

**PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND
ENVIRONMENTAL MANAGEMENT PLAN (MINOR PROJECTS)**

**LYNDON RIVER BRIDGE CONSTRUCTION
MINILYA- EXMOUTH RD
25.20 SLK**



Prepared by Matthew Oswald (Environment Officer)
Gascoyne Region
September 2007

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CONTENTS

1	INTRODUCTION	3
2	DESCRIPTION OF THE PROJECT	3
2.1	PROJECT LOCATION	4
3	METHODOLOGY	7
3.1	PRELIMINARY DESKTOP STUDY	7
4	COMMONWEALTH REFERRAL	8
4.1	SITE INVESTIGATION	8
5	EXISTING ENVIRONMENT	8
5.1	DESCRIPTION	8
5.2	SITE INVESTIGATION	9
6	CLEARING OF NATIVE VEGETATION	10
6.1	ASSESSMENT AGAINST CLEARING PRINCIPLES	10
6.2	ENVIRONMENTALLY SENSITIVE AREA (ESA)	10
7	ASSESSMENT OF ASPECTS AND IMPACTS	11
8	DECISION TO REFER	12
9	STAKEHOLDER CONSULTATION	12
10	ENVIRONMENTAL MANAGEMENT PLAN	13
10.1	COMMUNICATION PLAN	13
11	MONITORING	14
12	CONTINGENCY MEASURES	14
13	AUDITING	14
14	REFERENCES	14
	APPENDIX A LOW IMPACT ENVIRONMENTAL SCREENING CHECKLIST	17
	APPENDIX B DEC’S THREATENED FLORA AND FAUNA DATABASE SEARCHES	19
	APPENDIX C AUSTRALIAN HERITAGE PLACES INVENTORY, HERITAGE COUNCIL OF WESTERN AUSTRALIA AND THE MUNICIPAL HERITAGE INVENTORY DATABASE SEARCHES	25
	APPENDIX D DEPARTMENT OF INDIGENOUS AFFAIRS DATABASE SEARCH	28
	APPENDIX E WAPC’S ACID SULFATE SOILS SELF ASSESSMENT FORM	30
	APPENDIX F DEPARTMENT OF THE ENVIRONMENT AND HERITAGE DATABASE SEARCH	32
	APPENDIX G SITE PHOTOS	40
	APPENDIX H VEGETATION CLEARING ASSESSMENT REPORT	44

PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN (MINOR PROJECTS)

LYNDON RIVER BRIDGE

1 INTRODUCTION

The Minilya-Exmouth Road (H048) connects the towns of Coral Bay and Exmouth with North West Coastal Highway (NWCH) at Minilya to the South and via Burkett Rd to the East. The road primarily services pastoral, fishing and tourist industries as well as community access. Whilst historically this road functioned as a link for the pastoral industry and defence facilities at Exmouth, over the past 10 years, there has been a significant increase in tourist traffic utilising the Minilya-Exmouth Road to visit tourist facilities within this area. These include the Ningaloo Reef and its unique marine life, spectacular coastlines, Cape Range National Park, Yardie Creek Gorge and the popular holiday location of Coral Bay.

Significant tourism, residential and fishing developments are now underway or proposed in the short term to increase the facilities available. This includes the construction of the Exmouth Marina Stage 2 development, a 4.5 star hotel at Exmouth, and numerous tourist accommodation developments at Coral Bay.

The Lyndon River crossing on the Minilya – Exmouth Road is a low-level floodway, which is subject to regular closure in wet years. This link on the Minilya - Exmouth Road has been impassable due to water over the road for 90 days since 1992 giving an average of 7 road closure days per year. The most significant closure periods being for 25 days in 1999 and 32 days in 2000. While an alternative route exists, via Burkett Road, the long periods of closure have caused concern for the local communities and the tourist operators. The alternative route is not weather proof due to low-level floodways.

The need to replace the floodway with a bridge has been recognised for sometime now. Evangelisti & Associates conducted a waterways analysis in 1995 that confirmed the need for a bridge. In 1995 the bridge construction project was planned for 2001/2002 and by 2000 the requested funds for the project had been moved to 2005/2006. Funding is now requested in 2008/2009.

The works will occur within the Shire of Exmouth.

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 the clearing of native vegetation the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required. This report fulfils this requirement.

2 DESCRIPTION OF THE PROJECT

The objective of this project is to reduce the flood impact on Service Delivery on this route due to the road being overtopped by the Lyndon River and the subsequent closures that follow this. After the bridge installation, it is anticipated that road closures on the Minilya – Exmouth Road will reduce to 1 day per year on average, and thereby improving the Level of Service to commercial traffic, tourists, pastoral stations, mines, Defence establishments and communities located in the region.

The project proposal is to construct a 90m long two-lane bridge (5 x 18m spans), 400m-relief floodway and 1.36km of road approaches to replace the existing low level crossing.

In order to construct this bridge approximately 45 000 cubic meters of fill material is required. This material will be sourced from either Section 19/256 or Section 19/257.

2.1 Project Location

The location and boundaries of the study area is shown in Figures 1 and 2 below.

Figure 1 – Project Location Map

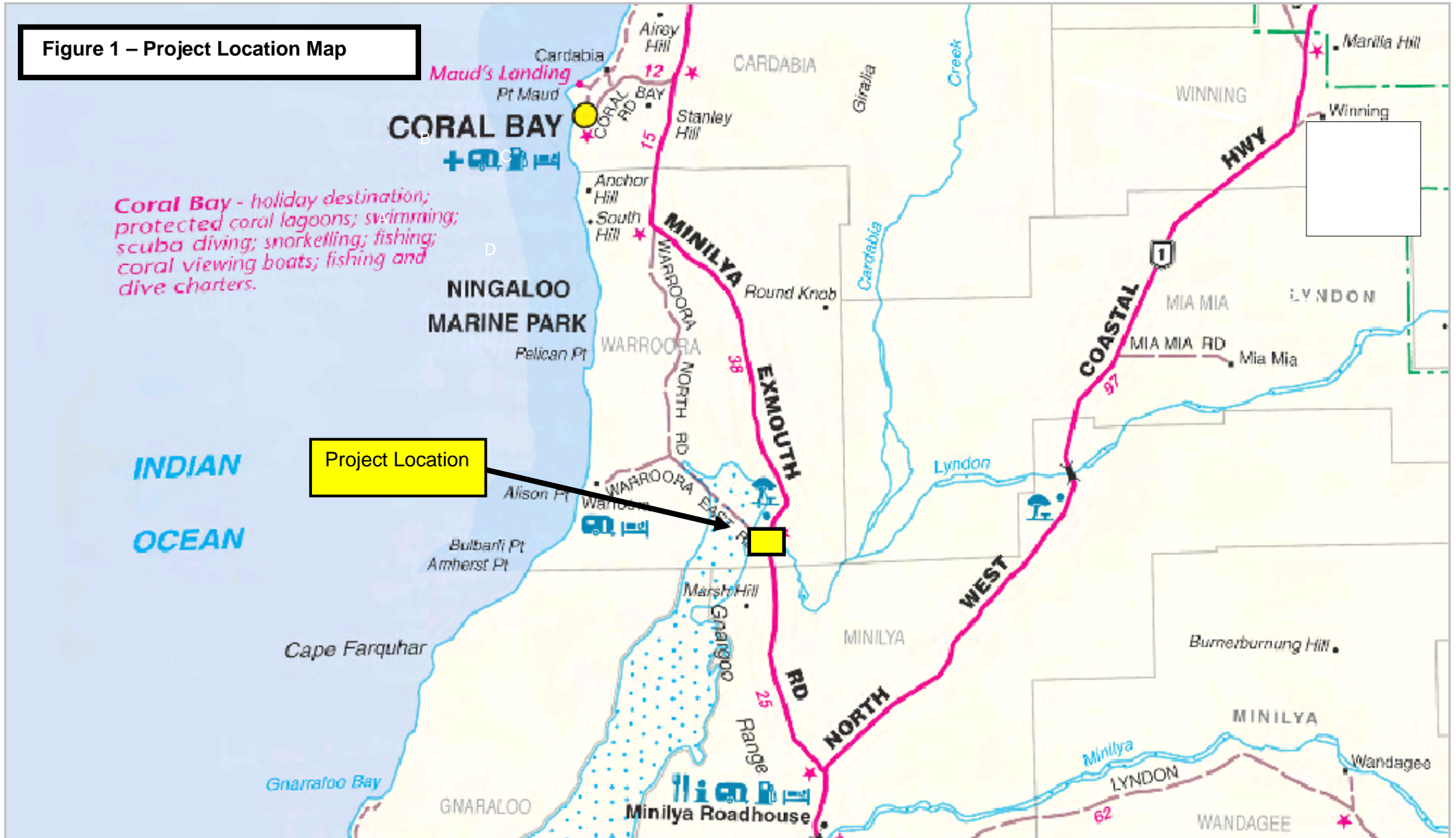
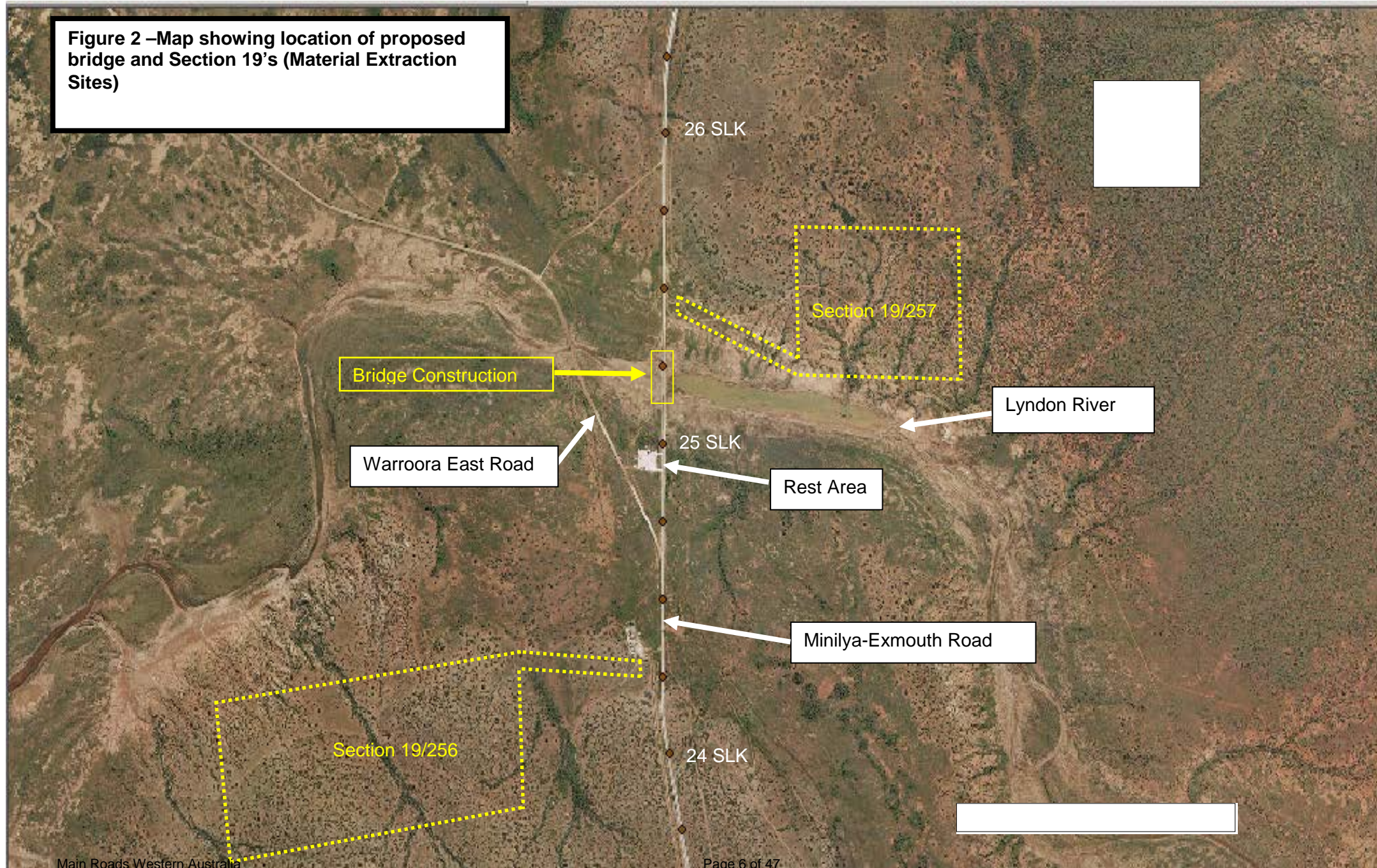


Figure 2 –Map showing location of proposed bridge and Section 19's (Material Extraction Sites)



3 METHODOLOGY

3.1 Preliminary Desktop Study

A preliminary assessment of the project area and its potential constraints was undertaken by reviewing a number of government agency managed databases (and consulting where necessary).

3.1.1 Wetlands

The locations of wetlands within the project area was determined using the Commonwealth Department of the Environmental and Heritage (DEH) mapping tool and Department of Environment and Conservation (DEC) Geographic Data Atlas mapping tool (<http://www.deh.gov.au/water/wetlands/database/index.html>).

3.1.2 Threatened Flora, Fauna and Communities, Conservation Reserves and ESAs

DEC's database was searched for known populations of threatened flora, fauna and Threatened Ecological Communities (TECs) and conservation reserves (http://portal.environment.wa.gov.au/portal/page?_pageid=53,2569721&_dad=portal&_sc_hema=PORTAL), refer to Appendix B.

3.1.3 Air Quality

The need for a local air quality assessment was determined using the criteria outlined in the MRWA environmental guideline, Air Quality.

3.1.4 Heritage

Non-indigenous heritage was examined utilising the Australian Heritage Places Inventory (<http://www.heritage.gov.au>), Heritage Council of Western Australia (<http://register.heritage.wa.gov.au/>) and the Shire of Exmouth's Municipal Heritage Inventory, refer to Appendix C.

3.1.5 Aboriginal Heritage

A Search of the Department of Indigenous Affairs' (DIA's) (<http://www.dia.wa.gov.au/Heritage/SitesSurveysSearch.aspx>) database was undertaken to determine whether the project area contains any sites of Aboriginal heritage, refer to Appendix D.

3.1.6 Sensitive Water Resources

The Commonwealth Department of the Environmental and Heritage (DEH) mapping tool and Department of Environment and Conservation (DEC) Geographic Data Atlas mapping tool was used to determine whether the project area supported, or was adjacent to, any significant lakes, rivers or wetlands or proclaimed areas.

3.1.7 Contaminated Sites

The reserve has been in Main Roads continual control; therefore no further work will be required.

3.1.8 Acid Sulfate Soils

The Western Australian Planning Commission's (WAPC's) acid sulfate soils maps were reviewed and the self assessment done (<http://www.wapc.wa.gov.au/Publications/213.aspx>) to determine what level of risk the project area is exposed to, refer to Appendix E.

3.1.9 Weeds

An onsite investigation of the project areas was undertaken to determine whether there are any known populations of declared plants or significant weeds in or adjacent to the project area.

3.1.10 Dieback

Project receives <400 mm of rain so determined not to be an issue.

4 COMMONWEALTH REFERRAL

The decision whether to refer the project to the Commonwealth's DEH was based upon whether the project would impact upon matters of national significance, e.g. World Heritage properties, protected wetlands and migratory species, Commonwealth marine areas, threatened species or communities or nuclear actions (refer to the Commonwealth webpage www.deh.gov.au/epbc/assessmentsapprovals/index.html for further information and the search tool page at <http://www.deh.gov.au/erin/ert/epbc/imap/map.html>), refer to Appendix F.

4.1 Site Investigation

A site visit was carried out by Anil Phal (Materials Manager) and Matthew Oswald (Graduate Environment Officer) on 26/07/07 to examine the general features of the area. The broad vegetation types in the vicinity of the project area were identified. Other issues that were considered included topography, the impacts on creek lines, property access and the potential for noise and vibration impacts (dilapidation).

Site photos were taken and are included in Appendix G.

5 EXISTING ENVIRONMENT

5.1 Description

The proposed works are within Vegetation Association 345 which is described as Mosaic: *Shrublands; Acacia sclerosperma & A. victoriae patchy scrub, barren / Succulent steppe; saltbush & bluebush*. According to the Native Vegetation Association Data (DEC & DAF) this vegetation association is well represented in the region with 100% remaining. The condition of the vegetation is best described as good, but somewhat degraded due to the grazing of cattle and goats.

The following lists of species were observed at the proposed material pits:

Acacia ancistrocarpa
Acacia bivenosa
Acacia gregorii
Acacia inaequilatera
Acacia linophylla
Acacia murryana
Acacia sclerosperma
Acacia subtesserogona
Acacia tetragonopylla
Acacia victoriae
Alectryon oleifolius
Aristida contorta
Baeckea cryptandroides
Brachycome ciliocarpa
Brachysema aphyllum

Cenchrus ciliaris
Cephalopterum drummondii
Clerodendrum floribundum
Corchorus walcotti
Cullen martinii
Eremophila latrobei
Eremophila platycalyx
Eremophila pterocarpa
Eucalyptus vitrix
Exocarpus aphyllus
Halosarcia doleiformis
Hakea preissii
Heterodendrum oleaefolium
Maireana tomentosa
Muehlenbeckia cunninghamii
Plectrachne schinzii
Solanum lasiophyllum
Stylobasium spathulatum
Thryptomene baeckeacea
Tribulus platypterus
Triodia basedowii

The clearing of mature trees will be avoided where possible.

There is no declared rare or threatened flora within the works area.

A weed identified within the site was Buffel Grass (*Cenchrus ciliaris*)

5.2 Site Investigation

Site Investigation	Description/Comment
Total area (ha) of <u>native vegetation</u> to be cleared	Bridge Construction = 2 (ha) Section 19/256 = 4.5 (ha) Section 19/257 = 4.5 (ha)
Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared	0
Weeds present	Buffel Grass
Drainage areas or wetlands present	None
Adjacent land uses	Pastoral

6 CLEARING OF NATIVE VEGETATION

Native vegetation describes all indigenous aquatic and terrestrial vegetation (living or dead). The term does not include vegetation that was intentionally sown, planted or propagated unless it was required under a statutory condition.

Apart from activities that are exempt under the clearing regulations, such as clearing vegetation that is less than 10 years old for maintenance, typically all Main Roads clearing will be undertaken using its Statewide Project Purpose Permit.

6.1 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 H.

The project will not be at variance with the DEC's 10 clearing principles.

6.2 Environmentally Sensitive Area (ESA)

Clearing within an Environmentally Sensitive Area (ESA)	Yes/ No	Comments
Does the area to be cleared occur within an ESA where the vegetation is in good or better condition?	No	

7 ASSESSMENT OF ASPECTS AND IMPACTS

Table 1: Aspects and Impacts – Material Pit Extension – 175 SLK – Minilya Exmouth Road

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works. Local air quality assessment is not required for the project area since: <ul style="list-style-type: none"> residential and other sensitive receptors are not within 200 meters of the road centre.
Dust	Likely to be a minor issue during earthworks. No sensitive receptors near the work sites.
Fauna	No significant fauna issues associated with any of the proposed works. DEC website search resulted in the, Australian Bustard and Bush Stonecurlew as possibly occurring within the project area. These species were not observed within the project area. Given the small area of clearing and the mobile nature of the species, no impacts are expected. No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted. The Mulgara was listed as possibly occurring within the area, but given the highly mobile nature of the species no impacts are expected.
Vegetation – clearing	<ul style="list-style-type: none"> Approximately 11 hectares of native vegetation will be cleared for the construction of the bridge and the sourcing of materials. The project will involve temporary clearing and therefore will require a revegetation plan. The condition of the native vegetation to be cleared is good. The native vegetation to be cleared is well represented regionally 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	There were no search results from the DEC for threatened flora or declared rare flora within the project location. There were several priority species that resulted from the WA Herberium search, but none of those species are expected to be impacted upon, based upon the field flora survey. The search under Matters of National Environmental Significance as protected under EPBC Act (1999) did result in <i>Pityrodia augustensis</i> (Mt Augustus Foxglove) for the project; however based upon site visit and conformation from the DEC FloraBase Database, this species will not be impacted. Known specimens have been collected and recorded further in the interior of the region and its distribution does not occur so close to the coast.
Vegetation – weeds	The only weed species observed throughout the project areas was <i>Cenchrus ciliaris</i> (Buffel Grass) which is now widespread throughout the northern regions.
Vegetation – dieback	Not an issue given the project area receives less than 400 mm of average annual rainfall and is above the 26° parallel.
Reserves / Conservation areas	There are no conservation areas or reserves adjacent to the project area.
Heritage (non-indigenous)	A search of the Australian Heritage Places Inventory, Heritage Council of Western Australia and the Shire of Carnarvon's Municipal Heritage Inventory on-line databases has indicated that there are no heritage significance listed sites present in the currently proposed works areas.
Aboriginal heritage	A search of DIA database identified no known sites of Aboriginal heritage significance within the vicinity of the project area.
Surface water/drainage	On-site visit and DEH search confirmed that the proposed works will not interrupt any natural drainage and surface run-off patterns.
Wetlands	There are no wetlands within the vicinity of the project areas.

Table 1: Aspects and Impacts – Material Pit Extension – 175 SLK – Minilya Exmouth Road

Aspect	Evaluation of Potential Impacts
Groundwater	No dewatering nor drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	There are no sensitive local receivers near the project areas.
Visual amenity	The proposed works will result in minor and short-term visual impacts during construction. Suitable site completion treatments, including rehabilitation, will result in an improvement in local visual amenity.
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 no risk of any significant contamination issues.
Salinity	Given the nature and scale of the project the impact is not relevant.
Acid Sulfate Soils	The WAPC's self-assessment (Planning Bulletin 64) indicates that no further soil investigation is required for the project.
Statutory Land Use Planning	Main Roads Gascoyne Region has material areas registered with the Department of Industry and Resources as a Section 19. These areas are therefore vested with MRWA.

8 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 and Heritage.

9 STAKEHOLDER CONSULTATION

Name	Agency	Date	Comments
Bridgitte Long (Flora) Kellie Mantle (Fauna)	DEC DEC	27/09/07 28/09/07	

10 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.

This EMP will only address the actions already listed as well as any site-specific issues that were identified during the PEIA. The project specific management measures identified within this EMP are in addition to the standard specifications used for Category 2 projects. The environmental management measures/conditions in Main Road's Specifications 203, 204, 301, 302 and 304 are still to be followed where applicable.

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.

10.1 Communication Plan

Environmental issues specific to the project will be communicated as:

Method	Frequency	Participants	Reference	Record
Project Site				
Induction	Prior to Work	All personnel and subcontractors	EMP and Contractor Environmental Policy	Induction Meeting
Authority Consultation				
Department of Environment and Conservation	As required	Main Roads' Project Manager and Contractor Project Manager	-	Minutes of meeting

10.1.1 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.

11 MONITORING

After project completion, revegetated areas will be inspected every six months for the first two years to ensure weed spread or establishment has not occurred and to measure the effectiveness of revegetation works.

Monitoring of the weeds identified in the project area will comprise the use of input criteria listed below.

Criterion	Target	After three months	After one year	After three years
Mean weed foliage cover (%).	<20	<20	<20	<20

12 CONTINGENCY MEASURES

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

13 AUDITING

Given the scale and nature of the project, there is no requirement for auditing the implementation of the EMP as the environmental risks are small.

14 REFERENCES

Mitchell, A. A. and Wilcox, D. G. (1994) *Arid Shrubland Plants of Western Australia*, Second and Enlarged Edition. University of Western Australia Press, Nedlands, Western Australia. ISBN 1-874460-22-X.

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 in an ESRI Shapefile; the size of the area cleared (in hectares); and the dates on which the clearing was done. 	Project Manager	DEC
			Revegetation and rehabilitation of areas: <ul style="list-style-type: none"> a copy of each Revegetation Plan; a map showing the location of any area revegetated and rehabilitated recorded in an ESRI Shapefile; a description of the revegetation and rehabilitation activities undertaken; and the size of the area revegetated and rehabilitated (in hectares). 	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; and Ensure the retention of as many habitat trees, shrubs and vegetated corridors for fauna as possible, particularly where associated with riparian zones.	Selection of designs/locations that minimise adverse impacts on the biological environment.	Project Manager	Main Roads
			Construction works to be undertaken in summer to reduce the potential for soil erosion and drainage line siltation due to vegetation removal and heavy rains.	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.	Contractor	Main Roads
			Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be used during any rehabilitation works and either chipped or replaced according to the EMP.	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.	Contractor	Main Roads
			Works associated with the construction of the development should not prevent public access along the adjacent reserve. Public access should be maintained along the reserve at all times.	Contractor	Main Roads
			Any complaints regarding dust will be attended to as soon as possible.	Contractor/Project Manager	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

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	Topic	Objective	Action	Responsible Party	Advice
Construction	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
			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
Construction	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
Construction	Site Management	Ensure that the site is managed to ensure that construction of the proposal will have minimal impact upon the surrounding environment.	Materials storage areas will be located on previously disturbed/ designated area.	Contractor	Main Roads
Post-Construction	Rehabilitation	Leave the project area free from debris; and Rehabilitate the project area so that the revegetated area provides a net increase in area of native vegetation at the site.	Replace the cleared trees with locally occurring natives.	Contractor	Main Roads
			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

Appendix A

Low Impact Environmental Screening Checklist

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 Lyndon River Upgrade - Bridge Construction - 25.20 SLK Minilya - Exmouth Rd

ITEM NO.	ITEM	Y	N
1	New road or road reserve to be created or expansion of existing road reserve.		X
2	Works require clearing of native vegetation outside the maintenance zone.	X	
3	Works require clearing of native vegetation that is older than 10 years old within the maintenance zone.		X
4	Works to occur outside normal working hours.		X
5	Passes over, adjoins or drains directly into a wetland or sensitive watercourse.	X	
6	Local natural drainage regime / hydrology will be changed.		X
7	Dewatering, or a new water bore required.		X
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)		X
9	Buildings will require demolition.		X

Completed By:
 Signature [Signature] Date 26/9/07
 Name Srinath Fernando Title Project Manager

To be reviewed by
 a Main Roads
 Environment Officer
 Signature [Signature] Date 26/9/07
 Name Matthew Oswald Title EO

Comments: Project will be delivered using a PEIA.

Appendix B

DEC's Threatened Flora and Fauna Database Searches

OSWALD Matt (GEnv)

From: Long, Bridgitte [Bridgitte.Long@dec.wa.gov.au]
Sent: Thursday, 27 September 2007 11:14 AM
To: OSWALD Matt (GEnv)
Subject: RE: DEC Flora Database Search - Lyndon River - Minilya Exmouth Road
Attachments: LyndonRiver_waherb_270907.dbf; LyndonRiver_drf&plist_270907.doc; LyndonRiver_letter_270907.doc

Hi Matthew

Please find attached the results from the WA Herbarium database and the Declared Rare Flora and Priority Species List for the Lyndon River area. Note that there were no results from the Threatened (Declared Rare) Flora Database.

Please refer to the attached letter for the conditions in relation to the supplied data.

Regards

Bridgitte Long
Threatened Flora Database Officer
Species and Communities Branch
Department of Environment and Conservation
Ph (08) 9334 0123 Fax (08) 9334 0278
bridgitte.long@dec.wa.gov.au

From: OSWALD Matt (GEnv) [mailto:matthew.oswald@mainroads.wa.gov.au]
Sent: Wednesday, 26 September 2007 11:24 AM
To: Long, Bridgitte
Subject: DEC Flora Database Search - Lyndon River - Minilya Exmouth Road

Bridgitte,

Main Roads Gascoyne Region is proposing to upgrade the low level crossing at Lyndon River along Minilya Exmouth Road in order to reduce road closer times during heavy rainfall events.

As per our Purpose Permit requirements, I now seek your assistance in undertaking a Threatened Flora Search.

The co-ordinates for the site are as follows (data in GDA 94 - Zone 49):

SW Corner
0802461
7392542

NW Corner
0802475
7394654

NE Corner
0802668
7394631

SE Corner
0802658
7392575

Thanks for your assistance in the matter.

Regards,

Matthew Oswald
Environment Officer
Main Roads Western Australia
Gascoyne Region

2/10/2007

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
DECLARED RARE AND PRIORITY FLORA LIST
21 December 2006

SPECIES / TAXON	CONS CODE	CALM REGION	DISTRIBUTION	FLOWER
				PERIOD
Abutilon sp. Quobba (H Demarz 3858)	2	MW,P	Quobba, Cape Range, Minilya	Jul-Oct
Acacia startii	3	MW,P	Cape Range, Rough Range, Minilya River, Bullara Station	Jul-Aug
Beyeria cygnorum	3	MW	Murchison River, Kalbarri, Warroora Stn, Nov Coolimba, Tamala Stn	
Bulbine pendula ms	3	P	Rudall River, Mt Augustus Stn, Minilya River, Juna Downs, Hamersley Stn, Cobra	
Crinum flaccidum	2	MW,P,*	Yardie Creek, Minilya, Cape Range, Eastern States	May
Gymnanthera cunninghamii	3	MW,P,*	Minilya, Dampier Archipelago, Boodarie, 80 Mile Beach, NT, Qld	Apr,Dec
Owenia acidula	3	P,*	Mardie Stn, Millstream, Collier Range, Winning Stn., Minilya Stn, Boolathana Stn, Qld, NSW	Aug
Rumex crystallinus	2	MW,GLD, *	Lyndon River, Carnarvon, Rowles Lagoon. All other States	

OSWALD Matt (GEnv)

From: Mantle, Kellie [Kellie.Mantle@dec.wa.gov.au]
Sent: Friday, 28 September 2007 3:30 PM
To: OSWALD Matt (GEnv)
Attachments: raref_MainRoads_Oswald15.pdf; raref_MainRoads_Oswald.doc

Hi Matt

Please find attached the results of the threatened and priority fauna database search in the vicinity of Lyndon River and Minily Exmouth Rd.

Threatened fauna are poorly sampled in this region so I extended the search area by ~50km to capture some records.

Let me know if you have any questions about the information supplied.

Thanks,
Kellie

*Kellie Mantle
Species and Communities Branch
Department of Environment and Conservation
Phone (08) 93340579
Fax (08) 93340278*

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Threatened and Priority Fauna Database

23.3537 °S 113.9258 °E / 23.91 °S 114.5781 °E Mingly Exmouth Rd/Lyndon R (plus~50km buffer)

<i>Date</i>	<i>Certainty</i>	<i>Seen</i>	<i>Location Name</i>	<i>Method</i>
Priority Four: Taxa in need of monitoring				
<i>Ardeotis australis</i>			Australian Bustard	<i>1 records</i>
This species is uncommon and may occur in open or lightly wooded grasslands.				
1979	1	1	Mia Mia	Day sighting
<i>Burhinus grallarius</i>			Bush Stonecurlew	<i>1 records</i>
A well camouflaged, ground nesting bird which prefers to 'freeze' rather than fly when disturbed. It inhabits lightly timbered open woodlands.				
1974	1	1	Wandagee	Night sighting

- * Information relating to any records provided for listed species:-
 - Date: date of recorded observation
 - Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.
 - Seen: Number of individuals observed.
 - Location Name: Name of reserve or nearest locality where observation was made
 - Method: Method or type of observation

Appendix C

Australian Heritage Places Inventory, Heritage Council of Western Australia and the Municipal Heritage Inventory Database Searches

AUSTRALIAN HERITAGE PLACES INVENTORY

[[New Search](#)]

No records matched your query.

Report produced : 26/9/2007

AHPI URL : <http://www.heritage.gov.au/ahpi/search.html>

HERITAGE COUNCIL OF WESTERN AUSTRALIA

[HERITAGE COUNCIL](#)

[PLACES DATABASE](#)

[HERITAGE TRAILS](#)

[HELP](#) | [MEDIA](#) | [NEWS HIGHLIGHTS](#) | [CONTACT US](#)

[ABOUT](#) | [REGISTRATION](#) | [DEVELOPMENT](#) | [INSURANCE](#) | [ASSISTANCE](#) | [PUBLICATIONS](#) | [CASE STUDIES](#) | [EDUCATION](#) | [COMMUNITY](#) | [HERITAGE TRAILS](#)

PLACES DATABASE ACTIONS:

[QUICK SEARCH](#)
[ADVANCED SEARCH](#)
[▶ RESULTS LIST](#)
[LOCATION REPORT](#)
[SAVE DATA](#)

There are no Places matching your search criteria.

If you'd like to perform a new search, please select a new Places database search, from the menu on the left side.

[▲ top of page](#) [\[disclaimer \]](#) © copyright 2007 heritage council of western australia

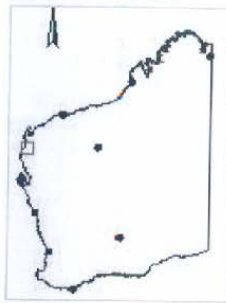
OTHER REGISTER INFORMATION:

[WHAT IS THE STATE REGISTER?](#)
[OTHER HERITAGE LISTS](#)

Appendix D

Department of Indigenous Affairs Database Search

show legend

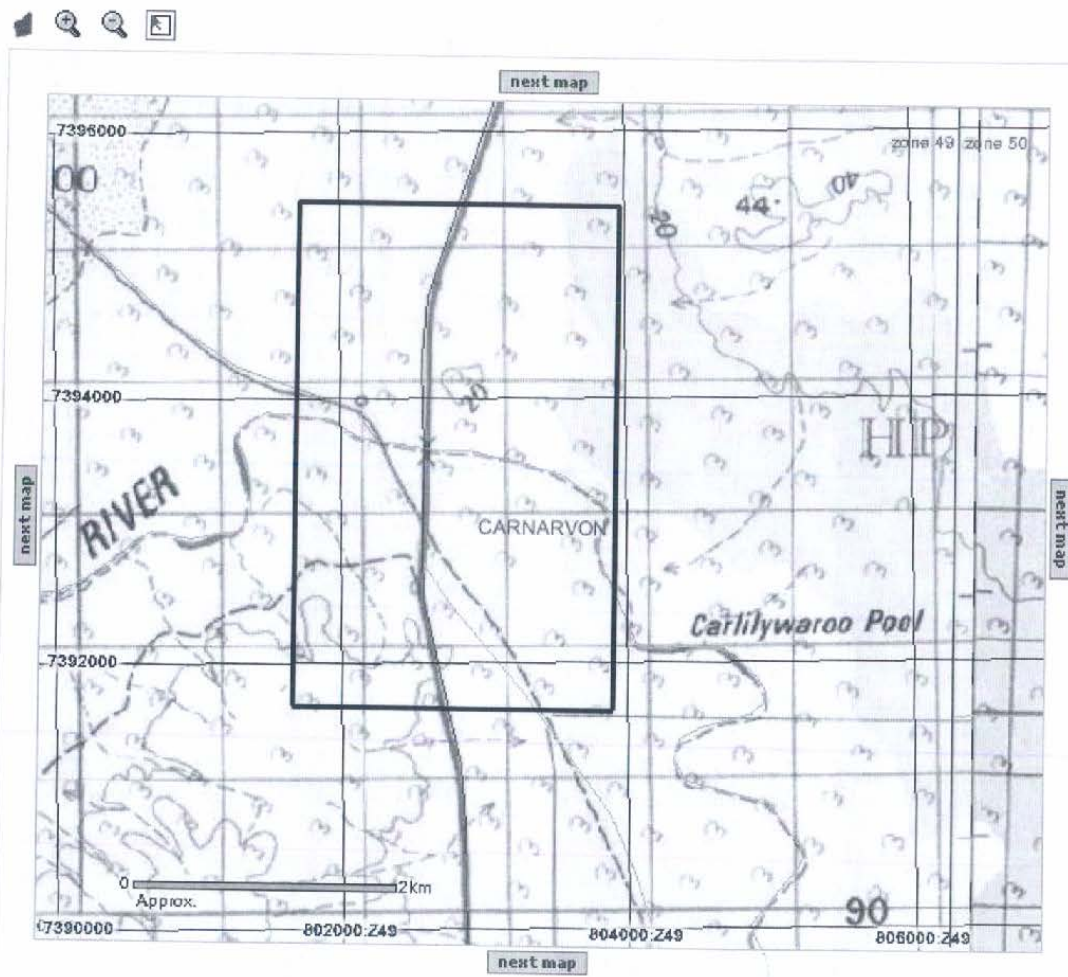


Show on map

- Aboriginal Sites
 - Heritage Surveys
- refresh more

Map size

- Small
- Medium
- Large



Sites in a search box

Aboriginal Heritage Sites found: 0

X Clear Results

Printable - All results (with map)

Appendix E

WAPC's Acid Sulfate Soils Self Assessment Form



Acid Sulfate Soils Applicant Self-Assessment Form



Important information for applicants

This form need only be completed if there is evidence of significant risk of disturbing acid sulfate soils at this location or having completed Form 1A - Application for approval of freehold subdivision or survey strata you have indicated yes to either question 1 or 2, Acid sulfate soils assessment, section 7.

Applicant

The applicant is the person with whom the WAPC will correspond and, if the application is approved, the person to whom the approval will be sent.

Full name

Applicant signature Date

Application property details

Step 1

If you have previously indicated yes to question 1 or 2 on Form 1A go to Step 2.

Is there evidence of a significant risk of disturbing acid sulfate soils at this location?

The WAPC has published maps showing the levels of risk of acid sulfate soils. The maps are shown on figures 1-11 of planning bulletin no. 64 can be downloaded at www.wapc.wa.gov.au/Publications/213.aspx

Question 1: Is the land depicted in figures 1-11 of the WAPC's Planning Bulletin No 64 Acid Sulfate Soils as having a high risk of actual acid sulfate soil and potential acid sulfate soil <3m from the surface? yes no

Question 2: Is the land located in an area, whether depicted in figures 1-11 or not, where site characteristics and local knowledge lead you to form the view that there is a significant risk of disturbing acid sulfate soils at this location? yes no

If yes to either of these questions go to Step 2.

If no to both of these questions then no further investigation is required. Sign this form and submit it with your application together with the written results of the preliminary site assessment.

Step 2

Are any of the following works proposed, or likely to be carried out, on the land?

Question 3: Are any dewatering works proposed to be undertaken? yes no

Question 4: Is the surface elevation $\leq 5m$ AHD and is excavation of $\geq 100m^3$ of soil (ie 10 standard dump truck loads) with an excavation depth of $\geq 2m$ proposed? yes no

Question 5: Is the surface elevation $> 5m$ AHD and is excavation of $\geq 100m^3$ of soil (ie 10 standard dump truck loads) with an excavation depth of $\geq 2m$ proposed? yes no

If yes to any of these questions go to step 3.

If no to all of these questions no further investigation is required. Sign this form and submit it with your application.

Step 3

Carry out preliminary site assessment in accordance with Department of Environment and Conservation guidelines.

Note: Copies of documents in the acid sulfate soils guidelines series and further technical advice and information can be obtained from contaminated sites page on the Department of Environment and Conservation's website at <http://www.dec.wa.gov.au>

Question 6: Did the preliminary site assessment reveal the presence of acid sulfate soils? yes no

If yes to this questions go to step 4.

If no to this questions then no further investigation is required. Sign this form and submit it with your application together with the written results of the preliminary site assessment.

Appendix F

Department of the Environment and Heritage Database Search & Heritage Survey



Protected Matters Search Tool

You are here: [Environment Home](#) > [EPBC Act](#) > [Search](#)

26 September 2007 12:04

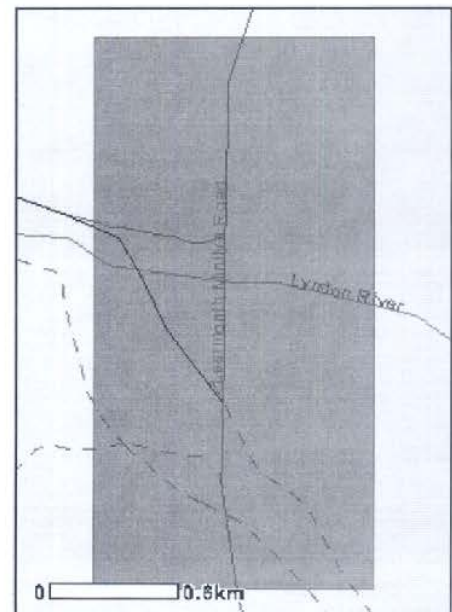
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at <http://www.environment.gov.au/atlas> may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at <http://www.environment.gov.au/epbc/assessmentsapprovals/index.html>

Search Type: Area
Buffer: 0 km
Coordinates: -23.528549,113.958433, -23.553782,113.958433, -23.553782,113.971099, -23.52854,113.971099



Report Contents: [Summary](#)
[Details](#)

- [Matters of NES](#)
- [Other matters protected by the EPBC Act](#)
- [Extra Information](#)

[Caveat](#)
[Acknowledgments](#)

This map may contain data which are
© Commonwealth of Australia
(Geoscience Australia)
© 2007 MapData Sciences Pty Ltd, PSMA

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#) - see

<http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Significance: (Ramsar Sites)	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	2
Migratory Species:	10

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at <http://www.environment.gov.au/epbc/permits/index.html>.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Places on the RNE:	None
Listed Marine Species:	8
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

Details

Matters of National Environmental Significance

Threatened Species [[Dataset Information](#)]

Status Type of Presence

Mammals

Dasyercus cristicauda *
Mulgara

Vulnerable Species or species habitat likely to occur within area

Plants

Pityrodia augustensis *
Mt Augustus Foxglove

Vulnerable Species or species habitat likely to occur within area

Migratory Species [[Dataset Information](#)]

Status Type of Presence

Migratory Terrestrial Species

Birds

Haliaeetus leucogaster
White-bellied Sea-Eagle

Migratory Species or species habitat likely to occur within area

Hirundo rustica
Barn Swallow

Migratory Species or species habitat may occur within area

Merops ornatus *
Rainbow Bee-eater

Migratory Species or species habitat may occur within area

Migratory Wetland Species

Birds

Ardea alba
Great Egret, White Egret

Migratory Species or species habitat may occur within area

Ardea ibis
Cattle Egret

Migratory Species or species habitat may occur within area

Charadrius veredus
Oriental Plover, Oriental Dotterel

Migratory Species or species habitat may occur within area

Numenius minutus
Little Curlew, Little Whimbrel

Migratory Species or species habitat may occur within area

Migratory Marine Birds

Apus pacificus
Fork-tailed Swift

Migratory Species or species habitat may occur within area

Ardea alba
Great Egret, White Egret

Migratory Species or species habitat may occur within area

Ardea ibis
Cattle Egret

Migratory Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [[Dataset Information](#)]

Status Type of Presence

Birds

Apus pacificus
Fork-tailed Swift

Listed - overfly marine area Species or species habitat may occur within area

Ardea alba
Great Egret, White Egret

Listed - overfly marine area Species or species habitat may occur within area

Ardea ibis
Cattle Egret

Listed - overfly marine area Species or species habitat may occur within area

<i>Charadrius veredus</i> Oriental Plover, Oriental Dotterel	marine area Listed - overfly marine area	Species or species habitat may occur within area
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
<i>Hirundo rustica</i> Barn Swallow	Listed - overfly marine area	Species or species habitat may occur within area
<i>Merops ornatus</i> * Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area
<i>Numenius minutus</i> Little Curlew, Little Whimbrel	Listed - overfly marine area	Species or species habitat may occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the *Environment Protection and Biodiversity Conservation Act 1999*. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under "type of presence". For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the migratory and marine provisions of the Act have been mapped.

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants

- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites;
- seals which have only been mapped for breeding sites near the Australian continent.

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Acknowledgments

This database has been compiled from a range of data sources. The Department acknowledges the following custodians who have contributed valuable data and advice:

- New South Wales National Parks and Wildlife Service
- Department of Sustainability and Environment, Victoria
- Department of Primary Industries, Water and Environment, Tasmania
- Department of Environment and Heritage, South Australia Planning SA
- Parks and Wildlife Commission of the Northern Territory
- Environmental Protection Agency, Queensland
- Birds Australia
- Australian Bird and Bat Banding Scheme
- Australian National Wildlife Collection
- Natural history museums of Australia
- Queensland Herbarium
- National Herbarium of NSW
- Royal Botanic Gardens and National Herbarium of Victoria
- Tasmanian Herbarium
- State Herbarium of South Australia
- Northern Territory Herbarium
- Western Australian Herbarium
- Australian National Herbarium, Atherton and Canberra
- University of New England
- Other groups and individuals

ANUCLIM Version 1.8, Centre for Resource and Environmental Studies, Australian National University was used extensively for the production of draft maps of species distribution. Environment Australia is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Last updated:

Department of the Environment and Water Resources
 GPO Box 787 Canberra ACT 2601 Australia
 Telephone: +61 (0)2 6274 1111

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MAIN ROADS ABORIGINAL SITE CONSULTATION SHEET

MRWA Project: Minilya Station Fencing-4 to 24 SLK Minilya-Exmouth Road, Section 19/256 & Section 19/257

Consultation Details:	Venue:	Minilya Exmouth Road	
	Time:	0800 - 1530	
	Aboriginal Group Name:	Gnulli	
Name of Group Member	Signature of Group Member	Date	
Brent Roberts	<i>Brent Roberts</i>	8/10/07	
Brent Roberts	<i>Brent Roberts</i>	8/10/07	
Clint Roberts	<i>Clint Roberts</i>	8/10/07	
Ryan Roberts	<i>Ryan Roberts</i>	8/10/07	

Main Roads has consulted with the above members of the Gnulli group with regards to Fencing along Minilya Station & Section 19's 256 & 257

Main Roads' Officer (s), Matthew Oswald was/were onsite during the consultation to explain the nature of the works and describe the impacts these works will have.

The group then made the following comments/recommendations:

There are no issues with the survey area's.

Project has the approval of the Gnulli to proceed.

Appendix G

Site Photos



Photograph 1. 24.17 SLK – Minilya Exmouth Road. North View.



Photograph 2. 24.17 SLK – Minilya Exmouth Road. North View (100m LHS)



Photograph 3. 24.17 SLK – Minilya Exmouth Road. North View (100m RHS)



Photograph 4. 26.26 SLK – Minilya Exmouth Road. LHS. South View.



Photograph 5. 26.26 SLK – Minilya Exmouth Road. RHS. South View.



Photograph 6. 25.23 SLK – Minilya Exmouth Road. Lyndon River Crossing. RHS. North View.

Appendix H

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 Gascoyne Region**
 Contacts: Name: Matthew Oswald
 Phone: (08) 9941 0713
 Fax: (08) 9941 0701
 Email: matthew.oswald@mainroads.wa.gov.au

Property details

Property: Lyndon River Bridge – Minilya Exmouth Road 25.20 SLK ,Section 19/256 & Section 19/257
 Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
~11	0	Mechanical	Construction & Road Building Materials	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

Areas for extension have been carefully selected based upon preliminary material investigation.

BACKGROUND

The proposed works are within Vegetation Association 345 which is described as Mosaic: Shrublands; Acacia sclerosperma & A. victoriae patchy scrub, barren / Succulent steppe; saltbush & bluebush. According to the Native Vegetation Association Data (DEC & DAF) this vegetation association is well represented in the region with 100% remaining. The condition of the vegetation is best described as good, but somewhat degraded due to the grazing of cattle and goats.

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 checked="" type="checkbox"/> Yes <input 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
98	Mechanical	Good	

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 at variance to this Principle
 The area under application predominantly consists of grasses and a few scattered shrubs. The condition of the vegetation is somewhat degraded and does not represent a high level of biodiversity. This proposal is therefore not at variance with this Principle.

Methodology Site visit (26/07/07)
 GIS Databases:
 - Interim Biogeographic Regionalisation of Australia – 23/09/07.

(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 at variance to this Principle
 The area under application predominantly consists of grasses and a few scattered shrubs. The condition of the vegetation is somewhat degraded and does not represent a significant habitat for fauna. The DEC search resulted in Australian Bustard and Bush Stonecurlew as possibly occurring within the project area. Due to the relatively small clearing area necessary for

the Bridge construction and material extraction, impact to fauna species will be marginal. This proposal is therefore not at variance with this Principle.

Methodology Site visit (26/07/07)
DEC advice – 28/09/07

(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**
DEC Threatened Flora Database search was conducted and no rare flora was known to exist within the project areas. Also based upon a site visit, no rare flora species were identified. It is therefore unlikely that the vegetation under application is necessary for significant flora. This proposal is therefore not at variance with this Principle.

Methodology Site visit (24/07/07)
GIS Databases:
- Declared Rare and Priority Flora list – DEC 28/09/07

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments **Proposal is not at variance to this Principle**
There are no records of Threatened Ecological Communities (TEC'S) for the area under application. This proposal is therefore not at variance with this Principle.

Methodology GIS Databases:
- Threatened Ecological Communities – DEC 25/09/07

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

Comments **Proposal is not at variance to this Principle**
The project area occurs within Vegetation Association 662 of which 100% of the pre-European extent remains. This vegetation association is therefore of 'least concern' for biodiversity conservation. This proposal is therefore not at variance with this Principle.

Methodology GIS Databases:
- Interim Biogeographic Regionalisation of Australia – 25/09/07
- Pre-European Vegetation

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

Comments **Proposal is likely not be at variance to this Principle**
The area under application does not consist of a wetland, however clearing will occur within a watercourse in order to construct the bridge. Riparian vegetation associated with the water course consists mainly of Samphire (*Haloscarcia doleiformis*) which is wide spread throughout the project area and its distribution is associate more with the surrounding saline soils than the watercourse itself.

The Lydon river is an intermittant watercourse that does not hold water all year round, and normally only runs after heavy downfalls associated with cyclonic activity.

Clearing will be kept to a minimal in order to reduce any environmental impacts. Clearing width will be no more than 50 meters on either side of the existing seal.

This proposal is therefore likely to not be at variance with this Principle.

Methodology Site visit (26/07/07)
DEC's web based Geographic Data Atlas mapping tool
GIS Databases:
- Hydrography, linear
- Hydrographic Catchments – Catchments

(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 area under application consists of clayey soils. Given the small clearing footprint and that the vegetation consists mainly of grasses and a few scattered shrubs (with 100% of pre-European vegetation remaining), the proposal is not at variance with this principle.

Methodology Site visit (26/07/07)
GIS Databases:

(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**
The proposed project is not near any conservation areas and therefore is not at variance with this Principle.

Methodology Site Visit (26/07/07)
DEC's web based Geographic Data Atlas mapping tool

(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 area under application only receives approximately 300mm of annual rainfall. Due to the low rainfall rate, this proposal will not cause deterioration in the quality of surface or under ground water and therefore not a variance to this Principle.

Methodology Site Visit (26/07/07)
DEC's web based Geographic Data Atlas mapping tool
Rainfall, Mean Annual – BOM 25/09/07

(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 soil consists of clayey soils. In addition the area under application only receives approximately 300mm of annual rainfall. Due to the nature of the soil and the low rainfall rate, these proposals will not exacerbate the incidence of flooding and therefore is not at variance with this Principle.

Methodology Site Visit (26/07/07)
Rainfall, Mean Annual – BOM 25/09/07

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

Comments

There is no further requirement for a RIWI Act Licence, Works Approval or EP Act Licence for the area under application.

Methodology

SUBMISSIONS

If required have submissions been requested and addressed

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

ASSESSOR'S RECOMMENDATIONS

OFFICER PREPARING REPORT

Matthew Oswald (Graduate Environment Officer)
Gascoyne Regional Office MRWA
Phone 08 9941 0713

Date 02/09/07