



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6356/1
Permit Holder:	Northern Corridor Developments Ltd
Duration of Permit:	25 April 2015 – 25 April 2020

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

- 1. Purpose for which clearing may be done**
Clearing for the purpose of geotechnical investigations.
- 2. Land on which clearing is to be done**
Lot 9027 on Deposited Plan 402535, Alkimos
Lot 1002 on Deposited Plan 61236, Alkimos
- 3. Area of Clearing**
The Permit Holder must not clear more than 1.82 hectares of native vegetation within the area cross hatched yellow on attached Plan 6356/1.
- 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.

A handwritten signature in cursive script, 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*

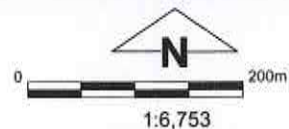
26 March 2015

Plan 6356/1



Legend

-  Cadastre
-  Imagery
-  Clearing Instruments Activities



1:6,753
 (Approximate when reproduced at A4)
 GDA 94 (Lat/Long)
 Geocentric Datum of Australia 1994

Matt Warnock Date 26/3/15
 Matt Warnock

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986
 Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the





1. Application details

1.1. Permit application details

Permit application No.: 6356/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Northern Corridor Developments Ltd

1.3. Property details

Property: LOT 1002 ON DEPOSITED PLAN 61236, ALKIMOS
LOT 9023 ON DEPOSITED PLAN 401052, ALKIMOS

Local Government Authority: City of Wanneroo
DER Region: Swan

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.82		Mechanical Removal	Geotechnical investigations

1.5. Decision on application

Decision on Permit: Granted
Decision Date: 26 March 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
<p>Beard vegetation type: 949 - Low woodland; banksia (Shepherd, et al. 2001).</p> <p>Hedde vegetation complex: Cottesloe Complex - Central and South: Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala - E. marginata - E. calophylla; closed heath on the Limestone outcrops (Hedde et al. 1980).</p> <p>Hedde vegetation complex: Quindalup Complex: Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of Melaleuca lanceolata (Rottnest Teatree) - Callitris preissii (Rottnest Island Pine) and the closed scrub of Acacia rostellifera (Summer-scented Wattle) (Hedde et al. 1980).</p>	<p>Clearing 1.82 hectares of native vegetation within Lot 9027 and Lot 1002, Alkimos, City of Wanneroo for the purpose of geotechnical investigation.</p>	<p>Completely Degraded; No longer intact, completely/almost completely without native species (Keighery, 1994).</p> <p>To</p> <p>Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).</p>	<p>The proposed clearing of 1.82 hectares will be undertaken within a 55 hectare footprint. A total of 10 vegetation units have been identified within the footprint, this includes 149 native taxa (ATA Environmental, 2004 in Coterra Environment, 2014).</p> <p>The vegetation under application ranges from completely degraded to excellent (Keighery, 1994) condition (ATA Environmental, 2004 in Coterra Environment, 2014).</p> <p>The condition and structure of the vegetation under application was determined from a Clearing Permit Application Supplementary Report (ATA Environmental, 2004 in Coterra Environment, 2014).</p>

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 application is to clear up to 1.82 hectares of native vegetation within Lots 9027 and 1002, Alkimos for the purpose of geotechnical investigations. The proposed clearing will occur across a footprint of 55 hectares which will allow for the construction of 61 drill sites and tracks to access them.

A total of 10 vegetation units were identified within the clearing footprint, these were made up of 185 plant species of which 36 were non-native (ATA Environmental, 2004 in Coterra Environment, 2014). The condition (ATA Environmental, 2004; Coterra Environment, 2014) of the vegetation within the clearing footprint ranged from completely degraded to excellent (Keighery, 1994).

Several priority flora species have been recorded within 10 kilometres of the area under application. A vegetation survey of the clearing footprint recorded a priority 4 species (ATA Environmental, 2004; Coterra Environment, 2014). The species was found commonly occurring on the ridge top of the parabolic dune with the vegetation consisting of *Melaleuca systema*, low open shrubland over *Lomandra maritima* herbland (ATA Environmental, 2004 in Coterra Environment, 2014). Priority 4 species are considered to have been adequately surveyed and not in need of special protection, but could be if circumstances change. The proposed clearing of 1.82 hectares within a 55 hectare clearing footprint is unlikely to impact upon the conservation status of this species.

A vegetation survey identified two inferred Priority Ecological Communities (PEC) that may occur within the clearing footprint (ATA Environmental, 2004; Coterra Environment, 2014). The PEC's identified are priority three communities and are well represented within the local area (10 kilometre radius). Impacts to the two inferred PEC's from the proposed clearing will be minimal.

Several fauna species of conservation significance have been recorded within 10 kilometres of the area under application (DPaW, 2007-). The vegetation under application is likely to provide habitat for conservation significant fauna. However, the clearing of 1.82 hectares within a 55 hectare footprint with approximately 80 per cent of the footprint vegetated, of which approximately 76 per cent of similar vegetation will remain should the clearing occur, is unlikely to impact on the conservation status of the recorded fauna species.

Given the above the clearing as proposed is not likely to impact an area with a high level of biological diversity and is therefore not likely to be at variance to this principle.

Methodology

References

- ATA Environmental (2004)
- Coterra Environment (2014)
- DPaW (2007-)
- Keighery (1994)
- GIS Databases
- SAC Bio Databases (December 2014)

(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

Several fauna species of conservation significance have been recorded within 10 kilometres of the area under application including the Woylie (*Bettongia penicillata* subsp. *ogilbyi*), Carnaby's cockatoo (*Calyptorhynchus latirostris*) Chuditch (*Dasyurus geoffroii*) and the Black-flanked rock wallaby (*Petrogale lateralis* subsp. *lateralis*) (DPaW, 2007-).

The proposed clearing will be undertaken within a 55 hectare footprint of which approximately 80 per cent is vegetated.

The vegetation under application is likely to provide habitat for conservation significant fauna. However, the clearing for 61 drill pads and associated access tracks will reduce the amount vegetation within the footprint by approximately four per cent leaving the 55 hectare footprint with approximately 76 per cent vegetation cover.

The clearing footprint contains banksia species which are suitable foraging habitat for Carnaby's cockatoo. Vegetation mapping (ATA Environmental, 2004 in Coterra Environment, 2014) suggests that approximately six drill pads will be constructed within the identified habitat. The construction of the drill pads will impact on approximately 0.18 hectares of foraging habitat. The clearing of approximately 0.18 hectares is not likely to be significant habitat for Carnaby's cockatoo.

Given the above the proposed clearing is not likely to be at variance to this principle.

Methodology

References

- ATA Environmental (2004)
- Coterra Environment (2014)
- DPaW (2007)

(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**
 There have been two rare flora species mapped within 10 kilometres of the application area, with the closest species being recorded approximately 5.8 kilometres from the application area. The two species have been mapped in different soil and vegetation types to the application area.

A vegetation survey did not identify any rare flora species within the clearing footprint (ATA Environmental, 2004 in Coterra Environment, 2014).

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

Methodology References
 - ATA Environmental (2004)
 -Coterra Environment (2014)
 GIS Databases
 -SAC Bio Databases (December 2014)

(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 at variance to this Principle**
 In the local area (10 kilometre radius), 12 records of the Threatened Ecological Community (TEC) 26a: Melaleuca huegelii - Melaleuca acerosa shrublands over limestone ridges have been recorded. The nearest occurrence is approximately 2.3 kilometres north of the area under application.

A vegetation survey recorded 10 vegetation units within the clearing footprint of which none were a representation of the nearby TEC (ATA Environmental, 2004; Coterra Environment, 2014).

The proposed clearing is not at variance to this Principle.

Methodology References
 - ATA Environmental (2004)
 -Coterra Environment (2014)
 GIS Databases
 -SAC Bio Databases (December 2014)

(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 at variance to this Principle**
 The local area (10 kilometre radius) surrounding the application retains approximately 50 per cent native vegetation.

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). However, the Environmental Protection Authority (EPA) recognises the Perth Metropolitan Region as a constrained area, which provides for the reduction of vegetation complexes to a minimum of 10 per cent of the pre-European extent (EPA, 2006).

The Beard Vegetation Association and Heddle Vegetation Complexes mapped with the application area retain approximately 47, 48 and 41 per cent pre-European vegetation within the Swan Coastal Plain respectively. The City of Wanneroo retains 47 per cent pre-European vegetation (Government of Western Australia, 2013).

The area under application is not considered to be significant as a remnant.

Given the above, the proposed clearing is not at variance to this Principle.

Pre-European	Current Extent (ha)	Remaining Extent in DPaW Managed Lands (ha)	(%)	(%)
IBRA Bioregion Swan Coastal Plain	1,501,222	578,708	39	35
Shire City of Wanneroo	67,698	31,541	47	51
Beard Vegetation Association in Bioregion 949	37,138	17,642	47	53
Heddle Vegetation Quindalup Complex	24,381	11,598	48	19.5
Cottesloe Central/ South	44,995	18,474	41	13

Methodology References
-Commonwealth of Australia (2001)
- Government of Western Australia (2013)
-EPA (2006)
GIS Databases
-Hedde Vegetation Complexes
-NLWRA, Current Extent of Native Vegetation
-Pre-European 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 not at variance to this Principle**
The nearest wetland to the area under application is a Resource Enhancement Wetland, Carabooda Lake, occurring 2.3 kilometres east of the area under application. A Conservation Category Wetland also occurs 3.1 kilometres east of the area under application.

Given the distance to hydrological features the vegetation under application is not considered to be growing in, or in association with, an environment associated with a watercourse or wetland.

The proposed clearing is not at variance to this Principle.

Methodology GIS Databases
-Geomorphologic Wetlands (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 **Proposal 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 comprised of siliceous sands with some brown sands and leached sands (Northcote et al. 1960-68).

Sandy soils are highly susceptible to wind erosion and if left exposed for any length of time post clearing, wind erosion has the potential to result in appreciable land degradation. However, given the relatively small amount of clearing within a large footprint it is unlikely the proposed clearing will result in appreciable land degradation.

The application is not likely to be at variance to this principle.

Methodology References
-Northcote et al. (1960-68)
GIS Databases
-Soils, Statewide

(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 nearest conservation area is Neerabup National Park (also mapped as Bush Forever site 383), which occurs approximately 1.2 kilometres east of the area under application.

The proposed clearing may temporarily interrupt an east-west bushland linkage that connects Bush Forever site 383, with Bush Forever site 397 located 1.9 kilometres west. However, a large amount of development and land clearing has occurred between the clearing footprint and the Bush Forever site 383. Therefore the linkage may have already been impacted upon and it is unlikely the proposed clearing within a large footprint will measurably impact the linkage.

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

Methodology GIS Databases
-DPaW Managed Land
-Bush Forever

(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 at variance to this Principle**
There nearest wetland to the area under application is a Resource Enhancement Wetland, Carabooda lake, occurring approximately 2.3 kilometres east of the area under application.

Groundwater salinity mapped within the application area is between 500 and 1000 milligrams per litre

(marginal). Given this low salinity level, it is considered that the proposed clearing will not lead to a perceptible rise in the watertable and thus an increase in groundwater salinity levels.

Given the above, the proposed clearing is not at variance to this Principle.

Methodology GIS Databases
-Geomorphologic Wetlands (Mgt Categories), Swan Coastal Plain
-Hydrography, linear
-Priority Drinking Water Source Area (PDWSA)
-Salinity Risk

(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 at variance to this Principle

There nearest wetland to the area under application is a Resource Enhancement Wetland, Carabooda Lake, occurring 2.3 kilometres east of the area under application. A Conservation Category Wetland also occurs 3.1 kilometres east of the area under application.

Given the distance to the nearest watercourse and wetlands and the sandy soil occurring within the application area (Northcote et al 1960-68), the proposed clearing will not cause or exacerbate flooding and is not at variance to this principle.

Methodology References
-Northcote et al (1960-68)
GIS Databases
-Geomorphologic Wetlands (Mgt Categories), Swan Coastal Plain
-Hydrography, linear

Planning instruments and other relevant matters.

Comments The proposed clearing falls within the Perth Coastal Underground Water Pollution Control Area (Priority 3 Public Drinking Water Course Area). The Department of Water (DoW) was notified of the proposed clearing and advised that it had no comment (DoW, 2014).

No submissions from the public have been received for the proposed clearing.

The City of Wanneroo has granted planning approval to the applicant under the provisions of the City of Wanneroo District Planning Scheme No.2 and the Metropolitan Regional Scheme for the proposed geotechnical investigations (City of Wanneroo, 2015).

Methodology References
-DoW (2014)
-City of Wanneroo (2015)

4. References

- ATA Environmental (2004) Lot 3 Romeo Road, Alkimos Flora and Vegetation Survey, Northern Corridor Developments LTD. Information received within Clearing Permit Application CPS6356/1 - Northern Corridor Developments Ltd (DER Ref:A829024)
- City of Wanneroo (2015) Additional information received for Clearing Permit Application CPS 6356/1 – Development approval granted to Northern Corridor Developments.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Coterra Environment (2014) Clearing Permit Application Supplementary Report. Coastal/Central West Village Trinity Estate, Alkimos. Information received within Clearing Permit Application CPS6356/1 - Northern Corridor Developments Ltd (DER Ref:A829024)
- DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed December 2014
- DoW (2014) Comments received in relation to Clearing Permit Application CPS6356/1 - Northern Corridor Developments Ltd (DER Ref:A847526)
- 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 (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- 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.
- 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.

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.