



## Environmental Protection Authority

EPA Referral Form

### Form for the referral of a proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*

Referrer information			
Who is referring this proposal?		<input checked="" type="checkbox"/> Proponent <input type="checkbox"/> Decision-making authority <input type="checkbox"/> Community member/third party	
Name Mark Hazebroek		Signature	
Position	Project Director-Infrastructure Delivery Directorate	Organisation	Main Roads Western Australia
Email	<a href="mailto:mark.hazebroek@mainroads.wa.gov.au">mark.hazebroek@mainroads.wa.gov.au</a>		
Address	Don Aitken Centre, Waterloo Crescent		
	East Perth	WA	6004
Date	20 August 2018		
Does the referrer request that the EPA treat any part of the proposal information in the referral as confidential? <i>Provide confidential information in a separate attachment.</i>		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Referral declaration for organisations, proponents and decision-making authorities:  I, <u>MARK HAZEBROEK</u> , (full name) declare that I am authorised to refer this proposal on behalf of <u>MAIN ROADS WA</u> and further declare that the information contained in this form is true and not misleading.			
Part A: Proponent and proposal description			
Proponent information			
Name of the proponent/s (including Trading Name if relevant)		Main Roads Western Australia	
Australian Company Number(s) <input type="checkbox"/> <b>OR</b> Australian Business Number(s) <input checked="" type="checkbox"/>		50 860 676 021	
Contact for the proposal (if different from the referrer) <i>Please include: name; physical address; phone; and email.</i>		John Braid Don Aitken Centre Waterloo Cres	

	East Perth WA 6004 9323 6183 <a href="mailto:John.braid@mainroads.wa.gov.au">John.braid@mainroads.wa.gov.au</a>
Does the proponent have the legal access required for the implementation of all aspects of the proposal? <i>If yes, provide details of legal access authorisations / agreements / tenure.</i> <i>If no, what authorisations / agreements / tenure is required and from whom?</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> <b>No</b> See Section 1.4 of attached Supporting Document. Main Roads will acquire all land required for this proposal that is in private ownership prior to commencement of works on that land.
<b>Proposal type</b>	
<b>What type of proposal is being referred?</b> For a change to an approved proposal please state the Ministerial Statement number/s (MS No./s) of the approved proposal  For a derived proposal please state the Ministerial Statement number (MS No.) of the associated strategic proposal	<input checked="" type="checkbox"/> <b>significant – new proposal</b> <input type="checkbox"/> significant – change to approved proposal (MS No./s: _____) <input type="checkbox"/> proposal under an assessed planning scheme <input type="checkbox"/> strategic <input type="checkbox"/> derived (Strategic MS No.: _____)
For a significant proposal: <ul style="list-style-type: none"> <li>Why do you consider the proposal may have a significant effect on the environment and warrant referral to the EPA?</li> </ul>	Potential impacts on flora and vegetation, terrestrial environmental quality, terrestrial fauna, inland waters and social surroundings. See Section 4 of attached Supporting Document
For a proposal under an assessed planning scheme, provide the following details: <ul style="list-style-type: none"> <li>Scheme name and number</li> </ul> For the Responsible Authority: <ul style="list-style-type: none"> <li>What new environmental issues are raised by the proposal that were not assessed during the assessment of the planning scheme?</li> <li>How does the proposal not comply with the assessed scheme and/or the environmental conditions in the assessed planning scheme?</li> </ul>	Not applicable
<b>Proposal description</b>	
Title of the proposal	Armadale Road to North Lake Road Bridge
Name of the Local Government Authority in which the proposal is located.	City of Cockburn
Location: a) street address, lot number, suburb, and nearest road intersection; or b) if remote the nearest town and distance and direction from that town to the proposal site.	Proposal is located within the suburbs of Cockburn Central, Treeby, Banjup, Atwell and Jandakot, near the intersection of Armadale Road and Kwinana Freeway, and Cockburn Central station. Refer to Figure 1, Section 1 of Supporting Document
Proposal description – including the key characteristics of the proposal	Refer to Section 2.2 of Supporting Document

<p><i>Provide as an attachment to the form</i></p>	<p>Main Roads Western Australian (Main Roads) are proposing to upgrade sections of Armadale Road and the Kwinana Freeway in the City of Cockburn (the Proposal).</p> <p>The Proposal is to:</p> <ul style="list-style-type: none"> <li>• realign and extend Armadale Road from Solomon Road to North Lake Road;</li> <li>• duplicate and upgrade intersections along Armadale Road between Solomon Road and Ghostgum Avenue;</li> <li>• construct a new bridge and on/off ramps over Kwinana Freeway; and</li> <li>• construct a southbound collector distributor road along the Kwinana Freeway between Berrigan Drive and Armadale Road.</li> </ul> <p>Physical elements comprise a bridge, roads and associated infrastructure, with clearing of no more than 5.7 ha of native vegetation within a disturbance envelope of 48.6 ha.</p>
<p>Have you provided electronic spatial data, maps and figure in the appropriate format?</p> <p><i>Refer to instructions at the front of the form</i></p>	<p><input checked="" type="checkbox"/> <b>Yes</b>                      <input type="checkbox"/> <b>No</b></p>
<p>What is the current land use on the property, and the extent (area in hectares) of the property?</p>	<p>Refer to Section 1.4 and 2.3 of attached Supporting Document.</p> <p>Development envelope is 48.6 ha.</p>
<p>Have you had pre-referral discussions with the OEPA? If so, quote the reference number and/or the OEPA contact.</p>	<p>Yes – Hans Jacob</p>
<p><b>Part B: Environmental impacts</b></p>	
<p><b>Environmental factors</b></p>	
<p>What are the likely significant environmental factors for this proposal?</p>	<p><input type="checkbox"/> Benthic Communities and Habitat</p> <p><input type="checkbox"/> Coastal Processes</p> <p><input type="checkbox"/> Marine Environmental Quality</p> <p><input type="checkbox"/> Marine Fauna</p> <p><b>X Flora and Vegetation</b></p> <p><input type="checkbox"/> Landforms</p> <p><input type="checkbox"/> Subterranean Fauna</p> <p><b>X Terrestrial Environmental Quality</b></p> <p><b>X Terrestrial Fauna</b></p> <p><b>X Inland Waters</b></p> <p><input type="checkbox"/> Air Quality</p> <p><b>X Social Surroundings</b></p>

	<input type="checkbox"/> Human Health
<i>For <u>each</u> of the environmental factors identified above, complete the following table, or provide the information in a supplementary report</i>	

Potential environmental impacts		
1	<b>EPA Factor</b>	Flora and vegetation
2	<b>EPA policy and guidance</b> - What have you considered and how have you applied them in relation to this factor?	Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016a) and the Environmental Factor Guideline: Flora and Vegetation (EPA 2016b)
3	<b>Consultation</b> – Outline the outcomes of consultation in relation to the potential environmental impacts	<p>Key stakeholders identified were:</p> <ul style="list-style-type: none"> <li>• DEE</li> <li>• Department of Biodiversity, Conservation and Attractions (DBCA)</li> <li>• DWER</li> <li>• City of Cockburn</li> <li>• City of Armadale</li> <li>• WA Parliament Members for Kwinana, Cockburn and Jandakot</li> <li>• Federal Parliament Members for Fremantle and Burt</li> <li>• Local residents</li> <li>• Community Reference Groups (CRGs)</li> </ul> <p>Refer to Section 3 of Supporting Document.</p>
4	<b>Receiving environment</b> - Describe the current condition of the receiving environment in relation to this factor.	<p>Four remnant vegetation units and native regrowth identified within the Development Envelope, including:</p> <ul style="list-style-type: none"> <li>• 3.7 ha of good or very good condition vegetation</li> <li>• 2.0 ha in degraded condition</li> <li>• 1.9 ha of Banksia woodlands of the Swan Coastal Plain Priority Ecological Community</li> <li>• 2.8 ha of vegetation associated with Multiple Use category wetland</li> </ul> <p>No threatened or priority flora species are present within the Development Envelope.</p> <p>Refer to Section 4.2.3 of Supporting Document.</p>
5	<b>Proposal activities</b> – Describe the proposal activities that have the potential to impact the environment	Clearing of no more than 5.7 ha of native vegetation within a DE of 48.6 ha.
6	<b>Mitigation</b> - Describe the measures proposed to manage and mitigate the potential environmental impacts.	<ul style="list-style-type: none"> <li>• Design of road alignment to minimise clearing of remnant vegetation, with potential further reduction during detailed design.</li> <li>• Project Environmental Management Plan (PEMP) including: <ul style="list-style-type: none"> <li>○ Clearing and access control measures (such as demarcation of clearing boundaries)</li> <li>○ Weed and dieback management</li> <li>○ Landscaping of earth-worked areas</li> <li>○ Erosion and sediment control</li> <li>○ Waste and fire management</li> <li>○ Topsoil management</li> <li>○ Dust control</li> <li>○ Tree and vegetation retention where possible</li> </ul> </li> </ul>

Potential environmental impacts		
7	<b>Impacts</b> - Assess the impacts of the proposal and review the residual impacts against the EPA objective.	Residual impacts are identified to be not significant. Refer to Section 4.2.7 of Supporting Document. Can be mitigated and regulated under a Part V clearing permit.
8	<b>Assumptions</b> - Describe any assumptions critical to your assessment <i>e.g. particular mitigation measures or regulatory conditions.</i>	See section 4.2.7 of the attached Supporting Document

Potential environmental impacts		
1	<b>EPA Factor</b>	Terrestrial environmental quality
2	<b>EPA policy and guidance</b> - What have you considered and how have you applied them in relation to this factor?	Environmental Factor Guideline: Terrestrial Environmental Quality (EPA 2016c)
3	<b>Consultation</b> – Outline the outcomes of consultation in relation to the potential environmental impacts	As per flora and vegetation – refer to Section 3 of Supporting Document
4	<b>Receiving environment</b> - Describe the current condition of the receiving environment in relation to this factor.	Development Envelope is underlain by Bassendean Sand and Bassendean Sand over Guilford Formation, and mapped as ‘moderate to low’ risk of acid sulfate soil (ASS) within 3 m of natural surface. Potential ASS typically located at depth within the zone of groundwater fluctuation. Refer to Section 4.3.3 of Supporting Document.
5	<b>Proposal activities</b> – Describe the proposal activities that have the potential to impact the environment	Excavation of soils along alignment potentially exposing ASS. Potential temporary dewatering during construction that may oxidise ASS.
6	<b>Mitigation</b> - Describe the measures proposed to manage and mitigate the potential environmental impacts.	<ul style="list-style-type: none"> <li>ASS and Dewater Management Plan (ASSDMP) to be developed and implemented during construction in accordance with DWER guidelines</li> <li>ASS treated where necessary</li> <li>Dewatering effluent (if generated) treated prior to disposal via infiltration</li> <li>No dewater (if generated) will be discharged direct to waterways, wetlands or drains</li> <li>Project Environmental Management Plan (PEMP)</li> </ul>
7	<b>Impacts</b> - Assess the impacts of the proposal and review the residual impacts against the EPA objective.	Residual impacts are identified to be not significant and can be readily managed. Refer to Section 4.3.5 of Supporting Document.
8	<b>Assumptions</b> - Describe any assumptions critical to your assessment <i>e.g. particular mitigation measures or regulatory conditions.</i>	See section 4.3.7 of the attached Supporting Document

Potential environmental impacts		
1	<b>EPA Factor</b>	Terrestrial fauna
2	<b>EPA policy and guidance</b> - What have you considered and how have you applied them in relation to this factor?	Terrestrial fauna surveys (EPA 2004) and the Environmental Factor Guideline: Terrestrial Fauna (EPA 2016d)
3	<b>Consultation</b> – Outline the outcomes of consultation in relation to the potential environmental impacts	As per flora and vegetation – see Section 3 of Supporting Document
4	<b>Receiving environment</b> - Describe the current condition of the receiving environment in relation to this factor.	<p>Development Envelope contains:</p> <ul style="list-style-type: none"> <li>• 8.4 ha of foraging/roosting habitat for Carnaby's Cockatoo (<i>Calyptorhynchus latirostris</i>) including 17 potential breeding trees (no suitable hollows)</li> <li>• Limited habitat (0.1 ha) for Forest Red-tailed Black Cockatoo (<i>Calyptorhynchus banksii naso</i>)</li> <li>• 8.4 ha of habitat for Quenda (<i>Isodon obesulus fusciventer</i>)</li> <li>• 13.8 ha of habitat for Perth Lined Skink (<i>Lerista lineata</i>)</li> </ul> <p>Refer to Section 4.4.3 of Supporting Document</p>
5	<b>Proposal activities</b> – Describe the proposal activities that have the potential to impact the environment	Clearing of no more than 8.4 ha of Carnaby's Cockatoo habitat within a DE of 48.6 ha.
6	<b>Mitigation</b> - Describe the measures proposed to manage and mitigate the potential environmental impacts.	<ul style="list-style-type: none"> <li>• Design of the road alignment to minimise clearing of native vegetation, including black cockatoo habitat.</li> <li>• Landscaping to reinstate some fauna habitat post-construction, especially for Quenda and Perth Lined Skink.</li> <li>• PEMP including: <ul style="list-style-type: none"> <li>○ Staff inductions</li> <li>○ Inspection (ecologist) of potential breeding trees as required</li> <li>○ Reporting of any injured fauna</li> <li>○ Clearing and access control measures (such as demarcation of clearing boundaries)</li> <li>○ Weed and dieback management</li> <li>○ Landscaping of earth-worked areas</li> <li>○ Erosion and sediment control</li> <li>○ Waste and fire management</li> <li>○ Tree and vegetation retention where possible</li> </ul> </li> </ul>
7	<b>Impacts</b> - Assess the impacts of the proposal and review the residual impacts against the EPA objective.	Can be mitigated and regulated under a Part V clearing permit.
8	<b>Assumptions</b> - Describe any assumptions critical to your assessment <i>e.g. particular mitigation measures or regulatory conditions.</i>	See Section 4.4.7 of Supporting Document

Potential environmental impacts		
1	<b>EPA Factor</b>	Inland waters
2	<b>EPA policy and guidance</b> - What have you considered and how have you applied them in relation to this factor?	Environmental Factor Guideline: Inland Waters (EPA 2018c)
3	<b>Consultation</b> – Outline the outcomes of consultation in relation to the potential environmental impacts	As per flora and vegetation – see Section 3
4	<b>Receiving environment</b> - Describe the current condition of the receiving environment in relation to this factor.	<p>Superficial aquifer within Bassendean Sands.</p> <p>Two Multiple Use wetlands mapped within Development Envelope.</p> <p>No Ramsar listed or Conservation Category wetlands within 1 km of Development Envelope.</p> <p>South-east portion of Development Envelope mapped as Priority 1, 2 and 3 public drinking water source area (PDWSA), including a Wellhead Protection Zone within the Priority 3 PDWSA.</p> <p>Refer to Section 4.5.3 of Supporting Document.</p>
5	<b>Proposal activities</b> – Describe the proposal activities that have the potential to impact the environment	<ul style="list-style-type: none"> <li>• Dewatering during construction (if required)</li> <li>• Discharge of dewatering effluent (if required)</li> <li>• Excavation of ASS</li> <li>• Accidental spills of fuels or chemicals during construction</li> <li>• Erosion and sediment during construction</li> <li>• Stormwater runoff from roads during operation</li> </ul>
6	<b>Mitigation</b> - Describe the measures proposed to manage and mitigate the potential environmental impacts.	<ul style="list-style-type: none"> <li>• PEMP includes spill response procedures, erosion/sediment controls and surface water/ drainage management to prevent water quality impacts in nearby wetlands and groundwater.</li> <li>• No fuel or chemical storage tanks within Priority 1 PDWSAs or the WHPZ.</li> <li>• No below ground fuel or chemical storage.</li> <li>• All fuel or chemical storage tanks will be compatible with water resource protection objectives.</li> <li>• Storage of fuel or chemicals within Priority 2 and Priority 3 PDWSAs subject to written approval obtained from the relevant authority.</li> <li>• Section 5C licence for construction dewatering, in accordance with the Rights in Water and Irrigation Act 1914.</li> <li>• Testing of construction dewater, and treatment if necessary, prior to re-infiltration</li> <li>• ASS managed through an ASSDMP (see Section 4.3.6) to prevent water quality impacts to wetlands and groundwater, in accordance with DWER guidelines</li> <li>• Stormwater treatment and infiltration in accordance with the Better Urban Water Management framework and WA Stormwater Management Manual.</li> <li>• Embankments adjacent to or within wetlands will be vegetated to minimise erosion and sedimentation.</li> </ul>



Potential environmental impacts		
7	<b>Impacts</b> - Assess the impacts of the proposal and review the residual impacts against the EPA objective.	Residual impacts are identified to be not significant. Refer to Section 4.5.5 of Supporting Document.
8	<b>Assumptions</b> - Describe any assumptions critical to your assessment <i>e.g. particular mitigation measures or regulatory conditions.</i>	See Section 4.5.7 of Supporting Document.

Potential environmental impacts		
1	<b>EPA Factor</b>	Social surroundings
2	<b>EPA policy and guidance</b> - What have you considered and how have you applied them in relation to this factor?	Social Surroundings (EPA 2016e) and SPP 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning (WA Planning Commission 2009).
3	<b>Consultation</b> – Outline the outcomes of consultation in relation to the potential environmental impacts	As per flora and vegetation – see Section 3 of Supporting Document
4	<b>Receiving environment</b> - Describe the current condition of the receiving environment in relation to this factor.	<p>Development Envelope is surrounded by predominantly urban residential and commercial land uses. Key social and economic values in the area include:</p> <ul style="list-style-type: none"> <li>• Cockburn Gateway shopping centre</li> <li>• Cockburn Aquatic and Recreation Centre</li> <li>• commercial land uses (e.g. Spotlight, Bunnings)</li> <li>• light industrial land uses further to the north in Jandakot</li> <li>• Cockburn Central train station and carparking area</li> <li>• recreational reserve and wetland along Tapper Road</li> <li>• Beeliar Regional Park and Thompsons Lake Nature Reserve</li> </ul> <p>Development Envelope lies across City of Armadale Municipal Inventory site (Armadale/Fremantle Rail line), which was previously eliminated by road construction.</p> <p>No registered Aboriginal sites within Development Envelope.</p> <p>Refer to Section 4.6.3 of Supporting Document.</p>
5	<b>Proposal activities</b> – Describe the proposal activities that have the potential to impact the environment	<ul style="list-style-type: none"> <li>• Dust emissions and deposition</li> <li>• Noise and vibration from machinery</li> <li>• Construction waste such as litter and debris</li> <li>• Construction vehicle traffic including heavy vehicles supplying materials</li> <li>• Restricted access to adjacent shopping precincts and recreational areas due to construction works and temporary laydown areas.</li> <li>• Noise from vehicular traffic along new / upgraded roads.</li> <li>• Visual effect / intrusion from elevated roadway.</li> </ul>

Potential environmental impacts		
6	<p><b>Mitigation</b> - Describe the measures proposed to manage and mitigate the potential environmental impacts.</p>	<p>Mitigation measures for the construction phase include:</p> <ul style="list-style-type: none"> <li>• Notification of residents and business of construction activities and complaints phonenumber</li> <li>• Complaints response process to ensure prompt response to all concerns and complaints throughout construction</li> <li>• Conduct any subsequent investigations and recommendations resulting from complaints of damage</li> <li>• Construction generally to occur in normal business hours between 7am and 7pm Monday to Saturday</li> <li>• Equipment shall be turned off where practicable</li> <li>• Adopt construction techniques that will minimise vibration impacts to nearby sensitive receptors, particularly for compaction operations</li> <li>• Dust monitoring and suppression (where necessary) with water sprays to prevent dust deposition on nearby properties and public areas</li> <li>• Install signage for suitable speed limits during vehicle movement</li> <li>• Landscape in a timely manner to suppress dust from completed roadside embankments</li> <li>• Waste management, including litter control and use of designated bins for construction waste</li> <li>• Spill response procedures and erosion/sediment controls to prevent impacts to adjacent land and wetlands (e.g. Atwell Reserve)</li> </ul> <p>Mitigation measures for the operations phase include:</p> <ul style="list-style-type: none"> <li>• Minimising elevation and visual intrusion of bridge as far as is practicable.</li> <li>• Provision of shared use paths to maintain/ enhance existing access networks.</li> <li>• Provision of noise walls to mitigate noise impacts from vehicle use of the roads as well as acting as a visual screen between the road and adjacent residences. Noise modelling predicts that implementation of the Proposal will result in a reduction in noise levels compared to the 'do nothing' scenario.</li> <li>• Visual screening as part of detailed design.</li> <li>• Landscaping with native vegetation to maintain and enhance the existing visual character of the area.</li> </ul>
7	<p><b>Impacts</b> - Assess the impacts of the proposal and review the residual impacts against the EPA objective.</p>	<p>Residual impacts are identified to be not significant. Refer to Section 4.6.5 of Supporting Document.</p>
8	<p><b>Assumptions</b> - Describe any assumptions critical to your assessment <i>e.g. particular mitigation measures or regulatory conditions.</i></p>	<p>See Section 4.6.7 of Supporting Document</p>

Part C: Other approvals and regulation			
State and Local Government approvals			
Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.		<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> Refer to Section 1.4 of Supporting Document	
If this proposal has been referred by a decision-making authority, what approval(s) are required from you?		Not applicable	
Proposal activities e.g. clearing, dewatering, mining, processing, dredging,	Land tenure/access e.g. Crown land – LA Act, Min Act, CALM Act specify type	Type of approval e.g. Native Vegetation Clearing Permit, licence, mining proposal,	Legislation regulating the activity e.g. <i>EP Act 1986 – Part V, RiWI Act 1914, Mining Act 1979</i>
Dewatering		Section 5C licence	RIWI Act 1914
Construction outside road reserve		Development approval MRS amendment	P&D Act 2005
Clearing		Clearing permit	EP Act 1986 – Part V
Commonwealth Government approvals			
Does the proposal involve an action that may be or is a controlled action under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)?		<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>	
Has the proposed action been referred? If yes, when was it referred and what is the reference number (EPBC No.)?		<input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> Date: 22 August 2018 EPBC No.: 2018/8284  <i>Proposal has been referred to the Commonwealth Government under the EPBC Act at the same time as referral under the EP Act</i>	
If referred, has a decision been made on whether the proposed action is a controlled action? If 'yes', check the appropriate box and provide the decision in an attachment.		<input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>  <input type="checkbox"/> Decision – controlled action <input type="checkbox"/> Decision – not a controlled action	
Do you request that this proposal be assessed under the bilateral agreement or as an accredited assessment?		<input type="checkbox"/> <b>Yes - Bilateral</b> <input type="checkbox"/> <b>No</b> <input type="checkbox"/> <b>Yes – Accredited</b> <i>To be advised depending on Commonwealth Government determination of controlled action</i>	
Is approval required from other Commonwealth Government/s for any part of the proposal? <i>If yes, describe.</i>		<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b>  Approval:	