# PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

## South Coast Highway – Reconstruction of Fish Track Road to Manypeaks Town Section

## October 2011

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| Revision | Prepared by | Date | Reviewed by | Date |
|---|---|---|---|---|
| Draft A | Fiona van Rijnswoud<br>Environment Officer | 13/10/11 | <Name><br><Title> | |
| Rev 0 | Melissa O'Toole<br>Environment Officer | 25/10/11 | | |
| Rev 1.1 | | | | |

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## SUMMARY

The proposed project comprises the reconstruction of 1.6km of road formation with some realignment of substandard vertical and horizontal curves to achieve current standards.

These works will provide a section of road network with an improved alignment with suitable seal and shoulder widths to accommodate expanding traffic requirements to meet current expectations whilst providing added safety benefits to the community and industry.

For the purpose of this PEIA, the section to be realigned is the Fish Track Road to Manypeaks town section which is from 35.0 – 36.6SLK, on South Coast Highway (H008) in the City of Albany.

The main environmental impacts of the project include the clearing of 9000m2 of native vegetation, within one Vegetation Association, which has less than 30% pre-European extent remaining. The project area contains native vegetation that could be considered significant habitat for threatened fauna species, namely Carnaby's Cockatoo and Baudin's Cockatoo. However, due to the small nature and scale of the project, the impacts are not considered significant.

An Aboriginal Heritage survey was completed for the proposed project in November 2008 by Brad Goode and Paul Greenfeld. The survey uncovered one new, unregistered site located in the vicinity of the intersection of South Coast Highway and Homestead Road. The site is not impacted by the proposed project. The site consisted of two stands of native Christmas Trees (*Nuytsia floribundia*) that may have mythological significance in relation to deceased people. The site was submitted to the DIA who have advised that the submission would not be likely to be registered and would be relegated to 'stored data' as the site does not meet criteria under the *Aboriginal Heritage Act 1972.*

# PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN
# SOUTH COAST HIGHWAY – RECONSTRUCTION OF FISH TRACK ROAD TO MANYPEAKS TOWN SECTION

## 1. BACKGROUND

Main Roads Western Australia (MRWA) is proposing to upgrade the Manypeaks section (Fish Track Road to Manypeaks town section) of the South Coast Highway between 35.0 – 36.6 SLK. The South Coast Highway forms an important tourist and transport route for movement between the City of Albany ad rural communities on the south coast of Western Australia.

The upgrade includes slightly realigning the South Coast Highway between these SLKs. Future works will involve upgrading the Homestead/Fish Track Road intersection, and the Cheynes Beach section will also be upgraded.

Following Main Roads' corporate Environmental Assessment and Approval process, an initial 'Low Impact Environmental Screening Checklist' was completed for the proposal. The checklist determined the project required further environmental assessment as the project requires clearing of native vegetation outside the maintenance zone. Therefore the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required.

The preliminary environmental assessment will involve a desktop analysis of environmental aspects and impacts, a site investigation, an assessment of native vegetation clearing, stakeholder consultation and consideration of necessary environmental management. The preliminary assessment will determine whether an Environmental Impact Assessment (EIA) is necessary and if referral to State and/or Commonwealth authorities is required.

## 2. DESCRIPTION OF THE PROJECT

The project is located on South Coast Highway (H008) between SLK 35.0 – 36.6. The works will include clearing vegetation on the northern side of the highway (the other side is farm land) to improve the alignment.

### 2.1 Project Location

The location and boundaries of the study area for the project and clearing areas are shown in Figures 1 and 2.

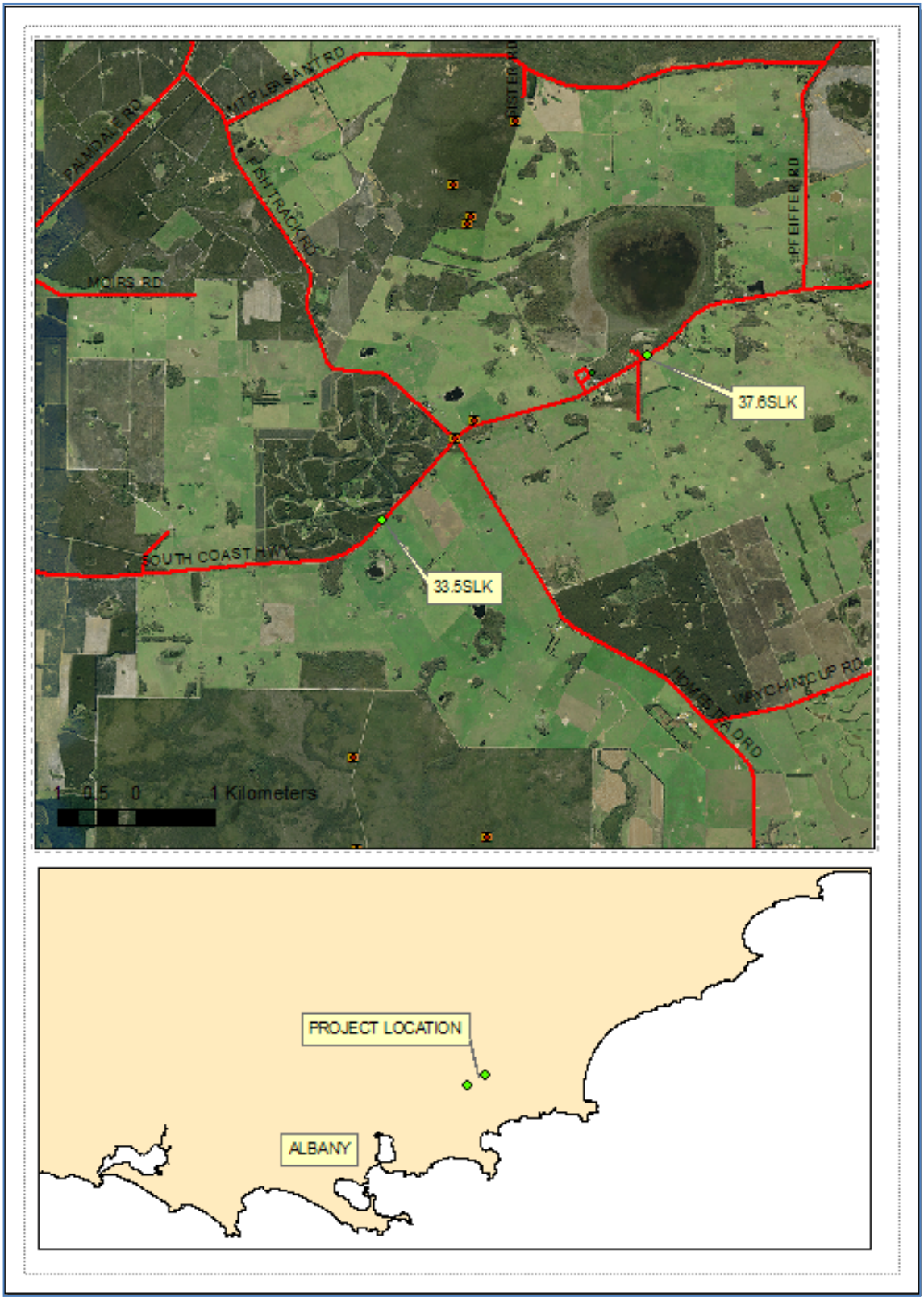



Figure 1 – Project Location and Study Area

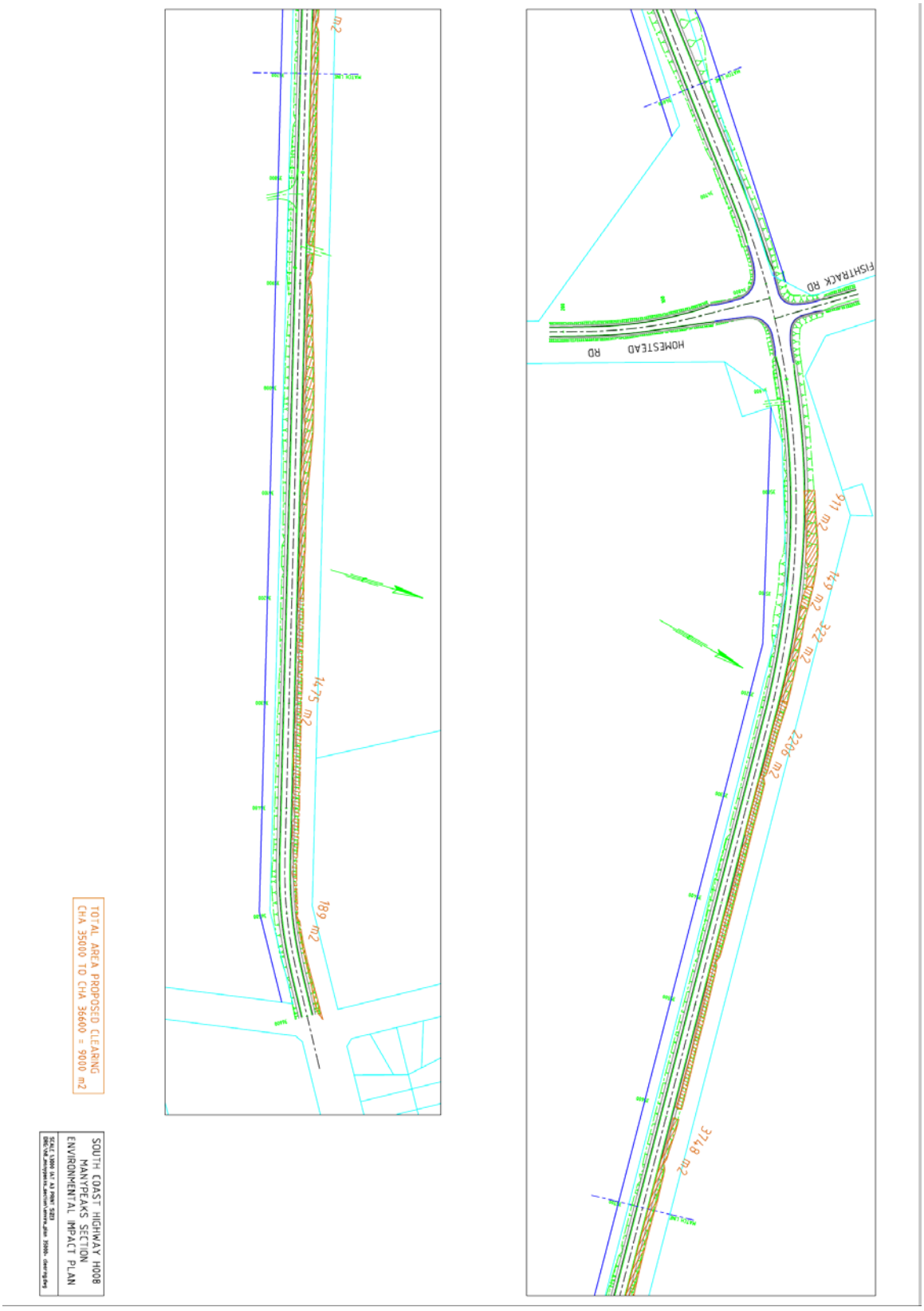



Figure 2. Clearing location and area.

# 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 and having relevant surveys completed.

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

Current GIS shapefiles provided to Main Roads by DEC were examined for known populations of threatened flora, fauna, Threatened Ecological Communities (TECs) or conservation areas located within the vicinity of the works. The DEC were also contacted directly in this case for a search of the DEC threatened flora and fauna database, refer 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 City of Albany'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

*The Department of Agriculture and Food maintains a list of declared plants (http://agspsrv95.agric.wa.gov.au/dps/version02/01_plantsearch.asp). This website was used to generate a report of significant weeds or declared plants located in the project location's region, refer to Appendix H.*

### 3.1.7 Dieback

As the project site receives >400 mm of annual rainfall and is not located within a vulnerable area of the south western parts of Western Australia, advice regarding the broad dieback status of the project area was not sought from the DEC, refer to Appendix I.

### 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 J.

### 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 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.*

# 4. EXISTING ENVIRONMENT

## 4.1 Description

The existing South Coast Highway alignment in this section intersects native bushland and cleared agricultural land. The majority of the clearing will occur on the northern side of the highway where the native vegetation exists. There are no significant waterways located within the project boundary.

## 4.2 Site Investigation

A site visit was carried out by Environment Officers Fiona van Rijnswoud and Melissa O'Toole, and Project Manager Jeff Barnes on 27 September 2011 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 (dilapidation). Site photos were taken and are included in Appendix L.

## 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 regulation (Section 5 – Prescribed Clearing), typically all Main Roads clearing will be undertaken using a permit.

Clearing of native vegetation will be undertaken using CPS818/6.

### 5.1 Details of Vegetation Associations to be Cleared

In order to assess the significance of the vegetation proposed to be cleared for the South Coast Highway reconstruction at Manypeaks, the vegetation type, condition and percent of pre-European extent remaining has been identified. Table 1 describes the location and condition of vegetation associations within the project area and at road building material extraction sites while Table 2 provides further information regarding each vegetation association's representativeness.

**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 (Keighery 1994)* | Pre-European Extent Remaining (%) ** | Area (ha) |
|---|---|---|---|---|---|---|
| 994 | Low forest; jarrah & casuarina (probably Allocasuarina fraseriana) | 33.5-37.6 | L | Good | 28.29 | 2 |
| | | | | | **Total Area (ha)** | 2 |

**Table 2: Vegetation Percent Remaining**

| **Pre-European Extent Remaining: Vegetation Association No.** 994 Low forest; jarrah & casuarina (probably Allocasuarina fraseriana) | | |
|---|---|---|
| **Regional Context** | **Location** | **Pre-European Extent Remaining (%)** |
| State-wide | N/A | 29.04 |
| Bioregional (IBRA Region) | Jarrah Forest (JF) | 28.29 |
| Bioregional (IBRA Sub-Region) | Southern Jarrah Forest (JF2) | 28.29 |
| LGA | Shire of Mandurah | 29.4 |

### 5.2 Assessment Against The Clearing Principles

In assessing whether the project is likely to have a significant impact on the environment, the project was assessed against the ten clearing principles (EP Act 1986 Schedule 5).

The project is not likely to be at variance with one or more of the 10 clearing principles.

| **(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.** | |
|---|---|
| ASSESSMENT | The native vegetation in the area is considered to contain a moderate level of biological diversity. The results of the site survey (which was for Manypeaks section & Cheyne's Beach section also), show that 348 vascular flora species were recorded of which 81% are native. The Vegetation Association (994) is considered underrepresented with only 29.04% remaining state wide. The survey conducted by Maunsell (2009) identified the vegetation in this area as being in good to very good condition. However, the same vegetation in surrounding areas is of the same or better condition.<br>It is unlikely that clearing within the study area will cause significant impact to the biological diversity of the wider region, due to the close proximity of protected areas such as Hassell National Park. |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping |
| Proposal is not likely to be at variance to this Principle. | |

| **(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.** | |
|---|---|
| ASSESSMENT | A level 1 Fauna Survey was conducted according to EPA Guidance statement 56 and the field investigation included visual observations of fauna activity, visually examining significant trees and opportunistic observations. The project area supports suitable habitat for Western Ringtail Possums as the main determinant of suitable habitat for the Possum is the presence of Peppermint Trees, however Peppermint Trees are not a significant species occurring between 35.0 – 36.6SLK. The vegetation contains potential foraging habitat for Carnaby's cockatoos; however the small nature and scale of the project (clearing 9000m2 of vegetation) is unlikely to have a significant impact on the listed species' foraging habitat. |
| METHODOLOGY & REFERENCES | Biological Survey by Maunsell (2009), ArcGis mapping, DEC Threatened Fauna database search (2011). |
| Proposal is not likely to be at variance to this Principle. | |

| **(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.** | |
|---|---|
| ASSESSMENT | No species of DRF, listed by DEC under the *Wildlife Conservation Act, 1950* or as Threatened under the *EPBC Act, 1999* were recorded within the project area. One of the species recorded during the January field assessment was thought to be a Priority 3 species as listed by DEC, but insufficient material meant it could not be confirmed. During the October survey, the same species was collected again and identified and was not found to be of conservation significance. ArcGis inquiries indicate the presence of a Priority 3 species near the Homestead Road intersection, but this was not located during the field survey conducted by Maunsell (2009). |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping, DEC's Threatened Flora database search (2011). |
| 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.** | |
|---|---|
| ASSESSMENT | Desktop assessments indicated there are no Threatened Ecological Communities (TEC's) present within the study area or in adjacent areas. This was confirmed during the field study conducted by Maunsell (2009). |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping. |

| |
|---|
| 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.** | |
|---|---|
| ASSESSMENT | The Vegetation Association within the project area is number 994 *(Low forest; jarrah & casuarina (*probably *Allocasuarina fraseriana))* which has both IBRA region and IBRA sub-region figures of less than 30% pre-European extent remaining, making it underrepresented. The surrounding landscape could be considered somewhat fragmented due to the Agricultural landscape with pockets of native vegetation in surrounding areas.<br>Due to the small nature and scale of the project (clearing of 9000m2 of native vegetation) the proposal is not likely to be at variance to this Principle. |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping. |
| 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.** | |
|---|---|
| ASSESSMENT | The significant wetland 'Mt Pleasant View Lake' (and it's buffer zone) is located in close proximity to the project location but will not be impacted by the proposed works.<br>Due to the scale and nature of this proposal, it is unlikely that drainage hydrology will change appreciably. |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping, DSEWPC database search (2011) |
| 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.** | |
|---|---|
| ASSESSMENT | The Biological Survey (Maunsell 2009) identifies the project area as consisting of Laterite, Sand and Plantagenet Stone (Siltstone/limestone). The land in the area does not consist of any particular gradient therefore soil erosion is not considered to be a significant issue. The minimal impact of the project is unlikely to result in considerable land degradation. |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping. |
| 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.** | |
|---|---|
| ASSESSMENT | There are two conservation reserves and one National Park within the study area conducted by Maunsell (2009) but these are within close vicinity to the Cheyne's Beach section (approximately 44.7-46.3SLK) which is not part of the upgrade works that this PEIA covers. Lake Pleasant View Nature Reserve is situated approximately 400m from the end of the proposed works associated with the Manypeaks section upgrade. The nature and scale of the project in the context of the reserve suggest that it is unlikely to be at variance with this principle. |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping, |
| Proposal is not likely to be at variance to this Principle. | |

| **(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.** | |
|---|---|
| ASSESSMENT | The proposed project area is not within a Public Drinking Water Source Area (PDWSA) or Proclaimed Surface Water area. Considering the nature and scale of the clearing and the project, it is not considered likely to significantly |

| | |
|---|---|
| | impact on salinity or pH of the water table, ground water, surface water or the properties (including nutrient levels, sedimentation, erosion, turbidity, eutrophication etc) of any water bodies off site.<br>Acid Sulfate Soils are not mapped as being moderate or high risk in the project area. |
| METHODOLOGY & REFERENCES | Biological survey by Maunsell (2009), ArcGis mapping, ASS risk mapping, DoW Geographic Data Atlas Database search (2011). |
| Proposal is not likely to be at variance to this Principle. | |

| **(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.** | |
|---|---|
| ASSESSMENT | The size and scale of clearing of native vegetation for this proposed road upgrade is not considered to be likely to cause or exacerbate the incidence or intensity of flooding events. |
| METHODOLOGY & REFERENCES | Biological Survey by Maunsell (2009), ArcGis mapping, DoW Geographic Data Atlas (2011). |
| Proposal is not likely to be at variance to this Principle. | |

## 5.3 Summary of Management Actions

Main Roads avoids clearing vegetation wherever 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 South Coast Highway Manypeaks section upgrade;

- 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,
- Construction works to be undertaken in summer to reduce the potential for soil erosion impacting adjoining vegetation during heavy rains,
- Control/spray weeds species within the project area prior to construction to limit the amount of propagative material that may be spread during disturbance,
- Implement the Project Revegetation Management Plan and monitor effectiveness of revegetation works and weed control.

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**

| Impact of Clearing | Yes/No or NA | Further Action Required |
|---|---|---|
| **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** | 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** | No further action required.<br>. |
| **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** | No further action required. |

| | | |
|---|---|---|
| **4.** Will the project involve clearing for purposes considered temporary in nature under Condition 13 of CPS818? | **No** | No further action required.<br>. |

## 6. ASSESSMENT OF ASPECTS AND IMPACTS

**Table 4: Aspects and Impacts – South Coast Highway Manypeaks section upgrade**

| Aspect | Evaluation of Potential Impacts |
|---|---|
| Vegetation – clearing | 9000m2 of native vegetation is proposed to be cleared, the vegetation is described as Vegetation Association 994 *(Low forest; jarrah & casuarina (probably Allocasuarina fraseriana)*, this Vegetation Association has 29.04% of pre-clearing extent of vegetation remaining.<br><br>The native vegetation proposed to be cleared isn't well represented regionally as it possesses less than 30% of its pre-European extent (29.04%).<br><br>According to Keighery, (1994) the condition of the native vegetation to be cleared is described as Good.<br><br>Of the 9000m2 of native vegetation proposed to be cleared none is temporary clearing. |
| Vegetation – TECs/DRF | None present in the proposed works areas. No significant vegetation types or threatened flora have been recorded within the road reserve.<br><br>No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted (see Table 5). |
| Vegetation – weeds | 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. |
| Vegetation – dieback | Advice from Dieback survey (done as part of the Biological Survey by Maunsell 2009) indicates that the area should be treated as unprotectable. |
| Fauna | Three species of significant fauna identified in the project area (Western Ringtail Possum, Baudin's Cockatoo and Carnaby's Cockatoo).<br>See assessment to Clearing Principle 'b' in Section 5.2. |
| Heritage (non-indigenous) | A search of the Australian Heritage Places Inventory, Heritage Council of Western Australia and the City of Albany 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.<br><br>No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted (see Table 5). |
| Aboriginal heritage | A search of the DIA's database/Heritage survey identified 1 known site(s) of Aboriginal heritage significance within the vicinity of the project area.<br>The site was lodged with the DIA and has been assessed as not being a site. Liaison with the Aboriginal group is continuing to ensure the needs of both parties are met.<br><br>No further investigations are required. |
| Wetlands | DEC databases were investigated and ArcGis mapping was conducted to ascertain whether any wetlands were in the vicinity of the project area. One wetland of National significance is located nearby but will not be impacted on with these proposed works.<br>No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted (see Table 5). |

**Table 4: Aspects and Impacts – South Coast Highway Manypeaks section upgrade**

| Aspect | Evaluation of Potential Impacts |
|---|---|
| Surface water/drainage | 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. |
| Groundwater | No dewatering nor drainage modifications are required, hence no change to groundwater level or quality. |
| Reserves / Conservation areas | There are no conservation areas or reserves adjacent to the project area that will be impacted. |
| Air quality | Not relevant to the proposed works. Local air quality assessment is not required for the project since:<br>• the predicted traffic flow is less than 10,000 vehicles per day (in urban areas) or 15,000 vehicles per day in rural areas;<br>• residential and other sensitive receptors are not within 200 meters of the road centre; &<br>• background air quality (measured by the nearest DEC fixed monitoring site) does not exceed 25% of the NEPM for ambient air quality and has remained below this level for the 12 months ending at the time of the assessment. |
| 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 <Cit of Albany 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 low risk, as there is no dewatering or excavation below the water table planned no further investigations are required. |

**Table 4: Aspects and Impacts – South Coast Highway Manypeaks section upgrade**

| Aspect | Evaluation of Potential Impacts |
|---|---|
| Statutory Land Use Planning | The proposed works are likely to take place outside the existing road reserve, this requires land excision but the project area is outside of any Local Government Planning Scheme or Regional Scheme area. |

**Table 5: Commonwealth Aspects and Impacts – South Coast Highway Fish Track Road to Manypeaks Town Section Upgrade**

| Aspect | Evaluation of Potential Impacts |
|---|---|
| World Heritage properties | The project will not impact any World Heritage properties i.e. Shark Bay |
| 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, 17 threatened species and no 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. Carnaby's cockatoo habitat occurs within the project area, but due to the small nature and scale of the project the impacts to foraging habitat are not considered significant. |
| Migratory species protected under international agreements | A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located 8 migratory species within the vicinity of the project. The project activities are unlikely to have a significant impact on these species as the vegetation present is 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. Ningaloo Marine Park |
| Commonwealth lands | The project is not located on and will not impact any Commonwealth lands. |
| 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

The preliminary impact assessment determined the project does not, will not, or is not likely to have a significant impact on Matters of National Environmental Significance or impact Commonwealth land as outlined in Table 5 of the report. For this reason 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 small 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 |
|---|---|---|---|
| Jessica Donaldson | DEC Species & communities branch (flora) | 12/10/2011 | |
| Amy Mutton | DEC Species & communities branch (fauna) | 12/10/2011 | |

## 9. OTHER APPROVALS/PERMITS/LICENCES

No further approvals, permits or licences are required for the South Coast Highway Manypeaks section upgrade.

## 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.

Maunsell Aecom (2009). Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) South Coast Highway Upgrade. Unpublished report for Main Roads, 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 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** South Coast Hwy Manypeaks Section Upgrade

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

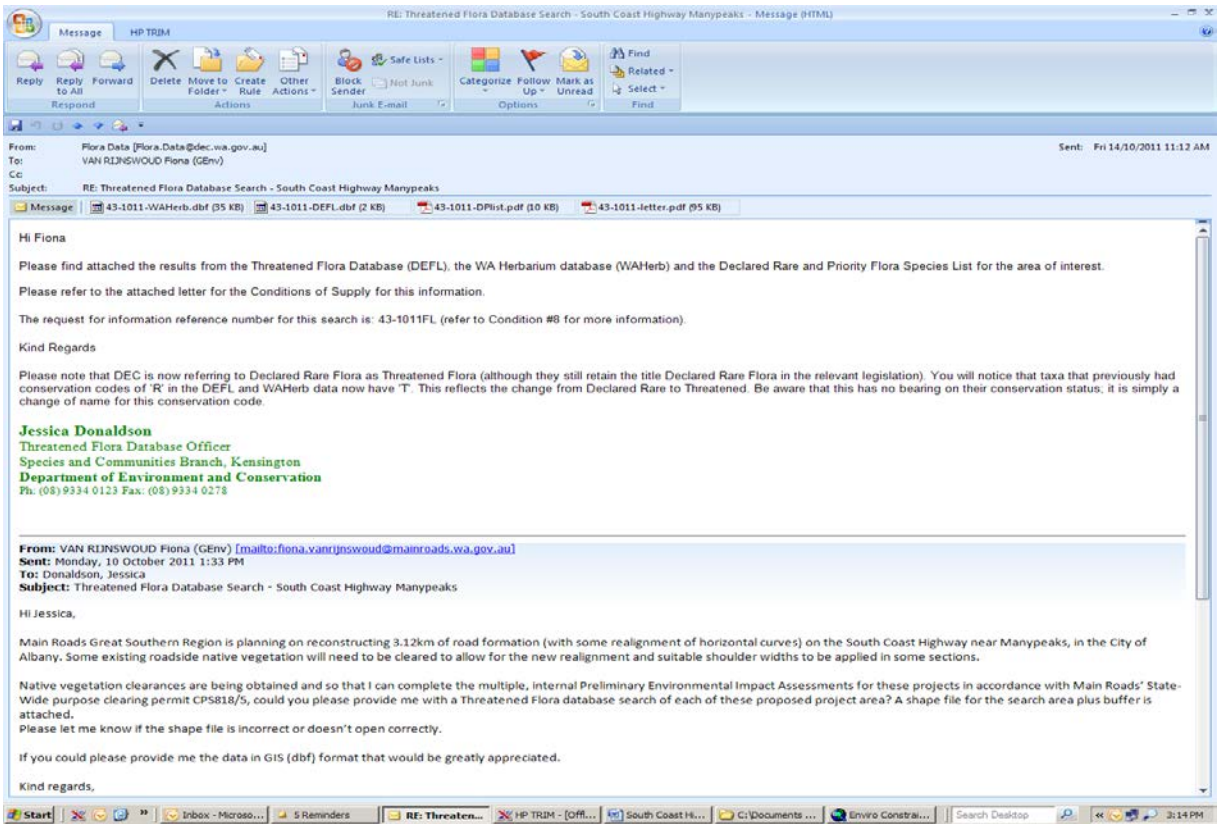
Completed By: *Signature* [signature] *Date* 12-10-11
*Name* Jeff Barnes *Title* PM

To be reviewed by a Main Roads Environment Officer: *Signature* [signature] *Date* 12/10/2011
*Name* M O'Toole *Title* Environment Officer

Comments: _____

MAIN ROADS Western Australia
Form 670700101 Screening Checklist Rev 3.doc 30/05/07

# Appendix B
## DEC Threatened Flora and Fauna Database Searches



RE: Threatened Flora Database Search - South Coast Highway Manypeaks - Message (HTML)

Message | HP TRIM

Reply | Reply to All | Forward | Delete | Move to Folder | Create Rule | Other Actions | Block Sender | Safe Lists | Not Junk | Categorize | Follow Up | Mark as Unread | Find | Related | Select

Respond | Actions | Junk E-mail | Options | Find

From: Flora Data [Flora.Data@dec.wa.gov.au]
To: VAN RIJNSWOUD Fiona (GEnv)
Cc:
Subject: RE: Threatened Flora Database Search - South Coast Highway Manypeaks
Sent: Fri 14/10/2011 11:12 AM

Message | 43-1011-WAHerb.dbf (35 KB) | 43-1011-DEFL.dbf (2 KB) | 43-1011-DPlist.pdf (10 KB) | 43-1011-letter.pdf (95 KB)

Hi Fiona

Please find attached the results from the Threatened Flora Database (DEFL), the WA Herbarium database (WAHerb) and the Declared Rare and Priority Flora Species List for the area of interest.

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

The request for information reference number for this search is: 43-1011FL (refer to Condition #8 for more information).

Kind Regards

Please note that DEC is now referring to Declared Rare Flora as Threatened Flora (although they still retain the title Declared Rare Flora in the relevant legislation). You will notice that taxa that previously had conservation codes of 'R' in the DEFL and WAHerb data now have 'T'. This reflects the change from Declared Rare to Threatened. Be aware that this has no bearing on their conservation status; it is simply a change of name for this conservation code.

**Jessica Donaldson**
Threatened Flora Database Officer
Species and Communities Branch, Kensington
**Department of Environment and Conservation**
Ph: (08) 9334 0123 Fax: (08) 9334 0278

---

**From:** VAN RIJNSWOUD Fiona (GEnv) [mailto:fiona.vanrijnswoud@mainroads.wa.gov.au]
**Sent:** Monday, 10 October 2011 1:33 PM
**To:** Donaldson, Jessica
**Subject:** Threatened Flora Database Search - South Coast Highway Manypeaks

Hi Jessica,

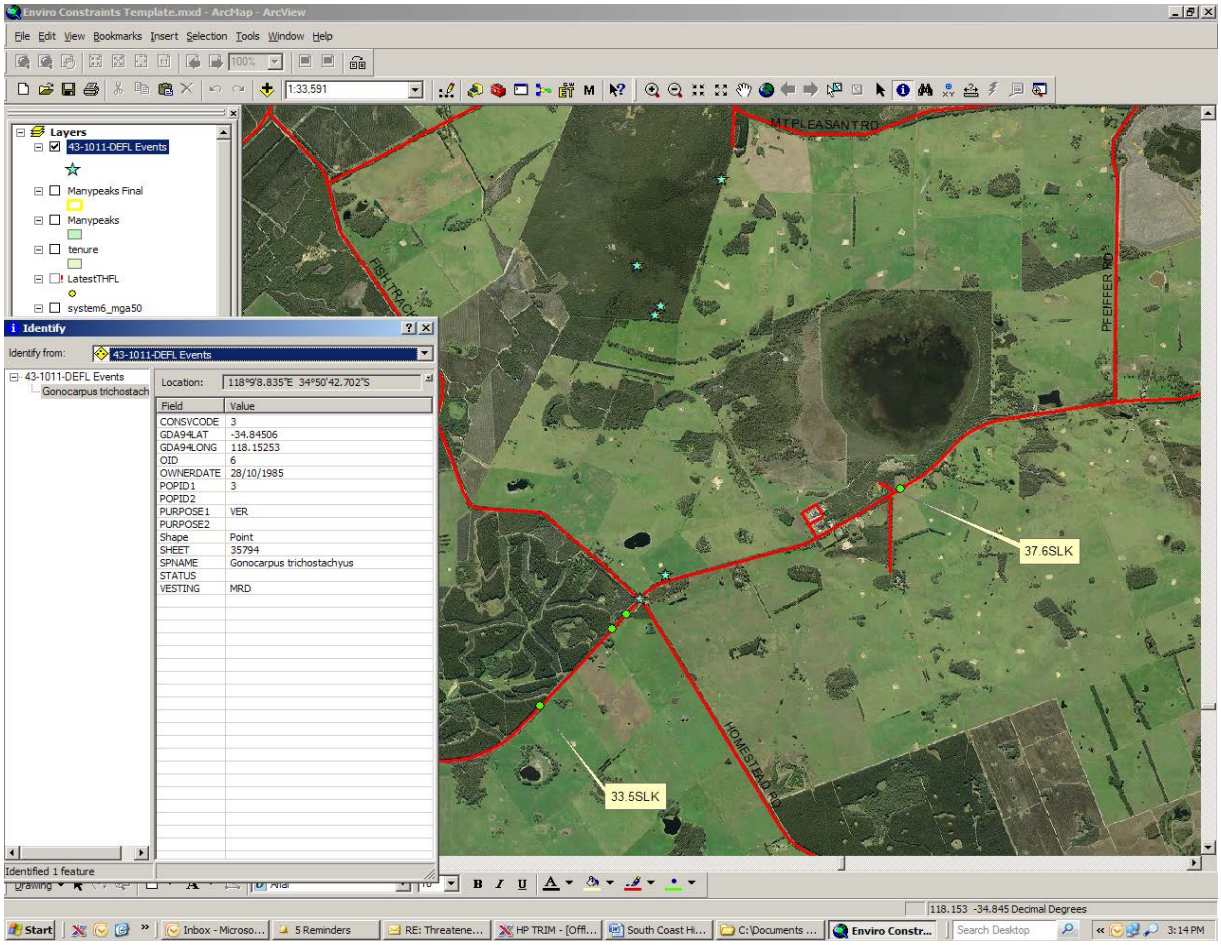
Main Roads Great Southern Region is planning on reconstructing 3.12km of road formation (with some realignment of horizontal curves) on the South Coast Highway near Manypeaks, in the City of Albany. Some existing roadside native vegetation will need to be cleared to allow for the new realignment and suitable shoulder widths to be applied in some sections.

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 CPS818/5, could you please provide me with a Threatened Flora database search of each of these proposed project area? A shape file for the search area plus buffer is attached.
Please let me know if the shape file is incorrect or doesn't open correctly.

If you could please provide me the data in GIS (dbf) format that would be greatly appreciated.

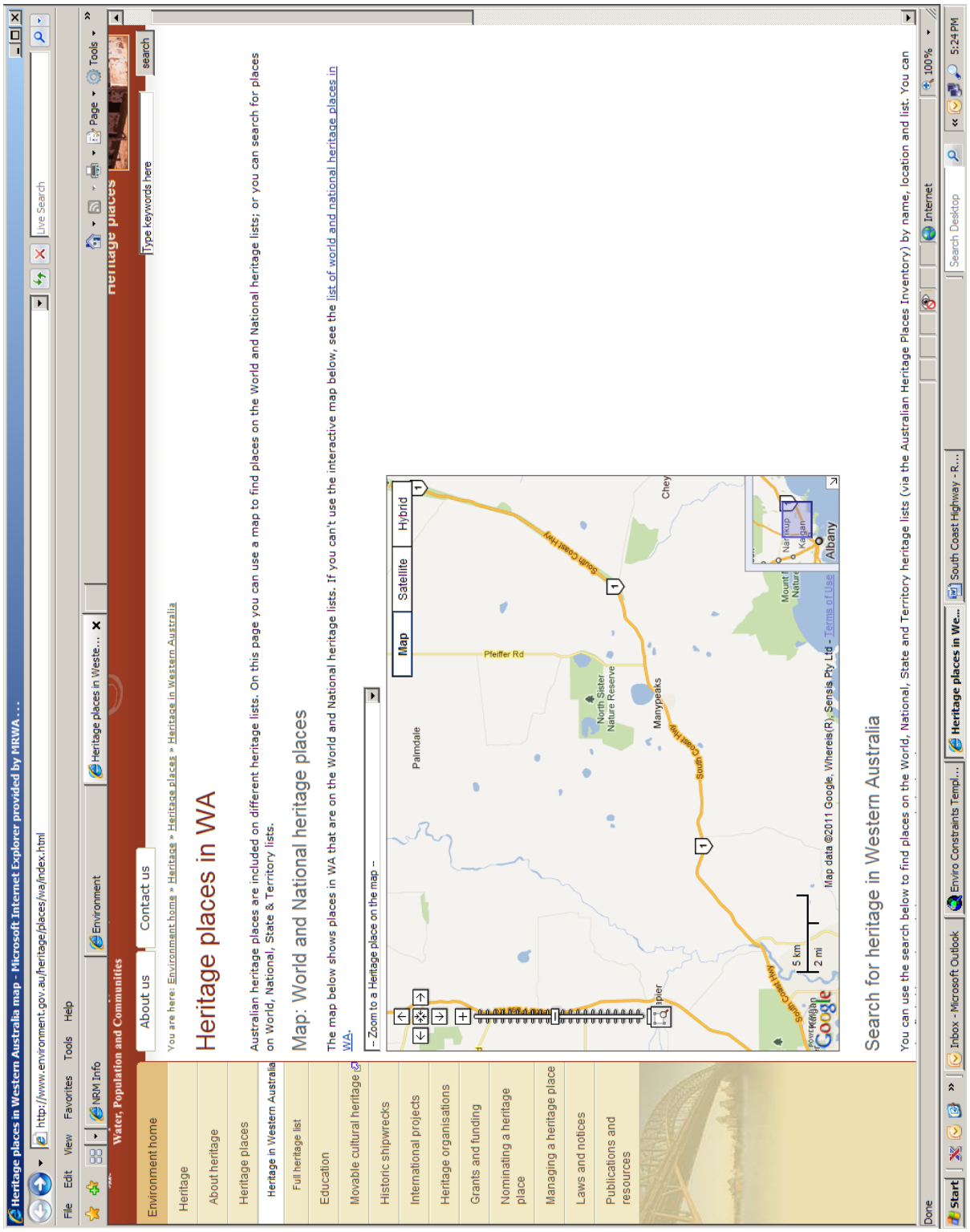
Kind regards,

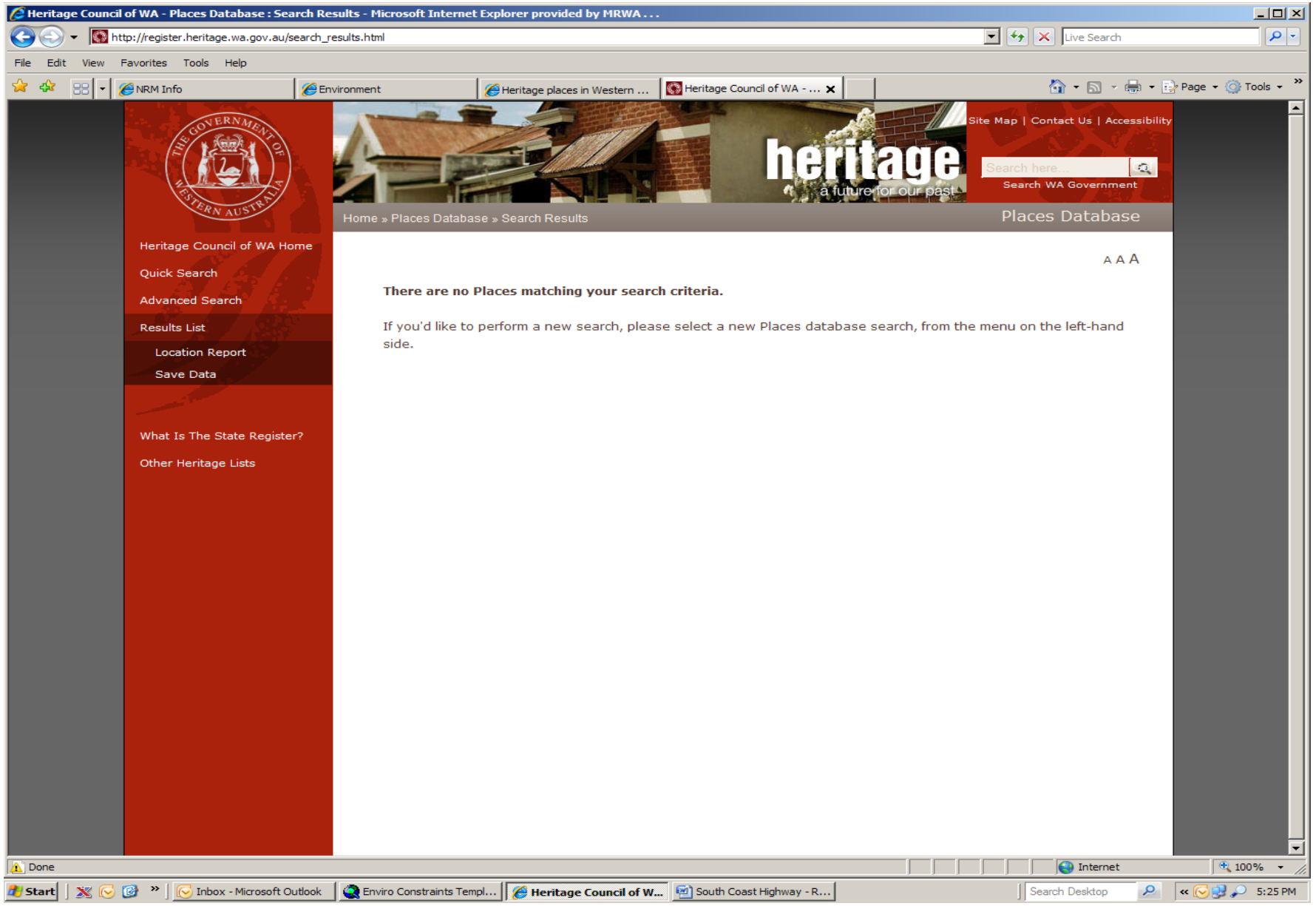
Start | Inbox - Microso... | 5 Reminders | RE: Threaten... | HP TRIM - [Offl... | South Coast Hi... | C:\Documents ... | Enviro Constrai... | Search Desktop | 3:14 PM


Enviro Constraints Template.mxd - ArcMap - ArcView
File Edit View Bookmarks Insert Selection Tools Window Help
Layers
43-1011-DEFL Events
Manypeaks Final
Manypeaks
tenure
LatestTHFL
system6_mga50
Identify
Identify from:
43-1011-DEFL Events
Location:
118°9'8.835"E 34°50'42.702"S
Field
Value
CONSVCODE 3
GDA94LAT -34.84506
GDA94LONG 118.15253
OID 6
OWNERDATE 28/10/1985
POPID1 3
POPID2
PURPOSE1 VER
PURPOSE2
Shape Point
SHEET 35794
SPNAME Gonocarpus trichostachyus
STATUS
VESTING MRD
Identified 1 feature
MT PLEASANT RD
FISH TRACK
PFEIFFER RD
37.6SLK
33.5SLK
HOMESTEAD RD
118.153 -34.845 Decimal Degrees
Start
Search Desktop
3:14 PM

Appendix C

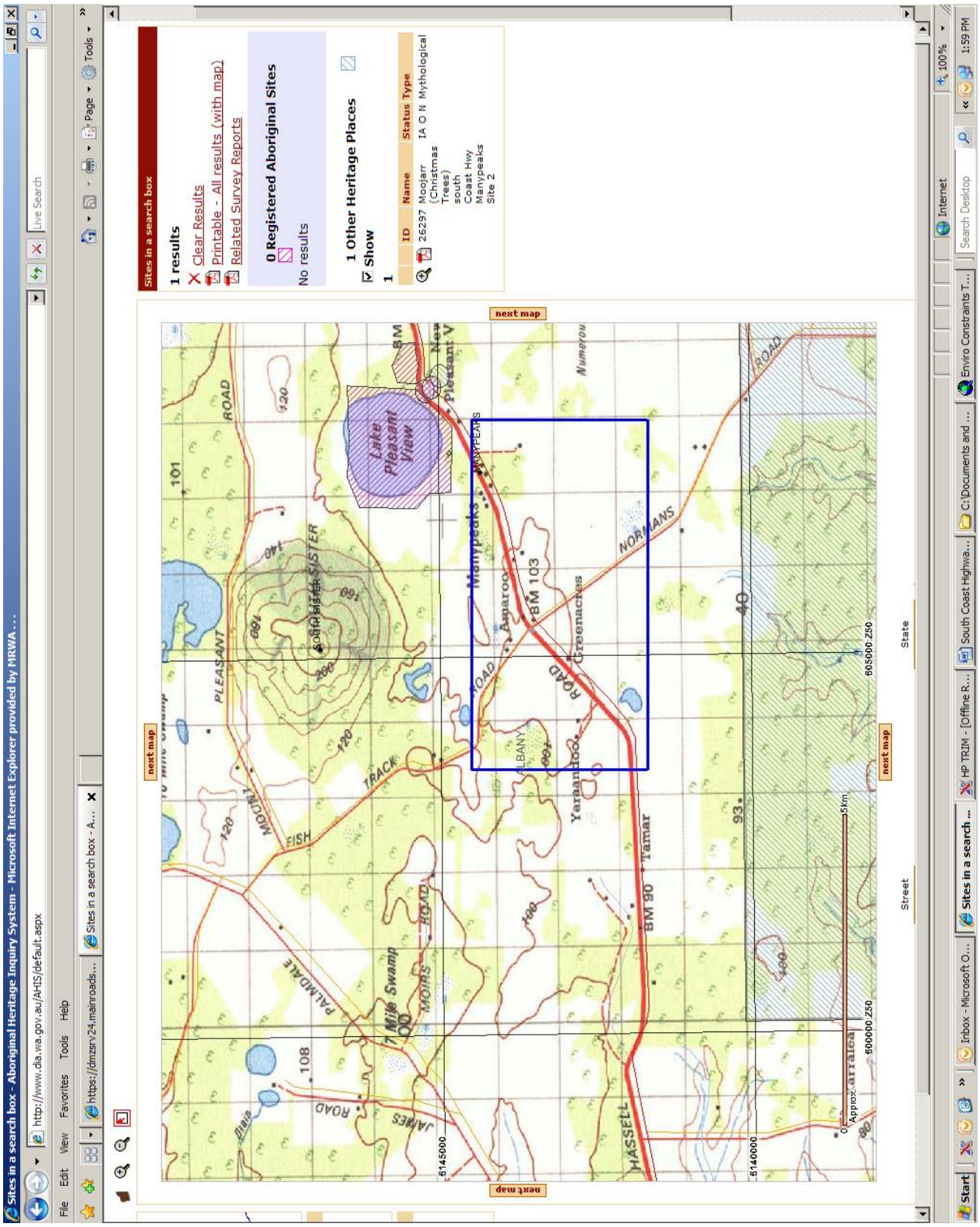
# Australian Heritage Places Inventory, Heritage Council of Western Australia and the Municipal Heritage Inventory Database Searches




Heritage Council of WA - Places Database : Search Results - Microsoft Internet Explorer provided by MRWA . . .
http://register.heritage.wa.gov.au/search_results.html
File Edit View Favorites Tools Help
NRM Info
Environment
Heritage places in Western ...
Heritage Council of WA - ...
Page
Tools
Site Map | Contact Us | Accessibility
heritage
a future for our past
Search here...
Search WA Government
Home » Places Database » Search Results
Places Database
Heritage Council of WA Home
Quick Search
Advanced Search
Results List
Location Report
Save Data
What Is The State Register?
Other Heritage Lists
A A A
There are no Places matching your search criteria.
If you'd like to perform a new search, please select a new Places database search, from the menu on the left-hand side.
Done
Internet
100%
Start
Inbox - Microsoft Outlook
Enviro Constraints Templ...
Heritage Council of W...
South Coast Highway - R...
Search Desktop
5:25 PM

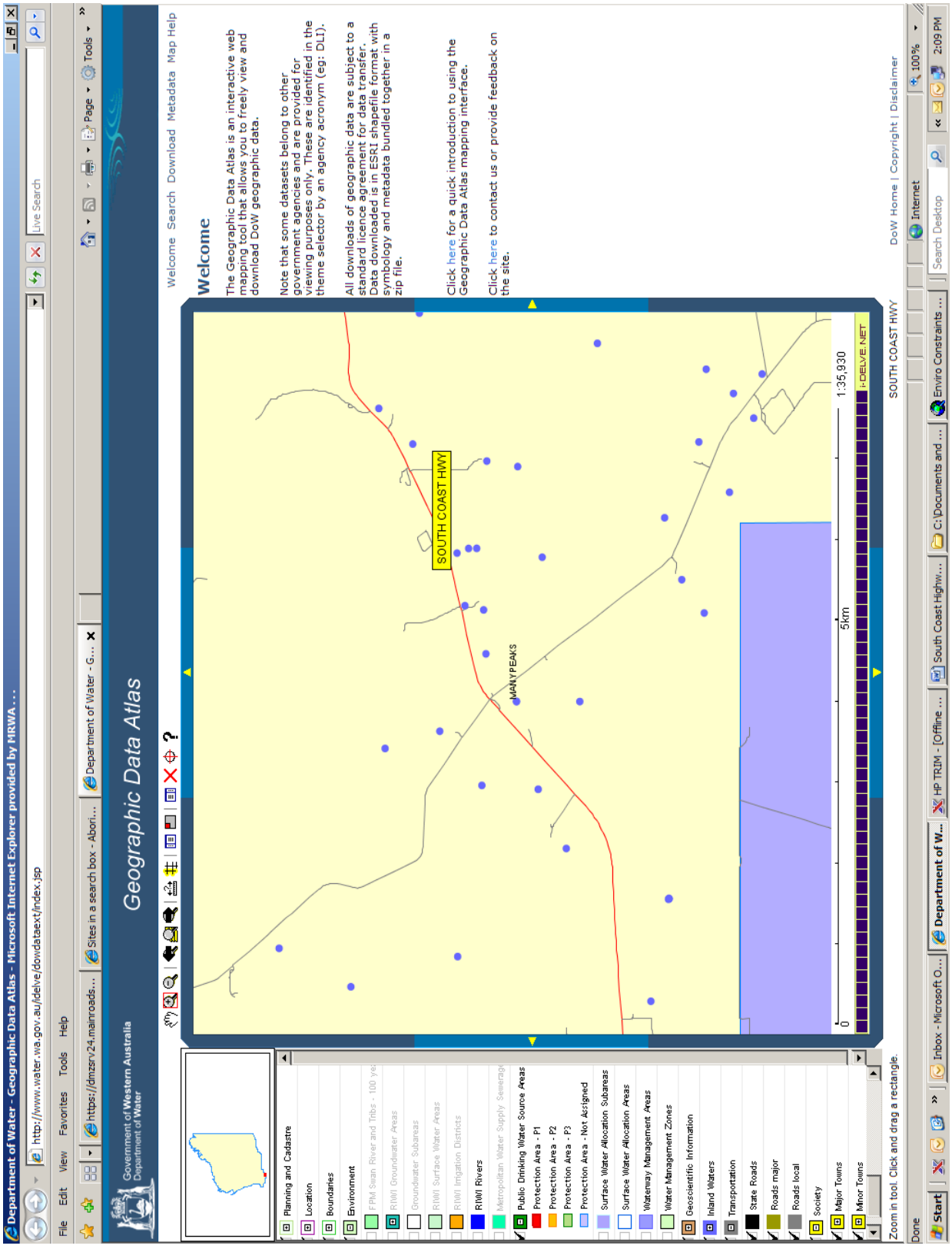
Appendix D

# Department of Indigenous Affairs Database Search



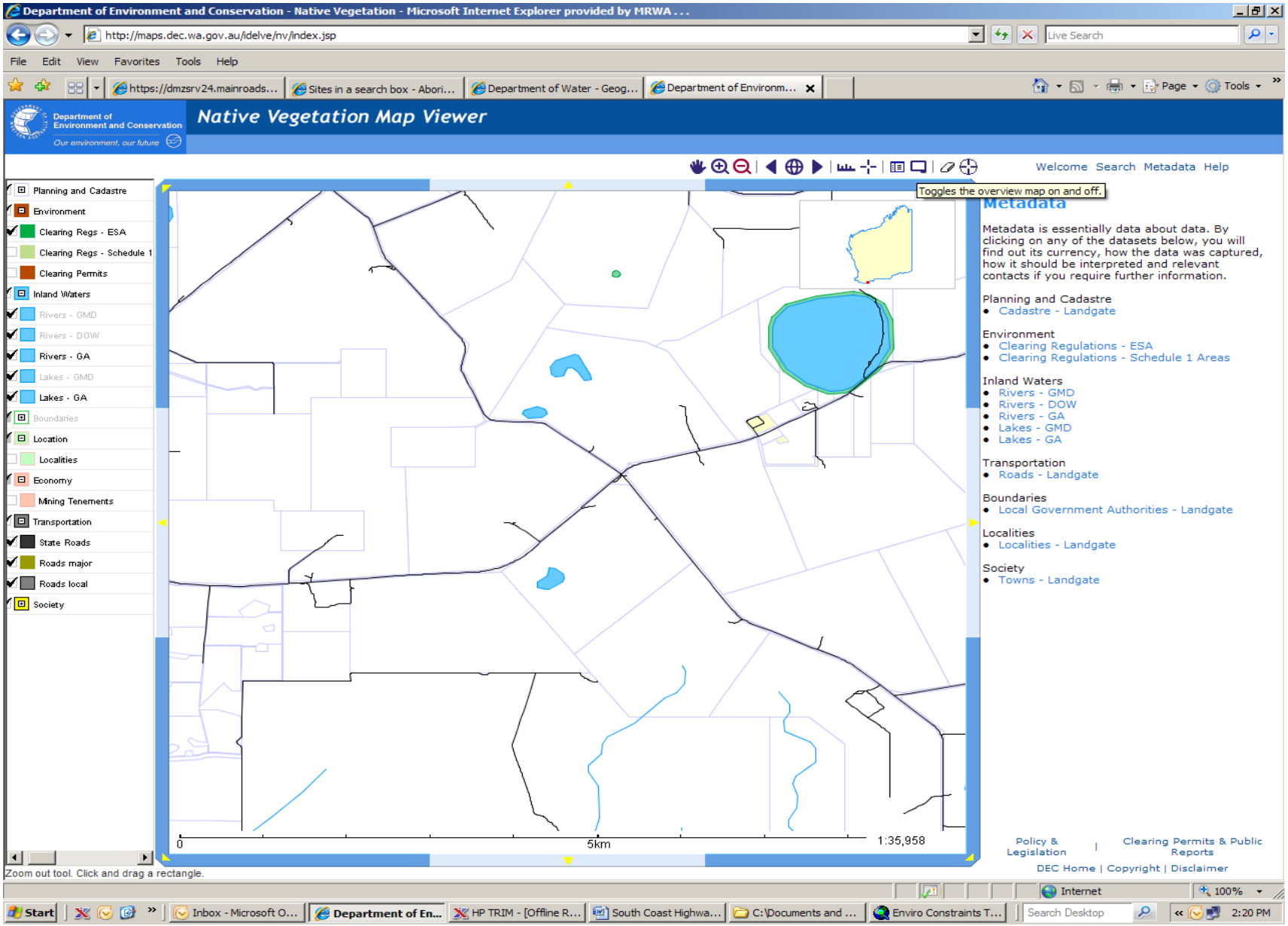
Appendix E

# DoW Geographic Data Atlas Database Search



Appendix F

# DEC Native Vegetation Map Viewer Database Search


Department of Environment and Conservation - Native Vegetation - Microsoft Internet Explorer provided by MRWA . . .
http://maps.dec.wa.gov.au/idelve/nv/index.jsp
Native Vegetation Map Viewer
Department of Environment and Conservation
Our environment, our future
Welcome Search Metadata Help
Toggles the overview map on and off.
Planning and Cadastre
Environment
Clearing Regs - ESA
Clearing Regs - Schedule 1
Clearing Permits
Inland Waters
Rivers - GMD
Rivers - DOW
Rivers - GA
Lakes - GMD
Lakes - GA
Boundaries
Location
Localities
Economy
Mining Tenements
Transportation
State Roads
Roads major
Roads local
Society
Metadata
Metadata is essentially data about data. By clicking on any of the datasets below, you will find out its currency, how the data was captured, how it should be interpreted and relevant contacts if you require further information.
Planning and Cadastre
Cadastre - Landgate
Environment
Clearing Regulations - ESA
Clearing Regulations - Schedule 1 Areas
Inland Waters
Rivers - GMD
Rivers - DOW
Rivers - GA
Lakes - GMD
Lakes - GA
Transportation
Roads - Landgate
Boundaries
Local Government Authorities - Landgate
Localities
Localities - Landgate
Society
Towns - Landgate
0
5km
1:35,958
Policy & Legislation
Clearing Permits & Public Reports
DEC Home | Copyright | Disclaimer
Zoom out tool. Click and drag a rectangle.
Internet
100%
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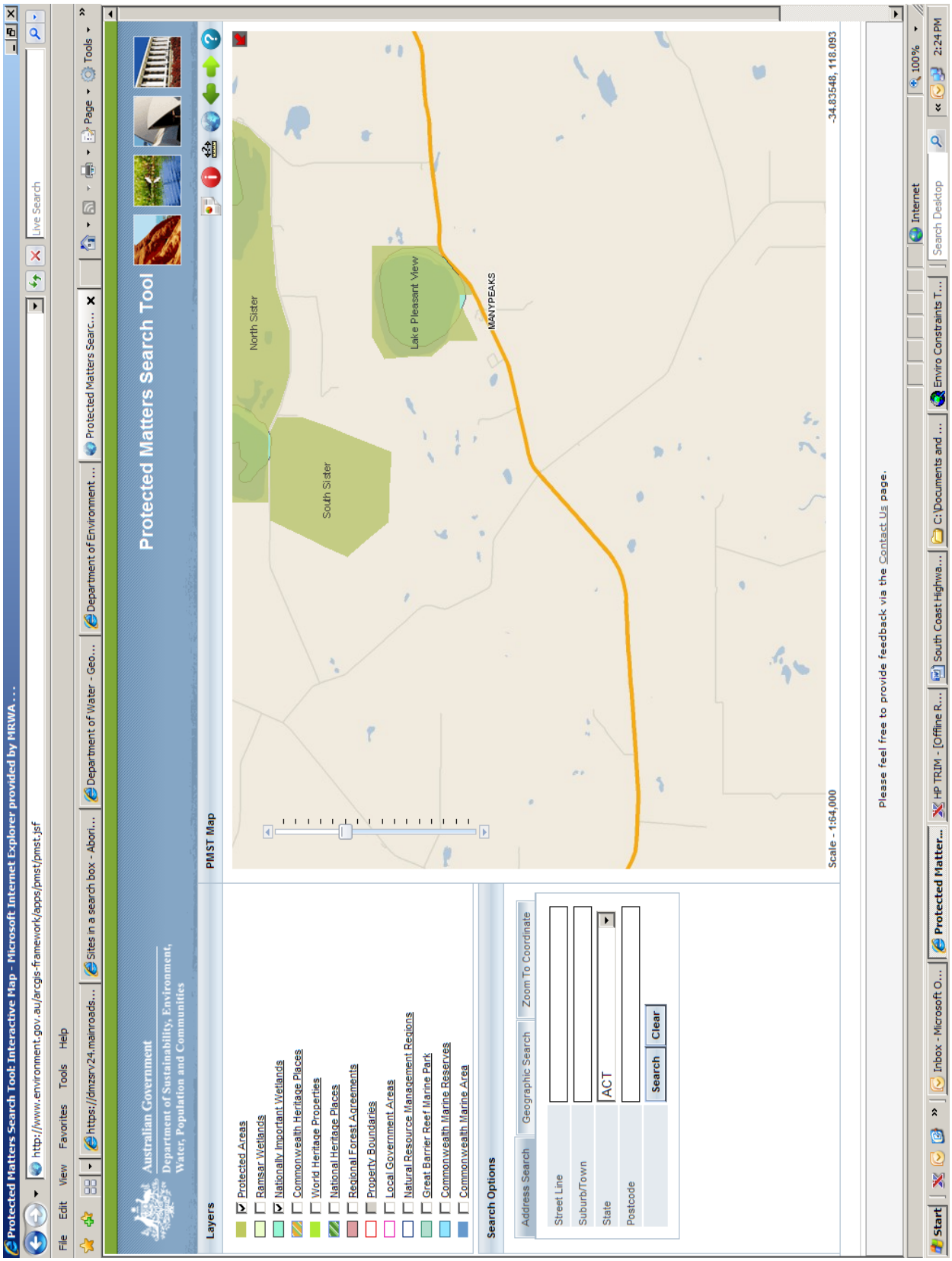
Inbox - Microsoft O...
Department of En...
HP TRIM - [Offline R...
South Coast Highwa...
C:\Documents and ...
Enviro Constraints T...
Search Desktop
2:20 PM

Appendix G

# DSEWPC Database Search



# Appendix H

Department of Agriculture & Food Advice on Declared Weeds

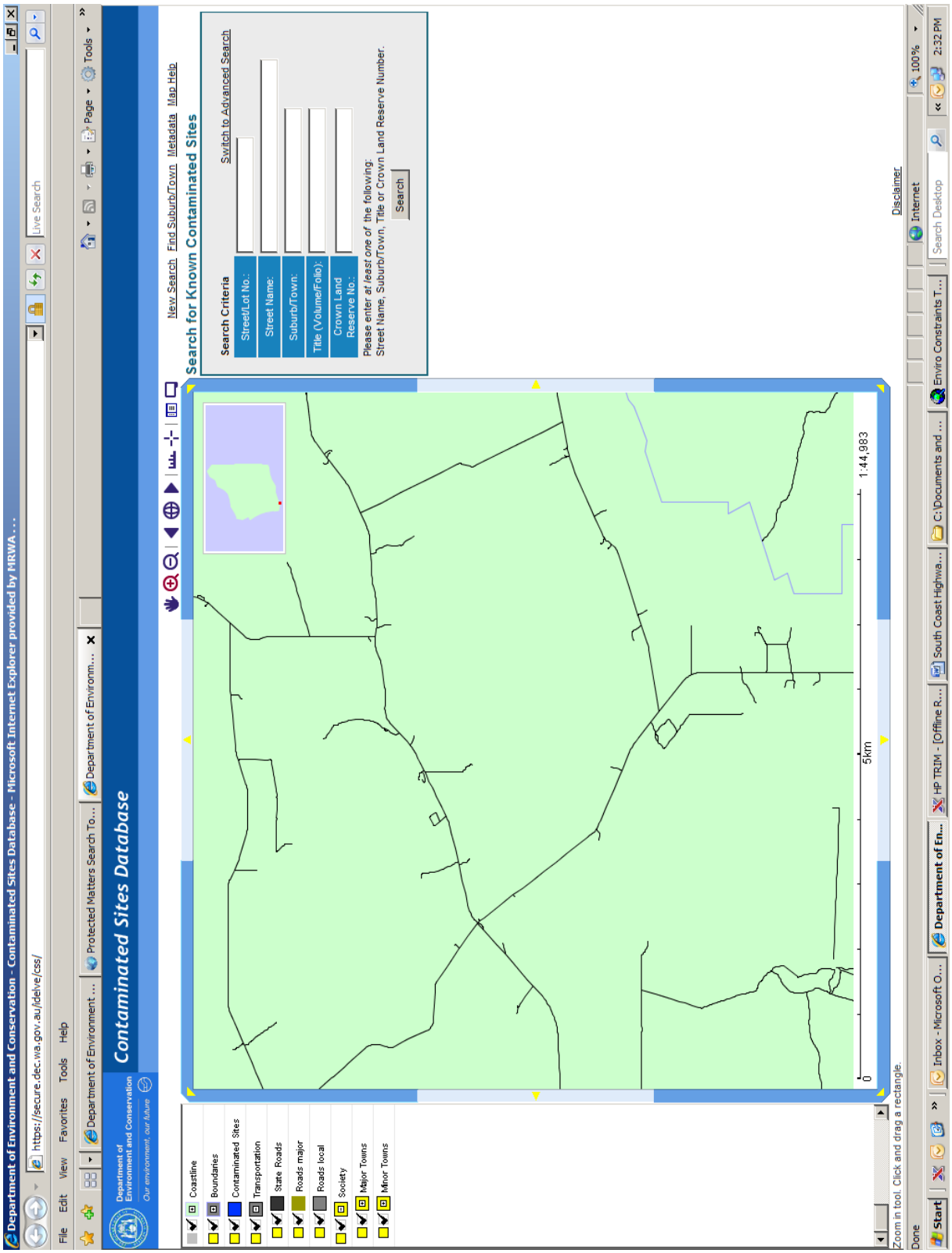

Declared Plants - Microsoft Internet Explorer provided by MRWA . . .
http://agspsrv95.agric.wa.gov.au/dps/version02/01_plantreport.asp?p2=981
File Edit View Favorites Tools Help
Declared Plants
Department of Agriculture and Food
Government of Western Australia
Declared Plants Report
View for Printing
Filter Plants
Plant Name:
Region: Albany (C)
Classes: Show all...
Search
Acacias (Acacia spp., all species not native to Australia (except Acacia farnesiana)
P1, P2; for the whole of the State . All species not native to Australia (except Acacia farnesiana)
African rue (Peganum harmala)
P1, P2; for the whole of the State
African thistle (Berkheya rigida)
P1, P3; for the whole of the State
Alligator weed (Alternanthera philoxeroides)
P1, P2; for the whole of the State
Apple of Sodom (Solanum linnaeanum)
P1, P4; For the municipal districts of Augusta-Margaret River (S), Boyup Brook (S), Bridgetown-Greenbushes (S), Bunbury (C), Busselton (S), Capel (S), Collie (S), Dardanup (S), Donnybrook-Balingup (S), Harvey (S), Mandurah (C), Manjimup (S), Murray (S), Nannup (S), Serpentine-Jarrahdale (S), Waroona (S).
P1, P2; For the municipal districts of Albany (C), Cranbrook (S), Denmark (S), Gnowangerup (S), Jerramungup (S), Plantagenet (S). Except for the Plantagenet Locations 4901, 3433, 5154, 3434, 5959 and 3435
P1, P3; Plantagenet Locations 4901, 3433, 5154, 3434, 5959 and 3435
Aquarium Plants (all types)
P1; for the whole of the State
Arrowhead (Sagittaria montevidensis)
P1, P3; for the whole of the State
Artichoke thistle (Cynara cardunculus)
P1, P3; for the whole of the State
Arum lily (Zantedeschia aethiopica)
P1, P4; for the whole of the State
Athel pine (Tamarix aphylla)
P1; for the whole of the State
Internet
100%
Start
HP TRIM - [Rec...
Inbox - Microso...
South Coast Hig...
C:\Documents a...
Enviro Constrai...
Declared Plants ...
Declared Plan...
Search Desktop
1:25 PM

# Appendix I

## Dieback Consultant / DEC Advice on Dieback

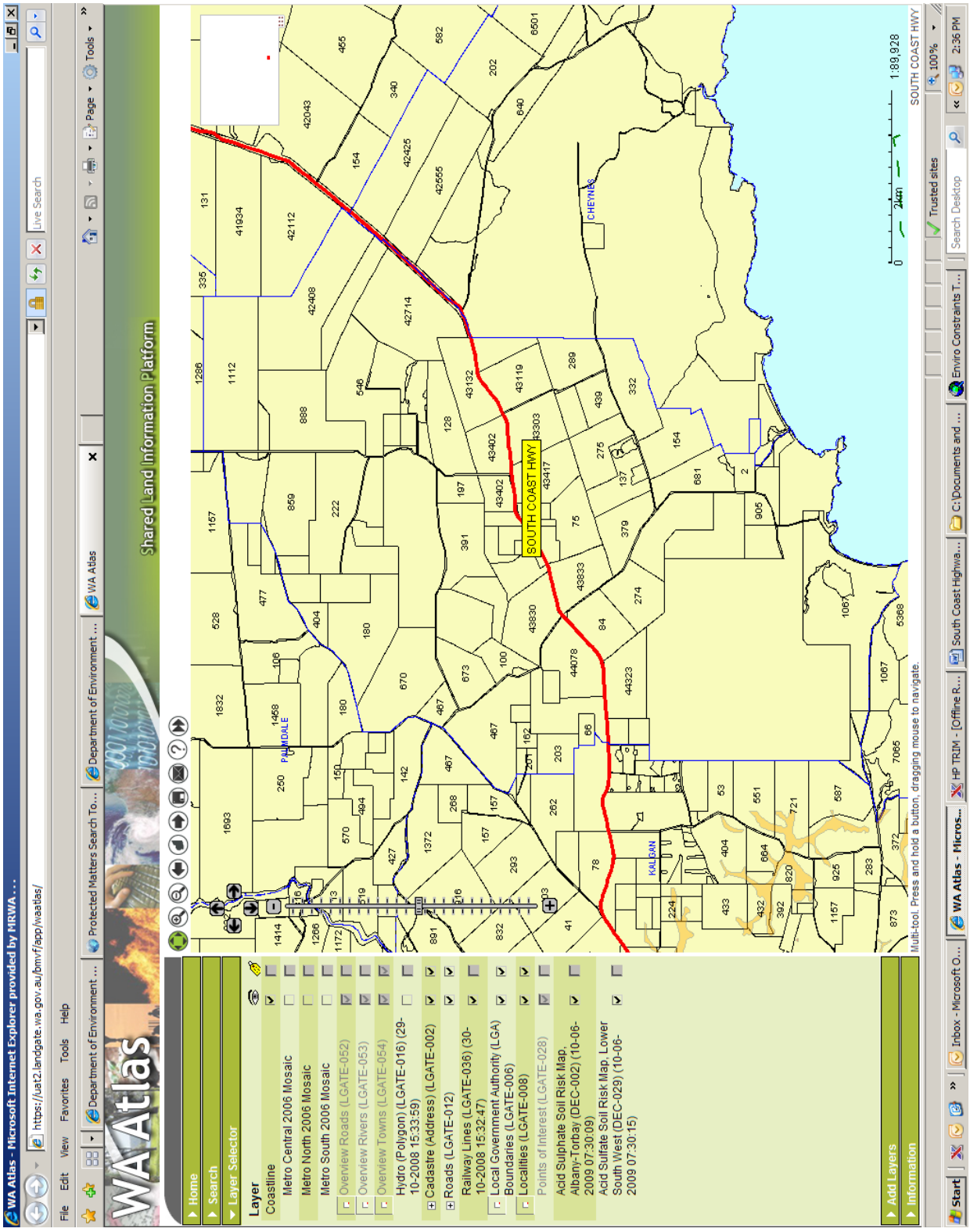
Appendix J

# DEC Contaminated Sites Database Search



Appendix K

# Acid Sulfate Soils Mapping



Appendix L

# Site Photos

Appendix M

# Environmental Management Plan

## SOUTH COAST HIGHWAY MANYPEAKS FISH TRACK ROAD TO MANYPEAKS TOWN SECTION UPGRADE

### 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 | XXX | Main Roads' Project Manager and Contractor Project Manager | EMP | Minutes of Meeting |
| Authority Consultation | | | | |
| Department of Environment and Conservation | As required | Main Roads' Project Manager and Contractor Project Manager | - | Minutes of meeting |

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.

### 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.

**or**

The implementation of the EMP will be audited **xx** weeks after the contractor takes possession of site. This audit will be carried out by a **Main Roads staff member/External party**. Audits will be repeated ever **xx** weeks until the project reaches practical completion.

| ENVIRONMENTAL MANAGEMENT PLAN | | | | | |
|---|---|---|---|---|---|
| **Timing** | **Topic** | **Objective** | **Action** | **Responsible Party** | **Advice** |
| All phases of Construction | Vegetation Clearing<br>- Record-keeping | All projects should maintain the required records relating to clearing native vegetation under the purpose permit. | Clearing:<br>• a copy of the PEIA & EMP (Minor projects) for small projects;<br>• a map showing the location where the clearing occurred, recorded in an ESRI Shapefile;<br>• the size of the area cleared (in hectares); and<br>• the dates on which the clearing was done. | Project Manager | DEC |
| | | | Each offset implemented:<br>• a copy of each offset proposal;<br>• a map showing the location of any offset implemented recorded in an ESRI Shapefile;<br>• a description of the offset implemented; and<br>• the size of the area of the offset (in hectares). | Project Manager | DEC |
| | | | Each management strategy implemented:<br>• a map showing the location of any area to which a management strategy has been applied recorded in an ESRI Shapefile;<br>• a description of the management strategy implemented; and<br>• the size of the area to which the management strategy was applied (in hectares). | Project Manager | Project Manager |
| | | | Control of weeds, dieback and other pathogens:<br>• a copy of any management plan prepared; and<br>• for any pathogen other than dieback, the appropriate steps taken. | Project Manager | Main Roads |
| All phases of Construction | Vegetation Clearing<br>- Record-keeping | All projects should maintain the required records relating to clearing native vegetation under the purpose permit. | Develop design documentation to meet project requirements as identified in the visual impact assessment. | Project Manager | Main Roads |
| Pre - Construction | Visual Amenity | Ensure that road blends into environment. | Prepare a Project Revegetation Plan to meet project requirements as identified. | Project Manager | Main Roads |
| Pre - Construction | Revegetation and Landscape planning | To revegetation site. | Management Strategy<br>• Offsets.<br>• Seek DEC approval of offset proposal prior to clearing as required by Condition 15 b) of the purpose permit. | Project Manager | DEC |

| ENVIRONMENTAL MANAGEMENT PLAN | | | | | |
|---|---|---|---|---|---|
| **Timing** | **Topic** | **Objective** | **Action** | **Responsible Party** | **Advice** |
| 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. | Selection of designs/locations that minimise adverse impacts on the biological environment. | Project Manager | Main Roads |
| 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<br>Ensure the retention of as many habitat trees, shrubs and vegetated corridors for fauna as possible, particularly where associated with riparian zones. | 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 |
| | | | If clearing is pursuant to Main Roads 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 | Vegetation Clearing - CPS 818/4 management requirements | Compliance with management conditions of purpose permit. | Stormwater drainage shall be treated and disposed of in accordance with DEC requirements. | Project Manager | DEC |
| Pre-Construction | Surface Drainage | Maintain the hydrological regime that exists prior to the construction of the proposal. | ? | | |
| Pre-Construction | Access | Ensure access to private property is obtained through the correct procedures. | Access to private property and appropriate traffic management measures should be planned and implemented prior to the construction of works. | Contractor | Main Roads |

| ENVIRONMENTAL MANAGEMENT PLAN | | | | | |
|---|---|---|---|---|---|
| **Timing** | **Topic** | **Objective** | **Action** | **Responsible Party** | **Advice** |
| Construction | Noise, Vibration and Dust | Ensure that the construction of the proposal does not become a nuisance to the public. | 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 |
| | | | 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 |
| Construction | Pollution and Litter | Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment. | 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 |
| | | | No fires shall be lit within the project area. | Contractor | Main Roads |
| Construction | Fire | Ensure that the fire risk associated with the construction of the proposal is minimised. | 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 |
| | | | Fauna are not to be fed or intentionally harmed. | Contractor | Main Roads |
| Construction | Fauna | Avoid unnecessary impacts to fauna and damage to fauna habitat. | No pets or firearms permitted on site. | Contractor | Main Roads |
| | | | 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 |
| | | | Site office and materials storage areas will be located on previously disturbed/ designated area. | Contractor | Main Roads |

| ENVIRONMENTAL MANAGEMENT PLAN | | | | | |
|---|---|---|---|---|---|
| **Timing** | **Topic** | **Objective** | **Action** | **Responsible Party** | **Advice** |
| Construction | Site Management | Ensure that the site is managed to ensure that construction of the proposal will have minimal impact upon the surrounding environment. | Implement the contract specifications for rehabilitation of the site. | Contractor | Main Roads |
| Construction | Rehabilitation | Rehabilitate the project area to meet project commitments. | 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 |
| | | | Monitor effectiveness of revegetation works and weed control. | Contractor/ Project Manager | Main Roads |