



COMBINED ENVIRONMENTAL REPORT

South West Region

Coalfields Highway

**Left turn slip lane
improvement at
Gastaldo Road
21.10 SLK LHS**

Shire of Collie

Locality of Worsley



**Prepared by: Jeanette Della-Bona
Project Development Officer Environment**
Date: September 2006

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COALFIELDS HIGHWAY LEFT TURN SLIP LANE IMPROVEMENT GASTALDO ROAD 21.10 SLK LHS, COLLIE

COMBINED ENVIRONMENTAL REPORT

1. PROJECT DESCRIPTION

An improvement to the existing left turn slip lane is required for Coalfields Highway turning into Gastaldo Road at 21.10 SLK in the locality of Worsley, Shire of Collie.

2. BACKGROUND

Gastaldo Road is the main access to Worsley refinery, and is used by a large number of vehicles including trucks. Due to the excessive vehicle movements this T-junction has been identified for an up-grade.

As per Main Roads' Environmental Assessment and Approval process, the Low Impact Environmental Screening Checklist has been completed for the proposal, refer Appendix A. As the proposed works involves clearing of trees, the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required. This report fulfils this requirement.

3. DESCRIPTION OF THE PROJECT

The location of the study area is shown on Figure 1 and include the following features:

- modifying the intersection layout by improving the length of the left slip turning lane from 50m plus 80m taper to 130m plus 50m taper, and
- increasing the width of the turning lane from 2.8m to 3.5m and add 0.5m sealed shoulder and 1.0m unsealed shoulder.

3.1 Methodology

3.1.1 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.

Wetlands

A wetland search was undertaken using the Commonwealth Department of Environmental and Heritage (DEH) mapping tool, Department of Environment (DoE) Environmentally Sensitive Area (ESA) mapping tool and none were found to occur within the project area – refer to Appendix F and G.

Threatened Flora, Fauna and Communities, Conservation Reserves and ESAs

Tenielle Brown from DEC Bunbury (former CALM) checked for any TEC Flora, Fauna and communities within the project area. None were found to be present.

Air Quality

Not relevant to proposed works.

Heritage

Non-indigenous heritage was examined utilising the Australian Heritage Places Inventory (<http://www.heritage.gov.au>) and Heritage Council of Western Australia (<http://register.heritage.wa.gov.au/>) and no places were found to occur in or adjacent to the project area. Refer Appendix C.

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 Appendix D. None were found to occur within the project area. An on-site consultation took place 22/09/06 with the local informants and they concluded that there were no issues of ethnographic significance.

Sensitive Water Resources

The Water Information Officer of the Department of Water's regional officer Richard Watson was consulted on sensitive water resources (including Public Drinking Water Source Areas) to determine whether the project area supported, or was adjacent to, any significant lakes, rivers or wetlands or proclaimed areas, refer Appendix E. It was confirmed that the project area does lie within the proclaimed Collie River catchment, but is not near any streams or wetlands so there are no licensing issues.

Contaminated Sites

Given the relatively superficial nature of the required earthworks and no evidence on site, there appears to be a low risk of any significant contamination issues. Also the works are within the road reserve and no known previous land use activities on or adjacent to the project area have had the potential to create contamination, eg petrol station.

Acid Sulfate Soils

The Western Australian Planning Commission's acid sulfate soils maps were reviewed by DoW and no ASS were found to occur in the project area, refer Appendix E e-mail from Richard Watson from Department of Water.

Weeds

A site inspection revealed that there were no declared weeds within the project area.

Dieback

No dieback indicator species were found to be present within the project area, therefore the area can be deemed as uninterpretable.

Commonwealth Referral

The decision as to whether to refer the project to the Commonwealths DEH was based upon whether the project was going to impact upon any matter of national significance, eg World Heritage properties, protected wetlands and migratory species, Commonwealth marine areas, threatened species or communities or nuclear actions refer Appendix F.

3.1.2 Site Investigation

A site visit was carried out by Project Manager Ken Baker on 13/09/06 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).

4. EXISTING ENVIRONMENT

The existing environment consists of regrowth Marri (*Euclayptus calophylla*) trees. There is no native understorey or natural or surface drainage lines within the project area.

The project area is adjacent to farmland to the north and to the Wellington National Park to the south.

Approximately 40 trees are to be cleared for the project or approximately 750 m² of vegetation to be cleared.

5. CLEARING OF NATIVE VEGETATION

As noted in the Low Impact Environment Assessment, there will be clearing of some trees to allow for the upgrading of the left turn slip lane. Approximately 40 trees will be required to be removed, that is 750 m² of clearing will be required. The project does not occur within an ESA.

In assessing whether the project is likely to have a significant impact on the environment, the project has been assessed against the DoE's 10 principles of clearing, see table below.

Clearing Principles - Environmental Protection Act Section 5	Yes/No
Does the area to be cleared comprise a high level of biological diversity?	No
Does the area to be cleared comprise the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia?	No
Does the area to be cleared include, or is necessary for the continued existence of, rare flora?	No
Does the area to be cleared comprise the whole or a part of, or is necessary for the maintenance of, a threatened ecological community?	No
Is the area to be cleared significant as a remnant of native vegetation in an area that has been extensively cleared?	No
Does the area to be cleared within, or in association with, an environment associated with a watercourse or wetland?	No
Is the clearing of the vegetation likely to cause appreciable land degradation?	No
Is the clearing of the vegetation likely to have an impact on the environmental values of any adjacent or nearby conservation area?	No
Is the clearing of the vegetation likely to cause deterioration in the quality of surface or underground water?	No
Is the clearing of the vegetation likely to cause, or exacerbate, the incidence or intensity of flooding?	No

6. ASSESSMENT OF ASPECTS AND IMPACTS

Table 1: Aspects and Impacts – **COALFIELDS HIGHWAY LEFT TURN SLIP LANE IMPROVEMENT, GASTALDO ROAD, 21.10 SLK LHS**

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works.
Dust	Likely to be a minor issue during earthworks. No major sensitive receivers adjacent to the proposed works, but excessive dust could impact traffic and adjoining vegetation. Activities will need to be subject to dust suppression to control short-term dust generation. Likely to be easily managed by standard construction dust management techniques.

Table 1: Aspects and Impacts – **COALFIELDS HIGHWAY LEFT TURN SLIP LANE IMPROVEMENT, GASTALDO ROAD, 21.10 SLK LHS**

Aspect	Evaluation of Potential Impacts
Fauna	A check of the Department of Environment and Heritage database was completed for the project area and some matters of national environmental significance and were listed as occurring in the area Refer Appendix F. Due to the relatively small area of clearing however– 40 young regrowth marri trees (approx 750 m ²), no native understorey, generally degraded and exposed nature of the works areas, no significant impacts would be expected on native fauna generally as a result of the proposed works. The design has been adjusted to minimise the overall clearing, and therefore will serve to reduce impacts any to fauna in the project area.
Vegetation – clearing	The native vegetation to be cleared will be done so using the purpose permit as the project does not occur within an ESA.
Vegetation – TECs/DRF	<p>None present in the proposed works areas. No significant vegetation types or threatened flora have been recorded within in road reserve. Areas outside the project area must not be disturbed as part of the proposed works.</p> <p>Consultation with CALM confirms that the proposal is not going to have a significant impact upon any DRF or TECs.</p>
Vegetation – weeds	There are no weeds within the project area.
Vegetation – dieback	No dieback sensitive flora species are present within the works area. The area is considered uninterpretable. Standard hygiene procedures will apply ie clean on entry.
Reserves / Conservation areas	The intersection is located adjacent to cleared farmland. Wellington National Park however is located on the south side of Coalfields highway, opposite the project area.
Heritage (non-indigenous)	A search of the Australian Heritage Places Inventory and Heritage Council of Western Australia databases has indicated that there are no heritage significance listed sites present in the currently proposed works areas.
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>A consultation with the local Aboriginal informants took place 22 September 2006 and the groups confirmed that they had no heritage issues with the project but did require that there be a monitor on site during clearing and earthworks (2 days) to ensure no artefacts or skeletal material are uncovered.</p>
Surface water/drainage	Consultation with Department of Water has 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 area.
Groundwater	No dewatering nor drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	No major sensitive local receivers. Construction works would not be expected to significantly contribute to noise levels at the nearest sensitive receivers, provided works are limited to normal working hours. The requirements of the Shire of Collie must be met in respect of noise management and construction working hours.
Visual amenity	The proposed works will result in a minor visual impact.
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. The proposed works will serve to enhance public safety by improving local road conditions.
Hazardous substances	Not relevant to the proposed works.
Contamination	Given the relatively superficial nature of the required earthworks, there appears to be a low risk of any significant contamination issues. Also the works are within the road reserve and no known previous land use activities on or adjacent to the project area have had the potential to create contamination, eg petrol station.

Table 1: Aspects and Impacts – **COALFIELDS HIGHWAY LEFT TURN SLIP LANE IMPROVEMENT, GASTALDO ROAD, 21.10 SLK LHS**

Aspect	Evaluation of Potential Impacts
Salinity	Given the nature and scale of the project the impact is not relevant. There were no visual signs of salinity observed in the project area.
Acid Sulfate Soils	This issue was checked by Department of Water – refer Appendix E and no ASS issue was identified.
Statutory Land Use Planning	No local planning schemes will be impacted and all works are to be contained wholly in the road reserve.

7. DECISION TO REFER

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

8. ENVIRONMENTAL MANAGEMENT PLAN

This section of the report (the EMP) has been developed for the project area following the completion of the above sections. The main aims 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.

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

- area of management (eg vegetation);
- the timing of the various management requirements;
- the management objectives for each area;
- the management strategies that are necessary to minimise the impact;
- the person/s responsible for implementing the management action; and
- on whose advise or Main Roads requirement

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
Vegetation Clearing - Record-keeping	All phases	The project should maintain the required records relating to the clearing of native vegetation under the purpose permit	Clearing: <ul style="list-style-type: none"> a copy of the CER (Combined Environmental Report) 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); the dates on which the clearing was done. 	Project Manager	DEC
Vegetation - Clearing	Pre-Construction	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 warmer months to reduce the potential for soil erosion due to vegetation removal and heavy rains.	Project Manager	Main Roads
			Any stockpiled vegetation from clearing works shall not be burnt. Smaller branches will be chipped and respread into the road reserve. and any larger timber will be removed and disposed of off site.	Contractor	Main Roads
Surface Drainage	Pre-Construction	Maintain the hydrological regime that exists prior to the construction of the proposal	Maintain existing table drain system	Project Manager	Main Roads
Aboriginal Heritage	Construction	Ensure no archaeological or skeletal material is uncovered during earthworks	Employ Aboriginal monitor during earthworks and clearing.	Project Manager	
Noise, Vibration and Dust	Construction	Ensure that the construction of the proposal does not become a nuisance to the public	Appropriate traffic management measures should be planned and implemented prior to the construction of works	Contractor	Main Roads
		Ensure that the construction of the proposal does not become a nuisance to the public	Works associated with the construction of the development should not prevent public access. Public access should be maintained at all times	Contractor	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
			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
			Watering, the use of hydromulch or other forms of mulching to protect loose surfaces shall be used as mitigation measures	Contractor	Main Roads
Pollution and Litter	Construction	Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment.	The designated servicing area 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
Fire	Construction	Ensure that the fire risk associated with the construction of the proposal is minimised.	No fires shall be lit within the project area	Contractor	Main Roads
			Machinery will be fitted with approved spark arresting mufflers.	Contractor	Main Roads
			A water tanker will be on site at all times.	Contractor	Main Roads
Site	Construction	Ensure that the site is	Site office and materials storage areas will be	Contractor	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Area of management	Timing	Management objective	Management Strategy	Responsibility	Whose advice
Management		managed to ensure that construction of the proposal will have minimal impact upon the surrounding environment	located on previously disturbed/ designated area		
			All waste materials from the development are to be completely removed from the site upon completion of the development. Final clean-up shall be to the satisfaction of the Project Manager and the Site Superintendent.	Contractor	Main Roads

9. REFERENCES

Department of Indigenous Affairs <http://www.dia.wa.gov.au/>

Department of Environment & Heritage EPBC search: <http://www.deh.gov.au/>

Heritage Council of WA : <http://www.heritage.wa.gov.au/>

Department of Environment and Conservation ESA Search:
http://portal.environment.wa.gov.au/portal/page?_pageid=53,2569721&_dad=portal&_schema=PORTAL

Figure 1
Locality Plan



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 **Error! Reference source not found.** 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: Coalfields Highway / Gastaldo Road Intersection Improvements

Improve Left Turn Slip Lane

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 type="checkbox"/>	<input checked="" 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 *Ken Baker* Date 15/9/2006
 Name Ken Baker Title Project Manager

To be reviewed by a Main Roads Environment Officer Signature *Jeanette Della Bona* Date 15/9/06
 Name Jeanette Della Bona Title Project Development Officer Environment

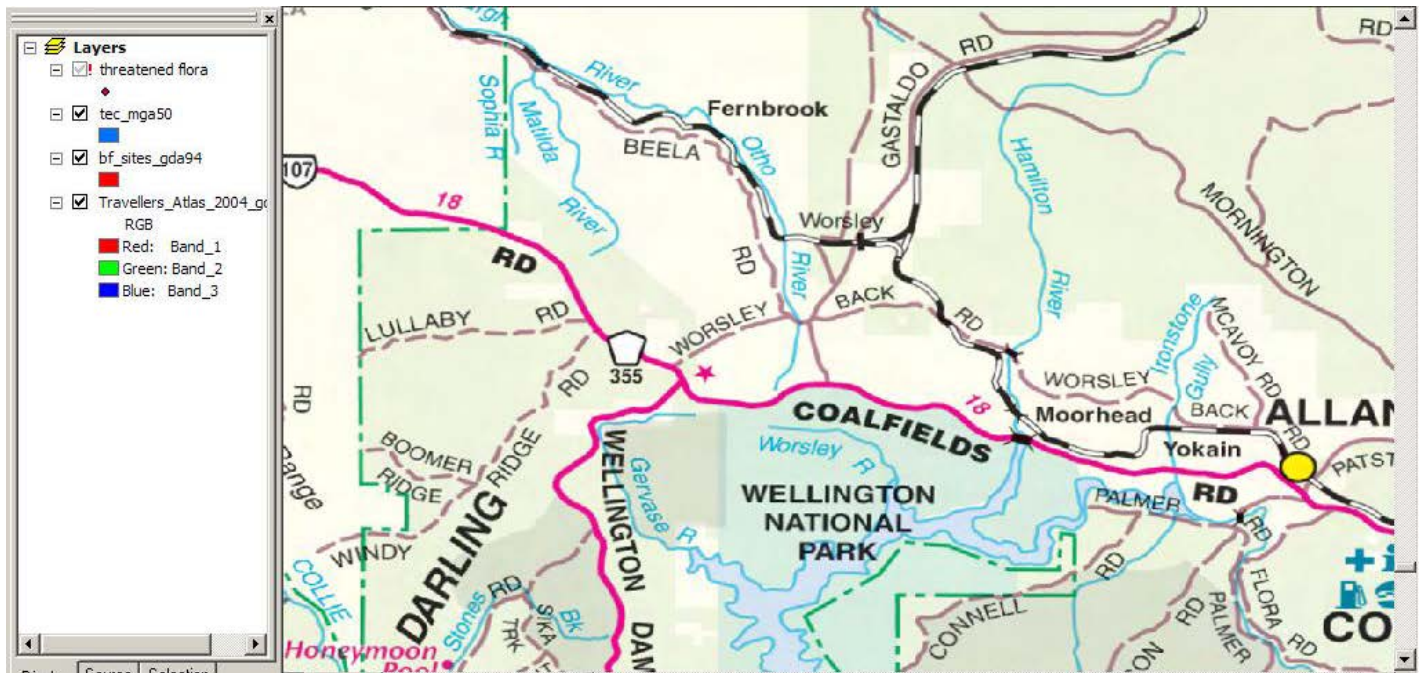
Comments:

Vegetation to be cleared consists of regrowth Mallee.

Copies of all completed (reviewed) forms must be forwarded to the Manager Environment.

Appendix B

Department of Conservation and Land Management's Threatened Flora Database Searches



Appendix C

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

Australian Heritage Database

Search Results

[edit search](#) | [new search](#) | [about the Australian Heritage Database](#) | [Heritage home](#) | [Australian Heritage Council home](#)

3 results found.

Railway Goods Shed (former)	Coalfields Rd	Collie, WA	(Indicative Place) Register of the National Estate
Round House for Railway Locomotives (former)	Coalfields Rd	Collie, WA	(Indicative Place) Register of the National Estate
South West Irrigation Area	South Western Hwy	Harvey, WA	(Indicative Place) Register of the National Estate

Report Produced: Fri Sep 15 16:49:01 2006

HERITAGE COUNCIL OF WESTERN AUSTRALIA

HERITAGE COUNCIL

PLACES DATABASE

HERITAGE TRAILS

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Search this site

DATABASE ACTIONS:

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

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

Displaying results: [1-5] of 5

HELP

hide selected hide unselected	
<input type="checkbox"/> Buckingham School (fmr) (6318)	Coalfields Rd, Buckingham
<input type="checkbox"/> Cabbage Tree Hotel - Site (6342)	Coalfields Hwy, Buckingham
<input type="checkbox"/> Coal Mine Site - Muja Open Cut (6341)	Coalfields Hwy near, Buckingham
<input type="checkbox"/> Collie Cemetery (6340)	Coalfields Hwy, West Collie
<input type="checkbox"/> Round House with Turntable (541)	Rly Res N of Coalfields Hwy, Collie  [REG]
hide selected hide unselected	
Perform a new: QUICK PLACES DATABASE SEARCH ADVANCED PLACES DATABASE	

HELP

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Appendix D

Department of Indigenous Affairs Database Search

What do you want to do?

[Search](#) | [Metadata](#) | [Feedback](#) | [DIA](#)

Search for Sites in... : Local Gov't Area Collie [go!](#)

[show legend](#)



Show on map

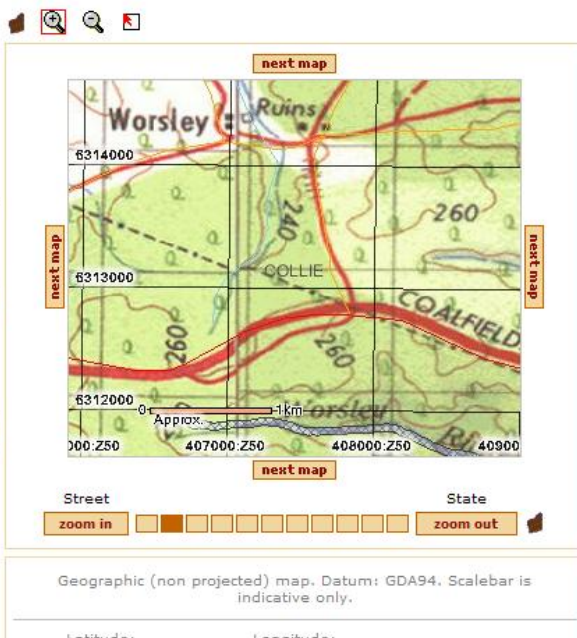
- ☒ Aboriginal Sites
☐ Heritage Surveys

[refresh](#)

[more](#)

Map size

- ☒ Small
☐ Medium
☐ Large



Getting Started

1. Zoom in to an area of interest by dragging a box with your mouse in the map.
2. Display sites or surveys by selecting the layer and click refresh (under "show on map" box on the screen's left).
3. Search for site or survey report details by selecting from the "What do you want to do" drop down list selecting the red arrow and dragging a selection area on the map. Results and links to the PDF report are displayed on the right.

Please Note:

An audit of site boundaries has recently been conducted. To more accurately represent their locations some site boundaries have changed (as compared to before April 2006). DIA continues to review and improve site data on a daily basis. For further information please contact DIA directly or email sites@dia.wa.gov.au

Appendix E

DoE's Sensitive Water Resources Database Search

Good Morning Jeanette,

There are no ASS, wetland or any other issues with this site. It does lie within the proclaimed Collie River catchment, but is not near any streams or wetlands so there are no licensing issues.

Regards,

Richard

From: DELLA BONA Jeanette (PDO) [mailto:jeanette.dellabona@mainroads.wa.gov.au]

Sent: Friday, 15 September 2006 2:11 PM

To: WATSON Richard

Subject: DoE's Sensitive Water Resources Database Search

Hi Richard

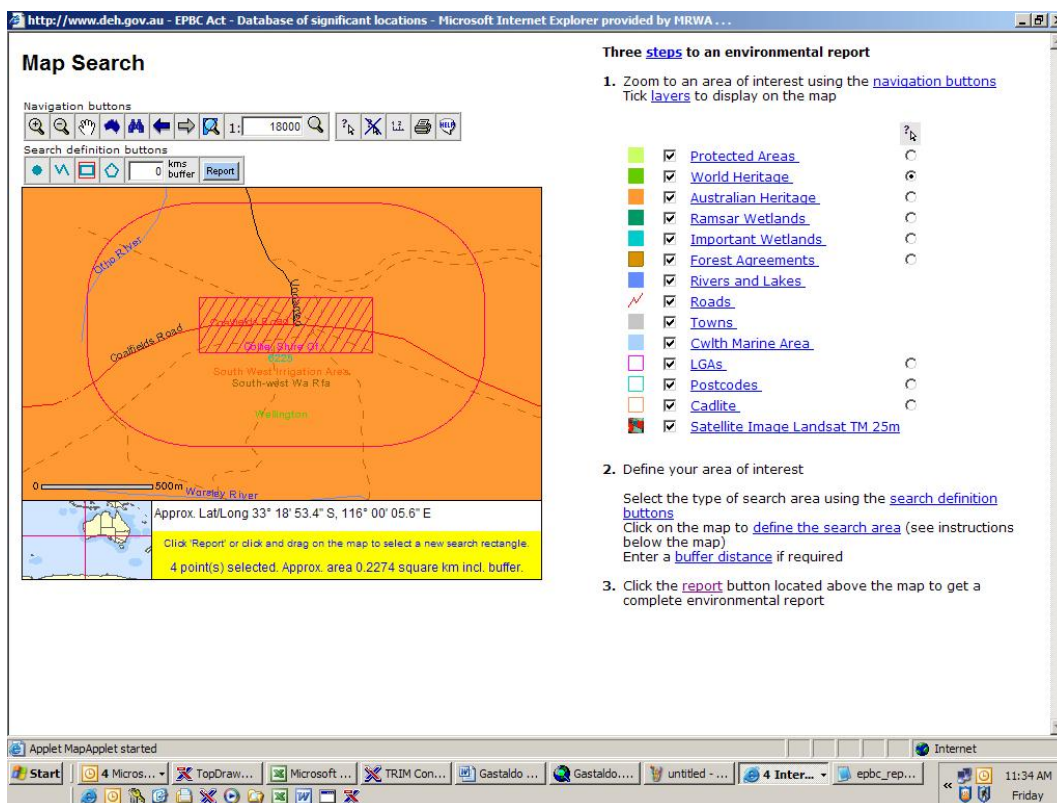
Any chance to do a check on ASS, any Water issues, contaminated sites, for the improvement to an existing turning pocket from Coalfields highway into Gastaldo Road....this road leads into Worsley. It will mean the removal of perhaps 30-40 trees along the left hand side to improve the quality of the turning pocket...

thanks again!

Jeanette

Appendix F

Department of Environment and Heritage Database Search



EPBC Act Protected Matters Report 15 September 2006 13:03

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.

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>

Search Type:Area

Buffer:0 km

Coordinates:-33.318663,116.005341, -33.321305,116.005341, -33.321305,116.013668, -33.31866,116.013668

Report Contents:Summary
Details

Matters of NES

Other matters protected by the EPBC Act

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:5

Migratory Species:1

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

Commonwealth Lands:None

Commonwealth Heritage Places: None

Places on the RNE:None

Listed Marine Species:5

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:1

Other Commonwealth Reserves:None

Regional Forest Agreements:1

Details

Matters of National Environmental Significance

Threatened Species [Dataset Information] StatusType of Presence

Birds

Calyptorhynchus baudinii *

Baudin's Black-Cockatoo, Long-billed Black-Cockatoo VulnerableSpecies or species habitat likely to occur within area

Calyptorhynchus latirostris *

Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo EndangeredSpecies or species habitat likely to occur within area

Mammals

Dasyurus geoffroii *

Chuditch, Western Quoll VulnerableSpecies or species habitat likely to occur within area

Pseudocheirus occidentalis *

Western Ringtail Possum VulnerableSpecies or species habitat likely to occur within area

Setonix brachyurus *

Quokka VulnerableSpecies or species habitat may occur within area

Migratory Species [Dataset Information] StatusType of Presence

Migratory Terrestrial Species

Birds

Haliaeetus leucogaster

White-bellied Sea-Eagle MigratorySpecies or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species [Dataset Information] StatusType of Presence

Birds

Apus pacificus

Fork-tailed Swift Listed - overfly marine areaSpecies or species habitat may occur within area

Ardea alba

Great Egret, White Egret Listed - overfly marine areaSpecies or species habitat may occur within area

Ardea ibis

Cattle Egret Listed - overfly marine areaSpecies or species habitat may occur within area

Haliaeetus leucogaster

White-bellied Sea-Eagle ListedSpecies or species habitat likely to occur within area

Merops ornatus

Rainbow Bee-eater Listed - overfly marine areaSpecies or species habitat may occur within area

Extra Information

State and Territory Reserves [Dataset Information]

Wellington National Park, WA

Regional Forest Agreements [Dataset Information]

Note that all RFA areas including those still under consideration have

been included.
South-west WA RFA, Western Australia

Caveat

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

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

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

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

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

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

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

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

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

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

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

Acknowledgments

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

New South Wales National Parks and Wildlife Service

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

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

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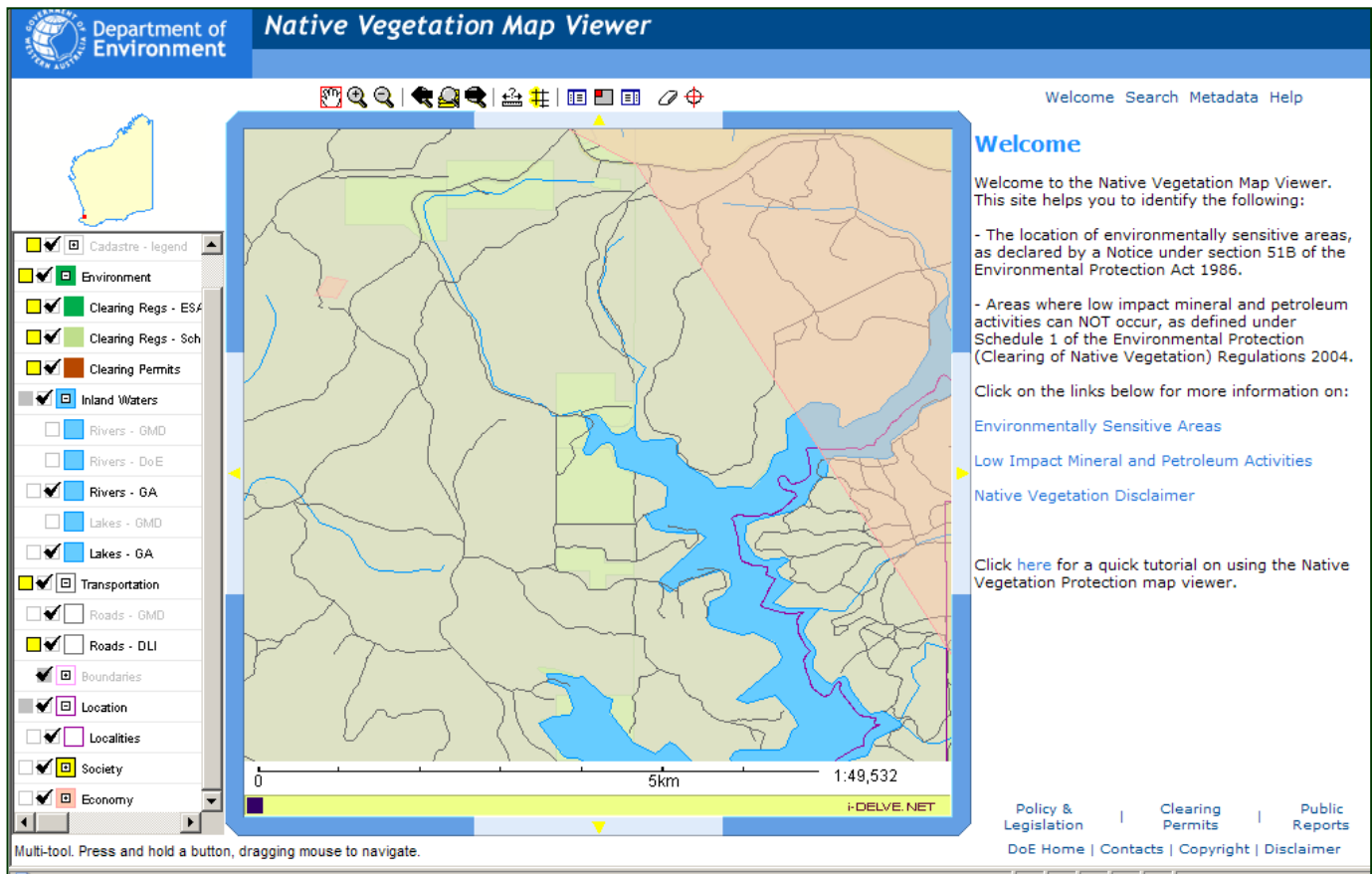
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Appendix G

Department of Environment and Conservation Database Search



Appendix H

Site Photographs



Photo 1: View of Coalfields highway, location of left slip lane (LHS) looking east. Note Marri vegetation proposed to be cleared.



Photo 2: View of Coalfields Hwy / Gastaldo Rd left slip lane to be up-graded. Note lack of understorey vegetation.



Photo 3: View of Coalfields highway, location of left slip lane (LHS) looking east. Note Marri vegetation proposed to be cleared.



Photo 4 View of left slip lane, looking west, note the vegetation in the project area to the right.