



**ENVIRONMENTAL IMPACT ASSESSMENT
AND ENVIRONMENTAL MANAGEMENT PLAN**

Brand Widening and Passing Lane Package 2016/2017

January 2017

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Attachment 1-Astron (2016) Brand Highway, Regans Ford Biological Survey (D16#715905)
Attachment 2-GHD (2016) Brand Highway Passing Lanes Biological Assessment (D16#350127)
Attachment 3-GHD (2016) Brand Highway, Various Sections: SLK 74-150 Biological Survey
(D16#728602)

SUMMARY

PROJECT INFORMATION

Project Title: Brand Highway Widening and Passing Lanes project 34.83-163.4 SLK

Project location(s): All the project locations are on Brand Highway:

- Widening 65-68.63 SLK within the Shire of Gingin
- Widening 71.02-74 SLK within the Shire of Gingin
- Widening 77.3-79.84 SLK within the Shire of Dandaragan
- Widening 81.71-86 SLK within the Shire of Dandaragan
- Widening 120-136 SLK within the Shire of Dandaragan
- Widening 139-152 SLK within the Shire of Dandaragan
- Northbound Passing Lane 34.83-36 SLK within the Shire of Gingin
- Southbound Passing Lane 68.63-71.02 SLK within the Shire of Gingin
- Northbound Passing Lane 79.84-81.1 SLK within the Shire of Dandaragan
- Southbound Passing Lane 111.08-112.9 SLK within the Shire of Dandaragan
- Northbound Passing Lane 113.6-115.94 SLK within the Shire of Dandaragan
- Southbound Passing Lane 126.2-128.38 SLK within the Shire of Dandaragan
- Northbound Passing Lane 159.8-163.6 SLK within the Shire of Dandaragan
- Southbound Passing Lane 160.1-163.4 SLK within the Shire of Dandaragan

Project purpose / components: This project involves widening sections of Brand Highway and the creation of four northbound and four southbound lanes between 65 and 163.4 SLK. This will increase the safety of the road by providing safe overtaking opportunities and improving the functionality of the road.

Area proposed to be cleared:

- Widening 65-68.63 SLK=2.2ha
- Widening 71.02-74 SLK=1.8ha
- Widening 77.3-79.84 SLK=1.6ha
- Widening 81.71-86 SLK=2.6ha
- Widening 120-136 SLK=6ha
- Widening 139-152 SLK=4.6ha
- Northbound Passing Lane 34.83-36 SLK=1.3ha
- Southbound Passing Lane 68.63-71.02 SLK=2.7ha
- Northbound Passing Lane 79.84-81.71 SLK=2.1ha
- Southbound Passing Lane 111.08-112.9 SLK=2.2ha
- Northbound Passing Lane 113.6-115.94 SLK=2.2ha
- Southbound Passing Lane 126.2-128.38 SLK=2.5ha
- Northbound and southbound Passing Lane 159.8-163.6 SLK=6ha

Total=37.8ha

Temporary clearing required: None.

A project specific clearing permit is required to clear native vegetation as part of the project activities.

An Environmental Impact Assessment (EIA) was undertaken to assess activities associated with the project and the potential impacts upon the environment.

IMPACTS TO KEY ENVIRONMENTAL ASPECTS

- The project requires the clearing of approximately 37.8 hectares of native vegetation.
- Aboriginal Heritage-DAA20008 (Gingin Brook Waggy Site) buffer overlaps 34.83-36 SLK project area and construction personnel should be informed of the site. DAA 28326 (Minyulo Brook) near 111.08-112.9 SLK should be avoided by project works and personnel made aware of its existence.
- Groundwater: License to take groundwater GWL172545 and GWL172552 will be used and an additional new groundwater license will be obtained.
- Surface Water-The proposed works will disturb a watercourse in an area accessed by a road reserve within 139-152 SLK project area and a permit to disturb the bed and banks of watercourses is required.
- Wetlands-There is an un-named multiple use palusplain intersecting 34.83-36 SLK, an un-named resource enhancement sumpland intersecting 71.02-74 SLK and an unranked dampland intersecting 77.3-79.84 SLK. Only 77.2-79.84 was mapped as containing wetland vegetation. The other two sites were highly modified or Banksia woodland and no longer representative of a wetland.
- Weeds- Declared weeds were identified within the project area:
 - 68.63-71.02 SLK (Paterson's Curse)
 - 111.08-112.9 SLK (Doublegee and Paterson's Curse)
 - 113.6-115.94 SLK (Paterson's Curse)
 - 120-136 SLK (Cape Tulip and Paterson's Curse)
 - 159.8-163.6 SLK (Paterson's Curse, Cape Tulip and Victorian Teatree)
- Dieback- Works are to be conducted in dry conditions. If this changes a dieback survey and dieback management plan will be established for this project.
- The project involves the removal of approximately 34.29ha of vegetation that can be utilised as foraging habitat for Carnaby's Black Cockatoo and 51 potential breeding trees, none of which contain hollows.
- This project involves the removal of 15.2ha of vegetation that is representative of the TEC "Banksia Woodlands of the Swan Coastal Plain".

The impacts associated with the project activities are not likely to be significant or warrant referral to the Western Australian (WA) Environmental Protection Authority (EPA).

As this project involves the removal of 34.29ha of Black Cockatoo foraging habitat, 51 of these potential breeding trees, none of which contain hollows, and 15.2ha of the TEC "Banksia Woodlands of the Swan Coastal Plain" this project will be referred to the Commonwealth Department of Environment and Energy.

KEY ENVIRONMENTAL MANAGEMENT ACTIONS

Project specific environmental management actions have been developed to manage all impacts and these are outlined in the Environmental Management Plan (EMP) provided in Appendix F.

- Ensure site personnel are aware of Aboriginal heritage sites and the requirement to protect them
- Ensure compliance with bed and banks permit and groundwater license
- No storage of contaminant materials or re-fuelling within 100m of a wetland or watercourse
- Ensure site personnel are aware of Paterson's Curse, Doublegee, Cape Tulip and Victorian Teatree presence and any known plants are removed prior to works commencing
- Where possible complete works in "dry conditions"
- Clean earth moving machinery of soil and vegetation prior to entry.

ENVIRONMENTAL IMPACT ASSESSMENT

1. INTRODUCTION

In accordance with Main Roads' corporate Environmental Assessment and Approval process, an Environmental Low Impact Screening Checklist (LISC) was completed for the proposal (Appendix A). The checklist determined the project required further environmental assessment as the project involves drawing water and the clearing of native vegetation. Therefore the preparation of a project specific Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) are required.

The preliminary assessment involved a desktop analysis of environmental aspects and impacts, a site investigation and an assessment of native vegetation clearing. The study area is confined to a local area of a 20 km radius.

2. PROJECT DESCRIPTION

This project involves the creation of four northbound and four southbound passing lanes within the Shires of Dandaragan and Gingin on Brand Highway.

Widening 65-68.63 SLK

This project will involve the widening of the road formation between 65 and 68.63 SLK to a seal/pavement configuration of 9m on 11m. This includes two 3.5m lanes, two 1m sealed shoulders and two 1m unsealed shoulders. To complete this work up to 2.2ha of native vegetation will be removed.

Widening 71.02-74 SLK

This project will involve the widening of the road formation between 71.02 and 74 SLK to a seal/pavement configuration of 9m on 11m. This includes two 3.5m lanes, two 1m sealed shoulders and two 1m unsealed shoulders. To complete this work up to 1.8ha of native vegetation will be removed.

Widening 77.3-79.84 SLK

This project will involve the widening of the road formation between 77.3 and 79.84 SLK to a seal/pavement configuration of 9m on 11m. This includes two 3.5m lanes, two 1m sealed shoulders and two 1m unsealed shoulders. To complete this work up to 1.6ha of native vegetation will be removed.

Widening 81.71-86 SLK

This project will involve the widening of the road formation between 81.71 and 86 SLK to a seal/pavement configuration of 9m on 11m. This includes two 3.5m lanes, two 1m sealed shoulders and two 1m unsealed shoulders. To complete this work up to 2.6ha of native vegetation will be removed.

Widening 120-136 SLK

This project will involve the widening of the road formation between 120 and 136 SLK to a seal/pavement configuration of 9m on 11m. This includes two 3.5m lanes, two 1m sealed shoulders and two 1m unsealed shoulders. To complete this work up to 6ha of native vegetation will be removed.

Widening 139-152 SLK

This project will involve the widening of the road formation between 139 and 152 SLK to a seal/pavement configuration of 9m on 11m. This includes two 3.5m lanes, two 1m sealed shoulders and two 1m unsealed shoulders. To complete this work up to 4.6ha of native vegetation will be removed.

Northbound Passing Lane 34.83-36 SLK

This project involves the construction of a northbound passing lane and the widening of the existing road including shoulder widening on the southbound side of the road from 34.83-36 SLK. This will involve the clearing of up to 1.3ha of native vegetation.

Southbound Passing Lane 68.63-71.02 SLK

This project involves the construction of a southbound passing lane and the widening of the existing road including shoulder widening on the northbound side of the road from 68.63-71.02 SLK. This will involve the clearing of up to 2.7ha of native vegetation.

Northbound Passing Lane 79.84-81.1 SLK

This project involves the construction of a northbound passing lane and the widening of the existing road including shoulder widening on the southbound side of the road from 79.84-81.1 SLK. This will involve the clearing of up to 2.1ha of native vegetation.

Southbound Passing Lane 111.08-112.9 SLK

This project involves the construction of a southbound passing lane and the widening of the existing road including shoulder widening on the northbound side of the road from 111.08-112.9 SLK. This will involve the clearing of up to 2.2ha of native vegetation.

Northbound Passing Lane 113.6-115.94 SLK

This project involves the construction of a northbound passing lane and the widening of the existing road including shoulder widening on the southbound side of the road from 113.6-115.94 SLK. This will involve the clearing of up to 2.2ha of native vegetation.

Southbound Passing Lane 126.2-128.38 SLK

This project involves the construction of a southbound passing lane and the widening of the existing road including shoulder widening on the northbound side of the road from 126.2-128.38 SLK. This will involve the clearing of up to 2.5ha of native vegetation.

Northbound Passing Lane 159.8-163.6 SLK and Southbound Passing Lane 160.1-163.4 SLK

This project involves the construction of a northbound passing lane between 159.8-163.3 SLK and the construction of a southbound passing lane between 160.1-163.4 SLK. The sections of road from 159.8-160.1SLK will be widened on the southbound side of the road and between 163.4 and 163.6SLK will be widened on the northbound side of the road. This will involve the clearing of 6ha of native vegetation.

These works will be completed over several successive years as budgetary resources are made available starting in 2017. The works will provide safe passing opportunities and increase the functionality of the road.

2.1 Project Location

The project areas occur at various sections along Brand Highway:

Widening 65-68.63 SLK within the Shire of Gingin

Start: Latitude: -31.0763
Longitude: 115.7524
End: Latitude: -31.0483
Longitude: 115.7332

Widening 71.02-74 SLK within the Shire of Gingin

Start: Latitude: -31.0282
Longitude: 115.725
End: Latitude: -31.0038

Longitude: 115.7119

Widening 77.3-79.84 SLK within the Shire of Dandaragan

Start: Latitude: -30.9765
Longitude: 115.6998
End: Latitude: -30.9569
Longitude: 115.6856

Widening 81.71-86 SLK within the Shire of Dandaragan

Start: Latitude: -30.9431
Longitude: 115.6746
End: Latitude: -30.913
Longitude: 115.6465

Widening 120-136 SLK within the Shire of Dandaragan

Start: Latitude: -30.6627
Longitude: 115.4665
End: Latitude: -30.5194
Longitude: 115.4634

Widening 139-152 SLK within the Shire of Dandaragan

Start: Latitude: -30.4979
Longitude: 115.4793
End: Latitude: -30.384
Longitude: 115.4962

Northbound Passing Lane 34.83-36 SLK within the Shire of Gingin

Start: Latitude: -31.3098
Longitude: 115.8686
End: Latitude: -31.2992
Longitude: 115.8689

Southbound Passing Lane 68.63-71.02 SLK within the Shire of Gingin

Start: Latitude: -31.0484
Longitude: 115.7332
End: Latitude: -31.0281
Longitude: 115.7249

Northbound Passing Lane 79.84-81.1 SLK within the Shire of Dandaragan

Start: Latitude: -30.957
Longitude: 115.6856
End: Latitude: -30.943
Longitude: 115.6746

Southbound Passing Lane 111.08-112.9 SLK within the Shire of Dandaragan

Start: Latitude: -30.7265
Longitude: 115.5206
End: Latitude: -30.7139
Longitude: 115.5084

Northbound Passing Lane 113.6-115.94 SLK within the Shire of Dandaragan

Start: Latitude: -30.7089
Longitude: 115.504
End: Latitude: -30.6959
Longitude: 115.4904

Southbound Passing Lane 126.2-128.38 SLK within the Shire of Dandaragan

Start: Latitude: -30.6067
Longitude: 115.4666
End: Latitude: -30.5873
Longitude: 115.4631

Northbound Passing Lane 159.8-163.6 SLK within the Shire of Dandaragan

Start: Latitude: -30.3199
Longitude: 115.471
End: Latitude: -30.2878
Longitude: 115.4756

Southbound Passing Lane 160.1-163.4 SLK within the Shire of Dandaragan

Start: Latitude: -30.3172
Longitude: 115.4713
End: Latitude: -30.2895
Longitude: 115.4761

The project area is shown in Figure 1-13:



Legend

- 65_to_68_SLK_Length
- Brand Hwy

1 cm = 138 meters

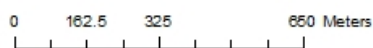


Figure 1 – Project Area Widening 65-68.63 SLK



Legend

- 71_to_74_SLK_Length
- Brand Hwy

1 cm = 121 meters

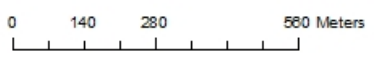


Figure 2 – Project Area Widening 71.02-74 SLK



Legend

- 77.3-79.84_SLK_location
- Brand Hwy

1 cm = 96 meters

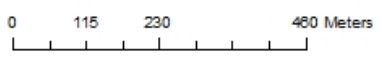
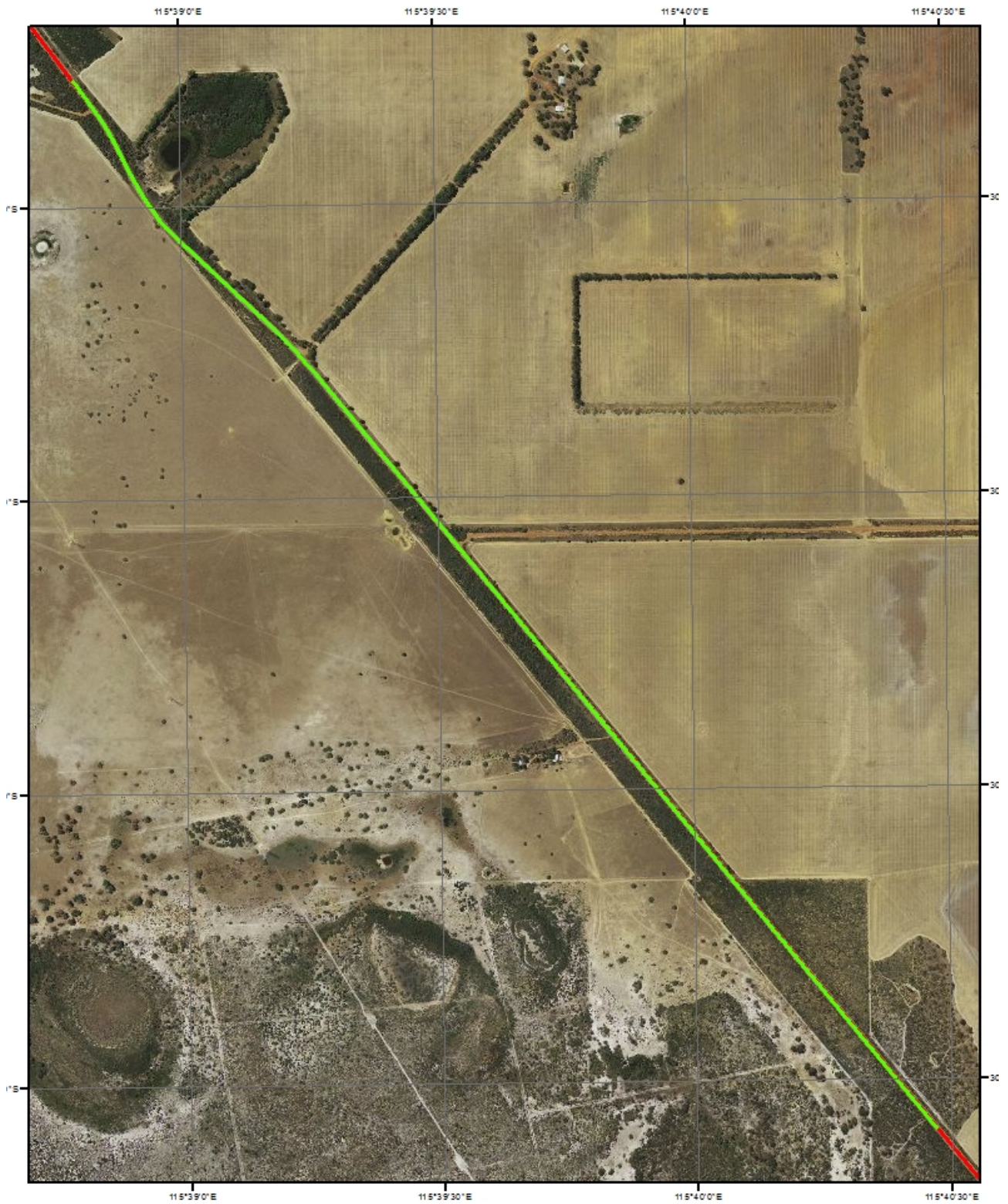


Figure 3 – Project Area Widening 77.3-79.84 SLK



- Legend**
- 81_to_86_SLK_Length
 - Brand Hwy

1 cm = 149 meters

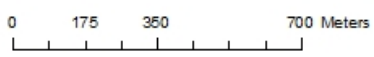
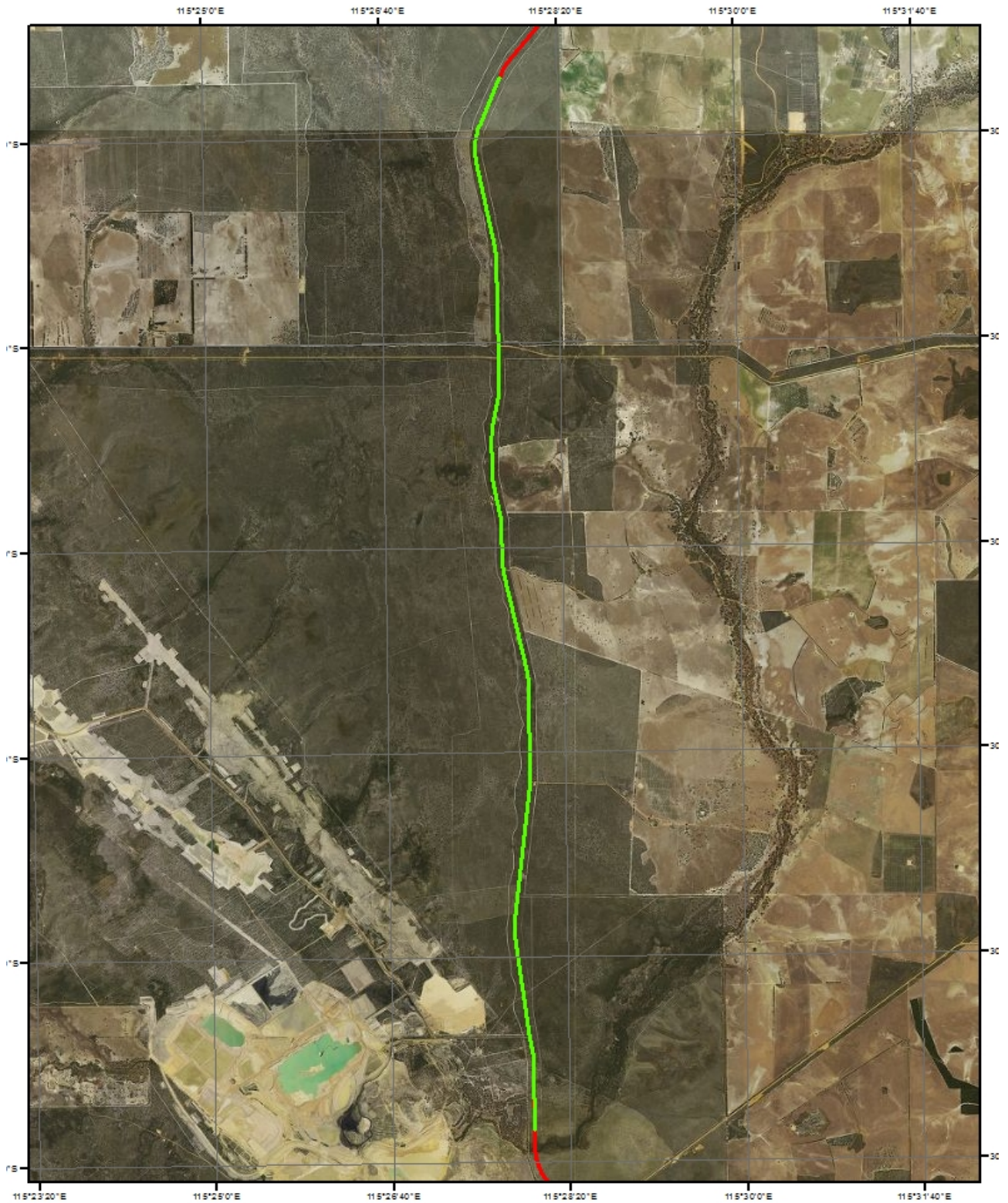


Figure 4 – Project Area Widening 81.71-86 SLK



Legend

- 120_to_136_SLK_length
- Brand Hwy

1 cm = 710 meters

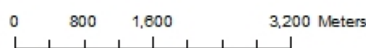


Figure 5 – Project Area Widening 120-136 SLK



Legend

- 139_to_152_SLK_Length
- Brand Hwy

1 cm = 566 meters

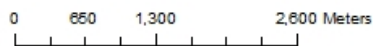


Figure 6– Project Area Widening 139-152 SLK



Legend

- 34_36_Design
- Brand Hwy

1 cm = 60 meters

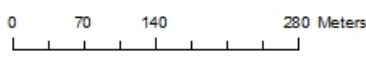


Figure 7 – Project Area Northbound Passing Lane 34.83-36 SLK



Legend

- 68_71_Design
- Brand Hwy

1 cm = 98 meters



Figure 8 – Project Area Southbound Passing Lane 68.63-71.02 SLK



Legend

- 79_81_Design
- Brand Hwy

1 cm = 68 meters



Figure 9 – Project Area Northbound Passing Lane 79.84-81.1 SLK



Legend

- 111_112_Design
- Brand Hwy

1 cm = 76 meters



Figure 10– Project Area Southbound Passing Lane 111.08-112.9 SLK



Legend

- 113-115 and 126-128 Design
- Brand Hwy

1 cm = 70 meters



Figure 11 – Project Area Northbound Passing Lane 113.6-115.94 SLK



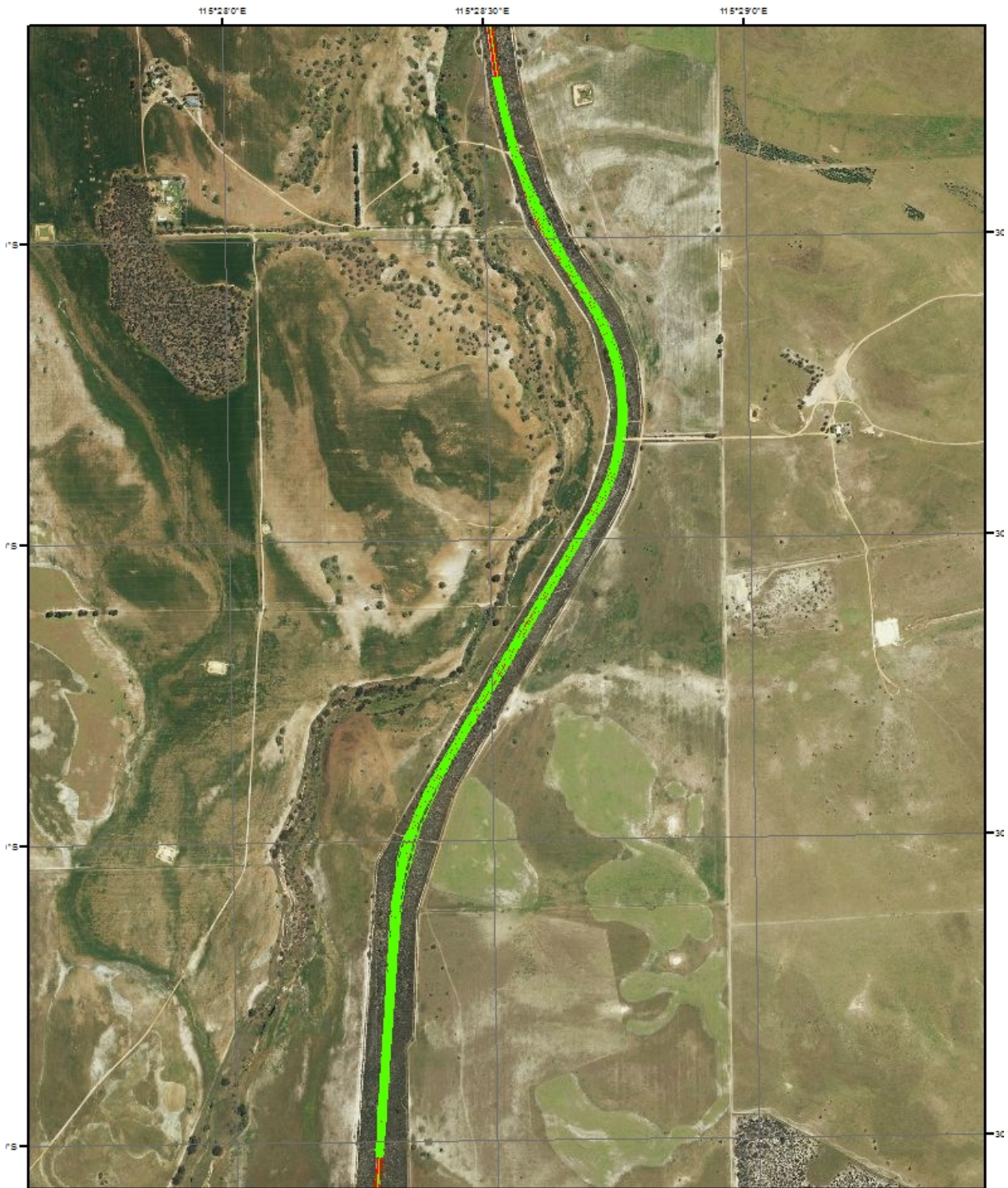
Legend

- 113-115 and 126-128 Design
- Brand Hwy

1 cm = 105 meters



Figure 12 – Project Area Southbound Passing Lane 126.2-128.38 SLK



Legend

- 160-163 Design
- Brand Hwy

1 cm = 146 meters

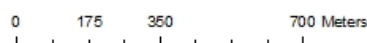


Figure 13 – Project Area Northbound Passing Lane 159.8-163.6 SLK and Southbound Passing Lane 160.1-163.4 SLK

The location and boundaries of the study area (20 km radius) for the project are shown in Figure 14:

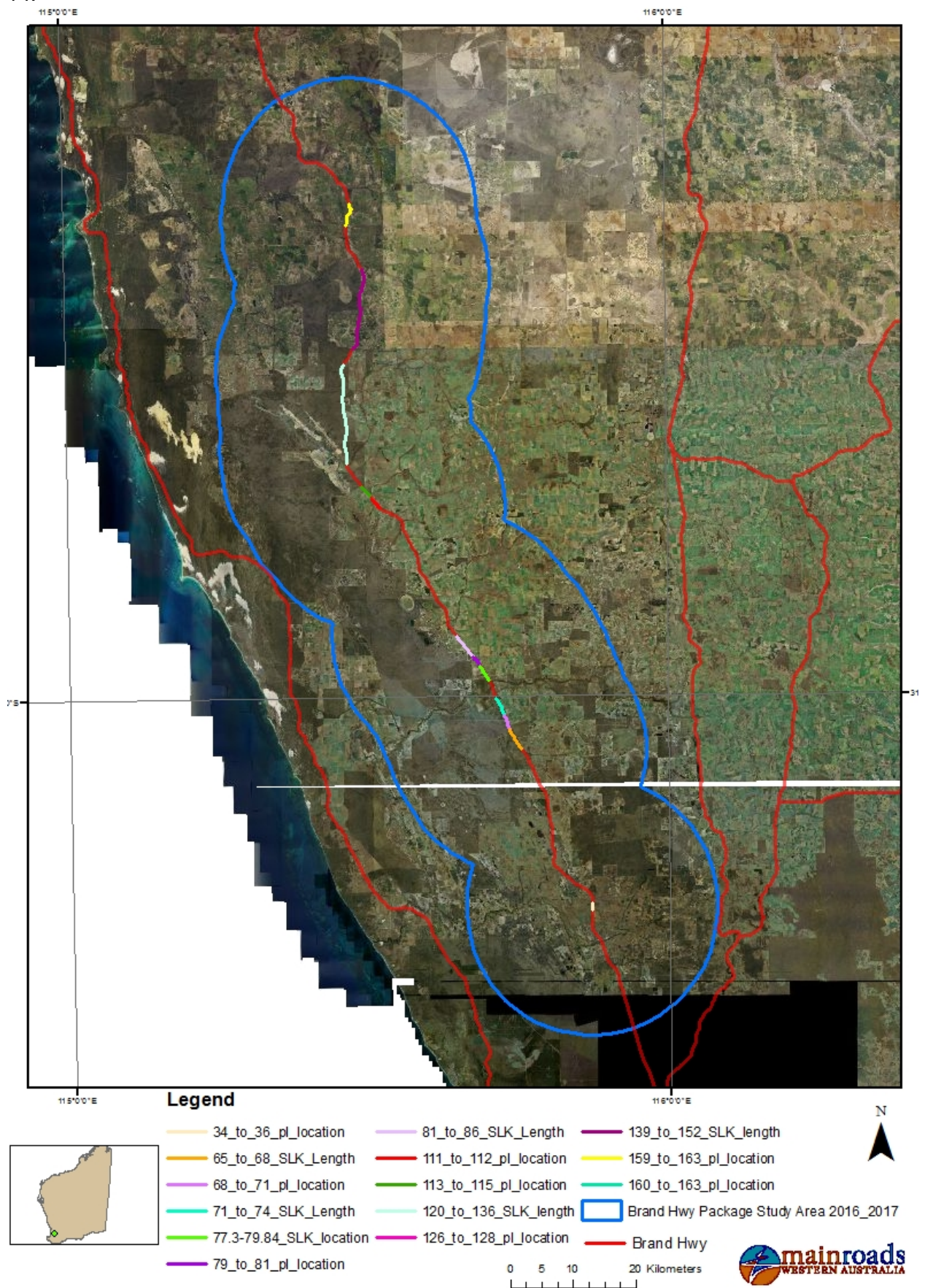


Figure 14 – Project Location and Study Area

3. METHODOLOGY

3.1 Preliminary Desktop Study

A preliminary assessment of the project area and the potential constraints of the proposal were undertaken by viewing Main Roads Integrated Mapping System (IMS), viewing ArcGIS shapefiles, reviewing government agency managed databases and consulting with relevant stakeholders where necessary.

3.1.1 Commonwealth Referral

The decision whether to refer the project to the Commonwealth Department of the Environment and Energy (DotEE) was based upon whether the project may have a significant impact upon matters of National Environmental Significance (NES), which are protected under the EPBC Act (1999). These include; World Heritage properties, National Heritage places, wetlands of international importance (listed under the Ramsar convention), Commonwealth land or marine areas, migratory species protected under international agreements, nuclear actions, nationally threatened species and ecological communities and water resources.

The DotEE protected matters search tool was used to determine whether the project will have a significant impact upon matters of national significance. Section 7 details the outcome of the search and a discussion on the report findings. The results of the protected matters search are provided in Appendix C.

3.1.2 State Referral

The decision to refer the project to the Western Australian (WA) Environmental Protection Authority (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. ASSESSMENT OF ASPECTS AND IMPACTS

4.1 Aspects and Impacts

Table 1 is an evaluation of the potential impacts that the project may have on key environmental aspects. Methodology for each aspect evaluation is contained in the Main Roads 'Guide to Preliminary Environmental Impact Assessment (Desktop References)' document.

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
Aboriginal Heritage	<ul style="list-style-type: none">Widening 65-68.63 SLK The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of medium. Works will take place within areas that have already been subject to substantial previous disturbance from road construction, agriculture and other activities. As such, no archaeological sites are likely to be preserved. The works are also some distance from any geographical features likely to be associated with ethnographic Aboriginal sites, such as hills and water courses. Therefore no further heritage actions required.Widening 71.02-74 SLK The AHRA identified 1 known heritage site (DAA 20008 Gingin Brook Waggy) within the vicinity of the project area and an overall risk rating of medium. Works will take place within areas that have already been subject to substantial previous disturbance from road construction, agriculture and other activities. As such, no archaeological sites are likely

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<p>to be preserved. The works are also some distance from any geographical features likely to be associated with ethnographic Aboriginal sites, such as hills and water courses. Therefore there is no risk to aboriginal heritage sites and no further actions are required.</p> <ul style="list-style-type: none"> • Widening 77.3-79.84 SLK The AHRA identified 2 known heritage sites (DAA 20008 Gingin Brook Waggyl and DAA 18083 Moore River Pools) within the vicinity of the project area and an overall risk rating of medium. Works will take place within areas that have already been subject to substantial previous disturbance from road construction, agriculture and other activities. As such, no archaeological sites are likely to be preserved. The works are also some distance from any geographical features likely to be associated with ethnographic Aboriginal sites, such as hills and water courses. Therefore no further heritage actions recommended. • Widening 81.71-86 SLK The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of medium. Works will be confined to previously disturbed maintenance zone and road formation. Therefore there is no risk to aboriginal heritage sites and no further actions are required. • Widening 120-136 SLK The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of medium. Works will be confined to previously disturbed maintenance zone and road formation. Therefore there is no risk to aboriginal heritage sites and no further actions are required. • Widening 139-152 SLK The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of medium. Works will be confined to previously disturbed maintenance zone and road formation. Therefore there is no risk to aboriginal heritage sites and no further actions are required. • Northbound Passing Lane 34.83-36 SLK The AHRA identified one known heritage site (DAA20008-Gingin Brook Waggyl Site) within the vicinity of the project area and an overall risk rating of high. As the project area has been subject to substantial previous disturbance by road construction and the project area is within the buffer boundary of the DAA20008 site the proposed works will not impact the actual site. Therefore no further heritage actions are required. • Southbound Passing Lane 68.63-71.02 SLK The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of high. The project area has been significantly modified by previous road construction, fencelines and tracks. Given the high levels of previous disturbance no further heritage actions are required. • Northbound Passing Lane 79.84-81.1 SLK

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<p>The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of high. The project area has been significantly modified by previous road construction, fencelines and tracks. Given the degree of disturbance it is unlikely that any sites will be present. No further heritage actions are required.</p> <ul style="list-style-type: none"> • Southbound Passing Lane 111.08-112.9 SLK <p>The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of high. The project area has been significantly modified by previous road construction, fencelines, tracks and agricultural activities. Given the high level of disturbance it is unlikely that any sites will be present. The nearby heritage place DAA 28326 (Minyulo Brook) should be avoided. No further heritage actions are required.</p> <ul style="list-style-type: none"> • Northbound Passing Lane 113.6-115.94 SLK <p>The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of high. While the area has not been previously surveyed it has been substantially disturbed by previous road construction, fencelines and other activities. Given the high level of disturbance it is unlikely that any sites will be present. No further heritage actions are required.</p> <ul style="list-style-type: none"> • Southbound Passing Lane 126.2-128.38 SLK <p>The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of high. The work area has been previously disturbed and it is highly unlikely that the proposed works will impact a site. Therefore no further heritage actions are required.</p> <ul style="list-style-type: none"> • Northbound Passing Lane 159.8-163.6 SLK <p>The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of high. The work area has been previously disturbed by previous road and maintenance activities; it is unlikely this project will impact a site. Therefore no further heritage actions are required.</p> <ul style="list-style-type: none"> • Southbound Passing Lane 160.1-163.4 SLK <p>The AHRA identified no known heritage sites within the vicinity of the project area and an overall risk rating of high. The work area has been previously disturbed by previous road and maintenance activities; it is unlikely this project will impact a site. Therefore no further heritage actions are required.</p>
Acid Sulphate Soils	<p>The ASRIS database indicates that the Northbound Passing Lane 34.83-36 SLK area is classified as low probability of acid sulphate soils. As no dewatering or excavation below the water table is planned, no further investigations are required.</p> <p>The ASRIS database indicates that the following areas are classified as extremely low probability of acid sulphate soils.</p> <ul style="list-style-type: none"> • Widening 65-68.63 SLK • Widening 71.02-74 SLK • Widening 77.3-79.84 SLK

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<ul style="list-style-type: none"> • Southbound Passing Lane 68.63-71.02 SLK • Northbound Passing Lane 79.84-81.1 SLK • Widening 81.71-86 SLK • Southbound Passing Lane 111.08-112.9 SLK • Northbound Passing Lane 113.6-115.94 SLK • Widening 120-136 SLK • Southbound Passing Lane 126.2-128.38 SLK • Widening 139-152 SLK • Northbound Passing Lane 159.8-163.6 SLK • Southbound Passing Lane 160.1-163.4 SLK <p>As no dewatering or excavation below the water table is planned, no further investigations are required.</p>
Air quality	Air quality is not relevant to the proposed project activities as the works are not a major upgrade or new road project.
Contamination	Project activities are located 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. A search of ArcGIS shapefiles and DER's contaminated sites database indicates there are no identified contaminated sites within the project area.
Dust	Dust is likely to be a minor issue during earthworks. No major sensitive receivers are located adjacent to the proposed works.
Groundwater	The project area is located in the Gingin and Jurien Groundwater Proclamation Areas and a licence is required to take groundwater. License to take groundwater GWL172545 and GWL172552 will be used and a new license will be obtained for another bore.
Hazardous substances	Not relevant to the proposed works, the project requires no hazardous substances to be used.
Heritage (non-indigenous)	<p>The State Heritage Register (inherit database) and the ArcGIS shapefiles Municipal Inventory has indicated that there are 45 known sites of heritage significance within the study area.</p> <ul style="list-style-type: none"> • Alexander Morrison National Park-located 18.3km north of 159-163 SLK project area • Badgingarra National Park and proposed extension-located adjacent to the 139-152 SLK project area • Bamanup Nature Reserve-located 12.4km south of 34-36 SLK project area • Barrett - Lennard Lake-located 12.8km south of 65-68 SLK project area • Bartletts Well Nature Reserve-located 15.2km to the south of 68-71 SLK project area • Beedamanup Homestead-located 3.5km west of 34-36 SLK project area • Beekeepers-Lesueur-Coomallo Area and Nambung National Park-located 7.8km northwest of 159-163 SLK project area • Beermullah Lake Area-located 12.5km to the northwest of the 34-

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<p>36 SLK project area</p> <ul style="list-style-type: none"> • Bootine Reserve-located 9.5km north of 34-36 SLK project area • Cheriton Arch-located 4.6km south of 34-36 SLK project area • Cheriton Managers House-located 4.2km south of 34-36 SLK project area • Cheriton Stallion Box-located 4.3km south of 34-36 SLK project area • Coomallo Reserves-located 7.7km north of 159-163 SLK project area • Cowalla Homestead Group-located 15.2km west of 71-74 SLK project area • Dewars House-located 5.7km southwest of the 34-36 SLK project area • Gingin Brook-located 5.2km east of 34-36 SLK project area • Gingin Cemetery Kangaroo Paw Site-located 4.5km to the southeast of 34-36 SLK project area • Gingin Post Office-located 5.2km to the southwest of 34-36 SLK project area • Gingin Railway Station and Quarters-located 5.7km south of 34-36 SLK • Granville-located 5.4km south of 34-36 SLK project area • House-located 5.3km south of 34-36 SLK project area • House-located 5.6km south of 34-36 SLK project area • Lake Guraga-located 8.3km to the northwest of 81-86 SLK project area • Lancelin Defence Training Area-located 6.9km southwest of 113-115 SLK project area • Methodist Church (former)-located 5.6km south of 34-36 SLK project area • Mogumber Cemetery-located 5.4km west of 71-74 SLK project area • Mogumber Mission-located 17.5km to the east of the 71-74 SLK project area • Molecap Hill Quarry-located 6.5km south of 34-36 SLK project area • Moondah Homestead-located 6.4km to the southwest of 34-36 SLK project area • Moondah House-located 7.8km south of 34-36 SLK project area • Moore River National Park-located adjacent to 68-71 SLK project area • Mugumber Mission and Cemetery-located 17.9km east of 71-74 SLK project area • Namming Lake Wetlands System-located 3.9km to the west of 81-86 SLK project area • Northern Bassendean Dunes Area (Indicative Place)-occurs adjacent to 113-115 and 129-136 SLK project area • Old Road Board Building-located 5.2km to the south of 34-36 SLK project area • St Lukes Anglican Church, Graveyard, Belltower and Trees-located 5.3km to the south of 34-36 SLK project area

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<ul style="list-style-type: none"> • St Lukes Anglican Rectory-located 5.4km southwest of the 34-36 SLK project area • Strathalbyn House-located 4.5km south of 34-36 SLK project area • Railway Station and Quarters-located 5.7km southwest of the 34-36 SLK project area • Reserve 24559 and Site of Old Timber Mill-located 6.8km to the north east of the 34-36 SLK project area • Wabling Management Priority Area-located 16.3km southwest of 34-36 SLK project area • Wanagarren and Nilgen Nature Reserves-located 19.4km southwest of 120-136 SLK project area • Yanchep Flora Reserve-located 18.5km to the southwest of 34-36 SLK project area • Yeal - Gngalara Area-located 8.8km to the south west of 34-36 SLK project area • Yeal Nature Reserve-located 10km to the southwest of the 34-36 SLK project area <p>Given that no non-indigenous sites occur within the project areas it is unlikely that any sites will be directly or indirectly impacted. Especially as the project is confined to MRWA road reserve and the project impacts will be localised.</p>
Land Vesting	All the project areas are located within the Brand Highway road reserve and are vested with MRWA.
Noise and vibration	No major sensitive local receivers. Construction work 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 Gingin and the Shire of Dandaragan must be met in respect of noise management and construction working hours.
Surface water/drainage	<p>A search of ArcGIS shapefiles has confirmed that the proposed works will not disturb or interrupt any natural drainage and surface run-off patterns for the following project areas:</p> <ul style="list-style-type: none"> • 34-36 SLK the nearest watercourse occurs 26m to the south and will not be impacted by the proposed activities. • 65-68 SLK the nearest watercourse occurs 1.5km to the south and will not be impacted by the proposed activities. • 68-71 SLK the nearest watercourse occurs 1.3km to the south and will not be impacted by the proposed activities. • Widening 71.02-74 SLK the nearest watercourse occurs 1.9km to the north and will not be impacted by the proposed activities • Widening 77.3-79.84 SLK the nearest watercourse occurs 686m to the south and will not be impacted by the proposed activities. • Northbound Passing Lane 79.84-81.1 SLK the nearest watercourse occurs 3.1km to the south and will not be impacted by the proposed activities. • Widening 81.71-86 SLK the nearest watercourse occurs 2.5km to the north and will not be impacted by the proposed activities.

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<ul style="list-style-type: none"> • Southbound Passing Lane 111.08-112.9 SLK the nearest watercourse occurs 4.6km to the north and will not be impacted by the proposed activities. • Northbound Passing Lane 113.6-115.94 SLK the nearest watercourse occurs 500m to the north and will not be impacted by the proposed activities. • Widening 120-136 SLK the nearest watercourse occurs 300m to the south and will not be impacted by the proposed activities. • Northbound Passing Lane 159.8-163.6 SLK the nearest watercourse occurs 80m to the west and will not be impacted by the proposed activities. • Southbound Passing Lane 160.1-163.4 SLK the nearest watercourse occurs 86m to the west and will not be impacted by the proposed activities. <p>The proposed works will disturb a watercourse in an area accessed by a road reserve within 139-152 SLK project area and a permit to disturb the bed and banks of watercourses is required.</p>
Visual amenity	The proposed works will result in minor and short-term visual impacts during construction.
Wetlands	<ul style="list-style-type: none"> • Widening 65-68.63 SLK A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The closest mapped wetlands occur approximately 90m west of the project area. It is unlikely that this wetland will be impacted by the project as the drainage will not be altered and the project will have localised impacts only. • Widening 71.02-74 SLK 1 wetland is located within the vicinity of the 71.02-74 SLK project area. This is an un-named resource enhancement sumpland that intersects the project area from 73.26-73.4 SLK at the northern end of the project area. 0.4ha of this wetland intersects the project envelope. The Astron survey did not identify any riparian vegetation growing in association with this mapped wetland. This area is representative of Banksia woodland and is significantly modified so no longer represents a wetland. As such it is unlikely to be impacted by the project activities. • Widening 77.3-79.84 SLK 1 wetland is located within the vicinity of the 77.3-79.84 SLK project area. This is an unranked dampland that intersects the project area from 77.98-78.16 SLK at the northern end of the project area. 0.56ha of this mapped wetland intersects the project envelope. The GHD survey identified 0.276ha of vegetation representing this wetland within the project envelope. Engineering controls will be put in place to ensure that all road runoff is captured in the drain and no runoff will enter the wetland. • Widening 81.71-86 SLK A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The closest mapped wetlands occur approximately 27m east of the project area. It is unlikely that this wetland will be impacted by the project as the drainage will not be altered and the

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<p>project will have localised impacts only.</p> <ul style="list-style-type: none"> • Widening 120-136 SLK <p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The closest mapped swamp occurs approximately 129m east of the project area. It is unlikely that this wetland will be impacted by the project as the drainage will not be altered and the project will have localised impacts only.</p> <ul style="list-style-type: none"> • Widening 139-152 SLK <p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The closest mapped lake occurs approximately 5.6km north of the project area. It is unlikely that this wetland will be impacted by the project as the drainage will not be altered and the project will have localised impacts only.</p> <ul style="list-style-type: none"> • Northbound Passing Lane 34.83-36 SLK <p>1 wetland is located within the vicinity of the 34.83-36 SLK project area. This is an un-named multiple use palusplain that intersects the project area from 34.83-35.18 SLK at the southern end of the project area. The GHD survey did not identify any riparian vegetation growing in association with this mapped wetland. This area is representative of parkland cleared and highly modified area and as such is no longer representative of a wetland. As such it is unlikely to be impacted by the project activities.</p> <ul style="list-style-type: none"> • Southbound Passing Lane 68.63-71.02 SLK <p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. A series of Conservation category geomorphic wetlands occur approximately 140m west of the project area. It is unlikely that this wetland will be impacted by the project as the drainage will not be altered and the project will have localised impacts only.</p> <ul style="list-style-type: none"> • Northbound Passing Lane 79.84-81.1 SLK <p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The closest mapped wetlands occur approximately 223m west of the project area. It is unlikely that this wetland will be impacted by the project as the drainage will not be altered and the project will have localised impacts only.</p> <ul style="list-style-type: none"> • Southbound Passing Lane 111.08-112.9 SLK <p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The nearest lake occurs over 2km to the west of the project area. Therefore this project is not likely to impact any wetlands.</p> <ul style="list-style-type: none"> • Northbound Passing Lane 113.6-115.94 SLK <p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The nearest lake occurs over 1km to the west of the project area. Therefore this project is not likely to impact any wetlands.</p> <ul style="list-style-type: none"> • Southbound Passing Lane 126.2-128.38 SLK

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The nearest lake occurs over 170m to the east of the project area. Therefore this project is not likely to impact any wetlands.</p> <ul style="list-style-type: none"> • Northbound Passing Lane 159.8-163.6 SLK <p>A search of ArcGIS shapefiles indicates no wetlands are located within the vicinity of the project area. The nearest swamp occurs over 3.8km to the west of the project area. Therefore this project is not likely to impact any wetlands.</p>
Reserves / Conservation areas	<ul style="list-style-type: none"> • Widening 65-68.63 SLK <p>A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Moore River National Park located over 6m to the west of the project area. As project activities will be confined to the road reserve it is unlikely that this conservation area will be impacted by the project activities.</p> <ul style="list-style-type: none"> • Widening 71.02-74 SLK <p>A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Moore River National Park located 797m to the south of the project area. As project activities will be confined to the road reserve it is unlikely that this conservation area will be impacted by the project activities.</p> <ul style="list-style-type: none"> • Widening 77.3-79.84 SLK <p>A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Namming Nature Reserve located over 1.2km to the east of the project area.</p> <ul style="list-style-type: none"> • Widening 81.71-86 SLK <p>A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Namming Nature Reserve located over 735m to the south east of the project area.</p> <ul style="list-style-type: none"> • Widening 120-136 SLK <p>A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Badgingarra National Park and an un-named Nature Reserve located 85m to the west/east of the project area. As project activities will be confined to the road reserve it is unlikely that this conservation area will be impacted by the project activities.</p> <ul style="list-style-type: none"> • Widening 139-152 SLK <p>A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Badgingarra National Park and an un-named Nature Reserve located 60m to the west of the project area. As project activities will be confined to the road reserve it is unlikely that this conservation</p>

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<p>area will be impacted by the project activities.</p> <ul style="list-style-type: none"> • Northbound Passing Lane 34.83-36 SLK A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Boonanarring Nature Reserve located over 4.1km to the north of the project area. • Southbound Passing Lane 68.63-71.02 SLK A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Moore River National Park located 1.4m to the west of the project area. As project activities will be confined to the road reserve it is unlikely that this conservation area will be impacted by the project activities. • Northbound Passing Lane 79.84-81.1 SLK A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Namming Nature Reserve located over 597m to the east of the project area. • Southbound Passing Lane 111.08-112.9 SLK A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is an un-named Nature Reserve located over 4.9km to the south of the project area. • Northbound Passing Lane 113.6-115.94 SLK A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is an un-named Nature Reserve located over 5km to the south of the project area. • Southbound Passing Lane 126.2-128.38 SLK A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is an un-named Nature Reserve located over 79m to the west of the project area. As project activities will be confined to the road reserve it is unlikely that this conservation area will be impacted by the project activities. • Northbound Passing Lane 159.8-163.6 SLK and Southbound Passing Lane 160.1-163.4 SLK A search of ArcGIS shapefiles indicates no reserves or conservation areas are located within the vicinity of the project area. The nearest reserve is the Hill River Nature Reserve located over 1.4km to the south of the project area.
Declared plants (weeds)	Several common weed species are located throughout the following project areas but no Weeds of National Significance (WoNS) or Declared Plants (DP).

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<ul style="list-style-type: none"> • 34.83-36 SLK • 65-68.63 SLK • 71.02-74 SLK • 77.3-79.84 SLK • 79.84-81.71 SLK • 81.71-86 SLK • 139-152 SLK <p>No WoNS were identified within any of the project areas however DP were identified within:</p> <ul style="list-style-type: none"> • 68.63-71.02 SLK (Paterson’s Curse) • 111.08-112.9 SLK (Doublegee and Paterson’s Curse) • 113.6-115.94 SLK (Paterson’s Curse) • 120-136 SLK (Cape Tulip and Paterson’s Curse) • 159.8-163.6 SLK (Paterson’s Curse, Cape Tulip and Victorian Teatree) <p>Weed management strategies will be developed and implemented in these project areas. Further details regarding weed management strategies are provided in the project EMP (Appendix F).</p>
Vegetation	<ul style="list-style-type: none"> • This project involves the clearing of a total of 37.8ha of native vegetation. <ul style="list-style-type: none"> ○ Widening 65-68.63 SLK =2.2ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 949 described as Low woodland; banksia and 1015 described as Mosaic: Mixed scrub-heath / Shrublands; dryandra thicket ▪ There is approximately 57.26% and 34% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in very good condition. ○ Widening 71.02-74 SLK=1.8ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 949 described as Low woodland; banksia and 4 described as Medium woodland; marri & wandoo ▪ There is approximately 57.26% and 18.95% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to degraded (Keighery, 1994) condition with the majority in completely degraded condition ○ Widening 77.3-79.84 SLK=1.6ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 1030 described as Low woodland; Banksia attenuata & B. menziesii and 1035 described as Mosaic: Medium open woodland; marri / Shrublands; dryandra heath ▪ There is approximately 63.85% and 10.51% vegetation remaining in the IBRA region (Government of Western Australia, 2015)

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<ul style="list-style-type: none"> ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. ○ Widening 81.71-86 SLK=2.6ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 1030 described as Low woodland; Banksia attenuata & B. menziesii and 1031 described as Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath ▪ There is approximately 63.85% and 19.30% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. ○ Widening 120-136 SLK=6ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 7 Medium woodland; York gum (Eucalyptus loxophleba) & wandoo, 1030 described as Low woodland; Banksia attenuata & B. menziesii and 1031 described as Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath ▪ There is approximately 33.63%, 72.51% and 34.45% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. ○ Widening 139-152 SLK=4.6ha <ul style="list-style-type: none"> ▪ This project is mapped as 1031 described as Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath ▪ There is approximately 34.45% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. ○ Northbound Passing Lane 34.83-36 SLK=1.3ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 999 described as Medium woodland; marri. ▪ There is approximately 9.34% remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in degraded to completely degraded (Keighery, 1994) condition ○ Southbound Passing Lane 68.63-71.02 SLK=2.7ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 949 described as Low woodland; banksia ▪ There is approximately 57.26% vegetation remaining in the IBRA region (Government of Western Australia, 2015)

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<ul style="list-style-type: none"> ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in very good to excellent condition. ○ Northbound Passing Lane 79.84-81.71 SLK=2.1ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 1030 described as Low woodland; <i>Banksia attenuata</i> & <i>B. menziesii</i> and 1035 described as Mosaic: Medium open woodland; marri / Shrublands; dryandra heath ▪ There is approximately 63.85% and 10.51% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in very good condition. ○ Southbound Passing Lane 111.08-112.9 SLK=2.2ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 1030 described as Low woodland; <i>Banksia attenuata</i> & <i>B. menziesii</i> ▪ There is approximately 63.85% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority being in excellent to very good condition. ○ Northbound Passing Lane 113.6-115.94 SLK=2.2ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 1030 described as Low woodland; <i>Banksia attenuata</i> & <i>B. menziesii</i> and 1031 described as Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath ▪ There is approximately 63.85% and 19.30% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded condition (Keighery, 1994) condition with the majority in excellent to very good condition. ○ Southbound Passing Lane 126.2-128.38 SLK=2.5ha <ul style="list-style-type: none"> ▪ This project is mapped as Vegetation Association 1031 described as Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath ▪ There is approximately 19.30% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to very degraded (Keighery, 1994) condition with the majority in excellent to very good condition. ○ Northbound and southbound Passing Lane 159.8-163.6 SLK=6ha <ul style="list-style-type: none"> ▪ This project is mapped as 1031 described as Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath

Table 1: Project Aspects and Impacts

Aspect	Evaluation of Potential Impacts
	<ul style="list-style-type: none"> ▪ There is approximately 34.45% vegetation remaining in the IBRA region (Government of Western Australia, 2015) ▪ This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in excellent condition. <ul style="list-style-type: none"> • There is no temporary clearing required for this project.
Biodiversity	<ul style="list-style-type: none"> • Foraging habitat for the Carnaby’s Black Cockatoo will be removed as part of these works. Up to 34.29ha of foraging habitat and up to 51 potential breeding trees. • No declared rare flora was identified within the project area and therefore no declared rare flora will be impacted as part of these project activities. • Priority flora was identified during the survey and the following priority flora will be removed: <ul style="list-style-type: none"> ○ <i>Grevillea makinsonii</i> (P3) ○ <i>Hypocalymma gardneri</i> (P3) ○ <i>Hypocalymma serrulatum</i> (P3) ○ <i>Stylidium hymenocraspedum</i> (P3) ○ <i>Tetractheca ?angulata</i> (P3) ○ <i>Conostephium magnum</i> (P4) ○ <i>Desmocladius elongatus</i> (P4) ○ <i>Grevillea rudis</i> (P4) ○ <i>Hypolaena robusta</i> (P4) • The Priority Ecological Community (PEC) Priority 3 “Swan Coastal Plain Banksia attenuata-Banksia menziesii woodlands’ and Priority 3 PEC “Banksia dominated woodlands of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) region” occurs within the project area and part of these PECs will be removed as part of these works.
Dieback	<p>The nearest weather stations are Badgingarra Research Station which receives 544.4mm of annual average rainfall and Gingin Aero which receives 620.2mm of annual average rainfall. As the project area falls within an area that receives more than 400mm average annual rainfall dieback is considered to be an issue. The works are planned to be carried out in dry conditions so no further actions are required. However vehicles will be washed down prior to entering and exiting project areas adjacent to conservation areas. If scheduling changes and works are completed in non-dry conditions a dieback survey and dieback management plan will be established for this project.</p>

5. ADDITIONAL ACTION REQUIRED

The following table summarises what further assessment and management is required in relation to the project.

Table 2 Summary of Further Assessment or Approval(s) Required

Aspect	Permit, Approval or Licence
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Groundwater	Licence to extract groundwater.
Surface Water	Bed and banks permit required for project 139-152 SLK
Weeds	Paterson's curse, Doublegee, Cape Tulip and Victorian Teatree to be removed.
Dieback	Dieback survey and Dieback Management Plan if required

6. ENVIRONMENTAL MANAGEMENT

A project specific Environmental Management Plan (EMP) has been developed to manage environmental impacts associated with the project. The EMP is provided in Appendix F.

7. COMMONWEALTH ASPECTS AND IMPACTS

A preliminary assessment involving a desktop analysis of matters of National Environmental Significance (NES) and a site investigation was undertaken. The assessment and site investigation was used to determine whether the project significantly impacts on a matter of NES and would require referral to the Commonwealth.

The existing environment, nature and extent of impact or potential impact to the following matters of NES were assessed with regard to the project:

Table 3: Assessment of Existing Environment, Matters of National Environmental Significance (NES) and Likely Impact.

Matter of NES	Existing Environment and Likely Impact
<p>Nationally listed threatened species or ecological communities</p>	<p>68 of nationally listed threatened species and 4 ecological communities identified from the Protected Matters Search Tool (PMST) Report.</p> <p>Threatened Ecological Communities:</p> <ul style="list-style-type: none"> • Banksia Woodlands of the Swan Coastal Plains • Claypans of the Swan Coastal Plain • Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain • Shrublands and Woodlands on Perth to Gingin ironstone (Perth to Gingin ironstone association of the Swan Coastal Plain) <p>Birds</p> <ul style="list-style-type: none"> • <i>Calidris ferruginea</i> (Curlew Sandpiper) • <i>Calyptorhynchus banksii naso</i> (Forest Red-tailed Black Cockatoo) • <i>Calyptorhynchus latirostris</i> (Carnaby's Black Cockatoo) • <i>Leipoa ocellata</i> (Malleefowl) • <i>Numenius madagascariensis</i> (Eastern Curlew) • <i>Rostratula australis</i> (Australian Painted Snipe) <p>Fish</p> <ul style="list-style-type: none"> • <i>Nannatherina balstoni</i> (Balston's Pygmy Perch) <p>Mammals</p> <ul style="list-style-type: none"> • <i>Dasyurus geoffroyi</i> (Chuditch) <p>Plants</p> <ul style="list-style-type: none"> • <i>Acacia cochlocarpa subsp. cochlocarpa</i> (Spiral-fruited Wattle) • <i>Acacia forrestiana</i> (Forest's Wattle) • <i>Acacia splendens</i> (Splendid Wattle) • <i>Andersonia gracilis</i> (Slender Andersonia) • <i>Anigozanthos viridis subsp. terraspectans</i> (Dwarf Kangaroo Paw) • <i>Asterolasia nivea</i> (Bindoon Starbush) • <i>Banksia fuscobracteata</i> (Dark-bract Banksia) • <i>Banksia mimica</i> (Summer Honeypot) • <i>Banksia serratuloides subsp. perissa</i> (Northern Serrate Dryandra) • <i>Banksia serratuloides subsp. serratuloides</i> (Southern Serrate Dryandra) • <i>Caladenia hoffmanii</i> (Hoffman's Spider Orchid) • <i>Caladenia huegelii</i> (King Spider-orchid) • <i>Chamelaucium sp. Cataby</i> (Griffin's Waxflower) • <i>Chamelaucium sp. Gingin</i> (Gingin Wax) • <i>Chorizema humile</i> (Prostrate Flame Pea) • <i>Conospermum densiflorum subsp. unicephalatum</i> (One-headed Smokebush) • <i>Darwinia acerosa</i> (Fine-leaved Darwinia) • <i>Darwinia foetida</i> (Muchea Bell) • <i>Daviesia dielsii</i> (Diel's Daviesia) • <i>Diuris drummondii</i> (Tall Donkey Orchid) • <i>Diuris micrantha</i> (Dwarf Bee-orchid) • <i>Diuris purdiei</i> (Purdie's Donkey-orchid) • <i>Drakaea elastica</i> (Glossy-leafed Hammer Orchid) • <i>Eleocharis keigheryi</i> (Keighery's Eleocharis) • <i>Eremophila scaberula</i> (Rough Emu Bush) • <i>Eucalyptus absita</i> (Badgingarra Box) • <i>Eucalyptus argutifolia</i> (Yanchep Mallee) • <i>Eucalyptus balanites</i> (Cadda Road Mallee)

	<ul style="list-style-type: none"> • <i>Eucalyptus crispata</i> (Yandanooka Mallee) • <i>Eucalyptus dolorosa</i> (Dandaragan Mallee) • <i>Eucalyptus impensa</i> (Eneabba Mallee) • <i>Eucalyptus johnsoniana</i> (Johnson's Mallee) • <i>Eucalyptus lateritica</i> (Laterite Mallee) • <i>Eucalyptus leprophloia</i> (Scaly Butt Mallee) • <i>Eucalyptus pruiniramis</i> (Midlands Gum) • <i>Eucalyptus recta</i> (Silver Mallet) • <i>Eucalyptus suberea</i> (Cork Mallee) • <i>Gastrolobium hamulosum</i> (Hook-point Poison) • <i>Grevillea batrachioides</i> (Mt Lesueur Grevillea) • <i>Grevillea calliantha</i> (Foote's Grevillea) • <i>Grevillea christineae</i> (Christine's Grevillea) • <i>Grevillea corrugata</i> (a shrub) • <i>Grevillea curviloba</i> subsp. <i>curviloba</i> (Curved-leaf Grevillea) • <i>Grevillea curviloba</i> subsp. <i>incurva</i> (Narrow curved-leaf Grevillea) • <i>Grevillea humifusa</i> (Spreading Grevillea) • <i>Hakea megalosperma</i> (Leuseur Hakea) • <i>Hemiandra gardneri</i> (Red Snakebush) • <i>Jacksonia pungens</i> (Pungent Jacksonia) • <i>Lepidosperma rostratum</i> (Beaked Lepidosperma) • <i>Leucopogon obtectus</i> (Hidden Beard-heath) • <i>Macarthuria keigheryi</i> (keighery's Macarthuria) • <i>Melaleuca sciotostyla</i> (Wongan Melaleuca) • <i>Paracaleana dixonii</i> (Sandplain Duck Orchid) • <i>Patersonia spirifolia</i> (Spiral-leafed Patersonia) • <i>Ptychosema pusillum</i> (Dwarf Pea) • <i>Spirogardnera rubescens</i> (Spiral Bush) • <i>Tetratheca nephelioides</i> • <i>Thelymitra dedmaniarum</i> (Cinnamon Sun Orchid) • <i>Thelymitra stellata</i> (Star Sun-orchid) <p>Reptiles</p> <ul style="list-style-type: none"> • <i>Egernia stokesii badia</i> (Western Spiny-tailed Skink)
<p><i>Justification of likely impact</i></p>	<p>The "Claypans of the Swan Coastal Plain", "Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain" and "Shrublands and Woodlands on Perth to Gingin ironstone (Perth to Gingin ironstone association of the Swan Coastal Plain)" will not be present in the project area as the appropriate habitat is not present.</p> <p>The Threatened Ecological Community (TEC) "Banksia Woodlands of the Swan Coastal Plains" was identified as occurring in the project area. The project areas 120-136, 139-152 and 159-163 SLK do not occur within the Swan Coastal Plain or Jarrah Forest IBRA region and as such no vegetation within those project areas will be considered part of this TEC. Project area 34.83-36 SLK and 113.6-115.94 SLK is not a Banksia Woodland and as such is unlikely to represent this TEC. Vegetation types were identified in the surveys that represent the correct structure and composition to be considered this TEC. The amounts of these each project area are outlined below:</p> <ul style="list-style-type: none"> • Widening 65-68.63 SLK=5.30ha (Maximum of 2.2ha will be cleared) • Widening 71.02-74 SLK=3.33ha (Maximum of 1.8ha will be cleared) • Widening 77.3-79.84 SLK=3.13ha (Maximum of 1.6ha will be cleared) • Widening 81.71-86 SLK=2.95ha (Maximum of 2.6ha will be cleared) • Southbound Passing Lane 68.63-71.02 SLK=4.90ha (Maximum of 2.7ha

- will be cleared)
- Northbound Passing Lane 79.84-81.71 SLK=3.86ha (Maximum of 2.1ha will be cleared)
- Southbound Passing Lane 111.08-112.9 SLK=3.67ha (Maximum of 2.2ha will be cleared)

Across the project areas that represent the Banksia Woodlands of the Swan Coastal Plains TEC there is a total of 15.2ha that may be removed as part of this project. Within the survey areas there is a total of 352.07ha of vegetation that represents this TEC, which means that approximately 4.32% of the TEC in the local area will be removed. The TEC that is to be removed occurs on the edge of larger remnants of this TEC that are in similar or better condition than the vegetation to be removed. It is unlikely that this project will create any fragmentation or break any linkages of this TEC as only the edges of pre-existing remnants near the already disturbed road corridor will be removed. Given the large amount of this TEC that will remain in the road reserve or surrounding reserves it is unlikely that the small linear section of vegetation to be removed will significantly impact the Banksia Woodlands of the Swan Coastal Plain TEC.

Excluding the marine species and species that would not be present in the project area due to a lack of appropriate habitat there are 3 species that may occur within the project area.

Carnaby Cockatoo (*Calyptorhynchus latirostris*)

Carnaby's cockatoo inhabits Eucalypt woodlands and forages on proteaceous species. During the surveys Carnaby's cockatoo were sighted and foraging evidence was found at numerous locations. The project areas all contain foraging habitat suitable for Carnaby's Black Cockatoo as outlined below:

- Widening 65-68.63 SLK=5.13ha within the project envelope along a 3.6km stretch of road (Maximum of 2.2ha will be cleared)
- Widening 71.02-74 SLK=3.98ha within the project envelope along a 3km stretch of road (Maximum of 1.8ha will be cleared)
- Widening 77.3-79.84 SLK=3.27ha within the project envelope along a 2.58km stretch of road (Maximum of 1.6ha will be cleared)
- Widening 81.71-86 SLK =3.8ha within the project envelope along a 4.3km stretch of road (Maximum of 2.6 ha will be cleared)
- Widening 120-136 SLK=10.3ha within the project envelope along a 15km stretch of road (Maximum of 6ha will be cleared)
- Widening 139-152 SLK=9.95ha within the project envelope along a 13km stretch of road. (Maximum of 4.6ha will be cleared)
- Northbound Passing Lane 34.83-36 SLK=0.96ha within the project envelope along a 1.8km stretch of road (Maximum of 1.3ha will be cleared)
- Southbound Passing Lane 68.63-71.02 SLK=4.9ha within the project envelope along a 2.98km stretch of road (Maximum of 2.7ha will be cleared)
- Northbound Passing Lane 79.84-81.71 SLK=4ha within the project envelope along a 1.8km stretch of road (Maximum of 2.1ha will be cleared)
- Southbound Passing Lane 111.08-112.9 SLK=3.7ha within the project envelope along a 1.9km stretch of road (Maximum of 2.2ha will be cleared)
- Northbound Passing Lane 113.6-115.94 SLK=2.9ha within the project envelope along a 1.97km stretch of road (Maximum of 2.2ha will be

cleared)

- Northbound and southbound Passing Lane 159.8-163.6 SLK=5.33ha within the project envelope along a 3.8km stretch of road (Maximum of 6ha will be cleared)

There is a total of 48.27ha of Carnaby's Cockatoo foraging habitat along a 56km stretch of road. Up to 34.29ha of this will be removed along the 56km for this project. Within the survey area there is 544.4ha of foraging habitat identified. Therefore this project will involve the removal of 6.30% of the foraging habitat in the immediate area.

Within the survey there are 204 potential breeding trees with DBH greater than 300/500mm recorded. Of these only 4 have hollows of a large enough size to be utilised, though none show evidence of current use. The project requires the removal of 51 of these potential breeding trees, none of which contain hollows.

- Northbound Passing Lane 34.83-36 SLK=50 potential breeding trees within the project envelope
- Widening 120-136 SLK=1 potential breeding tree within the project envelope

The surrounding area has similar vegetation and habitat values to the project area. The removal of a linear section of vegetation from the edge of a larger area of similar vegetation reduces the significance of the vegetation to be removed. However during the surveys Carnaby's Cockatoo were identified and foraging evidence found so this habitat is being currently utilised by this species. Within the surrounding area there is historic breeding sites in the surrounding area including Gingin, Bindoon, Mooliabeenee, Badgingarra and the Boonanaring Nature Reserve. Therefore this habitat is significant as Black Cockatoos require appropriate foraging habitat near breeding sites. Given the removal of up to 34.29ha of foraging habitat and up to 51 potential breeding trees that will be required for the works this project may have a significant impact and will require referral to the Commonwealth.

Peregrine Falcon (*Falco peregrinus*)

There is habitat suitable for this species within the project areas however none were recorded during the survey. The Peregrine Falcon is a highly mobile species that has a large home range and can utilise a variety of habitat types therefore it is unlikely that this highly mobile species will be impacted by the project activities.

Chuditch (*Dasyurus geoffroyi*)

The project areas contains habitat for the Chuditch. However the rate of occupancy within the project area is likely to be low given the fragmentation of the habitat by the highway and the agricultural land in the area. The Chuditch is more likely to inhabit the better suited habitats of Moore River National Park, Namming and Boonanaring Nature Reserves in the surrounding area. The project area does not represent significant habitat for this mobile species and it is unlikely that this species will be impacted by the project activities.

The following species have the potential to occur within the project area but were not recorded during the field survey conducted by GHD:

- *Andersonia gracilis*
- *Banksia mimica*
- *Banksia serratuloides subsp. perissa*
- *Chamelaucium sp. Cataby*
- *Chamelaucium sp. Gingin*

	<ul style="list-style-type: none"> • <i>Eleocharis keigheryi</i> • <i>Eucalyptus absita</i> • <i>Eucalyptus dolorosa</i> • <i>Grevillea calliantha</i> • <i>Hakea megalosperma</i> • <i>Hemiandra gardneri</i> • <i>Macarthuria keigheryi</i> • <i>Patersonia spirifolia</i> • <i>Ptychosema pusillum</i> • <i>Paracaleana dixonii</i> • <i>Spirogardnera rubescens</i> • <i>Thelymitra stellata</i> <p>Project activities will directly or indirectly impact upon Carnaby's Black Cockatoos and the Banksia Woodlands of the Swan Coastal Plains. Therefore this project will require referral to the Commonwealth.</p>
<i>Methodology</i>	<p>Astron (2016) DotEE Protected Matters Search Tool Report. GHD (2016) GHD (2016) SPRAT profile</p>

<i>Migratory species</i>	<p>6 nationally listed migratory species identified from the PMST Report.</p> <p>Marine</p> <ul style="list-style-type: none"> • <i>Apus pacificus</i> (Fork-tailed Swift) <p>Terrestrial</p> <ul style="list-style-type: none"> • <i>Motacilla cinerea</i> (Grey Wagtail) <p>Wetlands</p> <ul style="list-style-type: none"> • <i>Calidris ferruginea</i> (Curlew Sandpiper) • <i>Numenius madagascariensis</i> (Eastern Curlew) • <i>Pandion haliaetus</i> (Osprey) • <i>Tringa nebularia</i> (Common Greenshank)
<i>Justification of likely impact</i>	<p>The Fork-tailed Swift is a primarily aerial species that is independent of terrestrial habitat and as such is unlikely to be impacted by the project activities.</p> <p>The Grey Wagtail inhabits banks and rocks in fast flowing fresh water. As this habitat is not present within the project area it is unlikely that this species will be present in the area or impacted by the project activities.</p> <p>The four species of migratory shorebirds inhabit freshwater wetlands. There are wetland areas within project area that could provide habitat for these species. However this habitat is likely to be marginal and not significant habitat for these species. In the local area there are a number of larger wetlands more suited to these migratory birds including Beermullah Lake, Doopiter Swamp, Matilda Lake and Karakin Lake. Therefore these wetland migratory species are unlikely to be impacted by the project activities.</p>
<i>Methodology</i>	<p>Astron (2016) DotEE Protected Matters Search Tool Report. GHD (2016) GHD (2016) SPRAT profile</p>

Wetlands of International Importance	No wetlands of international importance identified from the PMST Report.
<i>Justification of likely impact</i>	As no wetlands were identified within the study area it is unlikely that any wetlands of international importance will be impacted by the project activities.
<i>Methodology</i>	DotEE Protected Matters Search Tool Report.

World Heritage Properties	No world heritage properties identified from the PMST Report.
<i>Justification of likely impact</i>	As no properties were identified within the study area it is unlikely that any world heritage properties will be impacted by the project activities.
<i>Methodology</i>	DotEE Protected Matters Search Tool Report.

National Heritage Places	1 national heritage places identified from the PMST Report. <ul style="list-style-type: none"> • Lesueur National Park
<i>Justification of likely impact</i>	This national park is located over 24.5km to the northwest of the 159-163 SLK project area. Given the distance to the park and the localised impacts that are expected from this project it is unlikely that this national heritage place will be directly or indirectly impacted by the project activities.
<i>Methodology</i>	DotEE Protected Matters Search Tool Report. ArcGIS shapefiles

Commonwealth Land or Marine Areas	No Marine Areas and 4 parcels of Commonwealth land identified from PMST Report. <ul style="list-style-type: none"> • Unidentified Commonwealth land • Defence-Gingin Satellite Airfield • Defence-Lancelin Air Safety Marker • Defence-Pearce ILS/Tacan Site
<i>Justification of likely impact</i>	Project activities are confined to the Main Roads Brand Highway road reserve and as such are not located on or near Commonwealth land or marine areas. Therefore Commonwealth land or marine areas will not be impacted by the activities associated with the project.
<i>Methodology</i>	DotEE Protected Matters Search Tool Report. ArcGIS shapefiles

Nuclear Actions	Not relevant to the proposed activity.
<i>Justification of likely impact</i>	No project actions involve nuclear actions. Therefore no project impact on this matter.
<i>Methodology</i>	DotEE Protected Matters Search Tool Report.

Water Resource	Not relevant to the proposed activity.
<i>Justification of likely impact</i>	No project actions involve a water resource. Therefore no project impact on this matter.
<i>Methodology</i>	DotEE Protected Matters Search Tool Report.

8. SUMMARY OF THE SURVEY/ASSESSMENT

There were three biological surveys conducted for this works package. The executive summaries of these surveys are outlined below.

Astron (2016) Brand Highway, Regans Ford Biological Survey.

Executive Summary

Astron was engaged to undertake a biological survey for the proposed road formation and seal widening of the Brand Highway in the vicinity of Regans Ford. The survey area is 109.2 ha and consists of three sections:

- SLK 65.1 to 66.57 (8.8 ha)
- SLK 71.4 to 74.18 (49.1 ha)
- SLK 82.11 to 86.0 (51.2 ha).

The 65.1 to 66.57 SLK section of the survey area occurs along the eastern boundary of the Moore River National Park. The survey area partially overlaps three 'resource enhancement' wetlands. A further wetland, not assessed as part of the geomorphic wetlands of the Swan Coastal Plain, is located at the northern end of the survey area. Two of the wetlands were inundated at the time of the survey.

The survey area includes 91 ha of native vegetation and 18.2 ha of cleared vegetation. More than half the survey area is in 'excellent' condition. In general, weed proliferation was immediately adjacent to cleared tracks, roads and agricultural areas, with little incursion into remnant vegetation.

Two vegetation types have affinity with the State-listed priority ecological community 'Swan Coastal Plain *Banksia attenuata* – *Banksia menziesii* woodlands'. This vegetation is also likely to represent the recently listed *Environment Protection and Biodiversity Conservation Act 1999* Endangered threatened ecological community 'Banksia Woodlands of the Swan Coastal Plain'. These vegetation types represent 70.1 ha (64%) of the survey area, and are located in each of the three sections of survey area.

No Threatened flora was recorded within the survey area. *Haemodorum loratum* P3 was recorded from two locations. Forty-five weed species were recorded, none of which are listed as a weed of national significance or listed as declared pest plants in Western Australian under the *Biosecurity and Agriculture Management Act 2007*.

The survey area contains 80 ha of foraging habitat for Carnaby's black-cockatoos, and 21 flora species that are known foraging resources. In addition, the survey area contains 7.8 ha of breeding habitat including five *Corymbia calophylla* trees that have a diameter at breast height over 50 cm, classified as mature trees and potential roost sites according the referral guidelines. Four of these mature trees contain suitable nest hollows for breeding, however, none of the trees or hollows showed signs of current or historic breeding/roosting.

Regans Ford is a known breeding site for Carnaby's black-cockatoos and breeding and roosting sites have been recorded in the native vegetation surrounding the survey area, the closest sites occurring within 1 km. The survey recorded one conservation significant species, the Carnaby's black-cockatoo. In addition a further eight conservation significant species have been classified as having a 'high' likelihood of occurring in the survey area; eastern great egret, glossy ibis, common greenshank, wood sandpiper, red-necked stint, ruff, rainbow bee-eater and western quoll.

Although seven migratory shorebirds and waders are considered to have a high likelihood of occurrence in the survey area, the Ephemeral Wetlands habitat is considered marginal compared with larger and better suited habitats found at nearby lakes, including at Beermullah Lake, Doopiter Swamp, Matilda Lake and Karakin Lake. As such, the conservation significant fauna recorded or considered likely to occur in the survey area are unlikely to be reliant upon the habitats present.

Two Matters of National Environmental Significance occur in the survey area and are likely to require Commonwealth referral. The 'Banksia Woodlands of the Swan Coastal Plain' threatened ecological community meets key diagnostic characteristics, has a condition of 'good' or greater, and is greater than the minimum patch size threshold. Greater than the 1 ha threshold of quality foraging habitat for Carnaby's black-cockatoos occurs and as such the proposed clearing may result in a 'high risk of significant impact'.

Executive summary

This report is subject to, and must be read in conjunction with, the limitations set out in Section 1.5 and the assumptions and qualifications contained throughout the Report.

Main Roads Western Australia is proposing to construct eight passing lanes on the Brand Highway between Gingin and Eneabba in Western Australia. The passing lanes are located at:

- SLK 71.0-68.7 southbound (Site 1)
- SLK 79.7-81.5 northbound (Site 2)
- SLK 112.8-110.4 southbound (Site 3)
- SLK 113.6 – 116.3 northbound (Site 4)
- SLK 126.2 – 129.0 southbound (Site 5)
- SLK 160.3 – 163.9 northbound (Site 6)
- SLK 160.0 – 162.0 southbound (Site 7)
- SLK 34.83-36.0 northbound (Site 8).

The Survey area included a larger area than is likely to be required for the passing lanes; however, the survey was focused on the area adjacent to the highway that will be directly impacted by the Project.

A desktop assessment and a flora and fauna field assessment was undertaken 15-19 September 2014 and the 7-13 September 2015, with additional survey effort for Site 8 on 30 March 2014 and 23 January 2016. The assessment identified the following biological features of the Survey area:

- It occurs adjacent or in close proximity to a number of conservation reserves including Moore River National Park, Namming Nature Reserve, Hill River Nature Reserve and an unnamed conservation park south of Badgingarra National Park
- The pre-European vegetation associations of both Vegetation Association 999, 1031 and 1035 are below the 30 % threshold level retention. Vegetation associations 949 and 1030 are above the 30 % threshold level at all levels
- Site 1 and Site 8 occur within the regional vegetation mapping of Hedde *et al.* (1980) which indicates that Site 8 occurs within the Gingin Complex and Site 1 occurs with Coonambidgee Complex. The Gingin Complex is below the 30 % threshold level remaining, whereas the Coonambidgee Complex is above the 30 % threshold level (Local Biodiversity Program – latest updates 2013)
- The Survey area occurs within the road reserve, and includes the cleared shoulder and some small areas that have been previously disturbed due to roadworks. 76.8 hectares (ha) of the Survey area has been mapped as cleared. However, the rest of the road reserve contains native vegetation which is generally in Excellent condition. The predominant vegetation of the Survey area was Banksia woodlands with heaths and shrublands interspersed depending on topography and soils. 219.4 ha of the Survey area was rated Good condition or better

A section of Site 6 supports wetland vegetation, sedgeland and shrubland on low-lying seasonally inundated areas, with a floristic assemblage that is generally restricted to the wet areas. A creekline crosses the Survey area at the northern end of Site 3 and in this area there is a degraded *Eucalyptus rudis* - *Melaleuca raphiophylla* woodland

- No Threatened Ecological Communities were identified within the Survey area or during the field survey. One DPaW listed Priority Ecological Community was recorded within the Survey area, this is the 'Swan Coastal Plain *Banksia attenuata*- *Banksia menziesii* woodlands' (Priority 3). The vegetation type 'Banksia woodlands' recorded in Site 1 and Site 2 is representative of this PEC, with 23.1 ha of this vegetation mapped within Site 1 and 33.3 ha within Site 2. This vegetation is also equivalent to the Priority 3 PEC '*Banksia* dominated woodlands on the Swan Coastal Plain Interim Biogeographic Regionalisation for Australia region'
- The Survey area (Sites 1-7) had a very high floristic diversity and 665 flora taxa (including subspecies and varieties) representing 75 families and 271 genera were recorded in the Survey area during the field survey. This total comprises 562 (84.5 %) native taxa and 103 (15.5 %) introduced taxa, as well as three planted species. Site 8 was less floristically diverse than the other sites as the majority of the road reserve was highly degraded
- The field survey did not record any Threatened flora taxa within the Survey area, however, 13 Priority-listed flora taxa were recorded. These were: *Grevillea synapheae* subsp. *minyulo* (Priority 1), *Lyginia excelsa* (Priority 1), *Chordifex reseminans* (Priority 2), *Guichenotia alba* (Priority 3), *Phlebocarya pilosissima* subsp. *pilosissima* (Priority 3), *Stylidium hymenocraspedum* (Priority 3), *Banksia dallanneyi* subsp. *pollostata* (Priority 4), *Conostephium magnum* (Priority 4), *Desmocladus elongatus* (Priority 4), *Diuris ?recurva* (Priority 4), *Grevillea rudis* (Priority 4), *Grevillea saccata* (Priority 4), *Hibbertia helianthemoides sensu lato*. (Priority 4)
- Six fauna habitat types were identified during the field survey including: Banksia woodland; mixed shrublands; low heath and shrubland; low lying shrublands and sedgeland; parkland cleared/Marri (*Corymbia calophylla*); and highly modified areas
- The native fauna habitat types recorded are not well-represented in the local region, given that historic broad scale clearing has resulted in a mostly cleared agricultural landscape with only isolated habitat remnants remaining. As a result, the fauna habitat present within the Survey area provides important linkage, facilitating landscape connectivity and providing for fauna dispersal between larger isolated bushland fragments
- Based on field surveys and a likelihood of occurrence assessment it was concluded that one fauna species of conservation significance (Carnaby's Black Cockatoo) is known to occur in the Survey area and four fauna species of conservation significance are likely to occur
- The woodlands, shrublands and heathlands habitat types within the Survey area provide high value foraging resources for the Carnaby's Black Cockatoo. There is 261.7 ha of foraging habitat for the Black Cockatoo in the Survey area. These habitat types occur in all eight sites. The Survey area is located within the known breeding range of the species and the foraging resources and potential breeding trees were recorded within Site 3 (along Minyulo Brook) and in Site 8. There were 195 potential breeding trees (i.e. Diameter at Breast Height (DBH) greater than 300/500 mm DBH) recorded within the Survey area: 59 within Site 3, 134 within Site 8 and one within Site 5 and one within Site 7.

Executive Summary

Main Roads Western Australia (Main Roads) proposes to upgrade various sections of the Brand Highway, Western Australia between SLK 74 to 150 (the Project Area). The Project Area is located within the Shire of Dandaragan and includes five sections along the Brand Highway including Study Area 1 (SLK 77.54 to 79.7), Study Area 2 (SLK 120 to 125.13), Study Area 3 (SLK 130.1 to 136), Study Area 4 (SLK 139 to 146.9) and Study Area 5 (SLK 148.8 to 152).

The proposed works aim to widen the seal lanes to 3.5 metres and widen sealed and unsealed shoulders to one metre on either side of the existing Brand Highway. To facilitate these works Main Roads requires clearing of some road-side vegetation.

Main Roads commissioned GHD Pty Ltd (GHD) to undertake a biological assessment to identify vegetation, flora and fauna constraints within the Project Area to assist in project design.

The desktop and field assessment determined:

- Environmentally Sensitive Areas (ESAs) were recorded within Study Areas 2, 3, 4 and 5. These are associated with the Badgingarra National Park which occurs immediately west of these Areas.
- Three conservation areas were identified within 20 km of the Study Areas. The Badgingarra National Park runs immediately adjacent to the western edge of the Brand Highway road reserve of Study Areas 4 and 5. An unnamed Conservation Park (Reserve 41986), south of Badgingarra National Park, runs adjacent to the western edge of the road reserve of Study Areas 2 and 3. The Namming Nature Reserve is located approximately 1.6 kms to the west of Study Area 1.
- There were eight vegetation types recorded in the Study Areas, most of which are well represented at a local government authority (LGA) level with greater than 30% remaining, with the exception of Vegetation Type 6 (Beard's Vegetation Association 1031 and 1035); and Vegetation Type 6 (Beard's Vegetation Association 1031). Vegetation Types 6 and 8 are underrepresented, with less than 30% remaining at an LGA level.
- One vegetation type, Vegetation Type 1, 'Banksia Woodland on White Sand' recorded in Study Area 1 was considered to align with the Priority Ecological Community (PEC) (Priority 3) "Banksia dominated woodlands of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) region". This vegetation type covers an extent of 7.5 ha of Study Area 1.
- A geomorphic wetland was recorded within Study Area 1. A buffer is recommended to protect vegetation associated with and dependant on the wetland.
- Four-hundred and forty flora taxa from 67 families were recorded from the Study Areas during the field surveys. This total comprised 375 (85 %) native taxa and 65 (15%) introduced taxa.

- The flora "Likelihood of Occurrence Assessment" concluded that two flora taxa listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Wildlife Conservation Act 1950* (WC Act) are considered "likely to occur" within the Study Areas. However, no EPBC Act- or WC Act-listed flora was recorded during the survey.
- The flora "Likelihood of Occurrence Assessment" also concluded that 46 Department of Parks and Wildlife (DPaW) listed Priority Flora are considered "likely to occur" or "possible to occur" within the Study Areas. The results of the field surveys indicated that 13 DPaW-listed Priority Flora were recorded from the Study Areas.
- Two conservation significant fauna were recorded from the Study Areas, including the Camaby's Black-Cockatoo (listed Endangered) and the Rainbow Bee-eater (listed as Migratory).
- There is approximately 202.7 hectares (ha) of suitable foraging habitat for Camaby's Black-Cockatoo within the Study Areas. This habitat comprises Marri-Banksia woodland, Banksia woodland, Low Banksia Woodland and Heath Shrubland, which provide high value foraging resources for the species, including Marri nuts and a diversity of proteaceous species. The habitat assessment identified four potential breeding trees with a suitable DBH throughout the Study Area 1; however, they did not contain any hollows. An approximate area of 3.3 ha of suitable roosting habitat occurs within Study Area 1 (Figure 6), however there was no evidence of roosting recorded during the survey.
- The Rainbow Bee-eater was recorded from Study Area 2, which is considered suitable non-breeding habitat for the Rainbow Bee-eater. The Rainbow Bee-eater's habitat is broadly represented in the local region, with 385,099 ha of potential habitat with 20 km of the Study Areas.
- The "likelihood of occurrence" assessment of Conservation Significant fauna taxa indicated by database searches concluded that one fauna taxon listed under the EPBC and WC Acts that is "likely to occur" (i.e. the Camaby's Black-Cockatoo) and four other conservation significant fauna taxa that are "likely to occur" or "possible to occur".
- An assessment was undertaken to determine whether the Project will have a significant impact upon Matters of National Environmental Significance (MNES) and it was determined that referral is recommended to the Australian Government for the following reasons:
 - Camaby's Black-Cockatoo foraging (and potential roosting) habitat was recorded within all of the Study Areas.
Important habitat covering an extent of 3.42 ha for the Endangered *Eucalyptus absita* (Badgingarra Box) was recorded within Study Area 5 and associated with the north-eastern portion of Vegetation Type 6..
 - Whilst it is unlikely that Study Area 1 offers important habitat to the Chuditch, due to the fragmentation of remnant vegetation and the entirety of the Study Area being surrounded by broad acre agriculture, it may form part of an ecological linkage between larger reserves (particularly the conservation reserves south and south-west of this Study Area).
- A preliminary assessment of the project against the Ten Clearing Principles has been undertaken and has determined that the Project is likely to be at variance with Principles (a), (b), (c) and (e). The Project maybe at variance with Principles (d) and (h) due to uncertainty with regard to the clearing extent. The Project is not likely to be at variance with Principles (f) and (i) if Main Roads develop a buffer zone for the geomorphic wetland to avoid clearing such vegetation in Study Area 1. GHD also recommends Main Roads avoid clearing of vegetation within and along the ephemeral drainage line in Study Area

Further details regarding the biological assessments are provided within TRIM as:

- Astron (2016) Brand Highway, Regans Ford Biological Survey (D16#715905)
- GHD (2016) Brand Highway Passing Lanes Biological Assessment (D16#350127)
- GHD (2016) Brand Highway, Western Australia-Variou Sections: SLK 74-150 Biological Survey

(D16#728602)

9. RECOMMENDATIONS FOR FURTHER ASSESSMENT

This project will be referred to the Commonwealth for assessment. It is expected to come back as “not a controlled action”. The project will then be referred to DER with an Offset Proposal, VMP and Submissions.

10. STAKEHOLDER CONSULTATION

No stakeholder consultation was required for this project. However further stakeholder consultation will be undertaken in line with MRWA CPS 818/12.

11. DECISION TO REFER

11.1 Referral to the Department of the Environment and Energy

The preliminary impact assessment determined the project is likely to have a significant impact on Matters of National Environmental Significance. This project involves the removal of up to 34.29ha of foraging habitat and up to 51 potential breeding trees significant to Carnaby’s Cockatoo and the removal of 15.2ha of vegetation that represents the Banksia Woodlands of the Swan Coastal Plain.

For this reason the project does require referral to the Commonwealth Department of the Environment and Energy.

11.2 Referral to the Environmental Protection Authority

The preliminary impact assessment determined the project is not likely to require referral to the WA Environmental Protection Authority.

This is 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.

12. CONSTRAINTS MAPPING

Figure 15 – Environmental and Heritage Constraints Associated with the Project Area Widening 65-68.63 SLK

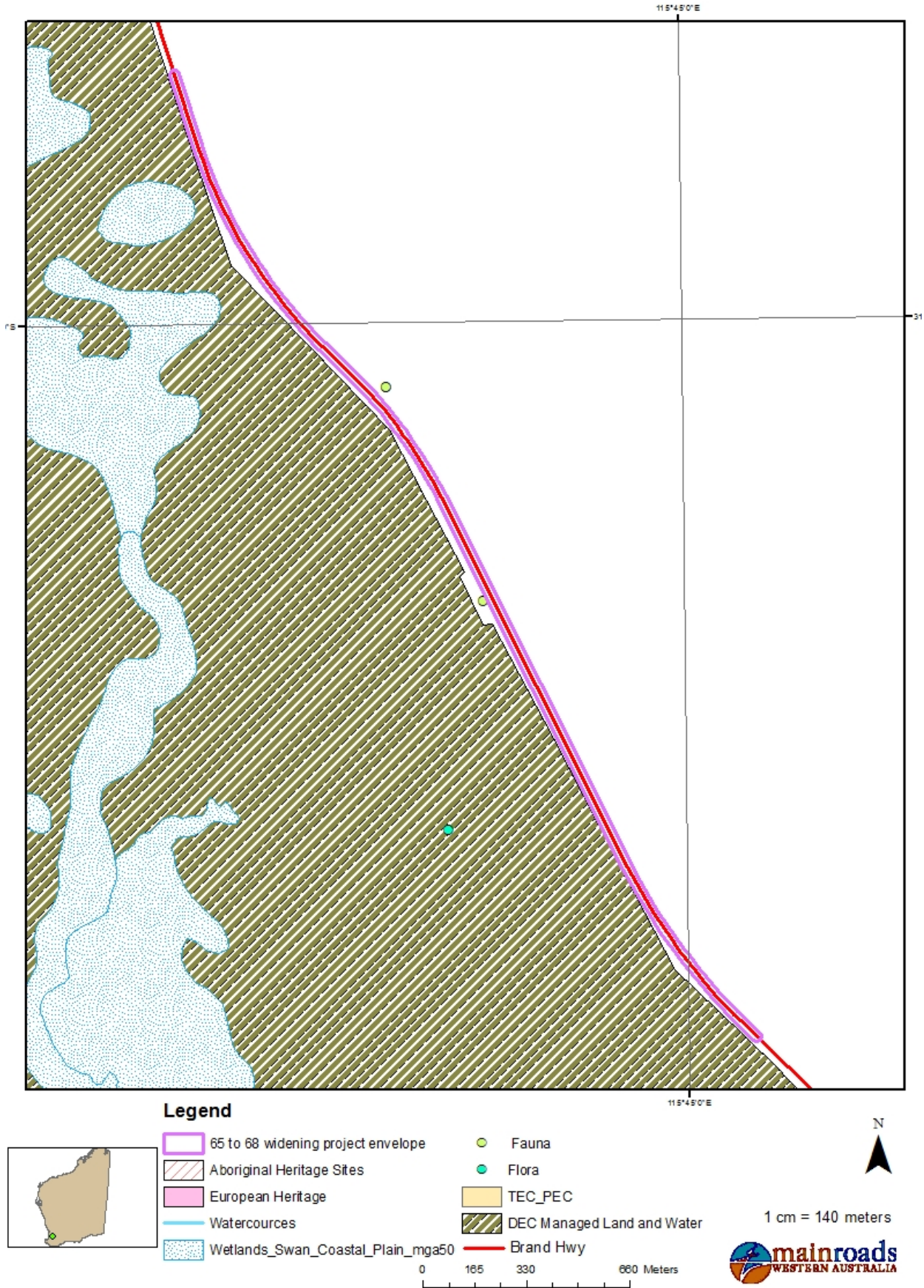


Figure 16-Environmental and Heritage Constraints Associated with the Project Area Widening 71.02-74 SLK

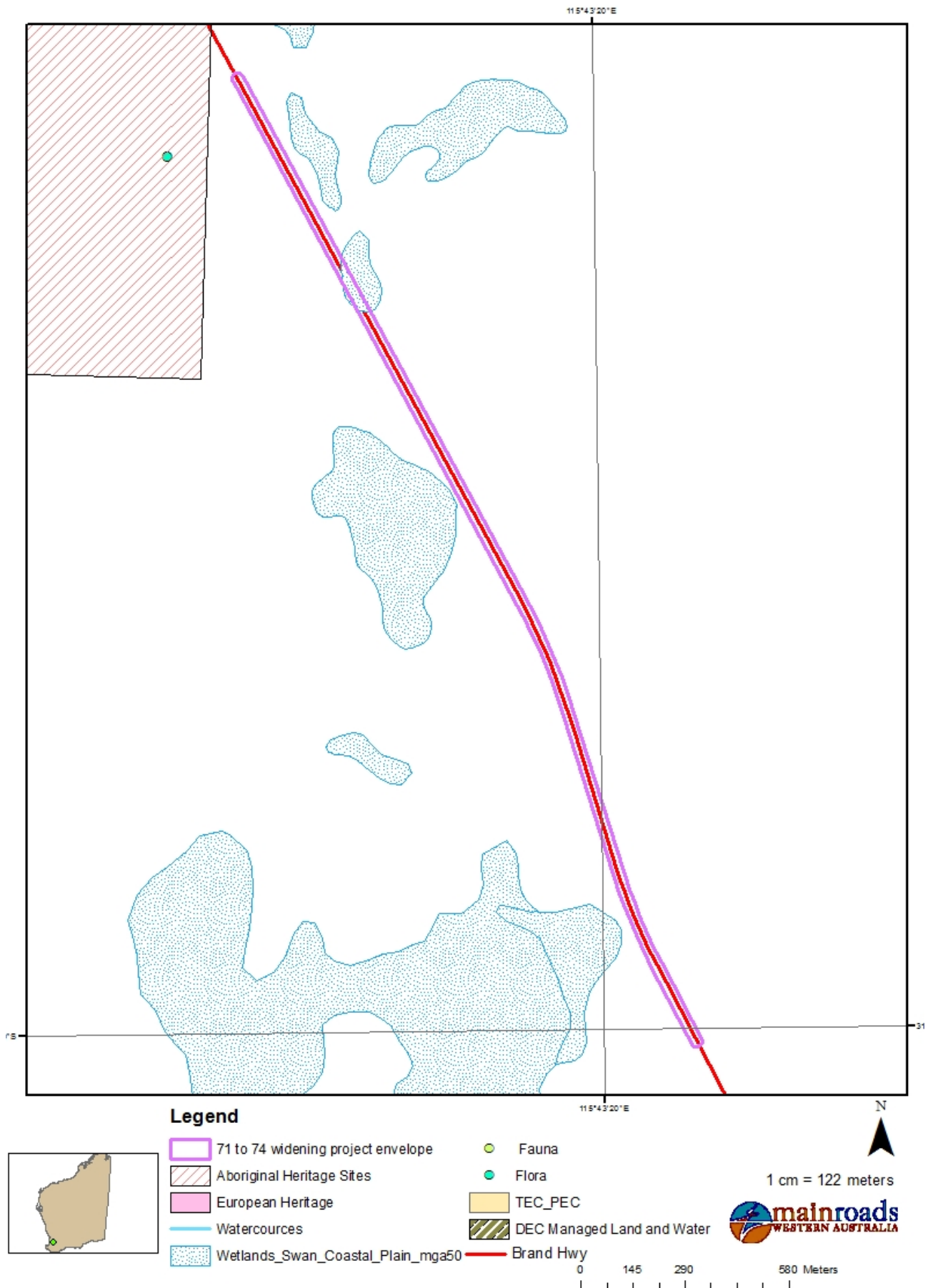


Figure 17- Environmental and Heritage Constraints Associated with the Project Area Widening 77.3-79.84 SLK

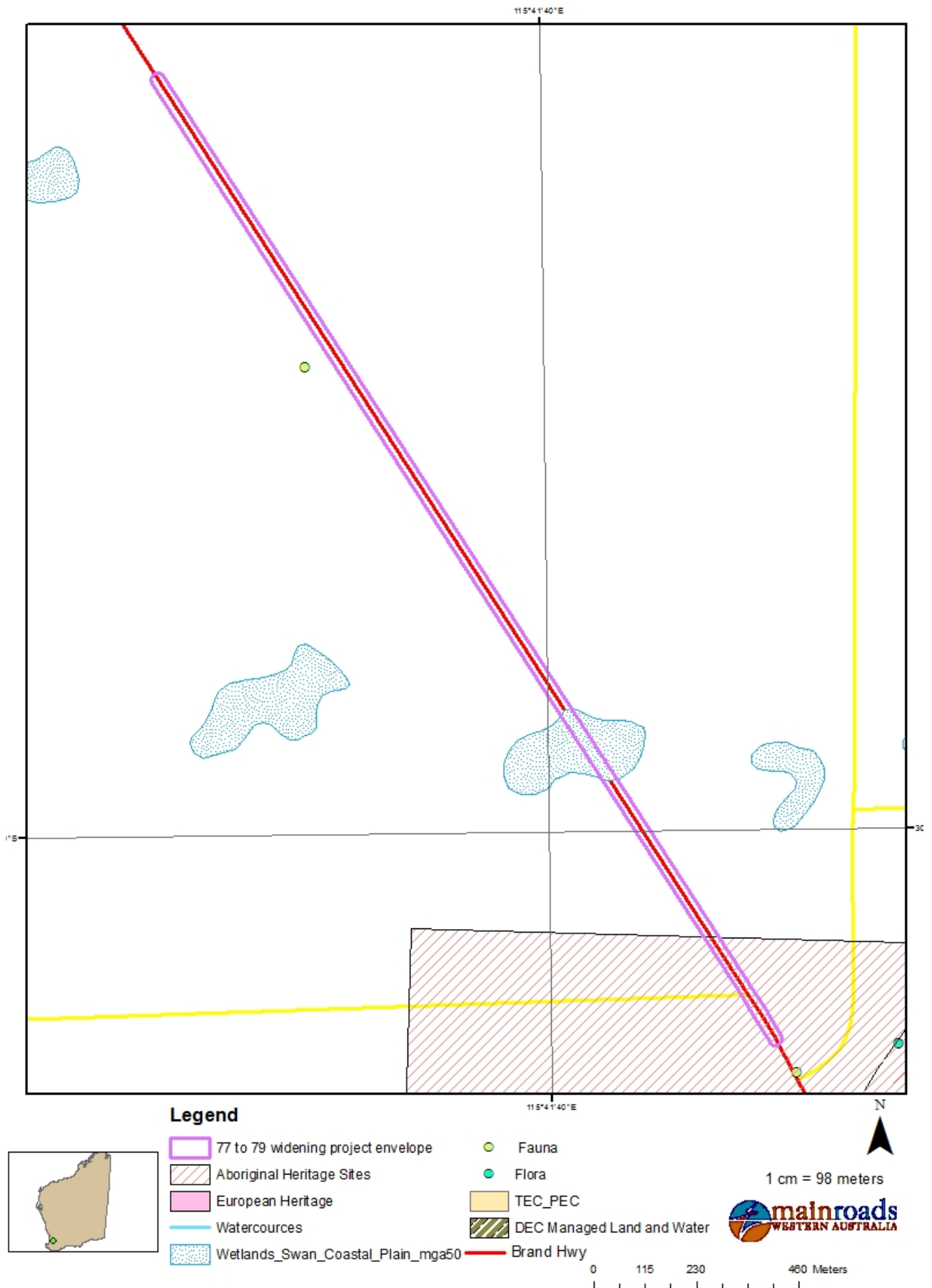


Figure 18-Environmental and Heritage Constraints Associated with the Project Area Widening 81.71-86 SLK

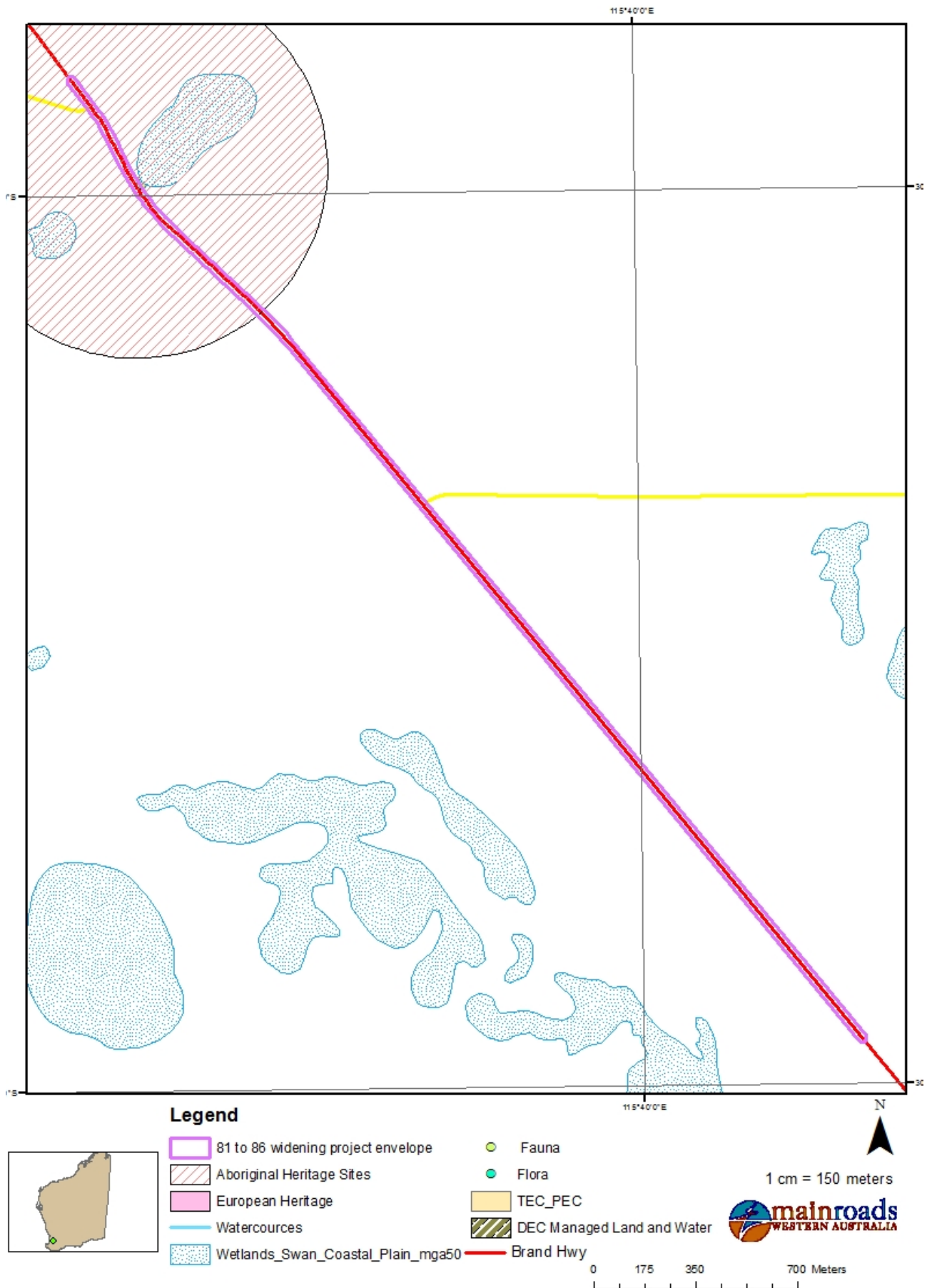


Figure 19-Environmental and Heritage Constraints Associated with the Project Area Widening 120-136 SLK

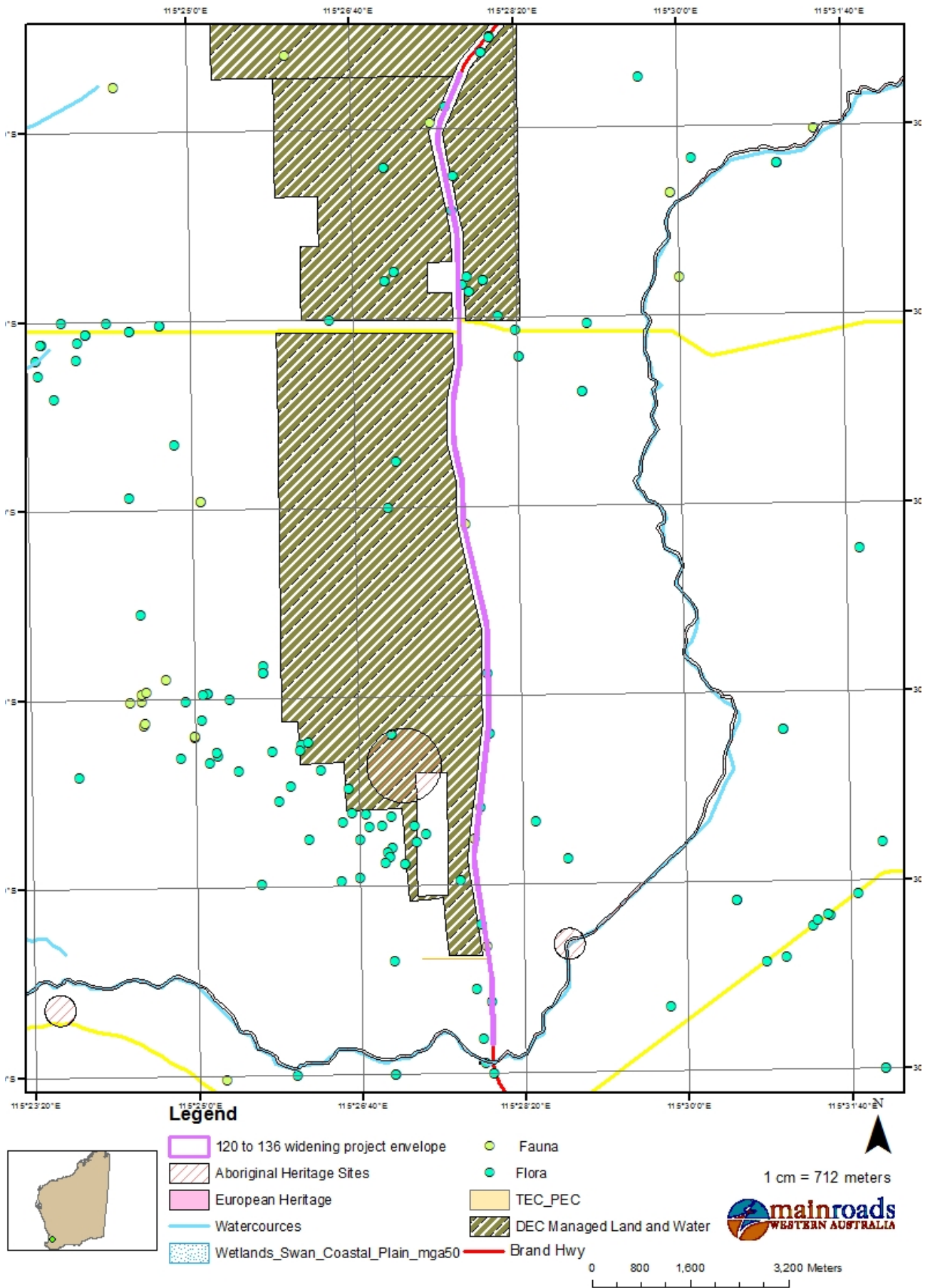


Figure 20-Environmental and Heritage Constraints Associated with the Project Area Widening 139-152 SLK

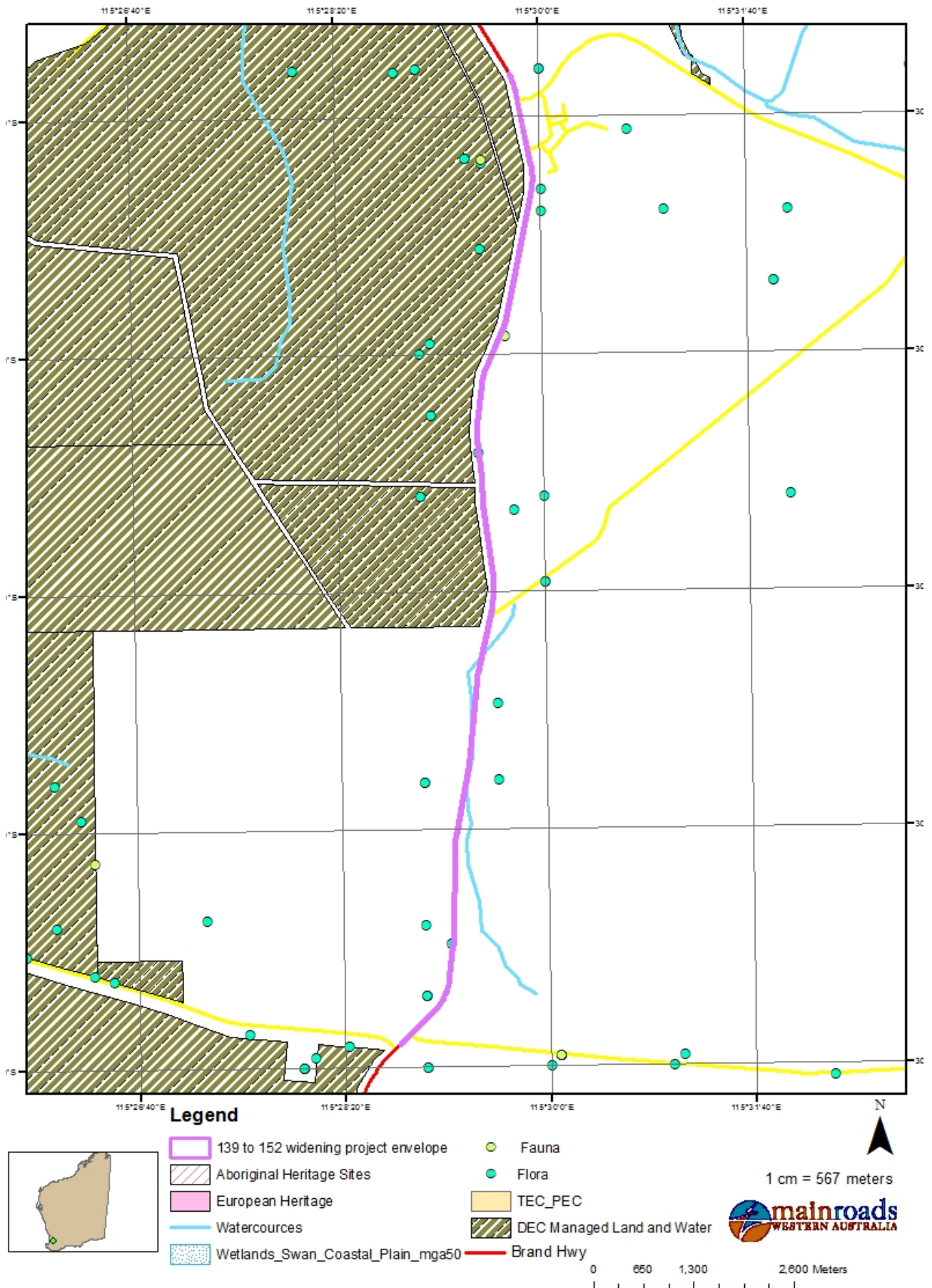


Figure 21-Environmental and Heritage Constraints Associated with the Project Area Northbound Passing Lane 34.83-36 SLK

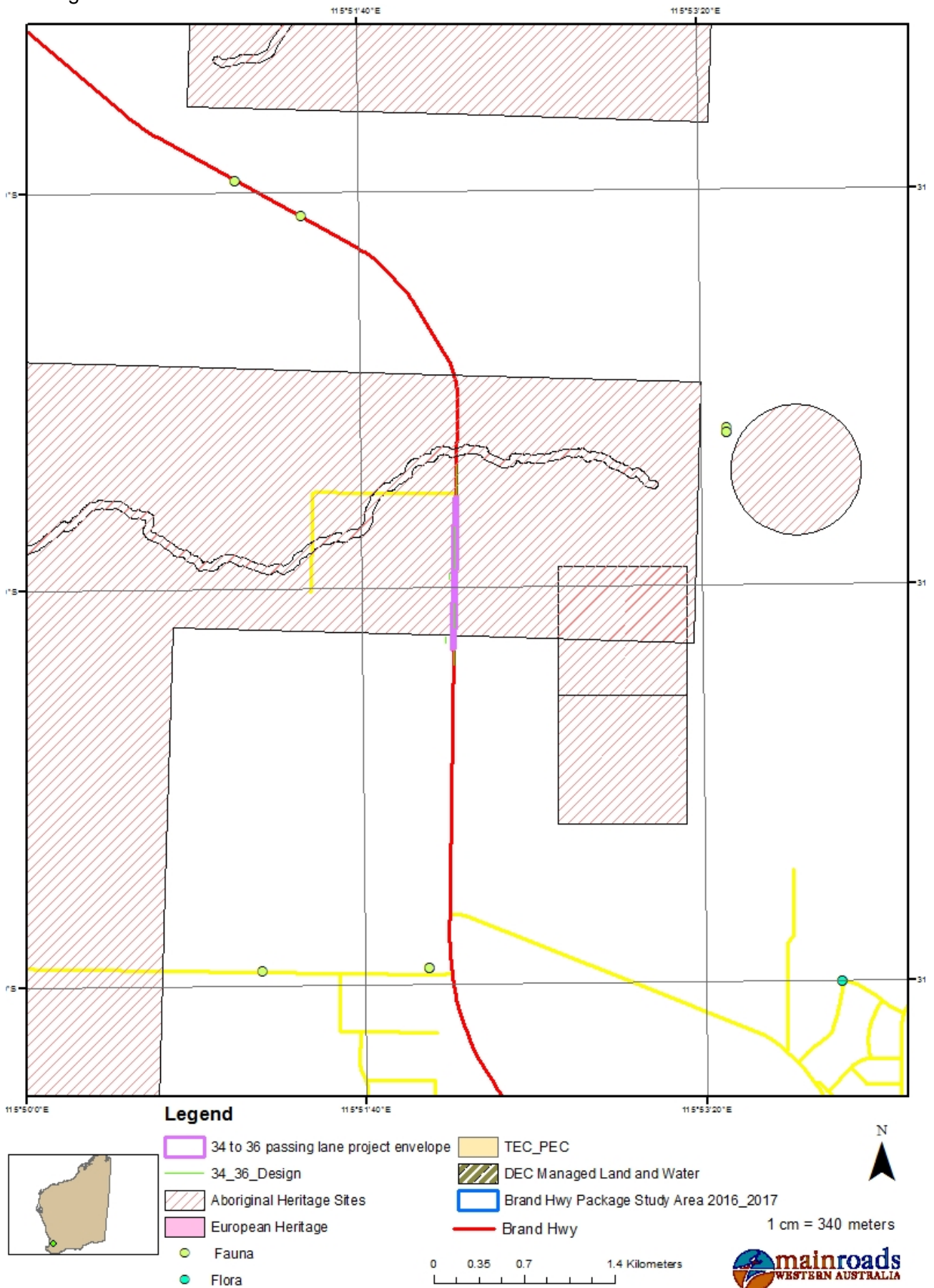


Figure 22-Environmental and Heritage Constraints Associated with the Project Area Southbound Passing Lane 68.63-71.02 SLK

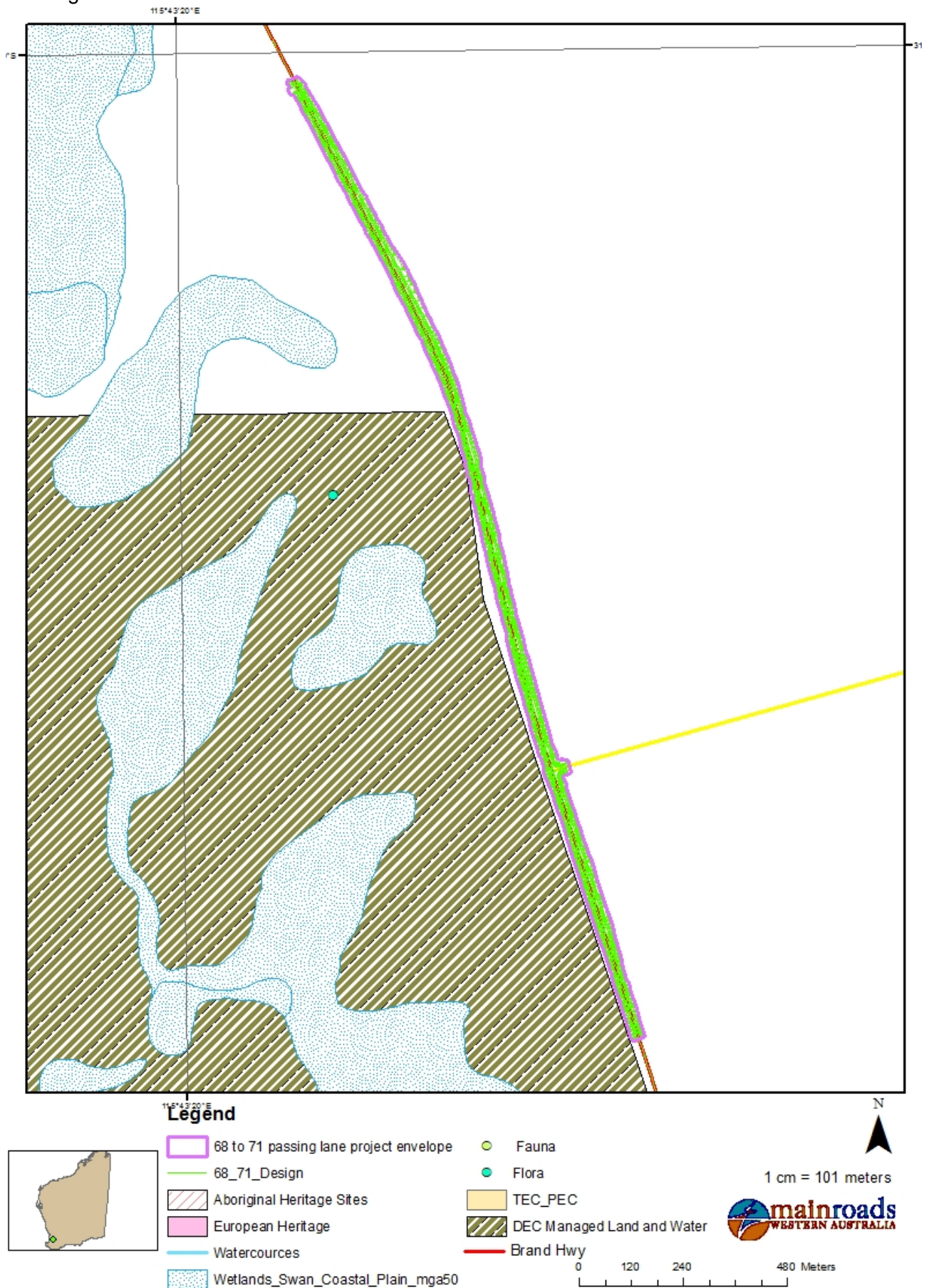


Figure 23-Environmental and Heritage Constraints Associated with the Project Area Northbound Passing Lane 79.84-81.71 SLK

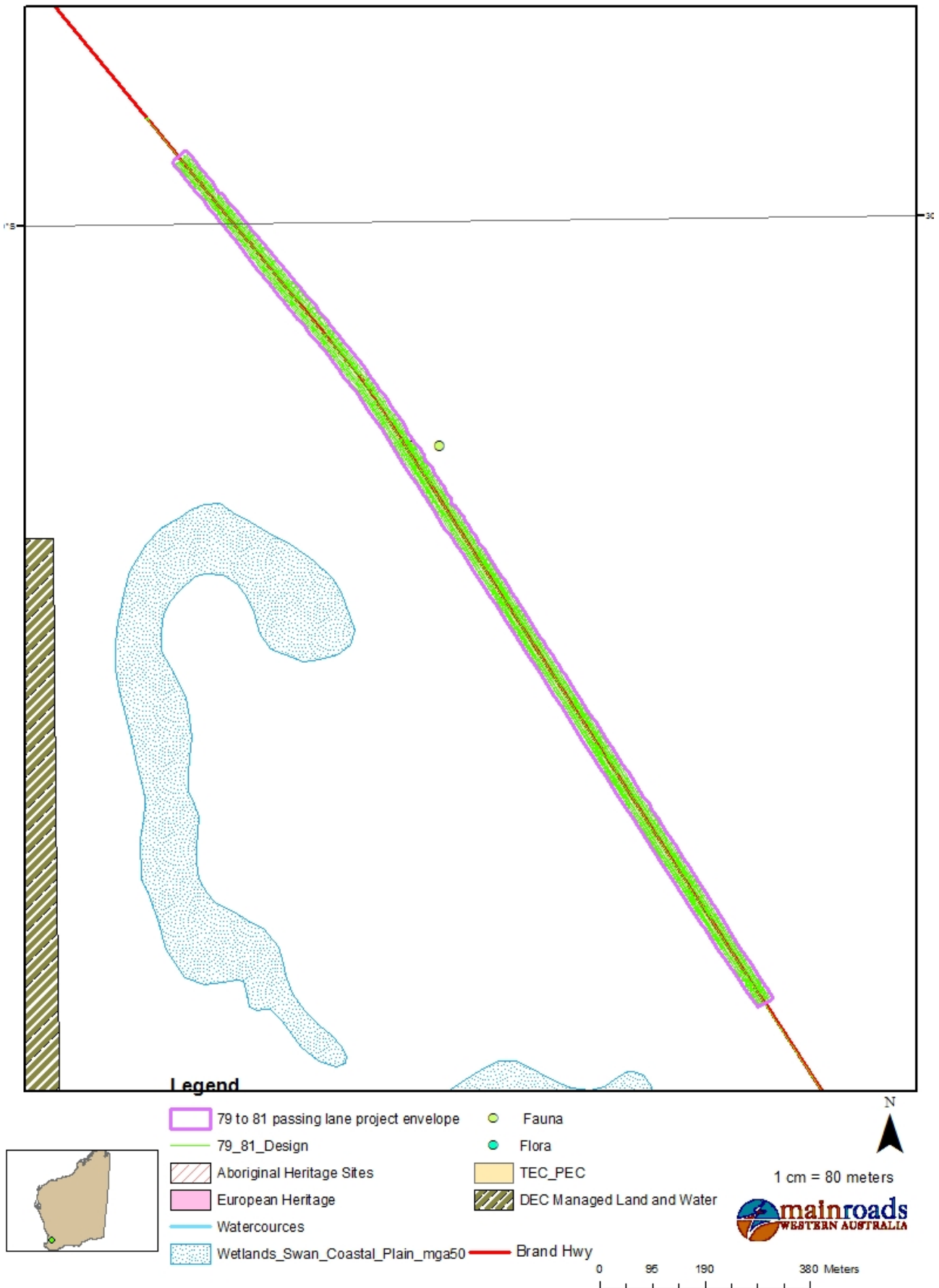


Figure 24-Environmental and Heritage Constraints Associated with the Project Area Southbound Passing Lane 111.08-112.9 SLK

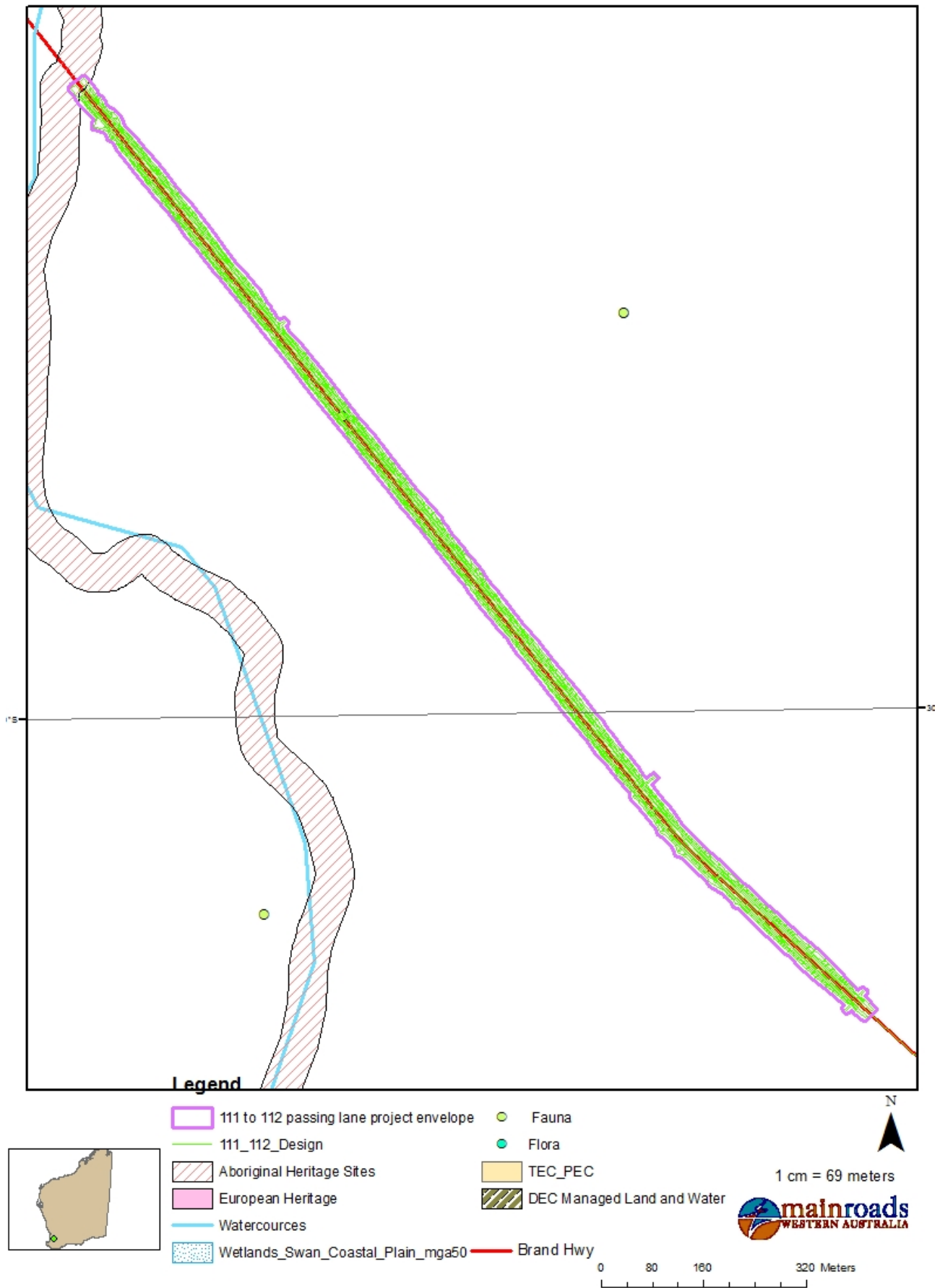


Figure 25-Environmental and Heritage Constraints Associated with the Project Area Northbound Passing Lane 113.6-115.94 SLK

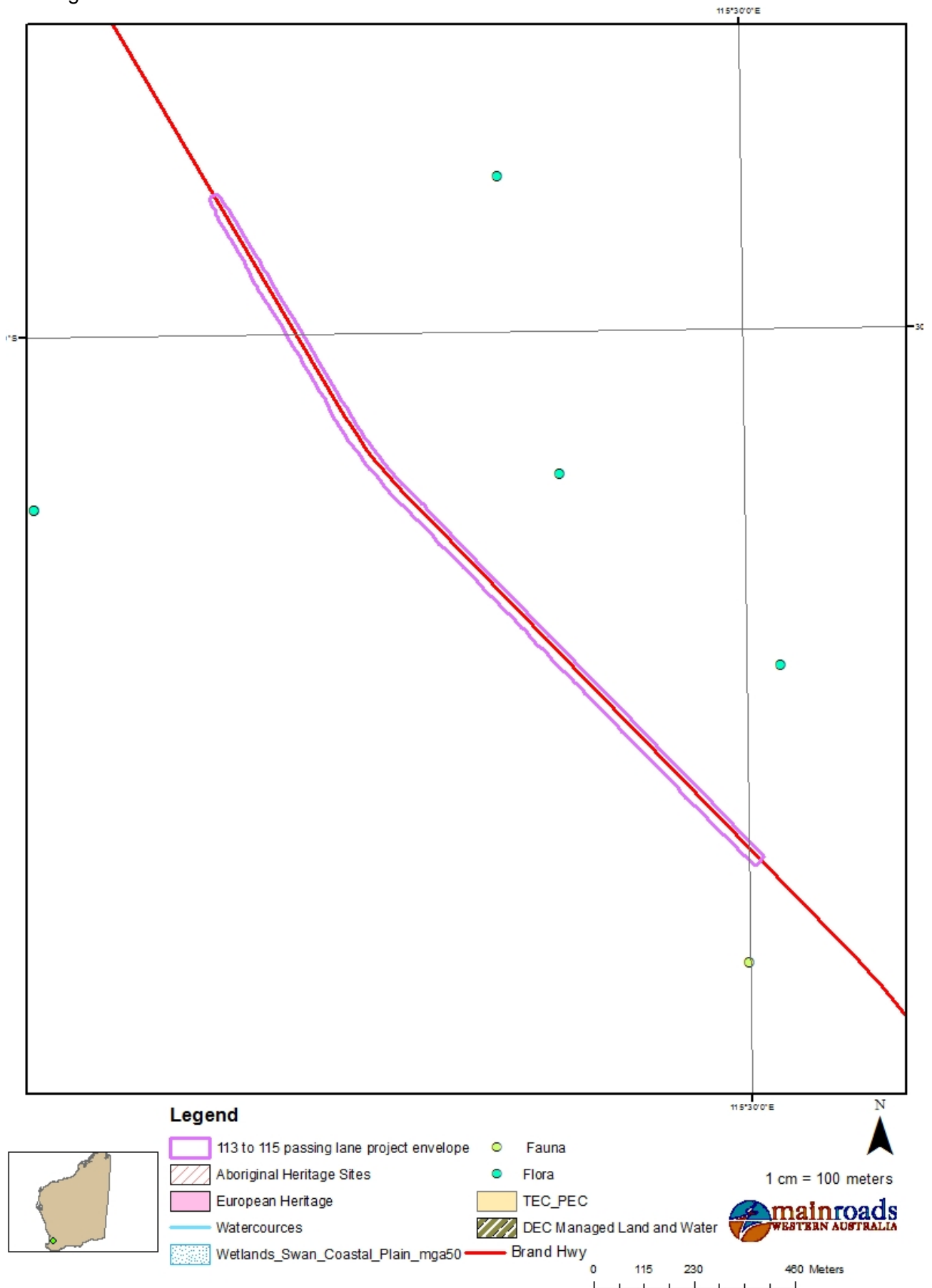
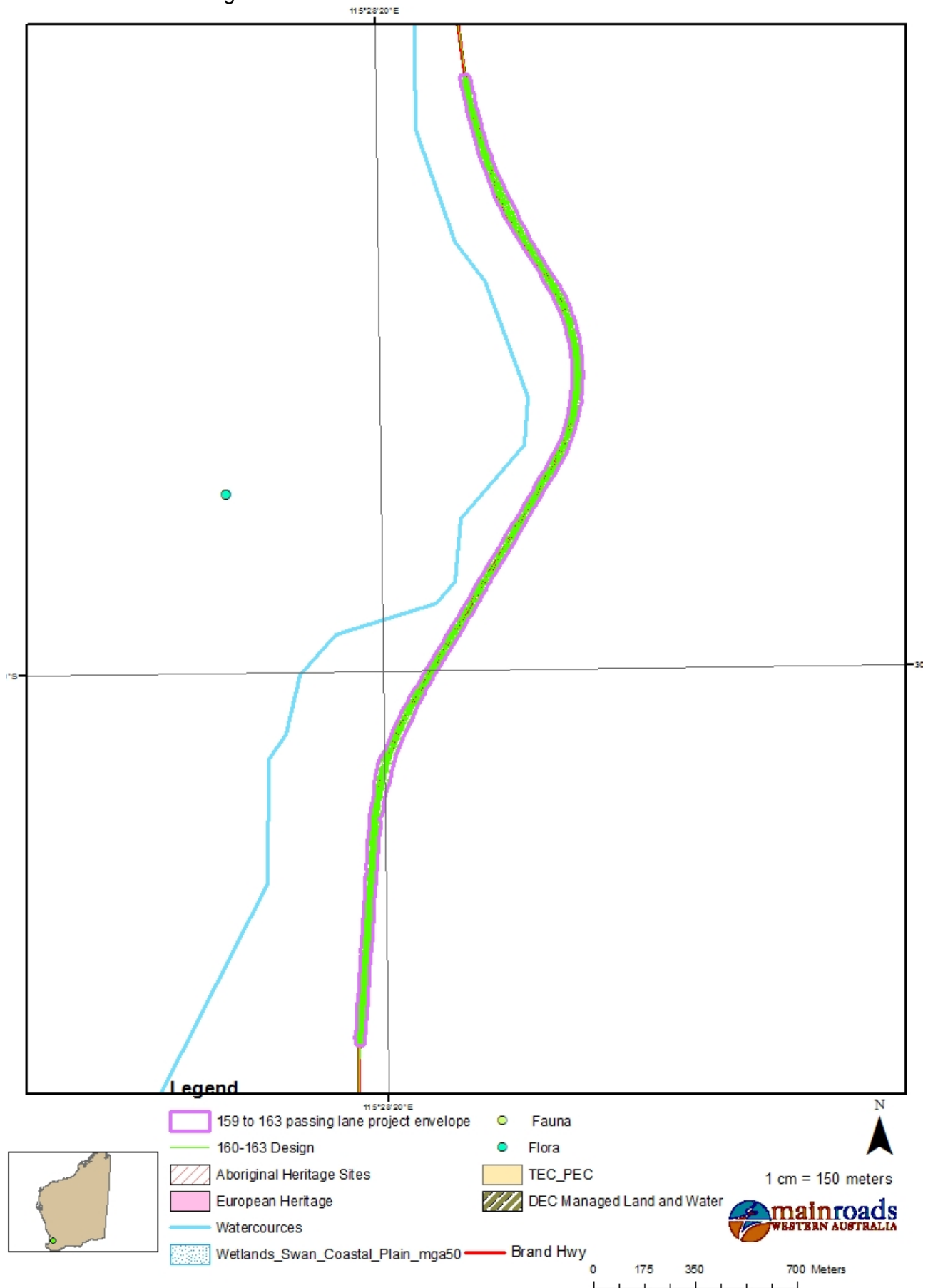


Figure 26-Environmental and Heritage Constraints Associated with the Project Area Northbound and southbound Passing Lane 159.8-163.6 SLK



13. REFERENCE

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


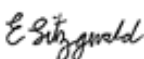
Appendix A

Environmental Low Impact Screening Checklist

Widening 65-68.63 SLK

Environmental Low Impact Screening Checklist (LISC)			
<p>NOTE: This checklist does not form part of the corporate Aboriginal Heritage Assessment and Approvals Process which is a separate process. Please refer to the Aboriginal Heritage Guideline. An Aboriginal Heritage Risk Assessment Checklist (AHRA) should be completed for all projects.</p> <p>The Low Impact Screening Checklist is part of the Main Roads corporate Environmental Assessment, Approval and Compliance Process. All proposed projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.</p> <p>Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items.</p> <p>Projects that have "No" ticked for all items are considered low impact projects and will not require further environmental assessment. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for any item are considered not low impact projects and will require further environmental assessment through a project Environmental Risk Assessment or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.</p> <p>The checklist must be reviewed by an Environment Officer (EO). The EO may decide that further environmental assessment is not warranted even if the Project Manager has ticked "Yes" to an item. The completed checklist must be submitted to Environment Branch (at LISCandAHRA@mainroads.wa.gov.au) for review and approval by a Senior Environment Officer. The EO and/or Project Manager will be advised within 5 business days if the LISC is accepted or not.</p>			
PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL			
Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>		
Region:	<i>Mid West-Gascoyne</i>		
Road Name (Sections):	<i>Brand Highway</i>		
Road Number:	<i>H004</i>		
Project Location (SLK):	<i>65.00 - 68.63</i>		
TRIM File (Container) Number:	<i>15/5219</i>		
SCOPE OF THE PROJECT			
<i>Widening of Road Formation to a Seal/Pavement configuration of 9/11, 2x3.5m lanes, 2x1m sealed shoulders and 2x1m unsealed shoulders.</i>			
PROJECTS INVOLVING CLEARING OF VEGETATION			
Estimated hectares of native vegetation clearing	2.2	Estimated hectares of non-native vegetation clearing	
LOW IMPACT SCREENING			
Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X


5.	The project is located within close proximity to a residential area and works are to occur outside normal working hours. <i>Normal working hours: Mon to Sat 7:00am - 7:00pm.</i>		X
6.	The project is a major redevelopment of an existing road (adding extra lanes or carriageways to increase traffic carrying capacity, or change in alignment) within 300 m of noise-sensitive premises.		X
7.	The project involves the demolition or removal of a bridge \geq 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		X
8.	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
9.	The project will change the local natural drainage regime or hydrology.		X
10.	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.	X	
11.	The project is located on or adjacent to a potential source of hazardous materials. <i>For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.</i>		X
12.	The project involves the clearing of native vegetation. <i>Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.</i>	X	
13.	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. <i>For example; revegetation, pine trees.</i>		X

		Completed by Project Manager	Completed by Environment Officer
Signature			
Name	MATTHEW BAKER	Emma Fitzgerald	
Job Title	Project Contract Manager	Environment Officer	
Date	17/10/2016	24/10/2016	


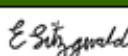
Conclusion: (Tick all relevant boxes)	Yes	No
Project requires further assessment	x	
Project requires further assessment through:		
<ul style="list-style-type: none"> Project Environmental Risk Assessment; PEIA/EIA; and/or Assessment for clearing under CPS 818 	x	
		x

Type of Clearing Approval:		
<input type="checkbox"/> CPS 818	<input type="checkbox"/> CPS817	<input checked="" type="checkbox"/> Project Specific Permit
<input type="checkbox"/> Schedule 6 Exemption	<input type="checkbox"/> Exemption Under Regulation 5 Item 22	
<input type="checkbox"/> Other Exemption(s) Under Regulations		

Additional Comments / Justification: (supporting Site Inspection Report Trim number and/or site visit photographs may be required)

Environmental Low Impact Screening Checklist (LISC)			
<p>NOTE: This checklist does not form part of the corporate Aboriginal Heritage Assessment and Approvals Process which is a separate process. Please refer to the Aboriginal Heritage Guideline. An Aboriginal Heritage Risk Assessment Checklist (AHRA) should be completed for all projects.</p> <p>The Low Impact Screening Checklist is part of the Main Roads corporate Environmental Assessment, Approval and Compliance Process. All proposed projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.</p> <p>Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items.</p> <p>Projects that have "No" ticked for all items are considered low impact projects and will not require further environmental assessment. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for any item are considered not low impact projects and will require further environmental assessment through a project Environmental Risk Assessment or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.</p> <p>The checklist must be reviewed by an Environment Officer (EO). The EO may decide that further environmental assessment is not warranted even if the Project Manager has ticked "Yes" to an item. The completed checklist must be submitted to Environment Branch (at LISCandAHRA@mainroads.wa.gov.au) for review and approval by a Senior Environment Officer. The EO and/or Project Manager will be advised within 5 business days if the LISC is accepted or not.</p>			
PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL			
Project Name:	Brand Highway Widen and Seal Shoulders		
Region:	Mid West-Gascoyne		
Road Name (Sections):	Brand Highway		
Road Number:	H004		
Project Location (SLK):	71.02 - 74.00 SLK		
TRIM File (Container) Number:	15/5219		
SCOPE OF THE PROJECT			
Widening of Road Formation to a Seal/Pavement configuration of 9/11, 2x3.5m lanes, 2x1m sealed shoulders and 2x1m unsealed shoulders.			
PROJECTS INVOLVING CLEARING OF VEGETATION			
Estimated hectares of native vegetation clearing	1.8	Estimated hectares of non-native vegetation clearing	
LOW IMPACT SCREENING			
Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X

5.	The project is located within close proximity to a residential area and works are to occur outside normal working hours. <i>Normal working hours: Mon to Sat 7:00am - 7:00pm.</i>		X
6.	The project is a major redevelopment of an existing road (adding extra lanes or carriageways to increase traffic carrying capacity, or change in alignment) within 300 m of noise-sensitive premises.		X
7.	The project involves the demolition or removal of a bridge \geq 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		X
8.	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
9.	The project will change the local natural drainage regime or hydrology.		X
10.	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.	X	
11.	The project is located on or adjacent to a potential source of hazardous materials. <i>For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.</i>		X
12.	The project involves the clearing of native vegetation. <i>Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.</i>	X	
13.	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. <i>For example; revegetation, pine trees.</i>		X

Completed by Project Manager		Completed by Environment Officer	
Signature		Signature	
Name	MATTHEW BAKER	Name	Emma Fitzgerald
Job Title	Project Contract Manager	Job Title	Environment Officer
Date	17/10/2016	Date	24/10/2016

Conclusion: (Tick all relevant boxes)	Yes	No
Project requires further assessment	X	
Project requires further assessment through:		
<ul style="list-style-type: none"> Project Environmental Risk Assessment; PEIA/EIA; and/or Assessment for clearing under CPS 818 	X	X
		X

Type of Clearing Approval:		
<input type="checkbox"/> CPS 818	<input type="checkbox"/> CPS817	<input checked="" type="checkbox"/> Project Specific Permit
<input type="checkbox"/> Schedule 6 Exemption	<input type="checkbox"/> Exemption Under Regulation 5 Item 22	
<input type="checkbox"/> Other Exemption(s) Under Regulations		

Additional Comments / Justification: (supporting Site Inspection Report Trim number and/or site visit photographs may be required)

Environmental Low Impact Screening Checklist (LISC)



NOTE: This checklist does not form part of the corporate Aboriginal Heritage Assessment and Approvals Process which is a separate process. Please refer to the [Aboriginal Heritage Guideline](#). An [Aboriginal Heritage Risk Assessment Checklist \(AHRA\)](#) should be completed for all projects.

The Low Impact Screening Checklist is part of the Main Roads corporate [Environmental Assessment, Approval and Compliance Process](#). All proposed projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.

Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items.

Projects that have "No" ticked for all items are considered **low impact** projects and will not require further environmental assessment. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for any item are considered **not low impact** projects and will require further environmental assessment through a [project Environmental Risk Assessment](#) or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.

The checklist must be reviewed by an Environment Officer (EO). The EO may decide that further environmental assessment is not warranted even if the Project Manager has ticked "Yes" to an item. The completed checklist must be submitted to Environment Branch (at LISCandAHRA@mainroads.wa.gov.au) for review and approval by a Senior Environment Officer. The EO and/or Project Manager will be advised within 5 business days if the LISC is accepted or not.

PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL

Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>
Region:	<i>Mid West-Gascoyne</i>
Road Name (Sections):	<i>Brand Highway</i>
Road Number:	<i>H004</i>
Project Location (SLK):	<i>77.30 - 79.84 SLK</i>
TRIM File (Container) Number:	<i>15/5219</i>

SCOPE OF THE PROJECT

Widening of Road Formation to a Seal/Pavement configuration of 9/11, 2x3.5m lanes, 2x1m sealed shoulders and 2x1m unsealed shoulders.


PROJECTS INVOLVING CLEARING OF VEGETATION

Estimated hectares of native vegetation clearing	1.6	Estimated hectares of non-native vegetation clearing	
--	-----	--	--

LOW IMPACT SCREENING

Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X

5.	The project is located within close proximity to a residential area and works are to occur outside normal working hours. <i>Normal working hours: Mon to Sat 7:00am - 7:00pm.</i>		X
6.	The project is a major redevelopment of an existing road (adding extra lanes or carriageways to increase traffic carrying capacity, or change in alignment) within 300 m of noise-sensitive premises.		X
7.	The project involves the demolition or removal of a bridge \geq 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		X
8.	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
9.	The project will change the local natural drainage regime or hydrology.		X
10.	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.	X	
11.	The project is located on or adjacent to a potential source of hazardous materials. <i>For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.</i>		X
12.	The project involves the clearing of native vegetation. <i>Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.</i>	X	
13.	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. <i>For example; revegetation, pine trees.</i>	?	


	Completed by Project Manager	Completed by Environment Officer
Signature		
Name	MATTHEW BAKER	
Job Title	Project Contract Manager	
Date	17/10/2016	



Conclusion: (Tick all relevant boxes)	Yes	No
Project requires further assessment	X	
Project requires further assessment through:		
<ul style="list-style-type: none"> Project Environmental Risk Assessment; PEIA/EIA; and/or Assessment for clearing under CPS 818 	X	
	X	
	x	

Type of Clearing Approval:		
<input checked="" type="checkbox"/> CPS 818	<input type="checkbox"/> CPS817	<input type="checkbox"/> Project Specific Permit
<input type="checkbox"/> Schedule 6 Exemption	<input type="checkbox"/> Exemption Under Regulation 5 Item 22	
<input type="checkbox"/> Other Exemption(s) Under Regulations		

Additional Comments / Justification: (supporting Site Inspection Report Trim number and/or site visit photographs may be required)

Environmental Low Impact Screening Checklist (LISC)			
<p>NOTE: This checklist does not form part of the corporate Aboriginal Heritage Assessment and Approvals Process which is a separate process. Please refer to the Aboriginal Heritage Guideline. An Aboriginal Heritage Risk Assessment Checklist (AHRA) should be completed for all projects.</p> <p>The Low Impact Screening Checklist is part of the Main Roads corporate Environmental Assessment, Approval and Compliance Process. All proposed projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.</p> <p>Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items. Projects that have "No" ticked for all items are considered low impact projects and will not require further environmental assessment. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for any item are considered not low impact projects and will require further environmental assessment through a project Environmental Risk Assessment or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.</p> <p>The checklist must be reviewed by an Environment Officer (EO). The EO may decide that further environmental assessment is not warranted even if the Project Manager has ticked "Yes" to an item. The completed checklist must be submitted to Environment Branch (at LISCandAHRA@mainroads.wa.gov.au) for review and approval by a Senior Environment Officer. The EO and/or Project Manager will be advised within 5 business days if the LISC is accepted or not.</p>			
PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL			
Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>		
Region:	<i>Mid West-Gascoyne</i>		
Road Name (Sections):	<i>Brand Highway</i>		
Road Number:	<i>H004</i>		
Project Location (SLK):	<i>81.71 – 86.00 SLK</i>		
TRIM File (Container) Number:	<i>15/5219</i>		
SCOPE OF THE PROJECT			
<i>Widening of Road Formation to a Seal/Pavement configuration of 9/11, 2x3.5m lanes, 2x1m sealed shoulders and 2x1m unsealed shoulders.</i>			
PROJECTS INVOLVING CLEARING OF VEGETATION			
Estimated hectares of native vegetation clearing	2.6	Estimated hectares of non-native vegetation clearing	
LOW IMPACT SCREENING			
Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quames.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X

CERK: 693

Environmental Low Impact Screening Checklist (LISC)

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The Low Impact Screening Checklist is part of the corporate Environmental Assessment and Approval Process (Refer Doc. No. 6707/001). All projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.

Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items. The completed checklist must be reviewed by an Environment Officer and a copy provided to the Environment Branch: LISC and AHRA (LISCandAHRA@mainroads.wa.gov.au)

Projects that have "No" ticked for **all** items are considered **low impact** projects and will not require further environmental investigation. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for **any** item are considered **not low impact** projects and will require further environmental investigation through a project Environmental Risk Assessment (ERA) or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.

The Main Roads' Environment Officer may decide that further environmental investigations are not warranted even if the Project Manager has ticked "Yes" to an item however the decision must be documented using the project ERA process.

Project details, Scope and Type of Clearing Approval					
Title	Brand Highway Road Formation and seal widening		Start-End SLK	120 to 136	TRIM Document No. 05/10186-04
Road Name & No.	Brand Hwy 4004	Region	MWG	Estimated hectares of native vegetation clearing	Estimated hectares of non-native vegetation clearing
Scope of the Project					
Widen existing seal to 9m / 11m configuration (Seal/Pavement) 2x3.5m lanes, 2x1m sealed shoulders, 2x1m unsealed shoulders Water + Materials Contractor Supplied					
Low Impact Screening					
Item No.	Item			Yes	No
1	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.				✓
2	The project involves the development of new or expansion of an existing road building material source extraction site. This does not include commercial pits / quarries.				✓
3	The project involves the development of new or expansion of an existing access track. For example; to material pits / water sources or for traffic flow during construction.				✓

Environmental Low Impact Screening Checklist (LISC)

4	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		✓
5	The project is located within close proximity to a residential area and works are to occur outside normal working hours. Normal working hours: Mon to Sat 7:00am - 7:00pm.		✓
6	The project involves the demolition or removal of a bridge ≥ 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		✓
7	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
8	The project will change the local natural drainage regime or hydrology.		X
9	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.		X
10	The project is located on or adjacent to a potential source of hazardous materials. For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.		X
11	The project involves the clearing of native vegetation. Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.	X	
12	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. For example; revegetation, pine trees.		?

Completed by **Project Manager** Signature Matt Baker Date 6/11/15
 Name MATT BAKER Title PM

Reviewed by **Environment Officer** Signature Anna Sutherland Date 13/11/15
 Name Anna Sutherland Title SEO

Conclusion: (Tick all relevant boxes)

	Yes	No
Project requires further investigation	X	
Project requires further investigation through:		
• Project Environmental Risk Assessment;		X
• PEIA/EIA; and/or	X	
• Assessment for clearing under CPS 818	X	

Type of Clearing Approval:

CPS 818 CPS817 Project Specific Permit

Schedule 6 Exemption

Exemption Under Regulation 5 Item 22

Other Exemption(s) Under Regulations

Additional Comments / Justification:

CORR: 694

Environmental Low Impact Screening Checklist (LISC)

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The Low Impact Screening Checklist is part of the corporate Environmental Assessment and Approval Process (Refer Doc. No. 6707/001). All projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.

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Project details, Scope and Type of Clearing Approval							
Title	Brand Highway Road Forman and Seal Widening			Start - End SLK	139 16 152	TRIM Document No.	05/10756
Road Name & No.	Brand Highway 4004	Region	MN 6	Estimated hectares of native vegetation clearing		Estimated hectares of non-native vegetation clearing	
Scope of the Project							
Widen existing seal to 9m/11m configuration (Seal / Pavement) 2x 3.5m lanes, 2x 1m sealed shoulders, 2x 1m unsealed shoulders Water + Materials Contractor supplied							
Low Impact Screening							
Item No.	Item			Yes	No		
1	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.				✓		
2	The project involves the development of new or expansion of an existing road building material source extraction site. This does not include commercial pits / quarries.				✓		
3	The project involves the development of new or expansion of an existing access track. For example; to material pits / water sources or for traffic flow during construction.				✓		

Environmental Low Impact Screening Checklist (LISC)

4	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		✓
5	The project is located within close proximity to a residential area and works are to occur outside normal working hours. Normal working hours: Mon to Sat 7:00am - 7:00pm.		✓
6	The project involves the demolition or removal of a bridge ≥ 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		✓
7	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
8	The project will change the local natural drainage regime or hydrology.		X
9	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.		X
10	The project is located on or adjacent to a potential source of hazardous materials. For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.		X
11	The project involves the clearing of native vegetation. Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.	Y	
12	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. For example; revegetation, pine trees.		?

Completed by **Project Manager** Signature Matt Baker Date 6/11/15
 Name MATT BAKER Title PM

Reviewed by **Environment Officer** Signature Anna Sutherland Date 13/11/15
 Name Anna Sutherland Title SEO

Conclusion: (Tick all relevant boxes)

	Yes	No
Project requires further investigation	Y	
Project requires further investigation through:		
• Project Environmental Risk Assessment;		X
• PEIA/EIA; and/or	Y	
• Assessment for clearing under CPS 818	Y	

Type of Clearing Approval:

CPS 818 CPS817 Project Specific Permit

Schedule 6 Exemption

Exemption Under Regulation 5 Item 22

Other Exemption(s) Under Regulations

Additional Comments / Justification:

Environmental Low Impact Screening Checklist (LISC)



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PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL

Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>
Region:	<i>Mid West-Gascoyne</i>
Road Name (Sections):	<i>Brand Highway</i>
Road Number:	<i>H004</i>
Project Location (SLK):	<i>34.83 – 36 SLK</i>
TRIM File (Container) Number:	<i>15/5219(development file)</i>

SCOPE OF THE PROJECT


Construction of a Northbound Passing Lane and overlay and widening of existing road including shoulder widening (Southbound)

PROJECTS INVOLVING CLEARING OF VEGETATION

Estimated hectares of native vegetation clearing	1.3	Estimated hectares of non-native vegetation clearing	
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LOW IMPACT SCREENING

Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X

Environmental Low Impact Screening Checklist (LISC)			
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PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL			
Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>		
Region:	<i>Mid West-Gascoyne</i>		
Road Name (Sections):	<i>Brand Highway</i>		
Road Number:	<i>H004</i>		
Project Location (SLK):	<i>68.63 – 71.02 SLK</i>		
TRIM File (Container) Number:	<i>15/5219 (development file)</i>		
SCOPE OF THE PROJECT			
<i>Construction of a Southbound Passing Lane and overlay and widening of existing road including shoulder widening (Northbound)</i>			
PROJECTS INVOLVING CLEARING OF VEGETATION			
Estimated hectares of native vegetation clearing	2.7	Estimated hectares of non-native vegetation clearing	
LOW IMPACT SCREENING			
Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quaries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X

Environmental Low Impact Screening Checklist (LISC)



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PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL

Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>
Region:	<i>Mid West-Gascoyne</i>
Road Name (Sections):	<i>Brand Highway</i>
Road Number:	<i>H004</i>
Project Location (SLK):	<i>79.84 – 81.71 SLK</i>
TRIM File (Container) Number:	<i>15/5219(development file)</i>

SCOPE OF THE PROJECT

Construction of a Northbound Passing Lane and overlay and widening of existing road including shoulder widening (Southbound)



PROJECTS INVOLVING CLEARING OF VEGETATION

Estimated hectares of native vegetation clearing	2.1	Estimated hectares of non-native vegetation clearing	
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LOW IMPACT SCREENING

Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X


5.	The project is located within close proximity to a residential area and works are to occur outside normal working hours. <i>Normal working hours: Mon to Sat 7:00am - 7:00pm.</i>		X
6.	The project is a major redevelopment of an existing road (adding extra lanes or carriageways to increase traffic carrying capacity, or change in alignment) within 300 m of noise-sensitive premises.		X
7.	The project involves the demolition or removal of a bridge ≥ 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		X
8.	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
9.	The project will change the local natural drainage regime or hydrology.		X
10.	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.	X	
11.	The project is located on or adjacent to a potential source of hazardous materials. <i>For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.</i>		X
12.	The project involves the clearing of native vegetation. <i>Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.</i>	X	
13.	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. <i>For example; revegetation, pine trees.</i>		X

Completed by Project Manager		Completed by Environment Officer	
Signature			
Name	MATTHEW BAKER	Emma Fitzgerald	
Job Title	Project Contract Manager	Environment Officer	
Date	18/10/2016	24/10/2016	

Conclusion: (Tick all relevant boxes)	Yes	No
Project requires further assessment	x	
Project requires further assessment through:		
<ul style="list-style-type: none"> Project Environmental Risk Assessment; PEIA/EIA; and/or Assessment for clearing under CPS 818 	x	x
		x

Type of Clearing Approval:
<input type="checkbox"/> CPS 818 <input type="checkbox"/> CPS817 <input checked="" type="checkbox"/> Project Specific Permit <input type="checkbox"/> Schedule 6 Exemption <input type="checkbox"/> <u>Exemption</u> Under Regulation 5 Item 22 <input type="checkbox"/> Other Exemption(s) Under Regulations

Additional Comments / Justification: (supporting Site Inspection Report Trim number and/or site visit photographs may be required)

Environmental Low Impact Screening Checklist (LISC)			
<p>NOTE: This checklist does not form part of the corporate Aboriginal Heritage Assessment and Approvals Process which is a separate process. Please refer to the Aboriginal Heritage Guideline. An Aboriginal Heritage Risk Assessment Checklist (AHRA) should be completed for all projects.</p> <p>The Low Impact Screening Checklist is part of the Main Roads corporate Environmental Assessment, Approval and Compliance Process. All proposed projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.</p> <p>Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items.</p> <p>Projects that have "No" ticked for all items are considered low impact projects and will not require further environmental assessment. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for any item are considered not low impact projects and will require further environmental assessment through a project Environmental Risk Assessment or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.</p> <p>The checklist must be reviewed by an Environment Officer (EO). The EO may decide that further environmental assessment is not warranted even if the Project Manager has ticked "Yes" to an item. The completed checklist must be submitted to Environment Branch (at LISCandAHRA@mainroads.wa.gov.au) for review and approval by a Senior Environment Officer. The EO and/or Project Manager will be advised within 5 business days if the LISC is accepted or not.</p>			
PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL			
Project Name:	Brand Highway Widen and Seal Shoulders		
Region:	Mid West-Gascoyne		
Road Name (Sections):	Brand Highway		
Road Number:	H004		
Project Location (SLK):	111.08 – 112.99 SLK		
TRIM File (Container) Number:	15/5219(development file)		
SCOPE OF THE PROJECT			
Construction of a Southbound Passing Lane and overlay and widening of existing road including shoulder widening (Northbound)			
PROJECTS INVOLVING CLEARING OF VEGETATION			
Estimated hectares of native vegetation clearing	2.2	Estimated hectares of non-native vegetation clearing	
LOW IMPACT SCREENING			
Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quaries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X

Environmental Low Impact Screening Checklist (LISC)



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PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL

Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>
Region:	<i>Mid West-Gascoyne</i>
Road Name (Sections):	<i>Brand Highway</i>
Road Number:	<i>H004</i>
Project Location (SLK):	<i>113.6 – 115.94 SLK</i>
TRIM File (Container) Number:	<i>15/5219(development file)</i>

SCOPE OF THE PROJECT

Construction of a Northbound Passing Lane and overlay and widening of existing road including shoulder widening (Southbound)



PROJECTS INVOLVING CLEARING OF VEGETATION

Estimated hectares of native vegetation clearing	2.2	Estimated hectares of non-native vegetation clearing	
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LOW IMPACT SCREENING

Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X


5.	The project is located within close proximity to a residential area and works are to occur outside normal working hours. <i>Normal working hours: Mon to Sat 7:00am - 7:00pm.</i>		X
6.	The project is a major redevelopment of an existing road (adding extra lanes or carriageways to increase traffic carrying capacity, or change in alignment) within 300 m of noise-sensitive premises.		X
7.	The project involves the demolition or removal of a bridge ≥ 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		X
8.	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
9.	The project will change the local natural drainage regime or hydrology.		X
10.	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.	X	
11.	The project is located on or adjacent to a potential source of hazardous materials. <i>For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.</i>		X
12.	The project involves the clearing of native vegetation. <i>Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.</i>	X	
13.	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. <i>For example; revegetation, pine trees.</i>		X

	Completed by Project Manager	Completed by Environment Officer
Signature		
Name	MATTHEW BAKER	Emma Fitzgerald
Job Title	Project Contract Manager	Environment Officer
Date	18/10/2016	24/10/2106



Conclusion: (Tick all relevant boxes)	Yes	No
Project requires further assessment	x	
Project requires further assessment through:		
<ul style="list-style-type: none"> Project Environmental Risk Assessment; PEIA/EIA; and/or Assessment for clearing under CPS 818 		x
	x	
		x

Type of Clearing Approval:		
<input type="checkbox"/> CPS 818	<input type="checkbox"/> CPS817	<input checked="" type="checkbox"/> Project Specific Permit
<input type="checkbox"/> Schedule 6 Exemption	<input type="checkbox"/> <u>Exemption</u> Under Regulation 5 Item 22	
<input type="checkbox"/> Other Exemption(s) Under Regulations		

Additional Comments / Justification: (supporting Site Inspection Report Trim number and/or site visit photographs may be required)

Environmental Low Impact Screening Checklist (LISC)			
<p>NOTE: This checklist does not form part of the corporate Aboriginal Heritage Assessment and Approvals Process which is a separate process. Please refer to the Aboriginal Heritage Guideline. An Aboriginal Heritage Risk Assessment Checklist (AHRA) should be completed for all projects.</p> <p>The Low Impact Screening Checklist is part of the Main Roads corporate Environmental Assessment, Approval and Compliance Process. All proposed projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.</p> <p>Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items.</p> <p>Projects that have "No" ticked for all items are considered low impact projects and will not require further environmental assessment. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for any item are considered not low impact projects and will require further environmental assessment through a project Environmental Risk Assessment or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.</p> <p>The checklist must be reviewed by an Environment Officer (EO). The EO may decide that further environmental assessment is not warranted even if the Project Manager has ticked "Yes" to an item. The completed checklist must be submitted to Environment Branch (at LISCandAHRA@mainroads.wa.gov.au) for review and approval by a Senior Environment Officer. The EO and/or Project Manager will be advised within 5 business days if the LISC is accepted or not.</p>			
PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL			
Project Name:	Brand Highway Widen and Seal Shoulders		
Region:	Mid West-Gascoyne		
Road Name (Sections):	Brand Highway		
Road Number:	H004		
Project Location (SLK):	126.2 – 128.38 SLK		
TRIM File (Container) Number:	15/5219 (development file)		
SCOPE OF THE PROJECT			
Construction of a Southbound Passing Lane and overlay and widening of existing road including shoulder widening (Northbound)			
PROJECTS INVOLVING CLEARING OF VEGETATION			
Estimated hectares of native vegetation clearing	2.5	Estimated hectares of non-native vegetation clearing	
LOW IMPACT SCREENING			
Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X

5.	The project is located within close proximity to a residential area and works are to occur outside normal working hours. <i>Normal working hours: Mon to Sat 7:00am - 7:00pm.</i>		X
6.	The project is a major redevelopment of an existing road (adding extra lanes or carriageways to increase traffic carrying capacity, or change in alignment) within 300 m of noise-sensitive premises.		X
7.	The project involves the demolition or removal of a bridge \geq 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		X
8.	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
9.	The project will change the local natural drainage regime or hydrology.		X
10.	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.	X	
11.	The project is located on or adjacent to a potential source of hazardous materials. <i>For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.</i>		X
12.	The project involves the clearing of native vegetation. <i>Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.</i>	X	
13.	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. <i>For example; revegetation, pine trees.</i>		X


	Completed by Project Manager	Completed by Environment Officer
Signature		
Name	MATTHEW BAKER	Emma Fitzgerald
Job Title	Project Contract Manager	Environment Officer
Date	18/10/2016	24/10/2016





Conclusion: (Tick all relevant boxes)	Yes	No
Project requires further assessment	x	
Project requires further assessment through:		
<ul style="list-style-type: none"> Project Environmental Risk Assessment; PEIA/EIA; and/or Assessment for clearing under CPS 818 	x	
		x

Type of Clearing Approval:		
<input type="checkbox"/> CPS 818	<input type="checkbox"/> CPS817	<input checked="" type="checkbox"/> Project Specific Permit
<input type="checkbox"/> Schedule 6 Exemption	<input type="checkbox"/> Exemption Under Regulation 5 Item 22	
<input type="checkbox"/> Other Exemption(s) Under Regulations		

Additional Comments / Justification: (supporting Site Inspection Report Trim number and/or site visit photographs may be required)

Environmental Low Impact Screening Checklist (LISC)			
<p>NOTE: This checklist does not form part of the corporate Aboriginal Heritage Assessment and Approvals Process which is a separate process. Please refer to the Aboriginal Heritage Guideline. An Aboriginal Heritage Risk Assessment Checklist (AHRA) should be completed for all projects.</p> <p>The Low Impact Screening Checklist is part of the Main Roads corporate Environmental Assessment, Approval and Compliance Process. All proposed projects and associated activities are to be screened to identify those that are low impact. Activities (e.g. extraction of road building materials) that are not included in the project scope during initial screening must be screened separately.</p> <p>Project Managers are required to complete this form by filling in all blank cells and ticking "Yes" or "No" to all items. Projects that have "No" ticked for all items are considered low impact projects and will not require further environmental assessment. These projects are to be implemented using the standard clauses in the Tender Document Process or delivery arrangement equivalent (e.g. Integrated Service Arrangement environmental controls). Projects that have "Yes" ticked for any item are considered not low impact projects and will require further environmental assessment through a project Environmental Risk Assessment or a Preliminary/Environmental Impact Assessment (PEIA/EIA) and/or a Preliminary/Clearing Impact Assessment (PCIA/CIA). These projects must be implemented using an Environmental Management Plan with project specific clauses inserted into Tender Document Process or delivery method equivalent.</p> <p>The checklist must be reviewed by an Environment Officer (EO). The EO may decide that further environmental assessment is not warranted even if the Project Manager has ticked "Yes" to an item. The completed checklist must be submitted to Environment Branch (at LISCandAHRA@mainroads.wa.gov.au) for review and approval by a Senior Environment Officer. The EO and/or Project Manager will be advised within 5 business days if the LISC is accepted or not.</p>			
PROJECT DETAILS, SCOPE AND TYPE OF CLEARING APPROVAL			
Project Name:	<i>Brand Highway Widen and Seal Shoulders</i>		
Region:	<i>Mid West-Gascoyne</i>		
Road Name (Sections):	<i>Brand Highway</i>		
Road Number:	<i>H004</i>		
Project Location (SLK):	<i>159.8 – 163.71 SLK</i>		
TRIM File (Container) Number:	<i>15/5219 (development file)</i>		
SCOPE OF THE PROJECT			
<i>Construction of a North and Southbound Passing Lane including overlay and widening of existing road.</i>			
PROJECTS INVOLVING CLEARING OF VEGETATION			
Estimated hectares of native vegetation clearing	6	Estimated hectares of non-native vegetation clearing	
LOW IMPACT SCREENING			
Item No.	Item	Yes	No
1.	The project involves the development of a new road or a new road reserve or the expansion of an existing road reserve.		X
2.	The project involves the development of a new or expansion of an existing road building material source extraction site. <i>This does not include commercial pits / quarries.</i>		X
3.	The project involves the development of new or expansion of an existing access track. <i>For example; to material pits / water sources or for traffic flow during construction.</i>		X
4.	The project involves the development of new or the expansion of an existing pedestrian or cycle pathways.		X
5.	The project is located within close proximity to a residential area and works are to occur outside normal working hours. <i>Normal working hours: Mon to Sat 7:00am - 7:00pm.</i>		X

6.	The project is a major redevelopment of an existing road (adding extra lanes or carriageways to increase traffic carrying capacity, or change in alignment) within 300 m of noise-sensitive premises.		X
7.	The project involves the demolition or removal of a bridge ≥ 60 years old, a building, a heritage garden, sign or plaque indicative of a heritage site.		X
8.	The project passes over, adjoins or drains directly into a wetland or watercourse.		X
9.	The project will change the local natural drainage regime or hydrology.		X
10.	The project involves dewatering, drawing water from an existing bore or surface water body, installation of a new or alteration of an existing water bore.	X	
11.	The project is located on or adjacent to a potential source of hazardous materials. <i>For example; petrol station, industrial, waste disposal, landfill or acid sulphate soil site.</i>		X
12.	The project involves the clearing of native vegetation. <i>Clearing includes pruning which severs stems or trunks. Native vegetation includes all indigenous aquatic and terrestrial vegetation, dead or alive, and planted vegetation if it was done under a legislative requirement or for biodiversity purposes.</i>	X	
13.	The project involves the clearing of non-native vegetation that is suitable feeding, nesting or roosting habitat for black cockatoo species. <i>For example; revegetation, pine trees.</i>		X

	Completed by Project Manager	Completed by Environment Officer
Signature		
Name	MATTHEW BAKER	Emma Fitzgerald
Job Title	Project Contract Manager	Environment Officer
Date	18/10/2016	24/10/2016



Conclusion: (Tick all relevant boxes)	Yes	No
Project requires further assessment	X	
Project requires further assessment through:		
<ul style="list-style-type: none"> Project Environmental Risk Assessment; PEIA/EIA; and/or Assessment for clearing under CPS 818 	X	X
		X

Type of Clearing Approval:		
<input type="checkbox"/> CPS 818	<input type="checkbox"/> CPS817	<input checked="" type="checkbox"/> Project Specific Permit
<input type="checkbox"/> Schedule 6 Exemption	<input type="checkbox"/> Exemption Under Regulation 5 Item 22	
<input type="checkbox"/> Other Exemption(s) Under Regulations		

Additional Comments / Justification: (supporting Site Inspection Report Trim number and/or site visit photographs may be required)

Appendix B

Aboriginal Heritage Risk Assessment

Widening 65-68.63 SLK

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Brand Hwy Widening 65-68.63 SLK			TRIM FILE#	05/10786-07
Road Name & No.	Brand Hwy (H004)	Start SLK	65	End SLK	68.63
Total area of Proposed Ground Disturbance (Ha): 2.2		Proposed Ground Disturbance in Previously Disturbed areas (Ha): 2.2		Proposed Ground Disturbance in Undisturbed areas (Ha):	
Additional Project Information					
This project involves widening the current road formation to a 9 on 11m configuration.					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search *			
Description of Search area	A 500m buffer was applied to the project area		
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works	0
No. of Other Heritage Places in Search Area	Lodged:0	Insufficient Data:0	Stored Data:0
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological
Date of Surveys		Consultant used	
Additional Information (Attach AHIS Search PDF files)			
As this project will occur within previously disturbed road formation it is unlikely that any heritage sites will be impacted			

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
X	Moderately Altered Environment	Partially cleared lands, revegetated landscape
	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
X	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

ABORIGINAL HERITAGE RISK MATRIX

LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
Medium

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	✓	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities	✓	
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements	✓	
3	There are potential risks to Aboriginal Heritage associated with the project		✓
4	The project requires a S16 or s18 consent		✓

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420)*.

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by

Signature *E Fitzgerald*

Date 1/11/2016

Environment Officer

Name Emma Fitzgerald

Title EO

Signed by

Signature *M Baker*

Date 1/11/2016

Project Manager

Name Matthew Baker

Title PM

Reviewed by

Signature *Todd Craig*

Date 3/11/2016

Principal Heritage Officer

Name Todd Craig

Title PHO

Principal Heritage Officer's Comments
<p>Works will take place within areas that have already been subject to substantial previous disturbance from road construction, agriculture and other activities. As such, no archaeological sites are likely to be preserved. The works are also some distance from any geographical features likely to be associated with ethnographic Aboriginal sites, such as hills and water courses.</p> <p>No further heritage actions recommended.</p>

Widening 71.02-74 SLK

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Brand Hwy Widening 71.02-74 SLK			TRIM FILE#	05/10786-07
Road Name & No.	Brand Hwy (H004)	Start SLK	71.02	End SLK	74
Total area of Proposed Ground Disturbance (Ha): 1.8		Proposed Ground Disturbance in Previously Disturbed areas (Ha): 1.8		Proposed Ground Disturbance in Undisturbed areas (Ha):	
Additional Project Information					
This project involves widening the current road formation to a 9 on 11m configuration.					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search *			
Description of Search area	A 500m buffer was applied to the project area		
No. of Registered Sites in Search Area	1	No. of AHIS sites impacted by proposed works	0
No. of Other Heritage Places in Search Area	Lodged:0	Insufficient Data:0	Stored Data:0
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input checked="" type="checkbox"/> Ethnographic
	<input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Archaeological
Date of Surveys	2014	Consultant used	MCDONALD HALES & ASSOCIATES, QUARTERMAINE CONSULTANTS, RORY OCONNOR, TERRA ROSA
Additional Information (Attach AHIS Search PDF files)			
DAA 20008 Gingin Brook Waggy Site buffer overlies northern most corner of project. Unlikely to be impacted as project within previously disturbed road formation area.			

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
X	Moderately Altered Environment	Partially cleared lands, revegetated landscape
	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
X	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

ABORIGINAL HERITAGE RISK MATRIX

LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
Medium

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	✓	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities	✓	
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements	✓	
3	There are potential risks to Aboriginal Heritage associated with the project		✓
4	The project requires a S16 or s18 consent		✓

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420)*.

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by

Signature *Emma Fitzgerald*
 Name Emma Fitzgerald

Date 31/10/2016
 Title EO

Environment Officer

Signed by

Signature *Matthew Baker*
 Name Matthew Baker

Date 31/10/2016
 Title PM

Project Manager

Reviewed by

Signature *Todd Craig*
 Name Todd Craig

Date 2/11/2016
 Title PHO

Principal Heritage Officer

Principal Heritage Officer's Comments
<p>Works will take place within areas that have already been subject to substantial previous disturbance from road construction, agriculture and other activities. As such, no archaeological sites are likely to be preserved. The works are also some distance from any geographical features likely to be associated with ethnographic Aboriginal sites, such as hills and water courses.</p> <p>No further heritage actions recommended.</p>

Widening 77.3-79.84 SLK

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Brand Hwy Widening 77.3-79.84 SLK			TRIM FILE#	05/10786-07
Road Name & No.	Brand Hwy H004	Start SLK	77.3	End SLK	79.84
Total area of Proposed Ground Disturbance (Ha): 1.6		Proposed Ground Disturbance in Previously Disturbed areas (Ha):1.6		Proposed Ground Disturbance in Undisturbed areas (Ha):	
Additional Project Information					
Widening of Road Formation to a Seal/Pavement configuration of 9/11, 2x3.5m lanes, 2x1m sealed shoulders and 2x1m unsealed shoulders.					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search *			
Description of Search area	A 500m buffer was applied to the project area		
No. of Registered Sites in Search Area	1	No. of AHIS sites impacted by proposed works	0
No. of Other Heritage Places in Search Area	Lodged:0	Insufficient Data:0	Stored Data:1
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological
Date of Surveys		Consultant used	
Additional Information (Attach AHIS Search PDF files)			
DAA 20008 Gingin Brook Waggy Site buffer overlies southernmost corner of project. Unlikely to be impacted as project within previously disturbed road formation area and the project will not be impacted the watercourse associated with this site. Stored site DAA 18083 Moore River Pools buffer intersects the project but this site has been determined "not a site".			

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
X	Moderately Altered Environment	Partially cleared lands, revegetated landscape
	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
X	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
Medium

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	✓	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities	✓	
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements	✓	
3	There are potential risks to Aboriginal Heritage associated with the project		✓
4	The project requires a S16 or s18 consent		✓

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420)*.

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by

Signature *Emma Fitzgerald*
 Name Emma Fitzgerald

Date 1/11/2016
 Title EO

Environment Officer

Signed by

Signature *Matthew Baker*
 Name Matthew Baker

Date 1/11/2016
 Title PM

Project Manager

Reviewed by

Signature *Todd Craig*
 Name Todd Craig

Date 3/11/2016
 Title PHO

Principal Heritage Officer

Principal Heritage Officer's Comments

Works will take place within areas that have already been subject to substantial previous disturbance from road construction, agriculture and other activities. As such, no archaeological sites are likely to be preserved. The works are also some distance from any geographical features likely to be associated with ethnographic Aboriginal sites, such as hills and water courses.

No further heritage actions recommended.

Widening 81.71-86 SLK

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Brand Hwy Widening 81.71-86 SLK			TRIM FILE#	05/10786-07
Road Name & No.	Brand Hwy H004	Start SLK	81.71	End SLK	86
Total area of Proposed Ground Disturbance (Ha): 2.6		Proposed Ground Disturbance in Previously Disturbed areas (Ha): 2.6		Proposed Ground Disturbance in Undisturbed areas (Ha):	
Additional Project Information					
This project involves widening the current road formation to a 9 on 11m configuration.					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search *			
Description of Search area	A 500m buffer was applied to the project area		
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works	0
No. of Other Heritage Places in Search Area	Lodged:1	Insufficient Data:0	Stored Data:0
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological
Date of Surveys		Consultant used	
Additional Information (Attach AHIS Search PDF files)			
<p>There is one lodged site DAA 5214 (Artefacts/scatter) that intersects the northern km of the project area.</p> <p>As this project occurs within the existing maintenance zone it is unlikely that any unknown heritage sites will be impacted.</p>			

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
X	Moderately Altered Environment	Partially cleared lands, revegetated landscape
	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
X	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
Medium

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	✓	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist


Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities	✓	
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements	✓	
3	There are potential risks to Aboriginal Heritage associated with the project		✓
4	The project requires a S16 or s18 consent		✓

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420)*.

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by

Signature 
Name Emma Fitzgerald

Date 1/11/16
Title EO

Environment Officer

Signed by

Signature 
Name Matthew Baker

Date 1/11/2016
Title PM

Project Manager

Reviewed by

Signature 
Name Todd Craig

Date 15/11/2016
Title PHO

Principal Heritage Officer

Principal Heritage Officer's Comments

If works are confined to previously disturbed areas no further heritage actions are required.

C 200K - 643 004
FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972 (AHA)*. The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details				
Title	Road Formation and seal widening	TRIM FILE#	05/10786-05	
Road Name & No.	Brand Highway 1004	Start SLK	120	End SLK 136
Total area of Proposed Ground Disturbance (Ha):	Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):	
Additional Project Information				
Widen + seal to 9m/11m configuration 2x3.5m lanes, 2x1m sealed shoulder, 2x1m unsealed shoulder Water + Materials Contractor supplied.				

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search *				
Description of Search area	Shapefile of proposed works area.			
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works	0	
No. of Other Heritage Places in Search Area	Lodged: 0	Insufficient Data:	Stored Data:	
Entire Project Area Covered by Existing Surveys?	<input checked="" type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic	
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological	
Date of Surveys	Consultant used			
Additional Information (Attach AHIS Search PDF files)				

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
X	Moderately Altered Environment	Partially cleared lands, revegetated landscape
	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
X	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
<i>Medium</i>

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		X
3	There are potential risks to Aboriginal Heritage associated with the project		X
4	The project requires a S16 or s18 consent		Y

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement* (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Shana Sutherland</u>	Date <u>5/11/15</u> Title <u>SEO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>5/11/15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TOOD CRAIG</u>	Date <u>5/11/15</u> Title <u>PHO</u>

Principal Heritage Officer's Comments
<p>IF WORKS ARE CONFINED TO ROAD FORMATION + PREVIOUSLY DISTURBED MAINTENANCE ZONE THERE IS NO NO RISK OF WORKS IMPACTING ABORIGINAL SITES AS DEFINED BY SS OF THE AHA.</p> <p>NO FURTHER HERITAGE ACTIONS RECOMMENDED</p>

CER: 694.

DIST

FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Road Formation and Seal Widening		TRIM FILE#	CS/10786-05	
Road Name & No.	Brand Highway 1004	Start SLK	139	End SLK	152
Total area of Proposed Ground Disturbance (Ha):	Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):		
Additional Project Information					
Width + Seal to 9m/11m Configuration 2 x 3.5m Lanes, 2.1m sealed shoulder, 2 x 1m unsealed shoulder Water + Materials Contractor Supplied					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*			
Description of Search area	Shedfield of proposed works area SLK 139 10 152		
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works	0
No. of Other Heritage Places in Search Area	Lodged: 0	Insufficient Data: 0	Stored Data: 0
Entire Project Area Covered by Existing Surveys?	<input checked="" type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological
Date of Surveys	Consultant used		
Additional Information (Attach AHIS Search PDF files)			

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
X	Moderately Altered Environment	Partially cleared lands, revegetated landscape
	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
X	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
<i>Medium</i>

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	<input checked="" type="checkbox"/>	<input type="checkbox"/>



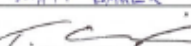
If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	There are potential risks to Aboriginal Heritage associated with the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	The project requires a S16 or s18 consent	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement* (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature  Name <u>Anna Sutherland</u>	Date <u>6/11/15</u> Title <u>SEO.</u>
Signed by Project Manager	Signature  Name <u>MATT BAKER</u>	Date <u>5/11/15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature  Name <u>TODD CRAIG</u>	Date <u>5/11/15</u> Title <u>PHO</u>

Principal Heritage Officer's Comments
<p>WORKS SHOULD BE CONFINED TO PREVIOUSLY DISTURBED MAINTENANCE ZONE AND ROAD FORMATION. IF THIS IS DONE, THERE IS NO RISK TO ABORIGINAL HERITAGE SITES AS DEFINED UNDER SS OF THE NTA AND NO FURTHER HERITAGE ACTIONS RECOMMENDED</p>

Northbound Passing Lane 34.83-36 SLK

CER: 632
FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Brand Highway Aboriginal Roadway Lane			TRIM FILE#	0511726 / 05
Road Name & No.	Brand Highway 11004	Start SLK	34.83 46 36	End SLK	36
Total area of Proposed Ground Disturbance (Ha):	0.5	Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):	0.5
Additional Project Information					
Construction of 1.2 Km Northbound Passing Lane Extension of Road formation by 4m width Water + Materials contractor supplied					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*					
Description of Search area	AHRA Shapefile 34.83 to 36.				
No. of Registered Sites in Search Area	1	No. of AHIS sites impacted by proposed works			
No. of Other Heritage Places in Search Area	Lodged: 0	Insufficient Data: 0	Stored Data: 0		
Entire Project Area Covered by Existing Surveys?	<input checked="" type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic		
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological		
Date of Surveys		Consultant used			
Additional Information (Attach AHIS Search PDF files)					

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
High

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		X
3	There are potential risks to Aboriginal Heritage associated with the project		
4	The project requires a S16 or s18 consent		

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement* (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Anna Sutholana</u>	Date <u>18/11/2015</u> Title <u>SEO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>17-11-15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TEDD COOPER</u>	Date <u>25/12/16</u> Title <u>PHO</u>

Principal Heritage Officer's Comments
<p>AREA HAS BEEN SUBJECT TO SUBSTANTIAL PREVIOUS DISTURBANCE BY ROAD CONSTRUCTION + ARCHAEOLOGICAL ACTIVITIES.</p> <p>THE LOOK AREA IS WITHIN THE BUFFER BOUNDARY OF DAA 2005 AND THE PROPOSED WORKS DO NOT IMPACT THE ACTUAL SITE.</p> <p>GIVEN THE LEVEL OF DISTURBANCE, NO FURTHER HERITAGE ACTIONS RECOMMENDED.</p>

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
High

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	X

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		X
3	There are potential risks to Aboriginal Heritage associated with the project		
4	The project requires a S16 or s18 consent		

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Anna Sutherland</u>	Date <u>18/11/2015</u> Title <u>SEO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>17-11-15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TOOD CHURCH</u>	Date <u>25/1/16</u> Title <u>PHO</u>

Principal Heritage Officer's Comments
<p>THE PROPOSED WORK AREA HAS BEEN SIGNIFICANTLY MODIFIED BY PREVIOUS ROAD CONSTRUCTION, FENCELINES AND TRACKS.</p> <p>DUES TO THE HIGH LEVEL OF PREVIOUS DISTURBANCE, NO FURTHER HERITAGE ACTIONS RECOMMENDED.</p>

Northbound Passing Lane 79.84-81.1 SLK

CERR: 634

SEN 18/11/2015

FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details				
Title	Byroad Highway Construction Passing Lane		TRIM FILE#	05/10716 05
Road Name & No.	Byroad Hwy 11004	Start SLK	79.84	End SLK 81.1
Total area of Proposed Ground Disturbance (Ha):	Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):	
Additional Project Information				
Construction of 1.3 Km Northbound Passing Lane Extension of Road formation by 4 m in width Water + Materials Contractor supplied				

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*				
Description of Search area	AHRA shapefile 79.84 to 81.1.			
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works	0	
No. of Other Heritage Places in Search Area	Lodged: 0	Insufficient Data: 0	Stored Data: 0	
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic	
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological	
Date of Surveys	Consultant used			
Additional Information (Attach AHIS Search PDF files)				

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAAMRWA Categories	DAAMRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
High

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		X
3	There are potential risks to Aboriginal Heritage associated with the project		
4	The project requires a S16 or s18 consent		

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Alana Sutherland</u>	Date <u>18/11/2015</u> Title <u>SEO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>17/11/15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TODD CRATA</u>	Date <u>25/11/16</u> Title <u>PHO</u>

Principal Heritage Officer's Comments

WORK AREA HAS BEEN SUBSTANTIALLY DISTURBED BY PREVIOUS ROAD CONSTRUCTION, FENCELINES AND TRACKS.
GIVEN THE DEGREE OF DISTURBANCE, IT IS UNLIKELY THAT PLACES THAT MEET THE DEFINITION OF SITES UNDER SS OF THE AHA WOULD BE PRESENT
NO FURTHER HERITAGE ACTIONS RECOMMENDED

Southbound Passing Lane 111.08-112.9 SLK

(CR: 636)
FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Southbound Passing Lane			TRIM FILE#	05/10/86.05
Road Name & No.	Brand Highway 11004	Start SLK	111.08	End SLK	112.9
Total area of Proposed Ground Disturbance (Ha):	1 ha	Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):	1 ha.
Additional Project Information					
Construction of 1.8km Southbound Passing Lane Extension of Road Formation by 4m width Water + Materials Contractor Supplied					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*					
Description of Search area	AHRA shapefile for 111.08 to 112.9				
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works		0	
No. of Other Heritage Places in Search Area	Lodged:	1	Insufficient Data:	Stored Data:	
Entire Project Area Covered by Existing Surveys?	<input checked="" type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic		
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological		
Date of Surveys	Consultant used				
Additional Information (Attach AHIS Search PDF files)					

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
Low

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		Y
3	There are potential risks to Aboriginal Heritage associated with the project		
4	The project requires a S16 or s18 consent		

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Anna Sutherland</u>	Date <u>18/11/2013</u> Title <u>SEO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>17-11-15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TODD CRANE</u>	Date <u>25/1/16</u> Title <u>PHO</u>

Principal Heritage Officer's Comments

PROPOSED WORK AREA HAS BEEN SUBSTANTIALLY MODIFIED BY PREVIOUS ROAD CONSTRUCTION, FENCELINES, TRACKS AND AGRICULTURAL ACTIVITIES. GIVEN THE HIGH DEGREE OF DISTURBANCE, IT IS HIGHLY UNLIKELY THAT ANY SITES AS DEFINED IN

55 OF THE AHA WILL BE PRESERVED.
NEARBY HERITAGE PLACE DAA 28326 SHOULD BE AVOIDED.
NO FURTHER HERITAGE ACTIONS RECOMMENDED.

Northbound Passing Lane 113.6-115.94 SLK

CARR: 102
FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972 (AHA)*. The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines, Version 3.0, 30 April 2013*.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Northbound Passing Lane			TRIM FILE#	05/1076 05
Road Name & No.	Braner Highway 1104	Start SLK	113.60	End SLK	115.94
Total area of Proposed Ground Disturbance (Ha):	1	Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):	1
Additional Project Information					
Construction of 1.9km Northbound Passing Lane Extension of Road Formation by 4m width Water + Materials contractor supplied					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*					
Description of Search area	AHRA Shapeline for 113.60 to 115.94				
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works		0	
No. of Other Heritage Places in Search Area	Lodged:	Insufficient Data:		Stored Data:	
Entire Project Area Covered by Existing Surveys?	<input checked="" type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic		
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological		
Date of Surveys	Consultant used				
Additional Information (Attach AHIS Search PDF files)					

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> walking, photography, filming for assessing project scope, vegetation and heritage; magnetic surveys; use of existing tracks, water courses; environmental monitoring; water and soils sampling using hand held instruments; fossicking using hand held instruments; spatial measurement; and scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> cultivation/grazing in areas previously cultivated/grazed; maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> maintenance of bridges that disturb river bed and/or banks; sampling using hand held rig or rig mounted on a light vehicle; new fire breaks; road widening within existing corridor; re-vegetation; temporary power lines, material stockpiles, camps, and surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> creation of new roads, borrow pits or tracks; new public access ways, bridges, culverts, flood remediation and erosion levies; intensive soil/core sampling; new pipelines; significant reclamation works; and major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> large-scale land clearing; material extraction; mechanical earthmoving, blasting; major construction works; and large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
HIGH

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		X
3	There are potential risks to Aboriginal Heritage associated with the project		X
4	The project requires a S16 or s18 consent		X

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Anna Sutherland</u>	Date <u>18/11/2015</u> Title <u>SEO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>17-11-15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TOOD CRAIG</u>	Date <u>4/2/16</u> Title <u>PHO</u>

Principal Heritage Officer's Comments

WHILE THE AREA HAS NOT PREVIOUSLY BEEN COMPLETELY SURVEYED, IT HAS BEEN SUBSTANTIALLY DISTURBED BY PREVIOUS ROAD CONSTRUCTION, TRACKS AND OTHER ACTIVITIES. GIVEN THE PREVIOUS DISTURBANCE, IT IS HIGHLY UNLIKELY THAT ANY PLACES TO WHICH SS OF THE AHA APPLIES WILL BE PRESENT. NO FURTHER HERITAGE ACTIONS RECOMMENDED.

Southbound Passing Lane 126.2-128.38 SLK

C ERK: 637

FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972 (AHA)*. The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*, Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details				
Title	Southbound Passing Lane		TRIM FILE#	03/1078065
Road Name & No.	Bursari Highway 11004	Start SLK	126.20	End SLK 128.38
Total area of Proposed Ground Disturbance (Ha):		Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):
Additional Project Information				
(Construction of 2.14km Passing Lane (Southbound) Extension of Road Formation by 4m width Water + Materials Contractor supplied				

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*				
Description of Search area	Shapefile for AHRA 126.20 to 128.38			
No. of Registered Sites in Search Area	<input type="radio"/>	No. of AHIS sites impacted by proposed works	<input type="radio"/>	
No. of Other Heritage Places in Search Area	Lodged: <input type="radio"/>	Insufficient Data: <input type="radio"/>	Stored Data: <input type="radio"/>	
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic	
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological	
Date of Surveys		Consultant used		
Additional Information (Attach AHIS Search PDF files)				

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
High

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		Y
3	There are potential risks to Aboriginal Heritage associated with the project		X
4	The project requires a S16 or s18 consent		X

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement* (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Anna Sutherland</u>	Date <u>18/11/2015</u> Title <u>SFO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>17-11-15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TODD CRUTE</u>	Date <u>4/2/16.</u> Title <u>PHO.</u>

Principal Heritage Officer's Comments

THE CONSTRUCTION AREA HAS BEEN SUBSTANTIALLY MODIFIED BY PREVIOUS ROAD+TRAIL CONSTRUCTION AND OTHER DISTURBANCES. BECAUSE OF THIS, IT IS HIGHLY UNLIKELY THAT THE PROPOSED WORKS WILL IMPACT A PLACE TO WHICH S5 OF THE AHA APPLIES. NO FURTHER HERITAGE ACTIONS RECOMMENDED.

Northbound Passing Lane 159.8-163.6 SLK

CORR: 658

FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972 (AHA)*. The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Northbound Passing Lane			TRIM FILE#	03/10786-03
Road Name & No.	Brand Hwy 41004	Start SLK	159.80	End SLK	163.60
Total area of Proposed Ground Disturbance (Ha): 1.7		Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha): 1.7	
Additional Project Information					
Construction of 3.8km Northbound Passing Lane Extension of Road Formation by 4m width Water + Materials Contractor Supplied					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*					
Description of Search area	AHRA shapefile for 159.80 - 163.60				
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works		0	
No. of Other Heritage Places in Search Area	Lodged: 0	Insufficient Data: 0		Stored Data: 0	
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic		
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological		
Date of Surveys		Consultant used			
Additional Information (Attach AHIS Search PDF files)					

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use: (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium,	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
High

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		X
3	There are potential risks to Aboriginal Heritage associated with the project	Y	
4	The project requires a S16 or s18 consent		Y

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement* (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u></u> Name <u>Anna Sutherland</u>	Date <u>18/11/2015</u> Title <u>SEC</u>
Signed by Project Manager	Signature <u></u> Name <u>MATT BAKER</u>	Date <u>17-11-15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u></u> Name <u>TODD CRAIG</u>	Date <u>4/2/16</u> Title <u>PHO</u>

Principal Heritage Officer's Comments
<p>THE CONSTRUCTION AREA HAS BEEN SUBSTANTIALLY MODIFIED BY PREVIOUS ROAD CONSTRUCTIONS + MAINTENANCE TRACKS AND AGRICULTURAL ACTIVITIES.</p> <p>BECAUSE OF THIS THERE IS A VERY LOW LIKELIHOOD THAT PLACES TO WHICH 55 OF THE AHA APPLIES WILL BE PRESENT. NO FURTHER HERITAGE ACTIONS RECOMMENDED.</p>

Southbound Passing Lane 160.1-163.4 SLK

C 888: 639

FORM – Aboriginal Heritage Risk Assessment

Introduction

The purpose of this Form is to identify the risk a project has to impact Aboriginal Heritage site(s) as defined by the *Aboriginal Heritage Act 1972* (AHA). The risk assessment is based on the Department of Aboriginal Affairs *Cultural Heritage Due Diligence Guidelines*. Version 3.0, 30 April 2013.

Environment Officers are required to complete all items of the Aboriginal Heritage Risk Assessment (AHRA) form. Project Managers are also required to acknowledge and sign the form. The completed and signed form must then be reviewed and approved by the Principal Heritage Officer (PHO). Once the AHRA form has been approved and signed by the (PHO) a copy should be provided to the Environment Branch using the inbox: LISC and AHRA (liscandahra@mainroads.wa.gov.au)

MRWA Project Information

Project Details					
Title	Southbound Passing Lane			TRIM FILE#	05110786-05
Road Name & No.	Brand Highway 4004	Start SLK	160.10	End SLK	163.40
Total area of Proposed Ground Disturbance (Ha):	1.4	Proposed Ground Disturbance in Previously Disturbed areas (Ha):		Proposed Ground Disturbance in Undisturbed areas (Ha):	1.4
Additional Project Information					
Construction of 3.3km Southbound Passing Lane Extension of Road Formation by 4m width Water + Materials Contractor supplied					

DAA Aboriginal Heritage Inquiry System – Search Results

AHIS Sites Search*					
Description of Search area	AHRA for shapefile for 159.80 + 0 163.60				
No. of Registered Sites in Search Area	0	No. of AHIS sites impacted by proposed works	6		
No. of Other Heritage Places in Search Area	Lodged: 0	Insufficient Data: 0	Stored Data: 0		
Entire Project Area Covered by Existing Surveys?	<input type="checkbox"/> Yes	Survey type:	<input type="checkbox"/> Ethnographic		
	<input checked="" type="checkbox"/> No		<input type="checkbox"/> Archaeological		
Date of Surveys		Consultant used			
Additional Information (Attach AHIS Search PDF files)					

*MRWA should exercise caution in areas where no surveys have been completed, or where surveys have only been completed for parts of the area where the proposed activity is intended. Caution is required because heritage surveys over only part of the land may not have identified all possible sites. Sole reliance on information contained in the AHIS Register may not be sufficient and consultation in the first instance with the PHO is recommended in these situations.

FORM – Aboriginal Heritage Risk Assessment

Previous Land Use (Indicate the most appropriate level with a X)		
X	DAA/MRWA Categories	DAA/MRWA Description
	Built Environment	Urban land use, towns, metropolitan region,
	Significantly Altered Environment	Cultivated and cleared land, farmland; rehabilitated landscape
	Moderately Altered Environment	Partially cleared lands, revegetated landscape
X	Minimally Altered Environment	Urban bushland, regrowth areas, slightly disturbed natural bushland
	Unaltered Environment	Protected areas or pristine environment

Likely Land Impact or Disturbance from Activity (Indicate the most appropriate level with a X)		
X	Categories	Description
	Negligible	Activities which are non-invasive and cause negligible or no impact to the land may include: <ul style="list-style-type: none"> • walking, photography, filming for assessing project scope, vegetation and heritage; • magnetic surveys; • use of existing tracks, water courses; • environmental monitoring; • water and soils sampling using hand held instruments; • fossicking using hand held instruments; • spatial measurement; and • scientific research, using hand held tools.
	Minimal	Activities that cause minimal disturbance to the land may include: <ul style="list-style-type: none"> • cultivation/grazing in areas previously cultivated/grazed; • maintenance of existing paths, walls, roads, tracks, bridges, public infrastructure and community utilities within the existing footprint and adjacent service areas; • feral animal eradication, weed, vermin and pest control, vegetation control and fire control; and • light vehicular access and camping.
	Moderate	Activities that cause moderate disturbance to the land may include: <ul style="list-style-type: none"> • maintenance of bridges that disturb river bed and/or banks; • sampling using hand held rig or rig mounted on a light vehicle; • new fire breaks; • road widening within existing corridor; • re-vegetation; • temporary power lines, material stockpiles, camps, and • surface vegetation clearing.
X	Significant	Activities that cause significant disturbance to the land may include: <ul style="list-style-type: none"> • creation of new roads, borrow pits or tracks; • new public access ways, bridges, culverts, flood remediation and erosion levies; • intensive soil/core sampling; • new pipelines; • significant reclamation works; and • major landscaping/contouring.
	Major	Activities that cause major and lasting disturbance to the land may include: <ul style="list-style-type: none"> • large-scale land clearing; • material extraction; • mechanical earthmoving, blasting; • major construction works; and • large scale changes to waterways.

FORM – Aboriginal Heritage Risk Assessment

ABORIGINAL HERITAGE RISK MATRIX					
LIKELY IMPACT ON HERITAGE SITES					
	Negligible	Minimal	Moderate	Significant	Major
Built Environment.	Low	Low	Low	Low	Medium
Significantly Altered	Low	Low	Low	Medium	High
Moderately Altered	Low	Low	Medium	Medium	High
Minimally Altered	Low	Medium	Medium	High	High
Unaltered	Low	Medium	High	High	High

Risk Rating	Actions
Low	Consult with the Principal Heritage Officer, if uncertain how to proceed. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation.
Medium (Review; Exercise Caution)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Consult the DAA; • Desktop survey; • Aboriginal consultation, • Ethnographic survey • Archaeological survey.
High (Consult; Survey; Approvals)	Consult with the Principal Heritage Officer. A range of further actions may be required, including: <ul style="list-style-type: none"> • Desktop survey, • Consult the DAA • Aboriginal consultation, • Ethnographic survey • Archaeological survey. • Application for s18 of the AHA approval • Application for Reg 10 of the AHR approval • Cultural Heritage Management Plan (CHMP)

Risk Rating (see Risk Matrix)
High

FORM – Aboriginal Heritage Risk Assessment

Noongar Standard Heritage Agreement Activity Notice

South West Native Title Settlement Area		
Item	Yes	No
The project is within the South West Native Title Settlement area	X	

If 'No' to Question 1 the NSHA does not apply. If 'Yes' proceed to the Activity Notice Requirement Checklist

Activity Notice Requirement Checklist			
Item No.	Item	Yes	No
1	The project consists of Minimal Impact Activities		X
2	The project consists of Low Ground Disturbing Activities that are exempt from Activity Notice requirements		X
3	There are potential risks to Aboriginal Heritage associated with the project		
4	The project requires a S16 or s18 consent		

If 'Yes' to Questions 1 or 2, an Activity Notice is not required. If 'Yes' to Questions 3 or 4, an Activity Notice is required and should be issued to SWALSC using the Activity Notice template (D15#431995). Minimal Impact Activities and Low Ground Disturbing Activities are defined in Guideline - *Aboriginal Heritages Processes under the Noongar Standard Heritage Agreement* (D15#444420).

Further Actions Possibly Required (tick applicable):

None	Consult with DAA	NSHA Activity Notice	Aboriginal consultation	Desktop Study	Ethnographic Survey	Archaeological Survey	s18 approval	Reg. 10 approval
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Completed by Environment Officer	Signature <u>[Signature]</u> Name <u>Shona Sutherland</u>	Date <u>12/11/2015</u> Title <u>SEO</u>
Signed by Project Manager	Signature <u>[Signature]</u> Name <u>MATT BAKER</u>	Date <u>17-11-15</u> Title <u>PM</u>
Reviewed by Principal Heritage Officer	Signature <u>[Signature]</u> Name <u>TODD CRANE</u>	Date <u>4/2/16</u> Title <u>PHO</u>

Principal Heritage Officer's Comments
<p>THE CONSTRUCTION AREA HAS BEEN PREVIOUSLY DISTURBED BY ROAD CONSTRUCTION AND MAINTENANCE, TRACKS AND OTHER ACTIVITIES.</p> <p>GIVEN THE PREVIOUS DISTURBANCE, IT IS HIGHLY UNLIKELY THAT THE WORKS WOULD IMPACT ANY PLACES TO WHICH SS OF THE AHA APPLIES.</p>

Appendix C

DotEE Protected Matters Database Search



Australian Government
Department of the Environment and Energy

EPBC Act Protected Matters Report

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

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 01/11/16 13:08:03

[Summary](#)

[Details](#)

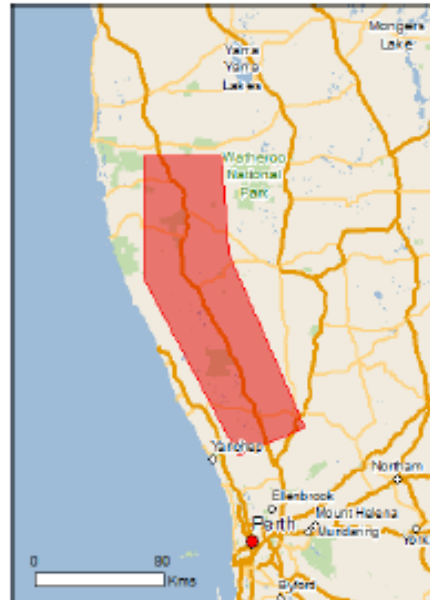
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
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[Coordinates](#)
Buffer: 0.0Kms



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](#).

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	68
Listed Migratory Species:	6

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

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. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

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.

Commonwealth Land:	4
Commonwealth Heritage Places:	1
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	45
Regional Forest Agreements:	1
Invasive Species:	38
Nationally Important Wetlands:	6
Key Ecological Features (Marine):	None

Details

Matters of National Environmental Significance

National Heritage Properties [\[Resource Information \]](#)

Name	State	Status
Natural		
Lesueur National Park	WA	Listed place

Listed Threatened Ecological Communities [\[Resource Information \]](#)

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

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain	Endangered	Community likely to occur within area
Claypans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area
Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain	Endangered	Community known to occur within area
Shrublands and Woodlands on Perth to Gingin ironstone (Perth to Gingin ironstone association) of the Swan Coastal Plain	Endangered	Community known to occur within area

Listed Threatened Species [\[Resource Information \]](#)

Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus latirostris Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Fish		
Nannatherina balstoni Balston's Pygmy Perch [86698]	Vulnerable	Species or species habitat may occur within area
Mammals		
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species

Name	Status	Type of Presence
Plants		
Acacia cochlocarpa subsp. cochlocarpa Spiral-fruited Wattle [23877]	Endangered	Species or species habitat habitat known to occur within area
Acacia forrestiana Forest's Wattle [17235]	Vulnerable	Species or species habitat known to occur within area
Acacia splendens Splendid Wattle, Dandaragan Wattle [81510]	Endangered	Species or species habitat likely to occur within area
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat known to occur within area
Anigozanthos viridis subsp. terraspectans Dwarf Green Kangaroo Paw [3435]	Vulnerable	Species or species habitat known to occur within area
Asterolasia nivea Bindoon Starbush [8225]	Vulnerable	Species or species habitat likely to occur within area
Banksia fuscobracteata Dark-bract Banksia [83059]	Critically Endangered	Species or species habitat known to occur within area
Banksia mimica Summer Honeypot [82785]	Endangered	Species or species habitat likely to occur within area
Banksia serratuloidea subsp. perissa Northern Serrate Dryandra [82787]	Critically Endangered	Species or species habitat known to occur within area
Banksia serratuloidea subsp. serratuloidea Southern Serrate Dryandra [82788]	Vulnerable	Species or species habitat may occur within area
Caladenia hoffmanii Hoffman's Spider-orchid [56719]	Endangered	Species or species habitat may occur within area
Caladenia huegellii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area
Chamelaucium sp. Cataby (G.J.Keighery 11008) Griffin's Waxflower [82509]	Vulnerable	Species or species habitat known to occur within area
Chamelaucium sp. Gingin (N.G.Marchant s.n. 4/11/1988) Gingin Wax [84649]	Endangered	Species or species habitat known to occur within area
Chorizema humile Prostrate Flame Pea [32573]	Endangered	Species or species habitat may occur within area
Conospermum densiflorum subsp. unicephalum One-headed Smokebush [84871]	Endangered	Species or species habitat likely to occur within area
Darwinia acerosa Fine-leaved Darwinia [9004]	Endangered	Species or species habitat likely to occur within area
Darwinia foetida Muechea Bell [83190]	Critically Endangered	Species or species

Name	Status	Type of Presence
Daviesia dielsii Diels' Daviesia [19817]	Endangered	habitat may occur within area Species or species habitat may occur within area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat likely to occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat may occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leafed Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat likely to occur within area
Fremophila scabenula Rough Emu Bush [16729]	Endangered	Species or species habitat may occur within area
Eucalyptus absita Badgingarra Box [24260]	Endangered	Species or species habitat known to occur within area
Eucalyptus argutifolia Yanchep Mallee, Wabling Hill Mallee [24263]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus balanites Cadda Road Mallee, Cadda Mallee [24264]	Endangered	Species or species habitat known to occur within area
Eucalyptus crispata Yandanooka Mallee [24268]	Vulnerable	Species or species habitat known to occur within area
Eucalyptus dolorosa Dandaragan Mallee, Mount Misery Mallee [56709]	Endangered	Species or species habitat known to occur within area
Eucalyptus impensa Eneabba Mallee [56711]	Endangered	Species or species habitat known to occur within area
Eucalyptus johnsoniana Johnson's Mallee [14516]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus lateritica Laterite Mallee [6271]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus leprophloia Scaly Butt Mallee, Scaly-butt Mallee [56712]	Endangered	Species or species habitat known to occur within area
Eucalyptus pruiniramis Midlands Gum, Jingymia Gum [56403]	Endangered	Species or species habitat likely to occur within area
Eucalyptus recta Silver Mallet [56430]	Endangered	Species or species habitat likely to occur

Name	Status	Type of Presence within area
Eucalyptus suberea Cork Mallee, Mount Lesueur Mallee [5529]	Vulnerable	Species or species habitat likely to occur within area
Gastrolobium hamulosum Hook-point Poison [9212]	Endangered	Species or species habitat may occur within area
Grevillea batrachioides Mt Lesueur Grevillea [21735]	Endangered	Species or species habitat likely to occur within area
Grevillea calliantha Foote's Grevillea, Cataby Grevillea, Black Magic Grevillea [56339]	Endangered	Species or species habitat likely to occur within area
Grevillea christinae Christine's Grevillea [64520]	Endangered	Species or species habitat likely to occur within area
Grevillea corrugata a shrub [65445]	Endangered	Species or species habitat known to occur within area
Grevillea curviloba subsp. curviloba Curved-leaf Grevillea [64908]	Endangered	Species or species habitat known to occur within area
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat known to occur within area
Grevillea humifusa Spreading Grevillea [61182]	Endangered	Species or species habitat likely to occur within area
Hakea megalosperma Lesueur Hakea [10505]	Vulnerable	Species or species habitat likely to occur within area
Hemiandra gardneri Red Snakebush [7945]	Endangered	Species or species habitat likely to occur within area
Jacksonia pungens Pungent Jacksonia [64920]	Endangered	Species or species habitat may occur within area
Lepidosperma rostratum Beaked Lepidosperma [14152]	Endangered	Species or species habitat likely to occur within area
Leucopogon obtectus Hidden Beard-heath [19614]	Endangered	Species or species habitat known to occur within area
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat likely to occur within area
Melaleuca sciotostyla Wongan Melaleuca [24324]	Endangered	Species or species habitat may occur within area
Paracaleana dixonii Sandplain Duck Orchid [86882]	Endangered	Species or species habitat known to occur within area
Patersonia spirifolia Spiral-leaved Patersonia [83927]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Ptychosema pusillum Dwarf Pea [11268]	Vulnerable	Species or species habitat likely to occur within area
Spirogardnera rubescens Spiral Bush [15667]	Endangered	Species or species habitat likely to occur within area
Tetratheca nephelioides [83217]	Critically Endangered	Species or species habitat likely to occur within area
Thelymitra dedmaniarum Cinnamon Sun Orchid [85105]	Endangered	Species or species habitat known to occur within area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat known to occur within area

Reptiles

Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat likely to occur within area
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Listed Migratory Species

[Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Migratory Terrestrial Species

Motacilla cinerea Grey Wagtail [842]		Species or species habitat may occur within area
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Migratory Wetlands Species

Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land

[\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name

Commonwealth Land -
Defence - GIN GIN SATELLITE AIRFIELD
Defence - LANCELIN - AIR SAFETY MARKER
Defence - PEARCE ILS/TACAN SITE

Commonwealth Heritage Places

[\[Resource Information \]](#)

Name	State	Status
Natural		
Lancelin Defence Training Area	WA	Listed place

Listed Marine Species

[\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift [878]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [870]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [842]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Alexander Morrison	WA
Badgingarra	WA
Bambanup	WA
Bartletts Well	WA
Bashford	WA
Boonanarring	WA
Boothendarra	WA
Bootine	WA
Breera Road	WA
Bundarra	WA
Chittering Lakes	WA
Coomallo	WA
Eneminga	WA
Hill River	WA
Lesueur	WA
Minyulo	WA
Moochamulla	WA
Moore River	WA
Moore River	WA
Mount Byroomanning	WA
Nabaroo	WA
Namming	WA
Nullilla	WA
Quins Hill	WA
Sand Spring Well	WA
South Mimegarra	WA
Timaru	WA
Twyata	WA
Unnamed WA21164	WA
Unnamed WA25591	WA
Unnamed WA27993	WA
Unnamed WA29719	WA
Unnamed WA29901	WA
Unnamed WA39571	WA
Unnamed WA40916	WA
Unnamed WA41986	WA
Unnamed WA42560	WA
Unnamed WA42743	WA
Unnamed WA44713	WA
Unnamed WA46899	WA
Unnamed WA47808	WA
Wanagarren	WA
Wongonderrah	WA
Yeal	WA
Yurine Swamp	WA

Regional Forest Agreements

[[Resource Information](#)]

Note that all areas with completed RFAs have been included.

Name	State
South West WA RFA	Western Australia

Invasive Species

[[Resource Information](#)]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
<i>Acridotheres tristis</i> Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
<i>Anas platyrhynchos</i> Mallard [974]		Species or species habitat likely to occur within area
<i>Carduelis carduelis</i> European Goldfinch [403]		Species or species habitat likely to occur within area
<i>Columba livia</i> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<i>Passer domesticus</i> House Sparrow [405]		Species or species habitat likely to occur within area
<i>Passer montanus</i> Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
<i>Streptopelia chinensis</i> Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
<i>Streptopelia senegalensis</i> Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
<i>Sturnus vulgaris</i> Common Starling [389]		Species or species habitat likely to occur within area
Mammals		
<i>Bos taurus</i> Domestic Cattle [16]		Species or species habitat likely to occur within area
<i>Canis lupus familiaris</i> Domestic Dog [82654]		Species or species habitat likely to occur within area
<i>Capra hircus</i> Goat [2]		Species or species habitat likely to occur within area
<i>Felis catus</i> Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
<i>Funambulus pennantii</i> Northern Palm Squirrel, Five-striped Palm Squirrel		Species or species

Name	Status	Type of Presence
[129]		habitat likely to occur within area
<i>Mus musculus</i> House Mouse [120]		Species or species habitat likely to occur within area
<i>Oryctolagus cuniculus</i> Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
<i>Rattus norvegicus</i> Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
<i>Rattus rattus</i> Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
<i>Sus scrofa</i> Pig [6]		Species or species habitat likely to occur within area
<i>Vulpes vulpes</i> Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
<i>Asparagus asparagoides</i> Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
<i>Brachiaria mutica</i> Para Grass [5879]		Species or species habitat may occur within area
<i>Cenchrus ciliaris</i> Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i> Boneseed [18905]		Species or species habitat likely to occur within area
<i>Genista linifolia</i> Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
<i>Genista</i> sp. X <i>Genista monspessulana</i> Broom [67538]		Species or species habitat may occur within area
<i>Lantana camara</i> Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
<i>Lycium ferocissimum</i> African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
<i>Olea europaea</i> Olive, Common Olive [9160]		Species or species habitat may occur within area
<i>Pinus radiata</i> Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area

Name	Status	Type of Presence
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat likely to occur within area

Nationally Important Wetlands

[Resource Information]

Name	State
Chandala Swamp	WA
Chittering-Needonga Lakes	WA
Guraga Lake	WA
Karakin Lakes	WA
Lancelin Defence Training Area	WA
Wannamal Lake System	WA

Caveat

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

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

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

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

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

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

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

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

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

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

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

Coordinates

-30.1112 115.2529,-30.6955 115.2513,-31.538 115.7775,-31.4054 116.151,-30.5769 115.7279,-30.1085 115.6834,-30.1112 115.2529

Acknowledgements

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

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Parks and Wildlife Commission NT, Northern Territory Government](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- [Natural history museums of Australia](#)
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

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Appendix D

Banksia Woodland Assessment

Key Diagnostic Characteristics	Information	Key diagnostic questions	Response and discussion
Location and physical environment	Bioregion	Is the proposal site within the Swan Coastal Plain IBRA bioregion (including Dandaragan plateau), or adjacent areas within the Jarrah Forest IBRA bioregion?	120-136, 139-152 and 159-163 SLK project areas occur outside this area. The rest of the projects occur within the Swan Coastal Plain IBRA region and as such met the bioregion characteristic.
Soils and landform	Soil type	Is the soil type at the proposal site consistent with where the Banksia Woodlands TEC may occur?	The majority of the project areas are well draining sands with small areas between 72-86 SLK of loamy sand. The well-draining sands are representative of the TEC soil type characteristic.
	Location in landscape, topography	Is the topography consistent with where the Banksia Woodlands TEC may occur?	The project areas are located predominately on sandplains which is consistent with this TEC characteristic.
Structure	Tree composition, understorey composition, diversity, species	Is the structure consistent with the characteristics set out in the conservation advice?	Project area 34.83-36SLK and 113.6-115.94 SLK is not a banksia woodland and as such is not considered part of this TEC. Vegetation types were identified in the surveys that represent the correct structure and composition to be considered this TEC. The amounts of these each project area are outlined below: <ul style="list-style-type: none"> • Widening 65-68.63 SLK=5.30ha (Maximum of 2.2ha will be cleared) • Widening 71.02-74 SLK=3.33ha (Maximum of 1.8ha will be cleared) • Widening 77.3-79.84 SLK=3.13ha (Maximum of 1.6ha will be cleared) • Widening 81.71-86 SLK=2.95ha (Maximum of 2.6ha will be cleared) • Southbound Passing Lane 68.63-71.02 SLK=4.90ha (Maximum of 2.7ha will be cleared) • Northbound Passing Lane 79.84-81.71
Composition	Dominant tree species, emergent layer, understorey	Is the composition consistent with the characteristics set out in the conservation advice?	

			<p>SLK=3.86ha (Maximum of 2.1ha will be cleared)</p> <ul style="list-style-type: none"> • Southbound Passing Lane 111.08-112.9 SLK=3.67ha (Maximum of 2.2ha will be cleared) <p>In total there is up to 15.2ha of vegetation that is the correct structure and composition to represent this TEC.</p>
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Appendix E

Project Environmental Approvals Checklist

This Project Environmental Approvals Checklist has been developed to ensure all appropriate environmental approvals are obtained for Main Roads projects and associated activities prior to the commencement of project activities and to assist in project planning and compliance. The Checklist is part of the Corporate Environmental Assessment and Approval Process (Refer Doc. No. 6707/001).

The checklist consists of four parts. Parts 1, 3 and 4 must be completed for all projects. Part 2 is only to be completed for projects that require clearing of native vegetation.

The checklist is to be completed in **two stages**.

In the **First Stage**, the Environment Officer (EO) should identify what approvals are required for a project by ticking "Yes" or "No" to all items listed in Parts 1 and 2 of the checklist. In addition, Part 3 of the checklist must be reviewed and signed by the Project Manager (PM) and the EO. Parts 1, 2 and 3 of the Checklist must be provided as an Appendix to the Impact Assessment documentation (PEIA & EMP or EIA & EMP). Parts 1, 2 and 3 of the Checklist should be included in the documentation supporting the PM's request for Manager Environment (ME) endorsement of their decision to refer/not refer the project under the *Environmental Protection (EP) Act* and/or *Environment Protection and Biodiversity Conservation (EPBC) Act*.

In the **Second Stage**, the details of each approval number (eg. Works Approval number or the Ministerial Statement number) should be provided in Part 1 and Part 2 of the Checklist once the approval has been obtained. The EO and PM must sign Part 4 the completed checklist to indicate all relevant approvals have been obtained prior to commencing project activities. Once completed and signed, the checklist should be recorded in TRIM on the Project File. Part 4 of the Checklist must be completed and signed by the EO and PM prior to the commencement of project activities.

Note: Project activities including pre-construction activities and the clearing of native vegetation, cannot proceed until compliance has been achieved with all relevant items identified below.

PART 1: ENVIRONMENTAL AND HERITAGE APPROVALS (To be completed for all projects)

Project Details						
Project Name	Brand Hwy Widening and Passing Lanes Package				Start SLK:	34.83
					End SLK	163.4
Road Name & No.	Brand Hwy H004	Region	MWG	TRIM File No.	05/10786-07	
Environmental Acts/Approval	Applicable		Obtained		Approval Number	
	Yes	No	Yes	No		
<i>Conservation and Land Management Act 1984</i> Under the CALM Act applications must be made for approval to impact upon DPaW managed land.		✓				
<i>Contaminated Sites Act 2003.</i> The CS Act provides for the identification, recording, management and remediation of contaminated sites. (Note: the owner or occupier of a known or suspected, contaminated site or person who knows or suspects that he or she has caused, or contributed to, the contamination is required to report the site to the CEO of the DER within specified timeframes).		✓				
<i>Country Areas Water Supply Act 1947 (WA)</i> Under the CAWS Act an application for a licence to clear is required from the Department of Water (DoW) in certain situations when clearing native vegetation within a CAWS catchment area is required. A CAWS Act Licence to Clear is required in controlled catchments even if clearing is exempt under the EP Act . The Department of Environment Regulation (DER) should be contacted in the first instance to determine whether an EP Act Clearing Permit or CAWS Act Licence to Clear is required for clearing in a controlled water catchment. If the DER advises that a CAWS Act licence is required,		✓				

landowners should contact the regional DoW Office to apply for a Licence to Clear native vegetation.					
Environmental Acts/Approval	Applicable		Obtained		Approval Number
	Yes	No	Yes	No	
<p><i>Environmental Protection (EP) Act 1986 – Part IV: Referral of proposals to the Environmental Protection Authority (EPA) (Section 38).</i></p> <p>A proponent is required to refer a significant proposal or strategic proposal to the EPA. A significant proposal is a proposal that is likely if implemented, to have a significant effect on the environment. A strategic proposal is defined as a future proposal that will be a significant proposal or future proposals which are likely, if implemented in combination with each other, to have a significant effect on the environment.</p>		✓			
<p><i>EP Act 1986 – Part IV; Section 48A; Assessment of Schemes.</i></p> <p>Amendments to land reservation and zoning under relevant Statutory Planning Schemes, should be referred to the EPA. The EPA will determine whether or not the scheme should be assessed. (Note: all planning schemes and amendments must be referred to the EPA by the responsible authority who is either the Local Government Authority or the WA Planning Commission).</p>		✓			
<p><i>EP Act 1986 – Part V; Native Vegetation Clearing Permits.</i></p> <p>Applications must be made to DER for a permit to clear native vegetation.</p>	✓				
<p><i>EP Act 1986 – Part V; Works Approval & Licences.</i></p> <p>Applications must be made to the local DER office for a works approval, operating licence or registration for prescribed premises or when crushing and screening of Road Building Materials (RBM's) under specified circumstances is required. Category 70 - Crushing/screening 5,000 – 50,000tpa; requires registration Category 12 – Crushing/screening >50,000tpa; requires a works approval Mobile screening – confirm with DER; must be >500m from nearest sensitive receptor.</p>		✓			
<p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p>A proponent is required to refer a proposal to the Department of the Environment if it is likely to have a significant impact on matters of national environmental significance.</p>	✓				
<p><i>Land Administration Act 1997 (WA)</i></p> <p>Applications must be made to the Minister for Lands prior to assigning, selling, transferring, mortgaging or otherwise dealing with an interest in Crown land or excising land from an A class reserve.</p>		✓			
<p><i>Metropolitan Water Supply, Sewerage and Drainage Act 1909 (WA)</i></p> <p>Approval is required from DoW where project activities impact on a water reserve or catchment area, including causing or allowing the diversion / taking of waters or water courses (surface or groundwater) or in any other way participate in activities with potential to alter the quality or quantity of water supplies (e.g. the storage, handling and use of potentially polluting chemicals, hydrocarbons fuels etc, clearing, excavating, and other ground disturbance).</p>		✓			
<p><i>Planning and Development Act 2005 (Section 38; Amendment to Regional Planning Schemes)</i></p> <p>Application to planning authority for development approval (for roads outside established road reserves) or application for a scheme amendment. Note: Section 38 of the PD Act requires that all amendments to Statutory Planning Schemes to be referred to the EPA for a decision on whether the amendment requires formal environmental assessment.</p>		✓			
<p><i>Planning and Development Act 2005 (Bush Forever)</i></p> <p>Development Application approval must be sought to impact within a Bush Forever site.</p>		✓			
<p><i>Rights in Water and Irrigation Act 1914</i></p> <p>Applications must be made to the DoW for a permit to disturb the bed or banks of a watercourse or water body in a proclaimed area.</p>	✓				
<p><i>Rights in Water and Irrigation Act 1914</i></p> <p>Applications must be made to DoW for a licence to draw water from an existing bore, to install a new bore or to draw water from a surface body (e.g. lake or river) in a proclaimed area.</p>		✓			

Act/Approval	Applicable		Obtained		Approval Number
	Yes	No	Yes	No	
<i>Soil and Land Conservation Act 1945 (WA)</i> Applications, termed Notice of Intent to Drain, (NOID), must be made to Commissioner for Soil and Land Conservation for approval to drain, pump or discharge saline water.		✓			
<i>Swan and Canning Rivers Management Act 2006</i> Under the SCRM Act applications must be made to the Swan River Trust (SRT) for approval to work within or adjacent to the Trust's management area.		✓			
<i>Waterways Conservation Act 1976 (WA)</i> Applications must be made for any proposals / works within declared management areas. Consultation is required with relevant Management Authorities (eg DER, SRT).		✓			
<i>Water Services Act, 2012</i> Applications must be made to the Water Corporation for approval to impact on declared drains, drainage areas and associated works.		✓			
<i>Wildlife Conservation Act 1950 – threatened flora</i> Applications must be made to DPaW for a permit to remove, destroy, take or otherwise interfere with threatened flora (formerly declared rare flora) (includes clearing and translocation of flora).		✓			
<i>Wildlife Conservation Act 1950 - threatened fauna</i> Applications must be made to DPaW for a licence to remove, destroy, take or otherwise interfere with protected fauna species (includes fauna relocation or handling of protected fauna).		✓			
Heritage Acts/Approvals					
<i>Native Title Act 1993</i> Affected Native Title claimants, the prescribed body corporate or the Native Title representative body must be formally notified about any ground disturbing activity where Native Title exists (eg pastoral leases and Crown land). Any comments received must be considered.		✓			
<i>Aboriginal Heritage Act 1972</i> Applications must be made to the Department of Aboriginal Affairs (DAA) for Ministerial approval to disturb an Aboriginal heritage site (Section18).		✓			
<i>Aboriginal Heritage Regulations 1974</i> Exemptions to Regulation 7 and 10 are issued by the Registrar where a proposed activity may occur within an Aboriginal site and project activities are unlikely to be deleterious to the preservation of that site and/or will enhance the preservation of the site.		✓			
<i>Heritage of Western Australia Act 1990</i> Notification and approval must be sought from the Heritage Council WA to disturb any sites on the State Heritage Register prior to undertaking works.		✓			
<i>Government Heritage Property Disposal Process (GHPDP)</i> The GHPDP must be followed for projects that involve State government-owned places that are: <ul style="list-style-type: none"> • older than 60 years; • listed on any Municipal, State or National heritage register; and/or • having other heritage significance in terms of aesthetic, historic, social or scientific value 		✓			
<i>Any other relevant obligations eg</i> <ul style="list-style-type: none"> • <i>Heritage Agreement (insert name)</i> • <i>Protocols (eg Whadjuk Protocol) (insert name of Protocol)</i> 		✓			

PART 2: PROJECTS INVOLVING CLEARING OF NATIVE VEGETATION

Part 2 is to be completed for all projects involving the clearing of native vegetation.

Approval Type Used to Undertake Clearing of Native Vegetation	Yes	No
Will CPS 818 be used to undertake native vegetation clearing?		
Will native vegetation clearing for this project cause the total amount of native vegetation cleared to exceed the clearing limit specified in CPS 818 for the region for each calendar year?		
Will CPS 817 be used to undertake native vegetation clearing?		
Will a project specific clearing permit be required for the clearing of native vegetation? (Provide Permit Number)		
Will native vegetation be cleared using a clearing exemption under Schedule 6 of the EP Act, 1986, CAWS Act, 1947, RIWI, Act 1914 or Environmental Protection (Clearing of Native Vegetation) Regulations (2004)? (Provide details of which clearing exemption will be used to undertake native vegetation clearing)		
Will native vegetation be cleared under Section 38 of the Environmental Protection Act? (Provide details of Ministerial Statement Number)		



For projects undertaking clearing using CPS 818 or CPS 817, identify what reports, plans and submissions are required, and whether approval has been obtained from Main Roads Central Review and Submission Process (CRSP) and the Department of Environment Regulation (DER)					
Environmental Report, Plan or Submissions required for clearing permit.	Report, Plan and/or Submissions Needed? (Y/N)	Approved by CRSP? (Y/N)	Date Approved by CRSP (Day/month/year)	Approved by DER? (Y/N)	Date Approved by DER (Day/month/year)
Preliminary Clearing Impact Assessment Report (PCIA)					
Clearing Impact Assessment Report (CIA)					
Vegetation Management Plan (VMP)					
Revegetation Plan (RP)					
Dieback Management Plan (DMP)					
Offset Proposal (OP)					
Submissions					

PART 3: CORPORATE ASSESSMENT AND APPROVAL PROCESS

Part 3 is to be completed and signed by the Project Manager and Environment Officer as part of Stage 1 of the Projects Approvals Checklist.

Acknowledgement of Environmental and Heritage Approvals Required for the Project

I acknowledge the approvals/requirements identified in Part 1 and Part 2 (if relevant) must be obtained prior to commencing project activities.

Responsible Person	Name	Signature	Date (Day/month/year)
EO	Emma Fitzgerald		5/12/2016
PM	Matt Baker		6/12/2016

PART 4 RECEIPT OF APPROVALS

Part 4 is to be completed and signed by the Project Manager and Environment Officer once all project approvals have been obtained as part of Stage 2 of the Projects Approvals Checklist.

Corporate Environmental Assessment and Approval Process

Manager Environment (ME) Endorsement of Referral Decision	Endorsement Obtained		Date of Endorsement
	Yes	No	
Manager Environment has endorsed the Project Manager's decisions regarding referral of the project under the EP Act and the EPBC Act.			

ENVIRONMENTAL AND HERITAGE APPROVALS OBTAINED

I acknowledge the approvals identified in Parts 1 and 2 have been obtained and that I understand the limitations and conditions of the approvals. I also understand that deviating from the limitations and conditions of the approvals constitutes non-compliance with Main Roads Environmental Assessment and Approval Process and State and/or Federal legislation.

Responsible Person	Name	Signature	Date (Day/month/year)
EO			
PM			

Comments:

Appendix F

Environmental Management Plan

BRAND HWY PASSING LANES AND WIDENING 2016/2017

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 required	Main Roads' Project Manager and Contractor Project Manager	EMP	Minutes of Meeting
Authority Consultation				
Department of Environment Regulation	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 and low environmental risk(s), there is no requirement for auditing the implementation of the EMP.

EMP Accountability

Persons Name	Persons Role	Contact Details
Matthew Baker	Project Manager	9956 1246 matt.baker@mainroads.wa.gov.au
Emma Fitzgerald	Environment Officer	9323 5435 emma.fitzgerald@mainroads.wa.gov.au

ENVIRONMENTAL MANAGEMENT PLAN				
Project Component	Management Action	Monitoring/Maintenance Program	Responsible Person	Completion Timeframe
<i>Standard Record Keeping Management</i>				
Record Keeping	<ul style="list-style-type: none"> Ensure standard record keeping requirements are completed within 3 months of completion of the project activities. 	Post-construction record maintenance.	Environment Officer	Project lifespan
<i>Project Specific Aspects</i>				
Aboriginal Heritage Sites	<ul style="list-style-type: none"> Ensure on-site construction personnel are aware of the location of all Aboriginal heritage sites on site and the requirement to avoid impacting them. In the event that human skeletal material is discovered, work will cease immediately and the Police contacted. If the skeletal remains are determined to be of Aboriginal origin, the Department of Aboriginal Affairs will be contacted as soon as practicable. In the event that artefacts or material of Aboriginal origin is discovered, work will cease within 25 metres of the material and a qualified archaeologist will investigate the item(s) and take appropriate actions (i.e. contact DAA). Liquid spills, stormwater and runoff materials will be managed to ensure project activities and drainage do not adversely affect heritage sites or any wetland or water body including creeks, springs, swamps and soaks. DAA20008 (Gingin Brook Waggyl Site) buffer over lies 34.83-36 SLK project area and construction personnel should be informed of the site. DAA 28326 (Minyulo Brook) near 111.08-112.9 SLK should be avoided by project works and personnel made aware of its existence. 	Pre-construction/ construction surveillance.	Project Manager	Project lifespan

ENVIRONMENTAL MANAGEMENT PLAN				
Project Component	Management Action	Monitoring/Maintenance Program	Responsible Person	Completion Timeframe
Dust	<ul style="list-style-type: none"> • Clear vegetation only when necessary and treat areas requiring soil stabilisation as soon as practicable. • Surface watering, spreading of hydromulch or similar will be used to protect loose surfaces or cleared areas. • Apply dust suppression techniques to sealed roads on or near the project site that are affected by excessive dust. • Water tankers will be made available to dampen exposed surfaces within construction and laydown areas, particularly during ground disturbing activities. • Minimise or cease project activities during periods of high wind or when excessive dust is generated. • Inform nearby sensitive receptors including adjoining communities of activities that may cause excessive dust and respond quickly to complaints by community members. • Apply water, road sweeping and signage for suitable speed limits will be used during vehicle movement. 	Construction and post-construction maintenance	Contractor	Project lifespan
Pollution and Litter	<ul style="list-style-type: none"> • All waste materials from the project area will be removed from the site upon completion of the project and to the satisfaction of the Project Manager or Site Superintendent. • Construction waste and other rubbish will be contained in bins with lids (where practicable) and removed regularly. 	Construction and post-construction maintenance	Contractor	Project lifespan

ENVIRONMENTAL MANAGEMENT PLAN				
Project Component	Management Action	Monitoring/Maintenance Program	Responsible Person	Completion Timeframe
Surface Drainage	<ul style="list-style-type: none"> Vegetation removal and soil disturbance will be minimised, where practicable. Disturbed areas will be stabilised soon after construction activities are completed. Existing natural drainage paths and channels along the road or the vicinity of the project area will not be unnecessarily blocked or restricted during project construction. Vehicle and equipment wash down areas will be located away from environmentally sensitive areas. Comply with bed and banks permits. 	Pre-construction/ construction surveillance.	Project Manager	Project lifespan
Groundwater	<ul style="list-style-type: none"> All spills will be contained immediately and removed within 24 hours to minimise the potential for contaminants to enter groundwater. Ensure groundwater licenses complied with 	Construction maintenance	Project Manager	Project lifespan
Hazardous Materials	<ul style="list-style-type: none"> Bulk fuel and hazardous material storage areas will be bunded and managed in compliance with applicable Australian Standards. Regular vehicle servicing will be undertaken at designated areas, at least 100 m away from watercourses. Site personnel shall be trained in the use of emergency Fire suppressant equipment. Spill trays and spill response equipment will be available near fuel storage or refuelling areas. All hazardous material spills will be reported according to statutory requirements. Hazardous materials will be disposed of at an approved and certified facility. Temporary storage of bitumen, asphalt, concrete or aggregate shall occur at designated depots or controlled hardstands located within the project area. Pre-coating of aggregate will only occur in approved and designated areas. 	Construction maintenance	Contractor/Project Manager	Project lifespan

ENVIRONMENTAL MANAGEMENT PLAN				
Project Component	Management Action	Monitoring/Maintenance Program	Responsible Person	Completion Timeframe
Fire	<ul style="list-style-type: none"> No fires shall be lit within the project area. Machinery will be fitted with approved spark arresting exhaust systems. All vehicles, plant and equipment to be fitted with fire extinguishers and restricted and to designated cleared areas. A water tanker/fire fighter unit will be on site at all times during project construction and personnel trained in their use. All hot works will be undertaken in accordance with standard safety procedures Construction personnel will extinguish and report fires occurring within the project area. 	Construction maintenance	Contractor/Project Manager	Project lifespan
Visual Amenity	<ul style="list-style-type: none"> Stockpiles and other materials will be stored in designated areas and kept in a neat and tidy condition at all times. The duration of ground disturbing activities will be limited as far as practicable. 	Construction maintenance	Contractor/Project Manager	Project lifespan
Wetlands/watercourses	<ul style="list-style-type: none"> Road design should maintain existing surface water flows and incorporate soil erosion control measures. No on-site storage of fuel, oils and other contaminant materials will be permitted within 100 m of a watercourse or wetland. Engineering controls will be put in place to capture road runoff before it enters any wetland 	Construction maintenance	Contractor/Project Manager	Project lifespan
Weeds	<ul style="list-style-type: none"> Ensure site personnel are aware of Paterson's Curse, Doublegee, Cape Tulip and Victorian Teatree presence. Remove and kill any of these declared weeds identified within the project area Identify areas to undertake weed control to stop spread of weeds. Remove or kill any weeds growing in project area that are likely to spread and result in environmental harm to adjacent areas of native vegetation that are in good or better condition. 	Pre-construction/ construction surveillance.	Project Manager	Project lifespan

ENVIRONMENTAL MANAGEMENT PLAN				
Project Component	Management Action	Monitoring/Maintenance Program	Responsible Person	Completion Timeframe
Dieback	<ul style="list-style-type: none"> • Ensure any relevant Dieback Management Plans followed • Where possible complete works in “dry conditions” • Clean earth moving machinery of soil and vegetation prior to entry and exit to project areas adjacent to conservation areas. • Ensure no weed affected soil, mulch, fill or other material is brought into the area cleared. • Restrict movement of machines and other vehicles to the limits of the areas cleared. 	Construction maintenance	Contractor/Project Manager	Project lifespan