

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

**Pilbara GNH Parking Bays  
March 2011**



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## **SUMMARY OF REPORT FINDINGS**

The proposed project is to construct one new and expand another already existing parking bay at two different locations, on Great Northern Highway in the Pilbara Region. The parking bay that is already in existence is located approximately 700m south of Kalgan Drive, Newman at SLK 1164.86-1164.71 (named Newman parking bay from herein). The existing parking bay is approximately 150m long and 80m wide. The proposal is to double the area in size (1.2ha). The length will be extended to the south of the existing parking bay (away from Kalgan Drive), due to the proximity to Kalgan Drive. This parking bay is located in the Shire of East Pilbara.

The second parking bay that is to be constructed (named Sylvania Road parking bay from herein) is located approximately 25kms south of Newman and 15kms south of the Capricorn Roadhouse. The proposed project consists of constructing a truck parking bay on Great Northern Highway at 1135.14SLK, opposite the Sylvania Homestead Road turnoff. The works will consist of constructing a sealed truck parking bay and turn around point approximately 200m long by 30m wide (0.6ha), in line with MRWA standard parking bay drawing. This project occurs in the Shire of Meekatharra.

No major environmental constraints were identified in relation to these two projects, but both will require clearing of native vegetation, hence the requirement of this report. It is not likely that either of these projects will be at variance to any of the DEC's ten clearing principles.

# PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN PILBARA GNH PARKING BAYS

## 1. BACKGROUND

### Newman Parking Bay

Currently there is a parking bay located at this location which is proving to be not adequate in size to accommodate the trucks utilising the area. It was requested by the Shire of East Pilbara that MRWA extend the size of the current parking bay to allow for traffic coming from both directions.

### Sylvania Rd Parking Bay

Currently when the Great Northern Highway is closed in this area due to flooding at Kumarina (further south), it is often closed south of Newman at the Capricorn Roadhouse as this is the only safe point for road trains to turn around before the commonly flooded area to the south. However, trucks still require access to Sylvania Homestead as there is a mine site that uses this access, and are unable to because the current turnaround point is before Sylvania Road at Capricorn Roadhouse, even though flooding is usually much further south near Kumarina Roadhouse. Therefore it is proposed that a truck parking bay be constructed opposite Sylvania homestead access road for the purpose of allowing trucks to turn around and/or wait when GNH is closed further south. This will then still allow access to Sylvania Homestead. The project is anticipated to be ready for construction in twelve months.

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 project involves works that are not considered to be of low impact (works require clearing of native vegetation outside the maintenance zone), the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required. This report fulfils this requirement.

## 2. DESCRIPTION OF THE PROJECT

The extent of the proposed works include constructing/expanding a sealed truck parking bay/turnaround point at both locations. Both sites will also include the installation of lighting. Materials will be sourced from existing Main Roads' material pits. No access tracks, connecting roads or pedestrian/cycle ways will be incorporated as part of these works. Depending on final funding that is allocated at the time of construction, public toilets may be constructed on site. Bins will be installed as per MRWA Specifications.

Both projects are likely to be constructed under Direct Managed Works.

### 2.1 Project Location

The location and boundaries of the study area for the project are shown in Figure 1a, 1b and 1c.





Figure 1a – Project Location and Study Area – GNH Newman Parking Bay



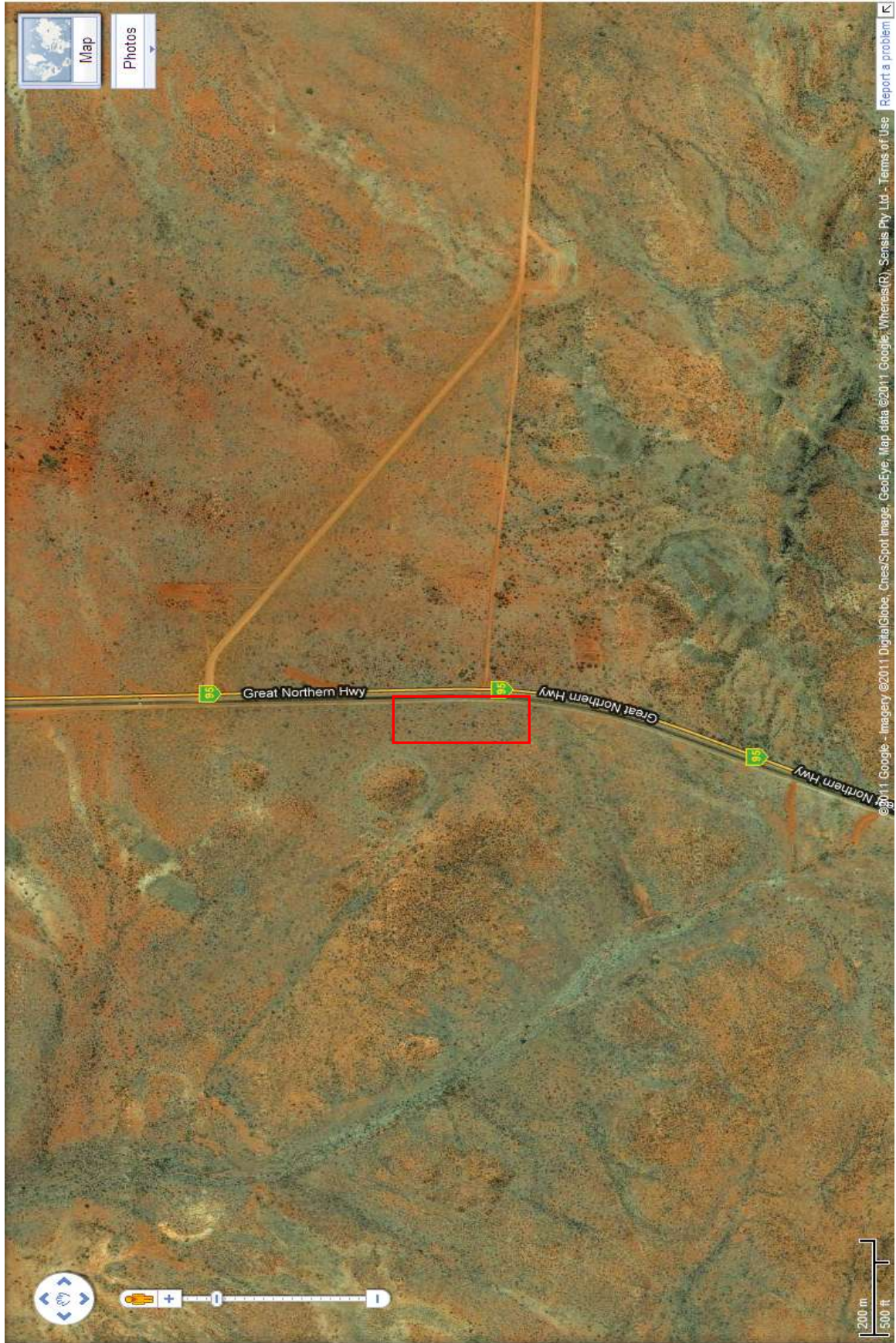


Figure 1b: Project Location and Study Area – GNH Sylvania Rd Parking Bay



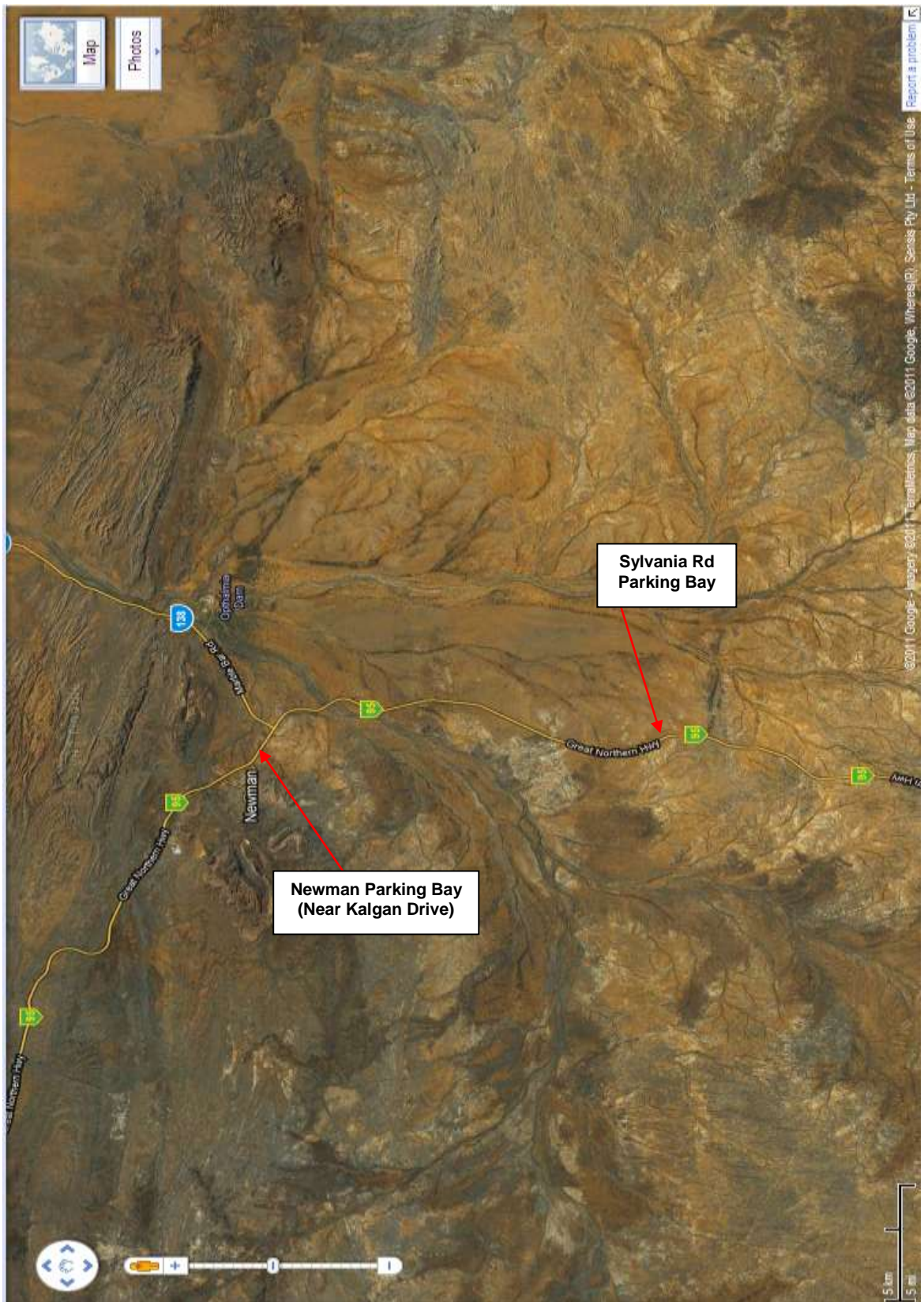


Figure 1c: Project location – Overview of 2 parking bays



### 3. METHODOLOGY

#### 3.1 Preliminary Desktop Study

A preliminary assessment of the project area and the potential constraints of the proposal was undertaken by reviewing a number of government agency managed databases, viewing GIS shapefiles and consulting with relevant stakeholders where necessary.

##### 3.1.1 Threatened Flora, Fauna & Communities, Conservation Reserves and ESAs

DEC were contacted and their database was searched for known populations of threatened flora, fauna, Threatened Ecological Communities (TECs) and conservation reserves, refer to Appendix B.

Current GIS shapefiles provided to Main Roads by the DEC were examined for known populations of threatened flora, fauna, Threatened Ecological Communities (TECs) or conservation areas located within the vicinity of the works, refer also to Appendix B.

##### 3.1.2 Heritage

Non-indigenous heritage was examined utilising the Australian Heritage Places Inventory (<http://www.environment.gov.au/heritage/places/wa/index.html>), Heritage Council of Western Australia Places Database (<http://register.heritage.wa.gov.au/>) and the Shire of East Pilbara and the Shire of Meekatharra's local heritage list (previously known as the Municipal Heritage Inventory), refer to Appendix C.

##### 3.1.3 Aboriginal Heritage

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

##### 3.1.4 Sensitive Water Resources

A search of the Department of Water's (DoW's) database was undertaken (<http://www.water.wa.gov.au/idelve/dowdataext/index.jsp>) to determine whether the project area contains any sensitive water resources (including Public Drinking Water Source Areas or Water Pollution Control Areas) or was adjacent to any significant lakes, rivers, wetlands or proclaimed areas, refer to Appendix E.

##### 3.1.5 Wetlands

The locations of any wetlands within the project area was determined using the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) mapping tool, the Department of Environment and Conservation (DEC) "Native Vegetation Map Viewer" mapping tool and viewing current GIS shapefiles, refer to Appendix F.

##### 3.1.6 Weeds

Consultation was undertaken with the Department of Agriculture and Food to determine whether there are any known populations of declared plants or significant weeds in or adjacent to the project area, refer to Appendix H.

##### 3.1.7 Dieback

As the project receives <400 mm of rain dieback is considered not to be an issue.

### 3.1.8 Contaminated Sites

A search of the DEC's contaminated sites database was undertaken (<https://secure.dec.wa.gov.au/idelve/css/>) to determine whether the project area contains or is adjacent to any contaminated sites, refer Appendix I.

### 3.1.9 Acid Sulfate Soils

The DEC's acid sulfate soils maps were reviewed on the Shared Land Information Platform (SLIP - <https://uat2.landgate.wa.gov.au/bmvf/app/waatlas/>) to determine the level of risk the project is exposed to, refer to Appendix K.

### 3.1.10 Air Quality

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

## 3.2 Commonwealth Referral

The decision whether to refer the project to the Commonwealth's DSEWPC was based upon whether the project would impact Commonwealth land, or may have a significant impact upon matters of national significance, which are protected under the EPBC Act. These are; World Heritage properties, National Heritage places, wetlands of international importance (listed under the Ramsar convention), Commonwealth Marine Areas, migratory species protected under international agreements, nuclear actions, nationally threatened species and ecological communities.

The DSEWPC protected matters search tool was used to determine if the project will impact upon any matters of national significance: (<http://www.environment.gov.au/erin/ert/epbc/index.html>) refer to Appendix G for the results of this search and Section 7 for a discussion on the findings.

## 3.3 State Referral

The decision whether to refer the project to the State's EPA was based on whether the project would impact on environmental factors significantly enough to require referral under section 38 of the *Environmental Protection Act 1986*.

## 3.4 Site Investigation

A site visit was carried out by Fiona van Rijnsoud on 24<sup>th</sup> November 2010 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 if further studies are required for noise and vibration impacts (dilatation).

## **4.0 Existing Environment**

### **4.1 Description**

#### Newman Parking Bay

The project areas lie within the Pilbara IBRA region and the Hamersley IBRA sub-region. The vegetation in the area is described as Low woodland; mulga (*Acacia Aneura*) and is Vegetation Association number 18. The vegetation is considered to be in good condition and has close to 100% pre-European extent remaining (99.99%).

There are no known DRF, priority flora/fauna species, or threatened ecological communities known to exist in the area.

Multiple searches did not identify any waterways that were dependent on the vegetation association in the area. A total area of 1.2ha of native vegetation would be cleared for this project although the actual area of vegetation clearing would be less than this and be approximately 1ha.

No registered Aboriginal Heritage sites of significance were identified as occurring within the area, or even within close proximity to the project area.

There were no declared weed species identified as occurring within the project area, but general weed species such as Buffel grass were present. The proposed works are not anticipated to further spread these weeds.

#### Sylvania Road Parking Bay

The project area lies within the Gascoyne IBRA region and the Augustus IBRA sub-region. The vegetation in the area is described as Low woodland; mulga (with *Spinifex*) on rises and is Vegetation Association number 216. The vegetation is considered to be in good condition and has 100% of the pre-European extent remaining.

There are no known DRF, priority flora/fauna species, or threatened ecological communities known to exist in the area.

A total of 0.375ha of native vegetation would be cleared for this project.

No registered Aboriginal Heritage sites of significance were identified as occurring within the area, or even within close proximity to the project area.

There were no declared weed species identified as occurring within the project area, but general weed species such as Buffel grass were present. The proposed works are not anticipated to further spread these weeds.

### **4.2 Site Investigation**

Please see section 4.1 (above)



## 5. 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 a permit.

The vegetation clearing will be undertaken using Main Roads' Purpose Clearing Permit CPS818/5.

Main Roads attempts to avoid clearing vegetation if possible, where clearing cannot be avoided then this clearing is kept to a minimum. The following actions are proposed to manage and minimise vegetation clearing for the Pilbara GNH Parking Bays;

- Select design/locations that minimise adverse impacts on the biological environment,
- Site office and materials storage areas will be located on previously disturbed/ designated area,
- Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be used during any rehabilitation works and either mulched or respread according to the TDP/Revegetation Plan, and
- Implement the Project Revegetation Management Plan and monitor effectiveness of revegetation works and weed control.

### 5.1 Details of Vegetation Associations to be Cleared

Table 1: Vegetation Description, Condition and Percent Remaining

No.	Description	Start & End SLK	Side of Road (L- left, R - right, RBM -road building materials)	Condition*	Pre-European Extent Remaining (%) **	Area (ha)
18	Low woodland; mulga (Acacia Aneura)	1164.86-1164.71	R	Good	99.99	1.2
216	Low woodland; mulga (with Spinifex) on rises	1135.14	R	Good	100	0.6
<b>Total Area (ha)</b>						<b>1.8</b>

\* Condition rating system as described by Keighery, B. J. 1994. *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Pristine - no obvious signs of disturbance

Excellent - veg. structure intact, disturbance affecting individual species and weeds are non aggressive

Very Good - veg. structure altered, obvious signs of disturbance

Good - veg. structure significantly altered by multiple disturbance, retains basic vegetation structure or ability to regenerate it

Degraded - basic veg. structure severely impacted by disturbance. Scope for regeneration of veg. structure but not to "good" condition

Completely Degraded - veg. structure no longer intact and area is completely or almost completely without native species

\*\* CAR\_RESERVE\_ANALYSIS\_2009 as provided by the Department of Environment and Conservation under Licensed Agreement. **Not to be provided to consultants.**

Table 2: Vegetation Percent Remaining

Pre-European Extent Remaining: Vegetation Association No. 18 Low woodland; mulga (Acacia Aneura)		
Regional Context	Location	Pre-European Extent Remaining (%)
State-wide	N/A	99.99%
Bioregional (IBRA Region)	Pilbara (PIL)	100%
Bioregional (IBRA Sub-Region)	Hamersley (PIL3)	100%
LGA	Shire of East Pilbara	100%

Pre-European Extent Remaining: Vegetation Association No. 216 Low woodland; mulga (with Spinifex) on rises		
Regional Context	Location	Pre-European Extent Remaining (%)
State-wide	N/A	100%
Bioregional (IBRA Region)	Gascoyne (GAS)	100%
Bioregional (IBRA Sub-Region)	Augustus (GAS3)	100%
LGA	Shire of Meekatharra	100%

## 5.2 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 ten clearing principles.

The project is not likely to be at variance with the 10 clearing principles.

<b>(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.</b>	
<b>ASSESSMENT</b>	The project area is not within one of WA's identified areas of biodiversity hotspots for priority action. Priority flora and other significant flora are one measure of biodiversity values that should be considered under this principle. There will be no clearing of native vegetation that is representative of an area of high biodiversity. The clearing of native vegetation that is in good condition is not in better condition than other vegetation of the same ecological communities in the local area. Two vegetation types are recorded with the two project areas. The two types cover approximately 19,890,195ha and 280,759ha across the Pilbara and is considered to be close to 100% intact.
<b>METHODOLOGY &amp; REFERENCES</b>	DEC Rare and threatened Flora database ArcGis Dataset search Beard (1975)
Proposal is not likely to be at variance to this Principle.	

<b>(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.</b>	
<b>ASSESSMENT</b>	No known threatened fauna species were identified as occurring within the project area nor was the vegetation identified as habitat that was critical or a requirement for the maintenance and existence of a fauna population. The clearing of vegetation associated with this project will not result in a reduction of width of remnant vegetation and loss of any vegetation will not result in a loss of ecological linkages or limit the support of any breeding populations of species with limited dispersal.
<b>METHODOLOGY &amp; REFERENCES</b>	DEC Species and Communities Branch for Threatened Flora/Fauna search ArcGis Dataset search
Proposal is not likely to be at variance to this Principle.	

<b>(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.</b>	
<b>ASSESSMENT</b>	No known threatened flora species were identified as occurring within the project area. Areas of vegetation classified as buffer zones necessary to

	maintain ecological processes and functions for rare flora will not be cleared.
<b>METHODOLOGY &amp; REFERENCES</b>	DEC Species and Communities Branch for Threatened Flora/Fauna search. ArcGis Dataset search
Proposal is not likely to be at variance to this Principle.	

**(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.**

<b>ASSESSMENT</b>	The native vegetation in both locations does not have a bioregional conservation status of depleted or less than 50% representation and is therefore less likely to contain threatened or other significant ecological communities. The buffer area of vegetation to be cleared also does not contain any known TEC's or habitat necessary for the existence or maintenance of any known TEC's.
<b>METHODOLOGY &amp; REFERENCES</b>	DEC Species and Communities Branch Database search ArcGis Dataset search
Proposal is not likely to be at variance to this Principle.	

**(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.**

<b>ASSESSMENT</b>	The major vegetation association systems occurring within these two project areas are not considered remnant and are considered of least concern as there is 100% (or close to with 99.99%) pre-European extent remaining. Native vegetation to be cleared in association with these projects are not considered essential native vegetation in the landscape for the maintenance and existence of ecological values. Considering the native vegetation associated with these associations are close to 100% pre-European extent, it is considered that this area of ecological community will remain well represented after project completion.
<b>METHODOLOGY &amp; REFERENCES</b>	SLIP NRM database – Car Reserve Analysis (DEC) Beard (1975) ArcGis Dataset search
Proposal is not likely to be at variance to this Principle.	

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

<b>ASSESSMENT</b>	Neither vegetation associations associated with these project areas are considered to be growing or in association with a watercourse or wetland.
<b>METHODOLOGY &amp; REFERENCES</b>	DSEWPC mapping tool DEC Native vegetation map viewer ArcGis Dataset search
Proposal is not likely to be at variance to this Principle.	

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

<b>ASSESSMENT</b>	Limited native vegetation clearing is required for these proposed works. It is considered unlikely to cause any land degradation to the area. Major weed species in the project area are widespread in the area and adjacent lands. No watercourses nearby are expected to be affected nor is the clearing expected to increase any wind or water erosion on or off the site.
<b>METHODOLOGY &amp; REFERENCES</b>	Desktop Assessment ArcGis Dataset search
Proposal is not likely to be at variance to this Principle.	

**(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.**

<b>ASSESSMENT</b>	There are no conservation reserves or core habitat reserves within the project area. Fragmentation of landscapes is not likely to occur as a result of these works as the works do not intersect any conservation areas, nor will it contribute to affecting the maintenance or restorability of one or more key ecological processes required to sustain a conservation area. No smaller
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	remnant areas of vegetation (and their basic ecological functions) will be impacted on.
<b>METHODOLOGY &amp; REFERENCES</b>	ArcGis maps and Landgate searches were conducted to check for any conservation reserves or areas of conservation value.
Proposal is not likely to be at variance to this Principle.	

<b>(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.</b>	
<b>ASSESSMENT</b>	Project proposal is not likely to cause any deterioration in the quality of surface or underground water. The clearing of any native vegetation in relation to this project is not likely to contribute to an increase in nutrient levels, salinity levels or sedimentation levels, as the clearing is either of small scale or not likely to involve any excavation below the ground surface.
<b>METHODOLOGY &amp; REFERENCES</b>	ArcGis dataset search DoW Geographic Atlas Database search
Proposal is not likely to be at variance to this Principle.	

<b>(j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.</b>	
<b>ASSESSMENT</b>	As the projects are not considered large clearing proposals, it is very unlikely that any vegetation associated with these works will result in the increase of frequency or intensity of flooding.
<b>METHODOLOGY &amp; REFERENCES</b>	Desktop assessment
Proposal is not likely to be at variance to this Principle.	

### 5.3 Summary of Management Actions

The following table summarizes what further assessment and management is required in accordance with MRWA State-wide vegetation Clearing Permit (CPS 818).

**Table 3: Summary of Additional Management Actions**

<b>Impact of Clearing</b>	<b>Yes/No or NA</b>	<b>Further Action Required</b>
1. Does the assessment indicate that the clearing may be at variance or is at variance with one or more of the principles for clearing?		No further action required.
2. Does the assessment indicate that the clearing is at variance with one or more of the principles for clearing?		No further action required.
3. Does the assessment indicate that the clearing is at variance with clearing principle (g) land degradation, (i) surface or underground water quality or (j) the incidence of flooding?		No further action required.
4. Will the project involve clearing for purposes considered temporary in nature under Condition 13 of CPS818?		No further action required.

## 6. ASSESSMENT OF ASPECTS AND IMPACTS

**Table 4: Aspects and Impacts – Pilbara GNH Parking Bays**

Aspect	Evaluation of Potential Impacts
Vegetation – clearing	<p>1.4ha of native vegetation is proposed to be cleared (in total from both locations), the vegetation is described as No. 18 Low woodland; mulga (Acacia Aneura) and No. 216 Low woodland; mulga (with Spinifex) on rises. These Vegetation Associations have 99.99% and 100% of pre-clearing extent of vegetation remaining, respectively.</p> <p>The native vegetation proposed to be cleared is well represented regionally as it possesses more than 30% of its pre-European extent.</p> <p>According to Keighery, (1994) the condition of the native vegetation to be cleared is described as Good.</p> <p>Of the 1.8ha of native vegetation proposed to be cleared 0ha is temporary clearing.</p>
Vegetation – TECs/DRF	<p>None present in the proposed works areas. No significant vegetation types or threatened flora have been recorded within the road reserve.</p> <p>Consultation with DEC confirms that the proposal is not going to have a significant impact upon any DRF or TECs.</p> <p>No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted (see Table 5).</p>
Vegetation – weeds	<p>Consultation with the Department of Agriculture and Food confirms that there are no declared plants in the project area.</p> <p>There are numerous common weed species that occur throughout the proposed works areas. These species are likely to be widespread within the reserve and general area.</p>
Vegetation – dieback	<p>Not an issue given the project area receives less than 400 mm of average annual rainfall or is located above the 26° parallel.</p>
Fauna	<p>No significant fauna issues associated with any of the proposed upgrade works. With the 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.</p> <p>No Matters of National Environmental Significance as protected under the EPBC Act (1999) will be impacted (see Table 5).</p>
Heritage (non-indigenous)	<p>A search of the Australian Heritage Places Inventory, Heritage Council of Western Australia and the Shire of East Pilbara and the Shire of Meekatharra's Municipal Heritage Inventory on-line databases has indicated that there are no known site(s) of heritage significance within the vicinity of the project area.</p>
Aboriginal heritage	<p>A search of the DIA's database/Heritage survey identified no known site(s) of Aboriginal heritage significance within the vicinity of the project area.</p> <p>No further investigations are required for all aspects of the project.</p>
Wetlands	<p>DEC has advised that there are no wetlands within the vicinity of the project area. No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted (see Table 5).</p>
Surface water/drainage	<p>A search of the DoW's database has confirmed that the proposed works will not disturb or interrupt any natural drainage and surface run-off patterns.</p>
Groundwater	<p>No dewatering nor drainage modifications are required, hence no change to groundwater level or quality.</p>
Reserves / Conservation areas	<p>There are no conservation areas or reserves adjacent to the project</p>
Air quality	<p>Not relevant to the proposed works. Local air quality assessment is not required for the project since:</p> <ul style="list-style-type: none"> <li>• the predicted traffic flow is less than 10,000 vehicles per day (in urban areas) or 15,000 vehicles per day in rural areas;</li> <li>• residential and other sensitive receptors are not within 200 meters of the road centre; &amp;</li> </ul>



**Table 4: Aspects and Impacts – Pilbara GNH Parking Bays**

<b>Aspect</b>	<b>Evaluation of Potential Impacts</b>
Dust	Likely to be a minor issue during earthworks. No major sensitive receivers adjacent to the proposed works, but excessive dust could impact vegetation. This is likely to be easily managed by standard construction dust management techniques.
Noise and vibration	No major sensitive local receivers. Construction works is not expected to significantly contribute to noise levels at the nearest sensitive receivers, provided works are limited to normal working hours. The requirements of the Shire of East Pilbara and the Shire of Meekatharra must be met in respect of noise management and construction working hours.
Visual amenity	The proposed works will result in minor and short-term visual impacts during construction.
Public safety and risk	Provided traffic management and signage to Main Roads standards is employed, none of the proposed works present any significant hazards to public safety. The proposed works will serve to enhance public safety by improving local road and pedestrian conditions.
Hazardous substances	Not relevant to the proposed works, the project requires no hazardous substances to be used.
Contamination	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, e.g. petrol station. A search of the DEC's contaminated sites database indicates there are no identified contaminated sites within the project area.
Salinity	There were no visual signs of salinity observed in the project area. Given the nature and scale of the project the impact is considered not relevant.
Acid Sulfate Soils	The SLIP database indicates that the area is classified as no risk as there is no dewatering or excavation below the water table planned no further investigations are required.
Statutory Land Use Planning	As the proposed works are entirely within the existing road reserve no planning scheme amendments are required.

**Table 5: Commonwealth Aspects and Impacts – Pilbara GNH Parking Bays**

<b>Aspect</b>	<b>Evaluation of Potential Impacts</b>
World Heritage properties	The project will not impact any World Heritage properties.
National Heritage places	A search of the Australian Heritage Places Inventory Database located no site(s) within the vicinity of the project.
Wetlands of international importance (Ramsar)	A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located no Ramsar Wetland(s) within the vicinity of the project.
Nationally threatened species or ecological communities	A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located no threatened ecological communities, 4 threatened species and 5 listed marine species within the vicinity of the project. The project activities are unlikely to have a significant impact on these species and the marine species are listed as "over fly" with the vegetation present unlikely to be habitat for these species.
Migratory species protected under international agreements	A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located 7 migratory species within the vicinity of the project. The project activities are unlikely to have a significant impact on these species with the vegetation present unlikely to be habitat for these species.
Commonwealth marine areas	The project will not impact any Commonwealth marine area or marine protected area i.e. <u>Ningaloo Marine Park</u>
Nuclear Actions	Not relevant to the proposed works.

## 7. DECISION TO REFER

### 7.1 Referral to the Department of Sustainability, Environment, Water, Population and Communities

As the project will not impact on Matters of National Environmental Significance or impact Commonwealth land, the project does not require referral to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities.

### 7.2 Referral to the Environmental Protection Authority

Due to the scale of the project, the low significance of its impacts to the surrounding environment and that it is unlikely the project will generate significant public interest; the project does not require referral to the WA Environmental Protection Authority.

## 8. STAKEHOLDER CONSULTATION

Table 6: Project Consultation

Name	Agency	Date	Comments
Joshua Gilovitz Amy Mutton	DEC DEC	02/03/11 01/03/11	

## 9. OTHER APPROVALS/PERMITS/LICENCES

No further approvals are required for these proposed works.

## 10. REFERENCES

Beeston, G.R., Hopkins, A.J.M. and Shepherd, D.P. (2002). Land-use and vegetation in Western Australia. Department of Agriculture, Western Australia, Resource Management Technical Report 250.

Keighery, B. J. 1994. *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

# Appendix A

## Low Impact Environmental Screening Checklist

Form No. 6707/001/01

### Checklist - Low Impact Screening Checklist

The Low Impact Screening Checklist is part of the environmental assessment and approval process, refer to clause 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.

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 clauses in the Tender Document Process.

Projects that have "Yes" to **any** item will require further environmental assessment and will be implemented in the Environmental Management Plan. "Yes" or "No" for every item.

Name GNH (HOOB) Truck Parking Bay 1135-14 SLK.....

ITEM	Y	N
New road or road reserve to be created or expansion of existing road reserve.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Works require clearing of native vegetation outside the maintenance zone.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Works require clearing of native vegetation that is older than 10 years old within the maintenance zone.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Works to occur outside normal working hours.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Passes over, adjoins or drains directly into a wetland or sensitive watercourse.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Local natural drainage regime / hydrology will be changed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dewatering, or a new water bore required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>
Buildings will require demolition.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Prepared By: Signature *D.R. Pearson* Date 08/03/11  
 Name D.R. PEARSON Title A/SPM.

Reviewed by: Signature *Flora van Rijnsmond* Date 25/2/2011  
 Roads Management Officer Name Flora van Rijnsmond Title Env. officer

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**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 GNH Truck Parking Bay Newman (Sth of Kalbar Dve)  
(1164.86SLK - 1164.71 SLK)

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

D.R. Pearson

Date

25/2/11

Name

D.R. Pearson

Title

A/SPM

To be reviewed by

Signature

Fiona van Rijswoud

Date

25/2/2011

a Main Roads

Environment Officer

Name

Fiona van Rijswoud

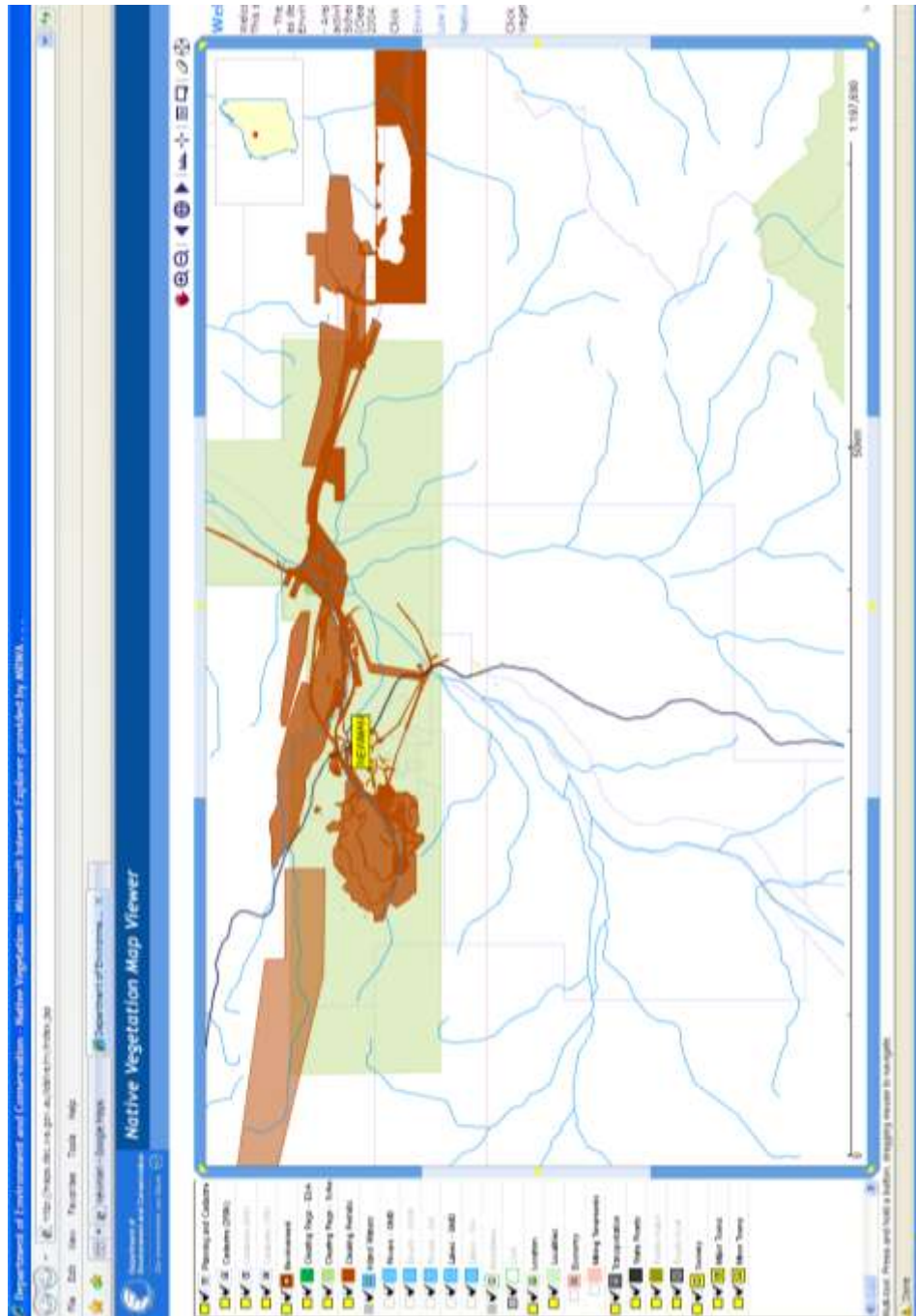
Title

a/Environment officer

Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Appendix B DEC Threatened Flora and Fauna Database Searches



RE: Threatened Flora Database Search - Various localities throughout Pilbara region - Message (HTML)

Sent: Wed 23/03/2011 2:11 PM

From: Glowitz, Joshua [Joshua.Glowitz@dc.mt.gov.au]  
 To: VAN REINSWOUDE FLORE (GENV) [mailto:flora.vanreinswoud@marroads.wa.gov.au]  
 Cc: RE: Threatened Flora Database Search - Various localities throughout Pilbara region

Hi Flora,  
 there are no flora records within those areas. Would you like me to apply a larger buffer to the areas so that you have results representing the species that may occur there?  
 It is possible it would be very helpful if submitting requests for multiple small areas if you could provide a shapefile  
 thanks,

Joshua Glowitz  
 Threatened Flora Database Technical Officer  
 Species and Communities Branch  
 Department of Environment and Conservation  
 Kensington  
 9314 0123

From: VAN REINSWOUDE FLORE (GENV) [mailto:flora.vanreinswoud@marroads.wa.gov.au]  
 Sent: Sunday, 27 February 2011 11:40 AM  
 To: Glowitz, Joshua  
 Subject: Threatened Flora Database Search - Various localities throughout Pilbara region

Hi Joshua,

Main Roads Pilbara Region is planning on upgrading existing and constructing new truck parking bays in various locations on various roads throughout the Pilbara Region. In total, there are three roadside areas that will be developed to accommodate truck parking bays. The justification for these parking bays is to improve current degraded parking bays and to improve road user safety on existing road user safety on existing parking bays as some are currently located on unsafe bends and are not easily accessible for both directions of traffic. Flood events in the Pilbara often cause road closures for sometimes lengthy periods and we need to be able to provide adequate parking areas for vehicles and in particular road trains, that may be required to wait out the road closures, or if possible turn around and take an alternative route.

The region is proposing the development of truck parking bays for the reasons stated above, at the following locations:

- Marble Bar Road (Approximately 8.5kms from the Marble Bar town centre) x2 parking bays on opposite sides of the road, staggered
- Great Northern Highway (Approximately 30kms south of Newman at Sylvania Homestead Road)
- Great Northern Highway (Approximately 2.5kms south of Newman Drive)

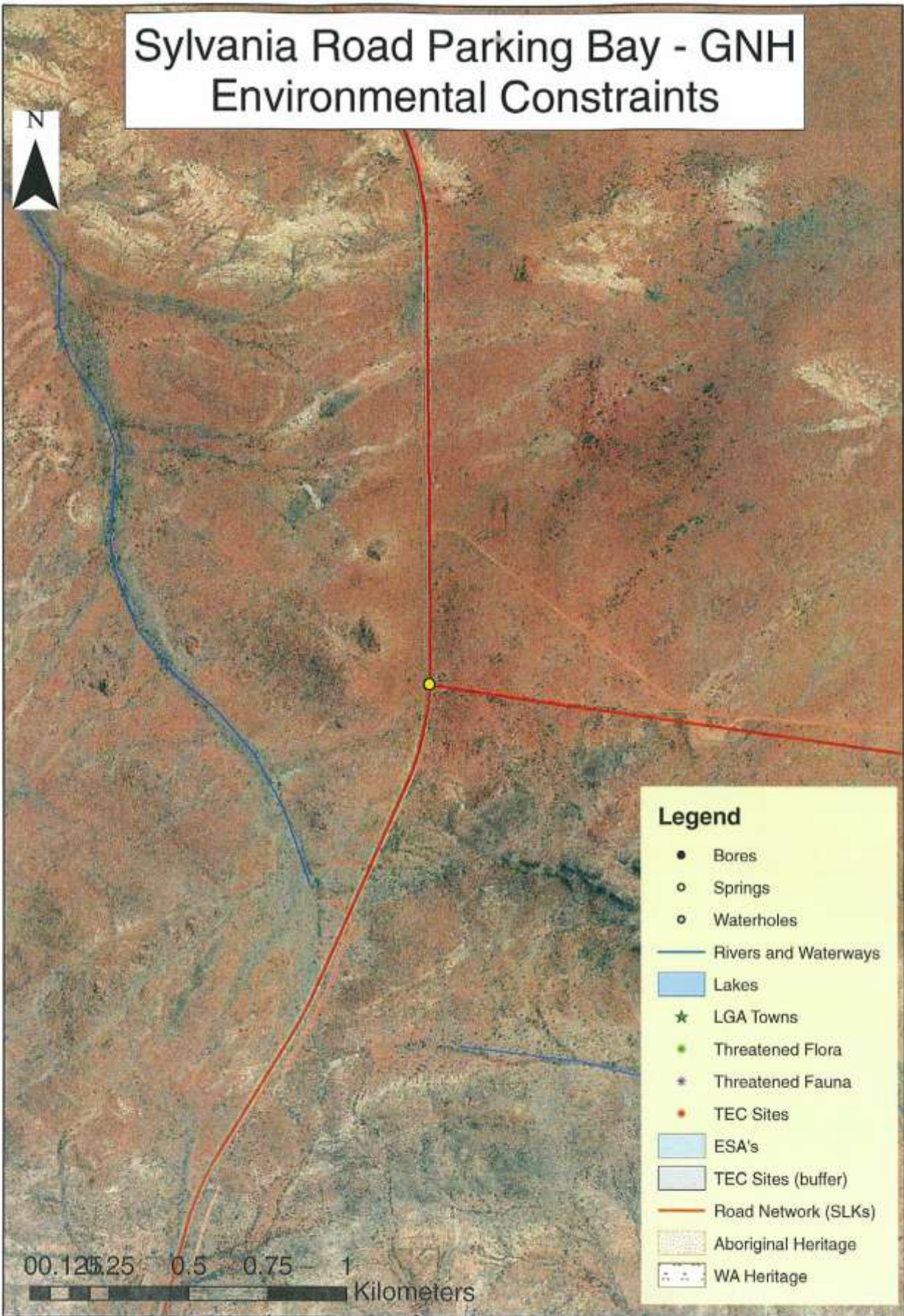
Native vegetation clearances are being obtained and so that I can complete the multiple, internal Preliminary Environmental Impact Assessments for these projects in accordance with Main Roads' State-wide purpose clearing permit CP5828/S, could you please provide me with a Threatened Flora database search of each of these proposed project areas? The coordinates for the search area plus buffer, are as follows:

Marble Bar Road Project Area  
 Top left corner: 119.816 -21.156  
 Top right corner: 119.836 -21.156  
 Bottom left corner: 119.816 -21.175  
 Bottom right corner: 119.837 -21.175

Great Northern Hwy (Sylvania Homestead) Project Area  
 Top left corner: 119.704 -23.582  
 Top right corner: 119.783 -23.582  
 Bottom left corner: 119.764 -23.600  
 Bottom right corner: 119.784 -23.600

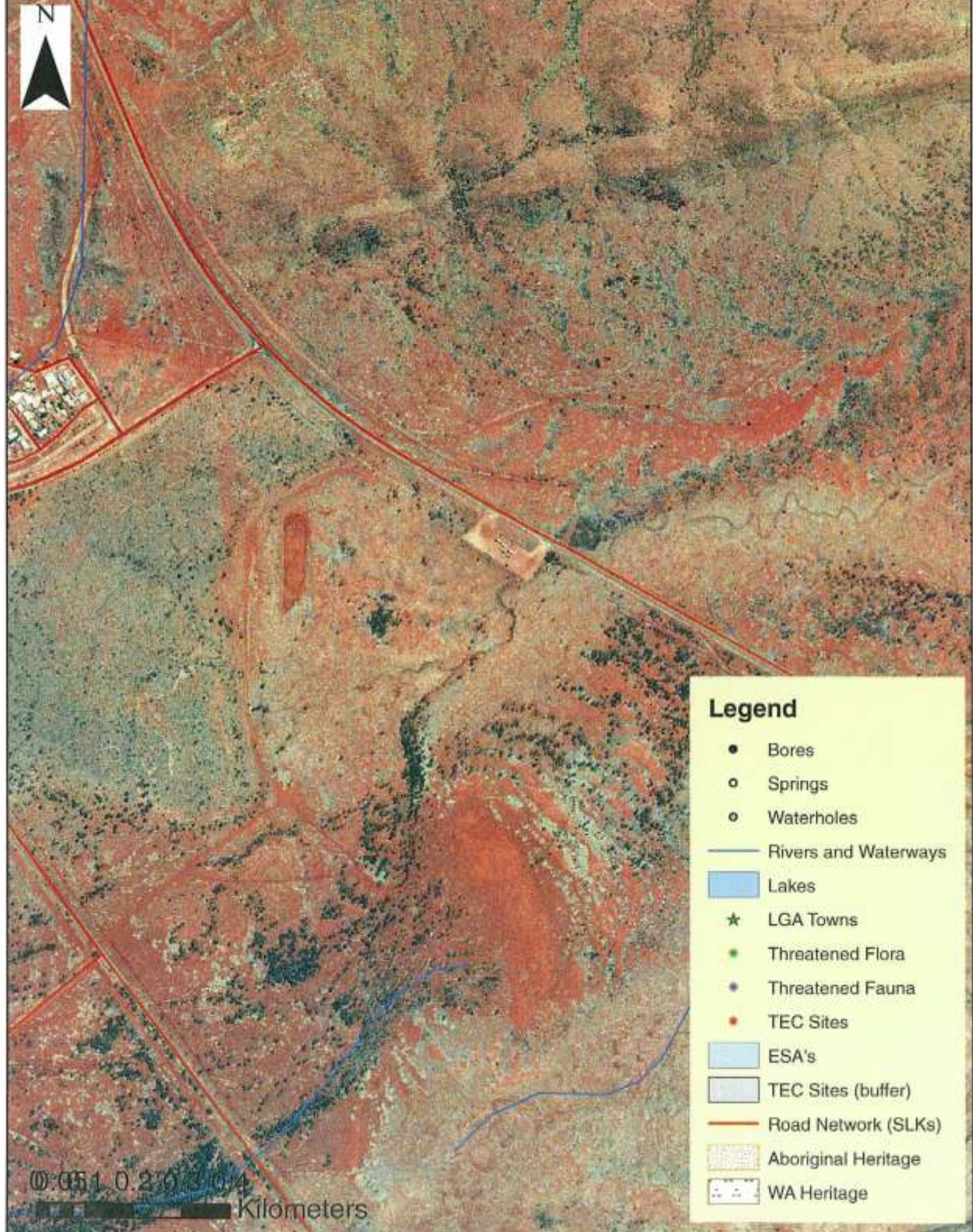


# Sylvania Road Parking Bay - GNH Environmental Constraints





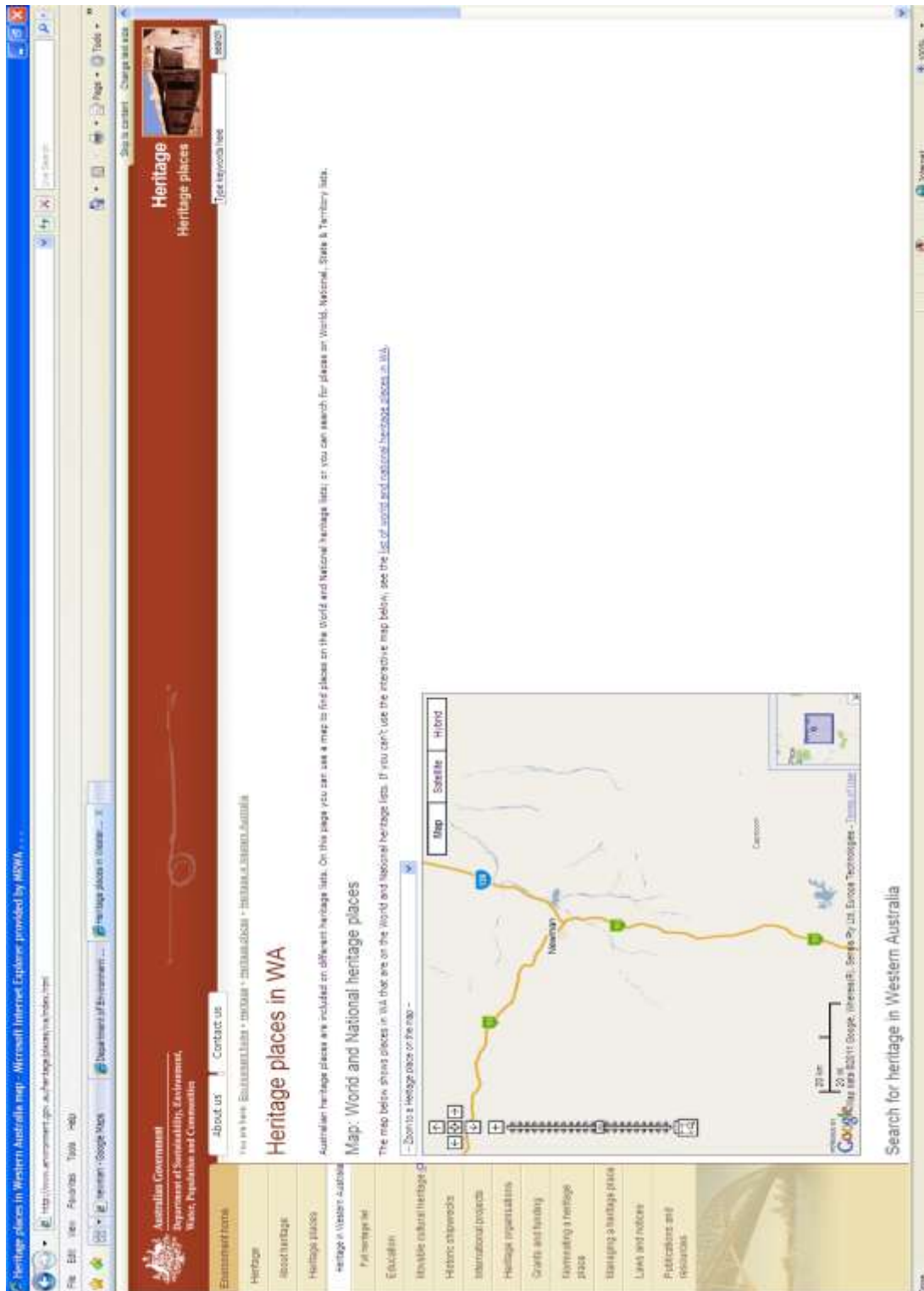
# Newman Parking Bay (Kalgan Drive) - GNH Environmental Constraints

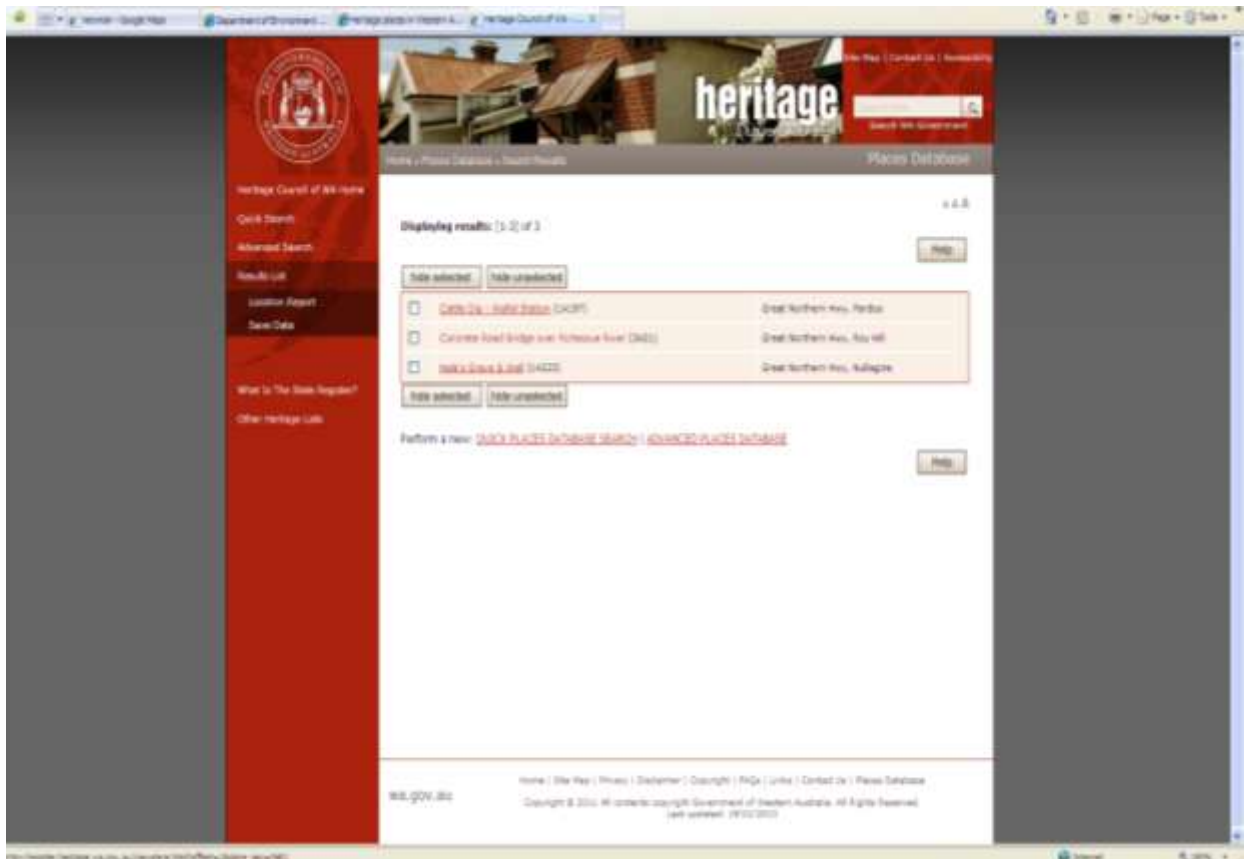




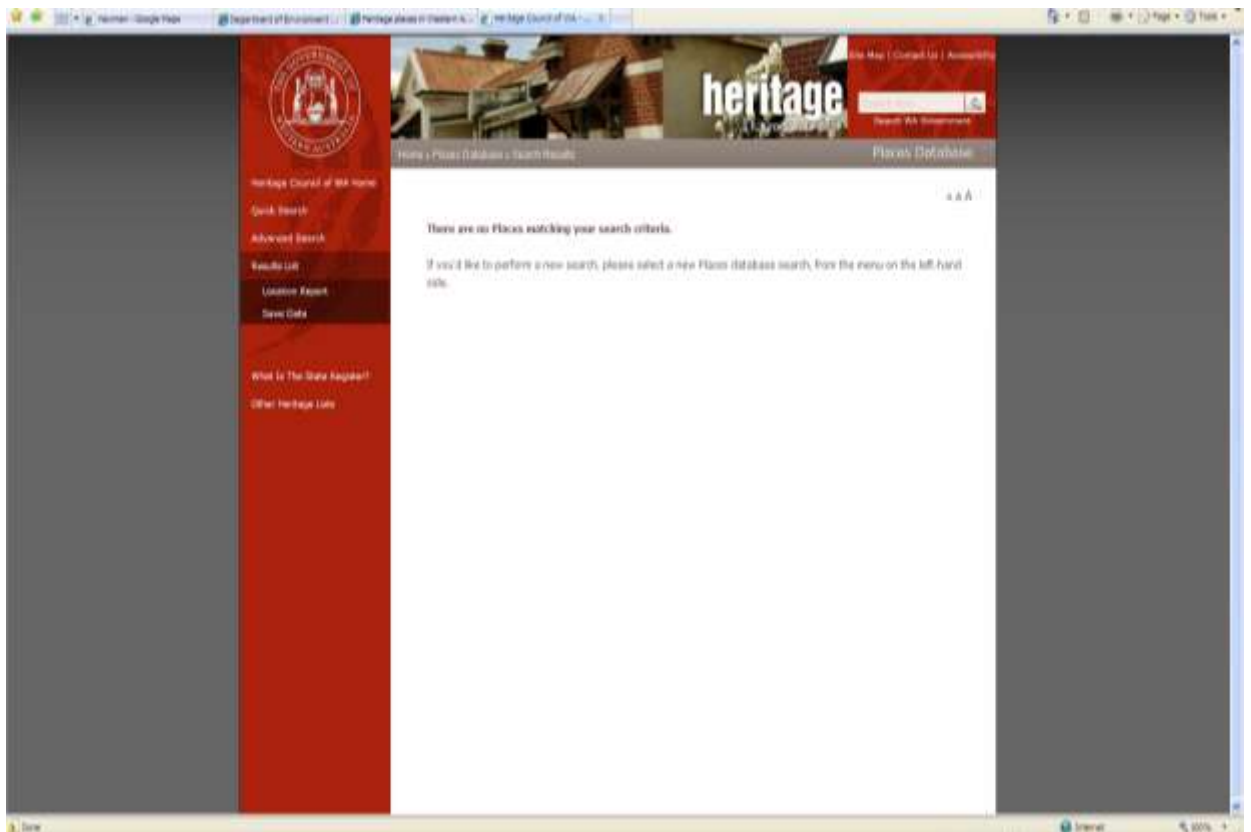
# Appendix C

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





Heritage Search – Shire of East Pilbara – No sites in project area



Heritage Search – Shire of Meekatharra – No sites in project area

# Appendix D

## Department of Indigenous Affairs Database Search

Government of Western Australia  
Department of Indigenous Affairs

Aboriginal Heritage Inquiry System

Search | Metadata | Feedback | 0

What do you want to do?  
Search for Sites in...

Show on map

- Aboriginal Sites
- Heritage Sunsigns

refresh | done

Map size

- Small
- Medium
- Large

0 results

- Clear Results
- Printable - All results (with map)

0 Registered Aboriginal Sites  
No results

0 Other Heritage Places  
No results

The map shows a topographic view of the Newman area in Western Australia. A blue rectangular search box is drawn over a specific location, likely the Newman Gun Club. The map includes contour lines, roads, and various geographical features. Labels on the map include 'Whaleback', 'Newman', 'Newman Gun Club', 'Newman Gun Club (lower)', 'Newman Gun Club (upper)', 'Newman Gun Club (middle)', 'Newman Gun Club (lower)', 'Newman Gun Club (upper)', 'Newman Gun Club (middle)', 'Newman Gun Club (lower)', 'Newman Gun Club (upper)', 'Newman Gun Club (middle)', 'Newman Gun Club (lower)'. The map also shows various roads and landmarks, including 'Newman Gun Club', 'Newman Gun Club (lower)', 'Newman Gun Club (upper)', 'Newman Gun Club (middle)', 'Newman Gun Club (lower)', 'Newman Gun Club (upper)', 'Newman Gun Club (middle)', 'Newman Gun Club (lower)', 'Newman Gun Club (upper)', 'Newman Gun Club (middle)', 'Newman Gun Club (lower)'. The map is overlaid with a grid and includes a scale bar.

Aboriginal Heritage Database Enquiry Search – Newman Parking Bay GNH



Aboriginal Heritage Inquiry System

Search | Metadata | Feedback | DDA

What do you want to do?

Search for Sites in...

close legend

0 results

Clear Results

Printable - All results (with map)

---

0 Registered Aboriginal Sites  
No results

---

0 Other Heritage Places  
No results

show on map

Aboriginal Sites

Heritage Surveys

refresh

home

Map size

Small

Medium

Large

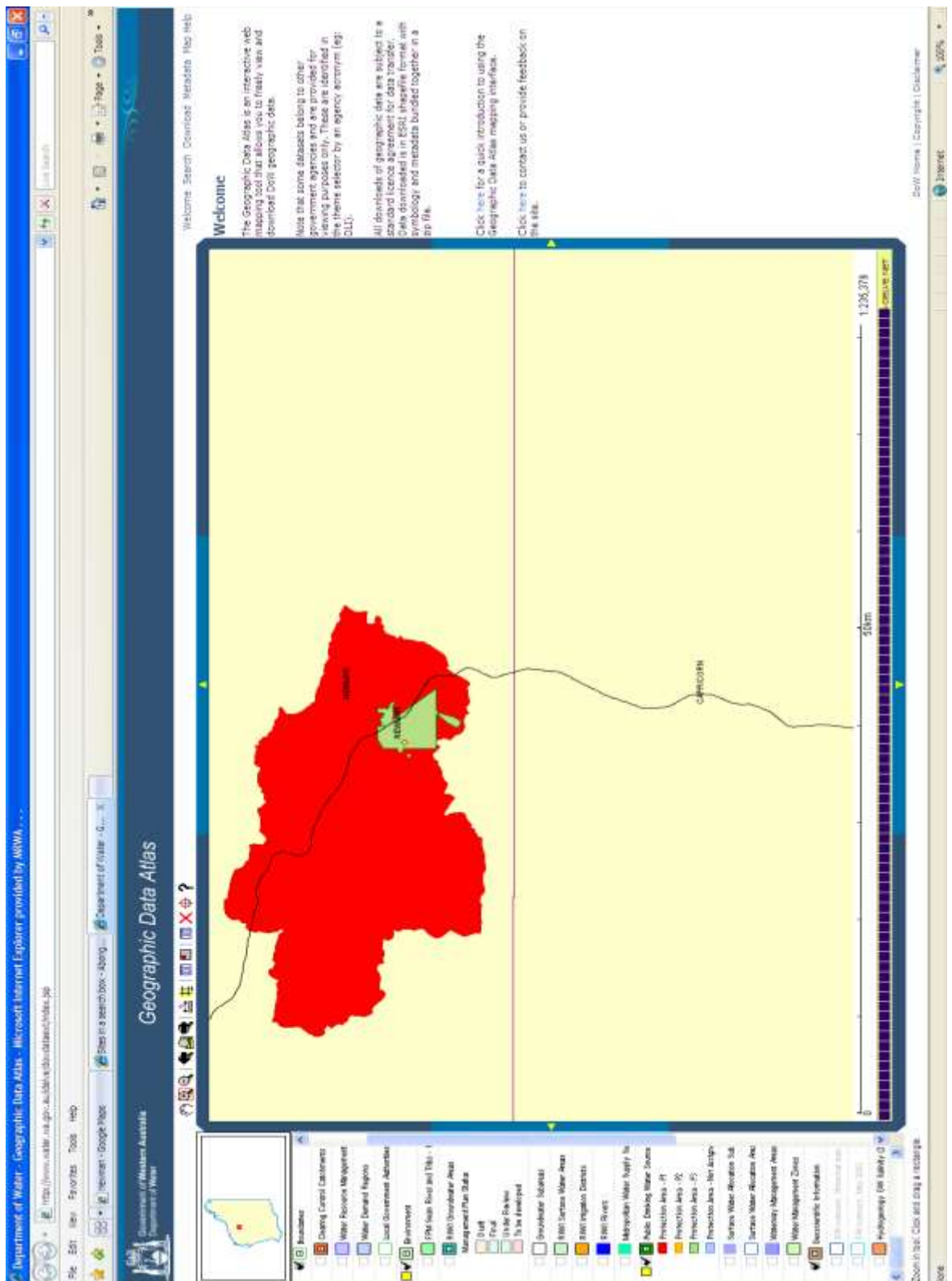
new map

new page

Aboriginal Heritage Database Enquiry Search – Sylvania Parking Bay GNH

# Appendix E

## DoW Geographic Data Atlas Database Search



Public Drinking Water Source Area (P1) for Newman Parking Bay project area



# Appendix F DEC Native Vegetation Map Viewer Database Search



# Appendix G DSEWPC Database Search

Protected Matters Search Tool

**Layers**

- Protected Areas
- DSEWPC Matters
- National Inventory Wetlands
- Commonwealth Heritage Places
- World Heritage Properties
- National Heritage Places
- National Forest Agreement
- Regional Boundaries
- Local Government Areas
- Natural Resources Management Regions
- Great Eastern Reef Marine Park
- Commonwealth Marine Reserves
- Commonwealth Marine Areas

**Search Options**

Address Search    Geographic Search

Street Line:

Suburb/Town:

State:

Postcode:

Please feel free to provide feedback via the Contact Us page.



# EPBC Act Protected Matters Report: Coordinates

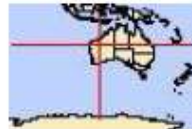
This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

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.

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>

Report created: 07/03/11 17:23:49



### [Summary](#)

### [Details](#)

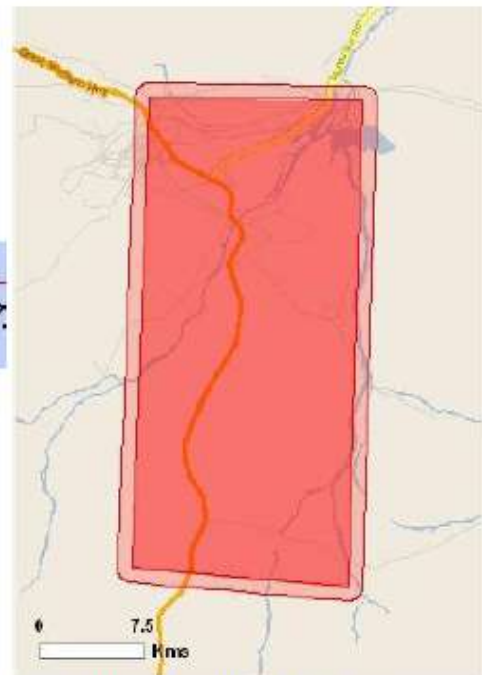
[Matters of NES](#)

[Other matters protected by the EPBC Act](#)

[Extra Information](#)

### [Caveat](#)

### [Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

### [Coordinates](#)

Buffer: 1Km

---

## Summary

### Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see <http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html>.

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Significance (Ramsar Wetlands):</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Areas:</a>	None
<a href="#">Threatened Ecological Communities:</a>	None
<a href="#">Threatened Species:</a>	4
<a href="#">Migratory Species:</a>	7

### 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>.

<a href="#">Commonwealth Lands:</a>	2
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	5



# Appendix H

## Department of Agriculture & Food Advice on Declared Weeds

Declared plants list

[Generate Report](#)

**Declared Plants Search**

Find a Plant  
 Plant Name:  Region:  Classes:

35 Plants found page 1 of 8

Name	Classes	Regions	View	Printable
<a href="#">Sidaea (French pop., all species not native to Australia (except French Guiana))</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1	284	<a href="#">Q</a>	<a href="#">P</a>

Result pages: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#)

Declared plants list

[Generate Report](#)

**Declared Plants Search**

Find a Plant  
 Plant Name:  Region:  Classes:

35 Plants found page 2 of 8

Name	Classes	Regions	View	Printable
<a href="#">Sidaea (French pop., all species not native to Australia (except French Guiana))</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1, P2	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1	142	<a href="#">Q</a>	<a href="#">P</a>
<a href="#">Sidaea (French pop.)</a>	P1	284	<a href="#">Q</a>	<a href="#">P</a>

Result pages: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#)



# Appendix I

## DEC Contaminated Sites Database Search

**Contaminated Sites Database**

Department of Environment and Conservation  
 Environment Australia

Home Search Find Suburb/Town Manage Map Help

### Search for Known Contaminated Sites

Switch to Advanced Search

Search Criteria

Street/lot No.

Street Name

Suburb/Town

Title (Volume/Field)

Crown Land Reserve No.

Please enter at least one of the following:  
 Street Name, Suburb/Town, Title or Crown Land Reserve Number.

Switch to Advanced Search

Map navigation controls: Home, Previous, Next, Full Screen, Print, Refresh, Stop, Zoom In, Zoom Out, Zoom Reset, Zoom Slider, Scale (0 to 1,284,800), NEWMAN

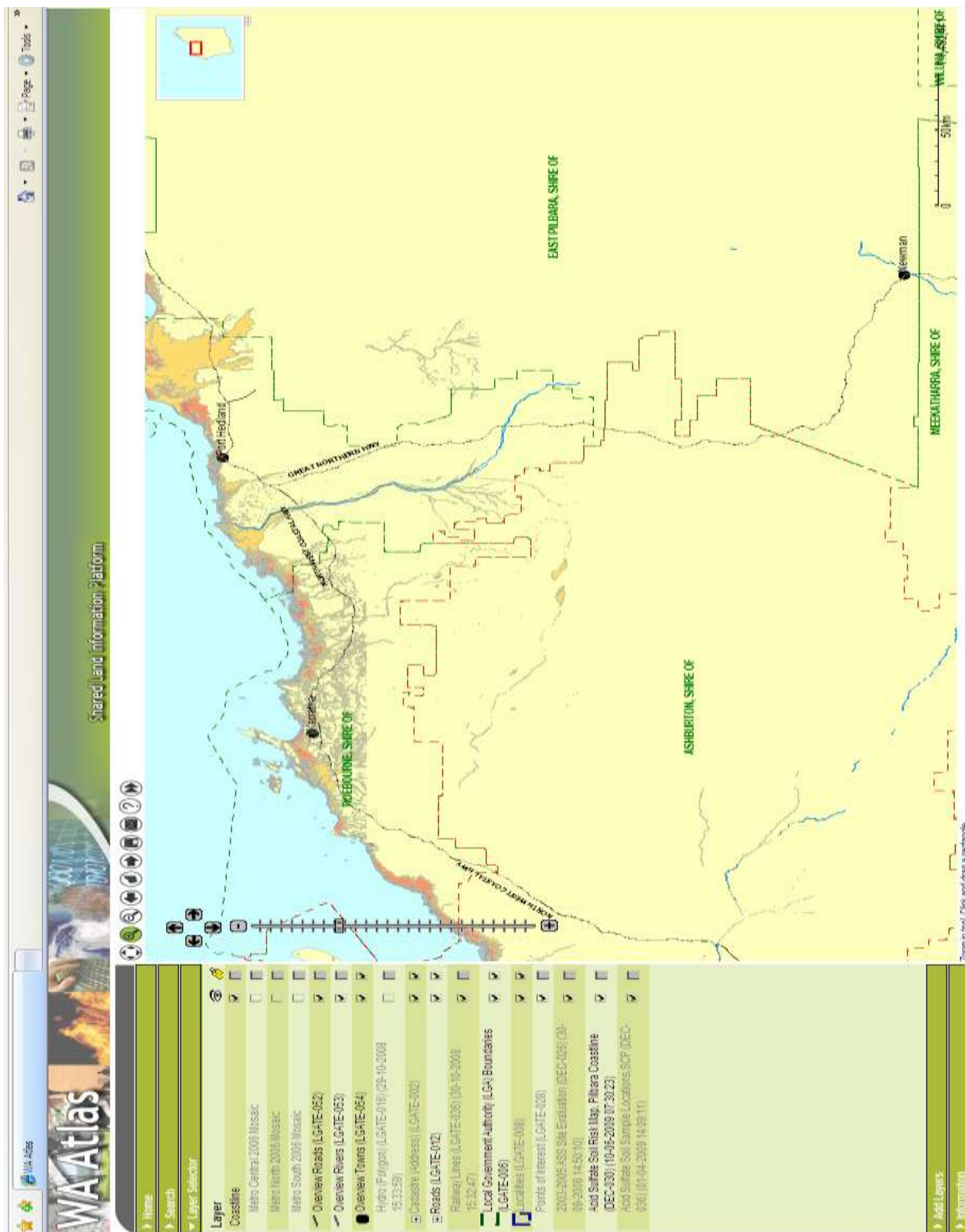
Legend:

- Coastal
- Boundaries
- LHA
- Urban
- Contaminated Sites
- Transportation
- State Roads
- Waterways
- Trade Area
- Society
- Major Times
- Minor Times

Zoom in box. Click and drag a rectangle.

# Appendix J

## Acid Sulfate Soils Mapping



# Appendix K

## Environmental Management Plan

# ENVIRONMENTAL MANAGEMENT PLAN

## PILBARA GNH PARKING BAYS

### Introduction

This Environmental Management Plan (EMP) has been developed for the project area following the completion of the Preliminary Environmental Impact Assessment (PEIA) report. The aim of this EMP is to minimise the environmental impacts associated with the proposed works as well as to identify areas of responsibilities required for the implementation of management strategies.

This EMP addresses specific issues that were identified during the PEIA. The project management measures identified within this EMP are in addition to the standard environmental management contract specifications used for Category 2 projects. Main Roads' standard environmental contract specifications (Specifications 203, 204, 301, 302 and 304) are to be adhered to where appropriate.

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.

### Communication Plan

Environmental issues specific to the project will be communicated as follows

Method	Frequency	Participants	Reference	Record
Project Site				
Induction	Prior to Work	All personnel and subcontractors	EMP and Contractor Environmental Policy	Induction Meeting
Toolbox Meetings	Weekly	Project Personnel	Contractor Safety Plan	Minutes of Meeting
Contract Meetings	As they occur	Main Roads' Project Manager and Contractor Project Manager	EMP	Minutes of Meeting
Authority Consultation				

### External Communication and Complaints

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

**ENVIRONMENTAL MANAGEMENT PLAN**

<b>Timing</b>	<b>Topic</b>	<b>Objective</b>	<b>Action</b>	<b>Responsible Party</b>	<b>Advice</b>
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"> <li>• a copy of the PEIA &amp; EMP (Minor projects) for small projects;</li> <li>• a map showing the location where the clearing occurred, recorded in an ESRI Shapefile</li> <li>• the size of the area cleared (in hectares); and</li> <li>• the dates on which the clearing was done.</li> </ul>	Project Manager	DEC
			Revegetation and rehabilitation of areas: <ul style="list-style-type: none"> <li>• a copy of each Revegetation Plan;</li> <li>• a map showing the location of any area revegetated and rehabilitated recorded in an ESRI Shapefile;</li> <li>• a description of the revegetation and rehabilitation activities undertaken; and</li> <li>• the size of the area revegetated and rehabilitated (in hectares).</li> </ul>	Project Manager	DEC
			Each management strategy implemented: <ul style="list-style-type: none"> <li>• a map showing the location of any area to which a management strategy has been applied recorded in an ESRI Shapefile;</li> <li>• a description of the management strategy implemented; and</li> <li>• the size of the area to which the management strategy was applied (in hectares).</li> </ul>	Project Manager	Project Manager
All phases of Construction	Vegetation Clearing - Record-keeping	All projects should maintain the required records relating to clearing native vegetation under the purpose permit.	Control of weeds, dieback and other pathogens: <ul style="list-style-type: none"> <li>• a copy of any management plan prepared; and</li> <li>• for any pathogen other than dieback, the appropriate steps taken.</li> </ul>	Project Manager	Main Roads
Pre - Construction	Visual Amenity	Ensure that road blends into environment.	Develop design documentation to meet project requirements as identified in the visual impact assessment.	Project Manager	Main Roads

**ENVIRONMENTAL MANAGEMENT PLAN**

<b>Timing</b>	<b>Topic</b>	<b>Objective</b>	<b>Action</b>	<b>Responsible Party</b>	<b>Advice</b>
Pre - Construction	Vegetation Clearing – Submissions to DEC	All projects comply with requirements of the purpose permit in relation to submission of documentation to DEC and where relevant obtain DEC approval of these documents prior to clearing of native vegetation.	<p>Management Strategy</p> <ul style="list-style-type: none"> <li>• Submit management strategy as required by Condition 12 b) of the purpose permit.</li> <li>• Submit revegetation plan as required by Condition 13 c) of the purpose permit.</li> </ul>	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 mulched or respread according to the TDP/Revegetation Plan.	Contractor	Main Roads
Pre - Construction	Vegetation Clearing - CPS 818/4 management requirements	Compliance with management conditions of purpose permit.	If clearing is pursuant to Main Purpose Permit (CPS818) ensure compliance with Section 14 of the permit relating to Dieback, other pathogen and weed control.	Contractor/Project Manager	DEC
Pre-Construction	Surface Drainage	Maintain the hydrological regime that exists prior to the construction of the proposal.	Stormwater drainage shall be treated and disposed of in accordance with DEC requirements.	Project Manager	DEC



**ENVIRONMENTAL MANAGEMENT PLAN**

<b>Timing</b>	<b>Topic</b>	<b>Objective</b>	<b>Action</b>	<b>Responsible Party</b>	<b>Advice</b>
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
			Pedestrian public access should be should be planned and implemented prior to the construction of works.	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
			Watering, the use of hydromulch or other forms of mulching to protect loose surfaces shall be used as mitigation measures.	Contractor	Main Roads
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
			Temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands. Precoating of aggregate will only occur in approved areas.	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
			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
			Machinery will be fitted with approved spark arresting mufflers.	Contractor	Main Roads
			A water tanker/fire fighter unit will be on site at all times.	Contractor	Main Roads
Construction	Fauna	Avoid unnecessary impacts to fauna and damage to	Fauna are not to be fed or intentionally harmed.	Contractor	Main Roads
			No pets or firearms permitted on site.	Contractor	Main Roads

**ENVIRONMENTAL MANAGEMENT PLAN**

<b>Timing</b>	<b>Topic</b>	<b>Objective</b>	<b>Action</b>	<b>Responsible Party</b>	<b>Advice</b>
		fauna habitat.	The WILDCARE Helpline is to be contacted, 9474 9055, in the event of sick, injured or orphaned native wildlife on the site.	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.	Site office and materials storage areas will be located on previously disturbed/ designated area.	Contractor	Main Roads
Construction	Rehabilitation	Rehabilitate the project area to meet project commitments.	Implement the contract specifications for rehabilitation of the site.	Contractor	Main Roads
			All waste materials from the development are to be completely removed from the site upon completion of the project. Final clean-up shall be to the satisfaction of the Project Manager and the Site Superintendent.	Contractor	Main Roads

## **Monitoring**

After project completion and project handover, the Asset manager should develop a monitoring program to monitor for those aspects that have been identified as requiring monitoring.

## **Contingency Measures**

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

## **Auditing**

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