



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3907/1

File Number: DEC 2010/006318-1

Duration of Permit: From 30 October 2010 to 30 October 2012

PERMIT HOLDER

Shire of Toodyay

LAND ON WHICH CLEARING IS TO BE DONE

Morangup Road Reserve (Morangup 6083)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.48 hectares of native vegetation and 142 native trees within the area cross-hatched yellow on attached Plan 3907/1

CONDITIONS

1. Dieback and weed control

- (a) 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*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) shall only move soils in *dry conditions*;
 - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

2. Fauna management (hollows)

- (a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* who shall identify tree(s) that contain hollows suitable to be utilised as *habitat tree(s)* by fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)*.
- (b) Prior to clearing, any *habitat tree(s)* identified by condition 2(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice 2010(2)*.
- (c) Within one week prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna clearing person* to remove and relocate fauna identified under condition 2(b).

3. Records must be kept

- (a) In relation to fauna management pursuant to condition 2 of this Permit:
 - (i) the location of each habitat or habitat tree identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (ii) the species name of fauna reasonably likely to utilise, or that have been observed utilising, the habitat/habitat tree(s); and
 - (iii) the location and date where relocated fauna was released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.

4. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 3 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 30 July 2012, the Permit Holder must provide to the CEO a written report of records required under condition 3 of this Permit where these records have not already been provided under condition 4(a) of this Permit.

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;

fauna clearing person means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

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

habitat tree(s) means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;

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;

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*.

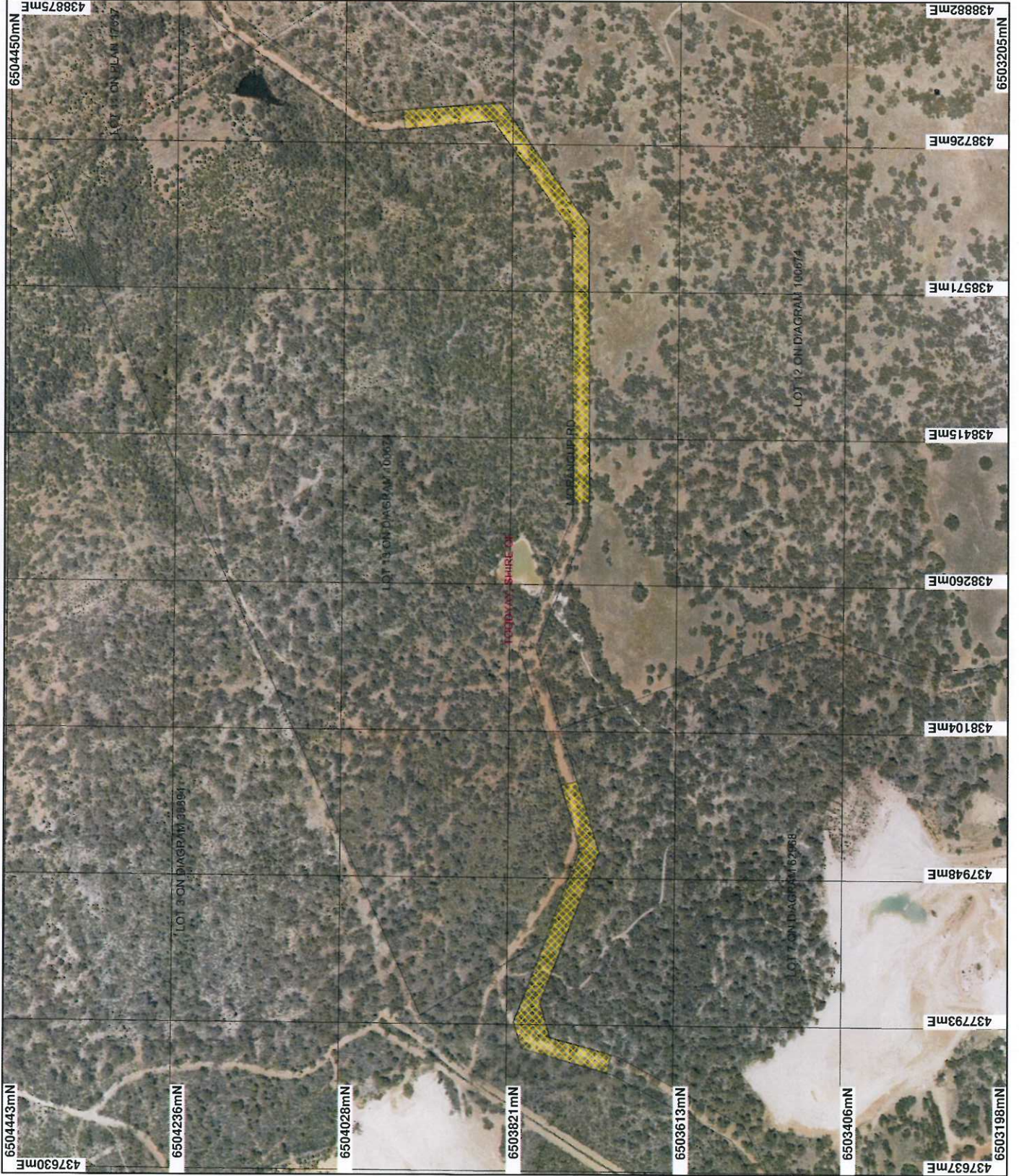


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

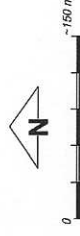
30 September 2010

Plan 3907/1



LEGEND

- Clearing Instruments
- Areas Approved to Clear
- Road Centrelines
- Cadastral for labelling
- Swan Coast Plain North East 40cm Orthomosaic - Landgate 2005
- Local Government Authorities



Scale 1:6000
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

K Falkner Date 30/9/10

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.



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1. Application details

1.1. Permit application details

Permit application No.: 3907/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Shire of Toodyay

1.3. Property details

Property: ROAD RESERVE (MORANGUP 6083)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.48	142	Mechanical Removal	Road construction or maintenance

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: 4 - Medium woodland; marri & wandoo. 1006 - Medium woodland; jarrah, wandoo & powderbark (Shepherd, 2009).	The application is to clear 0.48 hectares of native vegetation and 142 trees for the purpose of realigning Morangup road from private property back into the road reserve. The majority of the vegetation within the western area under application is in excellent (Keighery, 1994) condition (DEC, 2010).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation clearing description and condition were determined from aerial orthomosaics and from a site inspection (DEC, 2010).
Mattiske Vegetation Complex: Bindoon - Woodland of Eucalyptus loxophleba on the slopes, flanked by woodlands of Eucalyptus wandoo - Eucalyptus accedens on the breakaways and upper slopes in the perarid zone (Mattiske, 1998).			
As Above	The majority of the vegetation within the eastern applied area is in good (Keighery, 1994) condition (DEC, 2010).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	
As Above	A small portion of the eastern applied area is located in a farming paddock that has been parkland cleared, and is considered to be in completely degraded (Keighery, 1994) condition (DEC, 2010).	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	

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 proposal is to clear 0.48 hectares of native vegetation and 142 trees ranging from excellent to completely degraded (Keighery, 1994) condition (DEC, 2010) for the purpose of realigning Morangup road from private property back into the road reserve.

The vegetation under application is described as Eucalypt woodland comprising *Eucalyptus marginata*, *E. accedens* and *E. wandoo* over *Xanthorrhoea acanthostachya*, *Grevillea pilulifera*, *Hakea undulata*, *Hakea prostrata*, *Hypocalymma angustifolia*, *Dryandra nivea*, *Hibbertia hypericoides*, *Cyanicula gemmata*, *Astroloma pallidula*, *Haemodorum* spp, *Acacia pulchella* and *Drosera* species, with the majority of the vegetation considered to be in excellent (Keighery) condition (DEC, 2010). Areas of dense understorey are likely to provide suitable habitat for a range of ground dwelling fauna species, including Kangaroos, Western Brush Wallaby, Tamar Wallaby, Quenda, snakes and lizards.

The area under application is located within the distribution range of the Carnaby's black-cockatoo (*Calyptorhynchus latirostris*) (Endangered, EPBC Act; Threatened fauna Wildlife Conservation Act 1950) which inhabit uncleared or remnant Eucalyptus and Banksia woodlands and coastal scrub, foraging on the seeds and nectar from the flowers of Eucalypts, Banksia, Grevillea and Hakea species (Burbidge, 2004). The vegetation under application includes some of these species and is likely to provide suitable habitat for a range of local bird species, including the Carnaby's black-cockatoo. Although the applied vegetation may provide foraging habitat for the Carnaby's black-cockatoo, it is not considered to be significant given the limited size (0.48ha and 142 trees) of the area under application. However, four hollows observed on site, were considered to be large enough for nesting cockatoos (DEC, 2010).

The Shield-backed Trapdoor Spider inhabits eucalypt woodlands on granite and loam soils, preferring areas that have a sparse understorey. There is the potential for the identified Trapdoor Spider to occur on site, particularly in the eastern applied area where the vegetation is more open, however, the denser vegetation in the western area cannot be ruled out as potential habitat. Given the sedentary lifestyle of the trapdoor spider, these species will be impacted on by the proposed road formation. A targeted survey of the Shield-backed Trapdoor Spider is the only way to verify the presence these spiders on site.

There are nine priority flora species which have been recorded within the local area (10km radius) of which, only *Grevillea candolleana* (P2) is found within the same vegetation complex and soil type to that found within the area under application. Although the applied area is suitable habitat for *G. candolleana*, given the restricted linear area of the proposed clearing and based on the number and location of populations of this taxon, its conservation status would not be significantly affected if plants were to occur within the area under application.

Given the small size (0.48 ha and 142 trees) and linear nature of the proposed clearing and the extent of vegetation in similar condition retained in the local area, the vegetation proposed to be cleared is not likely to have a high level of biological diversity.

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

Methodology **References:**

- Burbidge (2004)
- DEC (2010)
- Keighery (1994)

GIS Databases:

- SAC Bio datasets accessed 31/08/2010

(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 may be at variance to this Principle**

There are five fauna species of conservation significance which have been recorded within the local area (10km radius) including the Carnaby's black-cockatoo (*Calyptorhynchus latirostris*) (Endangered, EPBC Act; Threatened fauna Wildlife Conservation Act 1950), Shield-backed Trapdoor Spider (*Idiosoma nigrum*, Vulnerable), Western Brush Wallaby (*Macropus irma*, P4), Tamar Wallaby (*Macropus eugenii derbianus*, P5) and the Chuditch (*Dasyurus geoffroi*, Vulnerable), the closest being the Shield-backed Trapdoor Spider which was recorded approximately 1.6km north of the applied area.

The dense vegetation within the western area under application is likely to provide suitable habitat for a number of ground dwelling fauna species such as the Quenda, snakes, lizards, wallabies and kangaroos, with kangaroo skats observed within the applied area during the DEC site inspection (DEC, 2010). However, with the exception of the Shield-backed Trapdoor Spider, given the linear nature and small size of the applied area (0.48ha) and that surrounding vegetation was observed to be in similar condition as that found on site, the vegetation under application is not considered to provide significant habitat for ground dwelling fauna species.

The Shield-backed Trapdoor Spider inhabits eucalypt woodlands on granite and loam soils, preferring areas that have a sparse understorey. There is the potential for the identified Trapdoor Spider to occur on site, particularly in the eastern applied area where the vegetation is more open, however, the denser vegetation in the western area cannot be ruled out as potential habitat. Given the sedentary lifestyle of the trapdoor spider, these species will be impacted on by the proposed road formation. A targeted survey of the Shield-backed Trapdoor Spider is the only way to verify the presence these spiders on site.

The area under application is located within the distribution range of the Carnaby's black-cockatoo. These birds inhabit uncleared or remnant Eucalyptus and Banksia woodlands and coastal scrub foraging on the seeds and nectar from the flowers of Eucalyptus, Banksia, Grevillea and Hakea species (Burbidge, 2004). Although the vegetation under application includes some of these species which could be utilised for foraging by Carnaby's black-cockatoo birds, it is not considered to be significant given the limited size (0.48ha and 142 trees) of the area under application and that adjacent vegetation was observed to be in the same condition as that found within the applied area.

During the site inspection (DEC, 2010) four wandoo trees were observed to contain large hollows considered to be large enough for nesting Carnaby's black-cockatoos; and although there was no evidence of breeding activity on site, cockatoos were heard in the vicinity of the applied area. In addition, it must be considered that the development of nesting hollows is a dynamic process and so existing nesting hollows are important, as well the maintenance of healthy trees to allow for the development of future hollows.

A number of passerine birds were heard within the vegetation under application at the time of the site inspection (DEC, 2010) with several trees observed to contain hollows of varying size which were considered to provide nesting opportunities for a number of species ranging from small insectivorous bird species through to the larger parrot species, including the Carnaby's black-cockatoo. It should be noted that the smaller tree hollows will generally increase in size with increasing age of the trees.

Given that the vegetation under application may include suitable habitat for the Shield-backed Trapdoor Spider and may provide suitable nesting hollows for the Carnaby's black-cockatoo, the vegetation applied to be cleared may be considered to be necessary for the maintenance of significant habitat.

Therefore the proposed clearing is considered to may be at variance to this Principle.

To mitigate any loss of habitat within the area under application, Fauna Management conditions will be imposed on a permit if clearing is approved.

Methodology References:
- Burbidge (2004)
- DEC (2010)
GIS Databases:
- SAC Bio datasets accessed 31/08/2010

(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 known record of rare flora species occurring within the local area (10km radius) identified as *Caladenia huegelii*, which is located approximately 7.8km from the applied area and is found within the same vegetation complex, but within a different soil type to that found on site.

Caladenia huegelii flowers in September-October and is generally found in deep sandy soils in Banksia and Eucalyptus woodlands, favouring areas of lush undergrowth (Brown et al. 1998).

Given that the soil types on site are hard acidic yellow mottled soils containing ironstone gravels in the surface horizons and hard neutral red soils, the area under application is not suitable habitat for *Caladenia huegelii*.

Therefore the vegetation under application is not likely to include, or is necessary for the continued existence of, rare flora.

Methodology References:
- Brown (1998)
- DEC (2010)
GIS Databases:
- SAC Bio datasets accessed 31/08/2010

(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**
 There are no known records of Threatened Ecological Communities (TECs) within a 10km radius of the applied area.
 Therefore the vegetation under application is not likely to comprise the whole or part of, or be necessary for the maintenance of a TEC.

Methodology GIS Databases:
 - Pre-European Vegetation
 - SAC Bio datasets accessed 31/08/2010
 - Soils, Statewide DA 11/99

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments **Proposal is not likely to be at variance to this Principle**
 The Matiske (1998) vegetation complex identified in the area under application is the Bindoon complex, of which there is 30.03% of pre-European extent remaining. The vegetation under application is also described as Beard vegetation associations 4 and 1006, of which there is respectively 30.37% and 52.65% of pre-European extent remaining in the Bioregion (Shepherd, 2009).

The area under application is located within the Shire of Toodyay, within which there is 54.44% of pre-European extent remaining (Shepherd, 2009).

The national objectives and targets for biodiversity 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 Matiske complex and Beard vegetation types retain more than the 30% threshold.

Given the extent of vegetation remaining in the Shire of Toodyay (54.44%) and the current representation levels of the Matiske complex and Beard vegetation types, it is not considered likely that the vegetation under application is significant as a remnant in the local area.

	Pre-European	Current extent (ha)	Remaining (ha)	(%)
IBRA Bioregions*				
Jarrah Forest^	4,506,656	2,514,549	55.80	
Shire of Toodyay*	169,248	92,139	54.44	
Matiske Vegetation Complex				
Bindoon	26,674	8,010	30.03	
Beard Vegetation Association*				
4	1,022,712	310,603	30.37	
1006	44,908	23,646	52.65	

Methodology References:
 - Commonwealth of Australia (2001)
 - Matiske (1998)
 - Shepherd et al (2009)
 GIS Databases:
 - NLWRA, Current Extent of Native Vegetation
 - Pre-European Vegetation - DA 10/01
 - Swan Coastal Plain North East 40cm Orthomosaic ? Landgate 2005

(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**
 There are no wetlands or watercourses mapped within the areas under application. However, there are

numerous minor non-perennial watercourses within the local area (10km radius), the closest being 3m south of the applied area.

The closest major watercourses are Mortigup Brook and Jimperding Brook which are respectively located approximately 635m west and 1.2km north of the applied area. The nearest wetland is a Multiple Use Wetland which is located approximately 22km northwest of the area under application.

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

Methodology GIS Databases:
- Geomorphic Wetlands (Classification), Swan Coastal Plain
- Hydrography, linear (hierarchy)
- Hydrography, linear_1

(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 landform of the area under application and its surrounds can be described as low hilly to hilly terrain (Northcote et al, 1960). There are two different soils types associated with the areas under application, with the chief soils within the western applied area described as hard acidic yellow mottled soils along with sandy acidic yellow mottled soils, all of which contain moderate to large amounts of ironstone gravels in their surface horizons (Northcote et al, 1960). The soils in the eastern applied area are described as hard red soils (Northcliffe et al, 1960). There is not salinity risk mapping available for the area under application.

The main land degradation risk associated with the removal of vegetation on the identified soil types is considered to be water erosion. Although the vegetation under application is contained within a narrow, linear road reserve over a distance of 1km, erosion rills were observed within the existing Morangup road reserve. Given the applied area is located in the upper slopes in the landscape at an elevation of between 190-290metres, the proposed clearing may result in an increase in surface water run-off causing erosion gullies and rills. There is a medium risk of appreciable land degradation in the form of water erosion.

Given the above, it is considered that proposed clearing may lead to appreciable land degradation through water erosion

Methodology Refereneces:
- DEC (2010)
- Northcote et al (1968)
GIS Databases:
- Soils, Statewide DA 11/99
- Togographic Contours, 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

There are four areas reserved for conservation purposes within a 10km radius of the areas under application, the closest being Morangup Nature Reserve (Register of National Estate) and the Avon Valley National Park (Register of National Estate), which are respectively located approximately 5km southwest and 6km northwest of the applied area. In addition there are numerous Land for Wildlife in the local area (10km radius), the closest being 5.5km southeast of the applied area.

Given the distance to the nearest conservation area and that the vegetation under application does not form part of a corridor linkage to the identified reserves, the vegetation under application is not likely to have an impact on the environmental values of any adjacent or nearby conservation areas.

Methodology GIS Databases:
- DEC Tenure
- Register of National Estate
- SAC Bio datasets accessed 30/08/2010

(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 may be at variance to this Principle

The closest watercourses are Mortigup Brook and Jimperding Brook which are respectively located 635m west and 1.2km north of the applied area; and a minor non-perennial watercourse located approximately 3m south of the applied area. The area under application is located within the Avon River Catchment, but is not located within a Public Drinking Water Source Area.

Given the distance to the nearest watercourse, it is not considered likely that the proposed clearing would result in the deterioration in the quality of underground water.

The main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be water erosion. During the site inspection (DEC, 2010) erosion rills were observed within the existing Morangup road reserve and given the area under application is located on the upper slopes in the landscape, it is considered the the proposed clearing may cause water erosion resulting in the deterioration in surface water quality.

It is therefore considered that the proposed clearing may be at variance to this Principle.

- Methodology** GIS Databases:
- Hydrographic Catchments - Catchments - DOW - 01/06/07
 - Hydrography, linear_1
 - Hydrography linear (hierarchy) - DoW 13/7/06
 - Public Drinking Water Source Areas (PDWSAs)
 - Soils, Statewide DA 11/99

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

- Comments** **Proposal is not likely to be at variance to this Principle**
- The area under application is located approximately 635m east and 1.2km south of Mortigup brook and Jimperding Brook at an elevation between 190-290 metres. Given the local area is well vegetated (~54% native vegetation retained) and that the area under application is limited to 0.48ha and 142 trees contained within a narrow, linear road reserve over a distance of approximately 1km, it is not considered likely that the proposed clearing of the vegetation would impact on peak flood height or duration.

- Methodology** GIS Databases:
- Hydrography, linear_1
 - Hydrography linear (hierarchy) - DoW 13/7/06
 - Topographic Contours, Statewide - DOLA

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

- Comments**
- The proposal is to clear 0.48 hectares and 142 trees to realign Morangup road from private property back into the designated road reserve.
- There are no Aboriginal Sites of Significance within the areas under application.
- In a submission the Roadside Conservation Committee (RCC) advice that the it has no objection to moving the road formation back into the road reserve, but recommends that the existing road be revegetated.

- Methodology** References:
- RCC (2010)
- GIS Databases:
- Aboriginal Sites of Significance

4. References

Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3907/1, Shire of Toodyay. Site inspection undertaken 7 September 2010. Department of Environment and Conservation, Western Australia (DEC ref. A333491).

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment 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.

Roadside Conservation Committee (2010) Direct interest submission for CPS 3907/11 - Shire of Toodyay. (DEC ref 334067).

Shepherd, D.P. (2009) Adapted from: 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 31/8/2010)

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)