Australian Government
Department of the Environment

# Referral of proposed action

## What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) provides for the protection of the environment, especially matters of national environmental significance (NES). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Australian Government Environment Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Minister's delegate.) To obtain approval from the Environment Minister, a proposed action should be referred. The purpose of a referral is to obtain a decision on whether your proposed action will need formal assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided sufficient information is provided in the referral.

## Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

## When do I need to make a referral?

A referral must be made for actions that are likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A)
- National Heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 and 17B)
- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Protection of the environment from nuclear actions (sections 21 and 22A)
- Commonwealth marine environment (sections 23 and 24A)
- Great Barrier Reef Marine Park (sections 24B and 24C)
- A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
- The environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions that are likely to have a significant impact on the environment of Commonwealth land (even if taken outside Commonwealth land);
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- The environment, if the action is taken by the Commonwealth (section 28)
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C)

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's website:

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance. Additional sectoral guidelines are also available.

- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies.
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources.
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location).

#### Can I refer part of a larger action?

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral, read 'Fact Sheet 6 Staged Developments/Split Referrals' and contact the Referrals Gateway (1800 803 772).

#### Do I need a permit?

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

### Is your action in the Great Barrier Reef Marine Park?

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB, GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (the Authority) for the Authority to commence its permit processes as required under the Great Barrier Reef Marine Park Regulations 1983. If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43, EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from http://www.gbrmpa.gov.au/ or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379
Townsville QLD 4810
AUSTRALIA

Phone: + 61 7 4750 0700
Fax: + 61 7 4772 6093

www.gbrmpa.gov.au

## What information do I need to provide?

**Completing all parts of this form will ensure that you submit the required information and will also assist the Department to process your referral efficiently. If a section of the referral document is not applicable to your proposal enter N/A.**

You can complete your referral by entering your information into this Word file.

#### Instructions

Instructions are provided in blue text throughout the form.

#### Attachments/supporting information

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the project and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

**Please ensure any attachments are below three megabytes (3mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than three megabytes (3mb) may delay processing of your referral.**

**Note: the Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence.**

## How do I pay for my referral?

From 1 October 2014 the Australian Government commenced cost recovery arrangements for environmental assessments and some strategic assessments under the EPBC Act. If an action is referred on or after 1 October 2014, then cost recovery will apply to both the referral and any assessment activities undertaken. Further information regarding cost recovery can be found on the Department's website at: http://www.environment.gov.au/epbc/publications/cost-recovery-cris

**Payment of the referral fee can be made using one of the following methods:**

- **EFT Payments can be made to:**

  BSB: 092-009
  Bank Account No. 115859
  Amount: $7352
  Account Name: Department of the Environment.
  Bank: Reserve Bank of Australia
  Bank Address: 20-22 London Circuit Canberra ACT 2601
  Description: The reference number provided (see note below)

- **Cheque** - Payable to "Department of the Environment". Include the reference number provided (see note below), and if posted, address:

  The Referrals Gateway
  Environment Assessment Branch
  Department of the Environment
  GPO Box 787
  Canberra ACT 2601

- **Credit Card**

  Please contact the Collector of Public Money (CPM) directly (call (02) 6274 2930 or 6274 20260 and provide the reference number (see note below).

Note: in order to receive a reference number, submit your referral and the Referrals Gateway will email you the reference number.

## How do I submit a referral?

Referrals may be submitted by mail or email.

**Mail to:**

Referrals Gateway
Environment Assessment Branch
Department of Environment
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, electronic copies of documentation (on CD/DVD or by email) are required.

**Email to: epbc.referrals@environment.gov.au**

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral as a Microsoft Word file and, if possible, a PDF file.
- **Follow up with a mailed hardcopy including copies of any attachments or supporting reports.**

## What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not formal assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

**The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval**

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

**The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner**

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

**The proposed action is LIKELY to have a significant impact and does NEED approval**

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

**The proposed action would have UNACCEPTABLE impacts and CANNOT proceed**

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

**Compliance audits**

If a decision is made to approve a project, the Department may audit it at any time to ensure that it is completed in accordance with the approval decision or the information provided in the referral. If the project changes, such that the likelihood of significant impacts could vary, you should write to the Department to advise of the changes. If your project is in the Great Barrier Reef Marine Park and a decision is made to approve it, the Authority may also audit it. (See "*Is your action in the Great Barrier Reef Marine Park,"* p.2, for more details).

## For more information

- call the Department of the Environment Community Information Unit on 1800 803 772 or
- visit the web site http://www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

# Referral of proposed action

## Project title: Ellenbrook Bus Rapid Transit

# 1 Summary of proposed action

Main Roads Western Australia (MRWA) proposes to construct the Ellenbrook Bus Rapid Transit (the project) to provide a dedicated public transport route, from the Ellenbrook town centre to Reid Highway, Bennett Springs in the south. The project will involve the construction of approximately 10km of busway, grade separations at road crossings, upgrades of all existing intersections, a realignment of the existing Lord Street and three bus stations with Park and Ride facilities.

| | | |
|---|---|---|
| 1.1 | **Short description** | Construction of a dedicated bus route connecting Ellenbrook town centre to south of Reid Highway and a realignment of Lord Street between Gnangara Road and Reid Highway. It involves construction of approximately 10 km of dedicated busway, grade separations at road crossings, upgrades of all existing intersections and three bus stations with Park and Ride facilities. Figure 1 depicts the project location and Figure 2 depicts the study area and project footprint. |
| 1.2 | **Latitude and longitude** | Latitudes and longitudes for the study area are given in Attachment A. |
| 1.3 | **Locality and property description** | The southern extent of the project is 13.5km north-east of the Perth CBD. It is located on land that has been subject to extensive disturbance through urban development and agricultural uses. The project footprint is aligned approximately parallel to the existing Lord Street, which runs north-south from Ellenbrook town centre to Reid Highway, Bennett Springs. |
| 1.4 | **Size of the development footprint or work area (hectares)** | The full extent of the project footprint is 56.8ha within a study area of 185.2ha. Within the project footprint, 29.5ha is already cleared and 21.1ha supports remnant native vegetation. |
| 1.5 | **Street address of the site** | Lord Street, Ellenbrook, Western Australia |
| 1.6 | **Lot description** | The proposal traverses a number of land parcels and is generally parallel with the existing Lord Street between Reid Highway Bennett Springs in the south to The Parkway, Ellenbrook in the north. |
| 1.7 | **Local Government Area and Council contact (if known)** | City of Swan, Western Australia<br><br>Council Contact:<br>Jim Coten<br>Executive Manager Operations<br>Ph: 08 9267 9267 |
| 1.8 | **Time frame** | Construction of the proposal is expected to commence in late 2016, and is expected to take up to 15 months. |

| | | | |
|---|---|---|---|
| 1.9 | **Alternatives to proposed action** | √ | No |
| | | | Yes, you must also complete section 2.2 |
| 1.10 | **Alternative time frames etc** | √ | No |
| | | | Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant). |
| 1.11 | **State assessment** | | No |
| | | √ | Yes, you must also complete Section 2.5 |
| 1.12 | **Component of larger action** | √ | No |
| | | | Yes, you must also complete Section 2.7 |
| 1.13 | **Related actions/proposals** | √ | No |
| | | | Yes, provide details: |
| 1.14 | **Australian Government funding** | √ | No |
| | | | Yes, provide details: |
| 1.15 | **Great Barrier Reef Marine Park** | √ | No |
| | | | Yes, you must also complete Section 3.1 (h), 3.2 (e) |

# 2 Detailed description of proposed action

### 2.1 Description of proposed action

MRWA proposes to construct a dedicated bus rapid transit route, extending from The Parkway in Ellenbrook town centre in the north, to Reid Highway, Bennett Springs in the south. The project footprint is located predominantly within the existing 'Public Purpose – Special Use (Transit)' and 'Primary Regional Roads' reservations in the Metropolitan Region Scheme (MRS).

The project is intended to improve public transport connections from Ellenbrook to Midland, Bassendean and Morley. Journey times for other vehicle users will be reduced through the construction of a new Lord Street. The project will also realign two sections of Lord Street and improve access to intersections at Marshall Road, Bennett Springs and Gnangara Road, Ellenbrook.

The project will include:

- A dedicated busway between the Ellenbrook Town Centre and Reid Highway
- Realignment of two sections of Lord Street between:
    - Gnangara Road, Ellenbrook and Park Street, Brabham
    - Youle Dean Road, Brabham and Reid Highway, Bennett Springs
- Grade separations, by either underpass or over pass at the following road crossings:
    - Gnangara Road, Ellenbrook
    - Park Street, Whiteman Park
    - Youle Dean Road, Brabham
- Upgrades of all existing intersections
- Stations/bus stops including Park and Ride facilities at:
    - The Parkway
    - Barrambie Way
    - Cranleigh Way
- Associated road infrastructure, including, but not limited to:
    - Lighting
    - Drainage
    - Signs
    - Barriers

In the event that the final design incorporates underpasses to achieve grade separation, groundwater dewatering will be required to temporarily lower groundwater levels during the construction phase.

The proposed action will involve clearing of approximately 21.1ha of remnant native vegetation within a project footprint of 56.8ha.

### 2.2 Alternatives to taking the proposed action

There are no alternatives to the proposed action.

### 2.3 Alternative locations, time frames or activities that form part of the referred action

There are no alternative locations, timeframes or activities.

### 2.4 Context, planning framework and state / local government requirements

The project footprint is located predominantly within the existing 'Public Purpose – Special Use (Transit)' and 'Primary Regional Roads' reservations in the Metropolitan Region Scheme (MRS). A Development Application will be required to construct the works under the *Planning and Development Act 2005.*

**2.5 Environmental impact assessments under Commonwealth, state or territory legislation**

The project will be referred under Section 38 of the *Environmental Protection Act 1986* (WA) (EP Act) to the WA Environmental Protection Authority (EPA) for assessment.

The project will be assessed under Part IV or Part V (Clearing Permit) of the EP Act, depending on the EPA's determination.

**2.6 Public consultation (including with Indigenous stakeholders)**

MRWA will consult with nearby residents adjacent to the project footprint and the Ellenbrook Christian College, which is located near the northern extent of the project.

Consultation with Indigenous stakeholders will be undertaken in order to determine the significance of the land to Indigenous people. MRWA has been consulting with the South West Aboriginal Land and Sea Council to determine the appropriate people to consult with.

**2.7 A staged development or component of a larger project**

The project is not part of staged development or a component of a larger project.

# 3 Description of environment & likely impacts

## 3.1 Matters of national environmental significance

#### 3.1 (a) World Heritage Properties

**Description**
There are no World Heritage Properties located within the project footprint. The nearest World Heritage site is Fremantle Prison, which is approximately 30km south west of the project.

**Nature and extent of likely impact**

---

#### 3.1 (b) National Heritage Places

**Description**
There are no National Heritage Places located within the project footprint.

**Nature and extent of likely impact**

---

#### 3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

**Description**
There are no wetlands of international importance within the project footprint. The nearest RAMSAR listed wetlands are Forrestdale and Thomsons Lake, located approximately 35km south west of the project.

**Nature and extent of likely impact**

---

#### 3.1 (d) Listed threatened species and ecological communities

**Description**

The Protected Matters Search Report listed 46 EPBC listed threatened species that may possibly occur within the search area. Given the highly disturbed nature of the site, most of these are considered unlikely to occur within the project footprint.

Three species of black cockatoo are considered likely to occur within the project footprint. These are:

- Forest Red-tailed Black-Cockatoo (FRTBC) (*Calyptorhynchus banksii naso*) - Vulnerable
- Carnaby's Black Cockatoo (CBC) (*Calyptorhynchus latirostris*) - Endangered
- Baudin's Black Cockatoo (BBC) (*Calyptorhynchus baudinii*) - Vulnerable

**Forest Red-tailed Black-Cockatoo**

The Forest Red-tailed Black-Cockatoo (FRTBC) is a large bird, measuring 55 to 60cm in length and is identified by bright red, orange or yellow colouring on the tail. It is endemic to the south-west of Western Australia where it occurs most commonly between the northern Darling Range from Collie, north to Mundaring. It inhabits predominantly continuous vegetation of the dense Jarrah, Karri and Marri forests receiving more than 60mm rainfall annually. Smaller populations also occur on the Swan Coastal Plain and near the eastern extent of its range. This species feeds on Jarrah and Marri seeds though will also utilise Blackbutt, Albany Blackbutt and some non-native species, including Cape Lilac. Understorey is usually not predictive of use by FRTBC (DoE 2016a).

This species breeds predominantly in very old Marri; however will also utilise Jarrah, Blackbutt and Wandoo.

This species was recorded in mature Marri within the project footprint during the field survey. The project footprint provides suitable foraging and breeding habitat. However in recent years the species has been seen more frequently on the Swan Coastal Plain.

**Carnaby's Black-Cockatoo**

The Carnaby's Black Cockatoo (CBC) is a large bird, measuring approximately 53 to 58cm in length and is identified by white or cream bands in the tail and a large bill. It is endemic to the south-west of Western Australia where it occurs from Cape Arid in the south to Kalbarri in the north, where it inhabits Eucalypt woodland including Salmon Gum and Wandoo. The species breeds predominantly in the Wheatbelt utilising Salmon Gum and Wandoo; however, some populations breed on the Swan Coastal Plain and around Bunbury.

During the breeding season, the CBC forages predominantly on proteaceous shrubs and in Marri woodland. During the non-breeding season, CBC will forage in pine plantation (DoE 2016b).

The project footprint is within the known distribution of the CBC; however does not contain Wandoo or Salmon Gum, the preferred tree species used for breeding. Foraging habitat is present within the project footprint.

**Baudin's Black-Cockatoo**

The Baudin's Black Cockatoo (BBC) is a large bird measuring on average 50 to 57cm in length and is identified by white to yellowish or brownish white bands on the tail. This species can be distinguished from the CBC by the length of its beak, which is longer than that of the CBC.

This species occurs in areas receiving annual average rainfall of 750mm or above, from Albany in the south to Gidgegannup and Mundaring in the north and inland to the Stirling Ranges and near Kojonup, where it occupies the dense Jarrah, Karri and Marri forests.

The BBC breeds in the Karri forests of the far south-west and is reliant on Marri for foraging. When Marri seed is not available, it will feed alternately on Jarrah, Banksia and varied introduced species including pine plantation, macadamia, pear and apple (DoE 2016c).

While the project footprint contains mature Marri, which is the preferred foraging sources for this species, the project footprint is outside of the modelled distribution of the BBC including the known breeding range. If BBC occurs within the project footprint, it is likely during the non-breeding season and only as a vagrant.

**Nature and extent of likely impact**

Table 1 Assessment of Forest Red-tailed Black Cockatoo habitat within the project footprint

| Habitat type | EBRT footprint |
|---|---|
| Breeding habitat | The project footprint contains 106 trees with a DBH of 500mm or greater, three (3) of which contain a hollow. One of these hollows was occupied by bees at the time of survey (AECOM 2016). No evidence of hollow use by FRTBC was recorded during the survey. |
| Foraging habitat | Marri is the preferred foraging sources for FRTBC. A total of 10.0ha of predominantly Marri/Melaleuca and Eucalypt woodland is present within the project footprint and a further 106 mature Eucalypts which are predominantly Marri over cleared paddock, provide suitable foraging habitat. This species was recorded foraging within the project footprint (AECOM 2016). |
| Roosting habitat | There is no known roosting site within the project area. |

Table 2 Assessment of Carnaby's Black Cockatoo habitat within the project footprint

| Habitat type | EBRT footprint |
|---|---|
| Breeding habitat | The project footprint contains 106 trees with DBH of 500mm or greater, three (3) of which each contain a hollow. One of these hollows was occupied by bees at the time of survey (AECOM 2016). No evidence of hollow use by CBC was recorded during the survey. |
| Foraging habitat | A total of 11.2ha of potential foraging habitat is available within the project footprint including 10.0ha of Marri/Melaleuca and Eucalypt woodland, 1.2ha of pine plantation and a further 108 mature Eucalypts which are predominantly Marri over cleared paddock (5.4ha). |
| Roosting habitat | There is no known roosting site within the project area. |

Table 3 Assessment of Baudin's Black Cockatoo habitat within the project footprint

| Habitat type | EBRT footprint |
|---|---|
| Breeding habitat | The project footprint does not contain suitable breeding habitat for this species as it is outside its known breeding range. |
| Foraging habitat | A total of 11.2ha of potential foraging habitat is available within the project footprint including, 10.0ha of Marri/Melaleuca and Eucalypt woodland, 1.2ha of pine plantation and a further 108 mature Eucalypts which are predominantly Marri, over cleared paddock (5.4ha). |
| Roosting habitat | There is no known roosting site within the project area. |

### 3.1 (e) Listed migratory species

**Description**

The Protected Matters Search Report identified nine (9) migratory species as potentially occurring within the project footprint. An assessment of the likelihood of occurrence of these within the project footprint is provided in Table 4. One of these, the Rainbow Bee-eater (*Merops ornatus*) was recorded in the project footprint (AECOM 2016) and a further three (3) have the potential to occur.

Table 4 Likelihood of occurrence of migratory species within the project footprint.

| Species | Likelihood of occurrence |
|---|---|
| *Apus pacificus*<br>Fork-tailed Swift | May occur. This common and widespread species occurs from Augusta to Carnarvon in coastal and sub-coastal areas, in association with a wide range of habitats including riparian woodland, low scrub, sandplains, and farmland and usually in association with water. Suitable habit is present within the project footprint. |
| *Merops ornatus*<br>Rainbow Bee-eater | Recorded. This species was found during the field survey in October 2015 (AECOM 2016). The presence of sandy substrate in proximity to water provides suitable habitat for this species. |
| *Motacilla cinerea*<br>Grey Wagtail | Unlikely to occur. This species is considered an extremely uncommon migrant to Australia, with only two sightings in Western Australia, both on the south coast. |
| *Haliaeetus leucogaster*<br>White Bellied Sea Eagle | Unlikely to occur. This species occurs around the coastline of mainland Australia and Tasmania, and extends inland along larger waterways, especially in eastern Australia. Given the distance of the project from the coastline and lack of large waterways, suitable habitat is not present within the project footprint to support this species. |
| *Plegadis falcinellus*<br>Glossy Ibis | Unlikely to occur. This species generally occurs east of the Kimberley in Western Australia and at the Eyre Peninsula in South Australia, with only patchy distribution elsewhere in Western Australia. The project footprint is outside of the known distribution of this species. |
| *Ardea alba*<br>Great Egret | May occur. This species occurs is widespread in Australia and is known to breed in the south-west of Western Australia. It occurs in a wide range of wetland habitats. Suitable habitat may occur within the project footprint. |
| *Ardea ibis*<br>Cattle Egret | May occur. This species is widespread in Australia and non-breeding populations are known to occur in south-west Western Australia in grasslands, woodlands and wetlands. Suitable habitat may occur within the project footprint. This species was not recorded during the field survey. |

| | |
|---|---|
| *Pandion haliaetus*<br>Osprey | Unlikely to occur. The distribution of this species is widespread and occurs in littoral and coastal habitats and wetlands. |

**Rainbow Bee-eater**

The Rainbow Bee-eater is the only species of bee-eater in Australia. It occurs across most of mainland Australia, where it inhabits a wide range of habitats including forests, woodlands cleared and semi-cleared areas, often in close proximity to water.

This species builds a nest inside a burrow, often in loose soil, and breeding pairs tend to build burrows in close proximity to other burrows, forming a colony. They are known to feed predominantly in flight, preying on bees, wasps, dragonflies, moths, flies and other insects.

Given the widespread distribution, abundance of this species and limited records within the project footprint, it is considered that the project footprint does not contain important habitat for this species or support an ecologically significant proportion of the population of this species.

**Fork-tailed Swift**

The Fork-tailed Swift is a non-breeding visitor to Australia, occurring in all states and territories. In Western Australia, it occurs in predominantly coastal areas, but is also found over inland plains and foothills. This species is almost entirely aerial, flying from less than 1m to more than 300m above the ground. The Fork-tailed Swift feeds on insects in flight.

There is no important habitat for this species within the project footprint. The project footprint does not support an ecologically significant proportion of the population of this species.

**Great Egret**

This large bird is widespread in Australia, occurring in a wide range of wetland habitats including permanent, ephemeral, fresh or saline, rivers, lakes and damplands, in addition to pastures and agricultural land.

This species feeds on fish, insects, frogs, lizards, snakes and small birds.

There is no important habitat for this species within the project footprint. The project footprint does not support an ecologically significant proportion of the population of this species.

**Cattle Egret**

This species is widespread in Australia, occurring in a wide range of habitats including grasslands, wooded lands and terrestrial wetlands. It forages on grasshoppers and other insects, and is often seen following livestock.

There is no important habitat for this species within the project footprint. The project footprint does not support an ecologically significant proportion of the population of this species.

**Nature and extent of likely impact**

The following Table 5 provides an assessment against the Significant Impact Criteria for migratory species.

Table 5 Assessment against Significant Impact Criteria for four migratory species

| ***Migratory species*** | |
|---|---|
| *Species* | *Assessment against Significant Impact Criteria* |
| *Merops ornatus* (Rainbow Bee-eater) | |
| Is the action likely to: | |
| a) substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species? | No. There is no important habitat for this species in this project footprint. |
| b) result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species? | No. The only known threat to Rainbow Bee-eater is the introduced Cane Toad, which is not currently present in the vicinity of the project footprint. |
| c) seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species? | No. The project footprint does not support an ecologically significant proportion of the population of this species. |
| *Apus pacificus* Fork-tailed Swift | |
| Is the action likely to: | |
| a) substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species? | No. This species is a non-breeding visitor throughout Australia and its populations are considered stable across most of its range. It is exclusively aerial; therefore, clearing for this project is unlikely to destroy or isolate an area of important habitat for this species. There is no important habitat for this species in the project footprint. |
| b) result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species? | There are no significant threats to Fork-tailed Swift. There is no important habitat for this species in this project footprint. |

| | |
|---|---|
| c) seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species? | No. This species is a non-breeding visitor to Australia and therefore the project is unlikely to disrupt the lifecycle of an ecologically significant proportion of the population of the species. |
| *Ardea alba* (Great Egret) | |
| Is the action likely to: | |
| a) substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species? | No. There is no important habitat for this species in this project footprint. |
| b) result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species? | No. This species is not threatened by invasive species. This is not considered to be an area of important habitat for this species. |
| c) seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species? | No. The project footprint does not support an ecologically significant proportion of the population of this species. |
| *Ardea ibis* (Cattle Egret) | |
| Is the action likely to: | |
| a) substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species? | No. There is no important habitat for this species in this project footprint. |
| b) result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species? | No. There is no important habitat for this species in this project footprint. |

| | |
|---|---|
| c) seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species? | No. The project footprint does not support an ecologically significant proportion of the population of this species. |

**3.1 (f) Commonwealth marine area**
(If the action is in the Commonwealth marine area, complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

**Description**
The project footprint is not within a Commonwealth marine area.

**Nature and extent of likely impact**

**3.1 (g) Commonwealth land**
(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)

**Description**
The project footprint is not located on Commonwealth land.

**Nature and extent of likely impact**

**3.1 (h) The Great Barrier Reef Marine Park**

**Description**
The project footprint is not within the Great Barrier Reef Marine Park.

**Nature and extent of likely impact**

---

**3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development**

**Description**

Not applicable.

**Nature and extent of likely impact**

---

## 3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

| | | | |
|---|---|---|---|
| **3.2 (a)** | **Is the proposed action a nuclear action?** | √ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (b)** | **Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?** | √ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (c)** | **Is the proposed action to be taken in a Commonwealth marine area?** | √ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))** | | |

| | | | |
|---|---|---|---|
| **3.2 (d)** | **Is the proposed action to be taken on Commonwealth land?** | √ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))** | | |

| | | | |
|---|---|---|---|
| **3.2 (e)** | **Is the proposed action to be taken in the Great Barrier Reef Marine Park?** | √ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))** | | |

## 3.3 Other important features of the environment

#### 3.3 (a) Flora and fauna

Below is a brief summary of the flora and fauna surveys and impact assessment that has been conducted for the EBRT. For further details on the surveys and assessment please refer to Attachment B – EBRT EIA & EMP.

### Fauna

A total of 42 vertebrate fauna species were recorded during a field survey in the study area, including 33 birds, six (6) mammals and three (3) reptiles (AECOM 2016). A further five (5) introduced fauna species were recorded including four declared pests. The complete list of fauna recorded in the AECOM survey is provided in Attachment B.

The field survey also assessed fauna habitat values within the study area and identified eight fauna habitat types as described in **Error! Reference source not found.** below and Figure 3. This table has been adapted from AECOM (2016).

Table 6 Fauna habitat values identified within the study area and project footprint

| **Habitat** | **Extent within study area ha)** | **Extent within project footprint (ha)** |
|---|---|---|
| Eucalypt/Marri woodland over introduced grasses | 56.3 | 15.4 |
| Melaleuca over introduced grasses | 8.0 | 2.7 |
| Melaleuca swampland | 1.8 | 1.5 |
| Melaleuca woodland | 5.0 | 1.4 |
| Pine plantation | 4.0 | 1.2 |
| Planted/landscaping | 8.4 | 3.6 |
| Water | 0.3 | 0.02 |
| Cleared | 91.7 | 29.5 |
| Unsurveyed | 9.7 | 1.5 |
| **Total** | **185.2ha** | **56.8ha** |

Following the desktop assessment and field survey nine (9) conservation significant species were either recorded or determined to be likely to occur within the project footprint. This included: three (3) threatened species; four (4) EPBC migratory species and two (2) WA listed priority species.

A targeted black cockatoo habitat assessment was conducted, in accordance with the *EPBC Act Referral guidelines for three threatened black cockatoo species* (DSEWPaC 2012). This survey identified a total of 106 potential black cockatoo breeding trees within the project with a Diameter at Breast Height (DBH) of 500mm or greater (Figure 4). Three of these trees were found to contain a hollow with an opening of 5cm or greater; however, at the time of survey, one of these hollows was occupied by bees. The assessment did not include visual inspection of hollows, and as a result the depth of the hollows could not be measured.

### Flora

No conservation significant flora species were recorded within the study area or were considered likely to occur based on a desktop assessment. See section 3.3(e) below for a description of the native vegetation within the project area.

**Threatened and Priority Flora and Fauna**

A search of the Australian Government Protected Matters Database was conducted on 15 February 2016 of the project footprint plus a 10km buffer (see Attachment B). This search identified a total of 19 fauna species including 10 threatened species and nine (9) migratory species as potentially occurring within the search area.

The list of threatened flora and threatened fauna species, along with an assessment of likelihood of occurrence, is provided in **Error! Reference source not found.** below. Migratory species are addressed in 03.1 (e) Listed migratory species.

No flora species listed as threatened under the EPBC Act Matters of National Environmental Significance (MNES) were recorded within the study area or considered likely to occur.

Based on the fauna survey and a desktop assessment of likelihood of occurrence, only three (3) threatened fauna species are considered likely to occur. The remaining species are not considered further.

Three species of black cockatoo are considered likely to occur within the project footprint. These are:

- Forest Red-tailed Black-Cockatoo (FRTBC) (*Calypthorhynchus banksia naso*) - Vulnerable
- Carnaby's Black Cockatoo (CBC) (*Calyptorhynchus latirostris*) - Endangered
- Baudin's Black Cockatoo (BBC) (*Calyptorhynchus baudinii*) – Vulnerable

One EPBC listed migratory species was recorded within the project area during field surveys and three (3) others are considered likely to occur. The EPBC listed migratory species recorded or likely to occur include:

- Rainbow Bee-eater (*Merops ornatus*) recorded within the project area.
- Fork-tailed Swift (*Apus pacificus*) – likely to occur
- Great Egret (*Ardea alba*) – likely to occur
- Cattle Egret (*Ardea ibis*) – likely to occur

Two WA listed priority fauna species, were recorded or considered likely to occur within the project footprint. These are:

- Western Brush Wallaby (*Macropus Irma*) – Priority 4
- Quenda (*Isoodon obesulus fusciventer*) – Priority 4

Western Brush Wallaby is known to occur in Whiteman Park Bush Forever site, which is located adjacent to the project footprint. No direct or indirect observations of this species were recorded within the project footprint. If this species occurs within the project footprint, it is likely only as a vagrant, given the highly fragmented nature of remaining habitat available.

Quenda is known to occur in Whiteman Park Bush Forever site, which is located adjacent to the project footprint and numerous potential diggings were recorded during the fauna survey (AECOM 2016) within the study area. This species generally prefers habitat with dense ground cover, which provides shelter during the day. As the project footprint is predominantly cleared with little to no understorey, it is unlikely to support a significant population of this species.

Table 7 Assessment of likelihood of occurrence of EPBC listed threatened fauna and flora within the project footprint

| Species | Conservation status | Assessment of likelihood of occurrence |
|---|---|---|

| | | |
|---|---|---|
| **Birds** | | |
| *Anous tenuirostris melanops*<br>Australian Lesser Noddy | Vulnerable | Unlikely to occur. |
| *Calyptorhynchus banksia naso*<br>Forest Red-tailed Black Cockatoo | Vulnerable | Recorded. |
| *Calyptorhynchus baudinii*<br>Baudin's Black Cockatoo | Vulnerable | May occur. |
| *Calyptorhynchus latirostris*<br>Carnaby's Black Cockatoo | Endangered | Likely to occur. |
| *Leipoa ocellata*<br>Malleefowl | Vulnerable | Unlikely to occur. |
| *Rostratula australis*<br>Australian Painted Snipe | Endangered | Unlikely occur. |
| **Mammals** | | |
| *Bettongia penicillata*<br>Woylie | Endangered | Unlikely to occur. |
| *Dasyurus geoffroii*<br>Chuditch, Western Quoll | Vulnerable | Unlikely to occur. |
| *Pseudocheirus occidentalis*<br>Western Ringtail Possum | Vulnerable | Unlikely to occur. |
| Reptiles | | |
| *Pseudemydrua umbrina*<br>Western Swamp Tortoise | Critically Endangered | Unlikely to occur. |
| **Plants** | | |
| *Acacia anomala*<br>Grass Wattle | Vulnerable | Unlikely to occur. |
| *Andersonia gracilis*<br>Slender Andersonia | Endangered | Unlikely to occur. |
| *Anigozanthus viridis subsp. Terraspectans*<br>Dwarf Green Kangaroo Paw | Vulnerable | Unlikely to occur. |
| *Caladenia huegelii*<br>King Spider-orchid | Endangered | Unlikely to occur. |
| *Calytrix breviseta subsp. Breviseta*<br>Swamp Starflower | Endangered | Unlikely to occur. |
| *Chamelaucium sp. Gingin*<br>Gingin Wax | Endangered | Unlikely to occur. |
| *Conospernum undulatum*<br>Waxy-leaved Smokebush | Vulnerable | Unlikely to occur. |
| *Darwinia foetida*<br>Muchea Bell | Critically Endangered | Unlikely to occur. |
| *Diuris purdiei*<br>Purdie's Donkey-orchid | Endangered | Unlikely to occur. |
| *Drakaea elastica*<br>Glossy-leafed Hammer-orchid | Endangered | Unlikely to occur. |
| *Drakaea micrantha*<br>Dwarf Hammer-orchid | Vulnerable | Unlikely to occur. |
| *Eleocharis keigheryi*<br>Keighery's Eleocharis | Vulnerable | Unlikely to occur. |

| | | |
|---|---|---|
| *Eucalyptus balanites*<br>Cadda Road Mallee | Endangered | Unlikely to occur. |
| *Grevillea curviloba subsp. Curviloba*<br>Curved-leaf Grevillea | Endangered | Unlikely to occur. |
| *Grevillea curviloba subsp. Incurva*<br>Narrow curved-leaf Grevillea | Endangered | Unlikely to occur. |
| *Lepidosperma rostratum*<br>Beaked Lepidosperma | Endangered | Unlikely to occur. |
| *Macarthuria keigheryi*<br>Keighery's Macarthuria | Endangered | Unlikely to occur. |
| *Thelymitra dedmaniarum*<br>Cinnamon Sun Orchid | Endangered | Unlikely to occur. |
| *Thelymitra stellata*<br>Star Sun-orchid | Endangered | Unlikely to occur. |
| *Trithuria occidentalis*<br>Swan Hydatella | Endangered | Unlikely to occur. |

**3.3 (b) Hydrology, including water flows**

The project footprint will partially transect Priority 2 (P2) and Priority 3 (P3) Water Source Protection Areas (SPA) of the Gnangara Underground Water Pollution Control Area (UWPCA) (Water Corporation 2007). The proposed park and ride facilities, which form part of the proposed action, will be located within P2 drinking water areas.

P2 classification areas are managed to ensure that there is no increased risk of water source contamination or pollution and these areas include established low-risk land development (DoE 2004a). P3 classification areas are defined to manage the risk of pollution to the water source from catchment activities (DoE 2004).

The road alignment does not cross any wellhead protection zones. Wellhead protection zones are buffer zones around bores that supply drinking water. The buffer in P2 and P3 areas is 300m. There are no major creek or river crossings within the EBRT footprint; however, some minor tributaries and drainage lines will be traversed.

Major surface water features in close proximity to the project footprint include:

- Bennett Brook – approximately 300 m west of the project footprint;
- St Leonards Creek – approximately 800 m east of the project footprint;
- Henley Brook – approximately 3.3 km east of the project footprint; and
- Ellen Brook – approximately 4 km east of the project footprint.

There are a number of wetlands occurring within and adjacent to the project footprint (Table 8). The footprint intersects three Multiple Use wetlands and two Resource Enhancement Wetlands.

Table 8 Wetlands intersected by the project footprint

| UFI | Conservation category | Description | Extent (ha) within project footprint ( | Vegetated extent (ha) within project footprint |
|---|---|---|---|---|
| 8678 | Sumpland Resource Enhancement | Seasonally inundated basin | 0.8 | 0.5 |
| 8720 | Palusplain Multiple Use | Flat, seasonally waterlogged | 0.3 | 0.05 |
| 8806 | Palusplain Resource Enhancement | Flat, seasonally waterlogged | 0.3 | 0.05 |
| 13396 | Palusplain Multiple Use | Flat, seasonally waterlogged | 16.4 | 8.6 |
| 15511 | Palusplain Multiple Use | Flat, seasonally waterlogged | 13.6 | 1.5 |

#### 3.3 (c) Soil and Vegetation characteristics

Bassendean Sands are the typical soils in the project footprint (Davidson 1995). The southern portion of the study area lies on Southern River soils. Both these soil types are characterised by sand plains with low dunes with occasional wetlands. The main difference between the Bassendean Sands and Southern River unit is the nature of the wetlands. Wetlands within the Southern River unit have a clay base, where the Bassendean wetlands generally have peaty podzols.

#### 3.3 (d) Outstanding natural features

Not applicable.2.1

#### 3.3 (e) Remnant native vegetation

Three Heddle et al (1980) vegetation complexes occur within the project area. These include the: Bassendean Complex – North; Bassendean Complex – Central and South and the Southern River Complex. All of these complexes are above the 10% pre-European extent remaining threshold for vegetation complexes in a constrained area and are not considered to be under-represented.

A total of 17 vegetation communities were identified within the study area (Figure 5, Table 9). This included nine native vegetation communities and six disturbed or non-native communities. Two of the disturbed communities (*Melaleuca preissiana*/*Melaleuca rhaphiophylla* and Native Eucalypts over pasture) consist of mature native/remnant trees over pasture or grasses.

Vegetation condition ranges from 'Very Good' to 'Completely Degraded,' with the majority of vegetation considered to be 'Completely Degraded', due to disturbance and extensive weed invasion. Only 2.1ha of the vegetation to be impacted is considered to be in Good to Very Good condition (Keighery 1994). . The remaining vegetation is degraded and/or introduced.

The total loss of native vegetation is expected to be 21.1ha. This includes 8.2ha of disturbed vegetation consisting primarily of mature native/remnant trees over pasture or grasses.

Table 9 Vegetation communities within the study area and project footprint (adapted from AECOM 2016).

| Vegetation community code | Vegetation description | Extent within project footprint |
|---|---|---|
| **Woodlands** | | |
| CcXpBm | *Corymbia calophylla* and *Melaleuca preissiana* mid open forest over *Xanthorrhoea preissii*, *Dasypogon bromeliifolius* and *Patersonia occidentalis* sparse shrubland over **Briza maxima*, *Alexgeorgea nitens*, **Ehrharta longiflora* low to mid mixed tussock grassland and sedgeland. *Eucalyptus marginata*, *Nuytsia floribunda*, *Allocasuarina* sp. and Banksia species are intermittent. In degraded versions of this community the understorey is dominated by grasses. | 9.9 |
| CcXpPe | *Corymbia calophylla*, *Melaleuca preissiana* and *Eucalyptus marginata* low to mid open forest over *Xanthorrhoea preissii* mid isolated shrubs over *Pteridium esculentum*, *Lepidosperma ?longitudinale* and *Dasypogon bromeliifolius* mid closed mixed fern and sedgeland. | 0.05 |
| ErCd | *Eucalyptus rudis* and *Melaleuca rhaphiophylla* low to mid woodland over **Cynodon dactylon*, *Marsilea drummondii* and **Avena barbata* low closed grassland | 0.0 |
| CcAsAb | *Corymbia calophylla*, *Melaleuca rhaphiophylla* and *Casuarina obesa* low woodland over *Acacia saligna*, *Hakea prostrata* and **Solanum nigrum* mid to high shrubland over **Avena barbata*, **Lolium rigidum* and **Ehrharta longiflora* closed grassland | 0.0 |
| MpAsPp | *Melaleuca preissiana*, *Melaleuca rhaphiophylla* and *Eucalyptus rudis* low to mid woodland with emergent *Corymbia calophylla* over *Acacia saligna*, **Lupinus angustifolius* and **Brassica* sp. low to high open shrubland over **Pentameris pallida*, **Ehrharta longiflora* and **Vulpia myuros* low to high open grassland | 0.5 |
| **Wetlands** | | |
| MpXpCa | *Melaleuca preissiana* and *Melaleuca rhaphiophylla* low closed forest over *Xanthorrhoea preissii*, *Taxandria linearifolia* and *Aotus gracillima* high open shrubland over *Cyathochaeta avenacea*, *Dielsia stenostachya* and *Lepidosperma ?longitudinale* high sedgeland. In wetter areas, the understorey is dominated by sedges including *Baumea articulata*, *Ornduffia albiflora* and ?*Schoenoplectus pungens* | 0.9 |
| ErAbLl | *Eucalyptus rudis*, *Melaleuca preissiana* and *Melaleuca rhaphiophylla* mid closed forest over *Acacia blakelyi* and **Ficus carica* low open shrubland over *Lepidosperma ?longitudinale*, *Juncus pallidus* and **Zantedeschia aethiopica* high open sedgeland | 0.0 |
| MrAsCp | *Melaleuca rhaphiophylla* and *Eucalyptus rudis* low woodland over, *Acacia saligna* and *Viminaria juncea* low open shrubland over **Cyperus papyrus*, **Cyperus polystachyos* and **Holcus lanatus* high closed sedgeland | 1.5 |
| **Disturbed vegetation** | | |
| Mp/Mr | Isolated *Melaleuca preissiana* and/or *Melaleuca rhaphiophylla* trees over common pasture weeds | 2.8 |
| Native Eucalypts over paddock | *Corymbia calophylla*, *Eucalyptus rudis*, *Eucalyptus marginata*, and/or *Eucalyptus patens* isolated trees over common pasture weeds | 5.4 (106 trees with DBH of 500mm or greater) |
| To | **Typha orientalis* tall closed rushland in artificial drainage infrastructure. Emergent *Acacia saligna* and Planted Eucalypts are present in places | 0.00 |
| Pine plantation | **Pinus pinaster* isolated trees over common pasture weeds | 1.2 |
| Landscaping | Planted vegetation comprising predominantly non-native species | 1.7 |
| Planted | Roadside planted common native rehabilitation species | 1.8 |
| **Other** | | |
| Water | Inundated areas associated with wetlands | 0.02 |

| | | |
|---|---|---|
| Cleared | Areas devoid of native vegetation including existing roads, tracks, infrastructure or cleared paddock areas comprising weeds. | 29.5 |
| Unsurveyed | Area not surveyed by current field survey | 1.5 |
| **Total (ha)** | | **56.8** |

#### 3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

The project footprint is predominantly flat to gently undulating.

#### 3.3 (g) Current state of the environment

The project footprint has been subject to previous clearing and is predominantly degraded. It includes cleared land, partially cleared land, road reserve and a number of freehold lots.

#### 3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

Not applicable.

#### 3.3 (i) Indigenous heritage values

A number of Aboriginal heritage sites, registered under the *Aboriginal Heritage Act 1972* and other heritage places are known to occur within the project footprint (Table 10). A heritage survey will be undertaken prior to commencement of construction to assess potential impacts to these sites.

Table 10: Summary of Aboriginal heritage sites and other heritage places within the study area.

| ID | Name | Status | Type |
|---|---|---|---|
| 551 | Lord Street North 1 | Registered | Ceremonial |
| 552 | Lord Street North 2 | Registered | Ceremonial, Mythological, Water source |
| 3692 | Bennett Brook: in Toto | Registered | Mythological |
| 3744 | Marshall's Paddock | Registered | Skeletal Material/Burial |
| 3840 | Bennett Brook: Camp Area | Registered | Artefacts/scatter, Ceremonial, Fish Trap, Historical, Man-made structure, Myth, Skeletal Material/Burial |
| 20030 | Ancient Well | Other Heritage Place (Lodged) | Water source |
| 22159 | Little Creek/One Hundred Year Creek | Other Heritage Place (Stored Data) | Mythological |

#### 3.3 (j) Other important or unique values of the environment

The project footprint is located adjacent to Whiteman Park. This is a Bush Forever Site which includes remnant native vegetation of predominantly Banksia woodland and large and mature Marri and Jarrah. The park also includes Melaleuca wetlands and ephemeral damplands.

#### 3.3 (k) Tenure of the action area (eg freehold, leasehold)

Land tenure includes the following land owners:

- Western Australian Planning Commission
- Western Australian Department of Lands
- No number of Private Owners
- City of Swan (Local Government Authority)

Prior to construction commencing, Main Roads will obtain legal access to all property within the project area, either through land purchase or agreement.

**3.3 (l) Existing land / marine uses of area**

Existing land uses within the project area include: existing road, land reserved for road and transport and agriculture.

The proposed action lies predominantly within a corridor zoned for roads or public transport within the Metropolitan Regional Scheme.

**3.3 (m) Any proposed land / marine uses of area**

There are no other proposed uses of the area.

# 4 Environmental outcomes

Environmental outcomes for the proposed EBRT:

- EBRT will result in the loss of no more than:
  - 11.2 ha plus 106 mature Eucalypt trees with DBH >500mm of habitat for the Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) - Endangered
  - 10.0 ha plus 106 mature Eucalypt trees with DBH >500mm of habitat for the Forest Red-tailed Black-Cockatoo (*Calypthorhynchus banksia naso*) - Vulnerable
  - 11.2 ha plus 106 mature Eucalypt trees with DBH >500mm of habitat for the Baudin's Black Cockatoo (*Calyptorhynchus baudinii*) - Vulnerable
- No significant impact on any EPBC listed migratory species

Baseline data upon which these outcomes are based is included in Attachment B – EBRT EIA and EMP.

# 5 Measures to avoid or reduce impacts

The following management measures will be implemented to minimise potential impact to three threatened species and four migratory species.

- During construction, clearing lines will be clearly marked
- Clearing will be monitored to ensure that it is restricted to within the project footprint.
- Fauna encounter procedures to be established and implemented for the construction phase
- Construction workers to undergo induction in relation to fauna species likely to occur and habitats and locations within the project footprint likely to support such species to ensure if such species are encountered, they are given the opportunity to move on
- Visual inspection by fauna specialist of potential black cockatoo breeding trees, prior to clearing for construction, to ensure hollows are not actively in use.
- Visual inspection for Rainbow Bee-eater nests prior to clearing for construction to ensure no active nests will be disturbed.
- Fauna translocation procedures to be prepared and implemented, as required.

# 6 Conclusion on the likelihood of significant impacts

### 6.1 Do you THINK your proposed action is a controlled action?

| | |
|---|---|
| √ | No, complete section 5.2 |
| | Yes, complete section 5.3 |

### 6.2 Proposed action IS NOT a controlled action.

The proposed action is not likely to be a controlled action, given the low quality of available habitat within the project footprint for three species of black-cockatoo and the proximity to areas of higher quality habitat. No known breeding or roosting sites for any of the three species will be impacted. The project footprint contains 10.0ha of medium to low quality black cockatoo foraging habitat and a further 106 Eucalypts, predominantly Marri, with DBH of 500mm or greater over cleared paddock which may provide a foraging source for all three species of black cockatoo. A further 1.2ha of pine plantation provides suitable foraging habitat for CBC and BBC. FRTBC is not known to forage on pine plantation.

A total of three trees with DBH of 500m or greater, contain a hollow with an opening of 5cm or more, were recorded in the project footprint. One of these hollows was occupied by bees at the time of survey (AECOM 2016).

Nearby Whiteman Park provides several hundred hectares of medium to good quality foraging and potential breeding habitat for all three species. It contains areas of banksia woodland and mature Marri and Jarrah and is adjacent to EBRT. The Darling Scarp is located 9km to the east of the EBRT and provides a large virtually contiguous habitat for CBC, FRTBC and BBC. Gnangara-Moore State Forest to the north of the project area provides several thousand hectares of foraging habitat for CBC in the form of pine plantation and remnant banksia woodlands.

The proposed action is unlikely to significantly impact the FRTBC. FRTBC was recorded in mature Marri within the project footprint, it is likely that the species is using the area when transiting between Whiteman Park and the Darling Scarp.

The proposed action is unlikely to significantly impact CBC. The project footprint contains foraging habitat for CBC and potential breeding habitat. There are large areas of foraging habitat available for CBC in the immediate vicinity within Whiteman Park and further north within the Gnangara-Moore State Forest and the loss of 10.0ha of low quality foraging habitat plus a further 106 mature Eucalypts will not have a significant impact. The species is not known to currently breed in the vicinity of the project area.

The project footprint is outside of the known distribution of the BBC and outside of the known breeding range. If it occurs in the project footprint, it is likely only as a vagrant. The proposed action will not significantly impact this species.

No migratory species will be significantly impacted by the EBRT. One migratory species was recorded in the project footprint and a further three are considered to have potential to occur. All of these species are common and widespread, occurring in a wide range of habitats across most of Australia. The proposed action is unlikely to significantly impact these species as there is no important habitat for any of species within the project area and the EBRT does not support an ecologically significant proportion of the population of any of these species.

## 6.3 Proposed action IS a controlled action

| | **Matters likely to be impacted** |
|---|---|
| | World Heritage values (sections 12 and 15A) |
| | National Heritage places (sections 15B and 15C) |
| | Wetlands of international importance (sections 16 and 17B) |
| | Listed threatened species and communities (sections 18 and 18A) |
| | Listed migratory species (sections 20 and 20A) |
| | Protection of the environment from nuclear actions (sections 21 and 22A) |
| | Commonwealth marine environment (sections 23 and 24A) |
| | Great Barrier Reef Marine Park (sections 24B and 24C) |
| | A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E) |
| | Protection of the environment from actions involving Commonwealth land (sections 26 and 27A) |
| | Protection of the environment from Commonwealth actions (section 28) |
| | Commonwealth Heritage places overseas (sections 27B and 27C) |

# 7 Environmental record of the responsible party

| | | Yes | No |
|---|---|---|---|
| 6.1 | **Does the party taking the action have a satisfactory record of responsible environmental management?**<br><br>**Provide details**<br>Main Roads has constructed a number of new roads and highway upgrades in recent years in environmental sensitive areas. This includes a large number of projects assessed under the EPBC Act. Since 2000 Main Roads has referred more than 100 actions under the EPBC Act for assessment. | √ | |
| 6.2 | **Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?**<br><br>**If yes, provide details** | | √ |
| 6.3 | **If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?**<br><br>**If yes, provide details of environmental policy and planning framework**<br>Main Roads operates under an Environmental Policy (available on the Main Roads website at https://www.mainroads.wa.gov.au/OurRoads/Environment/Pages/policy.aspx). Main Roads also has an accredited Environmental Management System under ISO 14001 (certificate available at https://www.mainroads.wa.gov.au/OurRoads/Environment/Pages/Environment.aspx). These two apparatus guide Main Roads environmental planning for proposals such as EBRT. | √ | |
| 6.4 | **Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** | √ | |

**Provide name of proposal and EPBC reference number (if known)**

Below is a list of the more recent proposals referred by Main Roads under the EPBC Act. Main Roads has referred more than 100 proposals under the EPBC Act for assessment:

2016/7698 Main Roads Western Australia/Transport – Land – Toodyay Goomalling Rd (M)^)), Williams Narrogin Hway (H053) and Pinjarra Williams Rd (M0530/Western Australia/Widening maintenance zones for 3 roads, Wheatbelt Region WA

2016/7665 Main Roads WA/Transport – Land/Shire of Toodyay/Western Australia/Toodyay Road widening and upgrade, WA

2016/7664 Main Roads Western Australia/Transport – Land/Shire of Narrogin/Western Australia/Narrogin Link Road Stage 3 – North Extension WA

2016/7656 Main Roads Western Australia/Transport – Land/Approximately 63km north of Perth, WA/Western Australia/Great Northern Highway Muchea to Wubin Upgrade Stage 2 – Muchea North WA.

2016/7633 Main Roads Western Australia/Natural Resources management/Herold Road, 23kkm east of Serpentine/Western Australia/Dieback eradication trial, Jarrahdale State Forest, WA

2015/7632 Main Roads Western Australia/Transport – Land between Flynn Drive and Hall Road, north of Perth/Wanneroo Road Duplication, WA

2015/7626 Main Roads WA/Transport – Land/South of Capel, approx. 195km south of Perth/Western Australia/Bussell Highway – Capel to Hutton Section, WA

2015/7605 Main Roads/Transport – Land/Donnybrook-Balingup/Western Australia/Donnybrook Kojonup Road (M013) widening and associated works, WA

2015/7615 Main Roads/Transport – Land/Albany Highway between SLK 53 and 63/Western Australia/Albany Highway

2015/7586 Main Roads/Natural Resources Management/Lot 104 Ablett Road, approx. 2.6 km south of Cowaramup/Western Australia/West's gravel pit development, Cowaramup WA.

# 8 Information sources and attachments

(For the information provided above)

## 8.1 References


AECOM Australia Pty Ltd (AECOM) (2016), *Biological Assessment Ellenbrook Bus Rapid Transit*, unpublished report prepared for Department of Transport, Perth. (Appendix D of Attachment B)

Davidson WA (1995) *Hydrogeology and groundwater resources of the Perth Region* [Online], Available at: http://geodocs.dmp.wa.gov.au/viewer/multipageViewerAction.do?documentId=19316&viewMarkId=0&ct=true&at=none&btv=true&atv=false&vmtv=false&ac=ff0000&cabinetId=1101&pg=0&scl=65&bds=0%7C0%7C2520%7C3528, Accessed 13 April 2016.

Department of Environment (2004a), *Water Quality Protection Note 25: Land Use compatibility in Public Drinking Water Source Areas* [Online], Available at: https://www.water.wa.gov.au/__data/assets/pdf_file/0014/1733/12441.pdf, Accessed 13 April 2016.

Department of the Environment (2016a), *Calyptorhynchus banksia naso in Species Profile and Threats Database* [Online], Department of the Environment, Canberra, Available at: https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=67034, Accessed 16 February 2016.

Department of the Environment (2016b), *Calyptorhynchus latirostris in Species Profile and Threats Database* [Online], Department of the Environment, Canberra, Available at: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=59523, Accessed 16 February 2016.

Department of the Environment (2016c), *Calyptorhynchus baudinii in Species Profile and Threats Database* [Online], Department of the Environment, Canberra, Available at: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=769, Accessed 16 February 2016.

Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (2012) *EPBC Act Referral Guidelines for Three Threatened Black Cockatoo Species*, Australian Government, Canberra.

Heddle, E.M., Loneragan, O.W. and Havel, J.J. 1980. *Vegetation Complexes of the Darling System in Atlas of Natural Resources Darling System, Western Australia*. Department of Conservation and Environment, Perth.

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


## 8.2 Reliability and date of information

The information sources used in the preparation of this report are identified above. The information contained in these reports including survey findings have not been independently verified by the author of this report.

## 8.3 Attachments

| | | ✓ attached | Title of attachment(s) |
|---|---|---|---|
| **You must attach** | figures, maps or aerial photographs showing the project locality (section 1) | √ | Figure 1 Project location<br>Figure 2 Project footprint and study area |
| | GIS file delineating the boundary of the referral area (section 1) | | Attachment A Coordinates of project footprint<br>Project boundary: EBRT_DE_Jun16.shp<br>Project footprint: EBRT_Footprint_Jun16.shp |
| | figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3) | | Figure 3 Fauna habitat and location of conservation significant fauna<br>Figure 4 Location of potential black cockatoo habitat trees<br>Figure 5 Vegetation communities |
| **If relevant, attach** | copies of any state or local government approvals and consent conditions (section 2.5) | | |
| | copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6) | | |
| | copies of any flora and fauna investigations and surveys (section 3) | √ | AECOM (2016). *Biological Assessment Ellenbrook Bus Rapid Transit* (Appendix D of Attachment A) |
| | technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4) | √ | Aurecon (2016) EBRT EIA and EMP (Attachment A)<br>Shapefiles of fauna habitat and vegetation communities are included in referral under "Additional Data" |
| | report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3) | | |

# 8 Contacts, signatures and declarations

**Project title:** Ellenbrook Bus Rapid Transit

## 8.1 Person proposing to take action

| | |
|---|---|
| 1. Name and Title: | Mike Kapitola, Project Director, Main Roads Western Australia |
| 2. Organisation | Main Roads Western Australia |
| 3. EPBC Referral Number | |
| 4: ACN / ABN | 50 860 676 021 |
| 5. Postal address | PO Box 6206, East Perth, WA 6892 |
| 6. Telephone: | 08 9323 4776 |
| 7. Email: | Mike.kapitola@mainroads.wa.gov.au |
| 8. Name of proposed proponent (if not the same person at item 1 above and if applicable): | N/A |
| 9. ACN/ABN of proposed proponent (if not the same person named at item 1 above): | N/A |

**COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE**

| | |
|---|---|
| I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am: | □<br>□ not applicable. |
| If you are small business entity you must provide the Date/Income Year that you became a small business entity: | |

**Note: You must advise the Department within 10 business days if you cease to be a small business entity. Failure to notify the Secretary of this is an offence punishable on conviction by a fine (regulation 5.23B(3) *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth)).**

**COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER**

| | |
|---|---|
| I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons | □ not applicable. |

why it should be made:

Declaration

I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.
I agree to be the proponent for this action.
I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature

Date 24/6/16

**8.2 Person preparing the referral information (if different from 8.1)**

| | |
|---|---|
| Name | John Braid |
| Title | Principal Environment Officer |
| Organisation | Main Roads Western Australia |
| ACN / ABN (if applicable) | 50 860 676 021 |
| Postal address | PO Box 6206, East Perth, WA 6892 |
| Telephone | 08 9323 6183 |
| Email | John.braid@mainroads.wa.gov.au |

Declaration

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

Signature

Date 24/6/16