

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

**MATERIAL PIT EXTENSIONS
NORTH WEST COASTAL HIGHWAY
397.4 & 416.9 SLK**



Prepared by Crystelle Evangelista (Environment Officer)
Gascoyne Region
March 2008

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

GRAVEL PIT EXTENSION (397.4 & 416.9 SLK)

1 INTRODUCTION

Main Roads Gascoyne and BGC over a number of years have slowly been exhausting gravel stockpiles within the Region. The extension of numerous pits is required to supply gravel for the maintenance of the Main Roads network and also for the supply of material in emergency situations (e.g. cyclone damage).

This report details the extension of 2 gravel pits located at:

- 397.4 SLK, LHS, North West Coastal Highway
- 416.9 SLK, LHS, north West Coastal Highway

All proposed pit extensions are within the Shire of Carnarvon.

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

Gravel Pit 397.4SLK is located approximately 200 meters off North West Coastal Highway on the left hand side. The proposed extension is to the west of the existing pit boundary (See Figure 2). The dimensions of the pit are approximately 100m long by 100m wide. The access tracks into the pit are in good condition and will easily allow the movement of machinery in and out of the project area.

Gravel Pit 416.9SLK is located approximately 320 meters off North West Coastal Highway on the left hand side. The proposed extension is to the north west of the existing pit boundary (See figure 3). The dimensions of the pit are approximately 100m long by 100m wide. The access tracks into the pit are in good condition and will easily allow the movement of machinery in and out of the project area.

2.1 Project Location

The location and boundaries of the study area are shown in Figures 1-3.

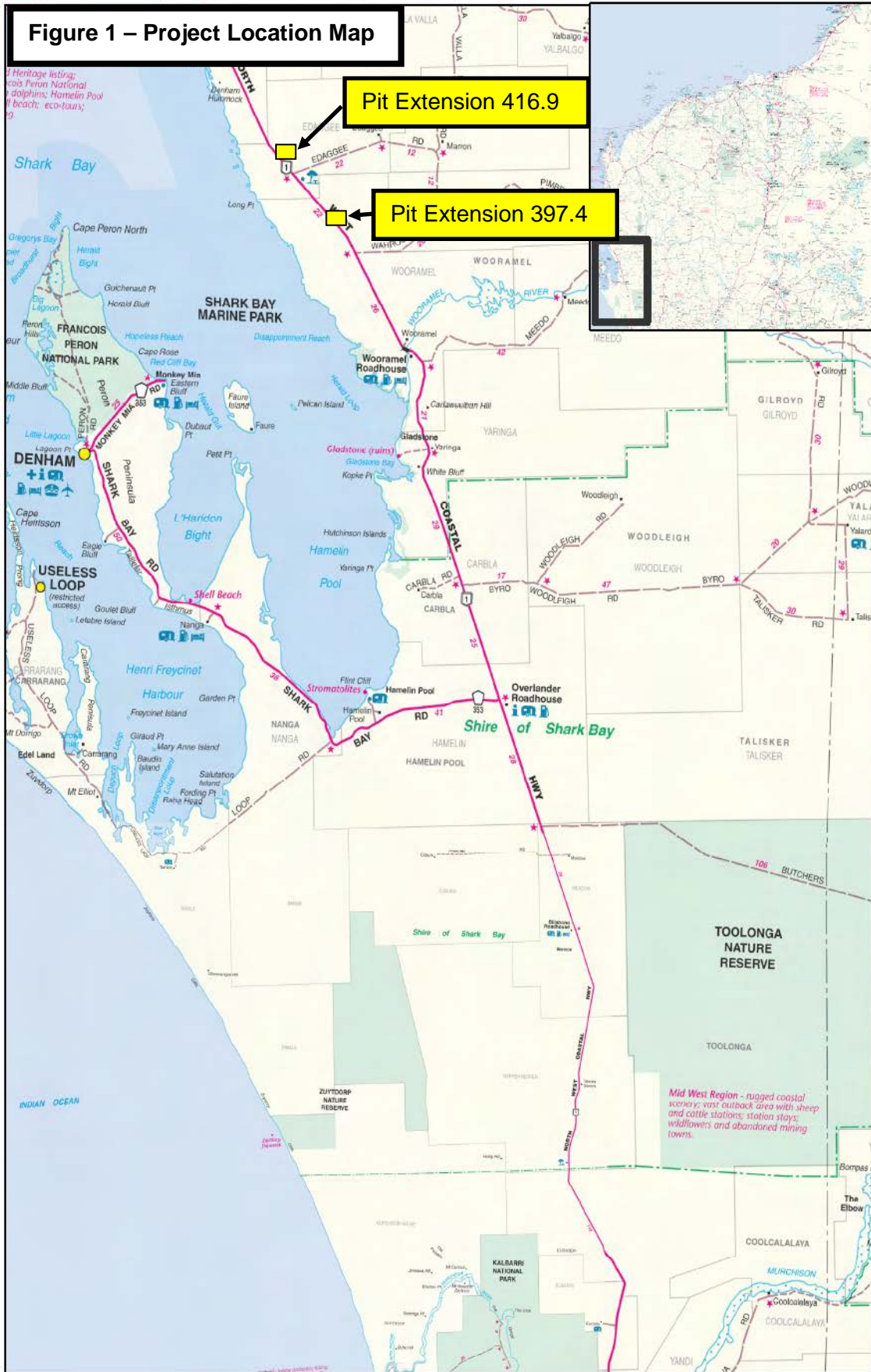


Figure 1: Location of Proposed Pit Extensions on North West Coastal Highway SLK 397.4 and 416.9

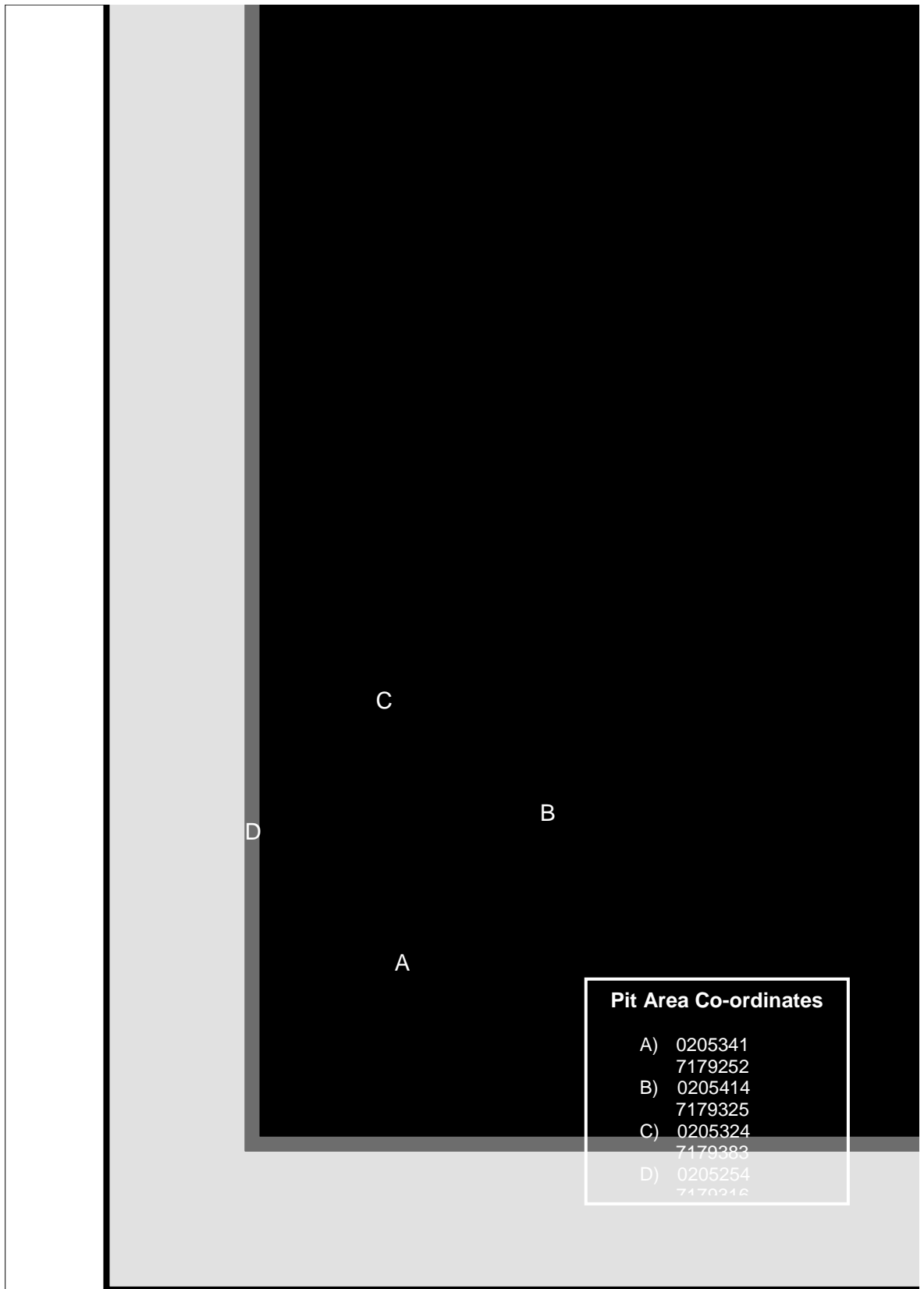


Figure 2: Proposed Pit Extension on North West Coastal Highway SLK 397.4

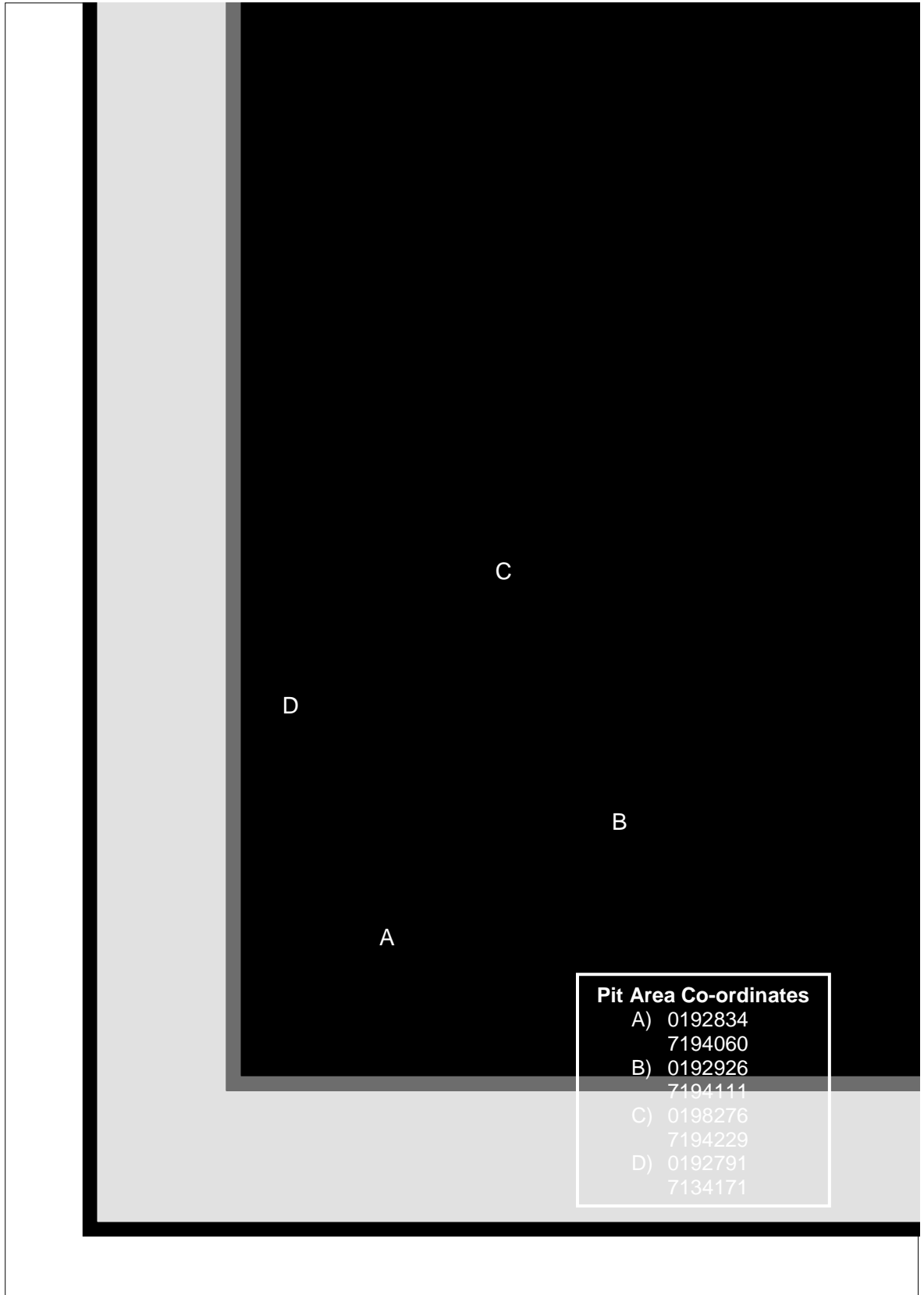


Figure 3: Proposed Pit Extension on North West Coastal Highway SLK 416.9

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://apostle.environment.wa.gov.au/idelve/doedataext/index.jsp>).

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, refer to Appendix C.

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's of Carnarvon and Ashburton Municipal Heritage Inventory, refer to Appendix D.

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 E.

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 necessary/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 F.

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 G.

4.1 Site Investigation

A site visit was carried out by Robbie Mallard (BGC Contractor) and Crystelle Evangelista (Environment Officer) on 13/03/08 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 H.

5 EXISTING ENVIRONMENT

5.1 Description

Pit 379.4 SLK

This material pit occurs within vegetation association No. 346 which is described as Mosaic: "Shrublands; *Acacia sclerosperma*, *A. victoriae* & snakewood scrub / Shrublands; patches of low mixed scrub". According to 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 degraded due to the grazing of cattle and previous material extraction.

Pit 416.9 SLK

This material pit occurs within vegetation association No. 346 which is described as Mosaic: "Shrublands; *Acacia sclerosperma*, *A. victoriae* & snakewood scrub / Shrublands; patches of low mixed scrub". According to 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 degraded due to the grazing of cattle and previous material extraction.

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

Acacia sclerosperma
Acacia tetragonopylla
Hakea preissii

Stylobasium spathulatum
Scaevola spinescens
Acacia eremaea

No mature trees will be cleared for the works.

There are no declared rare or priority flora within the pit sites.

5.2 Site Investigation

Site Investigation	Description/Comment
<i>Total area (ha) of <u>native vegetation</u> to be cleared</i>	379.4 SLK = 1 (ha) 416.9 SLK = 1 (ha)
<i>Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared</i>	0
<i>Weeds present</i>	<i>Cenchrus ciliaris</i> (Buffel Grass)
<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 I.

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 Extensions – 397.4 & 416.9 SLK -NWCH

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"> the predicted traffic flow is less than 15,000 vehicles per day in rural areas; and 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 upgrade works. Given the small area of clearing and the mobile nature of the species found within the area, no impacts are expected The EPBC Act Protected Matters Report resulted in the Western Spiny-tailed Skink is likely to occur with the area. Given the type of vegetation that exists and the mobile nature of the species, works will not impact upon this species.
Vegetation – clearing	<ul style="list-style-type: none"> 1 ha of native vegetation will be cleared at 397.4 SLK Pit 1 ha of native vegetation will be cleared at 416.9 SLK Pit The projects will involve temporary clearing and so will require revegetation plans The condition of the native vegetation to be cleared is degraded 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 – TEC/DRF	Consultation with DEC confirms that there are no DRF or TEC within the project area and the proposal will not have a significant impact upon this environmental aspect. No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted.
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 areas.
Surface water/drainage	On-site visit confirmed that the proposed works will not disturb or interrupt any natural drainage and surface run-off patterns.
Wetlands	There are no wetlands within the vicinity of the project areas.
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.

Table 1: Aspects and Impacts – Material Pit Extensions – 397.4 & 416.9 SLK -NWCH

Aspect	Evaluation of Potential Impacts
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	As the proposed works are entirely within the existing road reserve, no further amendments would be required to the Local Government Planning Scheme or Region Scheme.

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
Bridgette Long (Flora) Kellie Mantle (Fauna)	DEC DEC		

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.

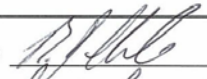
Projects that have "No" to **all** items are classed as Low Impact and should be implemented using standard contract clauses in the Tender Document Process.


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: Pit Extension 397.4 and 416.9 SLK – North West Coastal Highway

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

Completed By: *Signature*  *Date* 17/3/08
Name BRUCE CHARLES *Title* SCCR

To be reviewed by a Main Roads Environment Officer: *Signature*  *Date* 17/03/08
Name Crystelle Kienelste *Title* Environment Officer

Comments: Works will be completed using a PEIA.

Appendix B

Main Roads WA – Revegetation Plan for Pastoral Areas

**Main Roads WA – Revegetation Plan for Pastoral Areas
Condition 14(e), CPS 818**

Date:	Unknown.	Project:	Unknown.
Manager:	Main Roads WA.		
Location and size of clearing:	For project areas located within the pastoral / rangelands region north of the agricultural area as described in the Environmental Protection Authority's Position Statement No.2.		
Location and size of revegetation:	Primarily for areas that were cleared for searching and extracting road building materials (e.g. borrow pits, etc.), and other project related temporary clearing.		
Clearing description:	Machine clearing.		
Revegetation description:	Replacement of topsoil material regeneration.		
Reason for revegetation:	Revegetation of temporary cleared areas, in accordance with condition 14 of clearing permit CPS 818.		
Revegetation / rehabilitation requirements:			
Site preparation:	<p>All vegetation will be cleared from the works area and non-weed infested vegetation is stockpiled. Stockpiled vegetation will be placed in a manner that will prevent damage to adjacent vegetation by machinery. Weed infested vegetation will be disposed of at an appropriate site and not used for revegetation purposes. Burning of the cleared vegetation will not be permitted.</p> <p>Topsoil will be stripped to a maximum depth of 100mm, and will be stored in a weed free (as far as possible) area, as close as possible to the area to be rehabilitated. Topsoil will be placed in windrows of less than 1.5m in height and reinstated as soon as practicable to maintain viability of in-situ seeds.</p>		
Weed control:	<p>Appropriate weed control will be carried out when weeds are present, both prior to topsoil stripping and where weeds become established on or between the stockpiled materials. Weed control will take place prior to the respreading of topsoil to ensure weeds are killed and not transported to other areas.</p> <p>Control measures include the removal of weeds to an approved dumpsite, or treatment of weeds such as by using herbicides mixed in accordance with manufacturer's instructions and applied by a licensed operator. Where practicable, weeds will be removed prior to or when they are in flower, and prior to seeding.</p> <p>All machinery will be cleared of soil build up and vegetative material before entering and leaving the site to help minimise the transportation of weeds and their seeds.</p> <p>Exposed areas such as bare batters and borrow pits shall be promptly rehabilitated to reduce the potential for weed establishment. Where works are adjacent to good quality vegetation, where weeds from within the project area are likely to spread to and result in environmental harm to the adjacent area, those weeds will be controlled annually until 12 Dec 2010..</p>		

**Main Roads WA – Revegetation Plan for Pastoral Areas
Condition 14(e), CPS 818**

Regeneration / direct seeding / planting at an optimal time:

The following rehabilitation works are undertaken on areas of disturbed earth requiring rehabilitation:

- Topsoil is uniformly respread to a typical depth of 100mm over the project area. In project areas where topsoil has not been removed and/or is not available, other substrate, such as gravel, may be substituted as a growth medium.
- Project areas will be ripped to a minimum depth of 200mm deep with rip lines approximately 300mm apart. Where slopes are present, rip lines shall follow natural contours.

The following rehabilitation works are undertaken at borrow / gravel pits:

- Overburden and then topsoil will be uniformly and evenly spread over the disturbed areas of the pit. Depending on the slope of drainage lines within the pit, small swales from the topsoil will be formed to reduce erosion velocities and encourage the deposition of seeds.
- The whole of the existing pit floor, including drainage lines, will be ripped to a depth of 300-500mm deep with rip lines between 500-800mm apart (if the material in the pit is able to be ripped).
- All stockpiled vegetation will be spread along the contour and the pit floor to help promote seed deposition and to reduce erosion velocities.

Vegetation establishment period:

The vegetation establishment period is for at least twelve months following the completion of the works. During this period, maintenance and monitoring will be undertaken (see below).

Ongoing maintenance and monitoring:

After revegetation works, revegetated areas will be inspected annually for a minimum of two years to monitor and control weeds and to measure the effectiveness of revegetation works.

When unwanted weed foliage cover exceeds 25% after the initial two year period, further actions will be implemented to monitor and control these weeds. The additional monitoring and weed control will be conducted annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.

Monitoring commitments:

Post revegetation site inspections will be carried out annually for a minimum of two years to monitor unwanted weeds and measure the effectiveness of revegetation works. Monitoring of sites where unwanted weed foliage cover exceeds 25% after the initial two year period will continue annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.

Management commitments:

Undertake annual weed control of unwanted weeds annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.

Agencies consulted and submissions received:

Nil.

Appendix C

DEC's Threatened Flora and Fauna Database Searches

EVANGELISTA Crystelle (GEnv)

From: Long, Bridgitte [Bridgitte.Long@dec.wa.gov.au]
Sent: Tuesday, 18 March 2008 1:21 PM
To: EVANGELISTA Crystelle (GEnv)
Subject: RE: DEC Flora Database Search - North West Coastal Highway - Pit Extensions
Attachments: NWCoastalHwy_waherb_180308.dbf; NWCoastalHwy_letter_180308.doc

Hi Crystelle

Please find attached the results from the WA Herbarium database for the area surrounding NW Coastal Highway in Carnarvon. There were no results from the Threatened (Declared Rare) Flora Database for this search.

Please refer to the attached letter for the Conditions of Supply for this information.

Régards

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: EVANGELISTA Crystelle (GEnv) [mailto:crystelle.evangelista@mainroads.wa.gov.au]
Sent: Tuesday, 18 March 2008 8:47 AM
To: Long, Bridgitte
Subject: DEC Flora Database Search - North West Coastal Highway - Pit Extensions

Hi Bridgitte

Main Roads Gascoyne Region is proposing to extend numerous material pits across the Gascoyne Region. The purpose of the extension is to provide future gravel resources for road maintenance and construction.

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

The co-ordinates for the sites are as follows (data in GDA 94 – Zone 50)

Site 1 – Pit Extension 379.4 SLK
SW Corner
205341
7179252

NW Corner
0205254
7179316

NE Corner
0205324
7179383

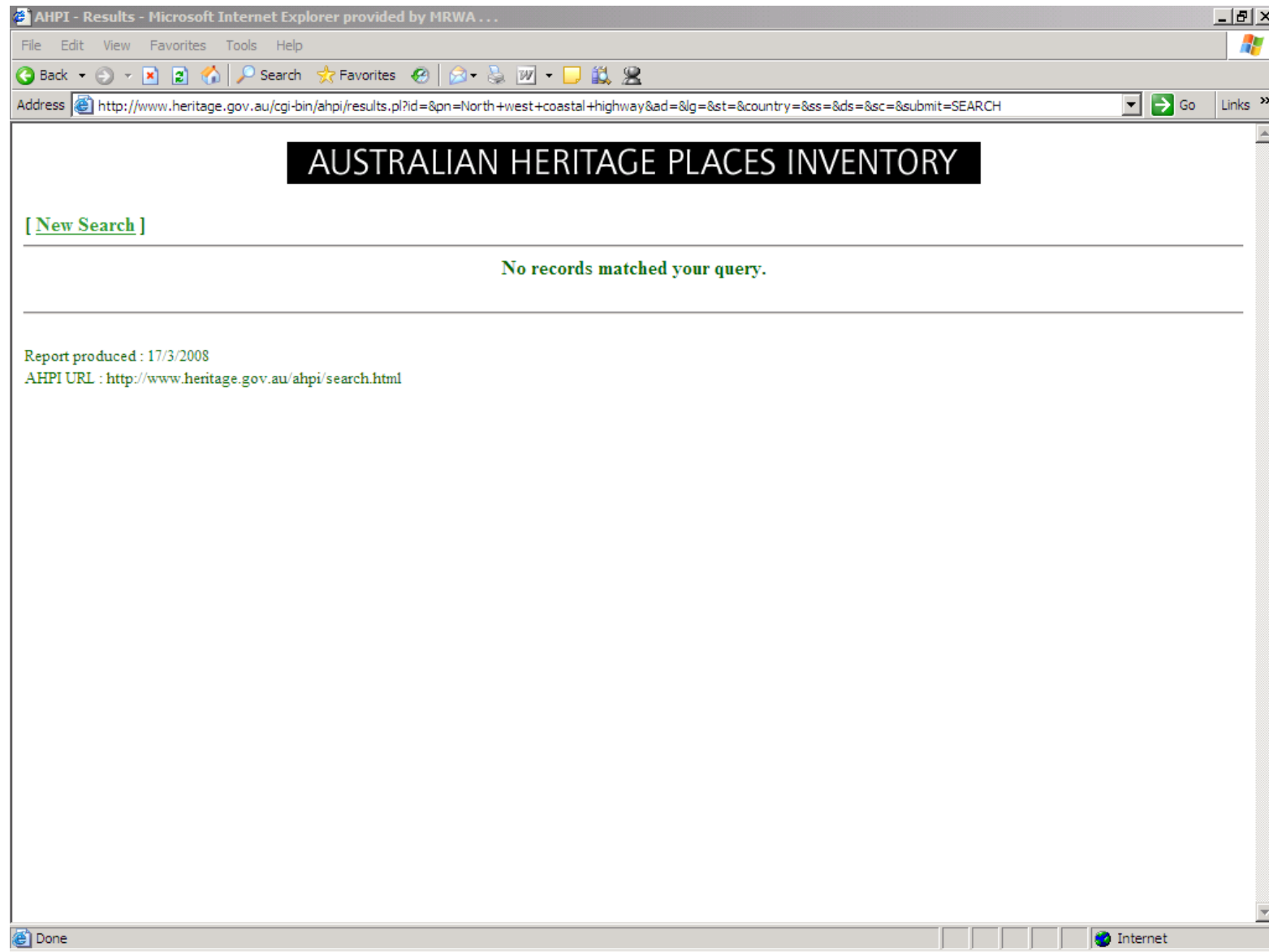
SE Corner
0205414
7179325

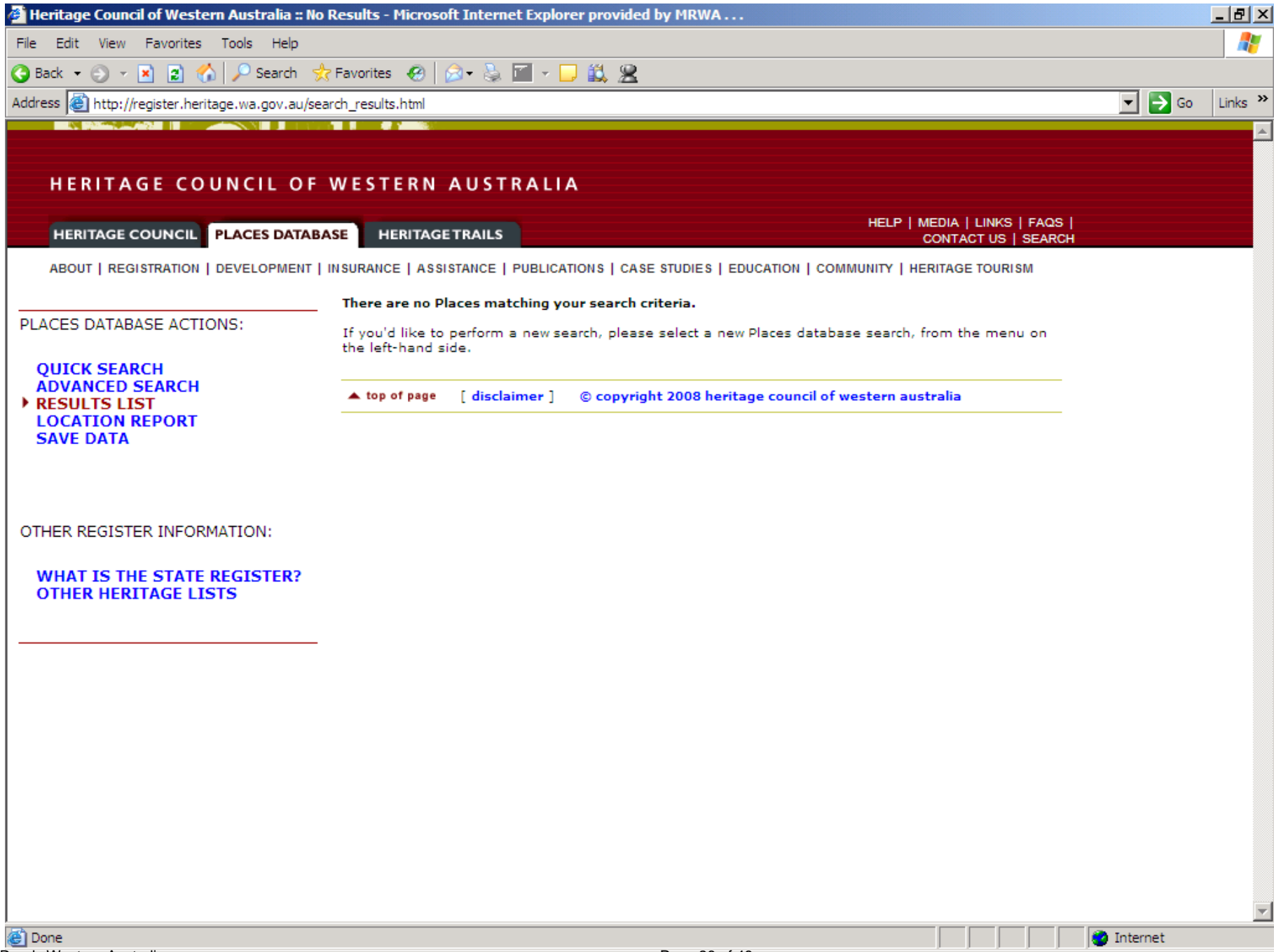
Site 2 – Pit Extension 416.9 SLK
SW Corner
0192834

25/03/2008

Appendix D

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





Appendix E

Department of Indigenous Affairs Database Search

Search Criteria

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

GDA94	
Latitude	Longitude
-25° 36' 41"	113° 57' 47"
-25° 22' 18"	114° 12' 32"

MGA coordinates could not be shown because the search area spans multiple zones.

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

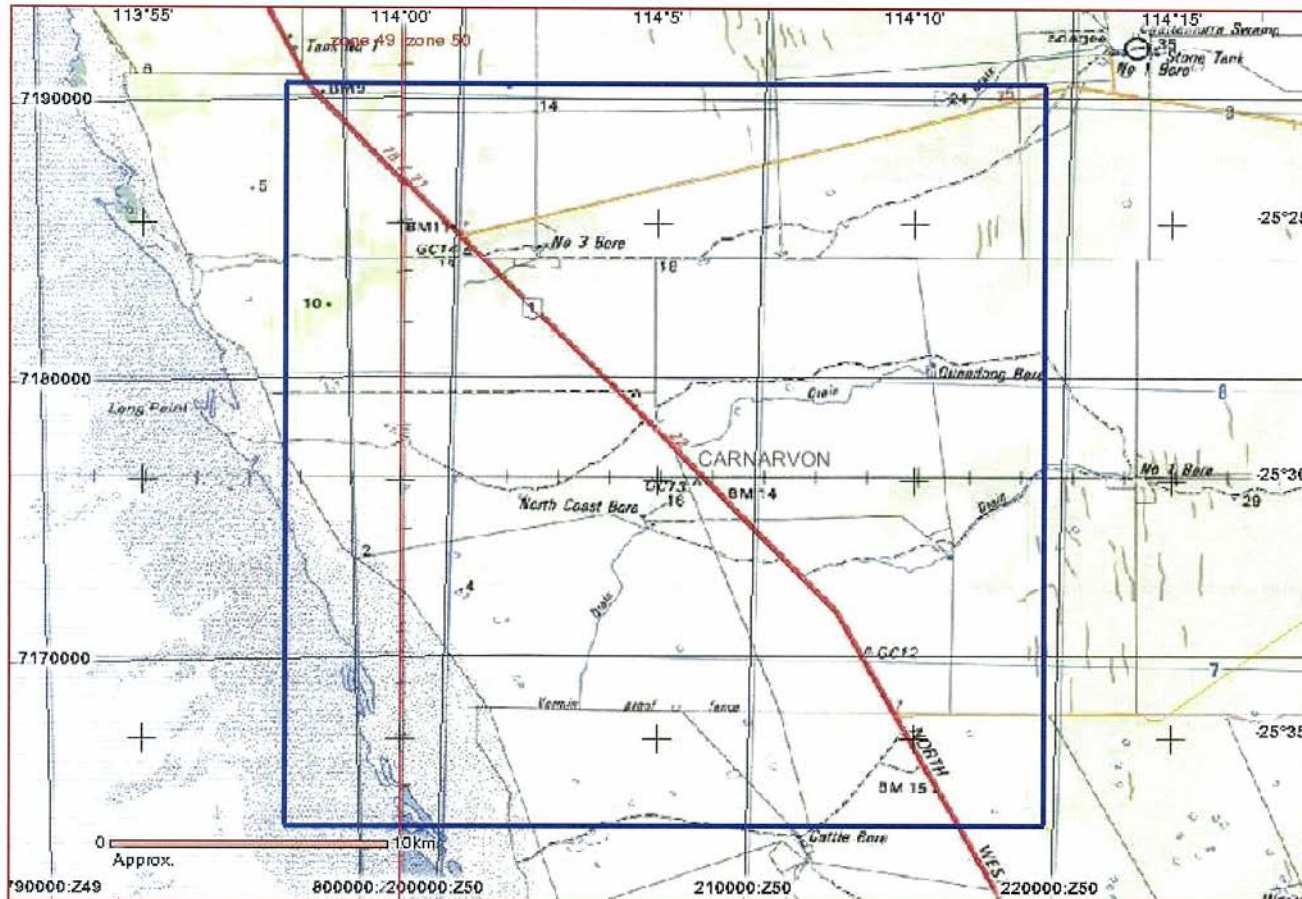
Copyright in the information contained herein is and shall remain the property of the State of Western Australia. All rights reserved. This includes, but is not limited to, information from the Register of Aboriginal Sites established and maintained under the Aboriginal Heritage Act 1972 (AHA).

Legend

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

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.



Legend

- Highlighted Area
- Town
- Map Area
- Search Area

Copyright for base map information shall at all times remain the property of the Commonwealth of Australia, Geoscience Australia - National Mapping Division. All rights reserved.

Copyright for Native Title Land Claim, Local Government Authority, Mining Tenement boundaries shall at all times remain the property of the State of Western Australia. All rights reserved.

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-Of-Use/>

Appendix F

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	Crystelle Evangelista	
Applicant signature		Date 17/03/08
Application property details	Pit Extension- North West Coastal Highway SLK 379.4 and 416.9	

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 1-29 of planning bulletin no. 64 can be downloaded at www.wapc.wa.gov.au/bulletins

- Question 1: Do figures 1-29 of the WAPC's Planning Bulletin No 64 Acid Sulfate Soils show the land as having a high to moderate risk of acid sulfate soil occurring within 3 m of natural soil surface? yes no
- Question 2: Is the land located in an area, whether depicted in figures 1-29 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 100m³ of soil proposed? (ie 10 standard dump truck loads) yes no
- Question 5: Is the surface elevation $>$ 5m AHD and is excavation of \geq 100m³ 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 G

Department of the Environment and Heritage Database Search



Australian Government
Department of the Environment, Water, Heritage and the Arts

Protected Matters Search Tool

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

17 March 2008 17:44

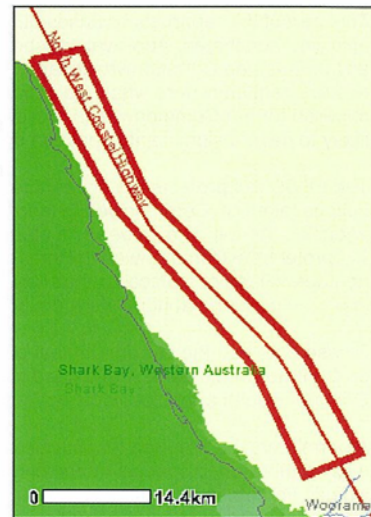
EPBC Act Protected Matters Report

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: Line
Buffer: 0 km
Coordinates: -25.1554,113.8171, -25.1413,113.8826, -25.3308,113.9692, -25.5460,114.1773, -25.6723,114.2498, -25.7027,114.1750, -25.5577,114.1072, -25.3518,113.9294, -25.153,113.8171



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

- Report Contents:**
- [Summary](#)
 - [Details](#)
 - [Matters of NES](#)
 - [Other matters protected by the EPBC Act](#)
 - [Extra Information](#)
 - [Caveat](#)
 - [Acknowledgments](#)

Summary

http://www.environment.gov.au/cgi-bin/erin/ert/epbc/epbc_report.pl

17/03/2008

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:	13

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:	11
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
Birds		
Acanthiza iredalei iredalei * Slender-billed Thornbill (western)	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Egernia stokesii badia * Western Spiny-tailed Skink	Endangered	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
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 madagascariensis Eastern Curlew	Migratory	Species or species habitat likely to occur within area
Numenius minutus Little Curlew, Little Whimbrel	Migratory	Species or species habitat may occur within area
Pluvialis squatarola Grey Plover	Migratory	Species or species habitat likely to occur within area
Tringa glareola Wood Sandpiper	Migratory	Species or species habitat likely to occur within area
Tringa nebularia	Migratory	Species or species habitat likely to

Common Greenshank, Greenshank

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 ActListed 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

[Haliaeetus leucogaster](#)

White-bellied Sea-Eagle

Listed Species or species habitat likely to occur within area

[Merops ornatus](#) *

Rainbow Bee-eater

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

[Numenius madagascariensis](#)

Eastern Curlew

Listed Species or species habitat likely to occur within area

[Numenius minutus](#)

Little Curlew, Little Whimbrel

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

[Pluvialis squatarola](#)

Grey Plover

Listed - overfly marine area Species or species habitat likely to occur within area

[Tringa glareola](#)

Wood Sandpiper

Listed - overfly marine area Species or species habitat likely to occur within area

[Tringa nebularia](#)

Common Greenshank, Greenshank

Listed - overfly marine area Species or species habitat likely to occur within area

Appendix H

Site Photos



Photograph 1: Pit Extension 397.4 SLK – North West Coastal Highway – North View



Photograph 2: Pit Extension 397.4 SLK – North West Coastal Highway – South East View



Photograph 3: Pit Extension 397.4 SLK – North West Coastal Highway – West View



Photograph 4: Pit Extension 397.4 SLK – North West Coastal Highway – Dumped Rubbish



Photograph 5: Pit Extension 416.9 SLK – North West Coastal Highway – North View



Photograph 6: Pit Extension 416.9 SLK – North West Coastal Highway – West View



Photograph 7: Pit Extension 416.9 SLK – North West Coastal Highway –East View

Appendix I

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: Crystelle Evangelista
Phone: (08) 9941 0713
Fax: (08) 9941 0701
Email: crystelle.evangelista@mainroads.wa.gov.au

Property details

Property: Pit Extension – North West Coastal Highway – SLK 397.4
Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
0.01	0	Mechanical	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

This material pit occurs within vegetation association 346 which is described as Mosaic: "Shrublands; Acacia sclerosperma, A. victoriae & snakewood scrub / Shrublands; patches of low mixed scrub" (DEC & DAF) this vegetation association is well represented in the region with 100% remaining. The condition of the vegetation is best described as degraded due to the grazing of cattle and previous material extraction.

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 Association	Clearing Description	Vegetation Condition	Comment
346	Mechanical	Degraded	

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 (13/03/08)
GIS Databases:
- Interim Biogeographic Regionalisation of Australia – 13/03/08.

(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. Due to the relatively small clearing area necessary for the pit extensions, impact to fauna species will be marginal. This proposal is therefore not at variance with this Principle.

Methodology Site visit (13/03/08)
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**
DEC Threatened Flora Database search was conducted and no rare flora was known to exist within the project areas. Also based upon site visits, 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 (13/03/08)
GIS Databases:
- Declared Rare and Priority Flora list – DEC

(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 17/03/08

(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**
Pit 397.4 SLK is representative of Beard Vegetation Association 346 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 – 17/03/08
- 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 not at variance to this Principle**
The area under application does not consist of a watercourse or wetland . This proposal is therefore not at variance with this Principle.

Methodology Site visit (13/03/08)
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 texture contrast 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 (13/03/08)
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 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 (13/03/08)
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, these proposals will not cause deterioration in the quality of surface or under ground water and therefore not a variance to this Principle.

Methodology Site Visit (13/03/08)
DEC's web based Geographic Data Atlas mapping tool
Rainfall, Mean Annual – BOM 17/03/08

(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 textured contrast 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 (13/03/08)
Rainfall, Mean Annual – BOM 17/03/08

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

Crystelle Evangelista (Graduate Environment Officer)
Gascoyne Regional Office MRWA
Phone 08 9941 0713

Date 26/03/08

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: Crystelle Evangelista
 Phone: (08) 9941 0713
 Fax: (08) 9941 0701
 Email: crystelle.evangelista@mainroads.wa.gov.au

Property details

Property: Pit Extension – North West Coastal Highway – SLK 416.9
Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
0.01	0	Mechanical	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

This material pit occurs within vegetation association 346 which is described as Mosaic: "Shrublands; Acacia sclerosperma, A. victoriae & snakewood scrub / Shrublands; patches of low mixed scrub" (DEC & DAF) this vegetation association is well represented in the region with 100% remaining. The condition of the vegetation is best described as degraded due to the grazing of cattle and previous material extraction.

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
346	Mechanical	Degraded	

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 (13/03/08)
 GIS Databases:
 - Interim Biogeographic Regionalisation of Australia – 13/03/08.

(c) 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. Due to the relatively small clearing area necessary for the pit extensions, impact to fauna species will be marginal. This proposal is therefore not at variance with this Principle.

Methodology Site visit (13/03/08)
 Main Roads Western Australia

(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 site visits, 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 (13/03/08)
 GIS Databases:
 - Declared Rare and Priority Flora list – DEC

(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 17/03/08

(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**
 Pit 416.9 SLK is representative of Beard Vegetation Association 346 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 – 17/03/08
 - 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 not at variance to this Principle**
 The area under application does not consist of a watercourse or wetland . This proposal is therefore not at variance with this Principle.
- Methodology** Site visit (13/03/08)
 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 texture contrast 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 (13/03/08)
 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 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 (13/03/08)
 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, these proposals will not cause deterioration in the quality of surface or under ground water and therefore not a variance to this Principle.

Methodology Site Visit (13/03/08)
DEC's web based Geographic Data Atlas mapping tool
Rainfall, Mean Annual – BOM 17/03/08

(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 textured contrast 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 (13/03/08)
Rainfall, Mean Annual – BOM 17/03/08

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
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ASSESSOR'S RECOMMENDATIONS

OFFICER PREPARING REPORT

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Gascoyne Regional Office MRWA
Phone 08 9941 0713

Date 26/03/08