

**PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND
ENVIRONMENTAL MANAGEMENT PLAN
CORAL BAY PROPOSED BORROW PIT AREAS (2.4 AND 11 SLK)**



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PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

CORAL BAY PROPOSED BORROW PITS

ENVIRONMENTAL MANAGEMENT PLAN

1. INTRODUCTION

MRWA has been asked to undertake the management and construction of associated facilities being:

- Upgrade the Coral Bay Road/Minilya-Exmouth Road intersection to cater for Double Road Train access for cartage of fuel to the power station.
- Upgrade Sanctuary Drive, including the intersection with Coral Bay Road, and extend to the Water Corporation site. (Approximately 1.5km).

MRWA has undertaken to act as the constructing authority for these roadworks, on behalf of the Department of Planning and Infrastructure, the Shire of Carnarvon, Horizon Power and Water Corporation.

2. DESCRIPTION OF THE PROJECT

The Department of Planning and Infrastructure (DPI) are proposing the development of a new boat launching facility north of Monck Head, approximately 1.5 kilometres south of the Coral Bay town site.

Key features of the proposed new facility and associated infrastructure include:

- An offshore rubble mound with integrated boat launching ramps. This rubble mound provides turning space for vehicles and boat trailers, a loading area for transferring vessels, and a coach/disability set down point. No permanent parking is located on this mound.
- A causeway and embankment linking the offshore rubble mound with the mainland (approximately 75m long).

DPI have approached Main Roads Western Australia (MRWA) and requested they undertake the management and construction of associated facilities being:

- A car and trailer parking facility for approximately 100 to 120 vehicles (approx 10,000m²). The parking area is to be located at the eastern end of the approach embankment to the island causeway.
- Construction to seal standard of an existing access track to link the car park with Banksia Drive (approximately 1.5km). (The first 600m or so, starting from Banksia drive, will largely coincide with the existing track. The proposed access road is to be 7.4m sealed width with 0.9m shoulders and a 20m wide road reserve).
- Partial extension at the western end of Banksia Drive to the rear boundary of the Ningaloo reef Resort (approx 0.7km).

Carnarvon Shire have approached MRWA requesting that whilst other works are being undertaken in the area that remedial works be undertaken to:

- Banksia Drive from the intersection with Coral Bay road through to the boating facility access road intersection be brought up to seal standard, including the upgrading of Coral Bay Road/Banksia Drive intersection to cater for road train access.

All of these works require considerable amounts of road construction material. Two proposed gravel pits are located along Coral Bay Road at 2.4 SLK and 11.0 SLK. The 2.4 SLK pit is approximately 1800m X 600m giving an area of 108 hectares, while 11.0 SLK pit is 2000m X 700m giving an area of 140 hectares. The 11.0 SLK pit will be the priority pit with 2.4 SLK pit being used if there is a shortage of good road base material. The proposed borrow pit area at 2.4 SLK is dissected through the middle by Coral Bay Road.

It should be noted that although a search area of 248 hectares for materials has been given, the total quantity for road building material is 20,000 cubic meters, requiring approximately 8-10 hectares of clearing.

3. PROJECT LOCATION

Coral Bay is a small coastal tourist settlement adjacent to the Ningaloo Reef and situated approximately 1,200 km north of Perth, on the southern shore of Bills Bay, North West Cape, Western Australia.

The location and boundaries of the study area are shown in Figures 1 and 2 and include the following features:

- Banksia Drive and Sanctuary Drive Upgrade
- Monck Head Boat Ramp
- 11.0 SLK Material Pit to the east of Banksia Drive
- 2.4 SLK Material Pit to the west of Minilya-Exmouth Road

Figure 1 Location of 11 SLK Material Pit

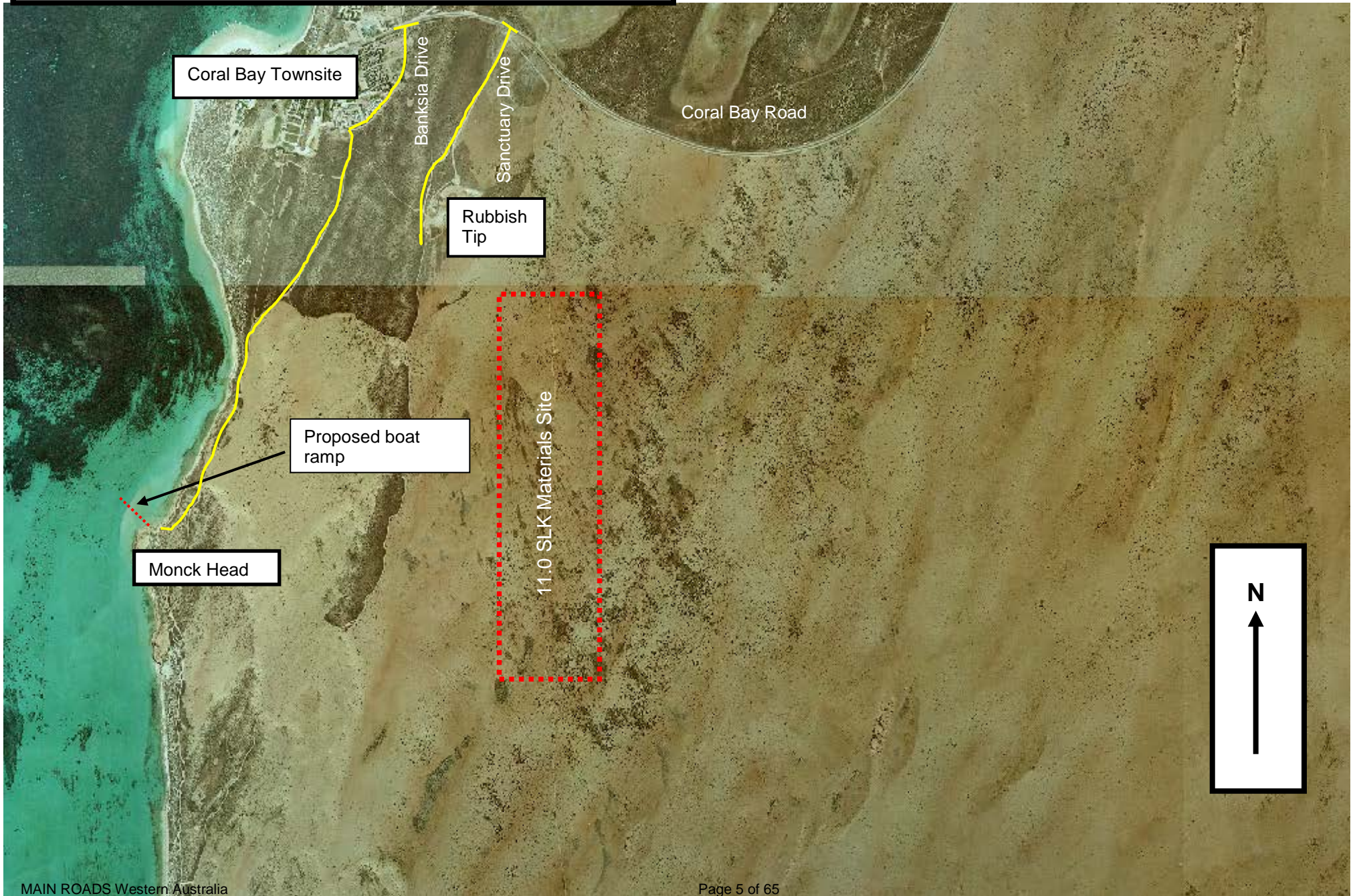
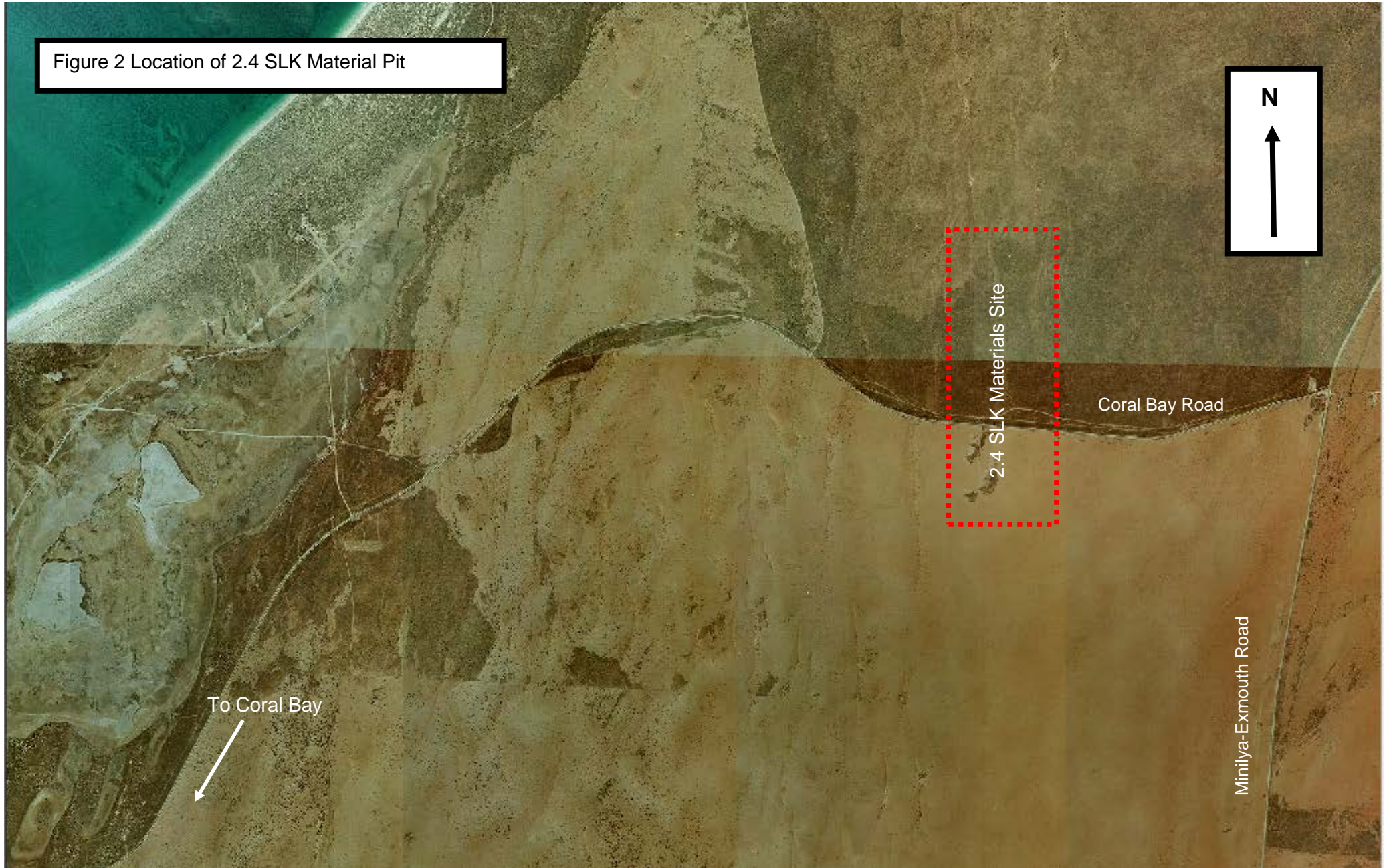


Figure 2 Location of 2.4 SLK Material Pit



4. Methodology

4.1 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).

4.1.1 Wetlands

The locations of wetlands within the project area was determined using the Commonwealth Department of the Environmental and Heritage (DEH) mapping tool, Department of Environment and Conservation (DEC) Geographic Data Atlas mapping tool.

4.1.2 Threatened Flora, Fauna and Communities, Conservation Reserves and ESAs DEC's database (DEC will need to be contacted directly in this case) was searched for known populations of threatened flora, fauna and Threatened Ecological Communities (TECs) and conservation reserves, refer to Appendix B.

4.1.3 Air Quality

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

4.1.4 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/Town/City of <Name>'s Municipal Heritage Inventory, refer to Appendix C.

4.1.5 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.

4.1.6 Sensitive Water Resources

Given the arid location and environment of the project area, no sensitive water resources are present.

4.1.7 Contaminated Sites

Given the general remoteness of the site and the relatively untouched condition of the vegetation, no contaminated sites would be expected in the works area.

4.1.8 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.

4.1.9 Weeds

Given the environmental condition and location of the project area, no weed species have been observed.

4.1.10 Dieback

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

4.2 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.

4.3 Site Investigation

A site visit was carried out by Matthew Oswald on 07/02/07 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, 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

According to the Native Vegetation Association Data (DEC & DAF) the proposed pit areas occur within vegetation association 662 which is described as "Hummock grassland; shrub steppe; mixed acacia scrub & dwarf scrub with soft spinifex & *Triodia basedowii*". This vegetation association is well represented in the region with 99.3% remaining. The condition of the vegetation is somewhat degraded due to cattle grazing.

The following list of flora species was recorded at pit 2.4 and 11.0 SLK:

- Grey Corchorus (*Corchorus walcottii*)
- Narrow-leaved mulla mulla (*Ptilotus divaricatus*)
- Soft Spinifex (*Triodia pungens*)
- Wirewood or Weeping Acacia (*Acacia coriacea*)
- Curara (*Acacia tetragonophylla*)
- Tall saltbush (*Rhagodia eremaea*)
- Wind Grass (*Aristida contorta*)
- Flannel bush (*Solanum lasiophyllum*)
- Gascoyne bluebush (*Maireana polypterygia*)
- Tall poverty bush (*Eremophila maitlandii*)
- Saltbush (*Striplax* sp.)
- Current bush (*Scaevola spinescens*)

No mature trees will be cleared for the works.

No drainage regimes or values will be changed or impacted upon.

5.2 Site Investigation

Site Investigation	Description/Comment
<i>Total area (ha) of <u>native vegetation</u> to be cleared</i>	8-10 ha
<i>Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared</i>	0
<i>Weeds present</i>	None
<i>Drainage areas or wetlands present</i>	None
<i>Adjacent land uses</i>	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 K.

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 – Coral Bay Proposed Borrow Pits (2.4 and 11 SLK)

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works.
Dust	Likely to be easily managed by standard construction dust management techniques.
Fauna	<p>No significant fauna issues associated with any of the proposed works. Recommendations to minimise clearing (see below) will also serve to reduce impacts to fauna and remnant fauna habitat at the sites.</p> <p>The search results from the DEC and EPBC, indicate that a number a species could occur within the Coral Bay region. However, given the vegetation type and environmental conditions, no rare or endangered species of fauna are likely to be encountered.</p> <p>On the 26/09/06, a site visit was conducted with only an Australian Bustard being observed. DEC classify's the Bastard as <i>Priority 4:Taxa in need of monitoring</i>.</p> <p>Given the type of works to be undertaken, any fauna within the work area will have the opportunity to move off into surrounding habitat.</p> <p>No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted. The search results show a majority of species belonging to marine environments or of a migratory nature. Given the condition and type of vegetation at the proposed sites, migratory species (including birds) will not be impacted upon. Advice regarding the Mulgara was sought from DEC (Exmouth). They indicated that the sites would not present a significant issue for the Mulgara (See Appendix B).</p>
Vegetation – clearing	<p>The project will involve temporary clearing and so will require revegetation.</p> <p>The condition of the native vegetation to be cleared is party degraded due to the grazing of cattle.</p> <p>The native vegetation will be cleared is well represented regionally</p> <p>The native vegetation to be cleared does not occur within an ESA.</p> <p>The native vegetation to be cleared will be done so using the purpose permit.</p>
Vegetation – TECs/DRF	<p>None present in the proposed works areas</p> <p>Consultation with DEC confirms that the proposal is not going to have a significant impact upon any DRF or TECs (see Appendix B).</p>
Vegetation – weeds	A site visit conducted on the 26/09/06 and 07/02/07 confirmed that no weed species are present.
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	Material pit at 11.0 SLK is approx. 1 kilometre from the Ningaloo Marine Park. Provided clearing of the more intact vegetation is minimised, and that the works do not intrude into intact vegetation areas beyond the project area, there will be no impacts to the marine park.
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. (Maud's Landing is approximately 2 kilometres to the north of the works area)

Table 1: Aspects and Impacts – Coral Bay Proposed Borrow Pits (2.4 and 11 SLK)

Aspect	Evaluation of Potential Impacts
Aboriginal heritage	<p>A search of DIA database identified no known sites of Aboriginal heritage significance within the vicinity of the project area.</p> <p>Yamatji Land and Sea Council (YLSC) conducted an Ethnographic Survey of the area on the request by Horizon Power (See Appendix D). Horizon Power organised the inspection of 2.4 and 11.0 SLK pits on behalf of Main Roads. No cultural material was located over 2.4 SLK Pit. The survey located an archaeological site in the south-west area of the 11.0 SLK pit. Within this site a bone was found that could be human remains. The YLSC have reported this to the police. A prominent ridge at the southern end of the material pit area was also determined to possibly contain cultural material so a work exclusion area will also be placed over this area. Due to the discovery of these sites, the borrow pit area was shifted north away from areas of significance.</p> <p>Sid Dale (Gnulli Group Elder) conducted a site visit of the 11.0 SLK pit on the 26/09/06 and 03/10/06. On both occasions he was shown sites to the north of the proposed pit area, and indicated that he had no concerns.</p>
Surface water/drainage	Given the nature of the works and the location of the project, drainage and surface run-off patterns will not be altered.
Wetlands	None present.
Groundwater	No dewatering nor drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	No major sensitive local receivers. Construction works is not expected to significantly contribute to noise levels at the nearest sensitive receivers, provided works are limited to normal working hours.
Visual amenity	The proposed works will result in minor and short-term visual impacts during construction. Suitable site completion treatments, including rehabilitation, could 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 general remoteness of the site and the relatively untouched condition of the vegetation, no contaminated sites would be expected in the works area.
Salinity	There were no visual signs of salinity observed in the project area.
Acid Sulfate Soils	The WAPC's self-assessment (Planning Bulletin 64) indicates that no further soil investigation is required for the project (see Appendix E).
Statutory Land Use Planning	On behalf of Main Roads, Horizon Power was granted approval to extract materials from the Department for Planning and Infrastructure at both borrow pit sites.

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 Water Resources.

9 STAKEHOLDER CONSULTATION

Name	Agency	Date	Comments
Ben Lulfitz (Flora)	DEC	07/02/07	
Kellie Mantle (Fauna)	DEC	07/02/07	
Kimberly Onton (Exmouth)	DEC	15/02/07	
Sid Dale	Gnulli Group	03/10/06	
John Kitis	Horizon Power	08/02/07	

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 follows:

Method	Frequency	Participants	Reference	Record
Project Site				
Induction	Prior to Work	All personnel and subcontractors	EMP and Contractor Environmental Policy	Induction Meeting
Toolbox Meetings	Weekly	Project Personnel	Contractor Safety Plan	Minutes of Meeting
Contract Meetings	As deemed necessary by the works supervisor	Main Roads' Project Manager and Contractor Project Manager	EMP	Minutes of 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.

Timing	Topic	Objective	Action	Responsible Party
All phases of Construction	Vegetation Clearing - Record-keeping	All projects should maintain the required records relating to clearing native vegetation.	Clearing: a map showing the location where the clearing occurred; the size of the area cleared (in hectares); and the dates on which the clearing was done.	MRWA
			Revegetation and rehabilitation of areas: a map showing the location of any area revegetated; a description of the revegetation and rehabilitation activities undertaken; and the size of the area revegetated and rehabilitated (in hectares).	MRWA
All phases of Construction	Vegetation Clearing - Record-keeping (cont.)	All projects should maintain the required records relating to clearing native vegetation under the purpose permit.	Control of weeds, dieback and other pathogens: a copy of any management plan prepared; and for any pathogen other than dieback, the appropriate steps taken.	MRWA

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.	MRWA
			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.	MRWA
Pre-Construction	Surface Drainage	Maintain the hydrological regime that exists prior to the construction of the proposal.	Stormwater drainage shall be treated and disposed of in accordance with DEC requirements.	MRWA
Pre-Construction	Visual Amenity	Ensure that the road blends in with the surrounding environment.	Ensure that the road blends in with the surrounding environment.	MRWA
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.	MRWA
			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.	MRWA
			Any complaints regarding dust will be attended to as soon as possible.	MRWA
			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.	MRWA

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.	MRWA
			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 Works Supervisor shall ensure appropriate equipment is available at all times and shall notify the Superintendent's Representative of a spill.	MRWA
			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.	MRWA
			Dumping or temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands.	MRWA
			The project areas, including hardstand areas, will be kept in a tidy manner at all times.	MRWA
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.	MRWA
			A water tanker will be on site at all times.	MRWA
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 and soils laboratory will be located on previously disturbed/ designated area.	MRWA

Construction	Aboriginal Heritage	Ensure that there is no unauthorised disturbance to Aboriginal heritage sites during construction	The DIA will be notified in the event of any significant Aboriginal Heritage discovery.	MRWA
		Ensure that there is no unauthorised disturbance to Aboriginal heritage sites during construction	If skeletal material is uncovered during works the WA Police Service will also be advised immediately.	MRWA
			A formal induction program will be conducted for all personnel prior to commencing work on the site. The program will aim to make them fully aware of all management strategies.	MRWA
Construction	Flora & Fauna	Minimise terrestrial impacts	Minimise vehicle movements off site.	MRWA
			No pets or introduced plants/animals shall be brought on site.	
			No native fauna shall be deliberately impaired or killed by construction personnel	
			A DEC wildlife carer will be notified as soon as practical of any fauna found injured as a result of construction activities	
			Fauna shall only be destroyed as a last resort by a designated, trained person (or a local veterinarian) with DEC authority.	
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.	All waste materials from the development are to be completely removed from the site upon completion of the development.	MRWA

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.

Appendix A

Low Impact Environmental Screening Checklist

Checklist - Low Impact Environmental Screening

The Low Impact Environmental Screening Checklist is part of the environmental assessment and approval process, explained in Figure 2 and in the procedures. 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, ie that will have a low impact on the environment and that can be adequately managed through standard contract clauses.

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. Circle the relevant part of the item.

Project Name ...CORAL BAY MATERIALS PIT - 2.4 SLK CORAL BAY RD.....

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 ground disturbance or clearing of native vegetation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	New, or expansion of existing, pits or quarries. (non-commercial sources)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Adjoining sensitive land use. eg residential or hospital or education centre	<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	Within/immediately adjacent to surface/underground Public Drinking Water Source Area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Dewatering, or a new water bore.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Known potential source of hazardous materials within or adjoining the road reserve. e.g. Acid Sulphate Soils, existing petrol station, industrial site or waste disposal site (landfill)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Buildings will require demolition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Completed By: Signature *PH* Date Project Manager
 Name PAUL HOARE Title 7/2/07

To be reviewed by a Main Roads Environment Officer Signature *MO* Date E.O
 Name Matthew Oswald Title 7/2/07

Comments: _____

Checklist - Low Impact Environmental Screening

The Low Impact Environmental Screening Checklist is part of the environmental assessment and approval process, explained in Figure 2 and in the procedures. 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, ie that will have a low impact on the environment and that can be adequately managed through standard contract clauses.

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. Circle the relevant part of the item.

Project Name ... CORAL BAY MATERIALS PIT - 11.0 SLK - CORAL BAY RD

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 ground disturbance or clearing of native vegetation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	New, or expansion of existing, pits or quarries. (non-commercial sources)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Adjoining sensitive land use. eg residential or hospital or education centre	<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	Within/immediately adjacent to surface/underground Public Drinking Water Source Area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Dewatering, or a new water bore.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Known potential source of hazardous materials within or adjoining the road reserve. e.g. Acid Sulphate Soils, existing petrol station, industrial site or waste disposal site (landfill)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Buildings will require demolition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Completed By: Signature [Signature] Date 7/2/07

Name PAUL HOARE Title Project Manager

To be reviewed by a Main Roads Environment Officer Signature [Signature] Date 7/2/07

Name Matthew Oswald Title E.O.

Comments: _____

Appendix B

DEC's Threatened Flora and Fauna Database Searches

OSWALD Matt (GEnv)

From: Lullfitz, Ben [Ben.Lullfitz@dec.wa.gov.au]
Sent: Wednesday, 7 February 2007 11:18 AM
To: OSWALD Matt (GEnv)
Subject: RE: Coral Bay Works - Flora Database Search
Attachments: CoralBay_drf&plist_070207.doc; CoralBay_waherb_070207.dbf; CoralBay_letter_070207.doc

Hi Matt

Please find attached the results from the Western Australian Herbarium database and DEC's DRF and Priority Flora list for the search you requested in the Coral Bay area. A search was conducted on DEC's Threatened (Declared Rare) Flora database, however no results were retrieved.

The search coordinates used were:

NW Corner 23° 02' S, 113° 45' E

SE Corner 23° 12' S, 113° 55' E

Please refer to the attached letter for the conditions in relation to the supplied information. Feel free to contact me if there are any queries.

Regards

Ben Lullfitz

Threatened Flora Database Officer
Species and Communities Branch
Department of Environment and Conservation
Locked Bag 104, Bentley Delivery Centre WA 6983
Ph (08) 9334 0123 Fax (08) 9334 0278
ben.lullfitz@dec.wa.gov.au

From: OSWALD Matt (GEnv) [mailto:matthew.oswald@mainroads.wa.gov.au]
Sent: Wednesday, 7 February 2007 8:42 AM
To: Lullfitz, Ben
Subject: Coral Bay Works - Flora Database Search

Ben,

As described over the phone, Coral Bay has a proposed boat ramp that will begin construction next week some time.

As per Main Roads requirement of the Purpose Permit, we are required to liaise with DEC in regards to flora issues.

I am requesting for a flora database search to be conducted on the co-ordinates given below (highlighted in yellow). These are 3 separate material sites. The results will form part of a Preliminary Environmental Impact Assessment.

Due to the time constraints, your hastiness on the search would be much appreciated.

Please call me if you have any enquiries.

Kind Regards,

Matthew Oswald
Environment Officer
Main Roads Western Australia
Gascoyne Region
Phone (08) 9941 0713
Fax (08) 9941 0701

From: COX Graeme (Con)
Sent: Monday, 9 October 2006 4:22 PM
To: OSWALD Matt (GEnv)

8/02/2007

OSWALD Matt (GEnv)

From: Mantle, Kellie [Kellie.Mantle@dec.wa.gov.au]
Sent: Wednesday, 7 February 2007 4:00 PM
To: OSWALD Matt (GEnv)
Subject: RE: Coral Bay Works - Fauna Database Search
Attachments: raref_MainRoads_Oswald4.pdf; raref_MainRoads_Oswald.doc

Hi Matt

I conducted a threatened fauna search for the areas you listed. There were no records in our database for that area so I have extended the search radius to 75km to capture some nearby records. Please refer to the sixth point on the condition attachments regarding the limitations of the database.

Let me know if you have any queries regarding the information supplied

Cheers
Kellie

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

From: OSWALD Matt (GEnv) [mailto:matthew.oswald@mainroads.wa.gov.au]
Sent: Wednesday, 7 February 2007 8:50 AM
To: Mantle, Kellie; Mantle, Kellie
Subject: Coral Bay Works - Fauna Database Search

Kelly,

Main Roads Gascoyne Region is involved in the works at Coral Bay, with the construction of a new boat ramp. In order for the project to proceed, a considerable amount of road building material must be sourced.

To comply with the requirement of our Purpose Permit, consultation must be undertaken with DEC in regards to fauna in the area. I wish to request a fauna database search be conducted for the co-ordinates given below in the table (highlighted in yellow). The co-ordinates are three proposed gravel pits.

Unfortunately, construction is planned to commence some time next week, so there is a sense of urgency in the matter. Will it be possible to have the search done by Friday this week? Apologise for trying to rush you.

Please call if you need clarification on the matter.

Kind regards,

Matthew Oswald
Environment Officer
Main Roads Western Australia
Gascoyne Region
Phone (08) 9941 0713
Fax (08) 9941 0701

22.42 °S 113.13 °E / 23.81 °S 114.63 °E

Coral Bay (plus ~75km buffer)

* Date Certainty Seen Location Name

Method

Schedule 1 - Fauna that is rare or is likely to become extinct***Macrotis lagotis*****Bilby**

1 records

This species shelters in burrows and occupies a range of habitats from grassland on clayey and stony soils or sandplains to mulga scrub and woodlands on red earths. It has suffered a large decline and contraction in distribution.

1972 3

Petrogale lateralis lateralis**Black-flanked Rock-wallaby (Warru)**

2 records

This species thrives in steep, complex rocky habitats providing tunnels, caves and crevices for shelter and protection from predators.

1967 1 2

1968 1 1

Pezoporus occidentalis**Night Parrot**

1 records

This nocturnal species is known to inhabit treeless or sparsely wooded spinifex (*Triodia* spp) near water.

1967 2 5 Giralia

Milyeringa veritas**Blind Gudgeon**

1 records

1991 1 1

Priority One: Taxa with few, poorly known populations on threatened lands***Lerista talpina*****Lerista talpina**

2 records

Only known from one locality a little south of Exmouth Gulf. Holotype collected on a red *Triodia*-covered sandridge.

1981 1 1

1981 1 1

Caught or trapped

Priority Four: Taxa in need of monitoring***Ardeotis australis*****Australian Bustard**

1 records

This species is uncommon and may occur in open or lightly wooded grasslands.

1979 1 1 Mia Mia

Day sighting

Burhinus grallarius**Bush Stonecurlew**

1 records

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

Wednesday, 7 February 2007

Department of
Environment and Conservation

Appendix C

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

PLACES DATABASE ACTIONS:

Displaying results: [1-1] of 1

QUICK SEARCH
ADVANCED SEARCH
▶ **RESULTS LIST**
LOCATION REPORT
SAVE DATA

hide selected | **hide unselected**

Maud's Landing (4230)

Nr Cardabia Stn

hide selected | **hide unselected**

Perform a new: **QUICK PLACES DATABASE SEARCH** | **ADVANCED PLACI**

OTHER REGISTER INFORMATION:

WHAT IS THE STATE REGISTER?
OTHER HERITAGE LISTS

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

Appendix D

Department of Indigenous Affairs Database Search, Yamatji Land and Sea Council Ethnographic Survey & Site visit with Sid Dale (Gnulli Group)



Search Criteria

0 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 49	
Northing	Easting
7440172	791396
7441453	793754

Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

Copyright

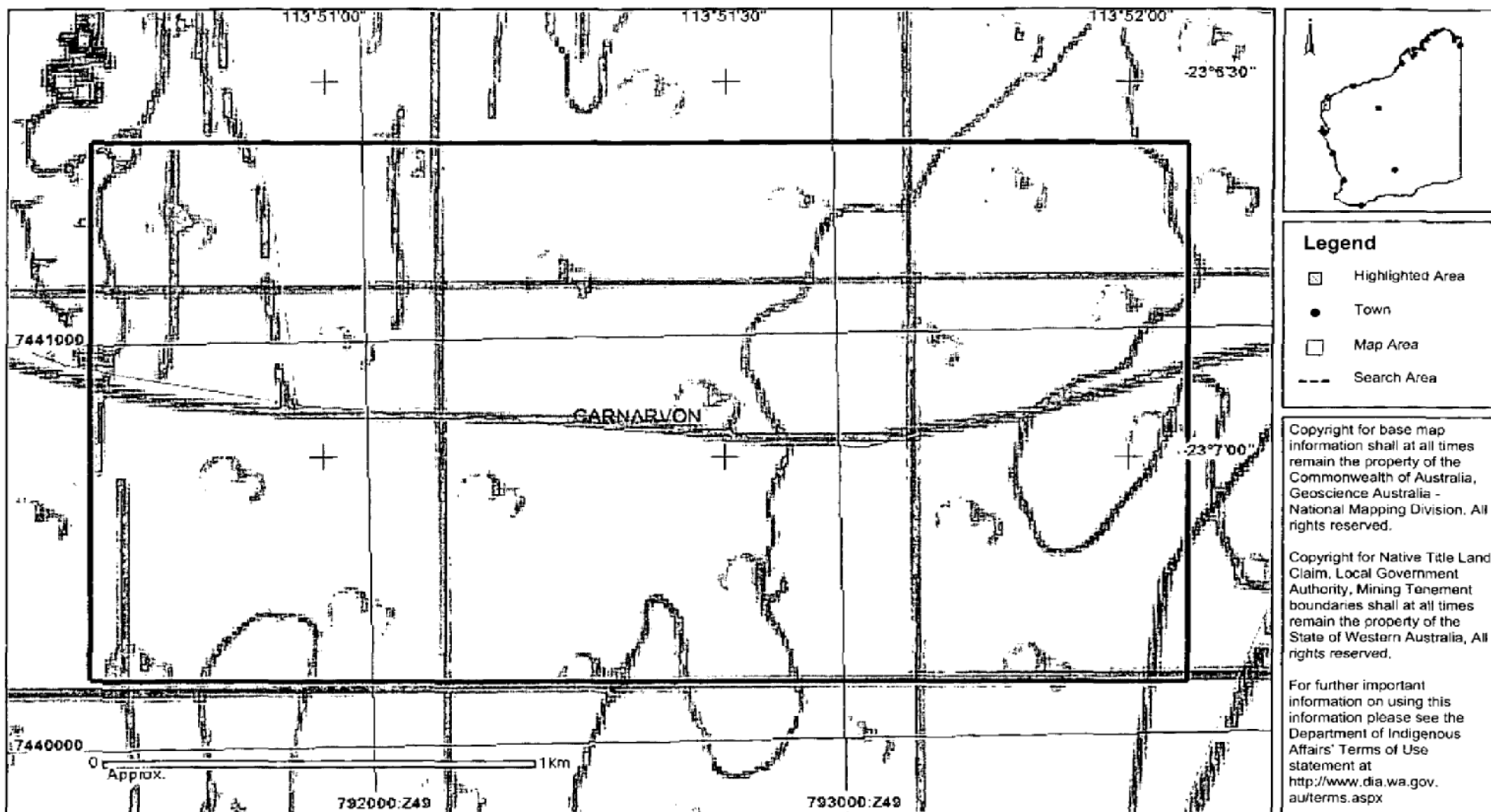
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Legend

Restriction	Access	Status	Coordinate Accuracy
N No restriction	C Closed	I Interim register	Accuracy is shown as a code in brackets following the site coordinates.
M Male access only	O Open	P Permanent register	[Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
F Female access	V Vulnerable	S Stored data	[Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.





Search Criteria

0 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 49	
Northing	Easting
7436038	783575
7437768	784426

Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

Copyright

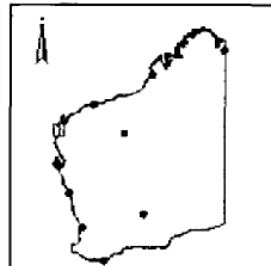
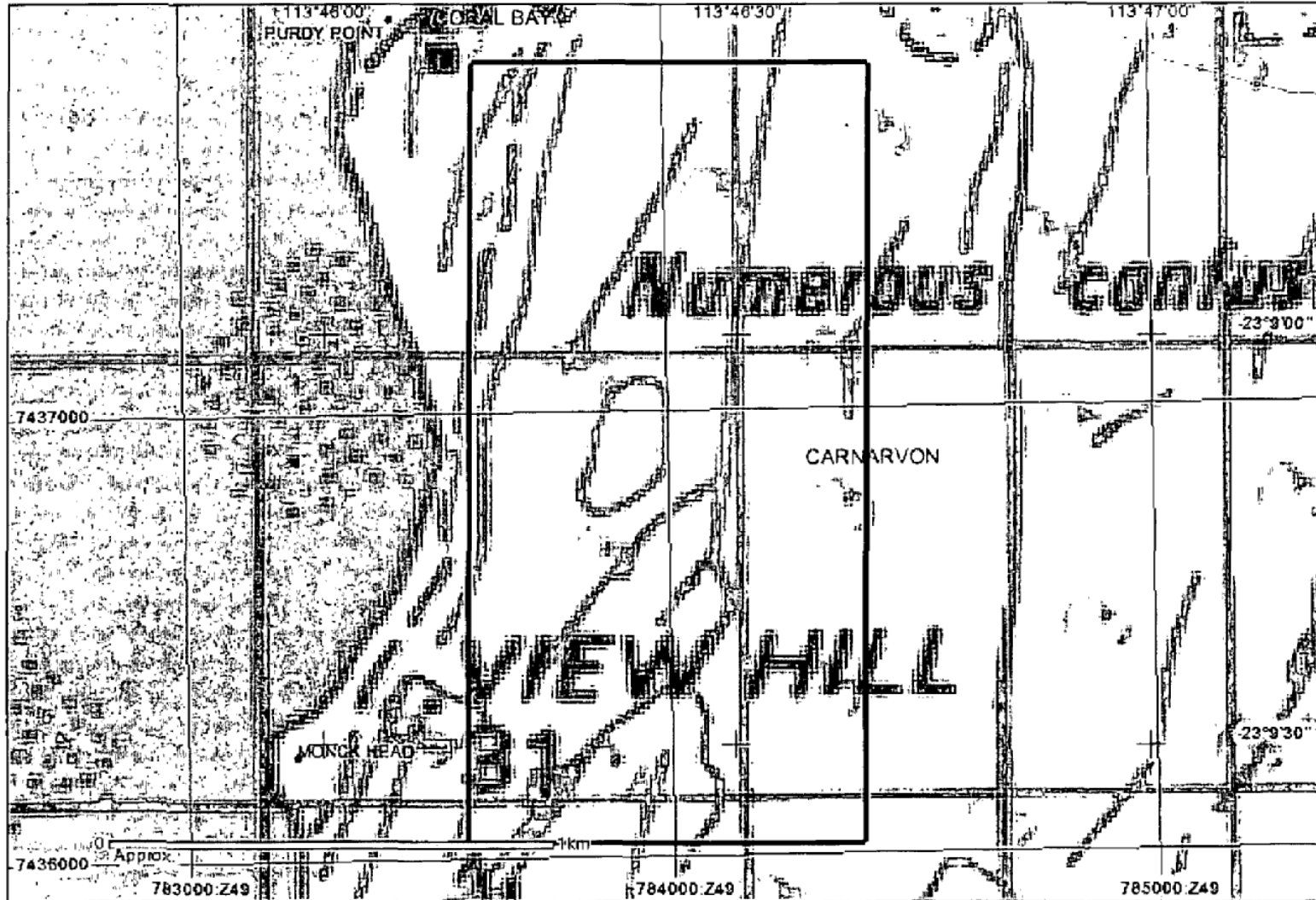
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Legend

Restriction	Access	Status	Coordinate Accuracy
N No restriction	C Closed	I Interim register	Accuracy is shown as a code in brackets following the site coordinates.
M Male access only	O Open	P Permanent register	[Reliable] The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
F Female access	V Vulnerable	S Stored data	[Unreliable] The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:250' means Easting=5000000, Zone=50.



Legend

- Highlighted Area
- Town
- Map Area
- Search Area

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For further important information on using this information please see the Department of Indigenous Affairs' Terms of Use statement at <http://www.dia.wa.gov.au/terms.aspx>

**YAMATJI MARIPA BARNA BABA MAAJA ABORIGINAL CORPORATION
YAMATJI LAND AND SEA COUNCIL
PILBARA NATIVE TITLE SERVICE**

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ABN 14 011 921 833

This correspondence originated from the
 HEAD OFFICE PERTH OFFICE STH HEDLAND OFFICE
 KARRATHA OFFICE TOM PRICE

Date 01-02-2007

Your Ref

Our Ref GNU 394

John Kitis
Project Manager
Horizon Power
P O Box 79
Cloverdale WA 6985



PRELIMINARY ADVICE FOR ETHNOGRAPHIC SURVEY- HORIZON POWER

Dear Mr. Kitis,

Please find enclosed a copy of the Preliminary Advice of the Heritage Survey at Coral Bay on part of HP1, MRD1, and MRD2 for the Coral Bay Power Project. This survey was conducted by Philip Haydock and members of the Gnulli Native Title claim group on behalf of YLSC and Horizon Power on 18th & 19th January 2007. As discussed earlier there was what appears to be a human bone found which the Exmouth Police are now investigating. It is recommended that the site around that location be avoided until we receive instructions from the Police Dept. Any recommendations will be included in the Final Report.

If you have any enquiries regarding the this Preliminary Advice or of other matters please contact me at your convenience,

Yours faithfully

Sean O'Hara
HERITAGE ADMINISTRATION OFFICER
9268 7000
YLSC PERTH OFFICE
PO BOX Y3072
EAST PERTH
WA 6832

Page 1 of 1

N:\HERITAGE\Heritage Templates\HERITAGE REPORT LETTER.doc

Form: YLSC-002/1

Yamatji Maripa Barna Baba Maaja Aboriginal Corporation
is a Native Title Representative Body

25 January 2007

Mr John Kitis
Project Manager
Horizon Power
PO Box 79
CLOVERDALE WA 6985

Philip Haydock
Heritage Consultant
17 Blythe Avenue
YOKINE WA 6060
0418 93 25 26

Dear Mr Kitis

**HERITAGE SURVEY PRELIMINARY ADVICE
HORIZON POWER'S CORAL BAY POWER PROJECT
SURVEY AREAS FNA/7592, FNA/7593 & REAR OF LOT 62 EASEMENT "HP1"
GNULLI NATIVE TITLE CLAIM GROUP**

This letter presents Preliminary Advice of the results of a Work Program Clearance (WPC) Heritage Survey with *Gnulli* native title claim representatives over proposed Works associated with the Horizon Power Coral Bay Power Project. The Heritage Survey was completed on Thursday 18th and Friday 19th January 2007. Horizon Power are seeking heritage clearance over three Survey Areas: a small services easement at the rear of Lot 62 in the Coral Bay Townsite (Survey Area HP1), and two proposed borrow pit areas required by Main Roads to undertake the sourcing and excavation of gravel base materials for the proposed Coral Bay Power Project infrastructure and associated access roads. These two proposed borrow pit Survey Areas are FNA/7592 (MRD1) and FNA/7593 (MRD2). The Project Area containing all three Survey Areas is located in or within close proximity to Coral Bay, approximately 140 km south of Exmouth.

Philip Haydock (Heritage Consultant) was subcontracted by Yamatji Land and Sea Council (YLSC) to facilitate the Survey on behalf of YLSC and the *Gnulli*. The Heritage Survey was undertaken at the request of Horizon.

The YLSC is a division of the Yamatji Marpa Barna Baba Maaja Aboriginal Corporation (YMBBM), which is the representative body in the Geraldton and Pilbara regions in Western Australia under the *Native Title Act 1993*. The *Gnulli* native title claim group (WC97/28 WAD6161/98) is the sole claim over the Project Area. The *Gnulli* group has instructed YLSC to represent them in matters of native title and heritage.

A search of the Department of Indigenous Affairs Register of Aboriginal Sites indicated that there were no registered Aboriginal Sites in the three Survey Areas within the Project Area.

The *Gnulli* participants on the Heritage Survey were Syd Dale, John Dale, Nathan Clinch, Jocelyn Merritt and Kayla Peck (the *Gnulli* Consultants). These participants were selected to represent the *Gnulli* claimant group. Graeme Cox, Anil Phal and Shane Dorey of Main Roads, Carnarvon, all attended on the morning of the first day to orient the Heritage Survey Team for the Survey Areas MRD1 and MRD2.

Prior to the Heritage Survey commencing, Philip Haydock was briefed by Ernie Reynolds, Graeme Cox and Anil Phal of Main Roads in Carnarvon about the nature and extent of the proposed borrow pit areas required by Horizon. It was explained that there are two

page 1 of 6

Gnulli native title claim group
Heritage Survey Preliminary Advice to Horizon Power

proposed areas, MRD1 and MRD2 to cover the sourcing and excavation of gravel road base material for Horizon Power's Coral Bay Power Project infrastructure and associated access roads. Main Roads stated that they had applied for the area MRD2 in case there is a shortage of good road base materials in the priority area MRD1. Any surplus gravel supplies available in MRD1 and MRD2 will be used by Main Roads for other future road building and maintenance projects in the area. The Survey Areas MRD1 (the dimensions being 2 km north-south x 700 m east-west, plus a road easement of 800 m x 150 m on the northern boundary, see attachments Table 1, and Map 1) and MRD2 (1.8 km north-south x 600 m east-west, see attachments Table 2 and Map 1) were pegged prior to the Heritage Survey. The proposed borrow pit area MRD2 is dissected through the middle by the Coral Bay Road.

The briefing for the proposed easement HP1 abutting Lot 62 in Coral Bay Townsite was from John Kitis, Project Manager, Horizon Power. Grid coordinates for Lot 62 were provided by Department of Planning and Infrastructure (DPI) during the Heritage Survey (see attachments Table 3 and Map 1). The proposed easement area was not pegged, and original written instructions stated that the easement was approximately 6 m wide and 20-30 m long. Calculations based on Lot 62 boundary points suggested that the length of the proposed easement is approximately 120 m, although the southern end-point of the easement could only be approximated as there were no end-point grid coordinates. This end-point could not be accurately determined by the existing sand track near this location.

The Survey Team began the Heritage Survey over the proposed borrow pit area MRD2, with pedestrian transects over that portion on the northern side of the road, and then using the same method over the southern half. No cultural material was located over MRD2.

The Survey Team viewed the proposed easement HP1. The easement was examined using pedestrian transects, and no cultural material was located over the proposed easement.

The Survey Team assessed the proposed borrow pit area MRD1. First they were first shown the extent of the proposed MRD1 Work Program Area. It was stated that the priority area for excavation is the northern half of MRD1, where Main Roads have in the past test-pitted 14 small sites for gravel, with the assistance of one senior *Gnalli* Consultant. It was pointed out that the primary target areas for excavation were likely to be where surface limestone could be visually identified. Main Roads showed the 14 test-pitted areas, and the corner boundary points of MRD1.

Main Roads took the Survey Team to the high prominent ridge at the southern end of MRD1. They indicated that this high limestone ridge would not be a target for excavation as it was such a prominent ridge, which they determined could be both an area where there is cultural material, and any work could be seen easily from the Coral Bay Road to the north. Main Roads said that they would prefer to work in lower less prominent areas that do not attract the attention of the public. Walking over this high ridge, an agreed area was delineated around the ridge where there would be no disturbance. This ridge is aligned along a north-east/south-west axis, from the north-eastern point WGS84 (GDA94 equivalent) 49 784612E 7435878N to the south-eastern point 784467E 7435651N. As Main Roads have no intention to disturb this ridge, and as Main Roads considered it might have cultural material over it, it was recommended to and agreed by Main Roads in the field that there be a Work Exclusion Area of 50m all around the centreline of the ridge (i.e. 100 m wide). This area (MRBP-WEA) was viewed by, but not closely examined for cultural material by the Survey

page 2 of 6

Gnalli native title claim group
Heritage Survey Preliminary Advice to Horizon Power

Team. As a Work Exclusion Area, it is not suggested that it is an Aboriginal site under the *Aboriginal Heritage Act 1972*, but it is recommended that the ridge should have an archaeological assessment if it is to be disturbed in the future.

The Survey Team later undertook the Heritage Survey over MRD1. After first walking down the length of the easement on the north MRD1, the Survey Team then viewed the rest of proposed borrow pit area MRD1 using a series of both pedestrian and vehicular transects.

The Survey Team located an archaeological site (MRBP1) in the south-west area of MRD1, and an area of 50 m radius centered on 784362E 7435533N is a Work Exclusion area. Within this archaeological site, a bone was found that could be human remains, and was considered by the Survey Team to be from an old burial. This was found at the location 784370mE 7435538mN, which is almost the centre of the Work Exclusion Area. The YLSC have reported this to the Police, who will investigate the matter and report back on the results.

The *Gnulli* Consultants undertaking the Work Program Clearance Heritage Survey concluded that the proposed easement HP1 and borrow pit FNA/7593 (MRD2) are cleared. The proposed borrow pit FNA/7592 (MRD1) is cleared except for areas MRBP-WEA and MRBP1, which are Work Exclusion Areas.

It is recommended that:

- a. If any Aboriginal site or cultural material of heritage significance is located during any phase of the Work Program all work in the its immediate vicinity must come to an immediate halt, the exact location of the site noted and the *Gnulli* native title claimant Working Group and relevant parties notified. In the event of unearthing of any cultural material, contact should immediately be made with the *Gnulli* native title claimant Working Group to seek advice as necessary. The Site must remain undisturbed until additional clearance is provided by relevant authorities, and representatives of the *Gnulli* native title claimant Working Group. If human remains or skeletal materials that may be human, or materials that may belong to a human grave are discovered during the work program, the Western Australian Police and the Department of Indigenous Affairs also need to immediately contacted, while following the above procedure;
- b. If there are any alterations to the Work Program beyond the scope of this clearance, including any new areas of ground disturbance, then these should be presented to the *Gnulli* native title claimant Working Group through the YLSC, who will discuss it and advise on the appropriate course of action;
- c. Any subcontractors employed by Horizon Power or Main Roads Western Australia, or their agents and assigns, during the course of these or other works in the project area, should be made aware of the contents of this and the final Report. Such subcontractors should be made aware of the recommendations and comments contained within this and the final Report and should be made aware of their statutory obligations in relation to Aboriginal heritage issues;
- d. Horizon Power and Main Roads Western Australia maintain discussions with the *Gnulli* native title claimant Working Group to provide information on the progress on this or other proposed future Work Programs. Future proposals for the extension of the current

page 3 of 6

Gnulli native title claim group
Heritage Survey Preliminary Advice to Horizon Power

Work Program may require further heritage surveys with the *Gnulli* native title claim group.

A final report to Horizon and *Gnulli* group will also be following in due course.

Yours sincerely,



Philip Haydock
Heritage Consultant

Attach.

Attachment One

Table 1: Survey Area MRD1 (FNA/7592)(MGA94 Zone 49)

Location	Easting (mE)	Northing (mN)	Comments
NW	784300	7437100	Borrow pit area
SW	784300	7435100	Borrow pit area
SE	785000	7435100	Borrow pit area
NE	785000	7437100	Borrow pit area
NW	784650	7437900	Easement corridor
SW	784650	7437100	Easement corridor
SE	784800	7437100	Easement corridor
NE	784800	7437900	Easement corridor

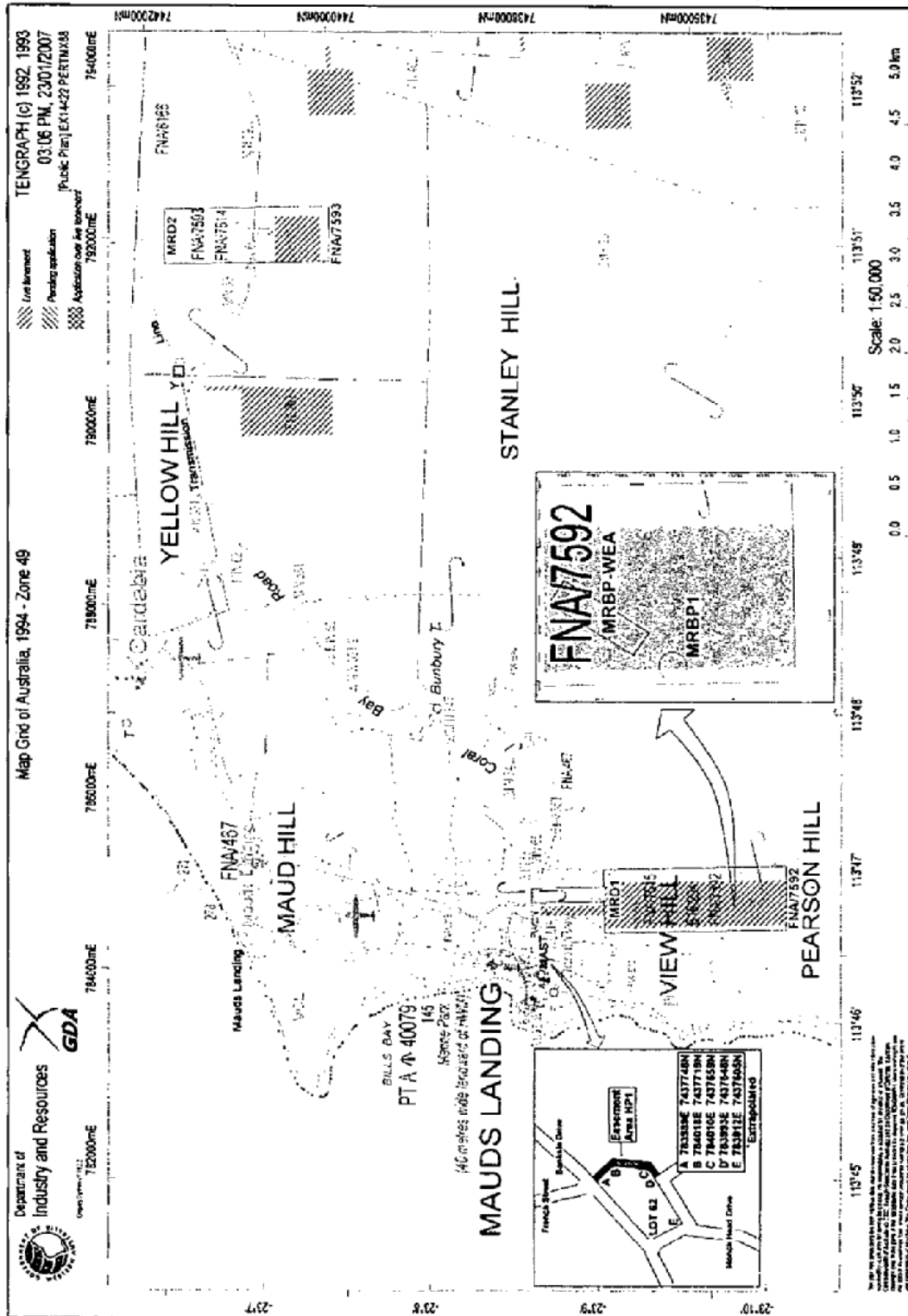
Table 2: Survey Area MRD2 (FNA/7593)(MGA94 Zone 49)

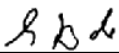
Location	Easting (mE)	Northing (mN)	Comments
NW	791700	7441800	Borrow pit area
SW	791700	7440000	Borrow pit area
SE	792300	7440000	Borrow pit area
NE	792300	7441800	Borrow pit area

Table 3: Survey Area Proposed Easement HP1 (MGA94 Zone 49)

Location	Easting (mE)	Northing (mN)	Comments
A	783989	7437748	N point, HP1 Survey Area extends a width of approx 6m NE of this point
B	784018	7437719	E point, HP1 Survey Area extends a width of approx 6m E of this point
C	784010	7437659	S point, HP1 Survey Area extends a width of approx 6m SE of this point
D	783993	7437648	Extrapolated (Approximate) end-point of proposed HP1 Survey Area
E	783912	7437605	SW point is outside the HP1 Survey Area. HP1 Survey Area (1) extends approximately 20m SW of the S point, and (2) extends a width of approximately 6m S of the line from S point to SW point.

Attachment Two Map 1: Location of Project Area: HP1, MRD1, MRD2 (MGA94 zone 50)



MAIN ROADS ABORIGINAL SITE CONSULTATION SHEET		
MRWA Project: <u>Rock / Gravel Investigation - Coral Bay - Warroora / ^{Cardabia} Cardabia Access</u>		
Consultation Details:	Venue:	<u>WARROORA - CARDABIA ACCESS.</u>
	Time:	<u>8.00 - 16.00.</u>
	Aboriginal Group Name:	<u>Gavalli</u>
Name of Group Member	Signature of Group Member	Date
<u>Sid Dale</u>		<u>26/9/06.</u>
<p>Main Roads has consulted with the above members of the <u>Gavalli</u> group with regards to <u>Materials on Warroora / Cardabia Access Tract.</u></p> <p>Main Roads' Officer (s), <u>Matt Oswald and Gruene Cox</u> was/were onsite during the consultation to explain the nature of the works and describe the impacts these works will have.</p> <p>The group then made the following recommendations:</p> <ul style="list-style-type: none"> - <u>No concerns with area's investigated</u> - <u>Would prefer to be present when dozer is on-site.</u> 		

MAIN ROADS ABORIGINAL SITE CONSULTATION SHEET		
MRWA Project: CORAL BAY MATERIALS INVESTIGATION		
Consultation Details:	Venue:	WARROORA - CARDBIA ACCESS
	Time:	06.00 - 16.30
	Aboriginal Group Name:	GNULLI
Name of Group Member	Signature of Group Member	Date
SID DALE	<i>SID DALE</i>	3/10/06
<p>Main Roads has consulted with the above members of the <u>GNULLI</u> group with regards to <u>MATERIALS ON WARROOR / CARDBIA ACCESS TRACK</u></p> <p>Main Roads' Officer (s), <u>GRAEME COX</u> was/were onsite during the consultation to explain the nature of the works and describe the impacts these works will have.</p> <p>The group then made the following recommendations:</p> <ul style="list-style-type: none"> - No CONCERNS - DOZER WAS ADEQUATE FOR JOB 		

Appendix E

WAPC's Acid Sulfate Soils Mapping



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 MATTHEW JOEL OSWALD

Applicant signature *[Signature]* Date 8/2/07

Application property details CORAL BAY RD - MATERIAL PITS - 2.4 + 11.0 SLK

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



Protected Matters Search Tool

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

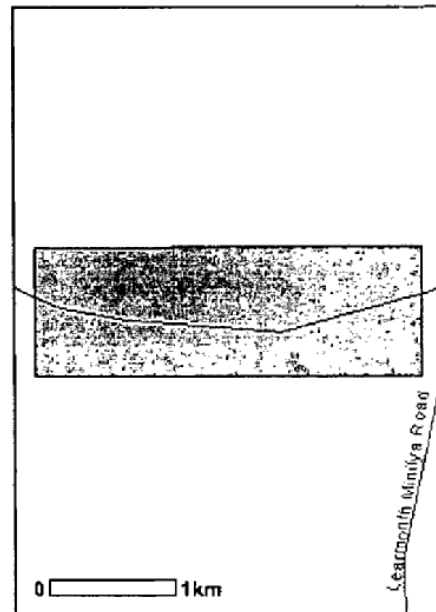
8 February 2007 13:40

EPBC Act Protected Matters Report

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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.deh.gov.au/epbc/assessmentsapprovals/index.html>



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.deh.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:	1
Migratory Species:	6

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.

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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.deh.gov.au/epbc/permits/index.html>.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Places on the RNE:	None
Listed Marine Species:	9
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

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

Charadrius veredus
Oriental Plover, Oriental Dotterel

Migratory Species or species habitat may occur within area

Glareola maldivarum
Oriental Pratincole

Migratory Species or species habitat may occur within area

Numenius minutus
Little Curlew, Little Whimbrel

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

Charadrius veredus
Oriental Plover, Oriental Dotterel

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

Glareola maldivarum
Oriental Pratincole

Listed - overfly Species or species habitat may occur within area

	marine 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>Numerius 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.

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

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- [Department of Environment and Heritage, South Australia Planning SA](#)
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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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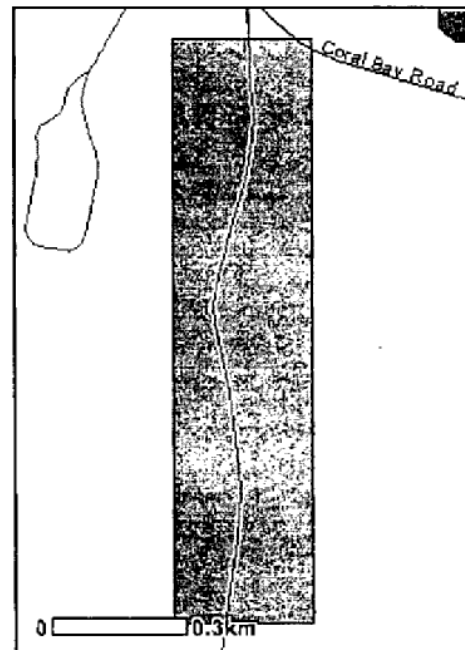
8 February 2007 13:44

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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:	11
Migratory Species:	18

Other Matters Protected by the EPBC Act

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Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Places on the RNE:	None
Listed Marine Species:	39
Whales and Other Cetaceans:	11
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
Birds		
<i>Macronectes giganteus</i> * Southern Giant-Petrel	Endangered	Species or species habitat may occur within area
Mammals		
<i>Dasyercus cristicauda</i> * Mulgara	Vulnerable	Species or species habitat likely to occur within area
<i>Eubalaena australis</i> * Southern Right Whale	Endangered	Species or species habitat likely to occur within area
<i>Megaptera novaeangliae</i> * Humpback Whale	Vulnerable	Species or species habitat known to occur within area
Reptiles		
<i>Caretta caretta</i> * Loggerhead Turtle	Endangered	Breeding known to occur within area
<i>Chelonia mydas</i> * Green Turtle	Vulnerable	Species or species habitat may occur within area
<i>Dermochelys coriacea</i> * Leathery Turtle, Leatherback Turtle, Luth	Vulnerable	Species or species habitat may occur within area
<i>Eretmochelys imbricata</i> * Hawksbill Turtle	Vulnerable	Breeding may occur within area
Sharks		
<i>Carcharias taurus (west coast population)</i> * Grey Nurse Shark (west coast population)	Vulnerable	Species or species habitat may occur within area
<i>Carcharodon carcharias</i> * Great White Shark	Vulnerable	Species or species habitat may occur within area
<i>Rhincodon typus</i> * Whale Shark	Vulnerable	Species or species habitat may occur within area
Migratory Species [Dataset Information]	Status	Type of Presence
Migratory Terrestrial Species		
Birds		
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle	Migratory	Species or species habitat likely to occur within area
<i>Hirundo rustica</i> Barn Swallow	Migratory	Species or species habitat may occur within area
<i>Merops ornatus</i> Rainbow Bee-eater	Migratory	Species or species habitat may occur within area
Migratory Wetland Species		
Birds		
<i>Charadrius veredus</i> Oriental Plover, Oriental Dotterel	Migratory	Species or species habitat may occur within area

<u><i>Glareola maldivarum</i></u> Oriental Pratincole	Migratory	Species or species habitat may occur within area
<u><i>Numenius minutus</i></u> Little Curlew, Little Whimbrel	Migratory	Species or species habitat may occur within area
Migratory Marine Birds		
<u><i>Macronectes giganteus</i></u> Southern Giant-Petrel	Migratory	Species or species habitat may occur within area
Migratory Marine Species		
Mammals		
<u><i>Balaenoptera edeni</i></u> Bryde's Whale	Migratory	Species or species habitat may occur within area
<u><i>Eubalaena australis</i></u> * Southern Right Whale	Migratory	Species or species habitat likely to occur within area
<u><i>Megaptera novaeangliae</i></u> * Humpback Whale	Migratory	Species or species habitat known to occur within area
<u><i>Orcinus orca</i></u> Killer Whale, Orca	Migratory	Species or species habitat may occur within area
<u><i>Sousa chinensis</i></u> Indo-Pacific Humpback Dolphin	Migratory	Species or species habitat may occur within area
Reptiles		
<u><i>Caretta caretta</i></u> * Loggerhead Turtle	Migratory	Breeding known to occur within area
<u><i>Chelonia mydas</i></u> * Green Turtle	Migratory	Species or species habitat may occur within area
<u><i>Dermochelys coriacea</i></u> * Leathery Turtle, Leatherback Turtle, Luth	Migratory	Species or species habitat may occur within area
<u><i>Eretmochelys imbricata</i></u> * Hawksbill Turtle	Migratory	Breeding may occur within area
Sharks		
<u><i>Carcharodon carcharias</i></u> Great White Shark	Migratory	Species or species habitat may occur within area
<u><i>Rhincodon typus</i></u> Whale Shark	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		
<u><i>Apus pacificus</i></u> Fork-tailed Swift	Listed - overfly marine area	Species or species habitat may occur within area
<u><i>Ardea alba</i></u> Great Egret, White Egret	Listed - overfly marine area	Species or species habitat may occur within area
<u><i>Ardea ibis</i></u> Cattle Egret	Listed - overfly marine area	Species or species habitat may occur within area
<u><i>Charadrius veredus</i></u> Oriental Plover, Oriental Dotterel	Listed - overfly marine area	Species or species habitat may occur within area
<u><i>Glareola maldivarum</i></u>	Listed -	Species or species habitat may occur

Oriental Pratincole	overfly marine area	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>Macronectes giganteus</i> Southern Giant-Petrel	Listed	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
Ray-finned fishes		
<i>Bulbonaricus brauni</i> Braun's Pughead Pipefish, Pug-headed Pipefish	Listed	Species or species habitat may occur within area
<i>Choeroichthys brachysoma</i> Pacific Short-bodied Pipefish, Short-bodied Pipefish	Listed	Species or species habitat may occur within area
<i>Choeroichthys suillus</i> Pig-snouted Pipefish	Listed	Species or species habitat may occur within area
<i>Doryrhamphus negrosensis</i> Flagtail Pipefish, Negros Pipefish	Listed	Species or species habitat may occur within area
<i>Festucalex scalaris</i> Ladder Pipefish	Listed	Species or species habitat may occur within area
<i>Filicampus tigris</i> Tiger Pipefish	Listed	Species or species habitat may occur within area
<i>Halicampus brocki</i> Brock's Pipefish	Listed	Species or species habitat may occur within area
<i>Halicampus spinirostris</i> Spiny-snout Pipefish	Listed	Species or species habitat may occur within area
<i>Haliichthys taeniophorus</i> Ribboned Seadragon, Ribboned Pipefish	Listed	Species or species habitat may occur within area
<i>Hippocampus angustus</i> Western Spiny Seahorse, Narrow-bellied Seahorse	Listed	Species or species habitat may occur within area
<i>Hippocampus histrix</i> Spiny Seahorse	Listed	Species or species habitat may occur within area
<i>Hippocampus planifrons</i> Flat-face Seahorse	Listed	Species or species habitat may occur within area
<i>Micrognathus micronotopterus</i> Tidepool Pipefish	Listed	Species or species habitat may occur within area
<i>Solegnathus lettiensis</i> Indonesian Pipefish, Gunther's Pipehorse	Listed	Species or species habitat may occur within area
<i>Solenostomus cyanopterus</i> Blue-finned Ghost Pipefish, Robust Ghost Pipefish	Listed	Species or species habitat may occur within area
<i>Syngnathoides biaculeatus</i> Double-ended Pipehorse, Alligator Pipefish	Listed	Species or species habitat may occur within area
<i>Trachyrhamphus bicoarctatus</i>	Listed	Species or species habitat may occur

Bend Stick Pipefish, Short-tailed Pipefish		within area
<i>Trachyrhamphus longirostris</i>	Listed	Species or species habitat may occur within area
Long-nosed Pipefish, Straight Stick Pipefish		
Reptiles		
<i>Aipysurus laevis</i>	Listed	Species or species habitat may occur within area
Olive Seasnake		
<i>Caretta caretta</i> *	Listed	Breeding known to occur within area
Loggerhead Turtle		
<i>Chelonia mydas</i> *	Listed	Species or species habitat may occur within area
Green Turtle		
<i>Dermochelys coriacea</i> *	Listed	Species or species habitat may occur within area
Leathery Turtle, Leatherback Turtle, Luth		
<i>Disteira kingii</i>	Listed	Species or species habitat may occur within area
Spectacled Seasnake		
<i>Disteira major</i>	Listed	Species or species habitat may occur within area
Olive-headed Seasnake		
<i>Emydocephalus annulatus</i>	Listed	Species or species habitat may occur within area
Turtle-headed Seasnake		
<i>Ephalophis greyi</i>	Listed	Species or species habitat may occur within area
North-western Mangrove Seasnake		
<i>Eretmochelys imbricata</i> *	Listed	Breeding may occur within area
Hawksbill Turtle		
<i>Hydrophis elegans</i>	Listed	Species or species habitat may occur within area
Elegant Seasnake		
<i>Pelamis platurus</i>	Listed	Species or species habitat may occur within area
Yellow-bellied Seasnake		
Whales and Other Cetaceans [Dataset Information]	Status	Type of Presence
<i>Balaenoptera acutorostrata</i>	Cetacean	Species or species habitat may occur within area
Minke Whale		
<i>Balaenoptera edeni</i>	Cetacean	Species or species habitat may occur within area
Bryde's Whale		
<i>Delphinus delphis</i>	Cetacean	Species or species habitat may occur within area
Common Dolphin		
<i>Eubalaena australis</i> *	Cetacean	Species or species habitat likely to occur within area
Southern Right Whale		
<i>Grampus griseus</i>	Cetacean	Species or species habitat may occur within area
Risso's Dolphin, Grampus		
<i>Megaptera novaeangliae</i> *	Cetacean	Species or species habitat known to occur within area
Humpback Whale		
<i>Orcinus orca</i>	Cetacean	Species or species habitat may occur within area
Killer Whale, Orca		
<i>Sousa chinensis</i>	Cetacean	Species or species habitat may occur within area
Indo-Pacific Humpback Dolphin		
<i>Stenella attenuata</i>	Cetacean	Species or species habitat may occur within area
Spotted Dolphin, Pantropical Spotted Dolphin		
<i>Tursiops aduncus</i>	Cetacean	Species or species habitat likely to occur within area
Spotted Bottlenose Dolphin		
<i>Tursiops truncatus s. str.</i>	Cetacean	Species or species habitat may occur within area
Bottlenose Dolphin		

Caveat

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- Environmental Protection Agency, Queensland
- Birds Australia
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- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
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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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Appendix G

Site Photos



Photograph 1-Proposed materials Site-2.4SLK Coral Bay Rd-South View



Photograph 2-Proposed materials Site-2.4SLK Coral Bay Rd-West View



Photograph 3-Proposed materials Site-11.0 SLK Coral Bay Rd-North View



Photograph 4-Proposed materials Site-11.0 SLK Coral Bay Rd-South West 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: **Main Roads Western Australia**
Contacts: Name: Matthew Oswald
Phone: 08 9941 0713
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Property details

Property: Coral Bay Material Sites (FNA 7592 and FNA 7593)
Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
10	0	Mechanical	Material Extraction	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

BACKGROUND

Existing environment and information

Description of the native vegetation under application

Vegetation Description

Beard vegetation association 662: Hummock grassland; shrub steppe; mixed acacia scrub & dwarf scrub with soft Spinifex & T. basedowii. (Hopkins et al.2001, Shepherd et al.2001).

Clearing Description

The proposal includes clearing of vegetation for the purpose of material extraction. The proposed area is 248 hectares. The vegetation under application consists of grasses with few scattered shrubs.

Vegetation Condition

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management

Comment

(suggestion: To determine Vegetation Condition use - Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.)

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Vegetation Complex	Clearing Description	Vegetation Condition	Comment
662	Mechanical	Fair	

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 degraded and does not represent a high level of biodiversity. This proposal is therefore not at variance with this Principle.

Methodology Site visit (07/02/07)
GIS Databases:
- Interim Biogeographic Regionalisation of Australia – EA 15/02/07.

(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 degraded and does not represent a significant habitat for fauna. This proposal is therefore not at variance with this Principle.
- Methodology** Site visit (07/02/07)
DEC advice

(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 records of Declared Rare of Priority Flora of the area under application. The vegetation under application consists of grasses and a few scattered shrubs. 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 (07/02/07)
GIS Databases:
- Declared Rare and Priority Flora list – CALM 07/02/07

(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 – CALM 13/02/07

(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 vegetation under application is representative of Beard Vegetation Association 662 (Hopkins et al. 2001) of which there is 99.3% of the pre-European extent remaining (Shepherd et al.2001). In addition the application falls within the Carnarvon IBRA Bioregion which has 99.8% of the pre-European extent remaining (Shepherd et al. 2001). Beard Vegetating Association 662 and the Carnarvon IBRA Bioregion are therefore both of 'least concern' for biodiversity conservation. This proposal is therefore not at variance with this Principle.
- Methodology** GIS Databases:
- Interim Biogeographic Regionalisation of Australia – 15/02/07
- Pre-European Vegetaion – DA 01/01-15/02/07

(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**
The area under application does not consist of a watercourse or wetland .The closest watercourse is the coastal waterline occurs 1km to the east. This proposal is therefore not at variance with this Principle.
- Methodology** Site visit (07/02/07)
DEC's web based Geographic Data Atlas mapping tool
GIS Databaes:
- 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 likely to be at variance to this Principle**
The area under application consists of coastal calcareous sands. The vegetation consists of grasses and a few scattered shrubs. Given the fact that only small selective pockets of the proposed pit areas will be used and that revegetation measures will be undertaken, the proposal is not at variance with this principle.
- Methodology** Site visit (07/02/07)
GIS Databases:
- Acid Sulphate Soil risk map

(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
The Ningaloo Marine Park, which is an Environmentally Sensitive Area and registered as National Estate, is located 1km east of the 11.0 SLK borrow pit. The vegetation under application consists of grasses and few scattered shrubs and is degraded. Given the distance to the Ningaloo Marine Park it is unlikely that this proposal will impact on the environmental values of the Marine Park. This proposal is therefore not at variance with this Principle.

Methodology Site Visit
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 likely to be at variance to this Principle
The vegetation under application consists of grasses and a few scattered shrubs in a linear tract of vegetation. In addition 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
DEC's web based Geographic Data Atlas mapping tool

(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 vegetation under application consists of grasses and few scattered shrubs in a linear tract of vegetation. The soil consists of coastal calcareous sands. In addition the area under application only receives approximately 300mm of annual rainfall. Due to the sandy nature of the soils and the low rainfall rate, his proposal will not exacerbate the incidence of flooding and therefore is not at variance with this Principle.

Methodology Site Visit
GIS Databases:
- Rainfall, Mean Annual – BOM 08/02/07

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

Comments
The Shire of Carnarvon advised that they have no objection to a clearing permit being granted to clear for the purpose of road construction or maintenance. The Shire of Carnarvon has recently approved an application made pursuant to Town Planning Scheme no.11 (which applies to the land) to develop the land for a power station and associated access. The Council has provided written authorisation and authorises Horizon Power to act on its behalf in making application to clear portion of Sanctuary Road Reserve for construction of a sealed road.

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

The Shire of Carnarvon has provided written authorisation and authorise Horizon Power to act on its behalf in making application to clear portion of Sanctuary Road Reserve for construction of a sealed road. Therefore the granting of a clearing permit constitutes a secondary approval and is not a future act under the Native Title Act 1993.

Methodology

SUBMISSIONS

If required have submissions been requested and addressed

Submission Requested from	Request Sent (Date)	Submission Received (Date)	Issues Raised / Comments Made
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ASSESSOR'S RECOMMENDATIONS

List of Principles seriously at variance, at variance or maybe at variance

Recommendation (does this clearing require a Revegetation Management Plan / Offset Proposal / Environmental Management Plan / Management Strategy/New Application, under CPS 818/2)

References

OFFICER PREPARING REPORT

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Date 15/02/07