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 Proposed clearing is not at variance to this Principle**

There are numerous wetlands within the local area (five kilometre radius) with the nearest being a Conservation Category Wetland (CCW) and Environmental Protection Policy (EPP) lake known as Long Swamp, occurring approximately one kilometre south west of the area under application. The nearest watercourse is the Peel Main Drain 3.2 kilometres east of the area under application. The Ramsar listed Forrestdale and Thomson's Lakes occur approximately 3.2 kilometres to the north west of the application area.

Given the distance to the nearest wetlands and watercourses and given that no wetland vegetation was observed during the site inspection (DER, 2015), the proposed clearing is not at variance to this Principle.

Methodology References:
DER (2015)

GIS Databases:
EPP Lakes
Geomorphic Wetland (Mgt Categories), Swan Coastal Plain
Hydrography, Linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**Comments Proposed clearing is not likely to be at variance to this Principle**

The soils within the area under application are part of the Spearwood Dune System and are described as brown sands with associated siliceous sands and leached sands (Northcote et al, 1960-68).

These sandy soils have a high risk of wind erosion, however given the intended land use is for a hardstand, and the relatively small amount of proposed clearing (0.796 hectares), it is unlikely to cause appreciable land degradation in the form of wind erosion.

Given the porous nature of the soil, water erosion as a result of clearing is also unlikely.

The proposed clearing is not likely to be at variance to this Principle.

Methodology References:
Northcote et al, (1960-68)

(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 Proposed clearing is not likely to be at variance to this Principle**

An unnamed conservation park occurs approximately 1.7 kilometres west and the Harry Waring Marsupial reserve occurs 2.4 kilometres east of the proposed clearing. Bush Forever site 267 occurs approximately one kilometre south of the proposed clearing site.

The vegetation under application may act as linkage to facilitate fauna movement between the conservation park, Harry Waring Marsupial reserve or Bush Forever site 267. This was determined in a previous assessment where the applicant reduced the proposed clearing area to retain the current application area to support the linkage. Since this assessment, clearing for the development and installation of the Bunbury to Perth gas pipeline has disturbed this linkage and inturn devalued the linkage provided by the application area.

Additionally, the vegetation within the adjacent road reserve and property will remain intact and aerial imagery suggest that this remnant of vegetation will provide a more viable north – south linkage than the area under application.

The proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
Bush Forever
Parks and Wildlife 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 Proposed clearing is not likely to be at variance to this Principle

The nearest wetland and watercourse to the area under application is the CCW and EPP Lake, Long Swamp, occurring one kilometre southwest and the Peel Main Drain approximately 3.2 kilometres east of the area under application.

Given the distance to the nearest wetland and watercourse the proposed clearing is not likely to cause deterioration in the quality of surface water in the local area.

Given the low groundwater salinity (Total Dissolved Solids 500-1000 milligrams per litre) it is not likely that the proposed clearing would cause deterioration in the quality of groundwater.

Therefore the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Databases:
EPP Lakes
Geomorphologic Wetlands (Mgt Categories), Swan Coastal Plain
Groundwater Salinity, Statewide
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 Proposed clearing is not at variance to this Principle

The nearest wetland and watercourse to the area under application is the Conservation Category Wetland and Environmental Protection Policy Lake, Long Swamp, occurring one kilometre southwest and the Peel Main Drain approximately 3.2 kilometres east of the area under application.

Given the distance of the nearest wetland and watercourse to the area under application, and the highly permeable mapped sandy soils on site, the proposed clearing will not cause, or exacerbate the incidence or intensity of flooding.

Therefore the proposed clearing is not at variance to this Principle.

Methodology GIS Databases:
EPP Lakes
Geomorphologic Wetlands (Mgt Categories), Swan Coastal Plain
Hydrography, linear

Planning instruments and other relevant matters.

Comments The City of Kwinana issued Planning Approval for this project on 2 September 2015.

No submissions have been received for the application.

The area under application is situated within the Latitude Planning Policy. The Latitude project relates to the Hope Valley Wattleup Redevelopment Project Master Plan, pursuant to the Hope Valley – Wattleup Redevelopment Act 2000.

Methodology

4. References

- Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DER (2015) Site Inspection Report for Clearing Permit Application CPS 6535/1, Lunard Pty Ltd. Site inspection undertaken 11 June 2015. Department of Environment Regulation, Western Australia (DER Rf:A924162) .
- EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Parks and Wildlife, Perth.
- Heddl, 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.

- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble 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.
- Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed May 2015
- Parks and Wildlife (2015) 2015 South West Forest and Swan Coastal Plain Vegetation Complex Statistics: a report prepared for the Department of Environment Regulation. Current as of March 2015. Department of Parks and Wildlife, Perth, 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.