



Title of Proposal - Brand Highway Widening and Passing Lanes Project 34.83-164.3 SLK

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Transport - Land

1.2 Provide a detailed description of the proposed action, including all proposed activities.

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.



1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Project Envelope 34 to 36 SLK	1	-31.299243934447	115.86869121851
Project Envelope 34 to 36 SLK	2	-31.29926226929	115.86894871057
Project Envelope 34 to 36 SLK	3	-31.310134202728	115.86871267618
Project Envelope 34 to 36 SLK	4	-31.310134202728	115.86836935343
Project Envelope 34 to 36 SLK	5	-31.299243934447	115.86871267618
Project Envelope 34 to 36 SLK	6	-31.299243934447	115.86869121851
Project Envelope 65 to 68 SLK	1	-31.048452322546	115.73288040774
Project Envelope 65 to 68 SLK	2	-31.048268487743	115.73356705325
Project Envelope 65 to 68 SLK	3	-31.052202475022	115.73489742892
Project Envelope 65 to 68 SLK	4	-31.054408378033	115.73644238131
Project Envelope 65 to 68 SLK	5	-31.057900953215	115.74013310092
Project Envelope 65 to 68 SLK	6	-31.07323000343	115.7495315613
Project Envelope 65 to 68 SLK	7	-31.076501351277	115.75279312747
Project Envelope 65 to 68 SLK	8	-31.076721887532	115.75249272006
Project Envelope 65 to 68 SLK	9	-31.073597576217	115.74927406924
Project Envelope 65 to 68 SLK	10	-31.059003845057	115.74056225436
Project Envelope 65 to 68 SLK	11	-31.054187790033	115.73571282046
Project Envelope 65 to 68 SLK	12	-31.052533363734	115.7346828522
Project Envelope 65 to 68 SLK	13	-31.048415555614	115.73292332308
Project Envelope 65 to 68 SLK	14	-31.048452322546	115.73288040774



Area	Point	Latitude	Longitude
Project Envelope 68 to 71 SLK	1	-31.048252647822	115.73335849158
Project Envelope 68 to 71 SLK	2	-31.048289414817	115.73335849158
Project Envelope 68 to 71 SLK	3	-31.048399715717	115.73292933814
Project Envelope 68 to 71 SLK	4	-31.040163563613	115.72996817939
Project Envelope 68 to 71 SLK	5	-31.035309783161	115.72863780372
Project Envelope 68 to 71 SLK	6	-31.028433170638	115.72481833808
Project Envelope 68 to 71 SLK	7	-31.028175747694	115.72520457618
Project Envelope 68 to 71 SLK	8	-31.035420099095	115.72923861854
Project Envelope 68 to 71 SLK	9	-31.048252647822	115.73335849158
Project Envelope 71 to 74 SLK	1	-31.028111773093	115.72522115835
Project Envelope 71 to 74 SLK	2	-31.028074998305	115.72522115835
Project Envelope 71 to 74 SLK	3	-31.028258872102	115.72483492025
Project Envelope 71 to 74 SLK	4	-31.024949089462	115.72290372976
Project Envelope 71 to 74 SLK	5	-31.018365957715	115.72041463979
Project Envelope 71 to 74 SLK	6	-31.015092611181	115.7184834493
Project Envelope 71 to 74 SLK	7	-31.003726973447	115.71161699423
Project Envelope 71 to 74 SLK	8	-31.003506268034	115.71200323232
Project Envelope 71 to 74 SLK	9	-31.015239730293	115.7192559255
Project Envelope 71 to 74 SLK	10	-31.018733742434	115.7211012853
Project Envelope 71 to 74 SLK	11	-31.024801985341	115.72328996786
Project Envelope 71 to 74 SLK	12	-31.028111773093	115.72522115835
Project Envelope 77 to 79 SLK	1	-30.976465930362	115.6998290527



Area	Point	Latitude	Longitude
Project Envelope 77 to 79 SLK	2	-30.976429135647	115.6998290527
Project Envelope 77 to 79 SLK	3	-30.976576314412	115.69957156064
Project Envelope 77 to 79 SLK	4	-30.957109953266	115.68528075101
Project Envelope 77 to 79 SLK	5	-30.956925942263	115.68558115842
Project Envelope 77 to 79 SLK	6	-30.976465930362	115.6998290527
Project Envelope 79 to 81 SLK	1	-30.956875387249	115.68552694566
Project Envelope 79 to 81 SLK	2	-30.956893788375	115.68550548798
Project Envelope 79 to 81 SLK	3	-30.956948991732	115.68529091126
Project Envelope 79 to 81 SLK	4	-30.947379933418	115.67831716782
Project Envelope 79 to 81 SLK	5	-30.943404812077	115.67462644822
Project Envelope 79 to 81 SLK	6	-30.943220774677	115.67488394028
Project Envelope 79 to 81 SLK	7	-30.947214306664	115.67857465989
Project Envelope 79 to 81 SLK	8	-30.956875387249	115.68552694566
Project Envelope 81 to 86 SLK	1	-30.913000967781	115.64665669663
Project Envelope 81 to 86 SLK	2	-30.914363266598	115.64777249558
Project Envelope 81 to 86 SLK	3	-30.916535540803	115.64914578659
Project Envelope 81 to 86 SLK	4	-30.918707765686	115.65146321518
Project Envelope 81 to 86 SLK	5	-30.920695860484	115.65395230515
Project Envelope 81 to 86 SLK	6	-30.943151098338	115.67485207779
Project Envelope 81 to 86 SLK	7	-30.943408750787	115.67463750107
Project Envelope 81 to 86 SLK	8	-30.920401330528	115.65309399826
Project Envelope 81 to 86 SLK	9	-30.91683008266	115.64893120987



Area	Point	Latitude	Longitude
Project Envelope 81 to 86 SLK	10	-30.914363266598	115.64738625748
Project Envelope 81 to 86 SLK	11	-30.913185063349	115.64639920456
Project Envelope 81 to 86 SLK	12	-30.913037786923	115.64669961197
Project Envelope 81 to 86 SLK	13	-30.913000967781	115.64665669663
Project Envelope 111 to 112 SLK	1	-30.726771026376	115.52034103047
Project Envelope 111 to 112 SLK	2	-30.726734135755	115.52034103047
Project Envelope 111 to 112 SLK	3	-30.72398574472	115.51697217595
Project Envelope 111 to 112 SLK	4	-30.71321277212	115.50735913884
Project Envelope 111 to 112 SLK	5	-30.712936053205	115.50776683461
Project Envelope 111 to 112 SLK	6	-30.723709056713	115.51733695637
Project Envelope 111 to 112 SLK	7	-30.726420564897	115.52077018391
Project Envelope 111 to 112 SLK	8	-30.726771026376	115.52034103047
Project Envelope 113 to 115 SLK	1	-30.691508610853	115.48703059517
Project Envelope 113 to 115 SLK	2	-30.691324090164	115.48752412163
Project Envelope 113 to 115 SLK	3	-30.6962137693	115.4906998571
Project Envelope 113 to 115 SLK	4	-30.705438904339	115.5005489286
Project Envelope 113 to 115 SLK	5	-30.705697195428	115.50022706352
Project Envelope 113 to 115 SLK	6	-30.696951812556	115.49074277244
Project Envelope 113 to 115 SLK	7	-30.691471706745	115.48705205284
Project Envelope 113 to 115 SLK	8	-30.691508610853	115.48703059517
Project Envelope 126 to 128 SLK	1	-30.607164391015	115.46673163734
Project Envelope 126 to 128 SLK	2	-30.607090518367	115.466688722



Area	Point	Latitude	Longitude
128 SLK			
Project Envelope	126 to3	-30.607090518367	115.46621665321
128 SLK			
Project Envelope	126 to4	-30.601328278459	115.46617373787
128 SLK			
Project Envelope	126 to5	-30.587918662776	115.46286925636
128 SLK			
Project Envelope	126 to6	-30.587807831772	115.46342715584
128 SLK			
Project Envelope	126 to7	-30.601439093997	115.46681746803
128 SLK			
Project Envelope	126 to8	-30.607164391015	115.46673163734
128 SLK			
Project Envelope	120 to1	-30.521101546644	115.46301946007
136 SLK			
Project Envelope	120 to2	-30.527607888266	115.46027287804
136 SLK			
Project Envelope	120 to3	-30.542097719664	115.46336278282
136 SLK			
Project Envelope	120 to4	-30.562202475281	115.46301946007
136 SLK			
Project Envelope	120 to5	-30.567819236146	115.4619894918
136 SLK			
Project Envelope	120 to6	-30.576095975193	115.46233281456
136 SLK			
Project Envelope	120 to7	-30.587327562637	115.46336278282
136 SLK			
Project Envelope	120 to8	-30.599148880444	115.46645268761
136 SLK			
Project Envelope	120 to9	-30.606831963668	115.46713933311
136 SLK			
Project Envelope	120 to10	-30.615696302426	115.46748265587
136 SLK			
Project Envelope	120 to11	-30.62987755649	115.46507939659
136 SLK			
Project Envelope	120 to12	-30.648191934104	115.46679601036
136 SLK			
Project Envelope	120 to13	-30.664435656572	115.46679601036
136 SLK			
Project Envelope	120 to14	-30.664435656572	115.46473607384
136 SLK			
Project Envelope	120 to15	-30.647305834379	115.4657660421
136 SLK			
Project Envelope	120 to16	-30.630172977189	115.46370610557
136 SLK			



Area	Point	Latitude	Longitude
Project Envelope 120 to17 136 SLK		-30.616287229492	115.46610936485
Project Envelope 120 to18 136 SLK		-30.600035421145	115.46507939659
Project Envelope 120 to19 136 SLK		-30.595898161801	115.46404942833
Project Envelope 120 to20 136 SLK		-30.587032011217	115.4619894918
Project Envelope 120 to21 136 SLK		-30.566932400786	115.46027287804
Project Envelope 120 to22 136 SLK		-30.560724326272	115.4619894918
Project Envelope 120 to23 136 SLK		-30.541506340288	115.46233281456
Project Envelope 120 to24 136 SLK		-30.527607888266	115.45889958702
Project Envelope 120 to25 136 SLK		-30.520805793493	115.4619894918
Project Envelope 120 to26 136 SLK		-30.521101546644	115.46301946007
Project Envelope 120 to27 136 SLK		-30.521101546644	115.46301946007
Project Envelope 139 to1 152 SLK		-30.384562370996	115.49690070944
Project Envelope 139 to2 152 SLK		-30.39566801609	115.49947563009
Project Envelope 139 to3 152 SLK		-30.413730501365	115.49587074118
Project Envelope 139 to4 152 SLK		-30.41876371332	115.49278083639
Project Envelope 139 to5 152 SLK		-30.426313044518	115.49175086813
Project Envelope 139 to6 152 SLK		-30.436673920493	115.49260917501
Project Envelope 139 to7 152 SLK		-30.444517851545	115.49398246603
Project Envelope 139 to8 152 SLK		-30.474111906419	115.48797431784
Project Envelope 139 to9 152 SLK		-30.490976494579	115.48711601095
Project Envelope 139 to10 152 SLK		-30.497041114436	115.48162284689
Project Envelope 139 to11 152 SLK		-30.49585780366	115.48024955587
Project Envelope 139 to12		-30.491124416634	115.48574271994



Area	Point	Latitude	Longitude
152 SLK			
Project Envelope	139 to13	-30.473372164615	115.48694434957
152 SLK			
Project Envelope	139 to14	-30.444369858687	115.49295249777
152 SLK			
Project Envelope	139 to15	-30.42690512422	115.49072089987
152 SLK			
Project Envelope	139 to16	-30.418467649215	115.49192252951
152 SLK			
Project Envelope	139 to17	-30.413286381967	115.49466911154
152 SLK			
Project Envelope	139 to18	-30.395816082829	115.49861732321
152 SLK			
Project Envelope	139 to19	-30.385006621038	115.49621406393
152 SLK			
Project Envelope	139 to20	-30.384710454568	115.49707237081
152 SLK			
Project Envelope	139 to21	-30.384562370996	115.49690070944
152 SLK			
Project Envelope	159 to1	-30.316521844009	115.47151669823
163 SLK			
Project Envelope	159 to2	-30.316595937326	115.47151669823
163 SLK			
Project Envelope	159 to3	-30.316447750637	115.47091588341
163 SLK			
Project Envelope	159 to4	-30.307556139226	115.47186002098
163 SLK			
Project Envelope	159 to5	-30.298811934744	115.47864064537
163 SLK			
Project Envelope	159 to6	-30.296588707567	115.47898396812
163 SLK			
Project Envelope	159 to7	-30.294810089534	115.47872647606
163 SLK			
Project Envelope	159 to8	-30.291104531695	115.47623738609
163 SLK			
Project Envelope	159 to9	-30.286731793379	115.47494992576
163 SLK			
Project Envelope	159 to10	-30.286583561546	115.47555074058
163 SLK			
Project Envelope	159 to11	-30.29103041911	115.47683820091
163 SLK			
Project Envelope	159 to12	-30.292734994393	115.47821149193
163 SLK			
Project Envelope	159 to13	-30.294810089534	115.47941312157
163 SLK			



Area	Point	Latitude	Longitude
Project Envelope 159 to14 163 SLK		-30.296514599127	115.47949895225
Project Envelope 159 to15 163 SLK		-30.298811934744	115.4791556295
Project Envelope 159 to16 163 SLK		-30.30785253927	115.47280415855
Project Envelope 159 to17 163 SLK		-30.309260427238	115.47220334373
Project Envelope 159 to18 163 SLK		-30.316521844009	115.47151669823

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

This project consists of 14 project areas within the Brand Highway road reserve in the Shire of Gingin and Dandaragan:

- Widening 65-68.63 SLK located 33km north of Gingin
- Widening 71.02-74 SLK located 38km north of Gingin
- Widening 77.3-79.84 SLK located 35km east of Lancelin
- Widening 81.71-86 SLK located 37km northeast of Lancelin
- Widening 120-136 SLK located 14km south of Badgingarra
- Widening 139-152 SLK located through Badgingarra and extends north and south of the townsite
- Northbound Passing Lane 34.83-36 SLK located 5km northwest of Gingin
- Southbound Passing Lane 68.63-71.02 SLK located 36km north of Gingin
- Northbound Passing Lane 79.84-81.1 SLK located 34km east of Lancelin
- Southbound Passing Lane 111.08-112.9 SLK located 36km south of Badgingarra
- Northbound Passing Lane 113.6-115.94 SLK located 33km south of Badgingarra
- Southbound Passing Lane 126.2-128.38 SLK located 21km south of Badgingarra
- Northbound and Southbound Passing Lane 159.8-163.6 SLK located 8km north of Badgingarra

1.6 What is the size of the development footprint or work area?

65=2.2,71.02=1.8,77.3=1.6,81.71=2.6,120=6,139=4.6,34.83=1.3,68.63=2.7,79.84=2.1,111.08=2.2,113.6=2.2,126.2=2.5,159.8=6,Tot=37.8



1.7 Is the proposed action a street address or lot?

Street Address

Brand Highway
Gingin WA 6503
Australia

1.8 Primary Jurisdiction.

Western Australia

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

No

1.10 Is the proposed action subject to local government planning approval?

No

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 11/2017

End date 11/2037

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

The activities associated with the realignment will comply with the legislative requirements established under the Commonwealth regulatory framework. In particular, this project is subject to, and will be undertaken in accordance with, the *Environment Protection and Biodiversity Conservation Act 1999*. It should also be noted that no activities conducted during the extension will occur on Commonwealth land or heritage places.

The MRWA Environmental Impact Assessment and Environmental Management Plan considers key legislation governing the protection and management of Western Australia's environment and heritage (Table1). The key approvals requirements for the project derive from the *Environmental Protection Act 1986* and the EPBC Act.

Table 1: Relevant legislation and potential approval requirements

Legislation



Purpose

Requirement

Western Australia

Wildlife Conservation Act 1950

Provides for the conservation and protection of Western Australia's wildlife

Licence to take protected flora and fauna, consent to take rare or endangered flora

Aboriginal Heritage Act 1972

Prevention of places and objects customarily used by the original inhabitants of Australia

Consent to disturb Aboriginal sites.

Environment Protection Act 1986

Preventing, controlling and abating environmental harm and conserving, protecting, enhancing and managing the environment.

Approval to undertake an assessed proposal.

Permit to clear native vegetation.

Conservation and Land Management Act 1984

Provides for the use, protection and management of certain public lands and waters and the establishment of responsible authorities.

Licence/permit to undertake activities impacting on DPaW managed properties and compliance with management plans.

Heritage of Western Australia Act 1990

Conservation of places having significance to Western Australia's cultural heritage.

Permit to disturb, damage or demolish heritage sites.

Rights in Water and Irrigation Act 1914

Provides for regulation, management, use and protection of water resources and irrigation schemes.



Rights and licences to take water; permit to obstruct or interfere with a watercourse or wetland including its bed or banks.

Contaminated Sites Act 2003

Identification, recording, management and remediation of contaminated sites.

Ensure that development complies with site classification and any restrictions that may apply.

Commonwealth of Australia

Environment Protection and Biodiversity Conservation Act 1999

Provides for the protection of the environment and conservation of biodiversity.

Approval required for activities likely to have a significant impact on any matter of national environmental significance.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

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

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

The action has not previously been referred to the Department of the Environment and Energy (DotEE) for a decision on whether approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required.

The proposal will not be referred to the Western Australian Environmental Protection Authority for a decision on whether formal impact assessment is required pursuant to s38 of the *Environmental Protection Act 1986*. Clearing of native vegetation will be managed under Part V of the EP Act.

The release of the *Environment Protection and Biodiversity Conservation Act 1999* referral guidelines for the threatened black cockatoo species requires consideration of this proposal by the Department of the Environment and Energy.

1.15 Is this action part of a staged development (or a component of a larger project)?



No

1.16 Is the proposed action related to other actions or proposals in the region?

No



Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The [interactive map tool](#) can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

- [Profiles of relevant species/communities](#) (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- [Significant Impact Guidelines 1.1 – Matters of National Environmental Significance](#);
- [Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies](#).

2.1 Is the proposed action likely to impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to impact on the members of any listed threatened species (except a conservation dependent species) or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
Banksia Woodlands of the Swan Coastal Plain	The project areas 120-136, 139-152 and



Species	Impact
	<p>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: • Widening 65-68.63 SLK=5.30ha • Widening 71.02-74 SLK=3.33ha • Widening 77.3-79.84 SLK=2.61ha • Widening 81.71-86 SLK=2.95ha • Southbound Passing Lane 68.63-71.02 SLK=4.90ha • Northbound Passing Lane 79.84-81.71 SLK=3.86ha • Southbound Passing Lane 111.08-112.9 SLK=3.67ha</p> <p>Across the project areas that represent the Banksia Woodlands of the Swan Coastal Plains TEC there is a total of 26.62ha 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 7.56% 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.</p>
Carnaby Cockatoo (<i>Calyptorhynchus latirostris</i>)	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: •



Species	Impact
	<p>Widening 65-68.63 SLK=5.13ha within the project envelope along a 3.6km stretch of road</p> <ul style="list-style-type: none">• Widening 71.02-74 SLK=3.98ha within the project envelope along a 3km stretch of road• Widening 77.3-79.84 SLK=3.27ha within the project envelope along a 2.58km stretch of road• Widening 81.71-86 SLK =3.8ha within the project envelope along a 4.3km stretch of road• Widening 120-136 SLK=10.3ha within the project envelope along a 15km stretch of road• Widening 139-152 SLK=9.95ha within the project envelope along a 13km stretch of road. <ul style="list-style-type: none">• Northbound Passing Lane 34.83-36 SLK=0.96ha within the project envelope along a 1.8km stretch of road• Southbound Passing Lane 68.63-71.02 SLK=4.9ha within the project envelope along a 2.98km stretch of road• Northbound Passing Lane 79.84-81.71 SLK=4ha within the project envelope along a 1.8km stretch of road• Southbound Passing Lane 111.08-112.9 SLK=3.7ha within the project envelope along a 1.9km stretch of road• Northbound Passing Lane 113.6-115.94 SLK=2.9ha within the project envelope along a 1.97km stretch of road• Northbound and southbound Passing Lane 159.8-163.6 SLK=5.33ha within the project envelope along a 3.8km stretch of road <p>There is a total of 48.27ha of Carnaby's Cockatoo foraging habitat along a 56km stretch of road. Up to 37.8ha 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 6.94% 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.</p> <ul style="list-style-type: none">• 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



Species	Impact
	<p>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 37.8ha 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.</p>

2.4.2 Do you consider this impact to be significant?

No

2.5 Is the proposed action likely to impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action likely to impact on any part of the environment in the Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?



No

2.9 Will there be any impact on a water resource related to coal / gas / mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to impact on any part of the environment in the Commonwealth marine area?

No



Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

Passing Lanes

The Threatened Ecological Community “Banksia woodlands of the Swan Coastal Plain” was identified as potentially occurring in the survey area but has been previously discussed in this referral.

The survey area has a very high floristic diversity and 665 flora taxa representing 75 families and 271 genera were recorded in the survey. No threatened flora was identified, however 13 priority flora were recorded in the survey area.

Six fauna habitat types were identified during the survey. The only fauna species considered likely to be impacted is the Carnaby’s Black Cockatoo which has been previously discussed in this referral.

Widening 65-68.63 SLK, 71.02-74 SLK, 77.3-79.84 SLK and 81.71-86 SLK

No threatened flora was identified in the spring survey. However the P3 priority species *Haemodorum loratum* was identified in the survey area.

Two vegetation types with the affinity with the Threatened Ecological Community “Banksia woodlands of the Swan Coastal Plain” were identified in the survey area. The survey area also has potential as habitat for Black Cockatoos which has been previously discussed in this referral.

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

Widening 120-136 SLK and 139-152 SLK

One vegetation type potentially represents the Threatened Ecological Community “Banksia woodlands of the Swan Coastal Plain”. This has been discussed elsewhere in this referral.

444 flora taxa from 67 families was recorded in the survey. No threatened flora was recorded in



the survey, however 13 priority flora species were identified.

The only fauna species considered likely to be impacted is the Carnaby's Black Cockatoo which has been previously discussed in this referral.

3.2 Describe the hydrology relevant to the project area (including water flows).

A search of ArcGIS shapefiles has confirmed that the proposed works will only disturb or interrupt any natural drainage and surface run-off patterns within the 139-152 SLK project area. A permit to disturb the bed and banks of watercourses will be obtained.

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 0.16ha 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.

Indirect impacts may result, including weed invasion. No changes to water levels or quality are expected, and water runoff will continue to be contained in a similar manner to the existing road.

Northbound Passing Lane 34.83-36 SLK

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.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

Three spring surveys cover the project areas. A search of the ASRIS database identified that there is a low to extremely low probability of Acid Sulfate Soils occurring within the project



areas. As no dewatering or excavation below the water table is required, for the construction of the project area Acid Sulfate Soils will not be an issue. The project areas are predominately composed of sands, with small areas ranging from sandy and loamy earths to clay.

Widening 65-68.63 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in very good condition. The project area is comprised of 3 vegetation types:

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Banksia attenuata and B. menziesii woodland

Woodland of *Banksia menziesii* and *B. attenuata* over sparse tall shrubland of *Adenanthos cygnorum*, *Jacksonia floribunda* and *Xanthorrhoea preissii* over low shrubland of *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Stirlingia latifolia* and open sedgeland of *Lyginia barbata*, *Alexgeorgea nitens* and *Mesomelaena pseudostygia* over sparse herbland of *Haemodorum* sp., *Drosera erythrorhiza* and *Dampiera linearis*

Banksia Woodland

Banksia attenuata and *Banksia menziesii* low woodland over *Adenanthos cygnorum* subsp. *cygnorum* and *Eremaea pauciflora* var. *pauciflora* open shrubland over *Stirlingia latifolia* low open shrubland over *Mesomelaena pseudostygia* very open sedgeland.

Widening 71.02-74 SLK

This project area is in excellent to degraded (Keighery, 1994) condition with the majority in completely degraded condition. The project area is comprised of 6 vegetation types:

Melaleuca preissiana Woodland

Woodland of *Melaleuca preissiana* over tall shrubland of *M. incana* subsp. *incana*, *Hypocalymma angustifolium*, *Gastrolobium obovatum* over closed sedgeland of *Gahnia trifida*, *Juncus kraussii* subsp., *australiensis*, *Schoenus caesipitius* over sparse herbland of *Laxmannia ramosa* subsp. *ramose*, *Drosera erythrorhiza*, *Isotropis cuneifolia* subsp. *cuneifolia*

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species



Banksia attenuata and *B. menziesii* woodland

Woodland of *Banksia menziesii* and *B. attenuata* over sparse tall shrubland of *Adenanthos cygnorum*, *Jacksonia floribunda* and *Xanthorrhoea preissii* over low shrubland of *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Stirlingia latifolia* and open sedgeland of *Lyginia barbata*, *Alexgeorgea nitens* and *Mesomelaena pseudostygia* over sparse herbland of *Haemodorum* sp., *Drosera erythrorhiza* and *Dampiera linearis*

Banksia Woodland

Banksia attenuata and *Banksia menziesii* low woodland over *Adenanthos cygnorum* subsp. *cygnorum* and *Eremaea pauciflora* var. *pauciflora* open shrubland over *Stirlingia latifolia* low open shrubland over *Mesomelaena pseudostygia* very open sedgeland.

PI04

Eucalyptus todtiana, *Banksia attenuata* and *Banksia menziesii* low open woodland over *Xanthorrhoea preissii* open shrubland over *Hibbertia crassifolia*, *Eremaea pauciflora* var. *pauciflora* and *Allocasuarina humilis* low shrubland over *Mesomelaena pseudostygia* and *Tetraria octandra* very open sedgeland.

PI05

Corymbia calophylla low open forest over *Xanthorrhoea preissii* and *Hakea trifurcata* open shrubland over *Bossiaea eriocarpa* and *Jacksonia sternbergiana* low shrubland over *Mesomelaena pseudostygia* and *Caustis dioica* open sedgeland.

Widening 77.3-79.84 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. The project area is comprised of 6 vegetation types:

Banksia attenuata and *B. menziesii* woodland

Woodland of *Banksia menziesii* and *B. attenuata* over sparse tall shrubland of *Adenanthos cygnorum*, *Jacksonia floribunda* and *Xanthorrhoea preissii* over low shrubland of *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Stirlingia latifolia* and open sedgeland of *Lyginia barbata*, *Alexgeorgea nitens* and *Mesomelaena pseudostygia* over sparse herbland of *Haemodorum* sp., *Drosera erythrorhiza* and *Dampiera linearis*

Banksia Woodland on White Sand

Low Open Woodland dominated by *Banksia attenuata*, *B. menziesii* with *Eucalyptus todtiana* over Scattered Shrubs of *B. attenuata*, *Jacksonia floribunda* over Low Shrubland to Open Shrubland of *Melaleuca urceolaris* and *Eremaea pauciflora* over Sedgeland of



Desmocladius subterranea, *Xanthorrhoea priessii* over herbs *Trachymene pilosa*, *Podotheca angustifolia*, *Burchardia congesta*, *Pterostylis dilatata* on White Sand.

Cleared/ Degraded

Includes existing clearing road reserve, gravel pits, tracks and firebreaks. Often comprises Scattered Shrubs over Scattered Bunch introduced grass and Scattered Herbs.

Geomorphic Wetland

Trees of *Corymbia calophylla*, *Melaleuca priessiana* over Shrubs of *M. priessiana*, *M. incana*, *Hypocalymma angustifolium* over Sedgeland of *Lepidosperma squamatum*, **Cyperus congestus*

Marri Banksia Woodland

Woodland of *Corymbia calophylla* over Low Woodland of *Banksia attenuata*, *Banksia prionotes* over High Open Shrubland of *Allocasuarina humilis*, *Nuytsia floribunda* over Scattered Shrubs of *Jacksonia horrida*, *Hibbertia hypericoides* over Low Shrubland of *Calothamnus sanguineus*, *Acacia pulchella* var. *glaberrima*, *Banksia nivea* over Open Sedgeland of *Caustis dioica*, *Mesomelaena pseudostygia* over Scattered Herbs of *Cassutha flava*, *Haemodorum brevisepalum*.

Heath and Emergents

Scattered Low Trees of *Banksia attenuata*, *Eucalyptus todtiana* over Scattered Heath of *Leucopogon oldfieldii*, *Astroloma xerophyllum*, *Hibbertia aurea*, *Hakea obliqua*, *H. ruscifolia*,

Melaleuca trichophylla over Low Shrubland of *Conostylis*, *Calothamnus sanguineus* over Very Open Sedgeland of *Mesomelaena pseudostygia*, *Desmocladius subterranea*, *Lyginia barbata* over Scattered Herbs of *Drosera spp.* and *Burchardia congesta*.

Widening 81.71-86 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. The project area is comprised of 7 vegetation types:

Banksia attenuata and *B. menziesii* woodland

Woodland of *Banksia menziesii* and *B. attenuata* over sparse tall shrubland of *Adenanthos cygnorum*, *Jacksonia floribunda* and *Xanthorrhoea preissii* over low shrubland of *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Stirlingia latifolia* and open sedgeland of *Lyginia barbata*, *Alexgeorgea nitens* and *Mesomelaena pseudostygia* over sparse hermland of *Haemodorum sp.*, *Drosera erythrorhiza* and *Dampiera linearis*

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered



natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Banksia Woodland

Banksia attenuata and *Banksia menziesii* low woodland over *Adenanthos cygnorum* subsp. *cygnorum* and *Eremaea pauciflora* var. *pauciflora* open shrubland over *Stirlingia latifolia* low open shrubland over *Mesomelaena pseudostygia* very open sedgeland.

PI02:

Grevillea eriostachya and *Allocasuarina humilis* tall open shrubland over *Xanthorrhoea preissii* and *Eremaea pauciflora* var. *pauciflora* open shrubland over *Austrostipa elegantissima* and *Amphipogon turbinatus* very open tussock grassland over *Mesomelaena pseudostygia* very open sedgeland.

PI03:

Calothamnus quadrifidus subsp. *quadrifidus*, *Allocasuarina humilis* and *Jacksonia floribunda* tall shrubland over *Eremaea pauciflora* var. *pauciflora* and *Xanthorrhoea preissii* shrubland over *Hibbertia crassifolia* low open shrubland over *Tetraria octandra*, *Mesomelaena pseudostygia* open sedgeland.

PI04

Eucalyptus todtiana, *Banksia attenuata* and *Banksia menziesii* low open woodland over *Xanthorrhoea preissii* open shrubland over *Hibbertia crassifolia*, *Eremaea pauciflora* var. *pauciflora* and *Allocasuarina humilis* low shrubland over *Mesomelaena pseudostygia* and *Tetraria octandra* very open sedgeland.

W01:

Banksia prionotes and *Melaleuca raphiophylla* tall shrubland over *Acacia saligna* subsp. *saligna* open shrubland over *Juncus kraussii* subsp. *australiensis* low open shrubland over **Ehrharta calycina* very open tussock grassland.

Widening 120-136 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. The project area is comprised of 5 vegetation types:

Tall Adenanthos and Allocasuarina Shrubland

Tall shrubland of *Adenanthos cygnorum*, *Allocasuarina humilis* and *Leptospermum erubescens* over mixed, low shrubland of *Jacksonia floribunda*, *Hibbertia hypericoides* and *Daviesia podophylla* over herbland of *Dampiera linearis*, *Dampiera linearis* and *Conostylis teretifolia*



Low Calothamnus heath

Closed shrubland of *Calothamnus* species over herbland of *Drosera* spp., *Hypochaeris* sp. and *Stylidium* sp.

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Low, mixed heath

Sparse shrubland of *Allocasuarina humilis*, *Leptospermum erubescens* and *Conospermum stoechadis* over sedgeland of *Ecdeiocolea monostachya* over low shrubland of *Calothamnus sanguineus*, *Hibbertia hypericoides* and *Daviesia nudiflora* over mixed sedgeland and grassland of *Neurachne alopecuroidea*, *Desmocladius* spp and *Mesomelaena pseudostygia*, *Schoenus* spp. and sparse herbland of *Trachymene pilosa*, *Drosera* spp. and *Poranthera microphylla*

Mixed Tall shrubland

Sparse woodland of *Banksia attenuata* over tall shrubland of *Adenanthos cygnorum*, *Allocasuarina humilis*, *Jacksonia nutans* over mixed, low shrubland of *Jacksonia floribunda*, *Hibbertia hypericoides* and *Eremaea asterocarpa* over sedgeland of *Alexgeorgea nitens*, *Lyginia barbata* and *Mesomelaena pseudostygia*

Widening 139-152 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition. The project area is comprised of 4 vegetation types:

Cleared/ Degraded

Includes existing clearing road reserve, gravel pits, tracks and firebreaks. Often comprises Scattered Shrubs over Scattered Bunch introduced grass and Scattered Herbs.

Mixed Heath on White Sand (with Laterite)

Open Heathland of *Leucopogon oldfieldii*, *Conostephium sanguineus*, *Hibbertia hypercoides*, *H. subvaginata*, *Leucopogon oldfieldii*, *Stirlingia incrassate* over Low Open Shrubland *Banksia shuttleworthiana*, *Hakea conchifolia*, *Jacksonia floribund* over Sedgeland of *Dasyogon bromeliifolius*, *Mesomelaena pseudostygia*, *Xanthorrhoea priessii*, *Desmocladius subterranea* over Scattered Herbs of *Drosea citrina*, *D. bulbosa* subsp. *bulbosa*, *Stylidium miniatum*, on White Sand with Laterite.

Low Open Banksia Woodland



Low Open Woodland of *Eucalyptus todtiana*, *Banksia menziesii*, *B. attenuata*, over Shrubland of *Hakea obliqua* over Low Open Shrubland of *Banksia shuttleworthiana*, *Jacksonia*

floribunda, *Conostylis setigera* subsp. *setigera*, *Stirlingia latifolia*, *Calothamnus sanguineus*, *Hakea prostrata* over Open Sedgeland of *Schoenus rigens*, *Dasyopogon bromeliifolius*, *Desmocladius subterranea*, *Lyginia barbata*, *Mesomelaena pseudostygia* over Very Open Herbs of *Phyllangium divergens*, *Burchardia congesta*, *Drosera citrina*, *Stylidium miniatum*.

Heath on Gravel

Scattered Shrubs of *Petrophile macrostachya*, *Allocasuarina humilis* over Low Open Heath of *Leucopogn oldfieldii*, *Gastrolobium polystachyum*, *Eremaea pauciflora*, *Astroloma glaucescens* over Sedgeland of *Mesomelaena tetragona* over Scattered Herbs of *Stylidium cygnorum*, *Drosera porrecta*.

Northbound Passing Lane 34.83-36 SLK

This project area is in degraded to completely degraded (Keighery, 1994) condition. The project area is comprised of 2 vegetation types:

Parkland cleared

Woodland of *Corymbia calophylla* over weed grassland of **Ehrharta calycina*, **E. longiflora* and **Avena* spp. with occasional *Banksia prionotes*, *Xanthorrhoea preissii* and *Grevillea vestita*, and occasional trees of *Eucalyptus rudis* in low-lying areas

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Southbound Passing Lane 68.63-71.02 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in very good to excellent condition. The project area is comprised of 2 vegetation types:

Banksia attenuata and *B. menziesii* woodland

Woodland of *Banksia menziesii* and *B. attenuata* over sparse tall shrubland of *Adenanthos cygnorum*, *Jacksonia floribunda* and *Xanthorrhoea preissii* over low shrubland of *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Stirlingia latifolia* and open sedgeland of *Lyginia barbata*, *Alexgeorgea nitens* and *Mesomelaena pseudostygia* over sparse herbland of *Haemodorum* sp., *Drosera erythrorhiza* and *Dampiera linearis*



Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Northbound Passing Lane 79.84-81.71 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in very good condition. The project area is comprised of 3 vegetation types:

Banksia attenuata and B. menziesii woodland

Woodland of *Banksia menziesii* and *B. attenuata* over sparse tall shrubland of *Adenanthos cygnorum*, *Jacksonia floribunda* and *Xanthorrhoea preissii* over low shrubland of *Bossiaea eriocarpa*, *Eremaea pauciflora*, *Stirlingia latifolia* and open sedgeland of *Lyginia barbata*, *Alexgeorgea nitens* and *Mesomelaena pseudostygia* over sparse herbland of *Haemodorum* sp., *Drosera erythrorhiza* and *Dampiera linearis*

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Tall Mixed Shrubland

Tall shrubland of *Xanthorrhoea preissii*, *Hakea trifurcata* and *Jacksonia sternbergiana* over shrubland of *Hibbertia hypericoides*, *Petrophile macrostachya* and *Calothamnus quadrifidus* subsp. *quadrifidus* and grassland of *Austrostipa elegantissima*, **Ehrharta longiflora*, *Neurachne alopecuroides* over open herbland of *Drosera erythrorhiza*, *Hypochaeris glabra*, **Ursinia anthemoides*

Southbound Passing Lane 111.08-112.9 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority being in excellent to very good condition. The project area is comprised of 4 vegetation types:

Banksia attenuata and B. menziesii woodland over mixed shrubland and sedgeland

Woodland of *Banksia menziesii* and *B. attenuata* over sparse tall shrubland of *Allocasuarina humilis*, *Jacksonia sternbergiana* and *Xanthorrhoea preissii* over low shrubland of *Bossiaea eriocarpa*, *Hibbertia hypericoides* and *Hypocalymma xanthopetalum* over mixed grassland and sedgeland of *Mesomelaena pseudostygia*, **Ehrharta* spp. and **Briza maxima*

Eucalyptus rudis – Melaleuca raphiophylla woodland



Eucalyptus rudis – *Melaleuca rhapsiophylla* woodland over weedy grasses, including
**Ehrharta* spp. and **Eragrostis curvula*.

Low, mixed heath

Sparse shrubland of *Allocasuarina humilis*, *Leptospermum erubescens* and *Conospermum stoechadis* over sedgeland of *Ecdeiocolea monostachya* over low shrubland of *Calothamnus sanguineus*, *Hibbertia hypericoides* and *Daviesia nudiflora* over mixed sedgeland and grassland of *Neurachne alopecuroidea*, *Desmocladius* spp and *Mesomelaena pseudostygia*, *Schoenus* spp. and sparse herbland of *Trachymene pilosa*, *Drosera* spp. and *Poranthera microphylla*

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Northbound Passing Lane 113.6-115.94 SLK

This project area is in excellent to completely degraded condition (Keighery, 1994) condition with the majority in excellent to very good condition. The project area is comprised of 3 vegetation types:

Low, mixed heath

Sparse shrubland of *Allocasuarina humilis*, *Leptospermum erubescens* and *Conospermum stoechadis* over sedgeland of *Ecdeiocolea monostachya* over low shrubland of *Calothamnus sanguineus*, *Hibbertia hypericoides* and *Daviesia nudiflora* over mixed sedgeland and grassland of *Neurachne alopecuroidea*, *Desmocladius* spp and *Mesomelaena pseudostygia*, *Schoenus* spp. and sparse herbland of *Trachymene pilosa*, *Drosera* spp. and *Poranthera microphylla*

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Eucalyptus todtiana and *Banksia attenuata* very open woodland

Open woodland of *Banksia attenuata*, *B. menziesii* and *Eucalyptus todtiana* over open shrubland of *Hakea ruscifolia*, *Xanthorrhoea preissii* and *Allocasuarina humilis* over low shrubland of *Petrophile macrostachya*, *Eremaea pauciflora* and *Hakea incrassata* and grassland of **Ehrharta* spp., **Eragrostis curvifolia* and **Bromus diandrus*

Southbound Passing Lane 126.2-128.38 SLK



This project area is in excellent to very degraded (Keighery, 1994) condition with the majority in excellent to very good condition. The project area is comprised of 5 vegetation types:

Low, mixed heath

Sparse shrubland of *Allocasuarina humilis*, *Leptospermum erubescens* and *Conospermum stoechadis* over sedgeland of *Ecdeiocolea monostachya* over low shrubland of *Calothamnus sanguineus*, *Hibbertia hypericoides* and *Daviesia nudiflora* over mixed sedgeland and grassland of *Neurachne alopecuroidea*, *Desmocladius* spp and *Mesomelaena pseudostygia*, *Schoenus* spp. and sparse herbland of *Trachymene pilosa*, *Drosera* spp. and *Poranthera microphylla*

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Tall Adenanthos and Allocasuarina Shrubland

Tall shrubland of *Adenanthos cygnorum*, *Allocasuarina humilis* and *Leptospermum erubescens* over mixed, low shrubland of *Jacksonia floribunda*, *Hibbertia hypericoides* and *Daviesia podophylla* over herbland of *Dampiera linearis*, *Dampiera linearis* and *Conostylis teretifolia*

Low Calothamnus heath

Closed shrubland of *Calothamnus* species over herbland of *Drosera* spp., *Hypochaeris* sp. and *Stylidium* sp.

Mixed Tall shrubland

Sparse woodland of *Banksia attenuata* over tall shrubland of *Adenanthos cygnorum*, *Allocasuarina humilis*, *Jacksonia nutans* over mixed, low shrubland of *Jacksonia floribunda*, *Hibbertia hypericoides* and *Eremaea asterocarpa* over sedgeland of *Alexgeorgea nitens*, *Lyginia barbata* and *Mesomelaena pseudostygia*

Northbound and southbound Passing Lane 159.8-163.6 SLK

This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in excellent condition. The project area is comprised of 5 vegetation types:

Northern Banksia woodland

Sparse woodland of *Banksia attenuata* and *B. menziesii* over shrubland of *Melaleuca seriata*, *M. leuropoma* and *Acacia pulchella* over mixed grassland and sedgeland of *Lyginia* spp., *Desmocladius* spp. and **Ehrharta calycina* over herbland of *Burchardia congesta*, **Ursinia*



anthemoides and *Conostylis aculeata* subsp. *aculeata*.

Highly modified

Includes areas that have been predominantly cleared but which still contain either scattered natives or introduced species. These include bulldozed firebreaks that contain seed and which may support occasional native species

Calothamnus shrubland and Meeboldina Sedgeland

Low shrubland of *Calothamnus hirsutus*, *Thryptomene mucronulata* and *Verticordia* spp. over mixed sedgeland of *Meeboldina coangustata*, *Schoenus insolitus* and *Centrolepis* spp. and herbland of *Tribonanthes australis.*, *Stylidium flagellum* and *Drosera gigantea* subsp. *gigantea*

Mixed heath

Sedgeland of *Ecdeiocolea monostachya* over heathland of *Allocasuarina microstachya*, *Banksia* spp. and *Petrophile* spp. over herbland of *Dampiera spicigera*, *Pterochaeta paniculata* and *Drosera* spp.

Mixed tall shrubland

Sparse tall shrubland of *Adenanthos cygnorum* and *Hakea trifurcata* over shrubland of *Melaleuca* spp., *Hypocalymma xanthopetalum* and *Banksia* spp. and grassland of *Neurachne alopecuroidea*, **Avena barbata* and **Briza maxima*.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

Not applicable

3.5 Describe the status of native vegetation relevant to the project area.

77 to 79 SLK and 79 to 81 SLK

The vegetation is mapped as:

1030 described as Low woodland; *Banksia attenuata* & *B. menziesii*

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)



81 to 86 SLK and 113 to 115 SLK

The vegetation is mapped as:

1030 described as Low woodland; *Banksia attenuata* & *B. menziesii*

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)

111 to 112 SLK

The vegetation is mapped as:

1030 described as Low woodland; *Banksia attenuata* & *B. menziesii*

There is approximately 63.85% vegetation remaining in the IBRA region (Government of Western Australia, 2015)

126 to 128 SLK, 139 to 152 SLK and 159 to 163 SLK

The vegetation is mapped as:

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)

120 to 136 SLK

The vegetation is mapped as:

7 described as Medium woodland; York gum (*Eucalyptus loxophleba*) & wandoo

1030 described as Low woodland; *Banksia attenuata* & *B. menziesii*

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)

34-36 SLK

This vegetation is mapped as:

Gingin Complex-Open woodland of *Corymbia calophylla* (Marri) with second storey of *Banksia grandis* (Bull Banksia) and *Nuytsia floribunda*. Fringing woodland of *Eucalyptus rudis* (Flooded Gum) - *Melaleuca raphiophylla*.

There is approximately 11.58% vegetation remaining in the region (Heddl, Loneragan and Havel, 1980)

65 to 68 SLK and 71 to 74 SLK

This vegetation is mapped as:

Coonambidgee Complex-Vegetation ranges from a low open forest and low woodland of *Eucalyptus todtiana* (Pricklybark) - *Banksia attenuata* (Slender Banksia) - *Banksia menziesii* (Firewood Banksia) - *Banksia ilicifolia* (Holly-leaved Banksia) with localised admixtures of *Banksia prionotes* (Acorn Banksia) to an open woodland of *Corymbia calophylla* (Marri) - *Banksia* species.

Bassendean Complex- Vegetation ranges from a low open forest and low open woodland of *Banksia* species *Eucalyptus todtiana* (Pricklybark) to low woodland of *Melaleuca* species and sedgeland which occupy the moister sites.

There is approximately 45.52% and 71.59% vegetation remaining in the region (Heddl, Loneragan and Havel, 1980)

68 to 71 SLK

This vegetation is mapped as:

Coonambidgee Complex-Vegetation ranges from a low open forest and low woodland of *Eucalyptus todtiana* (Pricklybark) - *Banksia attenuata* (Slender Banksia) - *Banksia menziesii* (Firewood Banksia) - *Banksia ilicifolia* (Holly-leaved Banksia) with localised admixtures of *Banksia prionotes* (Acorn Banksia) to an open woodland of *Corymbia calophylla* (Marri) - *Banksia* species.



There is approximately 45.52% vegetation remaining in the region (Heddle, Loneragan and Havel, 1980)

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

Not applicable

3.7 Describe the current condition of the environment relevant to the project area.

Several common weed species are located throughout the following project areas but no Weeds of National Significance (WoNS) or Declared Plants (DP).

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

No WoNS were identified within any of the project areas however DP were identified within:

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) The project areas are all confined to the road reserve which is comprised of remnant vegetation and areas previously cleared for the maintenance of the road and access tracks/driveways to local properties. The condition of the remaining vegetation is outlined below:

Widening 65-68.63 SLK This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in very good condition.

Widening 71.02-74 SLK This project area is in excellent to degraded (Keighery, 1994) condition with the majority in completely degraded condition.

Widening 77.3-79.84 SLK This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition.

Widening 81.71-86 SLK This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition.

Widening 120-136 SLK This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in completely degraded condition.

Widening 139-152 SLK 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 This project area is in degraded to completely degraded (Keighery, 1994) condition.

Southbound Passing Lane 68.63-71.02 SLK 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 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 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 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** 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** This project area is in excellent to completely degraded (Keighery, 1994) condition with the majority in excellent condition.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

No Commonwealth Heritage Places will be impacted.

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. 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.

3.9 Describe any Indigenous heritage values relevant to the project area.

Widening 65-68.63 SLK, Widening 81.71-86 SLK, Widening 120-136 SLK, Widening 139-152 SLK, Southbound Passing Lane 68.63-71.02 SLK, Northbound Passing Lane 79.84-81.1 SLK, Southbound Passing Lane 111.08-112.9 SLK, Northbound Passing Lane 113.6-115.94 SLK, Southbound Passing Lane 126.2-128.38 SLK, Northbound Passing Lane 159.8-163.6 SLK and Southbound Passing Lane 160.1-163.4 SLK

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 heritage impacts are expected.

Widening 71.02-74 SLK

1 known heritage site (DAA 20008 Gingin Brook Waggy) occurs within the vicinity of the project area. 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 there is no risk to aboriginal heritage sites and no further actions are required.



Widening 77.3-79.84 SLK

2 known heritage sites (DAA 20008 Gingin Brook Waggyl and DAA 18083 Moore River Pools) occur within the vicinity of the project area. 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.

Northbound Passing Lane 34.83-36 SLK

One known heritage site (DAA20008-Gingin Brook Waggyl Site) occurs within the vicinity of the project area. 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.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

The project area is road reserve under the Commissioner of Main Roads.

3.11 Describe any existing or any proposed uses relevant to the project area.

The area is currently road reserve



Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

Impact Avoidance

During the development phase of this project, Main Roads incorporated environmental considerations in selecting the design. During the design phase, the design was rationalised to reduce the amount of clearing whilst providing a safe and compliant design. The clearing line will be pegged prior to clearing commencing and where possible vegetation will be pruned rather than removed. Further project clearing will be avoided as the site office, materials storage areas, construction vehicles/machinery and access tracks will be located on previously disturbed or cleared areas.

Environmental Management

An Environmental Management Plan (EMP) and a Vegetation Management Plan (VMP) will be created by Main Roads. Prior to the commencement of roadworks the EMP/VMP will be reviewed and updated as appropriate with the objective of minimising and managing the onsite environmental impacts, including the protection of fauna. The EMP/VMP will be implemented during investigations during construction and post construction works. Key aspects are detailed below:

- The clearing area demarcation will be checked and approved by the Environment Officer or Project Manager prior to clearing.
- Clearing of vegetation shall not exceed the limits of clearing and mature trees especially, shall be conserved as far as practicable, and shall not be disturbed for such temporary works as side tracks, access tracks, temporary storage areas, campsites, spoil areas or site offices.
- Restrict movement of machines and other vehicles to the limits of the areas cleared.
- Declared Pests in the project area will be removed prior to works by the contractor.
- Vehicle and equipment wash down areas will be located away from environmentally sensitive areas, reserves and at least 50 m from waterways.
- Spoil and laydown areas will not be stored within 50 m of waterways.
- Spill kits will be present on site and all staff trained in their use.
- Refuelling will be undertaken in accordance with the SHEWMS or equivalent.
- All waste materials from the project area will be removed from the site to a suitable licenced facility upon completion of the project and to the satisfaction of the Project Manager or Site



Superintendent.-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.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

It has been determined that 37.8ha of Black Cockatoo foraging habitat, 51 potential breeding trees, none of which contain hollows, and 26.62ha of the TEC “Banksia Woodlands of the Swan Coastal Plain” will be impacted by the project activities.

Potential impacts to MNES have been considered during project design and minimised as far as practical.

Unavoidable, residual impacts will be offset through financial contribution to provide for the purchase of land to add to the State conservation estate.



Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

No

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No



5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

This project is not considered likely to be a controlled action.

The project is likely to remove up to 26.62ha of vegetation that represents the Banksia Woodlands of the Swan Coastal Plains TEC. Within the survey areas there is a total of 352.07ha of vegetation that represents this TEC, which means that approximately 7.56% 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.

There is a total of 48.27ha of Carnaby's Cockatoo foraging habitat along a 56km stretch of road and up to 37.8ha of this will be removed for this project. Within the survey there are 204 potential breeding trees with DBH greater than 300/500mm recorded. The project requires the removal of 51 potential breeding trees, none of which contain hollows. The surrounding area has similar vegetation and habitat values to the project area. It is unlikely that there will be a significant impact to Carnaby's Black Cockatoo as there is an abundance of alternative habitat available for this species.



Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Main Roads is a State agency and have a sound record of responsible environmental management and environmental management systems.

Main Roads seeks to achieve balanced and sustainable outcomes for the community with responsible environmental stewardship in developing and maintaining the road network critical to its success. Main Roads is committed to:

-Protecting and enhancing the environmental values of road reserves-Minimising the impact on the natural environment of roads and road use-Conserving natural resources and minimising energy consumption and waste.

A corporate Environmental Management System facilitates management of environmental risks and performance improvement. The independently certified and audited system is integrated into all key processes including planning, delivery, maintenance, network operations and supporting services.

Main Roads holds Certificate No. EMS 530437 and operates an Environmental Management System which complies with the requirements of ISO 14001:2004 for the following scope: Main Roads Total Management System comprising Planning, Delivery, Maintenance, Network Operations and Supporting Services. Officially registered since 14 July 2005 under Certificate 149459.

6.2 Provide details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

N/A

6.3 Will the action be taken in accordance with the corporation's environmental policy and planning framework?

Yes



6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

Main Roads operates under an Environment Policy and Sustainability Policy, as well as an Environmental Assessment and Approvals Guideline.

Main Roads also has an ISO 14001 accredited Environmental Management System.

Main Roads Environmental Policy Statement (2004):

Main Roads manages the State's road network to provide safe and efficient road access that will enhance community lifestyles and support economic prosperity. Main Roads seeks to achieve balanced and sustainable outcomes for the community. Responsible environmental stewardship in developing and maintaining the road network is critical to the success of Main Roads.

Principles

Main Roads is committed to:

-Protecting and enhancing the environmental values of road reserves;-Minimising the impact on the natural environment of roads and road use; and-Conserving natural resources and minimising energy consumption and waste.

Objectives

In applying these principles, Main Roads aims to:

-Fully satisfy all environmental legislation, Government Policy and, where specific legislation is lacking, uphold the spirit of the law;-Implement, maintain and continually improve an effective environmental management system across Main Roads planning, business, project and management processes;-Apply an approach of "avoid, minimise and mitigate", in order of preference, to the management of environmental impacts associated with road construction projects;-Develop awareness of environmental management processes, standards and responsibilities among Main Roads' employees and contractor partners;-Listen and be responsive to community and stakeholder views on environmental issues; andSet specific environmental objectives and targets relating to the key environmental aspects of Main Roads' activities, and measure and report progress in achieving these targets.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes

6.4.1 EPBC Act No and/or Name of Proposal.



Main Roads has previously referred projects under the EPBC Act including:

2016/7664 Narrogin Link Road tage 3-North Extension

2016/7743 Arthur River Upgrade

2016/7740 Brand Hwy Road Formation and seal widening 51.2-77.5 SLK



Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
<p>Astron (2016) Brand Highway, Regans Ford Biological Survey. Unpublished report to Main Roads Western Australia.</p> <p>Beeston, G.R., Hopkins, A.J.M. and Shepherd, D.P. (2002). Land-use and vegetation in Western Australia. Department of Agriculture, Western Australia, Resource Management Technical Report 250.</p> <p>CSIRO (2016) Australian Soil Resource Information System. Available online from: http://www.asris.csiro.au/mapping/viewer.htm. Accessed 9/11/2016</p> <p>Department of Aboriginal Affairs. (2016). Aboriginal Heritage Inquiry System Search for Registered Sites, Other Heritage Sites and Surveys. Available online from: http://maps.dia.wa.gov.au/AHIS2/default.aspx. Accessed 1/11/2016.</p> <p>Department of the Environment and Energy (2013). Matters of National Environmental Significance, Significant Impact Guidelines 1.1, Environment Protection and Biodiversity Conservation Act 1999. Canberra, Australian Capital Territory.</p> <p>Department of the Environment and Energy. (2016). Protected Matters</p>	<p>All information is recent and reliable</p>	<p>There are no uncertainties.</p>



Reference Source	Reliability	Uncertainties
<p>Search Tool Report. Available online from: http://www.environment.gov.au/epbc/pmst/index.html / Accessed 1/11/2016.</p> <p>Department of the Environment and Energy. (2016). Species Profile and Threats Database. Available online from: http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl / Accessed 28/11/2016.</p> <p>Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria. GHD (2016) Brand Highway Passing Lanes Biological Assessment. Unpublished report to Main Roads Western Australia. GHD (2016) Brand Highway, Western Australia-Variou Sections: SLK 74-150 Biological Survey. Unpublished report to Main Roads Western Australia. Government of Western Australia. (2014). 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. Department of Parks and Wildlife, Perth, Western Australia. Keighery, B. J. 1994. Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.</p>		



Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

There are no feasible alternatives to taking the proposed action, other than not upgrading the safety of the existing road.

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No



Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Project Manager

9.2.2 First Name

Matthew

9.2.3 Last Name

Baker

9.2.4 E-mail

matthew.baker@mainroads.wa.gov.au

9.2.5 Postal Address

Australia

9.2.6 ABN/ACN

ABN

50860676021 - MAIN ROADS

9.2.7 Organisation Telephone

138 138

9.2.8 Organisation E-mail



enquiries@mainroads.wa.gov.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy’s guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date:

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Declaration

I, _____, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:..... Date:

I, _____, the person proposing the action, consent to the designation of _____ as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... Date:

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation



9.5 Organisation

9.5.1 Job Title

Project Manager

9.5.2 First Name

Matthew

9.5.3 Last Name

Baker

9.5.4 E-mail

matthew.baker@mainroads.wa.gov.au

9.5.5 Postal Address

Australia

9.5.6 ABN/ACN

ABN

50860676021 - MAIN ROADS

9.5.7 Organisation Telephone

138 138

9.5.8 Organisation E-mail

enquiries@mainroads.wa.gov.au

Declaration

I, _____, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:..... Date:

9.6 Is the Referring Party an Organisation or Individual?



Organisation

9.8 Organisation

9.8.1 Job Title

Environment Officer

9.8.2 First Name

Emma

9.8.3 Last Name

Fitzgerald

9.8.4 E-mail

emma.fitzgerald@mainroads.wa.gov.au

9.8.5 Postal Address

Australia

9.8.6 ABN/ACN

ABN

50860676021 - MAIN ROADS

9.8.7 Organisation Telephone

138 138

9.8.8 Organisation E-mail

enquiries@mainroads.wa.gov.au

Declaration

I, _____, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:..... Date: