



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6456/1
Permit Holder:	Commissioner of Main Roads Western Australia
Duration of Permit:	16 July 2015 – 16 July 2020

ADVICE NOTE

The funds referred to in Condition 8 of this Permit are intended for contributing towards purchasing 45 hectares of black cockatoo foraging and nesting habitat within Lot M2091 on Plan 6457, Chittering, to be amalgamated into the conservation estate.

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 the Tonkin Highway upgrade.

2. Land on which clearing is to be done

LOT 300 ON PLAN 192140 (BAYSWATER 6053)
LOT 14727 ON PLAN 21677 (BAYSWATER 6053)
LOT 210 ON PLAN 7934 (BAYSWATER 6053)
LOT 702 ON PLAN 59444 (BAYSWATER 6053)
LOT 211 ON PLAN (BAYSWATER 6053)
LOT 10 ON DIAGRAM 54869 (BAYSWATER 6053)
LOT 400 ON PLAN 53009 (BAYSWATER 6053)
LOT 209 ON PLAN 7934 (BAYSWATER 6053)
LOT 340 ON DIAGRAM 60919 (BAYSWATER 6053)
LOT 301 ON PLAN 41009 (BAYSWATER 6053)
LOT 300 ON PLAN 41010 (BAYSWATER 6053)
LOT 151 ON DIAGRAM 67043 (EMBLETON 6062)
LOT 1018 ON PLAN 6263 (EMBLETON 6062)
LOT 20 ON PLAN 27108 (EMBLETON 6062)
LOT 102 ON DIAGRAM 76439 (MORLEY 6062)
LOT 4 ON DIAGRAM 17987 (EMBLETON 6062)
LOT 101 ON DIAGRAM 64187 (MORLEY 6062)
LOT 154 ON PLAN 7282 (MORLEY 6062)
Lot 145 ON PLAN 7282 (MORLEY 6062)
LOT 61 ON PLAN 7282 (MORLEY 6062)
LOT 19 ON DIAGRAM 237500 (MORLEY 6062)
LOT18 ON DIAGRAM 37500 (MORLEY 6062)
LOT 64 ON PLAN 7282 (MORLEY 6062)
LOT 52 ON DIAGRAM 63911 (MORLEY 6062)
LOT 297 ON PLAN 27921 (MORLEY 6062)
LOT 301 ON PLAN 30726 (MORLEY 6062)

LOT 30 ON DIAGRAM 42841 (MORLEY 6062)
 LOT 53 ON PLAN 7282 (MORLEY 6062)
 LOT 23 ON DIAGRAM 33971(MORLEY 6062)
 LOT 31 ON PLAN 7282 (MORLEY 6062)
 LOT 108 ON DIAGRAM 33512 (MORLEY 6062)
 LOT 109 ON DIAGRAM 80138 (MORLEY 6062)
 LOT 9 ON PLAN 7282 (MORLEY 6062)
 LOT 10 ON PLAN 7282 (MORLEY 6062)
 LOT 500 ON PLAN 62715 (MORLEY 6062)
 LOT 11 ON PLAN 7282 (MORLEY 6062)
 LOT 1 ON DIAGRAM (MORLEY 6062)
 LOT 300 ON PLAN 40568 (MORLEY 6062)
 LOT 71 ON PLAN 28705 (MORLEY 6062)
 LOT 70 ON PLAN 28705 (MORLEY 6062)
 LOT 24 ON PLAN 4976 (MORLEY 6062)
 LOT 25 ON PLAN 4976 (MORLEY 6062)
 LOT 26 ON PLAN 4976 (MORLEY 6062)
 LOT 27 ON PLAN 4976 (MORLEY 6062)
 LOT 462 ON PLAN 21462 (MORLEY 6062)
 LOT 300 ON PLAN 4976 (MORLEY 6062)
 LOT 461 ON PLAN 21673 (MORLEY 6062)
 LOT 500 ON PLAN 52572 (MORLEY 6062)
 LOT 153 ON PLAN 7282 (MORLEY 6062)
 LOT 1 ON DIAGRAM 42844 (BAYSWATER 5053)
 UNALLOCATED CROWN LAND (MORLEY 6062) (PIN418279)
 BEECHNRO STH ROAD RESERVE (PIN 11831940)
 TONKIN HWY ROAD RESERVE (PIN 11833049)
 MORLEY DRIVE EAST ROAD RESERVE (PIN 11822501)
 ALFREDA AVE ROAD RESERVE (PIN 11831931)
 CLANDON WAY ROAD RESERVE (PIN 1362143)
 ROBINSON ROAD RESERVE (PIN 11822493)
 HARVEST ROAD RESERVE (PIN11822496)
 PICKETT STREET ROAD RESERVE (PIN 11819585)
 CLUNE STREET ROAD RESERVE (PIN 11819584)
 UNNAMED ROAD RESERVE (BAYSWATER 6053) (PIN 11822496)
 UNNAMED ROAD RESERVE (BAYSWATER 6053) (PIN 11149598)
 UNNAMED ROAD RESERVE (BAYSWATER 6053) (PIN 11149595)

3. Area of Clearing

The Permit Holder must not clear more than 15.38 hectares of native vegetation within the area hatched yellow on attached Plan 6456/1.

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. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the project activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those *project activities* under the *Main Roads Act 1930* or any other written law.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

6. **Avoid, minimise etc clearing**

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

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*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

8. **Monetary contributions to a fund maintained for the purpose of establishing or maintaining vegetation (offset)**

Prior to undertaking any clearing authorised under this permit, the Permit Holder shall provide documentary evidence to the CEO that funding of \$57, 223 has been transferred to the Department of Parks and Wildlife for the purpose of establishing or maintaining vegetation.

DEFINITIONS

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

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

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

project activities means those activities described in condition 1 of this Permit;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

16 June 2015

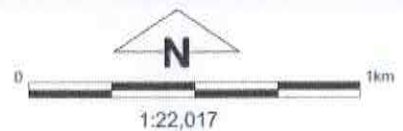
CPS 6456/1, 16 June 2015

Plan 6456/1



Legend

-  Localities
-  Imagery
-  Clearing Instruments Activities



(Approximate when reproduced at A4)
GDA 94 (Lat/Long)
Geocentric Datum of Australia 1994

M Wamock Date *16/6/15*
M Wamock

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



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WESTERN AUSTRALIA
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CLANDON WAY ROAD RESERVE (PIN 1362143)
 ROBINSON ROAD RESERVE (PIN 11822493)
 HARVEST ROAD RESERVE (PIN11822496)
 PICKETT STREET ROAD RESERVE (PIN 11819585)
 CLUNE STREET ROAD RESERVE (PIN 11819584)
 ROAD RESERVE, BAYSWATER (PIN 11822496)
 ROAD RESERVE, BAYSWATER (PIN 11149598)
 ROAD RESERVE, BAYSWATER (PIN 11149595)

Colloquial name:
 Local Government Authority:
 DER Region:
 DPaW District:
 LCDC:
 Localities:

BAYSWATER, CITY OF
 Greater Swan
 SWAN COASTAL
 EMBLETON and NORANDA and MORLEY and BAYSWATER

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
15.87		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit	Grant
Application:	
Decision Date:	16 June 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 1001 is described as medium very sparse woodland; jarrah, with low woodland; banksia & casuarina (Shepherd et al, 2001).	The proposed clearing of 15.38 hectares of native vegetation is for the purpose of upgrading Tonkin Highway.	Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994). To Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994).	The project occurs within 82 hectares footprint containing 33 hectares of vegetation, 15.87 hectares of which is considered to be native vegetation and 16.9 hectares of rehabilitated land not considered to contain native vegetation (Coffey 2015b). The 16.9 hectares of non-native vegetation is not included within this application to clear.
Hedde Vegetation Southern River Complex is comprised of open woodland (Hedde et al, 1980).			The vegetation under application consists of 21 vegetation communities including areas of Banksia and Corymbia calophylla woodland, Banksia attenuata and Banksia menziesii woodland, Corymbia calophylla over weeds, Corymbia calophylla woodland, Eucalyptus gomphocephala trees, Eucalyptus rudis trees over planted vegetation, Eucalyptus marginata, Allocasuarina fraseriana, Banksia and Corymbia calophylla woodland, Eucalyptus todtiana, E. marginata, E. gomphocephala and Banksia woodland, and areas of Xanthorrhoea preissii, Calothamnus quadrifidus, Calyix flavescens and Chamelaucium uncinatum shrubland.
Hedde Vegetation Bassendean Complex-Central And\South is comprised of woodland to low woodland and sedgeland (Hedde et al, 1980).			In addition, wetland communities consisting of Melaleuca preissiana over weeds and areas of Melaleuca preissiana, Banksia grandis, Banksia prionotes woodland and low open forest of Melaleuca preissiana over Acacia pulchella, Astartea sp., Regelia ciliata, Hypocalymma angustifolium, Hakea varia and Baumea juncea occur (360 Environmental 2014). Areas of mixed native vegetation and planted vegetation include E. todtiana and Banksia attenuata with non-native planted Eucalyptus species over Stirlingia latifolia,

Corymbia calophylla over *Allocasuarina humilis*, *Melaleuca huegelii* and *Chamelaucium uncinatum*, *Corymbia calophylla* over planted *Acacia saligna* and *Corymbia calophylla*, *Allocasuarina fraseriana*, *Banksia attenuata*, and planted *Agonis flexuosa* with non-native trees (360 Environmental 2014).

The area under application includes degraded (9.47 hectares), good (4.9 hectares), very good (0.5 hectares) and excellent (1 hectare) condition native vegetation (360 Environmental 2014).

The vegetation condition and descriptions have been obtained from a level 1 flora and vegetation survey undertaken in September and October 2013 (360 Environmental, 2014) and additional site investigations undertaken in August 2014 and January 2015 (Coffey, 2014, Coffey, 2015a).

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**

The project occurs within an 82 hectare footprint area, containing 33 hectares of vegetation, 15.87 hectares of which is considered native vegetation and 16.9 hectares of rehabilitated land not considered to contain native vegetation (Coffey 2015b). The 16.9 hectares of non-native vegetation is not included within this application to clear.

The vegetation under application consists of 21 vegetation communities including areas of *Banksia* and *Corymbia calophylla* woodland, *Banksia attenuata* and *Banksia menziesii* woodland, *C. calophylla* over weeds, *C. calophylla* woodland, *Eucalyptus gomphocephala* trees, *Eucalyptus rudis* trees over planted vegetation, *Eucalyptus marginata*, *Allocasuarina fraseriana*, *Banksia* and *C. calophylla* woodland, *Eucalyptus todtiana*, *E. marginata*, *E. gomphocephala* and *Banksia* woodland, and areas of *Xanthorrhoea preissii*, *Calothamnus quadrifidus*, *Calytrix flavescens* and *Chamelaucium uncinatum* shrubland. In addition, wetland communities consisting of *Melaleuca preissiana* over weeds and areas of *M. preissiana*, *Banksia grandis*, *Banksia prionotes* woodland and low open forest of *M. preissiana* over *Acacia pulchella*, *Astartea* sp., *Regelia ciliata*, *Hypocalymma angustifolium*, *Hakea varia* and *Baumea juncea* occur (360 Environmental 2014).

Areas of mixed native vegetation and planted vegetation include *E. todtiana* and *B. attenuata* with non-native planted *Eucalyptus* species over *Stirlingia latifolia*, *C. calophylla* over *Allocasuarina humilis*, *Melaleuca huegelii* and *Chamelaucium uncinatum*, *C. calophylla* over planted *Acacia saligna* and *C. calophylla*, *A. fraseriana*, *B. attenuata*, and planted *Agonis flexuosa* with non-native trees (360 Environmental 2014).

The area under application includes degraded (9.47 hectares), good to degraded (4.9 hectares), very good (0.5 hectares) and excellent (one hectare) condition vegetation (360 Environmental 2014).

A level 1 flora and vegetation survey of the application area was conducted in September and October of 2013 (360 Environmental 2014). In addition, to address small survey gaps two site investigations were conducted in August 2014 and in January 2015 (Coffey 2014, Coffey 2015a). A total of 102 taxa were recorded within the survey area with 25 of the taxa being introduced species (360 Environmental, 2014). No rare or priority flora species were identified by the flora surveys (360 Environmental, 2014).

The application area contains 1.65 hectares of the mapped *B. attenuata* and *B. menziesii* over *Jacksonia floribunda*, *Calytrix flavescens*, *A. humilis*, *Adenanthos cygnorum* and *Stirlingia latifolia* community which occurs in good to excellent (Keighery 1994) condition (360 Environmental 2015). This community is considered to represent the Priority Ecological Community (PEC) "Banksia dominated woodlands of the Swan Coastal Plain IBRA region", listed as Priority 3. It is estimated that there is approximately 325, 669 hectares of this PEC remaining, however there has been a decline of more than 50 percent in area within the Swan Coastal Plain bioregion (Parks and Wildlife 2015). The clearing of 1.65 hectares within the application area is unlikely to have a significant impact on the extent of this PEC, however in the inner regions around Perth it is estimated that less than 10 percent of this PEC remains (Parks and Wildlife 2015).

A black cockatoo habitat assessment of the area under application was conducted in September and October of 2013 and found suitable foraging habitat within the majority of the application area (13.4 hectares) for both the forest red-tailed black cockatoo and Carnaby's cockatoo (360 Environmental 2013). In addition, 106 trees with the potential to be used for breeding, with a diameter at breast height of greater than 500 millimetres, were recorded within the application area. No hollows suitable for breeding were observed within these potential

breeding trees (360 Environmental 2013). The habitat assessment considers the application area to contain low to good quality black cockatoo habitat due to the presence of foraging species and potential breeding trees (360 Environmental 2013). Baudin's cockatoo was not included within the habitat assessment but it is considered likely for the application area to contain suitable foraging habitat for this species (Coffey 2015b). The application area contains 13.4 hectares of significant foraging and potential breeding habitat for Baudin's cockatoo, Carnaby's cockatoo and the forest red-tailed black cockatoo.

Given the above, the proposed clearing is at variance to this Principle.

To offset the residual environmental impacts identified the applicant has provided funds to the Department of Parks and Wildlife for the purchase of Lot M2091 on Plan 6457 which contains vegetation in an excellent condition containing black cockatoo habitat. The proponent has finalised the offset and Lot M2091 was purchased by the Department of Parks and Wildlife for conservation purposes.

Methodology

References

- 360 Environmental (2014)
- 360 Environmental (2013)
- Parks and Wildlife (2015)
- Keighery (1994)
- Coffey (2014)
- Coffey (2015a)
- Coffey (2015b)
- GIS Databases
- SAC Bio Datasets (10/03/2015)

(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

Proposal is at variance to this Principle

A total of 24 conservation significant species have been recorded within the local area (five kilometre radius) of the application area including the forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) listed Vulnerable under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and as rare or likely to become extinct under the Wildlife Conservation Act 1950 (WC Act), Baudin's cockatoo (*Calyptorhynchus baudinii*), listed Vulnerable under the EPBC Act and as rare or likely to become extinct under the WC Act and Carnaby's cockatoo (*Calyptorhynchus latirostris*) listed as Endangered under the EPBC Act and as rare or likely to become extinct under the WC Act (Parks and Wildlife 2007-).

A level 1 fauna habitat assessment was conducted over the application area and four habitat types were identified being, scattered trees/woodlands, Eucalyptus/Banksia woodland, shrublands and damplands (360 Environmental 2014). Up to 23 vertebrate fauna species (three reptiles and 20 birds) were recorded during the survey and included the dugite (*Pseudonaja affinis affinis*), *Cryptoblepharus* sp. and bobtail (*Tiliqua rugosa rugosa*) all of which are common on the Swan Coastal Plain (360 Environmental, 2014). Common bird species observed included the pink and grey galah (*Eolophus roseicapilla*), Australian magpie (*Gymnorhina tibicen*) and the Australian raven (*Corvus cornoides*) (360 Environmental, 2014). One conservation significant species, the forest red-tailed black cockatoo, was recorded within the application area (360 Environmental 2014).

The application area occurs within a highly cleared landscape with approximately 15 per cent vegetation remaining within the local area (five kilometre radius) and only two per cent of pre-European vegetation extent remaining within the City of Bayswater. Given the highly cleared local area, any native vegetation remaining is likely to consist of important habitat for local fauna species.

The conservation significant forest red-tailed black cockatoo is known to feed predominately on Jarrah and Marri seeds and has been recorded within Jarrah and Marri woodland vegetation (Johnstone and Kirky 1999). Baudin's cockatoo (*Calyptorhynchus baudinii*), predominately feeds on Marri but is also known to feed on proteaceous trees and shrubs, especially Banksias (Johnstone & Kirky 2008). Carnaby's cockatoo nests in large hollows of eucalyptus trees and forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (Banksia, Hakea, Grevillea), as well as Allocasuarina and Eucalyptus species, *C. calophylla* and a range of introduced species (Shah 2006; Valentine and Stock 2008). Three confirmed and two non-confirmed roosting sites for Carnaby's cockatoo occur within five kilometers of the application area. The northern portion of the proposed clearing falls within the buffer to two unconfirmed roost areas for Carnaby's cockatoo. Carnaby's cockatoo forages intensively in suitable vegetation within 12 kilometres of a roost site. In addition, the application area occurs within the mapped breeding range for Carnaby's cockatoo.

A black cockatoo habitat assessment of the area under application was conducted in September and October of 2013 and has found suitable foraging habitat within the majority of the application area (13.4 hectares) for both the forest red-tailed black cockatoo and Carnaby's cockatoo (Coffey 2015b). In addition, 106 trees with the potential to be used for breeding, with a diameter at breast height of greater than 500 millimetres, were recorded within the application area. No hollows suitable for breeding were observed within these potential breeding trees (Coffey 2015b). Baudin's cockatoo was not included within the habitat assessment but it is considered likely for the application area to contain suitable foraging habitat for this species. The remaining 1.98 hectares of the application area is not considered a significant remnant it does not contain native vegetation considered to be habitat for black cockatoo species and is in a degraded condition.

Carnaby's cockatoo meets Criterion A for Endangered as it has suffered a population decline of at least 50 per cent over the past 45 years (Cale 2003). One of the major threats to Carnaby's cockatoo is the accumulative clearing of feeding habitat on the Swan Coastal Plain (Cale, 2003). Given this, all feeding habitat within the Swan Coastal Plain is considered significant. Any clearing of cockatoo feeding habitat on the Swan Coastal Plain will contribute to the cumulative loss and fragmentation of remaining habitat and poses a significant threat to the long term survival of Carnaby's cockatoo. Given the above, the application area contains significant foraging and potential breeding habitat for Baudin's cockatoo, Carnaby's cockatoo and the forest red-tailed black cockatoo.

Numerous Bush Forever sites surround the application area within a five kilometre radius and are likely to provide similar fauna habitat in better condition than the application area. However, given the size of the clearing, containing significant feeding habitat and potential breeding habitat for black cockatoo species (13.4 hectares) and the highly cleared local area, the vegetation under application is considered to contain significant habitat for both conservation significant and local fauna species. The proposed clearing of 13.4 hectares of the 15.87 hectares is at variance to this Principle.

To offset the residual environmental impacts identified the applicant has provided funds to the Department of Parks and Wildlife for the purchase of Lot M2091 on Plan 6457 which contains vegetation in an excellent condition containing black cockatoo habitat. The proponent has finalised the offset and Lot M2091 was purchased by the Department of Parks and Wildlife for conservation purposes.

Methodology	References
	-360 Environmental (2014)
	-360 Environmental (2013)
	-Coffey (2015b)
	-Cale (2003)
	-Valentine and Stock, (2008)
	-Shah (2006)
	-Johnstone & Kirkby (2008)
	-Johnstone & Kirkby (1999)
	-DEC (2007-)
	GIS Databases
	-SAC Bio Datasets (10 March 2015)
	- NLWRA, Current Extent of Native Vegetation

(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 are two rare flora species, recorded in the local area (five kilometre radius). The first rare flora species flowers between September and October and grows in deep sandy soil in mixed woodland of Jarrah and Banksia favouring lush undergrowth (Brown et al. 1998). The second rare flora species flowers during August to October and usually inhabits Banksia and Eucalyptus woodland over health (Brown et al. 1998).

The area under application contains areas of Banksia, Jarrah and Marri woodland vegetation ranging from a degraded to excellent (Keighery 1994) condition (360 Environmental, 2014).

A vegetation and flora survey under taken in September and October 2013 did not identify any rare flora within the area under application (360 Environmental, 2014). As the flora survey was undertaken during the flowering periods for both species, it is not considered likely for the application area to contain habitat for these species.

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

Methodology	References
	-360 Environmental (2014)
	-Brown et al (1998)
	-Keighery (1994)
	GIS Database
	-SAC Bio Datasets 10/03/2015

(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 Proposal is not likely to be at variance to this Principle

The Threatened Ecological Community (TEC) 20a: Banksia attenuata woodlands over species rich dense shrublands has been recorded 3.4 kilometres northwest of the application area.

A flora and vegetation survey undertaken during September and October of 2013 did not identify any TECs occurring within the area under application (360 Environmental 2014).

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

Methodology References:
 -360 Environmental (2014)
 GIS Databases
 -SAC Databases 10/03/2015

(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 **Proposal may be at variance to this Principle**

The vegetation under application is mapped as Heddl vegetation complex Bassendean Complex- Central and South and the Beard vegetation association 1001, of which 26 per cent and 25 per cent of pre-European vegetation extent respectively remains.

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30 per cent of that present pre-European settlement below which species loss is accelerated (Commonwealth of Australia 2001).

Although the vegetation complexes identified on site have less than the recommended 30 per cent threshold remaining the applied area is considered to be within a constrained area. The Environmental Protection Authority (2006) recognises the Perth Metropolitan Region as a 'constrained area', providing for the variation of the minimum percentage of vegetation complexes remaining to 10 per cent of the pre-European extent. Both these vegetation communities have more than 10 per cent of pre-European vegetation remaining.

The local area has approximately 15 per cent native vegetation remaining. In addition, the City of Bayswater has a current pre-European representation level of two per cent. It is considered for the application area to occur within an area that has been extensively cleared. Given the highly cleared local area, any native vegetation remaining is likely to consist of important habitat for local fauna species.

In addition, the application area to contain 13.4 hectares of foraging and potential breeding habitat for the Baudin's cockatoo, Carnaby's cockatoo and the forest red-tailed black cockatoo.

A portion of the application area also occurs in very good to excellent (Keighery 1994) condition and represents the PEC "Banksia dominated woodlands of the Swan Coastal Plain IBRA region" (360 Environmental 2014).

Therefore 13.4 hectares of the 15.87 hectare application area is regarded as being a significant remnant in a highly cleared landscape and the proposed clearing may 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	586,975	39	33
Shire*				
City of Bayswater	3,269	63	2	0.0
Beard Vegetation Association in Bioregion*				
1001	57,410	14,152	25	5
Heddl Vegetation Complex **				
Bassendean Complex – Central and South	87,476	22,869	26 5	5

Methodology References
 -Commonwealth of Australia (2001)*
 -DPaW, (2015)**
 - EPA (2006)
 -360 Environmental (2014)
 -Keighery (1994)
 GIS Databases:
 -Heddl 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 may be at variance to this Principle

A portion of a Multiple Use category wetland has been mapped within the northern portion (1.2 hectares) of the application area. The closest watercourse to the application is the Swan River located 2.5 kilometres south of the area under application.

Multiple Use wetlands have few remaining important wetland attributes and functions. The protection of these wetlands is the lowest priority (Water and Rivers Commission, 2001). The flora and vegetation survey of the application area identified 1.97 hectares of wetland dependent vegetation occurring within the area under application with the majority of the wetland vegetation occurring in a degraded condition. Small areas occur in very good (Keighery 1994) condition (360 Environmental, 2014).

The impact to wetland vegetation is not considered significant given the predominately degraded condition and small area. Given that a portion of the vegetation under application includes wetland dependent vegetation, the proposed clearing may be at variance to this Principle.

Methodology References

- 360 Environmental (2014)
- Keighery (1994)
- Water and Rivers Commission (2001)
- GIS Databases
 - Geomorphic 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 Bassendean Dune System and comprise leached sands (Northcote et al. 1960-68). These sandy soils have a high risk of wind erosion and a low risk of water erosion due to the high infiltration rates associated with sands.

The high wind erosion potential is due to the sandy nature of the topsoil and without appropriate ground cover, or adequate dust suppression on exposed surfaces the proposed clearing may cause land degradation in the form of wind erosion. However, given the long, linear nature of the proposed clearing which is proposed over a 5.1 kilometre area and the sealing of exposed surfaces, the risk of appreciable wind erosion is low.

The majority of the area under application has a low risk of salinity. The salinity risk increases in the low lying areas and associated wetlands.

Given the low risk of salinity of the majority of the application area and the long and linear shape of the proposed clearing, the proposed clearing is not considered likely to contribute to an increase in salinity. Therefore, the proposed clearing is not likely to cause appreciable land degradation and is not likely to be at variance to this principle.

Methodology References

- Northcote et al. (1960-68)
- GIS Databases
 - Soils, Statewide
 - Salinity Risk

(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

Numerous Bush Forever sites surround the application area. Bush Forever site 307 and 299 occur 304 meters and 870 meters north of the application area. Bush Forever sites 214 and 314 occur 1.9 kilometres and 2.4 kilometres south of the application area and Bush Forever sites 280 and 305 occur 3.4 kilometres west and 3.9 kilometres east of the application area.

The proposed clearing is fragmented and within an existing road reserve. The application area is not connected to the conservation areas through continuous vegetation and does not provide an ecological linkage between conservation areas. Therefore the proposed clearing is not considered likely to impact conservation areas and is not likely to be at variance to this Principle.

Methodology GIS Databases
- 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

A portion of a Multiple Use category wetland has been mapped within the northern portion (1.2 hectares) of the application area. The closest watercourse to the application is the Swan River located 2.5 kilometres south of the area under application.

The majority of the area under application has a low risk of salinity. The salinity risk increases in the low lying areas and associated wetlands. Given the low risk of salinity of the majority of the application area and the long and linear shape of the proposed clearing, the proposed clearing is not considered likely to contribute to an increase in salinity of groundwater.

The flora and vegetation survey of the application area identified 1.97 hectares of wetland dependent vegetation occurring within the area under application in degraded to very good (Keighery 1994) condition (360 Environmental, 2014). Given that the wetland areas within the area under application have been significantly altered due to urban and industrial development, are classed as Multiple Use category and the proposed clearing of 1.97 hectares of wetland vegetation is over a long and linear area, it is considered for impacts to surface water quality to be minimal.

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

Methodology

References

-360 Environmental (2014)

-Keighery (1994)

GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

- Hydrography, linear

- 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

A portion of a Multiple Use category wetland has been mapped within the northern portion (1.2 hectares) of the application area. The closest watercourse to the application is the Swan River located 2.5 kilometres south of the area under application.

The flora and vegetation survey of the application area identified 1.97 hectares of wetland dependent vegetation occurring within the area under application in degraded to very good (Keighery 1994) condition (360 Environmental, 2014). Given that the wetland areas within the area under application have been significantly altered due to urban and industrial development, are classed as Multiple Use category and the proposed clearing of 1.97 hectares of wetland vegetation is over a long and linear area, it is not considered likely for the proposed clearing to cause or exacerbate the incidence of flooding.

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

Methodology

References

-360 Environmental (2014)

GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

- Hydrography, linear

- Salinity Risk

Planning instruments and other relevant matters.

Comments

The application area was amended during assessment to 15.87 hectares down from 16 hectares as a more accurate calculation of the area under application was undertaken.

The proposed clearing of 15.87 hectares is for the purpose of upgrading Tonkin Highway. Future development in the northeast of the Perth Metropolitan area, together with the growth of the resource sector will continue to cause increased traffic congestion along Tonkin Highway and adjacent roads. The proposed clearing is for the upgrading of Tonkin Highway to include additional traffic lanes and the project area is 5.1 kilometres in length.

The proposal was referred to the Environmental Protection Authority (EPA) and a decision of Not Assessed – Dealt with under Part V Division 2 of the Environmental Protection Act 1986 (Clearing) was made on the 17 November 2014. The proposal has been referred to the Commonwealth Department of the Environment and has been classed as a Controlled Action under section 75 of the Environmental Protection and Biodiversity Conservation Act 1999 on the 23 December 2014. Commonwealth Department of the Environment has not yet made a decision on the proposal.

The application area occurs within the Perth Metropolitan Groundwater Rights in Irrigation and Water Act 1914 (RIWI Act) area. MRWA has advised that some dewatering may be required for construction due to the presence of a shallow groundwater table within the project area and the possibility of excavations below the water table. Potential groundwater impacts will be managed in accordance with a dewatering management plan to be developed as part of the State Licensing process under the RIWI Act (Coffey 2015b).

MRWA has advised that an Environmental Management Plan will be developed and will be used to mitigate and avoid potential impacts associated with construction such as vegetation clearing and will include revegetation in areas where vegetation can be returned post construction (Coffey 2015b).

To offset the residual environmental impacts identified the applicant has provided funds to the Department of Parks and Wildlife for the purchase of Lot M2091 on Plan 6457 which contains vegetation in an excellent condition containing black cockatoo habitat. The proponent has finalised the offset and Lot M2091 was purchased by the Department of Parks and Wildlife for conservation purposes.

The area under application is zoned as Primary Regional Road under the Perth Metropolitan Regional Scheme.

Three Aboriginal Sites of Significance occur within the application area. It is the applicant's responsibility to ensure that they comply with their responsibilities under the Aboriginal Heritage Act 1972.

Methodology

References

- Coffey (2015b)
- 360 Environmental (2014)
- GIS Databases
- Perth Metropolitan Regional Scheme
- Aboriginal Sites of Significance

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