

Environmental Protection Authority

EPA REFERRAL FORM PROPONENT

Referral of a Proposal by the Proponent to the Environmental Protection Authority under Section 38(1) of the Environmental Protection Act.

PURPOSE OF THIS FORM

Section 38(1) of the *Environmental Protection Act 1986* (EP Act) provides that where a development proposal is likely to have a significant effect on the environment, a proponent may refer the proposal to the Environmental Protection Authority (EPA) for a decision on whether or not it requires assessment under the EP Act. This form sets out the information requirements for the referral of a proposal by a proponent.

Proponents are encouraged to familiarise themselves with the EPA's *General Guide on Referral of Proposals* [see Environmental Impact Assessment/Referral of Proposals and Schemes] before completing this form.

A referral under section 38(1) by a proponent to the EPA must be made on this form. A request to the EPA for a declaration under section 39B (derived proposal) must be made on this form. This form will be treated as a referral provided all information required by Part A has been included and all information requested by Part B has been provided to the extent that it is pertinent to the proposal being referred. Referral documents are to be submitted in two formats – hard copy and electronic copy. The electronic copy of the referral will be provided for public comment for a period of 7 days, prior to the EPA making its decision on whether or not to assess the proposal.

CHECKLISTBefore you submit this form, have you

Ves No

	168	INO
Completed all the questions in	Υ	
Part A (essential)		
Completed all applicable	Υ	
questions in Part B		
Included Attachment 1 – location	Attachment 1 (Figures):	
maps	Locality map	
	2. ASS risk	
	3. Wetlands and hydrological features	
	4. Vegetation Type	
	Vegetation Condition and Declared Weeds	
	6. Threatened and Priority Ecological	
	Conditions	
Included Attachment 2 – additional	Attachment 2:	
document the proponent wishes to	Environmental Impact	
provide (if applicable)	Assessment	
	2. Vegetation and Flora	

	Assessment
	3. Fauna Assessment
	Results of Database Searches
	5. Air Quality Investigation
	6. Noise Assessment
Included Attachment 3 -	N/A
confidential information (if	
applicable)	
Enclosed the CD of all referral	Υ
information, including spatial data	
and contextual mapping but	
excluding confidential information.	
Following a review of the information pre-	esented in this form, please consider the following
question. (A response is Optional)	
. ,	
DO YOU CONSIDER THE PROPOSAL I	REQUIRES FORMAL ENVIRONMENTAL
IMPACT ASSESSMENT?	
□ v=0	
∐ YES	NO ✓ NOT SURE
<u>IF</u> YES, WHAT LEVEL	
ASSESSMENT ON	I PROPONENT INFORMATION
PUBLIC ENVIRON	IMENTAL REVIEW
PROPONENT DECLARATION (To be a	ampleted by the proposent)
PROPONENT DECLARATION (To be c	ompleted by the proponent)
ı	(CERRY ZOETELIEE) declare that the
	, (GERRY ZOETELIEF) declare that the
information contained in this form is, to r	ny knowledge, true and not misleading.
Signature	Name: Gerry Zoetelief
Position: Project Manager	Company: Main Roads Western Australia
Development	Company. Main Noads Western Australia
Development	
Date	
Date	l .

PART A - PROPONENT AND PROPOSAL INFORMATION

(All fields of this Part must be completed for this document to be treated as a referral)

1.1 PROPONENT

Name	Main Roads Western Australia
Joint Venture parties	N/A
(if applicable)	
Postal Address	PO Box 5010, Bunbury WA 6231
Key proponent contact for the proposal	Gerry Zoetelief
Name	Main Roads Western Australia
 Address 	PO Box 5010, Bunbury WA 6231
Phone	61 8 9724 5640
• Email	gerry.zoetelief@mainroads.wa.gov.au
Consultant for the proposal (if applicable)	Sean McSevich
Name	GHD Pty Ltd
 Address 	10 Victoria St, Bunbury WA 6230
• Phone	61 8 9721 0700
• Email	sean.mcsevich@ghd.com

1.2 PROPOSAL

Title	Bunbury Outer Ring Road Southern Section,
	South Western Highway to Bussell Highway
Description	Main Roads Western Australia (Main Roads) proposes to construct the Bunbury Outer Ring Road (BORR) Southern Section (South Western Highway to Bussell Highway) (the Project) at Bunbury, Western Australia (Figure 1). The Project will provide improved access from Bussell Highway in the south, to the Bunbury Port and developing industrial areas to the east of Bunbury. The Project involves the construction of a 9 km dual carriageway highway between South Western Highway and Bussell Highway, including service roads, side road intersections, road overpass, service re-locations, fencing and noise walls.
Extent (area) of proposed ground disturbance	The Project has an estimated footprint of 95 ha and will require clearing of up to 33 ha of native vegetation, with the remaining comprising previously cleared agricultural land.
Timeframe in which the activity or development is proposed to occur. (Include start and finish dates where applicable)	There is no timeframe for construction of the southern section of the BORR at present, however it is anticipated that works may commence around 2015 subject to funding availability. Construction is expected to take approximately 1 year to complete.
Details of any staging of the proposal	The BORR forms part of the Bunbury Port Access Project which

	is being constructed in stages. BORR southern section forms Stage 3 of the Bunbury Port Access Project, and will be constructed as one lot. The northern section of the BORR from the Perth Bunbury Highway to the Boyanup Picton Road forms the final stage. The BORR is planned with the capacity to be upgraded to freeway status over the long term. Initially it will be constructed as a four lane dual carriageway and upgraded to a freeway as traffic volumes increase with ongoing development in both the Greater Bunbury and South West Regions.
Is the proposal a strategic proposal?	Not Applicable
Is the proposal? Is the proponent requesting a declaration that the proposal is a derived proposal? If so, provide the following information on the strategic assessment within which the referred proposal was identified - • Title of the strategic assessment • Ministerial Statement number	The Western Australian Planning Commission (WAPC) prepared the Greater Bunbury Region Scheme (GBRS), which was referred to the EPA for assessment under Section 48 of the EP Act 1986. EPA Bulletin 1108 provided specific recommendations in respect to the BORR, with the WA Minister for the Environment prescribing conditions for the implementation of the Scheme in October 2005 through Statement No. 000697 (DEC 2005).
	Main Roads acknowledges that the EPA deferred the assessment of a number of environmental factors, so as to have the opportunity to assess the Project under Part IV of the <i>EP Act</i> , once more detail was provided.
	Main Roads submits this Referral for consideration by the EPA.
Indicate whether, and in what way, the proposal is related to other proposals in the region.	The Project forms the southern section of the BORR connecting South Western Highway to Bussell Highway. The ultimate BORR is a planned Controlled Access Highway, linking the four major highways radiating from Bunbury on the outer edge of the City to the planned Bunbury Port Access Road (PAR). The BORR and PAR will provide a high standard route for traffic wishing to access the Bunbury Port and the developing industrial areas to the east of Bunbury. The completed BORR will also provide an effective bypass of Bunbury for inter-regional traffic.
Does the proponent own the land on which the proposal is to be established? If not, what other arrangements have been established to	The Project is located on freehold land which, is either still in private ownership or owned by the Western Australia Planning Commission (WAPC) or the Commissioner of Main Roads. The land has been set aside as Primary Regional Road under the GBRS, and will be acquired through agreement with the owners or through compulsory acquisition under Sections 10 and 11 of

access the land?	the Land Administration Act 1997 (WA).
What is the current land use on the	The total footprint of the Project is approximately 95 ha.
property, and the extent (area in hectares) of the property?	The Project essentially occurs on land set aside as Primary Regional Road under the GBRS. Apart from the Five Mile Brook Reserve, the Project passes adjacent to freehold land.
	The northern 6.6 km of the Project from South Western Highway to Jilley Road traverses sparsely populated rural land, with one house located on Lot 239 South Western that will require demolition. The BORR also passes between regional basalt quarry operations.
	From Jilley Road to Bussell Highway the BORR traverses the special rural area of Gelorup, comprising lot sizes approximately 2 ha in size. The land for the Project was set aside at the time of subdivision and is owned by the Commissioner of Main Roads
	Approximately 35 private residences occur within 200 m of the centre of the Project, of which 14 occur within 100 m and 21 between 100 – 200 m of the Project (centreline). The majority of these are located in the Gelorup area between Ducane Road and Bussell Highway.

1.3 LOCATION

Name of the Shire in which the proposal is	Shire of Capel
located	
For urban areas –	
street address	
lot number	
• suburb	
nearest road intersection	
For remote localities –	The Project commences on the South
nearest town	West Hwy near Centenary Rd and
distance and direction from that town to the	terminates on the Bussell Highway
proposal site	near Woods Road, approximately 8.5
	kilometres south of Bunbury.
Electronic spatial data - GIS or CAD on CD, geo-	Enclosed: Yes / No
referenced and conforming to the following	
parameters:	
 GIS: polygons representing all activities and named 	
 CAD: simple closed polygons representing all activities and named 	
datum: GDA94	
 projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA) 	
• format: Arcview shapefile, Arcinfo coverages,	

Microstation or AutoCAD	

1.4 CONFIDENTIAL INFORMATION

Does the proponent wish to request the EPA to allow any part of the referral information to be treated as confidential?	No
If yes, is confidential information attached as a	N/A
separate document in hard copy.	

1.5 GOVERNMENT APPROVALS

Is rezoning of any land required before the proposal can be implemented? If Yes, provide details.		No	
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, complete the table below -		Yes	
Agency/Authority	Approval Required	Application lodged Yes / No	Agency/Local Authority contact/s for proposal
Department of Sustainability, Environment, Water, Population and Communities	Uncertain	Yes	DEWSPaC

PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

2. ENVIRONMENTAL IMPACTS

	cribe the impacts of the stions below:	proposal on the	following elements of the environment, through the
(i)	flora and vegetation #;		
(ii)	fauna #;		
(iii)	rivers, creeks, wetlands	s and estuaries	;
(iv)	significant areas and/ o	or land features	;
(v)	coastal zone areas;		
(vi)	marine areas and biota	#;	
(vii)	water supply and drain	age catchments	s;
(viii)	pollution;		
(ix)	greenhouse gas emiss	ions;	
(x)	contamination; and		
(xi)	social surroundings.		
Thes	se features should be sh	nown on the site	e plan, where appropriate.
For a	all information, please in	idicate:	
(a)	the source of the inform	nation; and	
(b)	the currency of the info	rmation.	
2.1	Flora and Vegetation		
		o clear any nati	ve flora and vegetation as a part of this proposal?
	(please tick)	☑ Yes	If yes, complete the rest of this section
		☐ No	If no, go to the next section
	 How much vegeta 	ution are you pro	oposing to clear (in hectares)?
while inclu	e an additional 11 ha ha	s been identifiers sand paths.	ed as it has been identified within the road footprint, ed as requiring clearing for Subsidiary Infrastructure, The clearing area for the subsidiary infrastructure is gresses.
	sequently, up to 33 ha ve subsidiary infrastructu	•	ring, with this likely to be refined as detailed design d.
	* Have you submitted are exempt from s		on to clear native vegetation to the DEC (unless you nent)?
	☐ Yes	☑ No	

Main Roads has been issued with a Statewide Purpose Clearing Permit (CPS 818/6) which permits clearing for roadworks under certain conditions and prescribes specific management and offset requirements.

CPS 818/6 requires an assessment be conducted against the 'Ten Clearing Principles', with the assessment for this Project identifying that the clearing is potentially at variance with Principles a), b), e), f) and i).

Should the Project not be formally assessed, Main Roads will seek to conduct the clearing under CPS 818/6 or will seek a Purpose Clearing Permit under the *Environmental Protection* (Clearing of Native Vegetation) Regulations 2004.

	Are you aware of by this proposal?	any recent flora surveys carried out over the area to be disturbed
	✓ Yes	□ No
Flora and Bunbury ii	Vegetation Assess	outhern Section, South Western Highway to Bussell Highway: ement' (Unpublished report prepared by GHD for Main Roads is attached to this Referral (Attachment 2) and covers the clearing pance footprint.
Outer Ring	g Road (Stage 1) a	urveyed by GHD in 2008, with the results detailed in 'Bunbury nd Port access Road (Stage 2): Flora and Vegetation Survey d by GHD for Main Roads Bunbury in February 2009).
*		EC records for known occurrences of rare or priority flora or ical communities been conducted for the site? #
	✓ Yes	□ No
Searches Attachmer		ted, with these and a discussion of the results provided in
*	Are there any kno communities on the	wn occurrences of rare or priority flora or threatened ecological e site? #
	✓ Yes	□ No
Threaten	ed Flora	

No threatened or Priority flora species were recorded during the 2008 survey undertaken by GHD, as discussed in Attachment 2.

Desktop gueries of the *Environment Protection Biodiversity Conservation Act* 1999 (EPBC) Protected Matters Search (DSEWPC 2011a), NatureMap Database (DEC 2011a) and the DEC Rare Flora Database (DEC 2011c) were undertaken. These searches identified the occurrence of 28 DEC Priority species and five Threatened species within 5 km of the Project Area and the possible occurrence of five EPBC listed species within 5 km of the Project Area. These species are listed at Attachment 2.

No Threatened (previously called Declared Rare) flora as listed by the DEC (2011a) or species of national conservation significance listed under the EPBC Act (DSEWPC 2011a) were recorded from the road footprint.

Sandplain White Spider Orchid (*Caladenia speciosa*), a Priority 4 flora was recorded within the Project Area, mostly in small populations throughout the southern section of the alignment between Yalinda Drive and Bussell Highway. A total of 71 *Caladenia speciosa* plants were recorded within the Project road reserve.

Threatened Ecological Communities

A search of the DEC TEC database (DEC 2011 d and 2011 e) and the EPBC Protected Matters search tool (DSEWPC 2011a) indicates there are six TECs within 10 km of the Project Area as shown in Figure 6, Attachment 1 and further discussed at Attachment 2 (1):

- SCP19b, Woodlands over sedgelands in Holocene dune swales of the southern Swan Coastal Plain (original description; Gibson et al. (1994) - listed as "Critically Endangered" under the State DEC listing;
- ▶ SCP3c, Eucalyptus calophylla Xanthorrhoea preissii woodlands and shrublands, Swan Coastal Plain listed as "Critically Endangered" under the State DEC listing and as "Endangered" under the Commonwealth TEC listing (State and Commonwealth significance);
- ▶ SCP09, Dense shrublands on clay flats listed as "Vulnerable" under the State DEC listing;
- ▶ SCP07, Herb rich saline shrublands in clay pans- listed as "Vulnerable" under the State DEC listing;
- ▶ SCP08, Herb rich shrublands in clay pans listed as "Vulnerable" under the State DEC listing;
- ▶ SCP18, Shrublands on calcareous silts of the Swan Coastal Plain listed as "Vulnerable" under the State DEC listing; and
- ▶ SCP25: Southern *Eucalyptus gomphocephala Agonis flexuosa* woodlands listed as "Priority 3' under the State DEC listing.

Statistical analysis of all GHD quadrat data collected from the vicinity of the mapped occurrence was undertaken using PATN. The results of the analysis indicated that the vegetation types mapped by GHD during site surveys do not represent an occurrence of any of the other TECs identified by DEC mapping as occurring within the vicinity of the Project Area, therefore no impacts on TECs within 10 km of the Project Area are expected to result from the Project.

PEC SCP25 Southern *Eucalyptus gomphocephala - Agonis flexuosa* woodlands is mapped by DEC as being located within the southern section of the Project Area north of Woods Road. The results of the PATN analysis indicated that the vegetation types mapped by GHD do not represent an occurrence of the PEC SCP25. Factors affecting PATN analysis are the timing of the survey, which can affect the level of species identification, and vegetation condition.

* If located within the Perth Metropolitan Region, is the proposed development within or adjacent to a listed Bush Forever Site? (You will need to contact the Bush Forever Office, at the Department for Planning and Infrastructure)

☐ Yes	☐ No	☑ N/A
		Y 1 4// 1

What is the condition of the vegetation at the site?

The vegetation condition of the road footprint was assessed using the vegetation condition rating scale developed by Keighery (1994) and Bush Forever (Department of Planning 2000) that recognises the intactness of vegetation. The condition of vegetation within the Road Disturbance footprint is detailed in Figure 5, Attachment 1. The condition of the vegetation that is proposed to be cleared for the Subsidiary Infrastructure has been estimated based on the condition of the road footprint and aerial photography. Further details on the vegetation condition are provided in Attachment 2.

The site vegetation ranged from *Pristine* (1) to *Completely Degraded* (6) with the majority of the Project Area assessed as *Degraded* (5) to *Completely Degraded* (6) due to past clearing and agriculture. Scattered *Eucalypt*, *Banksia* and *Agonis flexuosa* species with a degraded native understorey dominated the majority of the proposed alignment, particularly the 6.6 km section from South Western Highway to Jilley Road.

The vegetation condition of the geomorphic wetland UFI 1106, which is associated with the ESA located at 5 Centenary Road, and 262 Lillydale Road, North Boyanup, was rated *Very Good* (3) to *Good* (4). Areas surrounding this wetland are *Completely Degraded* (6) pasture. The wetland vegetation type of Low open forest of *Melaleuca preissiana* and *Melaleuca viminea* over sedgeland, has been invaded by weeds and grazing presently occurs on its boundaries.

The Open forest of *Eucalyptus* spp., *Banksia attenuata* and *Agonis flexuosa* adjacent to and north of Marchetti Road rated *Pristine* (1) showed no evidence of disturbance during the 2011 survey.

The vegetation condition within the 2.3 km section from Jilley Road to Bussell Highway was predominantly rated between *Very Good* (3) to *Degraded* (5). Most of the native vegetation overstorey within this section remained; however the vegetation had been impacted by weed invasion and some partial clearing. A small section of Open forest of *Eucalyptus* spp., *Banksia attenuata* and *Agonis flexuosa*, adjacent to Jilley Road, rated *Excellent* (2) to *Very Good* (3).

2.2 Fauna

*	Do you expect that	at any fauna oi	fauna habitat will be impacted by the proposal?
	(please tick)	✓ Yes	If yes, complete the rest of this section
		☐ No	If no, go to the next section

Describe the nature and extent of the expected impact.

Clearing for construction of the Project may have an impact on a number of the conservation significant fauna species identified by site survey and desktop assessment. Table 1 identifies the likelihood of occurrence and the impacts that clearing is expected to have on each species. Black Cockatoo 'Known Impact' areas are inclusive, therefore there is overlap in area between feeding and potential breeding areas.

Table 1 Likelihood of Occurrence of Threatened Fauna and Known Impacts

Species	Likelihood of Occurrence	Known Impacts (Areas are Approximate in size)
Forest Red-tailed Black Cockatoo (Calyptorhynchus banksia naso)	Known	Habitat requirements for the three Black Cockatoo species within the Project Area overlap, and as such, they have been
Baudin's Black Cockatoo (Calyptorhynchus baudinii)	Known	addressed together. Feeding
Carnaby's Black Cockatoo(Calyptorhynchus latirostris)	Known	19 hectares of feeding habitat was recorded with a further 9 ha required for subsidiary infrastructure
		Potential Breeding
		23 hectares of potential breeding habitat was recorded, with a further 5 ha required for subsidiary infrastructure.
		Actual Breeding
		No actual breeding events were observed, although clearing will include approximately 565 potential Black Cockatoo breeding trees for the road. Approximately 192 trees have been identified using aerial photography within the clearing required for subsidiary infrastructure.
		Roosting
		No roosting areas were recorded.
Australasian Bittern (Botaurus poiciloptilus)	Unlikely	No known impacts
Fairy Tern (Sternula nereis nereis)	Unlikely	No known impacts
Chuditch (<i>Dasyurus</i> geoffroii)	Unlikely	No known impacts
Quokka	Unlikely	No known impacts
Western Ringtail Possum (Pseudocheirus occidentalis)	Known	Known impact is loss of habitat, habitat connectivity, fragmentation and loss of individuals. The possum habitat identified during surveys comprises 17 hectares. A further 6 ha is required for subsidiary infrastructure. This area of possum habitat is based on use from records of actual possums, dreys, droppings and other signs.

Species	Likelihood of Occurrence	Known Impacts (Areas are Approximate in size)
Southern Brown Bandicoot (Isoodon obesulus fusciventer)	Known	Loss of habitat, but by including good management practices such as the installation of underpasses and rehabilitating of areas, impacts to the species would be minimal.
Western Brush Wallaby (<i>Macropus irma</i>)	Unlikely	No known impacts
Southern Brush-tailed Phascogale (<i>Phascogale</i> tapoatafa tapoatafa)	Possible	Loss of habitat, but by including good management practices such as the installation of underpasses, overpasses and rehabilitating of areas, impacts to the species would be minimal.

9041 ha of native vegetation occurs within 10 km of the Project Area. This vegetation has not been assessed to determine the habitat value or number of habitat trees, although this may reduce the potential impact of the proposed clearing of 28 ha of potential breeding and 28 ha of potential foraging habitat. Additionally, this 9041 ha is likely to include habitat for the WRTP, reducing the potential impact of the Project on this species.

Based on the expected impact of clearing on conservation significant fauna, particularly Black Cockatoo species and the Western Ringtail Possum, the Project will be referred to the DSEWPaC under the provisions of the EPBC Act.

In addition to impacts on conservation significant fauna species, the proposed clearing of 33 ha will also result in the loss of habitat and habitat linkages for more common species.

The nature and extent of impacts on conservation significant and common fauna species is discussed in detail in Attachment 2.

	Are you aware of any recent fauna surveys carried out over the area to be distingly by this proposal?				
	☑ Yes □ No				
Fauna As	Outer Ring Road Southern Section, South Western Highway to Bussell Highway: ssessment' (Unpublished report prepared by GHD for Main Roads Bunbury in March attached to this Referral (Attachment 2).				
*	Has a search of DEC records for known occurrences of Specially Protected (Threatened) fauna been conducted for the site?				
	✓ Yes				

Searches have been conducted and are provided at Attachment 2 along with discussion of the results of these searches.

* Are there any known occurrences of Specially Protected (Threatened) fauna on the site? #
✓ Yes
Five of the 80 fauna species recorded during site surveys are conservation significant species specifically protected under the <i>Wildlife Conservation Act 1950 (WA)</i> and <i>EPBC Act</i> , these being:
▶ Forest Red-tailed Black Cockatoo (Calyptorhynchus banksia naso);
Baudin's Black Cockatoo (Calyptorhynchus baudinii);
Carnaby's Black Cockatoo (Calyptorhynchus latirostris);
 Western Ringtail Possum (Pseudocheirus occidentalis); and
 Southern Brown Bandicoot (Isoodon obesulus fusciventer).
2.3 Rivers, Creeks, Wetlands and Estuaries
* Will the development occur within 200m of a river, creek, wetland or estuary?
(please tick) ✓ Yes If yes, complete the rest of this section
☐ No If no, go to the next section
* Will the development result in the clearing of vegetation within the 200 m zone? ✓ Yes □ No Describe the extent of the expected impact.
Approximately 23 Geomorphic Wetlands are located within 200 m of the Project Area, including one Conservation Category and one Resource Enhancement wetland. Clearing of vegetation within these areas will be required, although the majority of the Project Area occurs within disturbed or cleared areas, and the alignment has been selected to minimise clearing of vegetation where possible.
Clearing of vegetation during construction, may result in impacts including erosion, sedimentation and hydrocarbon contamination. These impacts are expected to be short term and will be managed through a Construction Environmental Management Plan (CEMP).
Operation impacts of the Project may include contamination of wetlands through off-road drainage. These potential impacts are proposed to be managed through preparation and implementation of a Drainage, Nutrient and Water Management Plan.
* Will the development result in the filling or excavation of a river, creek, wetland or estuary?
✓ Yes ☐ No ☐ If yes, please describe the extent of the expected impact.
The Project traverses 12 mapped Geomorphic Wetlands, one of which is identified as Resource Enhancement, with the remaining mapped as Multiple Use. Of the 12 wetlands, five

are sumplands, four are damplands and two are palusplain, with the remaining wetland, Five Mile Brook, being a watercourse. The Project is not expected to require dewatering or excavation of the traversed wetlands during construction, aside from removal of topsoil prior to filling.

A culvert crossing is proposed for the Five Mile Brook, with the remaining wetlands traversed by the Project to be filled. The proposed culvert crossing of Five Mile Brook will be constructed to maintain surface water flows, and is not expected to result in significant long term impacts on Five Mile Brook.

Construction impacts associated with the culvert crossing and filling of the wetlands may include sediment and hydrocarbon contamination. Any impacts during construction are expected to be localised and short term, with management proposed through a CEMP for the Project.

,			
	Will the developme estuary?	ent result in	n the impoundment of a river, creek, wetland or
	Yes	☑ No	If yes, please describe the extent of the expected impact.
therefore r	may be impounde	ed. The v	eomorphic Wetlands, which will require the filling and vetlands are identified as sumplands, damplands or Brook, being a watercourse.
watercourse clearing at These work	e without impound the crossing point ks are designed t	ing or alte t, construc to maintai	e Five Mile Brook to enable the Project to cross the ring hydrology. Construction of this crossing will require ction of the crossing and site stabilisation/rehabilitation. In surface water flows within Five Mile Brook and not rim impact on Five Mile Brook.
-			oundment to varying degrees, although these wetlands sumplands, damplands or palusplain).
	on impacts associ to be managed thro		the culvert crossing and filling of the wetlands are MP for the Project.
* \ *	Will the developme	ent result in	n draining to a river, creek, wetland or estuary
	☐ Yes		yes, please describe the extent of the expected impact.
	•		I will impact on a river, creek, wetland or estuary (or its wing categories? (please tick)
	Conservation Cate	egory Wet	land

Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	☐ Yes	☑ No	☐ Unsure
Perth's Bush Forever site	☐ Yes	☑ No	☐ Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	☐ Yes	☑ No	☐ Unsure
The management area as defined in s4(1) of the Swan River Trust Act 1988/	☐ Yes	☑ No	Unsure
Which is subject to an international agreement, because of the importance of the wetland for waterbirds and waterbird habitats (e.g. Ramsar, JAMBA, CAMBA) #	☐ Yes	☑ No	Unsure

2.4 Significant Areas and/ or Land Features

*		the proposed development located within or adjacent to an existing or proposed ational Park or Nature Reserve?		
	✓ Yes	☐ No	If yes, please provide details.	

The Project will not result in direct impacts on conservation reserves or conservation areas. Reserve 23 000 is located at the southern extent of the Project, on the western side of the highway at the tie-in to Bussell Highway. This reserve is identified as Regional Open Space under the GBRS and has been avoided by the Project as required by the EPA.

Reserve 10 616 is associated with part of the Five Mile Brook 65m downstream of the proposed crossing point. This reserve is vested with the Department of Water.

Details on the two reserves are listed in Table 2

* Table 2 Reserves Adjacent to the Project

Reserve Number	Reserve Status (Class)	Purpose	Location	Responsible Agency	Reserve Area
23 000	A	Travellers stopping place and caravan park	Lot 305 Bussell Highway	Department for Planning and Infrastructure	125.4 ha
10 616	С	Drainage	Five Mile Brook (Woods Road)	Water and Rivers Commission	9.29 ha

*	•	•	fronmentally Sensitive Areas (as declared by the Minister EP Act) that will be impacted by the proposed
	✓ Yes	☐ No	If yes, please provide details.

Six Environmentally Sensitive Areas (ESAs) are located within 250 m of the Project Area, although none occur within the Project Area. Of these ESAs, three are located 200 m or further from the alignment and therefore not expected to be impacted by the Project. The remaining ESAs are located within 100 m and are discussed below.

An ESA is located approximately 80 m to the west of the alignment and to the north of Hasties Road. This ESA is associated with a hard rock quarry and not expected to be impacted by the Project.

A portion of the Five Mile Brook, approximately 65 m downstream of the road reserve boundary and approximately 110 m downstream of the proposed road crossing point, has been mapped as CCW (Wetland 6983) and is listed as an Environmentally Sensitive Area. The proposed crossing point will occur where the brook is mapped as Multiple Use Wetland, outside of the ESA. A culvert crossing proposed as it will maintain surface flows, with the works not expected to have any significant long term impact on Five Mile Brook.

Potential construction activities associated with the culvert crossing may include increased sedimentation due to clearing and banks disturbance, or hydrocarbon contamination through spills. Any impacts on the watercourse are likely to be localised and short term, are not expected to impact on the downstream ESA, and will be managed through a CEMP.

An ESA located at 5 Centenary Road, and 262 Lillydale Road, North Boyanup occurs approximately 20 m south of the Project Area and is associated with the mapped Multiple Use Sumpland. The Project will require clearing of vegetation associated with this wetland, immediately to the north of this ESA.

The Project is not expected to result in direct impacts on the ESA, although due to the separation distance, indirect impacts may result; such as runoff of contaminated surface water, clearing of vegetation and dewatering impacts. Potential construction activities that may impact on this ESA, such as clearing resulting in increased sedimentation or hydrocarbon contamination through spills, will be managed through a CEMP.

Impacts associated with the operation of the Project on these ESA are likely to be related to weed ingression or to off-road drainage. Weeds are proposed to be managed through ongoing road reserve management, with off-road drainage proposed to be managed through the development and implementation of a Drainage, Nutrient and Water Management Plan.

	*	•		nificant natural land features (e.g. caves, ranges etc) that roposed development?
		☐ Yes	✓ No	If yes, please provide details.
	_			
2.5	<u>Coa</u>	stal Zone Areas	(Coastal	Dunes and Beaches)
	*	Will the develop	oment occ	cur within 300m of a coastal area?
		(please tick)	☐ Y	es If yes, complete the rest of this section
			☑ N	If no, go to the next section

	* What is the expected setback of the development from the high tide levelopment from the							
	*	Will the development impact on coastal areas with significant landforms including beach ridge plain, cuspate headland, coastal dunes or karst?						
		☐ Yes	☐ No	If yes, please describe the extent of the expected impact.				
	*	Is the develo	pment likely	to impact on mangroves?				
		☐ Yes	☐ No	If yes, please describe the extent of the expected impact.				
2.6	<u>Mar</u>	ine Areas and	l Biota					
	*			to impact on an area of sensitive benthic communities, al reefs or mangroves?				
		☐ Yes	☑ No	If yes, please describe the extent of the expected impact.				
	*	recommende	d for reserva	to impact on marine conservation reserves or areas ation (as described in <i>A Representative Marine Reserve ralia</i> , CALM, 1994)?				
		☐ Yes	☑ No	If yes, please describe the extent of the expected impact.				
	*	Is the develo		to impact on marine areas used extensively for recreation activities?				
		☐ Yes	☑ No	If yes, please describe the extent of the expected impact, and provide any written advice from relevant agencies (e.g. Fisheries WA).				
2.7	<u>Wat</u>	er Supply and	d Drainage (<u>Catchments</u>				
	*	Are you in a	proclaimed o	or proposed groundwater or surface water protection area?				
		(You may need to contact the Department of Water (DoW) for more information of the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)						
		✓ Yes	☐ No	If yes, please describe what category of area.				
				ury West and Bunbury East sub-areas of the Bunbury the Project is unlikely to have a significant impact on				

existing groundwater resources.

*	Are you in an existing or proposed Underground Water Supply and Pollution Control area?						
	(You may need to contact the DoW for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refeto the DoW website)						
	☐ Yes ☐ No If yes, please describe what category of area.						
*	Are you in a Pu	ıblic Drinki	ng Water Supply Area (PDWSA)?				
	` •		t the DoW for more information or refer to the DoW website. ation within a PDWSA requires approval from DoW.)				
	✓ Yes	□No	If yes, please describe what category of area.				
Reserve,		g Water So	eographic Data Atlas indicates that the Bunbury Water ource Area (P3), occurs adjacent to the Project Area on the Highway.				
does invo	lve disturbance	within the I	y to directly impact on the PDWSA, although the Project PDWSA; in the southern extent at the Bussell Highway along Hasties Road.				
In the Southern extent, the Project extends approximately 150 m along Yalinda Drive into the Bunbury Water Reserve, and 200 m in the reserve at the Bussell Hwy intersection. The Project also extends approximately 650 m into the Bunbury Water Reserve, along the existing Hasties Road.							
Water So	urce Areas (200	4), provide	etection Notice; Land use compatibility in Public Drinking es advice on compatible land uses within PDWSA, with ding roads, identified as acceptable in P3 Areas.				
be design	Consequently, the Project is a compatible land use within the Bunbury Water Reserve, but will be designed and constructed with reference to the DoW WQPN 44; Roads Near Sensitive Water Resources.						
*	Is there sufficie	ent water av	vailable for the proposal?				
	(Please consul	t with the D	DoW as to whether approvals are required to source water				
	☐ Yes		ecessary, please provide a letter of intent from the DoW) (please tick)				
	∐ 1 <i>6</i> 3	☑ No	(piedoe tion)				
*	Will the propos	al require	drainage of the land?				
	☐ Yes	☑ No	If yes, how is the site to be drained and will the drainage be connected to an existing Local Authority or Water Corporation drainage system? Please provide details.				

	*	Is there a wat	ter requirem	nent for the construction and/ or operation of this proposal?
		✓ Yes	□No	If yes, complete the rest of this section
				If no, go to the next section
		What is the wkl/year?	/ater require	ement for the construction and operation of this proposal, in
It is a		pated that app	roximately '	100 000 kl will be required during construction of the
	*	What is the p etc.)	roposed so	urce of water for the proposal? (eg dam, bore, surface water
		proposed to uarries.	be sourced	I from groundwater bores and surface water contained in
2.8	<u>Poll</u>	<u>ution</u>		
	*	•	•	lischarge of pollutants from this development, such as semissions, dust, liquid effluent, solid waste or other
		✓ Yes	□No	If yes, complete the rest of this section
				If no, go to the next section
	*	Regulations?	•	ped premise, under the Environmental Protection
		•		ral Guide for Referral of Proposals to the EPA under section for more information)
		☐ Yes	☑ No	If yes, please describe what category of prescribed premise.
	*	Will the propo	osal result ir	n gaseous emissions to air?
		✓ Yes	☐ No	If yes, please briefly describe.
durir	ng coi	nstruction will	result from e	uring construction and operation of the Project. Emissions earthmoving and construction equipment, and from light eration will result from vehicular traffic.

Expected emissions during construction and operation are expected to comprise the main vehicle pollutants; including carbon monoxide (CO), particulate matter with an aerodynamic

size of less than 10 (PM_{10}) and less than 2.5 micron ($PM_{2.5}$), oxides of nitrogen (NOx), polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs), including benzene, toluene, xylenes, formaldehyde and acetaldehyde.

*	Have you done any modelling or analysis to demonstrate that air quality standards will be met, including consideration of cumulative impacts from other emission sources?							
	✓ Yes	☐ No	If yes, please briefly describe.					
emissions quality. The model to p	An air emission modelling assessment has been undertaken to assess the significance of emissions during operation of the Project, and determine the impact of the Project on local air quality. This assessment was undertaken using the AUSROADS Gaussian plume dispersion model to predict maximum ground level concentrations at identified receptors within 50 m of the alignment and automatic receptors along the alignment.							
criterion fo scenario.	or all scenarios r However, the ex	modelled, ex xceedances	mum ground level concentrations below the assessment except for Benzo(a)pyrene under the current network were identified at automatic receptors, and with ce at the nearest identified receptor is unlikely.					
predicted.	Further, with th	ne reduced t	the BORR, no exceedances of the assessment criteria are traffic flows on the existing network as a result of the on the existing network are predicted.					
Highway to	Further details are provided in the 'Bunbury Outer Ring Road Southern Section, South Western Highway to Bussell Highway: Air Emissions Modelling' (Unpublished report prepared by GHD for Main Roads Bunbury in early 2012).							
*	Will the propos	al result in I	iquid effluent discharge?					
	☐ Yes	☑ No	If yes, please briefly describe the nature, concentrations and receiving environment.					
*	* If there is likely to be discharges to a watercourse or marine environment, has any analysis been done to demonstrate that the State Water Quality Management Strategy or other appropriate standards will be able to be met?							
	☐ Yes	☑ No	N/A					
*	Will the propos	al produce (or result in solid wastes?					
	✓ Yes	ai pioduce (☐ No	If yes, please briefly describe the nature,					
	⊮ ⊓ 162		concentrations and disposal location/ method.					
Calid woot	Solid wastes generated by this Project are expected to include these associated with							

Solid wastes generated by this Project are expected to include those associated with construction, such as;

- Construction wastes (eg paper, machinery filters, cans etc);
- Waste from house demolition and the removal of old fences; and

These wastes will be disposed as per waste management regulations. Will the proposal result in significant off-site noise emissions? □ No If yes, please briefly describe. ✓ Yes Approximately 35 sensitive receptors (private residences) occur within 200 m of the centre of the Project, with 14 within 100 m and 21 between 100 – 200 m of the Project (centreline). The majority of these are located in the Gelorup area between Ducane Road and Bussell Highway. These residences will likely be exposed to a significant increase in traffic noise from the Project. The Western Australia Planning Commission's State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning (WAPC 2009) prescribe noise level objectives to manage traffic noise impacts on road new projects. Modelling of the predicted noise emissions identified that by 2031, noise at 22 residences will exceed the WAPC noise criteria. As such, Main Roads has initiated a Noise Impact Assessment for the Project which will identify measures including the use of open graded asphalt and noise bunds and walls, to ensure the Project complies with the WAPC Policy. The Noise Impact Assessment and Preliminary Noise Management Plan, including modelling of predicted emissions, is included at Attachment 2. Will the development be subject to the Environmental Protection (Noise) Regulations? □No If yes, has any analysis been carried out to Yes demonstrate that the proposal will comply with the Regulations? Please attach the analysis. Noise resulting from construction activities is subject to the provisions of the Environmental Protection (Noise) Regulations 1997. Operations will be undertaken to ensure compliance with these regulations, with relevant management actions detailed in the CEMP. Does the proposal have the potential to generate off-site, air quality impacts, dust, odour or another pollutant that may affect the amenity of residents and other "sensitive premises" such as schools and hospitals (proposals in this category may include intensive agriculture, aquaculture, marinas, mines and quarries etc.)? □ No If yes, please describe and provide the distance ✓ Yes to residences and other "sensitive premises". Approximately 14 private residences are located within 100 m, and a further 21 residences located between 100 – 200 m of the Project (centreline), with the majority located in the Gelorup area between Ducane Road and Bussell Highway.

▶ Some old road construction materials (ie concrete, old bitumen seal).

The proposal has the potential to generate dust during construction activities, through clearing and earthworks. Dust emissions during construction will be managed through the development and implementation of a CEMP.

	*	If the proposal has a residential component or involves "sensitive premises", is it located near a land use that may discharge a pollutant?				
		☐ Yes	☑ No	☐ Not Applicable	If yes, please describe and provide the distance to the potential pollution source	
2.9		enhouse Gas E				
	*	• •	-		eenhouse gas emissions (greater than quivalent emissions)?	
		☐ Yes	☑ No		le an estimate of the annual absolute and in carbon gures.	
	*		•	scribe proposed meas s proposed to offset e	sures to minimise emissions, and any missions.	
2.10	Con	tamination				
	*		-		e located been used in the past for dwater contamination?	
		☐ Yes	☑ No	Unsure I	f yes, please describe.	
	*	Has any assess	sment beer	n done for soil or grou	undwater contamination on the site?	
		☐ Yes	☑ No	If yes , please d	lescribe.	
	*		-		d site under the Contaminated Sites and proclamation of the CS Act)	
		☐ Yes	☑ No	If yes, please de	escribe.	
2.11	<u>Soci</u>	ial Surrounding	<u>IS</u>			
	*			erty which contains or ogical significance tha	is near a site of Aboriginal at may be disturbed?	
		✓ Yes	☐ No	☐ Unsure	If yes, please describe.	
One	Abor	iginal heritage s	ite may be	affected by the Proje	ct, as discussed in Attachment 2.	

Aboriginal heritage surveys of the BORR were conducted in 1995 (McDonald Hales and Associates, 1995) and updated in 2002. These surveys were again updated in 2009 (Goode, 2009), with an Aboriginal Heritage Survey of the Project Area conducted to determine the presence of Aboriginal heritage sites as defined under the *Aboriginal Heritage Act 1972* (WA) in early 2012.

This 2012 survey included both archaeological and ethnographic components, which are described below.

Archaeological Survey

An archaeological field survey was conducted in January 2012 by Tom O'Reilly (Archaeologist), accompanied by Stuart Johnston (Archaeologist) and two representatives of the Gnaala Karla Booja WC 98/58 Native Title Claim Group. The survey comprised two persons walking abreast in transects spaced 30 m apart, or a single person walking transects in the narrow sections. In addition, predictive intensive transects were conducted at firebreaks, cleared patches, along the river bank where the route crosses and any other area of site potential. The overall sampling percentage of the Project Area is estimated to be around 40% with the addition of predictive sampling.

The survey also included verifying the position of previously registered archaeological sites within the Project Area.

Ethnographic Survey

Ethnographic consultations conducted on the 5th of October 2010 by Mr Brad Goode (Anthropologist), Mr Colin (Floyd) Irvine (Ethnographer), Mrs Angela Tarbottom (Assistant) and nine representatives of the Gnaala Karla Booja WC 98/58 Native Title Claim Group, focused upon providing significance assessments of affected sites for any necessary Section 18 consents. Mr Neil McCarthy (Senior Environmental Scientist from GHD Pty Ltd) and Mr Gerry Zoetelief (Project Manager from Main Roads) were also present to provide technical information.

During the survey, the Nyungar community were consulted regarding Main Roads' intent to affect a previously recorded site that had been verified by the archaeological survey and archival research. The Project will directly affect the site in question, with the Nyungar community generally supportive of Main Roads intention to seek Ministerial consent to affect this site.

Outcome of the Aboriginal Heritage Survey

No previously recorded ethnographic sites or places were recorded within the survey corridor. However, the survey did identify one registered Aboriginal heritage site that will be impacted by the Project, (ID 18884 Bunbury Bypass Archaeological Site 1) located within the survey corridor at the BORR intersection with Hasties Road. This site has a DIA polygon that predominately overlays the connection of the BORR with Hastie Road.

Main Roads propose to submit an application under Section 18 of the *Aboriginal Heritage Act* 1972 (WA) to use the land for the construction of the Project. Main Roads will be required to comply with any conditions issued under the Section 18 application.

* Is the proposal on a property which contains or is near a site of high public interest (for example, a major recreation area or natural scenic feature)?

			Yes		No	If yes , p	lease des	cribe.			
*	 Will the proposal result in or require substantial transport of goods, which may affect the amenity of the local area? 						may affect				
			Yes				lease des	cribe.			
The Project involves the construction of a major regional road and, as such, will increase freight traffic in the Project area during construction and operation. Construction will require fill sand and other road construction materials to be imported via the existing road network, including local roads, while operation will divert traffic from the existing network.											
Measures such as traffic noise management, service roads, the Yalinda Drive overpass and site landscaping, will reduce the impact to some extent, although residual amenity impacts can be expected in the long term. Additionally, as outlined in Section 2.8 of this form, the Project is expected to more evenly distribute traffic emissions in the area, lowering predicted peak air pollutant concentrations on the existing network.											
	nese									noise and I implement	
			ED MANA			Protection	n				
	 Principles of Environmental Protection Have you considered how your project gives attention to the following Principles, as set out in section 4A of the EP Act? (For information on the Principles of Environmental Protection, please see EPA Position Statement No. 7, available on the EPA web.) 								•		
		1.	The preca	autio	nary pı	rinciple.			\square	Yes	☐ No
		2.	The princ	iple (of inter	generation	onal equity	' .	\square	Yes	☐ No
		3.	The princi	•				ogical	\(\rightarrow\)	Yes	☐ No
		4.	Principles and incen		•	•	d valuatio	n, pricing		Yes	☐ No
		5.	The princ	iple (of wast	te minimi	sation.		abla	Yes	☐ No
C	-	State		nd	Enviro	nmental		vironmenta ent Guid			ins/Position Statements

☐ No

✓ Yes

The Project has been guided by, and is consistent with, the following EPA Environmental Protection Bulletins/Position Statements and Environmental Assessment Guidelines/Guidance Statements:

- ▶ 1993. Strategy for the Protection of Lakes and Wetlands of the Swan Coastal Plain. Bulletin 685.
- ▶ 2000. Position Statement No. 2 Environmental Protection of native Vegetation in Western Australia. Clearing of Native Vegetation with Particular Reference to the Agricultural Area.
- ▶ 2003. Greater Bunbury Region Scheme Report and Recommendations of the Environmental Protection Authority, Environmental Protection Authority, Perth, Western Australia. Bulletin 1108.
- ▶ 2004. Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia Guidance Statement No. 51.
- ▶ 2004. Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia Guidance Statement No. 56.
- ▶ 2006. Level of assessment for proposals affecting natural areas within System 6 region and the Swan Coastal Plain portion of the System 1 Region.
- ▶ 2008. Advice on areas of conservation significance in the Preston Industrial Park. Environmental Protection Authority. Bulletin 1282.
- ▶ 2008. Advice on areas of conservation significance in the Preston Industrial Park. Environmental Protection Authority. Bulletin 1282.
- ▶ 2010. Technical Guide- Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment. (Eds B.M. Hyder, J.Dell and M.A. Cowan).

Through Statement No. 000697 the WA Minister for the Environment approved implementation of the GBRS, based on a number of conditions (DEC 2005). Those conditions that have been determined as relevant to the Project are listed in Table 3:

Table 3 GBRS Ministerial Conditions Relevant to the Bunbury PAR Stage 2 Project

Condition	Requirement	Status	
Condition 2	Re-alignment of sections of Bunbury Outer Ring Road	Re-alignments have been implemented and incorporated into current concept design	
Condition 3	Preparation of Management Plans:	To be prepared as part of	
	- Drainage, Nutrient and Water Management Plan	Project development	
	- Acid Sulphate Soil Management Plan		
Condition 4	Completion of a Biological Survey	Completed as part of EIA preparation	
Condition 5	Preparation of an offset strategy prior to	To be prepared as part of	

Condition	Requirement	Status
	construction of the Bunbury Outer Ring Road	Project development

3.2 Consultation

Has public consultation taken place (such as with other government agencie community groups or neighbours), or is it intended that consultation shall take place?						
✓ Yes	☐ No	If yes , please list those consulted and attach comments or summarise response on a separate sheet.				

Main Roads has consulted with a range of Government and environmental stakeholders during the development of the BORR Southern Section, as listed in Table 4.

Table 4 Government Stakeholder Consultation Undertaken

	Agency	Date	Attendees
1	Office of the Environmental Protection Authority	15 February 2012	Murray Hogarth & Hans Jacob
2	Department of Environment and Conservation Bunbury office	22 December 2011	Peter Hanley, Andrew Webb and Kim Williams
		14 February, 2012	Peter Hanley, Kim Williams, Andrew Webb and Grant Lamb
3	DSEWPC	June 19, 2009	Site tour with Dr A Weavers
		March 28, 2012	E-mail advice on Project to M Welsh
4	South West Environment Centre	November 16, 2011	Members of the SWEC
5	Shire of Capel Community Information Session	August 13, 2012	Gelorup community members
6	DSEWPC	June 19, 2009	Site tour with Dr A Weavers
		March 28, 2012	E-mail advice on project to M Welsh

Community Consultation

During the late 1990's, strong opposition to the Project was raised by landowners in the Gelorup area, living in proximity to the Project Area. In response, an assessment was made of alternative routes to the south of Gelorup, with the alternate routes assessed also impacted on farming operations and environmentally significant areas. These alternate routes were assessed as offering no overall benefit, and the residents were advised that the route would remain as planned.

The GBRS, developed by the WAPC included reservation for the BORR, with this scheme subject to a comprehensive community consultation process, prior to its implementation in 2006.

No recent broader community consultation has been conducted on the BORR Southern Section, other than responding to enquiries from nearby landowners. However, due to the expected high level of community interest in the Project, particularly in the Gelorup area, Main Roads intends to develop a Community Consultation Program. Main Roads will continue to consult with relevant stakeholders, landowners and the community during the development and implementation of the Project.

Further details on the consultation undertaken as part of the BORR has been discussed in Attachment 2, with consultation with Indigenous stakeholders also outlined in Section 2.11 of this Referral.