



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 5271/1
<b>Permit Holder:</b>	Northern Corridor Developments Ltd
<b>Duration of Permit:</b>	4 January 2013 – 4 January 2018

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 bulk earth works.

**2. Land on which clearing is to be done**

Lot 9011 on Deposited Plan 73212, Alkimos

**3. Area of Clearing**

The Permit Holder must not clear more than 21.8 hectares of native vegetation within the area hatched yellow on attached Plan 5271/1.

**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.

**5. Compliance with Assessment Sequence and Management Procedures**

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

### PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

**6. Wind erosion management**

The Permit Holder shall not clear native vegetation unless bulk earth works begins within 2 months of the clearing being undertaken.

**7. Dieback and 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* and *dieback*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- shall only move soils in *dry conditions*;
- ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

#### **8. Offset – purchase of land**

Prior to undertaking any clearing authorised under this permit, the Permit Holder shall provide documentary evidence to the CEO that funding of \$300,000 has been transferred to the Department of Environment and Conservation for the purchase of 459 hectares of land containing Carnaby's cockatoo (*Calyptorhynchus latirostris*) foraging habitat north of Gingin and that funding of \$314,111 has been transferred to the Department of Environment and Conservation for the purchase of 477 hectares of Carnaby's cockatoo (*Calyptorhynchus latirostris*) foraging habitat east of Badgingarra.

#### **DEFINITIONS**

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

*dieback* means the effect of *Phytophthora* species on native vegetation;

*dry conditions* means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

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

*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 a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

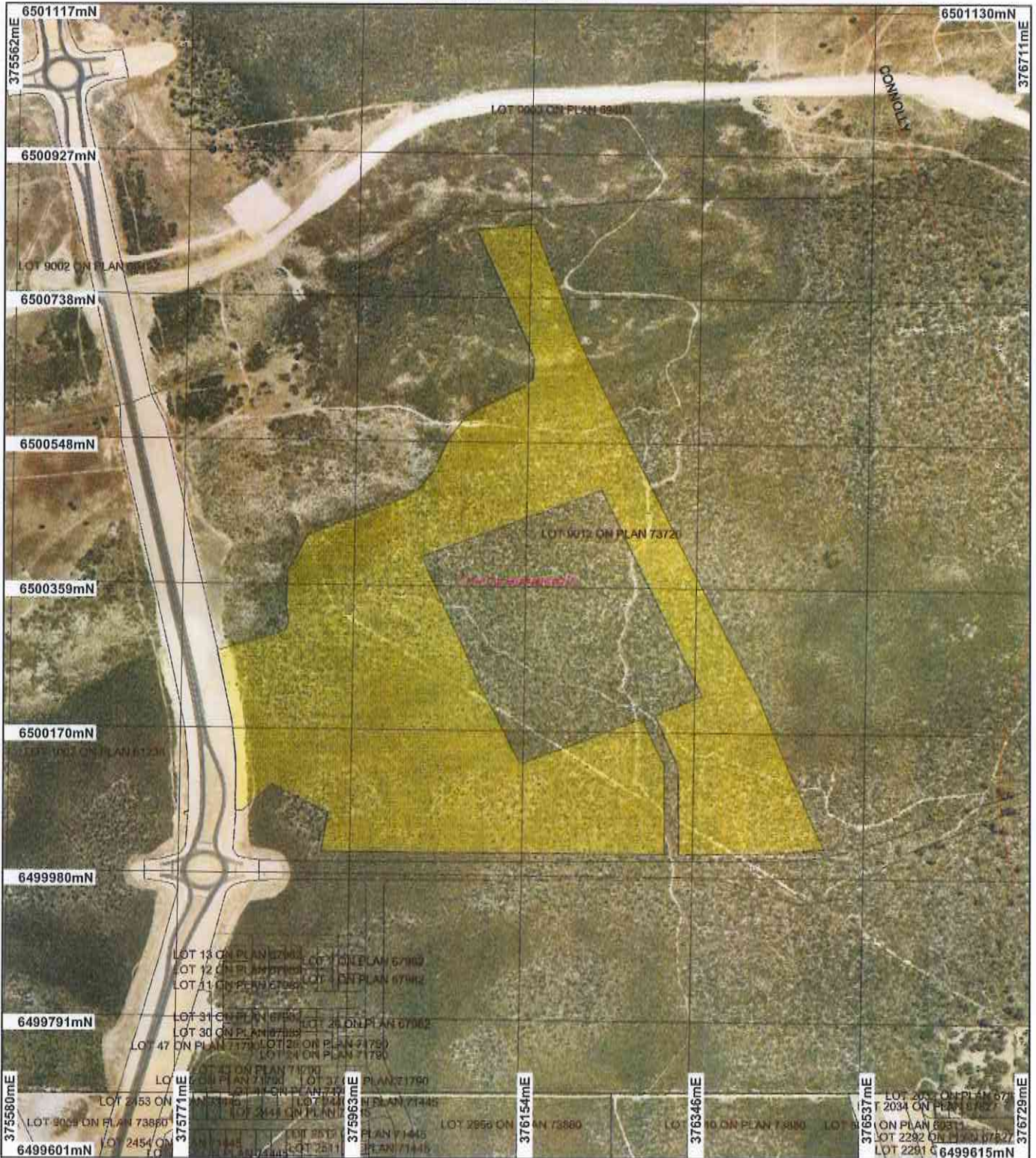


M Warnock  
A/MANAGER  
NATIVE VEGETATION CONSERVATION BRANCH

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

13 December 2012

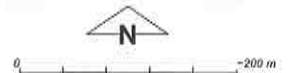
# Plan 5271/1



## LEGEND

- |                              |   |                         |
|------------------------------|---|-------------------------|
| Local Government Authorities | Crown Reserve                                 | Public Roads            |
| Road Centrelines             | State Forest / Timber Reserve                 | Unallocated Crown Land  |
| Cadastre for labelling       | Marine Park                                   | Water                   |
| Freehold (cont)              | Crown Lease                                   | Clearing Instruments    |
|                              | Lease / Reserve                               | Areas Approved to Clear |
|                              | Lease on State Forest / Timber Reserve (cont) |                         |

Perth Metropolitan North  
20cm Orthomosaic - Landgate  
2009



Scale 1:6713  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

*M Warnock* Date 13/12/12  
M 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 legend.



Department of Environment and Conservation

Our environment, our future  
WA Crown Copyright 2002



## 1. Application details

### 1.1. Permit application details

Permit application No.: 5271/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Northern Corridor Developments Ltd

### 1.3. Property details

Property: LOT 9011 ON PLAN 73212 (House No. 2560 MARMION ALKIMOS 6038)  
 Local Government Area: City of Wanneroo  
 Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
21.8		Mechanical Removal	Stockpile / Bulk earthworks

### 1.5. Decision on application

Decision on Permit Application: Grant  
 Decision Date: 13 December 2012

## 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>Heddlle vegetation complex:                      Cottesloe Complex - Central and South: Mosaic of woodland of <i>E. gomphocephala</i> and open forest of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>E. calophylla</i>; closed heath on the Limestone outcrops.                      (Heddlle et al. 1980)</p> <p>Beard vegetation type:                      949 - Low woodland; banksia                      (Shepherd, et al. 2001)</p>	<p>This application proposes to clear 21.8 ha within Lot 9011 Romeo Road, Alkimos for the purpose of bulk earth works prior to subdivision.</p> <p>The vegetation under application comprises three communities with the majority of the areas under application consisting of <i>Banksia attenuata</i> and <i>Banksia menziesii</i> low woodland over <i>Hibbertia hypericoides</i> in excellent (Keighery 1994) condition (16.41ha) (ATA Environmental 2004).</p> <p>The other vegetation communities include:</p> <ul style="list-style-type: none"> <li>- <i>Banksia attenuata</i> low woodland over <i>Calothamnus quadrifidus</i> heath in excellent (0.52ha) (Keighery 1994) condition.</li> <li>- <i>Dryandra sessilis</i> closed scrub (in excellent (2.66ha) (Keighery 1994) condition.</li> <li>- <i>Acacia saligna</i>/<i>Xanthorrhoea preissii</i> open shrubland in excellent (Keighery 1994) (0.42ha) condition,</li> <li>- <i>Calothamnus quadrifidus</i> mixed heath in excellent (0.26ha) (Keighery 1994) condition (ATA Environmental 2004).</li> <li>- <i>Acacia rostellifera</i> closed health to closed scrub in excellent (Keighery 1994) condition (1.34ha).</li> </ul>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>Vegetation clearing description based on a site vegetation survey under taken during 15 October 2004 (ATA Environmental 2004).</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 at variance to this Principle**

This application proposes to clear 21.8 hectares within Lot 9011 Romeo Road, Alkimos for the purpose of bulk earth works prior to subdivision.

The vegetation under application comprises seven communities with the majority of the area under application consisting of *Banksia attenuata* and *Banksia menziesii* low woodland over *Hibbertia hypericoides* in excellent (Keighery 1994) condition (16.41ha) (ATA Environmental 2004). The other vegetation communities include, *Acacia cochlearis*/ *Melaleuca systema* Low Shrubland, *Banksia attenuata* low woodland over *Calothamnus quadrifidus* heath, *Dryandra sessilis* closed scrub, *Acacia saligna*/*Xanthorrhoea preissii* open shrubland, *Calothamnus quadrifidus* mixed heath and *Acacia rostellifera* closed health to closed scrub in excellent (Keighery 1994) condition (ATA Environmental 2004).

A flora survey carried out in October 2004, identified 180 species including 30 exotic species of flora within lots 9011 and 1002 Romeo Rd. The survey did not identify any rare flora species occurring within the area under application; however it identified 6 individuals of a priority four flora species, within community type *Acacia cochlearis*/ *Melaleuca systema* Low Shrubland (ATA Environmental 2004). Approximately 98 individuals of the priority flora has been identified in the neighbouring Lot and therefore the clearing of 6 individual is not considered likely to significantly impact on this population.

The flora survey has also identified three inferred Priority Ecological Communities (PEC) occurring within the area under application (2.92ha), that being Floristic Community Type (FCT) 24: Northern Spearwood shrublands and woodlands, FCT 28: Spearwood *Banksia attenuata* or *Banksia attenuata* - *Eucalyptus* woodlands (16.93ha) and FCT 29b: Coastal Shrublands on shallow sands (2.94ha) (ATA Environmental, 2004; DEC, 2010a).

In addition, 66 fauna species were recorded during the fauna survey (ATA Environmental, 2008) including the conservation significant species Carnaby's Cockatoo (*Calyptorhynchus latirostris*).

Given that the vegetation under application is in excellent (Keighery 1994) condition, contains seven vegetation communities, and contains high floral and faunal diversity, the proposed clearing is considered to be at variance to this Principle.

Weed and dieback condition control will mitigate impacts of the proposed clearing. In addition, an offset is required. An offset has been provided to in relation to land clearing within Lot 9011.

##### Methodology

##### References

- ATA Environmental (2004)
- ATA Environmental (2008)
- Coffey Environments (2010b)
- Keighery (1994)
- GIS Databases
- SAC Bio Databases (19/10/2012)

#### (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 at variance to this Principle**

Within the local area (~ 10 km radius) five species of conservation significant fauna have been recorded.

The vegetation under application is in excellent (Keighery 1994) condition and includes an understorey that would provide suitable habitat for ground-dwelling fauna such as snakes, lizards and the conservation significant species, Quenda (*Isoodon obesulus fusciventer*) and South West Carpet python (*Morelia spilota*).

A fauna survey of both Lot 9011 and 1002 (includes the areas under application) undertaken in November 2007 identified 27 fauna vertebrate species including two species of burrowing frogs, two mammal species, Honey Possum (*Tarsidpes rostratus*) and the South Western Free-tail Bat (*Mormopterus* sp) and 23 reptiles species (ATA Environmental, 2008).

Other species of conservation significance such as the Rainbow Bee-eater (*Merops ornatus*), Peregrine Falcon (*Falco peregrinus*), Western Brush Wallaby (*Macropus irma*), Southern Brush-tailed Phascogale (*Phascogale tapoatafa tapoatafa*), Black-Striped Snake (*Neelaps calonotus*) and the Quenda (*Isoodon obesulus fusciventer*) have not been recorded during the fauna survey but has been identified in similar habitat in the local area during previous surveys (ATA Environmental, 2008).

The fauna survey also recorded 39 bird species within Lot 9011 (ATA Environmental, 2008) including the conservation significant species Carnaby's Cockatoo (*Calyptorhynchus latirostris*). The majority of the application area comprises *Banksia* low woodland in excellent (Keighery 1994) condition (DEC, 2012). Carnaby's Cockatoos are known to feed on seeds, nuts and flowers of a large variety of plants including

Banksia, Dryandra and Grevillea, with the Northern Region of the Swan Coastal Plain considered being an important area throughout the season for this species (Shah, 2006).

Given the diversity of the habitats present, the utilisation of Lot 9011 Romeo Road as foraging habitat by Carnaby's Cockatoo and the potential of the vegetation being used by many other conservation significant species, it is considered that vegetation under application is significant habitat for native fauna. Therefore, the proposed clearing is at variance to this Principle.

To mitigate any residual impacts from the proposed clearing the proponent will be required to contribute sufficient funds to the Department of Environment and Conservation for the purchase of a total of 936 hectares of Carnaby's cockatoo foraging habitat.

**Methodology**   References  
-ATA Environmental (2008)  
-DEC (2012)  
-Shah (2006)  
GIS Databases  
-SAC Bio Datasets ( 19/10/2012)

**(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 is one rare flora species recorded in the local area (~ 10 km radius) being 5.8 kilometres east of the area under application.

This species occurs on shallow soils over limestone on slopes or gullies of limestone ridges or outcrops (Western Australia Herbarium 1998-).

The vegetation under application comprises mainly of Banksia woodland on Spearwood sands (ATA Environmental 2004). A vegetation survey undertaken in October 2004 did not identify this species or any other rare flora within the area under application (ATA Environmental 2004).

Therefore, it is not considered likely that the proposed clearing is at variance to this Principle.

**Methodology**   References  
-ATA Environmental (2004)  
-Western Australia Herbarium (1998-)  
GIS Databases  
-SAC Bio Databases (19/10/2012)

**(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**  
In the local area (10 kilometre radius, twelve 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.

The area under application contains Banksia attenuata and Banksia menziesii low woodland, Dryandra sessilis closed scrub and Calothamnus quadrifidus mixed heath in excellent condition (ATA Environmental, 2004).

A flora and vegetation survey undertaken during October of 2004 did not identify any vegetation associated with a TEC within the area under application. Therefore, it is not considered likely that the proposed clearing is at variance to this Principle.

**Methodology**   References  
-ATA Environmental (2004)  
GIS Databases  
-SAC Bio Databases (19/10/2012)

**(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**  
Hedde et al. (1980) defines the vegetation under application as Cottesloe Complex - Central and South, of which there is 41.1 per cent of pre-European extent remaining (EPA 2006). The vegetation under application is also described as Beard vegetation association 949, of which there is 47.5 per cent of pre-1750 extent remaining in the bioregion (Government of Western Australia 2011).

The area under application is located within the City of Wanneroo, which has 46.5 per cent of pre-European

vegetation extent remaining. In addition, there is approximately 55.5 per cent of pre-European vegetation remaining in the local area (10 kilometre radius). Therefore, the proposed clearing does not occur within a highly cleared area.

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 applied area is considered to be within a constrained area, providing for the variation of the minimum percentage of vegetation complexes remaining to 10 per cent of their pre-European extent (EPA 2006). The vegetation types under application retain more than the 10 per cent threshold level.

The area under application contains a high level of biodiversity and significant habitat for indigenous fauna and is therefore a significant remnant. However it is not located within an area that has been extensively cleared.

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

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregion*			
Swan Coastal Plain	1,501,208	583,141	38.8
City of Wanneroo*	67,697	31541	46.5
Hedde vegetation complex**			
Cottesloe Central/ South	44,995	18,474	41.1
Beard type*			
949	37138.47	17642.27	47.5

\* (Government of Western Australia 2011)

\*\* (Shepherd 2007)

#### Methodology

##### References

- Commonwealth of Australia (2001)
- Government of Western Australia (2011)
- Shepherd (2007)
- Hedde et al. (1980)
- 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 likely to be 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 and a conservation category wetland occurring 3.1 kilometres west of the area under application. The nearest watercourse (Chandala Brook) occurs 27 kilometres east of the area under application.

Given the distance to the nearest watercourse and wetlands, it is not considered likely for the proposed clearing to be 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 may be at variance to this Principle**

The soils within the areas under application are part of the Spearwood Dune System and comprise of siliceous sands with some brown sands and leached sands (Northcote et al. 1960-68), which are considered to have a high risk of wind erosion.

Given the high risk of wind erosion, the proposed clearing may cause short term appreciable land degradation.

The applicant has advised that clearing will be done in stages following the approved subdivision plan (Coterra Environment 2012).

The proposed clearing may be at variance to this principle.

**Methodology**   References  
-Coterra Environment (2012)  
-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 may 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 cause fragmentation of fauna habitat as the areas under application are part of an east-west bushland linkage (Government of Western Australia 2000). This linkage also connects Bush Forever site 383 with Bush Forever site 397.

Given this, it is considered the proposed clearing may impact on the environmental values of nearby conservation areas. Weed and dieback condition control will mitigate impacts of the proposed clearing on the environmental values of the identified conservation areas.

**Methodology**   References  
-Government of Western Australia (2000)  
GIS Databases  
-DEC 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 likely to be 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. The areas under application are located approximately 2 kilometres east of the coastline.

The area under application is not within a Priority Drinking Water Source Area (PDWSA) and has a low salinity risk. Therefore, it is unlikely for the proposed clearing to cause deterioration to the quality of underground water.

Given the distance to the nearest freshwater bodies and the low salinity risk, the proposed clearing is not considered likely to be at variance to this Principle.

**Methodology**   GIS Databases  
-Geomorphoc 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 likely to be 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 and a conservation category wetland occurring 3.1 kilometres west of the area under application. The nearest watercourse (Chandala Brook) occurs 27 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), it is not considered likely for the proposed clearing to be at variance to this Principle.

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



## Planning instrument, Native Title, Previous EPA decision or other matter.

### Comments

The proposal is to clear 21.8 hectares within Lot 9011 Romeo Road, Alkimos for the purpose of bulk earth works prior to subdivision.

Subdivision activities have commenced on the same property as the application area with subdivision approvals granted east of the proposed clearing area (Coterra Environment 2012).

The area under application is zoned urban under the Perth Metropolitan Regional Scheme.

An Alkimos-Eglinton Metropolitan Region Scheme Amendment No. 1029/33 was assessed by the Environmental Protection Authority (EPA, 2005). The report and recommendations are outlined in EPA Bulletin 1207.

In November 2008 the Local Structure Plan (LSP) for Lots 1002 and 9011 (formerly known as Lot 3 and Lot 1001) Romeo Rd, Alkimos (which include the area under application) was referred to the Department of Environment, Water, Heritage and the Arts (DEWHA) by the proponent due to Carnaby's Cockatoo being recorded on site during a fauna survey. DEWHA assessed the impact of the proposed development on the Carnaby's Cockatoo and granted approval with conditions on the 11 September 2009 (DEWHA, 2009).

Northern Corridor Developments Ltd has developed an offset proposal for the removal of significant habitat for Carnaby's black cockatoo within an urban development proposal in Alkimos on Lots 9011 and 1002 Romeo Road, which includes this current application area. This offset proposal includes:

- Providing funds to acquire 459 ha of Carnaby's black cockatoo foraging habitat north of Gingin;
- Providing funds to acquire 477 ha of Carnaby's black cockatoo foraging habitat east of Badgingarra; and
- Retaining as part of reserves, 5.52 ha of Carnaby's black cockatoo foraging habitat within public open space.

This offset has been approved by the DEWHA, now known as the Department of Sustainability, Environment, Water, populations and Communities (SEWPAC).

Planning Approval, for the proposed bulk earth works, from the City of Wanneroo has been obtained by the applicant on the 30 November 2012 (City of Wanneroo, 2012).

In November 2009 a permit to clear 12 hectares native vegetation within an area of 121 hectares was granted (CPS 3085/2) for the purpose of conducting geotechnical searches within Lot 1001. The clearing permit allowed for the clearing of native vegetation to a height no less than 100 millimetres.

CPS 3519/1 also occurs within the same property and was granted for 7.3 hectares on the 6 May 2010 with avoid and minimise and dieback and weed control conditions.

CPS3682/1 also occurs within the same property and was granted for 2.014 hectares on 28 October 2010 with weed and dieback conditions.

### Methodology

#### References

- Coterra Environments (2012)
- DEWHA (2009)
- EPA (2005)
- City of Wanneroo (2012)
- GIS Databases
- Metropolitan Regional Scheme Zones

## 4. References

- ATA Environmental (2004) Lot 3 Romeo Road, Alkimos Flora and Vegetation Survey, Northern Corridor Developments LTD.
- ATA Environmental (2008) Lot 3 Romeo Road, Alkimos Vertebrate Fauna Assessment, Northern Corridor Developments LTD.
- City of Wanneroo (2012) Bulk earthworks planning approval for Lot 9011 Romeo Road, Alkimos. DEC ref A578322
- Coffey Environments (2010a) Graceful Sun Moth Assessment Lots 1001 and 1002 Romeo Road, Alkimos, Coffey Environments Australia Pty Ltd. TRIM Ref DOC 124348
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Coterra Environments (2012) Supporting information for clearing application CPS 5271/1 - Northern Corridor Developments Pty Ltd - Lot 9011 Romeo Rd Alkimos. DEC ref A545877
- DEC (2012) Site Inspection Report for Clearing Permit Application CPS 5271/1, Lot 9011 Romeo Rd Alkimos. Site inspection undertaken 9/10/2012. Department of Environment and Conservation, Western Australia (DEC ref A555521).

DEWHA (2009) Copy of Approval from the Department of Environment, Water, Heritage and the Arts of the Local Structure Plan for Lots 1001 and 1002 Romeo Rd, Alkimos. TRIM Ref DOC100704.

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 (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.

Government of Western Australia (2011); 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). 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.

Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.

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.

Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 19/10/2012).

Williams M.R (2009) Butterflies and Day-flying Moths in a Fragmented Urban Landscape, South-west Western Australia: Patterns of Species Richness. Pacific Conservation Biology V15,p 32-46. TRIM Ref DOC88237

## 5. 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)