



**PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND
ENVIRONMENTAL MANAGEMENT PLAN**

Widening of Bannister Marradong Road (M3) SLK 0.00 – 6.00

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1 SUMMARY

The proposal to widen approximately 6 kilometres of the Bannister Marradong Road (M3) in the Shire of Boddington does not impact with any significance on any environmental aspects.

The project is not likely to be at variance to the Clearing Principles; therefore the removal of native vegetation can be undertaken using Main Roads' Purpose Permit (CPS 818/4).

The project does not warrant referral to the WA Environmental Protection Authority or the Commonwealth Department of the Environment, Water, Heritage and Arts.

The Environmental Management Plan (EMP) in Section 8 of this report needs to be complied with. Roadside weeds should be managed prior to any disturbance to the site.

2 PROJECT DESCRIPTION

The proposed work is to widen approximately 6 kilometres of the Bannister Marradong Road in the Shire of Boddington. The widening will occur on the eastern side of the road where most of the clearing is to be undertaken. Based on an average width of 5 metres and a length of 6 kilometres the clearing footprint will be 3 hectares; however the vegetation cover in this footprint is no more than 25%; therefore the actual area of clearing ~0.75 hectares. In conjunction with these works the removal of ~37 individual trees on the western side that have been identified as being within the lateral clearance zone is also proposed to be undertaken.

As per Main Roads' Environmental Assessment and Approval process, the Low Impact Environmental Screening Checklist has been completed for the proposal, refer to Appendix A. As the proposed works involves clearing of native vegetation outside of the maintenance zone and native vegetation older than ten years within the maintenance zone; the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required. This report fulfils this requirement.

3 PROJECT LOCATION

The project location and study area are shown below.

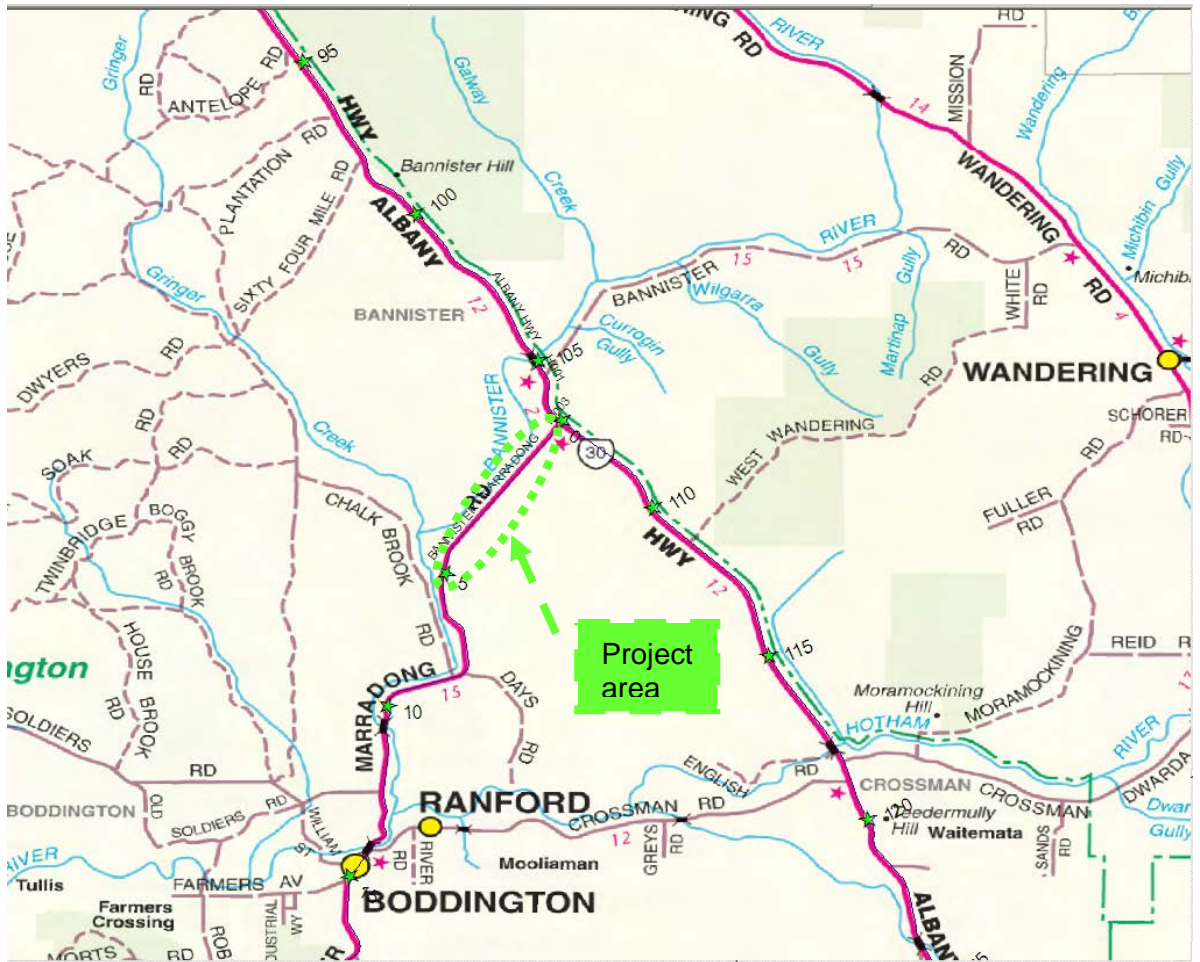


Figure 1: Streetsmart indicating the project location and study area

4 EXISTING ENVIRONMENT

This section of the Bannister Marra Dong road traverses isolated bush areas predominated by pasture lands. The vegetation proposed to be cleared on the eastern side exists as a non-continuous narrow (5m) strip along the roadside (see Figure 1). It is comprised of immature Marri (*Eucalyptus callophylla*), Wandoo (*Eucalyptus wandoo*) and Casuarina trees and various shrubs. The condition of most of this vegetation is degraded (using the Keighery 1994 scale) by being severely impacted by disturbance with little or no understorey.

Of the ~37 trees to be removed on the western side, over half are immature Wandoo with the remainder being Marri, with some semi-mature specimens. The ecosystem of these trees would be considered unlikely to be performing services and maintaining ecological value due to the isolated nature of their location.

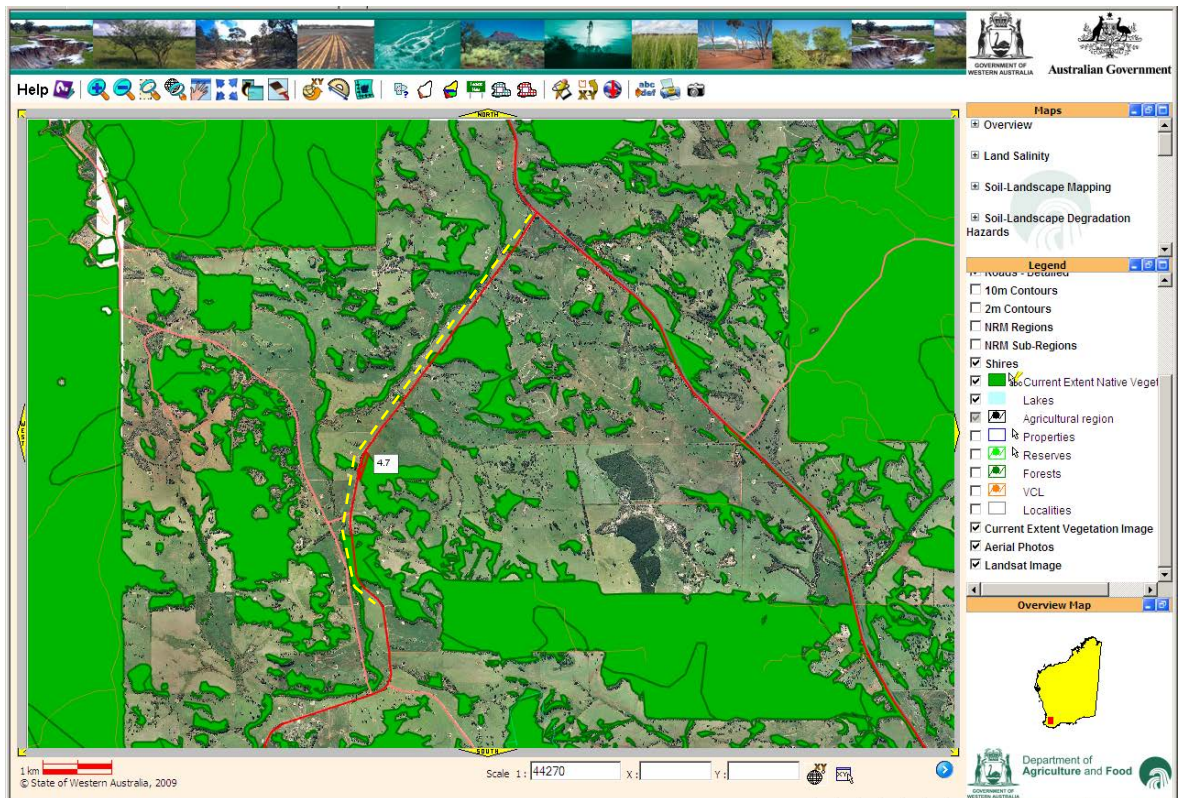


Figure 2: Department of Agriculture and Food: Natural Resource Management - Shared Land Information Portal

Vegetation Map Unit					
Map Unit Number: 80100441					
Spatial Mix: pure					
Number of Vegetation Types: 1					
Vegetation Types					
Type	Type Description Number	Description	Environmental Descriptor	NVIS Lv2 Structural Formation	NVIS Lv3 - Broad Floristic Formation
1047	1	Medium woodland; marri & wandoo	BANNISTER	Woodland	Eucalyptus woodland

Table 1: Vegetation Map Unit & Vegetation Type (Department of Agriculture and Food, Natural Resource Management)

Vegetation Association	Pre-European Extent	Current Extent	% Remaining
4	1,054,279.86	254,656.90	24.15

IBRA Region Code	IBRA Region Name	IBRA Region Extent	Vegetation Association	Pre-European Extent	Current Extent	% Remaining
JF	Jarrah Forest	4,509,045.88	4	1,022,712.50	247,941.53	24.24

IBRA Sub Region Code	IBRA Sub Region Name	IBRA Sub Region Extent	Vegetation Association	Pre-European Extent	Current Extent	% Remaining
JF1	Northern Jarrah Forest	2,061,094.29	4	620,982.48	188,119.34	30.29

Local Govt. Authority	Local Govt Authority Extent	Vegetation Association	Pre-European Extent	Current Extent	% Remaining
SHIRE OF BODDINGTON	191,963.36	4	29,426.94	6,145.28	20.88

Table 2: Vegetation extent of Association 4 by State, IBRA Region and Sub-region and LGA

Vegetation Map Unit - Dominant Species Information						
Map Unit Number: 80100438 Vegetation Type No: 1042						
Species List						
Stratum	Minimum % Crown Cover	Maximum % Crown Cover	Maximum Height (m)	Species	Dominance	Growth Form
Upper 1	10	30	30	Corymbia calophylla	co-dominant	Tree
Upper 1	10	30	30	Eucalyptus wandoo	co-dominant	Tree
Upper 2	10	30	10	Nuytsia floribunda	sub-dominant	Tree
Upper 2	10	30	10	Eucalyptus laeliae	sub-dominant	Tree
Mid 1	10	30	1.5	Daviesia horrida	sub-dominant	Shrub
Mid 1	10	30	1.5	Dryandra sessilis	sub-dominant	Shrub
Mid 1	10	30	1.5	Hakea cristata	sub-dominant	Shrub
Mid 1	10	30	1.5	Hakea trifurcata	sub-dominant	Shrub
Ground 1	10	30	1	Acacia pulchella	sub-dominant	Shrub
Ground 1	10	30	1	Dryandra nivea	sub-dominant	Shrub
Ground 1	10	30	1	Hibbertia hypericoides	sub-dominant	Shrub
Ground 1	10	30	1	Macrozamia riedlei	sub-dominant	Cycad
Ground 1	10	30	1	Xanthorrhoea preissii	sub-dominant	Grass tree
Ground 1	10	30	1	Hibbertia montana	sub-dominant	Shrub

Table 3: Dominant species list (Department of Agriculture and Food, Natural Resource Management)

Site Investigation	Description/Comment
Total area (ha) of native vegetation to be cleared	Approximately 1.0ha
Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared	n/a
Weeds present	Isolated Tagasaste plants and general roadside weeds
Drainage areas or wetlands present	n/a
Adjacent land uses	Pastoral & scrubland

Table 4: Summary of environmental aspects

5 ASSESSMENT AGAINST CLEARING PRINCIPLES

In assessing whether the project is likely to have a significant impact on the environment, the project has been assessed against the DEC's 10 principles of clearing, refer to Appendix K.

The project is NOT LIKELY to be at variance with the DEC's 10 clearing principles.

The project is NOT in an Environmentally Sensitive Area.

6 ASSESSMENT OF ASPECTS AND IMPACTS

Table 1: Aspects and Impacts – Collie – Mumbalup Road

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works.
Dust	Likely to be a minor issue during earthworks. Likely to be easily managed by standard construction dust management techniques.
Fauna	No significant fauna issues associated with any of the proposed upgrade works
Vegetation – clearing	<ul style="list-style-type: none"> • Approximately 1 ha of native vegetation will be cleared. • The condition of the native vegetation to be cleared is Degraded. • The native vegetation to be cleared is under-represented on a state wide and bioregional basis (i.e. there is 24.15% remaining which is less than 30% of its pre-European extent) (see Table 2). • The native vegetation to be cleared does not occur within an ESA. • The native vegetation to be cleared will be done so using the purpose permit.
Vegetation – TECs/DRF	None present in the proposed works areas.
Vegetation – weeds	The general area is quite disturbed and some common weed species occur throughout the proposed works area. There are isolated Tagasaste plants on the western side of the road.
Vegetation – dieback	No dieback sensitive flora species are present within the works areas therefore the area is dieback uninterpretable. Due to the area being readily accessible to the general public, the area would be classified as Unprotectable.
Reserves / Conservation areas	There are no conservation areas or reserves adjacent to the project area.
Heritage (non-indigenous)	A search of the Heritage Council of Western Australia indicated that there are no heritage significance listed sites present in the proposed works areas. A search of the Australian Heritage database and the Australian Heritage Places inventory of the Department of Environment, Water, Heritage and Arts indicated that there are no national state heritage significant listed sites present in the proposed works area.
Aboriginal heritage	A search of Main Roads GIS database identified no known sites of Aboriginal heritage significance within the vicinity of the project area.
Surface water/drainage	The project will not be of concern given the limited nature of the proposed works, which will not disturb or interrupt any natural drainage and surface run-off patterns.
Wetlands	There are no wetlands within the vicinity of the project area.
Groundwater	No dewatering nor drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	No major sensitive local receivers in the vicinity.
Visual amenity	The proposed works will result in minor and short-term visual impacts during construction
Public safety and risk	Provided traffic management and signage to Main Roads standards is employed, none of the proposed works present any significant hazards to public safety.
Hazardous substances	Not relevant to the proposed works.
Contamination	Given the relatively superficial nature of the required earthworks, there appears to be a low risk of any significant contamination issues.
Salinity	Given the nature and scale of the project the impact is not relevant.
Acid Sulfate Soils	No further investigations are necessary as there is no dewatering or excavation below the water table planned.
Statutory Land Use Planning	As the proposed works are entirely within the existing road reserve, no further amendments would be required to the Local Government Planning Scheme or Region Scheme.

7 DECISION TO REFER

Given the scale of the project, the low significance of its impacts to the surrounding environment and the environmental management measures proposed, the project does not require referral to the WA Environmental Protection Authority or the Commonwealth Department of the Environment, Water, Heritage and Arts.

8 ENVIRONMENTAL MANAGEMENT PLAN

This section of the report (the EMP) has been developed for the project area following the completion of the above sections. The main aim of this EMP is to provide a management plan to assist in minimising the environmental impacts of the activities associated with the proposed works and identify who is responsible for the implementation of the management strategies.

It is critical that all clearing works are carried out in accordance with the management measures prescribed in Specifications 301 (Clearing) and 302 (Earthworks).

The areas that require special management will be addressed in terms of:

- the timing of the various management actions;
- the topic (e.g. vegetation);
- the objectives for each area;
- the actions that are necessary to minimise the impact;
- the responsible party for implementing the action; and
- whether the action arose from external advice or is a Main Roads requirement.

8.2 Communication Plan

Environmental issues specific to the project will be communicated as follows:

Method	Frequency	Participants	Reference	Record
Project Site				
Induction	Prior to Work	All personnel and subcontractors	EMP and Contractor Environmental Policy	Induction Meeting

8.3 External Communication and Complaints

A complaints register shall be maintained by the contractor. All complaints received shall be forwarded to the Main Roads' Project Manager for action. Serious complaints shall be investigated within 24 hours of the complaint being received.

ENVIRONMENTAL MANAGEMENT PLAN

Timing	Topic	Objective	Action	Responsible Party	Advice
All phases of Construction	Vegetation Clearing - Record-keeping	All projects should maintain the required records relating to clearing native vegetation under the purpose permit.	Clearing: <ul style="list-style-type: none"> a copy of the PEIA & EMP (Minor projects) for small projects; a map showing the location where the clearing occurred, recorded by coordinates or in an ESRI Shapefile; the size of the area cleared (in hectares); and the dates on which the clearing was done. 	Project Manager	DEC
Pre-Construction	Vegetation - Clearing	Ensure that the overall objectives of the alignment and construction works are compatible with maintaining and, where possible, enhancing the biological integrity of the surrounding environment and minimising vegetation loss and degradation. Ensure the retention of as many habitat trees, shrubs and vegetated corridors for fauna as possible.	Selection of designs/locations that minimise adverse impacts on the biological environment.	Project Manager	Main Roads
			Control/spray weeds species within the project area prior to construction to limit the amount of propagative material that may be spread during disturbance. Control the isolated Tagasaste plants on the western side of the road.	Project Manager Contractor	Main Roads
			Avoid burning stockpiled vegetation from clearing works (especially during fire restriction periods) and attempt to mulch and utilise during any rehabilitation works.	Project Manager Contractor	Main Roads
Construction	Noise, Vibration and Dust	Ensure that the construction of the proposal does not become a nuisance to the public.	Access to private property and appropriate traffic management measures should be planned and implemented prior to the construction of works.	Project Manager Contractor	Main Roads
			Public access should be maintained along the reserve at all times.	Project Manager Contractor	Main Roads
			Any complaints regarding dust will be attended to as soon as possible.	Project Manager Contractor	Main Roads
			Where it is found that trucks leaving the site are carrying excessive material onto sealed surfaces, these areas will be swept to reduce dust generation and maintain traffic safety.	Contractor	Main Roads
	Weeds & Pathogens	Reduce the chance of spreading weeds and (dieback) pathogen	Standard weed and pathogen (dieback) hygiene measures should be applied for all earthworks in the area, including ensuring that plant and equipment brought on to the site are clean of soil.	Project Manager Contractor	Main Roads
			Ensure all imported material is from a certified supplier and free of weed seed and pathogen free	Project Manager Contractor	
	Pollution and Litter	Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment.	The designated servicing area will be bunded to contain any spills or leaks and shall not be located in an area adjacent to any drainage areas or watercourses or will drain into a temporary sump.	Contractor	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	Topic	Objective	Action	Responsible Party	Advice
			Emergency cleanup procedures shall be implemented in the case of any spillage. These will include control of spilled material and removal of contaminated soil to an approved site. The contractor shall ensure appropriate equipment is available at all times and shall notify the Superintendent's Representative of a spill.	Contractor	Main Roads
			All waste oil will be collected for recycling and any empty fuel/oil containers, used filters and waste hydraulic parts to be collected and stored in an allocated area then removed to an approved site.	Contractor	Main Roads
			Dumping or temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands.	Contractor	Main Roads
			The project areas, including hardstand areas, will be kept in a tidy manner at all times.	Contractor	Main Roads
	Fire	Ensure that the fire risk associated with the construction of the proposal is minimised.	No fires shall be lit within the project area.	Contractor	Main Roads
			Machinery will be fitted with approved spark arresting mufflers.	Contractor	Main Roads
			A water tanker will be on site at all times.	Contractor	Main Roads
	Site Management	Ensure that the site is managed to ensure that construction of the proposal will have minimal impact upon the surrounding environment.	Site office and materials storage areas will be located on previously disturbed/ designated area.	Contractor	Main Roads
Post-Construction	Rehabilitation	Leave the project area free from debris	All waste materials from the development are to be completely removed from the site upon completion of the development. Final clean-up shall be to the satisfaction of the Project Manager and the Site Superintendent.	Contractor	Main Roads

9 CONTINGENCY MEASURES

Given the scale and nature of the project, no contingency, monitoring or auditing measures are identified as the inherent environmental risks are small.

Appendix A

Low Impact Environmental Screening Checklist

Form No. 6707/001/01

Checklist - Low Impact Screening Checklist

The Low Impact Screening Checklist is part of the environmental assessment and approval process, refer to in Figure 2 in the Main Roads environmental guideline Environment Assessment and Approvals. It should be noted that the checklist does not address Aboriginal heritage issues. Please refer to Main Roads guideline *Aboriginal Heritage* for the heritage assessment process.

All projects are to be screened to identify those that are Low Impact.

Projects that have "No" to all items are classed as Low Impact and should be implemented using standard contract clauses in the Tender Document Process.

Projects that have "Yes" to any item will require further environmental assessment and will be implemented using an Environmental Management Plan.

Tick "Yes" or "No" for every item.

Project Name MOOS BANNISTER MARRADONG RD - WIDENING 0-6.5K

ITEM NO.	ITEM	Y	N
1	New road or road reserve to be created or expansion of existing road reserve.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Works require clearing of native vegetation outside the maintenance zone. <u>REMOVAL OF REMNANT VEG WITHIN FORMER PASTURE AREAS.</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Works require clearing of native vegetation that is older than 10 years old within the maintenance zone.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Works to occur outside normal working hours.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Passes over, adjoins or drains directly into a wetland or sensitive watercourse.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Local natural drainage regime / hydrology will be changed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Dewatering, or a new water bore required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Known potential source of hazardous materials within or adjoining project area. e.g. Acid Sulphate Soils, existing petrol station, industrial site or waste disposal site (landfill)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Buildings will require demolition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Completed By: Signature [Signature] Date 30/7/2009
Name BRUCE WALKER Title PROJECT MANAGER

To be reviewed by a Main Roads Environment Officer: Signature [Signature] Date 05/08/2009
Name PETER SWANSON Title A/EO

Comments: PEIA required to assess the extent of impacts identified in Items 2 & 3.

Appendix B

Main Roads GIS Database Search Results



Figure 3: Main Roads GIS database search results showing the study area free of any registered environmental aspects

Appendix C

Site Photos



Photo 1: View south – clearing to be undertaken on the left side of the road



Photo 2: View south - clearing to be undertaken on the left side of the road with individual trees removed from the right



Photo 3: View north - clearing to be undertaken on the right side of the road with individual trees removed from the left



Photo 4: View north - clearing to be undertaken on the right side of the road with individual trees removed from the left

Appendix D

Vegetation Clearing Assessment Report

MRWA Vegetation Clearing Assessment Report

This report has been prepared to assist MRWA in addressing condition 7 "Assessment of Clearing Impacts" under Clearing Permit CPS 818/3.

For guidance on how to complete the form, refer to DEC completed reports (active permits) at http://203.20.251.100/cps_reports/.

AREA UNDER ASSESSMENT DETAILS

Proponent details

Proponent's name:

MRWA

Contacts:

Name: Peter Swanson

Phone: 9725 5692

Fax: 9725 5666

Email: peter.swanson@mainroads.wa.gov.au

Property details

Property:

Road verge Bannister Marradong Road in the Shire of Boddington

Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
1.0	~37 semi-mature specimens	Hand	Road widening	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

The road is to be widened on one side only where the vegetation is most sparse, therefore maintaining a vegetation corridor. Clearing of vegetation is only to the extent of providing safe clear zones to appropriate standards.

Individual tree specimens have been mapped and identified as being within the safe lateral clearance zone (TRIM B09#20278 & B09#21857).

BACKGROUND

Existing environment and information

Description of the native vegetation under application

Site Visit Undertaken	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fauna / Flora Survey Undertaken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Site Report Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Fauna / Flora Survey Report Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Site Photos Attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Other Relevant References Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Vegetation Complex	Clearing Description	Vegetation Condition	Comment
Medium woodland; marri & wandoo (Shepherd et al 2001)	Approximately 0.7 hectares of immature Marri (<i>Eucalyptus callophylla</i>), Wandoo (<i>Eucalyptus wandoo</i>) and Casuarina trees and various shrubs. Approximately 0.3 hectares (~37 trees) consisting of immature Wandoo and semi-mature Marri.	Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by occasional fires, partial clearing and grazing. (Keighery 1994)	The composition of the vegetation to be cleared is not representative of medium woodland as it is degraded and with little or no understorey.

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 approximately 1.0 hectare proposed to be cleared consists of approximately 0.7 hectares of non-continuous narrow (5m) strips of shrubs and small trees along the roadside which are isolated from the

surrounding forest and also individual specimens on the opposite side of the road that are growing in isolated stands of semi-mature trees .

Aerial photography and site photos show the vegetation proposed to be cleared does not appear to have a higher diversity than the surrounding area. The existing biological diversity of the vegetation proposed to be cleared at ecosystem, species or genetic levels is not likely to comprise a high level of biodiversity.

Methodology Site inspection
GIS data base

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments **Proposal is NOT LIKELY to be at variance to this Principle**

The majority of the trees to be cleared are individual specimens that are far from maturity and as such do not have broken or fallen branches that might provide suitable hollows as habitat for fauna. The semi-mature Marri trees have been inspected and do not appear to have any suitable nesting hollows.

Methodology Site inspection

(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 no DRF registered in the project area and it is unlikely that the disturbed condition of the vegetation would support any.

Methodology Main Roads GIS data base search (DEC shape file)

(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 TECs registered in the project area and it is unlikely that the disturbed condition of the vegetation would represent a significant ecological community.

Methodology Main Roads GIS data base search (DEC shape file)

(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 vegetation complex of the vegetation proposed to be removed (medium woodland; marri & wandoo) is represented by 24.15% of pre-European settlement, which under the 30% trigger point.

IBRA Region extent is 24.24%.

IBRA Sub-region extent is 30.29%.

LGA extent is 20.88%.

It is identified that this vegetation association would be classed as a 'Critical Asset' according to the EPA's Position Statement No.9, as the Bioregional extent is below 30%.

However, the vegetation proposed to be cleared would not be considered as representative of medium woodland due to the structural degradation, lack of mid and under-storey plants and the range of species differing from that listed in Table 2 (see also Appendix C: Site Photos).

Figure 2 indicates that there are areas of good or better vegetation in the adjoining local areas. The road is to be widened on one side only where the vegetation is most sparse, therefore maintaining a vegetation corridor on the other side. The area to be cleared (1 ha) is also quite minimal when considered against the current extent within the LGA of 6,145 ha. Additionally, the clearing is to provide an essential community service by improving the transport infrastructure and increasing public safety.

Therefore it would be considered that the proposed clearing is not a significant adverse impact to a 'critical

asset' and is not likely to be at variance to this principle.

Methodology SLIP NRM database & Main Roads file “*Native Vegetation in Western Australia - Extent, Type and Status*” (*car_reserve_analysis_2006.xls*)
EPA Position Statement No.9 ‘Environmental Offsets’, 2006.
EPA Guidance Statement No.19 ‘Guidance for the Assessment of Environmental Factors (Environmental Offsets), 2008.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments **Proposal is NOT at variance to this Principle**
There are no watercourses or wetlands registered near the project site.

Methodology Site inspection
Main Roads GIS data base search

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments **Proposal is NOT at variance to this Principle**
The limited extent of proposed clearing will not cause land degradation.

Methodology Site inspection

(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 at variance to this Principle**
There are no registered conservation sites near or adjacent to the project area.

Methodology Site inspection
Main Roads GIS data base search

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is NOT at variance to this Principle**
The limited extent of proposed clearing will not cause deterioration of surface or groundwater.

Methodology Site inspection

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

Comments **Proposal is NOT at variance to this Principle**
The limited extent of proposed clearing will not cause or influence flooding.

Methodology Site inspection

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments
n/a

Methodology

SUBMISSIONS

If required have submissions been requested and addressed

Submission Requested from	Request Sent (Date)	Submission Received (Date)	Issues Raised / Comments Made
n/a			

ASSESSOR'S RECOMMENDATIONS

List of Principles seriously at variance, at variance or maybe at variance
N/A

Recommendation: The proposal is NOT LIKELY to be at variance to the Clearing Principles, and therefore can be undertaken using the Purpose Permit CPS 818/4.

References

A Guide to the Assessment of Applications to clear Native Vegetation under Part V of the Environmental Protection Act 1986. Department of Environment and Conservation

EPA Guidance Statement No.19 'Guidance for the Assessment of Environmental Factors (Environmental Offsets)', 2008.

EPA Position Statement No.9 'Environmental Offsets', 2006.

Keighery BJ 1994, Bushland Plant Survey. A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc.), Nedlands.

SLIP NRM database & Main Roads file "Native Vegetation in Western Australia - Extent, Type and Status" (car_reserve_analysis_2007.xls)

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

OFFICER PREPARING REPORT

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Date: January 2010

