

EPBC Act referral



Australian Government
Department of Agriculture, Water and the Environment

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Title of proposal	2021/8967 - Yardie Creek Road Realignment Project
Section 1	
Summary of your proposed action	
1.1 Project industry type	Transport - Land
1.2 Provide a detailed description of the proposed action, including all proposed activities	
<p>The Commissioner of Main Roads Western Australia (Main Roads) is proposing to realign a section of Yardie Creek Rd between Straight Line Kilometre (SLK) 5.7 and 8.5 (the proposed action). The section of Yardie Creek Rd to be realigned is located at Vlamingh Head at the tip of the North West Cape peninsula, and approximately 13.5 km north north-west of Exmouth (Att1 - Figure 1 - Regional Location).</p> <p>The proposed action will realign a 2.8 km section of Yardie Creek Rd up to 1 km south of the existing road and to the south of the Vlamingh Head Lighthouse and Ningaloo Lighthouse Holiday Park. As part of the proposed action, Main Roads will also construct a new southern access road to the lighthouse (Att 2 - Figure 2 - Development Envelope).</p> <p>The proposed realignment will improve access to the region by redirecting the main traffic flow away from tourist landmarks and the holiday park, thereby reducing traffic near tourist stopping points and making the area safer for pedestrians. The proposal will also provide a safer and more formalised access to the lighthouse precinct.</p> <p>The proposed action comprises the following activities:</p> <ul style="list-style-type: none">- Clearing up to 12.0 ha of native vegetation and topsoil to establish new road corridor;- Construction of 2.8 km of new road, and construction of new southern access road to Vlamingh Head Lighthouse. Road design will be 9 m width on 9 m pavement. The road will follow the natural topography as much as possible but some areas will require excavation or infilling to provide appropriate gradients for the road;- Road building materials will likely be sourced from existing suppliers in the region. Excavated material may also be used for fill if the materials meet the required standards for road building;- Construction of drains, culverts and safety barriers as required.	
1.3 What is the extent and location of your proposed action?	
See Appendix B	
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)	
<p>The proposed action is located approximately 13.5 km north north-west of Exmouth towards the northern tip of the North West Cape peninsula, in the Gascoyne region of Western Australia.</p> <p>The realignment is up to 1 km south of the current alignment of Yardie Creek Rd and will take traffic south of the existing Ningaloo Lighthouse Caravan Park and Vlamingh Head Lighthouse. The current tenure of the realignment corridor includes freehold and crown land.</p>	
1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?	
<p>The proposed action requires approximately 12.30 ha of disturbance (the disturbance footprint), to be undertaken within a Development Envelope of approximately 41.08 ha (the DE). The disturbance footprint is based on the current conceptual design of the road realignment, incorporating buffers to allow for construction. It includes 12.0 ha of native vegetation to be cleared and 0.3 ha of existing cleared areas. The DE represents the maximum area within which the works will be located.</p>	
1.7 Proposed action location	
Other - Yardie Creek Rd, between SLK 5.7 and 8.5, in the Shire of Exmouth, WA.	
1.8 Primary jurisdiction	Western Australia



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

Yes No

1.9.1 Provide detail

The Australian Government has announced a \$4.8 million contribution to the project. The WA State Government will also be contributing \$1.2 million to the project.

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

Yes No

1.11 Provide an estimated start and estimated end date for the proposed action	Start Date	01/01/2023
	End Date	31/12/2025

1.12 Provide details of the context, planning framework and state and/or local Government requirements

Yardie Creek Rd is a 76 km sealed single lane road that extends from Yardie Creek campground in Cape Range National Park to where it meets Murat Rd 10 km north of Exmouth. The road is vested with the Shire of Exmouth. The current alignment of Yardie Creek Rd follows the coast and provides access to a number of tourist attractions associated with Ningaloo Reef and Cape Range National Park. Current road users are predominantly tourism related and the local community.

The proposed realignment of Yardie Creek Rd will contribute to the sustainable development of the area by improving access to the region, and shifting the main flow of traffic away from high pedestrian areas associated with visitor attractions and accommodation areas.

Regulatory approvals required:

Environmental Protection Act 1986, Part V Environmental Regulation Division 2, Clearing of Native Vegetation

A native vegetation clearing permit will be required under the Environmental Protection Act 1986 (WA) (EP Act) prior to clearing native vegetation. Granting and administration of clearing permits is regulated under the Environmental Protection Act (Clearing of Native Vegetation) Regulations 2004. Main Roads will submit an application for a clearing permit to the Department of Water and Environmental Regulation (DWER), or utilise the existing Main Roads state wide purpose permit CPS 818/15 to undertake native vegetation clearing for the project.

Land Administration Act 1997

Administration of state land and transfer of private property. The acquisition of land and dedication of road reserve will be required to facilitate the realignment of YCR.

Planning and Development Act 2005

The land is currently zoned 'Environmental Conservation Reserve' and 'Special Use' under the Shire of Exmouth Town Planning Scheme. The proposed action may require a Development Approval following consultation with the Shire of Exmouth.

Aboriginal Heritage Act 1972

When the disturbance footprint has been further refined, Main Roads will commence consultation with local indigenous representatives and undertake ethnographic and archaeological heritage surveys over the DE to determine if the proposed action will impact on any Aboriginal heritage sites. Should any sites be identified and impacts are unavoidable, consent to impact the site will be sought under Section 18 of the Act.

Rights in Water and Irrigation Act 1914

The proposed action occurs within Surface Water and Ground Water Areas proclaimed under the RIWI Act. It is unlikely that dewatering will be required to facilitate works. However if any abstraction is required, an appropriate licence under the Rights in Water and Irrigation Act 1914 will be sought.

The proposal area also intersects two minor non-perennial watercourses and a permit to disturb the bed and banks of these watercourses will be required.

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



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Stakeholder consultation has been undertaken to date with the Shire of Exmouth and state government agencies. As the project is further developed, Main Roads will continue liaising with relevant stakeholders, landholders and the public.

Consultation with local indigenous representatives will commence following further refinement of the disturbance footprint and prior to undertaking Aboriginal heritage surveys.

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

In accordance with Main Roads Environmental Assessment, Approvals and Compliance process (EAAC), an Environmental Impact Assessment (EIA) has been undertaken to investigate the key environmental aspects of the project and identify any potential significant impacts. The outcome of the EIA was to refer the project to the Department of Agriculture, Water and the Environment (DAWE) under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

The EIA determined the proposal was unlikely to have a significant impact on state environmental factors; therefore, the proposal has not been referred to the Environmental Protection Authority (EPA) under Part IV of the EP Act. Impacts relating to clearing native vegetation can be managed under Part V of the EP Act.

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

Yes No

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

Yes No

1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation)

The proposed action is adjacent to the Ningaloo Lighthouse Project, which is a project to redevelop the existing caravan park to a new mixed accommodation resort. The redevelopment project has been referred to the Commonwealth under the EPBC Act (EPBC 2020/8693). The proposed Yardie Creek Rd realignment will improve pedestrian safety near this tourist accommodation area and nearby visitor attractions by shifting the main flow of traffic south. The progression of the Ningaloo Lighthouse redevelopment will factor into the scheduling of the Yardie Creek Rd realignment.



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Section 2

Matters of national environmental significance

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

Yes No

Property

Ningaloo Coast World Heritage Area (NCWHA). The NCWHA is a 604,500 ha marine and terrestrial property that comprises a number of marine and terrestrial conservation areas, including Ningaloo Marine Park (Commonwealth and State waters), Muiron Islands Marine Management Area, Jurabi Coastal Park, Bundegi Coastal Park, Cape Range National Park and Learmonth Air Weapons Range (UNESCO, 2011).

NWCHA values include the following (UNESCO, 2011);

- One of the longest near-shore reefs in the world;
- Diverse marine ecosystem, in particular marine turtles;
- A rare and large annual congregation of whale sharks;
- Network of karst systems and underground caves, and unique and diverse subterranean fauna found in those formations;

and

- Diverse plants and animals of the Cape Range.

Impact

The DE intersects two small sections of the NCWHA boundary at the eastern and western extremities of the proposal. The boundary of the World Heritage Area overlaps the existing footprint of Yardie Creek Rd, and there is a narrow strip of land included in the reserve that runs parallel to Yardie Creek Rd on the south west side.

Approximately 2 ha of the DE lies within the NCWHA (1 ha either end of the realignment). This represents the maximum possible extent of potential impacts to the NCWHA from the construction of the proposal. The actual clearing footprint across these two locations will be substantially smaller (approximately 0.4 ha). Disturbance to the NCWHA will be limited to vegetation in Degraded condition along the verge of Yardie Creek Rd. Biological surveys conducted over the DE did not record any significant flora, fauna or fauna habitat, or ecological communities at these two locations.

The specific World Heritage values of the NCWHA have been considered when determining the potential for a direct or indirect impact on the property.

As the proposed action is terrestrial based, the marine values of the NCWHA will not be directly impacted. Indirect impacts to marine values are unlikely given the proposed realignment will be further inland from the coast, and will not change the existing use of the area, beyond reducing traffic along an existing section of Yardie Creek Rd that is adjacent to the NCWHA.

The terrestrial impact to the world heritage property will be limited to minor clearing and ground disturbance along the existing road. Vegetation to be cleared is in degraded condition, and the clearing will be linear in nature.

Given the small area of the proposal area that intersects the NCWHA, World Heritage values associated with the network of karst systems and underground caves in the region are not likely to be diminished. Additional geotechnical and hydrogeological studies will be conducted to assess whether any of these formations are present in the vicinity of proposed works. If any significant features are identified, Main Roads will investigate alternative design options or construction methods to avoid these features.

Therefore the proposed action will not result in any World Heritage values being lost, degraded or damaged, or notably altered, modified, obscured or diminished.

2.1.2 Do you consider this impact to be significant?

Yes No

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

Yes No

Place

Ningaloo Coast National Heritage Place (NCNHP). The NCNHP covers an area of approximately 800,000 ha, including a marine area of approximately 550,000 ha, incorporating the Ningaloo Marine Park (Commonwealth and State waters) and Muiron Island Marine Management Area. The terrestrial extent of the Ningaloo Coast encompasses the adjoining Exmouth peninsula, Bundegi and Jurabi Coastal Parks, Learmonth Air Weapons Range Facility, and former pastoral leases areas (AHDB, 2021).



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The National Heritage values associated with the NCNHP are similar to the world heritage area in that they recognise the diverse marine environment, unique network of karst systems and caves of the Cape Range, and the presence of rare and unique subterranean fauna within these formations. The national listing also recognises the significant indigenous cultural values of the area (AHDB, 2021).

Impact

The proposed action is wholly within the NCNHP boundary. The proposed action will result in the clearing of up to 12.0 ha of native vegetation and disturbance of an additional 0.3 ha within existing cleared areas. The disturbance footprint of the proposed action represents less than 0.01% of the total area of the NCNHP.

The specific National Heritage values of the NCNHP have been considered when determining the potential for a direct or indirect impact on the property.

The proposed action is terrestrial based; therefore, the marine values of the NCNHP will not be directly impacted. Indirect impacts to the Ningaloo Coast marine values are unlikely as the road will be realigned further inland from the coast, and will not substantially change the existing hydrological regimes or the existing use of the area.

Terrestrial values of the DE have been determined from two biological surveys (Att 3 - Biological Survey - Ecoscape 2018, Section 4, pgs 20-41; Att 4 - Biological Survey - Ecoscape 2021, Section 4, pgs 29-46). The surveys found the DE is mostly undisturbed, with vegetation in predominantly Very Good to Excellent condition (83%). The vegetation types recorded in the DE were observed to be common and widespread in the local area. No flora species or ecological communities listed as Threatened under the EPBC Act were recorded in the DE. The surveys did not record any groundwater dependent ecosystems or other groundwater features such as sinkholes, wells or pools. Based on the biological survey results, it has been concluded that the DE does not contain a relatively higher level of diversity than surrounding areas.

Fauna surveys did not record any significant fauna in the DE and concluded that no fauna species inhabiting or likely to inhabit the survey area are dependent on the survey area. The fauna habitats of the DE are widespread in the local area, and there is no restricted habitat types critical for significant fauna (Att 3 - Biological Survey - Ecoscape 2018, Section 4, pgs 37-41; Att 4 - Biological Survey - Ecoscape 2021, Section 4, pgs 43-46).

Specific studies into the presence of underground caves or subterranean fauna have not been conducted for the proposal to date. As the proposed action will be mostly confined to the surface and is unlikely to require dewatering, the risks associated with the proposed action to underground caves and karst formations are considered low. Main Roads intends to conduct further geotechnical and hydrogeological studies to determine the suitability of the design, and ascertain the presence of any significant geological values. This includes investigating areas requiring relatively deeper excavation. If any significant features are identified, Main Roads will investigate alternative design options or construction methods to avoid these features. For example, Main Roads is investigating alternative construction methods within areas of rocky terrain that do not involve the use of explosives. The primary aim of such alternatives would be to limit generation of noise and vibration in areas where significant geological values may be present.

2.2.2 Do you consider this impact to be significant?

Yes No

2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?

Yes No

2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes No

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

Yes No

Migratory species

Osprey (*Pandion cristatus* – MI)

Impact

The 2018 fauna survey observed Eastern Osprey at two locations outside of the DE; one individual was observed flying over the lighthouse, and another was observed perched in the caravan park (Att 3 - Biological Survey - Ecoscape 2018, Section 4.2.2, pg 40). The species was not observed in the 2020 survey (Att 4 - Biological Survey - Ecoscape 2021, Section 4.2.1, pg 43).



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Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia (DAWEa, 2021).

The proposed action would result in the clearing of up to 12.00 ha of vegetation that may be used by Eastern Osprey on a sporadic basis. This species would not be dependent on the DE to provide habitat, and no evidence of nesting activity has been observed (Att 4 - Biological Survey - Ecoscape 2021, Section 5.3.3.1, pg 52).

2.5.2 Do you consider this impact to be significant?

Yes No

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

Yes No

2.7 Is the proposed action likely to be taken on or near Commonwealth land?

Yes No

2.7.1 Is the proposed action likely to have any direct or indirect impact on the Commonwealth land?

Yes No

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

Yes No

2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?

Yes No

2.10 Is the proposed action a nuclear action?

Yes No

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

Yes No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?

Yes No

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

Yes No



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Section 3

Description of the project area

3.1 Describe the flora and fauna relevant to the project area

Flora:

A total of 191 flora taxa from 51 families have been recorded within the DE. This total includes seven weed species. The most commonly represented families were Fabaceae (27 taxa), Poaceae (21, including two introduced taxa), Malvaceae (17), Amaranthaceae (9, including one introduced taxa), and Chenopodiaceae (9) (Att 3 - Biological Survey - Ecoscape 2018, Section 4.1.2, pg 27; Att 4 - Biological Survey - Ecoscape 2021, Section 4.1.1, pg 29).

Desktop searches of the EPBC Act PMST (DAWEb, 2021), NatureMap (DBCA, 2021), and DBCA and WA Herbarium Threatened and Priority flora spatial datasets did not identify any flora species listed under State or Commonwealth legislation occurring or potentially occurring within a study area of 20 km from the DE. Fourteen flora species listed as Priority by DBCA have been previously recorded in study area.

The field surveys did not record any EPBC Act or BC Act listed flora. Seven DBCA Priority-listed flora species were recorded in the DE, comprising the following:

- *Daviesia pleurophylla* (P2);
- *Tinospora esiangkara* (P2);
- *Corchorus congener* (P3);
- *Eremophila forrestii* subsp. *capensis* (P3);
- *Grevillea calcicola* (P3);
- *Stackhousia umbellata* (P3);
- *Brachychiton obtusilobus* (P4).

None of the introduced flora are Declared Pests (WA) or Weeds of National Significance (Cth). The most common weed found was Buffel Grass (**Cenchrus ciliaris*).

Fauna:

Five broad fauna habitat types have been recorded in the DE: :

- Dunes (including dune crests and swales, swales);
- Hummock grasslands;
- Sheltered gullies and minor caves;
- Rocky hills and slopes;
- Coastal dunes.

(Att 3 - Biological Survey - Ecoscape 2018, Section 4.2.1, pgs 37-39 ; Att 4 - Biological Survey - Ecoscape 2021, Section 4.2.2, pgs 44-45).

None of the habitat types are confined to the DE and all occur commonly in areas adjacent to the DE. The most confined of these habitat types are those associated with the red Pindan dunes, that while occupying an estimated 3,500 ha in the local area (including approximately 11 ha or 0.3% within the DE), are isolated by at least 40 km from the nearest similar habitat type.

A database search of NatureMap (DBCA, 2021) identified 492 fauna taxa occurring in the study area, comprising 181 birds, 168 fish, 85 reptiles, 32 invertebrates, 23 mammals and 3 amphibians. This includes five introduced fauna species. The 2020 survey of the realignment corridor recorded five mammals, five reptiles and 10 birds, with an additional 5 mammal, 22 bird and 10 reptile species recorded in the 2018 survey.

Searches of the EPBC PMST, NatureMap and DBCA Threatened and Priority fauna spatial datasets identified the presence or potential presence of conservation significant fauna species within 20 km of the DE including:

- 44 species listed under the EPBC Act and/or BC Act;
- 28 migratory birds protected under international agreement;
- 7 species listed as Priority by DBCA.

Given the proximity of the DE to the coast and ocean, many species identified in the desktop searches are largely reliant on marine habitats, and would not occur in the DE (such as whales, sharks, fish, turtles, seabirds and shorebirds).

A post-survey likelihood of occurrence assessment determined the following EPBC-listed fauna species have a medium to high likelihood of occurring in the survey area:

- Eastern Osprey (*Pandion cristatus* – MI)
- (Att 4 - Biological Survey - Ecoscape 2021, Appendix 2, Table 20, pgs 76-78).



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The fauna survey did not record any individuals or evidence of these fauna species within the DE.

The 2018 survey recorded Eastern Osprey outside of the DE. One individual was observed flying over the lighthouse and another perched in the nearby caravan park. There was no evidence of any nesting activity observed in either survey area.

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

The DE is located at the northern tip of the Cape Range, which is characterised by a deeply dissected limestone plateau with narrow valleys, gorges and cave systems. The crest of the range forms a regional drainage divide, with drainage systems to the east and west (Allen, 1993). The region experiences an arid, semi-desert to subtropical climate, with variable summer and winter rainfall. Evaporation greatly exceeds annual rainfall (AHDB, 2021); therefore, surface runoff is likely to be sporadic and only following significant rainfall events.

The eastern half of the DE is located on gently undulating dunes and sand plains with some poorly defined minor drainage lines. The western half of the DE is located on the western flank of a large ridgeline, and is dissected by a well-defined non-perennial drainage line. Any surface runoff would discharge to the coast towards the north west and north east.

There are no Public Drinking Water Source Areas within the DE. The DE is located within the Pilbara Surface Water Area, as proclaimed under the Rights in Water and Irrigation Act 1914 (WA) (RIWI Act).

There are no RAMSAR, nationally significant or other mapped wetlands in the DE, and biological surveys over the DE did not record any wetlands. Part of the Cape Range Subterranean Waterways wetland, which is listed in the Directory of Nationally Important Wetlands, is located approximately 2.8 km east of the DE; other areas included in the wetland are scattered through North West Cape. It is characterised by subterranean waterways, sinkholes, general groundwater and artificial wells.

Groundwater of the Exmouth region is characterised by an unconfined aquifer occurring in the karst limestones of the Cape Range, and a deeper confined aquifer. The groundwater consists of a shallow water table on the coastal plain but rises to about 10 m above sea level beneath the highest part of the Cape Range (WAPC, 2009).

The DE is located in the Gascoyne Groundwater Area, which is a proclaimed area under the RIWI Act.

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

The proposed action occurs in the Carnarvon IBRA bioregion and Cape Range subregion. The Cape Range subregion is characterised by rugged tertiary limestone ranges and extensive areas of red Aeolian dunefield, Quaternary coastal beach dunes and mud flats.

The main landscape system intersected by the DE is the Learmouth system, described as sandy outwash plains marginal to the Cape Range, supporting mainly soft spinifex hummock grasslands with scattered acacia shrubs.

The surface geology of Vlamingh Head is composed of tertiary limestone (Tulki limestone) and sandstone (Vlamingh sandstone) and quarternary Bunderra calcarenite (WAPC, 2009). The site is generally level to the northeast along the existing Yardie Creek Rd frontage, undulating then rising to the more elevated southwest areas. The realignment route then moderately declines towards Yardie Creek Road on the west of Cape Range.

Broad scale pre-European vegetation mapping identifies three main vegetation associations in the DE:

- 662 – Hummock grassland; shrub steppe; mixed acacia scrub and dwarf scrub with soft spinifex and *Triodia basedowii*;
- 663 – Hummock grasslands, shrub steppe; waterwood over soft spinifex;
- 664 – Hummock grasslands, sparse tree-steppe; scattered bloodwood over soft spinifex and *Triodia sp. indet. aff. Augusta*.

Angusta.

The DE contains approximately 39.41 ha of native vegetation and 1.67 ha of cleared areas (existing roads, access tracks etc). Biological surveys over the DE recorded seven vegetation types associated with two landforms.

The following vegetation types are present in the DE:

Sand Dunes and Plains

- AsTe: *Acacia sclerosperma* subsp. *sclerosperma* and *A. bivenosa* mid open shrubland over *Triodia epactia* and *Acacia gregorii* low hummock grassland/shrubland. Occurs on sandplains.
- BaTg: *Banksia ashbyi* subsp. *boreoscaia*, *Grevillea stenobotrya* and *Acacia coriacea* subsp. *coriacea* mid open shrubland over *Triodia glabra* low hummock grassland. Occurs on red sand dunes.
- CzTg: *Corymbia zygomphylla* and *Banksia ashbyi* subsp. *boreoscaia* mid open mallee shrubland over *Triodia glabra* low hummock grassland. Occurs on sandplains.



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Limestone Hills (and associated gullies)

- FbTa: *Ficus brachypoda* and *Grevillea variifolia* subsp. *variifolia* mid sparse shrubland over *Triodia angusta* low hummock grassland. Occurs on limestone foothills.
- GcTa: *Grevillea calcicola*, *Acacia coriacea* subsp. *coriacea* and *Ficus brachypoda* tall open shrubland over *Triodia angusta* low open hummock grassland. Occurs on rocky limestone gullies.
- GvTe: *Grevillea variifolia* subsp. *variifolia* and *Acacia bivenosa* mid open shrubland over *Triodia epactia* and *T. angusta* low hummock grassland. Occurs on limestone hills.
- McTw: *Melaleuca cardiophylla* and *Hakea stenophylla* subsp. *stenophylla* mid open shrubland over *Triodia wiseana*, *T. angusta* and *Hibbertia capensis* low hummock grassland/shrubland. Occurs on limestone hills.
(Att 3 - Biological Survey - Ecoscape 2018, Section 4.1.1, pgs 20-26; Att 4 - Biological Survey - Ecoscape 2021, Section 4.1.2, pgs 33-38).

The vegetation types recorded are not restricted to the DE and are commonly found in the surrounding area.

Vegetation condition is predominantly Very Good to Excellent (83%), with Poor to Degraded vegetation occurring near the existing Yardie Creek Road and near a cleared gravel access track.

None of the vegetation types are significant as a Threatened Ecological Community listed under the EPBC Act or BC Act, or considered a DBCA Priority Ecological Community.

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

The proposed action occurs on the North West Cape peninsula, which forms part of the NCWHA. The main geological feature of the peninsula is the Cape Range anticline, which stretches 70 km from Vlamingh Head at the northern tip to Point Cloates to the south. The range is a heavily dissected, asymmetric limestone anticline that has eroded over millions of years into plateaux, hills, ridges, gorges and steep stony slopes (AHDB, 2021). Cape Range is known to possess diverse ecosystems, endemic flora and fauna, and complex underground karst formations supporting rare and endemic subterranean fauna. The proposed action is located at the northern tip of the Cape Range.

The DE is adjacent to, and partially overlaps, the Jurabi Coastal Park, which is jointly managed by the DBCA and Shire of Exmouth. The Jurabi Coastal Park is managed with other reserves of the Cape Range, such as Cape Range National Park, Ningaloo Marine Park, Jurabi and Bundegi Coastal Parks and the Muiron Islands, as an integrated unit (CALM, 1999).

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

The project is located within the Carnarvon IBRA bioregion, where approximately 99% of pre-European vegetation remains.

The extent of the pre-European vegetation associations affected by the project have been determined by the state-wide vegetation remaining extent calculations maintained by the DBCA (latest update March 2019 – Gov. of Western Australia, 2019). Vegetation associations 662, 663 and 664 retain approximately 85-99% of pre-European extent at all scale (state, IBRA region, IBRA subregion and Shire of Exmouth).

None of the vegetation types mapped in the DE represent a Threatened Ecological Community listed under the EPBC Act or BC Act, or are considered a DBCA Priority Ecological Community.

The biological surveys did not record any listed Threatened flora. Seven DBCA Priority flora species were recorded in the DE and surrounds.

The vegetation of the DE was found to be common and widespread in the local area. The 2018 biological survey identified that the BaDp shrubland recorded from red Pindan dunes may potentially be of local and regional significance (comparable to the BaTg and CzTg vegetation types mapped by Ecoscape in 2021) (Att 3 - Biological Survey - Ecoscape 2018 - Section 5.1.3, pg 44). While an estimated 3,500 ha of red Pindan sand dunes occur in the local area, the landform is considered regionally restricted, separated by 40 km to the nearest similar habitat (Att 4 - Biological Survey - Ecoscape 2021 - Section 4.2.2, pg 44). The proposed action will clear approximately 2.84 ha of this vegetation type, equivalent to 0.08% of that present in the local area.

The proposed action occurs in an Environmentally Sensitive Area associated with the Ningaloo Coast National Heritage Place.

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



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Topography ranges from 6 – 57 m Australian height datum (AHD), with the more elevated areas associated with the proposed lighthouse access road, which straddles the ridge of the Cape Range, and the least elevated areas associated with Yardie Creek Rd near sea level. Land to the east of the ridge comprises more gently undulating sand plains and dunes, while topography is moderately steeper to the west of the ridge.

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

Vegetation condition in the DE ranges from Excellent to Degraded. The DE is mostly uncleared with the majority of vegetation in Very Good or better condition (35.96 ha or 83%). Approximately 1.48 ha (7%) is in Good condition, with the remaining area in Poor to Degraded condition (3.64 ha or 9%). Some areas have been historically cleared for Yardie Creek Rd, the existing access road to Vlamingh Lighthouse, and an access track from the caravan park to a bore field to the south.

The DE does not overlay any pastoral leases but it is likely that vegetation has been grazed by domestic and feral animals since European settlement in the early 1900's (Att 4 - Biological Survey - Ecoscape 2021 - Section 2.1.8, pg 16).

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

Commonwealth Heritage Places or places recognised as having heritage values to the project area include the following:

- NCWHA (See Section 2.1 for description). The DE is adjacent to, and partially overlaps two small segments of the NCWHA at either end of the alignment. Minor clearing of degraded verge vegetation (approximately 0.4 ha within a 2 ha section of the DE) will occur across these two locations to tie in the new section of road to the old Yardie Creek Rd.
- NCNHP (See Section 2.2 for description). The DE sits wholly within the NCNHP. The proposed action will result in the clearing of up to 12.0 ha of native vegetation and disturbance of an additional 0.3 ha within existing cleared areas. The disturbance footprint of the proposed action represents less than 0.01% of the total area of the NCNHP.
- WA State Heritage Sites. The proposed action will be also be in close proximity to a number of sites listed on the WA state heritage list. These sites are associated with the Vlamingh Head Lighthouse, and include the lighthouse, living quarters and Vlamingh Head Radar (DPLH, 2021a). Although the DE intersects the boundary of this group of heritage sites, the only disturbance will be limited to where the new southern access road connects to the existing lighthouse precinct access. There will be no impacts to the lighthouse or associated buildings. Main Roads will liaise with the WA Department of Planning Lands and Heritage and Shire of Exmouth and comply with any requirements regarding the preservation of these sites.

3.9 Describe any Indigenous heritage values relevant to the project area

A database search determined the DE overlies the boundary of one aboriginal heritage site registered under the Aboriginal Heritage Act 1972 (WA), Place ID 10381 – Vlaming Head (DPLH, 2021b). When the disturbance footprint has been further refined, Main Roads will engage with DPLH and local indigenous representatives to determine the presence of aboriginal heritage sites within the DE, including conducting archaeological and ethnographic heritage surveys across the DE.

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

The Proposal will intersect the following parcels of land:

- Two road reserves (Yardie Creek Rd and Johnson Rd).
- One easement (Land ID 3715714).
- Three Crown Land lots owned by the State of WA (Land ID's 3147440, 3127167 and LR319/353).
- One Crown Land lot leased to Northwest Resorts Pty Ltd (LR3069/296).
- Two Freehold Land lots (Land ID 2948/146 owned by Northwest Resorts Ptd Ltd and Land ID 2058/539 owned by Shire of Exmouth).
- One Reserve (40729) (Jurabi Coastal Park) vested in DBCA and jointly managed with the Shire of Exmouth for the purpose of Recreation and Coastal Management.

MRWA will liaise with stakeholders to ensure all required land access/vesting agreements are in place prior to the commencement of works.

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

The proposed action is located at Vlamingh Head at the northern tip of the North West Cape. The prevailing use of the area is for tourism, recreation, conservation and coastal management.

The western and central parts of the DE are located on Crown land. According to the Shire of Exmouth Town Planning Scheme; the area is currently zoned as an Environmental and Conservation Reserve. The eastern part of the DE is located on freehold land associated with the nearby caravan park. This land is zoned Special Use and is subject to the Vlamingh Head Masterplan, a planning strategy that guides land use and development at the Vlamingh Head tourism node.

The DE is characterised by remnant native vegetation and is relatively undisturbed. There are no existing uses of the land



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

except for the existing Yardie Creek Rd, access to the Vlamingh Head Lighthouse and a gravel access track.

The proposed realignment partially intersects Jurabi Coastal Park. The reserve is jointly managed by the Shire of Exmouth and DBCA for the purpose of recreation and coastal management.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 4

Measures to avoid or reduce impacts

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

The proposed action is in an early design stage and will be further refined following additional investigations, including geotechnical investigations into landscape suitability and materials and archaeological and ethnographic surveys. Main Roads will continue to explore opportunities to further reduce the disturbance footprint as this process continues.

Clearing and ground disturbance for the project will be minimised by implementing the following measures:

- Important environmental values within the DE, but outside of the disturbance footprint will be avoided where possible, such as DBCA Priority flora;
- Clearing for temporary construction activities, such as site offices, laydown areas, and materials storage areas will be minimised by utilising existing cleared areas or working within the clearing footprint where possible;
- Materials for fill will likely be sourced from excess cut materials sourced from the site or from existing commercial sources;

The clearing area will be demarcated prior to clearing commencing to ensure clearing is contained within the approved boundary.

A CEMP will be prepared to minimise the environmental impacts associated with the proposed action as well as identifying areas of responsibilities required for the implementation of management strategies. The CEMP will be implemented prior to construction and remain in place during construction and post construction works.

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

The proposed action will result in the following impacts to matters protected by the EPBC Act:

Ningaloo Coast World Heritage Area

- Clearing less than 0.4 ha of vegetation within the boundary of the NCWHA.
- The proposed action is unlikely to result in World Heritage values being lost, degraded or damaged, or notably altered, modified, obscured or diminished.

Ningaloo Coast National Heritage Place

- Approximately 12.30 ha of disturbance, comprising 0.3 ha of existing cleared areas and the removal of up to 12.00 ha of native vegetation within the boundary of the NCNHP, which is less than 0.01% of the total area of the NCNHP.
- The proposed action is unlikely to result in National Heritage values being lost, degraded or damaged, or notably altered, modified, obscured or diminished.

Other MNES

- Clearing up to 12.00 ha of native vegetation, which may provide suitable habitat for Eastern Osprey.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 5

Conclusion on the likelihood of significant impacts

5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled action

- World Heritage properties
- National Heritage places
- Wetlands of international importance (declared Ramsar wetlands)
- Listed threatened species or any threatened ecological community
- Listed migratory species
- Marine environment outside Commonwealth marine areas
- Protection of the environment from actions involving Commonwealth land
- Great Barrier Reef Marine Park
- A water resource, in relation to coal seam gas development and large coal mining development
- Protection of the environment from nuclear actions
- Protection of the environment from Commonwealth actions
- Commonwealth Heritage places overseas
- Commonwealth marine areas

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

The Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (DotE, 2013) has been taken into consideration when assessing the potential for a significant impact on the Ningaloo Coast World and National Heritage areas. An action is likely to have a significant impact on the values of a declared World Heritage Property or on a listed National Heritage Place if there is a real chance or possibility that it will cause one or more values to be lost, degraded or damaged, or notably altered, modified, obscured or diminished.

The proposed action is terrestrial based and will not affect the marine values of the Ningaloo Coast due to the following:

- The footprint of the realignment does not overlap with the shore or marine area.
- The revised route is further inland from the coastline (and marine values of the Ningaloo Coast) than the current alignment.
- Temporary or indirect impacts resulting from the construction of the new section of road will be managed through the implementation of a Construction Environmental Management Plan that addresses project specific risks to marine values.

The proposed action is unlikely to significantly impact on the terrestrial values of the Ningaloo Coast due to the following:

- The disturbance footprint of 12.30 ha is less than 0.01% of the total terrestrial area of the NCNHP, and the disturbance will be localised to a narrow, linear corridor.
- The road will follow the natural topography as much as possible to match the existing landscape and to minimise areas of significant excavation or infilling.
- Activities will be largely confined to the surface. While some excavation will be required to ensure the road meets required standards for road design, Main Roads will undertake additional geotechnical studies to identify and avoid significant geological features such as karst formations or underground caves.
- The proposal is not within the Cape Range Subterranean Waterways wetland, and the biological surveys did not record any anchialine pools, sinkholes or other groundwater dependant ecosystems.
- Works are not expected to intercept the groundwater table and no significant impacts to subterranean fauna are anticipated.
- Biological surveys conducted over the DE found the vegetation, fauna habitats and landforms contained therein to be common and widespread in the local area.
- The Eastern Osprey is the only listed fauna species with a medium or higher likelihood of occurring within the DE. Despite this, biological surveys have concluded that this species is unlikely to be dependent on the DE to provide habitat.
- No listed flora species are likely to occur within the DE.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 6

Environmental record of the person proposing to take the action

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

Main Roads is a State Government agency with an assured record of responsible environmental management and performance.

Main Roads has a strong environmental compliance record, with Main Roads remaining in compliance with all conditions of environmental approvals granted under the EPBC Act and the EP Act.

Main Roads operations are undertaken in accordance with an Environmental Policy, which outlines Main Roads overarching objectives for environmental protection, sustainability and continual improvement in environmental performance.

The Environmental Policy is implemented through Main Roads international standard AS/NZS ISO 14001:2015-certified Environmental Management System (EMS). Main Roads EMS provides a formalised systematic approach to environmental management for all aspects of the operations (road planning, construction and maintenance).

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application

There are no current or past proceedings against Main Roads.

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes No

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

Main Roads Environmental Policy commits to protecting and enhancing the natural environmental and social values in all Main Roads activities (Att 5 - Environmental Policy).

Main Roads' EMS is independently certified and covers the processes and activities that have the potential to impact the environment. The EMS ensures compliance with Main Roads environment and heritage compliance obligations, providing the framework for driving environmental requirements through leadership, planning, support, operation, performance evaluation and improvement actions. The action, therefore, will be undertaken, monitored and measured in accordance with the Main Roads EMS. Main Roads EMS conforms to the requirements of ISO 14001:2015 (Att 6 - EMS Certification).

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 No

6.4.1 EPBC Act No and/or Name of Proposal

EPBC 2020/8833 - Mitchell Freeway Principal Shared Path Gaps Project Ocean Reef Road to Hepburn Avenue - Controlled action

EPBC 2020/8800 - Bussell Highway Hutton To Sabina - Controlled action

EPBC 2020/8784 - Roe Hwy - Great Eastern Hwy Bypass (GEHBI) - Controlled action

EPBC 2020/8746 - Great Eastern Highway Safety Improvements (Packages 4B and 5) - Not a controlled action

EPBC 2019/8543 - Bunbury Outer Ring Road (BORR) South - Controlled action

EPBC 2019/8471 - Bunbury Outer Ring Road Northern and Central Section Project - Controlled action

EPBC 2018/8367 - Mitchell Freeway Extension and Wanneroo Road Upgrade - Controlled action

EPBC 2018/8346 - Indian Ocean Drive Widening, Gingin Shire - Not controlled action



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 7

Information sources

Reference source

Allen, AD. (1993) Outline of the geology and hydrogeology of Cape Range, Carnarvon Basin, Western Australia. In: Humphreys, W.F. (ed), The Biogeography of Cape Range Western Australia. Records of the Western Australian Museum Supplement No 45.

Reliability

Information is reliable

Uncertainties

There are no uncertainties

Reference source

Australian Heritage Database (2021) Ningaloo Coast. National Heritage List. Commonwealth of Australia, Canberra. Available online from https://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;place_id=105881.

Reliability

Information is reliable

Uncertainties

There are no uncertainties

Reference source

DBCA (2021) NatureMap: Mapping Western Australia's Biodiversity. Department of Biodiveristy, Conservation and Attractions. Available online from: <http://naturemap.dbca.wa.gov.au>.

Reliability

Information is reliable

Uncertainties

There are no uncertainties

Reference source

Department of Agriculture, Water and the Environment (DAWE) (2021a) Pandion haliaetus in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <https://www.environment.gov.au/sprat>.

Reliability

Information is reliable

Uncertainties

There are no uncertainties

Reference source

Department of Agriculture, Water and the Environment (DAWE) (2021b) Protected Matters Search Tool Report. Available online from: <http://www.environment.gov.au/epbc/pmst/index.html> / Accessed 01/04/2021.

Reliability

Information is reliable

Uncertainties

There are no uncertainties



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Reference source
Department of Biodiversity, Conservation and Attractions. (2017). Fauna Profile - Black-footed Rock Wallabies <i>Petrogale lateralis</i> . Retrieved from http://www.dbca.wa.gov.au/
Reliability
Information is reliable
Uncertainties
There are no uncertainties
Reference source
Department of Conservation and Land Management (CALM) (1999) Jurabi and Bundegi Coastal Parks, and Muiron Islands – Management Plan 1999-2009. Management Plan No. 43. Perth, Western Australia.
Reliability
Information is reliable
Uncertainties
There are no uncertainties
Reference source
Department of the Environment (DotE) (2013) Matters of National Environmental Significance, Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999. Canberra: Department of the Environment and Energy.
Reliability
Information is reliable
Uncertainties
There are no uncertainties
Reference source
DPLH (2021a) inherit Database search: Shire of Exmouth. State Heritage Office, Perth, Western Australia. Available online from: http://inherit.stateheritage.wa.gov.au/public Accessed 04/04/2021.
Reliability
Information is reliable
Uncertainties
There are no uncertainties
Reference source
DPLH (2021b) Aboriginal Heritage Inquiry System Search for Registered Sites. Available online from: http://maps.dia.wa.gov.au/AHIS2/default.aspx . Accessed (03/05/2021).
Reliability
Information is reliable
Uncertainties
There are no uncertainties
Reference source
Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. Department of Biodiversity, Conservation and Attractions, Perth, Western Australia.
Reliability



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Information is reliable

Uncertainties

There are no uncertainties

Reference source

UNESCO (2011) World Heritage Committee Thirty-fifth Session. United Nations Educational, Scientific and Cultural Organisation. Paris, June 2011.

Reliability

Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. Department of Biodiversity, Conservation and Attractions, Perth, Western Australia.
Information is reliable

UNESCO (2011) World Heritage Committee Thirty-fifth Session. United Nations Educational, Scientific and Cultural Organisation. Paris, June 2011. Information is reliable

Uncertainties

There are no uncertainties

Reference source

WAPC (2009) Vlamingh Head Masterplan. Western Australia Planning Commission, 2009.

Reliability

Information is reliable

Uncertainties

There are no uncertainties



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 8

Proposed alternatives

Do you have any feasible alternatives to taking the proposed action?

Yes



No



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Section 9	
Person proposing the action	
9.1.1 Is the person proposing the action an organisation or business? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Organisation	
Organisation name (as registered for ABN/ACN)	MAIN ROADS
Business name	Main Roads Western Australia
ABN	50860676021
ACN	
Business address	Don Aitken Centre, Waterloo Crescent, East Perth, 6004, WA, Australia
Postal address	
Main Phone number	138138
Fax	
Primary email address	enquiries@mainroads.wa.gov.au
Secondary email address	
9.1.2 I qualify for exemption from fees under Regulation 5.23(1)(ii) of the EPBC Regulations because I am: <input type="checkbox"/> Small business <input checked="" type="checkbox"/> Not applicable	
9.1.2.2 I would like to apply for a waiver of full or partial fees under Regulation 5.21A of the EPBC Regulations <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
9.1.3 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)	
First name	Martine
Last name	Scheltema
Job title	Manager Environment
Phone	
Mobile	
Fax	
Email	martine.scheltema@mainroads.wa.gov.au
Primary address	PO Box 6202, East Perth, 6892, Western Australia, Australia
Address	
Declaration: Person proposing the action (To be signed by the person at 9.1.3)	
I, <u>Martine Scheltema</u> , 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. I declare that I am not taking the action on behalf or for the benefit of any other person or entity.	
Signature: <u>Martine Scheltema</u>	Date: <u>1/06/21</u>
I, <u>Martine Scheltema on behalf of Main Roads Western Australia</u> , the person proposing the action, consent to the designation of <u>Main Roads Western Australia</u> as the proponent for the purposes of the action described in this EPBC Act Referral.	
Signature: <u>Martine Scheltema</u>	Date: <u>1/06/21</u>



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Referring party (person preparing the information)

9.3.1 Is the referring party an organisation or a business?

Yes No

Organisation

Organisation name (as registered for ABN/ACN)	MAIN ROADS
Business name	Main Roads Western Australia
ABN	50860676021
ACN	
Business address	Don Aitken Centre, Waterloo Crescent, East Perth, 6004, WA, Australia
Postal address	
Main Phone number	138138
Fax	
Primary email address	enquiries@mainroads.wa.gov.au
Secondary email address	

9.3.2 Contact (for an organisation - the contact details of the person authorised to sign on behalf of the organisation)

First name	Martine
Last name	Scheltema
Job title	Manager Environment
Phone	0893234614
Mobile	
Fax	
Email	martine.scheltema@mainroads.wa.gov.au
Primary address	PO Box 6202, East Perth, 6892, Western Australia, Australia
Address	

Declaration: Referring party (person preparing the information)

I, Martine Scheltema on behalf of Main Roads Western Australia, 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: Martine Scheltema Date: 1/06/21



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Appendix A	
Attachment	
Document Type	File Name
action_area_images	Att1-RegionalLocation.pdf
action_area_images	Att2-DevelopmentEnvelope.pdf
flora_fauna_investigation	Att3- Biological Survey - Ecoscape 2018.pdf
flora_fauna_investigation	Att4- Biological Survey - Ecoscape 2021.pdf
corp_env_policy_docs	Att5- Main Roads Environmental Policy.pdf
corp_env_policy_docs	Att6- Main Roads EMS Cert.pdf

Appendix B
Coordinates
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