

CONNECT JOONDALUP; LOT 9000 MCLARTY AVENUE AND LOT 999 PICCADILLY CIRCUS, JOONDALUP

EPBC REFERRAL

Prepared for: Western Australian Housing Authority

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Report No. 2016-270

The logo for pgv ENVIRONMENTAL is located at the bottom of the page. It features the letters 'pgv' in a large, bold, white sans-serif font. To the right of 'pgv', the word 'ENVIRONMENTAL' is written in a smaller, all-caps, white sans-serif font. The background of the bottom half of the page is a vibrant orange with a subtle, wavy pattern of thin white lines.



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](#).

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/topics/about-us/legislation/environment-protection-and-biodiversity-conservation-act-1999>

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:	Connect Joondalup: Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus, Joondalup
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1 Summary of proposed action

1.1 Short description

The Western Australian Housing Authority is proposing to develop the Connect Joondalup Project on Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus, Joondalup (the site). The Connect Joondalup Project consists of a proposed medium to high density residential and commercial development on land that is currently undeveloped however is zoned 'Centre' within the Joondalup District Planning Scheme No.2.

1.2	Latitude and longitude	<u>Latitude</u>	<u>Longitude</u>	<u>Latitude</u>	<u>Longitude</u>
		-31.73770	115.76749	-31.73431	115.76595
		-31.73794	115.76752	-31.73478	115.76675
		-31.73835	115.76752	-31.73490	115.76683
		-31.73834	115.76632	-31.73509	115.76682
		-31.73802	115.76633	-31.73525	115.76684
		-31.73794	115.76617	-31.73543	115.76691
		-31.73783	115.76605	-31.73559	115.76704
		-31.73770	115.76596	-31.73571	115.76720
		-31.73755	115.76592	-31.73580	115.76740
		-31.73732	115.76593	-31.73583	115.76754
		-31.73730	115.76404	-31.73589	115.76760
		-31.73716	115.76405	-31.73597	115.76760
		-31.73606	115.76432	-31.73597	115.76754
		-31.73528	115.76474	-31.73602	115.76754
		-31.73439	115.76557	-31.73602	115.76760
		-31.73435	115.76561	-31.73764	115.76757
		-31.73426	115.76575		

1.3 Locality and property description

Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus, Joondalup is located approximately 25km north-north-west of the Perth Central Business District within the City of Joondalup (Figure 1). It is bound by Joondalup Drive to the west, Grand Boulevard and Piccadilly Circle to the north, McLarty Avenue to the east and Lot 1001 McLarty Avenue to the south (Figure 2).

1.4	Size of the development footprint or work area (hectares)	Lot 9000 McLarty Avenue is approximately 8.4ha and Lot 999 Piccadilly Circus is approximately 1.27ha. The total footprint is approximately 9.6ha
1.5	Street address of the site	Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus, Joondalup
1.6	Lot description	Lot 9000 McLarty Avenue, Joondalup Deposited Plan 47605 Volume 2598 Folio 986 Lot 999 Piccadilly Circus, Joondalup Deposited Plan 39289 Volume 2560 Folio 489

1.7	Local Government Area and Council contact (if known)		
	The site is located in the City of Joondalup and the contact is John Corbellini.		
1.8	Time frame		
	The proposed development is anticipated to commence in 2019 and be completed by 2034		
1.9	Alternatives to proposed action	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, you must also complete section 2.2
1.10	Alternative time frames etc	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	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	<input type="checkbox"/>	No
		<input checked="" type="checkbox"/>	Yes, you must also complete Section 2.5
1.12	Component of larger action	<input type="checkbox"/>	No
		<input checked="" type="checkbox"/>	Yes, you must also complete Section 2.7
1.13	Related actions/proposals	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, provide details:
1.14	Australian Government funding	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, provide details:
1.15	Great Barrier Reef Marine Park	<input checked="" type="checkbox"/>	No
		<input type="checkbox"/>	Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

2.1 Description of proposed action

Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus is a large, strategically located parcel of land, with residential development to the north and east, Joondalup Health Campus to the south, the Joondalup Arena and Lake Joondalup Baptist College to the west, and commercial developments including the Lakeside Joondalup Shopping Centre further to the south. The role of the site is important in supporting the transformation of Joondalup into a mature, sustainable city centre. The proposed development of the site will be in the context of the overall town planning for the city centre as per the 'Centre' zoning within the City of Joondalup District Planning Scheme No. 2 (DPS2) (Attachment 1).

Currently a Master Plan is under development for the Connect Joondalup project, which includes Lot 9000 McLarty Avenue as well as Lot 999 Piccadilly Circus and Lot 872 Kyle Avenue (Housing Authority) and a portion of Lot 1001 McLarty Avenue (Department of Training and Workforce Development) within the City of Joondalup.

The elements of the proposed Master Plan are proposed to include the following:

- Residential, mix of uses (land uses to be resolved during more detailed planning) as well as education and training developments (existing and future development);
- The opportunity for large scale 'iconic' buildings in the south-east section;
- The possibility of taking advantage of the proposed future rail station location with accessibility through transit oriented development;
- New four-way intersection access to Joondalup city centre and Shenton Avenue;
- Development with frontage to the extension of Kennedy Drive and the Public Open Space (POS);
- New four-way intersection access to Joondalup Drive;
- An active urban village green and "secret garden";
- A new 'left-in', 'left-out' road connection to Joondalup Drive;
- High density residential buildings in a landscaped environment;
- Closing the southern arc of the existing roundabout to the north (Piccadilly Circle) to create a connected POS;
- Access from the existing northern roundabout;
- A 'Green Spine' north-south road connecting open space, the West Coast Institute and the city centre;
- Local neighbourhood hub and centre connecting to the park (the active urban village green and "secret garden"); and
- Contiguous development frontage to McLarty Avenue.

The proposed Action is the clearing of native vegetation to allow development on Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus to be undertaken in accordance with the strategic planning for the site.

2.2 Alternatives to taking the proposed action

There are no viable alternatives to the action as the proposed development takes advantage of the location of the site to provide a consolidated urban centre in Joondalup and meet State policy objectives for residential densities.

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

The proposed development of Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus does not have any alternative locations, timeframes or activities.

2.4 Context, planning framework and state/local government requirements

The site is zoned 'Central City Area' within the Metropolitan Region Scheme (MRS) and 'Centre' within the City of Joondalup District Planning Scheme No. 2 (DPS2). The Centre Zone is intended to accommodate existing and proposed business centres varying in size from local centres to strategic metropolitan centres. The key implication of this zoning is the need for a structure plan that guides the detailed planning of key sites within the zone to be approved by Council and the Western Australian Planning Commission.

State Planning Policy 4.2 Activity Centres for Perth and Peel (SPP 4.2) identifies Joondalup as a Strategic Metropolitan Centre. The City of Joondalup is currently preparing the Joondalup Activity Centre Plan and Scheme Amendment to inform development within the Joondalup City Centre. It is Housing's understanding the draft Activity Centre Plan and Scheme Amendment reflects the development intentions of the Connect Joondalup and is scheduled for public advertisement in November 2016

The City of Joondalup's Strategic Community Plan applies to the site and is an overarching framework that aims to achieve better leadership and decision making with greater community participation. The plan outlines the community involvement and outcomes that are multi-purpose and provide for housing diversity and enhanced liveability.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

Amendment 64 to the City of Joondalup District Planning Scheme No. 2 was referred to the Environmental Protection Authority (EPA) under Section 48A of the *Environmental Protection Act 1986*. The proposed zoning was 'Centre'. The EPA determined the level of assessment for the Amendment on 11 June 2012 as 'Scheme Not Assessed' and therefore did not require further environmental assessment (Attachment 2).

2.6 Public consultation (including with Indigenous stakeholders)

The amendments to the planning schemes to designate the area as a City Centre with the appropriate zoning have undergone public consultation and submission periods.

The development of a Master Plan in 2010 and one currently under development included targeted consultation with key stakeholders. The 2010 Master Plan was subject to community and stakeholder workshops while the current Master Plan is being developed with key stakeholders. The main stakeholders are: Housing Authority, the Department of Training and Workforce Development, West Coast Institute (now North Metro TAFE) and the City of Joondalup. Consultation with the community is a continuing process with targeted consultation a key requirement of the planning and development approvals process.

Consultation with the community is a continuing process with additional opportunities provided for public comment and submissions at various stages in the planning process, the first of which will be when the City of Joondalup Draft Activity Centre Plan is released for public comment late 2016.

2.7 A staged development or component of a larger project

The Connect Joondalup project also includes the redevelopment of the North West TAFE site on Lot 1001 McLarty Avenue (Department of Training and Workforce Development site) and Lot 872 Kyle Court (Housing Authority). The development of Lot 1001 is not anticipated within the short-term and has therefore been excluded from this referral. Lot 872 Kyle Court is currently developed and will be subject to a separate approval process. The development of Lot 9000 and 999 may be undertaken independently of the remainder of the site.

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 in the referral area.

Nature and extent of likely impact

Not Applicable

3.1 (b) National Heritage Places

Description

There are no National Heritage Places on the site.

Nature and extent of likely impact

Not Applicable

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

Description

There are no Wetlands of International Importance on or near the site

Nature and extent of likely impact

Not Applicable

3.1 (d) Listed threatened species and ecological communities

Description

Threatened Species

The Department of the Environment online EPBC Act Protected Matters Search Tool (Attachment 3) identified 15 Threatened Species of birds, insects, mammals and plants as potentially occurring in the Referral Area.

Table 1 lists the species that were identified in the Protected Matters Search Tool report potentially are present on the site.

Table 1: Threatened Species Identified in the Protected Matters Search Tool Report which are Potentially Present in the Referral Area

Species Name	Common Name	EPBC Status	Likelihood of Occurrence
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	Vulnerable	Known
<i>Calyptorhynchus latirostris</i>	Carnaby's Black Cockatoo	Endangered	Known

A Black Cockatoo Habitat Survey was undertaken as part of the Environmental Assessment by PGV Environmental in 2016 (Attachment 3) in alignment with the *EPBC Act referral guidelines for three threatened Black Cockatoo species: Carnaby's cockatoo (endangered) Calyptorhynchus latirostris*

Baudin's cockatoo (vulnerable) Calyptorhynchus baudinii Forest red-tailed Black Cockatoo (vulnerable) *Calyptorhynchus banksii naso* (SEWPaC, 2012) and identified Black Cockatoo habitat on the site. The habitat assessment concluded that there was limited foraging on the site (approximately 0.3ha) and a small number of potential breeding habitat trees (Attachment 3).

Pursuant to Section 18 and 18A of the EPBC Act *Calyptorhynchus latirostris* (Carnaby's Black Cockatoo), *Calyptorhynchus banksii naso* (Forest Red-tailed Black-Cockatoo) and *Calyptorhynchus baudinii* (Baudin's Black-Cockatoo) could potentially be impacted by the proposed works to develop the site.

The Referral area does not contain suitable habitat for the remaining threatened fauna species listed on the Protected Matters Search Tool (Attachment 3), the reasons for which are in Table 2.

Table 2: Threatened Fauna Species Identified Protected Matters Search Tool Report that are Highly Unlikely to be Present in the Referral Area

Scientific Name	Common Name	Status under EPBC Act	Reason species is not considered to be in the referral area
<i>Botaurus poiciloptilus</i>	Australasian bittern	Endangered	The Australasian Bittern occurs mainly in densely vegetated freshwater wetlands and, rarely, in estuaries or tidal wetlands, which do not occur on the site.
<i>Calyptorhynchus baudinii</i>	Baudin's Black Cockatoo	Vulnerable	Baudin's Black-Cockatoo mainly occurs in eucalypt forests, especially Jarrah (<i>E. marginata</i>), Marri (<i>Corymbia calophylla</i>), also Karri (<i>E. diversicolor</i>) forest, often feeding in the understorey on proteaceous trees and shrubs, especially banksias (SEWPaC, 2012). The site is at the limit of the species range and is unlikely to occur on the site.
<i>Rostratula benghalensis australis</i>	Australian Painted Snipe	Endangered Marine/ Migratory	The Australian Painted Snipe has been recorded at wetlands in all states of Australia but is most common in eastern Australia. It generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. It also uses inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains and there is no habitat suitable on the site.
<i>Dasyurus geoffroii</i>	Chuditch, Western Quoll	Vulnerable	The Chuditch have been known to occupy a wide range of habitats including woodlands, dry sclerophyll forests, riparian vegetation, beaches and deserts. They are opportunistic feeders, and forage on the ground at night, feeding on invertebrates, small mammals, birds and reptiles and are unlikely to occur on the site due to surrounding development and disturbance.

Scientific Name	Common Name	Status under EPBC Act	Reason species is not considered to be in the referral area
<i>Idiosoma nigrum</i>	Shield-backed Trapdoor Spider	Vulnerable	The habitat critical to survival of important populations of the Shield-backed Trapdoor Spider consist of open York gum (<i>Eucalyptus loxophleba</i>), Salmon gum (<i>E. salmonophloia</i>) and wheat-belt Wandoo (<i>E. capillosa</i>) woodland and where Jam (<i>Acacia acuminata</i>) forms a sparse understorey in heavy clay soils (Wheatbelt NRM, 2008) which are not present on the site.
<i>Leipoa ocellata</i>	Mallee Fowl	Vulnerable	Mallee fowl have been found in mallee regions of southern Australia from approximately the 26th parallel of latitude southwards in mallee bushland and the site does not contain the mallee habitat typical to this species.
<i>Sterna nereis nereis</i>	Australian Fairy Tern	Vulnerable	The Fairy Tern (Australian) nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation which are not on the site.
<i>Pachyptila turtur</i> subsp. <i>subantarctica</i>	Fairy Prion (southern)	Vulnerable	The southern subspecies of the Fairy Prion is a marine bird, found mostly in temperate and subantarctic seas. The species' oceanic distribution is poorly known. The Fairy Prion sometimes forages over continental shelves and the continental slope, but it can come close inshore in rough weather. It breeds on islands and rock stacks. It burrows in soil, or uses crevices and caves in cliffs or rock falls. The subspecies can also nest in scrub, herbland, tussock or pasture. The habitat on the site is not typical to this species.

The flora species identified in the Protected Matters Search Tool are listed in Table 3. No species listed under the EPBC Act is likely to occur on the site.

Table 3: Threatened Flora Species Identified Protected Matters Search Tool Report that are Highly Unlikely to be Present in the Referral Area

Species Name	Common Name	Status under EPBC Act	Reason species is not considered to be in the referral area
<i>Andersonia gracilis</i>	Slender Andersonia	Endangered	Found on white/grey sand, sandy clay, gravelly loam near winter wet swamps which do not occur on the site
<i>Anigozanthos viridis</i> subsp. <i>terraspectans</i>	Dwarf Green Kangaroo Paw	Vulnerable	Prefers grey sand, clay loam and winter-wet depressions which do not occur on the site.
<i>Caladenia huegelii</i>	Grand Spider Orchid	Endangered	Sand or clay loam but does not survive in disturbed areas like the site.
<i>Darwinia foetida</i>	Muchea Bell	Critically Endangered	Occur on grey-white sand on swampy, seasonally wet sites which do not occur on the site

Species Name	Common Name	Status under EPBC Act	Reason species is not considered to be in the referral area
<i>Diuris micrantha</i>	Dwarf Bee-orchid	Vulnerable	Occur on brown loamy clay in winter-wet swamps, in shallow water which are not located on the site.
<i>Diuris purdiei</i>	Purdie's Donkey Orchid	Endangered	Prefers grey-black sand, moist winter-wet swamps which are not on the site
<i>Drakaea elastica</i>	Glossy-leaved Hammer Orchid	Endangered	Occurs on low-lying situations adjoining winter-wet swamps. Does not survive in disturbed areas and therefore unlikely to occur on the site
<i>Drakaea micrantha</i>	Dwarf Hammer Orchid	Endangered	Usually found on cleared firebreaks or open sandy patches that have been disturbed with in Jarrah Banksia woodland or thickets of Spearwood (<i>Kunzea ericifolia</i>) (Williams <i>et al.</i> , 2001) to the south of this location.
<i>Eucalyptus argutifolia</i>	Warbling Hill Mallee	Vulnerable	Prefers shallow soils over limestone on slopes or gullies of limestone ridges, outcrops which are not on the site.
<i>Lepidosperma rostratum</i>	Beaked Lepidosperm a	Endangered	Occurs in sand, sandy loam in winter-wet heath which are not habitats contained on the site.

Threatened Ecological Communities

The potential for the presence of vegetation representative of a Threatened Ecological Community in the Referral Area was investigated in 2016 by PGV Environmental. No Threatened Ecological Communities (TECs) listed under the EPBC Act occur on the site (Attachment 3).

Nature and extent of likely impact

Development of the Referral area will involve the following impact on Black Cockatoos:

- The clearing of approximately 0.3ha of poor foraging habitat from vegetation made up of Tuart and Jarrah trees.
- The clearing of up to 8 individual potential breeding trees with a diameter greater than 500mm (Tuart, Jarrah and standing dead trees) from Good to Degraded vegetation.

The level of significance of the potential impact on Black Cockatoo species is assessed below using the *EPBC Act Black Cockatoo Referral Guidelines for Three Threatened Black Cockatoo Species (Carnaby's Cockatoo, Baudin's Cockatoo and Forest Red-tail Black Cockatoo)* (SEWPaC, 2011) which are referred to below as the Black Cockatoo Referral Guidelines.

Foraging

According to Table 3 in the Black Cockatoo Referral Guidelines the clearing of more than 1ha of quality foraging habitat has a high risk of causing a significant impact. The small area of vegetation on Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus that would provide foraging habitat is approximately 0.3ha, less than 1ha.

Breeding

The site is outside the mapped breeding range of Carnaby's Black Cockatoos and Forest Red-tailed Black Cockatoos. According to Table 3 in the Black Cockatoo Referral Guidelines the clearing of any known nesting tree has a high risk of being a significant impact. Any known nesting tree is defined in the Guidelines as any existing tree in which breeding has been recorded or suspected.

Potential nesting tree species in the Referral area includes Jarrah and Marri trees with a suitable hollow or with a diameter at breast height (DBH) greater than 500mm regardless of whether the tree has a hollow or not (SEWPaC, 2011).

A significant tree assessment undertaken by PGV Environmental in 2015 identified eight trees (four Tuart and four Jarrah) with a DBH greater than 500mm. One Jarrah tree with a hollow was recorded on the site however hollows were observed from the ground and may not be suitable for breeding by Black Cockatoos on closer inspection. No evidence of breeding has previously been recorded on the site (DoP, 2011) or was observed during the site inspection.

The details of the significant trees on the site are in Attachment 3 and are shown on Figure 3.

Table 6: Impact on Significant Trees in the Referral Area

Species	Trees with visible hollows	Trees with no hollows	Total
Tuart	0	4	4
Jarrah	1	3	4
Total	1	7	8

Roosting

The Department of Planning's mapping shows a roosting site for Carnaby's Cockatoo located within the vicinity of the site, however the mapping is vague and the roosting site appears to be just to the north of the site (DoP, 2011). The northern section of the site does not contain trees suitable for roosting, however larger trees are located within the adjacent road reserve. No evidence of roosting

was observed on the site during the site visit. The risk of a significant impact on a known roosting site is therefore considered to be Low.

The risk of a significant impact on Black Cockatoos is considered Low as there is only 0.3ha of foraging habitat, a low number of potential breeding trees and there are significant reserves surrounding the site (Figure 4). The reserves are:

- Neerabup National Park, Lake Gnowergup Nature Reserve and Adjacent Bushland (Bush Forever Site 383) which contains approximately 1670ha of upland vegetation of Black Cockatoo Habitat;
- Yellagonga Regional Park (Bush Forever Site 299) which contains 380.9ha of bushland with Black Cockatoo Habitat;
- Whitfords Ave Bushland (Bush Forever Site 303) which is 139.5ha containing Black Cockatoo Habitat;
- Woodvale Nature Reserve (Bush Forever Site 407) containing 35.6ha of Black Cockatoo Habitat;
- Coastal Strip from Burns Beach to Hillarys (Bush Forever Site 325) which is 195ha and includes some habitat for Black Cockatoos;
- Burns Beach Bushland (Bush Forever Site 322) which is 277ha and contains some habitat for Black Cockatoos; and
- Link from Burns Beach Bushland to Neerabup National Park (Bush Forever Site 323) which is 92ha containing Black Cockatoo Habitat (Figure 4)

3.1 (e) Listed migratory species

Description

The Protected Matters Search Tool listed seven Migratory Species (Attachment 3) as potentially occurring in the Referral Area. Two of these species have been considered in the Threatened Species in this referral (Section 3.1(d)). The additional five species identified and likelihood of each species being present and/or utilising the site was determined are listed in Table 7.

Table 7: Migratory Species Identified in the Protected Matters Search Tool Report.

Scientific Name	Common Name	Status under EPBC Act	Habitat
<i>Calidris ferruginea</i>	Curlew Sandpiper	Marine/ Migratory	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.
<i>Charadrius leschenaultii</i>	Greater Sand Plover	Marine/ Migratory	In Australasia, the species is almost entirely coastal, inhabiting littoral and estuarine habitats. They mainly occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons.
<i>Puffinus carneipes</i> (<i>Ardenna carneipes</i>)	Flesh-footed Shearwater, Fleshy-footed Shearwater	Marine/ Migratory	The Flesh-footed Shearwater mainly occurs in the subtropics over continental shelves and slopes and occasionally inshore waters. Burrows are situated in areas that provide a clear flight-path for birds to enter and exit their colonies.

Scientific Name	Common Name	Status under EPBC Act	Habitat
<i>Apus pacificus</i>	Fork-tailed Swift	Marine/ Migratory	The Fork-tailed Swift is almost exclusively aerial and is not known to breed in Australia. They are seen in inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. <i>Apus pacificus</i> subsp. <i>pacificus</i> is the only subspecies to migrate to Australia.
<i>Ardea alba</i> (also listed as <i>Ardea modesta</i>)	Great Egret, White Egret	Migratory/ Wetland	The Eastern Great Egret has been reported in a wide range of wetland habitats and usually frequents shallow waters. This species feeds on fish, insects, crustaceans, molluscs, frogs, lizards, snakes and small birds and mammals.
<i>Ardea ibis</i>	Cattle Egret	Migratory/ Wetland	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands with breeding in Western Australia recorded in the far north in Wyndham in colonies in wooded swamps such as mangrove forest. This species forages away from water on low lying grasslands, improved pastures and croplands generally in areas that have livestock eating insects, frog, lizards and small mammals.
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Marine/ Migratory	The Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.
<i>Calidris ruficollis</i>	Red-necked Stint	Marine/ Migratory	The Red-necked Stint is mostly found in coastal areas, including in sheltered inlets, bays, lagoons and estuaries with intertidal mudflats, often near spits, islets and banks and, sometimes, on protected sandy or coralline shores.
<i>Limosa lapponica</i>	Bar-tailed Godwit	Marine/ Migratory	The Bar-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays.
<i>Limosa limosa</i>	Black-tailed Godwit	Migratory/ Marine	The Black-tailed Godwit is found mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It is found often around beds of seagrass and, sometimes, in nearby saltmarsh.

Scientific Name	Common Name	Status under EPBC Act	Habitat
<i>Merops ornatus</i>	Rainbow Bee-eater	Marine/ Migratory	Populations that breed in northern Australia are considered to be resident, and in many northern localities the Rainbow Bee-eater is present throughout the year. The Rainbow Bee-eater nests in a burrow dug in the ground. It is found across the better-watered parts of WA including islands preferring lightly wooded, sandy country near water.
<i>Motacilla cinerea</i>	Grey Wagtail	Migratory/ Marine	The Grey Wagtail is mostly recorded in coastal areas in Western Australia (ALA, 2015a) however is widespread.
<i>Pandion haliaetus</i> (also listed as <i>Pandion cristatus</i>)	Osprey	Marine/ Migratory	Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They feed on fish, especially mullet where available, and rarely take molluscs, crustaceans, insects, reptiles, birds and mammals.
<i>Plegadis falcinellus</i>	Glossy Ibis	Marine/Migratory	The Glossy Ibis is the smallest ibis known in Australia. This species preferred habitat for foraging and breeding are fresh water marshes at the edges of lakes and rivers, lagoons, flood-plains, wet meadows, swamps, reservoirs, sewage ponds, rice-fields and cultivated areas under irrigation but do not breed in South-west Western Australia..
<i>Sterna dougallii</i>	Roseate Tern	Marine/ Migratory	The Roseate Tern is a migratory coastal seabird that feeds by plunge diving. This species breeds in sites surrounded by walls and rocks or in the shelter of vegetation (in temperate regions) (Birdlife International, 2014d).
<i>Tringa glareola</i>	Wood Sandpiper	Marine/ Migratory	The Wood Sandpiper uses well-vegetated, shallow, freshwater wetlands, such as swamps, billabongs, lakes, pools and waterholes. They are typically associated with emergent, aquatic plants or grass, and dominated by taller fringing vegetation, such as dense stands of rushes or reeds, shrubs, or dead or live trees, especially Melaleuca and River Red Gums Eucalyptus camaldulensis and often with fallen timber.
<i>Tringa hypoleucos</i> (<i>Actitis hypoleucos</i>)	Common Sandpiper	Marine/ Migratory	The Common Sandpiper is mostly found around muddy margins or rocky shores. Generally, the species forages in shallow water and on bare soft mud at the edges of wetlands.
<i>Tringa nebularia</i>	Common Greenshank	Marine/ Migratory	The Common Greenshank is a wader and does not breed in Australia. This species can be found in many types of wetlands and has the widest distribution of any shorebird in Australia. This species typically feeds on molluscs, crustaceans, insects, and occasionally fish and frogs.

Scientific Name	Common Name	Status under EPBC Act	Habitat
<i>Haliaeetus leucogaster</i>	White-bellied Sea-eagle	Marine	The White-bellied Sea-Eagle is found in coastal habitats with large areas of open water, especially those close to the sea-shore. This species feeds opportunistically on a variety of fish, birds, reptiles, mammals and crustaceans, and on carrion and offal.
<i>Himantopus himantopus</i>	Black-winged Stilt	Marine	The Black-winged Stilt is found near coastal lagoons and shallow freshwater or brackish pools with extensive areas of mudflats, salt meadows, salt pans, coastal marshes and swamps (Birdlife International, 2014a).
<i>Pachyptila turtur</i>	Fairy Prion	Marine	Oceans and coastal breeding islands (ALA, 2015b).
<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet	Marine/ Migratory	The Red-necked Avocet occurs in wetland areas including bogs, marshes, swamps and Permanent Saline, Brackish or Alkaline Lakes (Birdlife International, 2014c).
<i>Thinornis rubricollis</i> (also listed as <i>Charadrius rubricollis</i>)	Hooded Plover	Marine	The Hooded Plover primarily inhabits sandy, ocean beaches, with the highest densities on beaches with large amounts of beach-washed seaweed that are backed by extensive open dunes. In Western Australia the species also inhabits inland and coastal salt lakes (Birdlife International 2014b)

The site does not provide suitable habitat for any of the listed migratory species and is not a marine habitat and therefore does not provide habitat for these species.

Nature and extent of likely impact

Not Applicable

3.1 (f) Commonwealth marine area

Description

There are no Commonwealth Marine areas on the site.

Nature and extent of likely impact

Not Applicable

3.1 (g) Commonwealth land

Description

The proposal will not impact on Commonwealth Land

Nature and extent of likely impact

Not Applicable

3.1 (h) The Great Barrier Reef Marine Park

Description

The site is not in the Great Barrier Reef Marine Park.

Nature and extent of likely impact

Not Applicable

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

The proposal is not a coal mining development.

Nature and extent of likely impact

Not Applicable

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

The flora on the site has been impacted by previous clearing. There are no Threatened Flora species located on the site. The site inspection (Attachment 3) identified several individual Priority 4 *Jacksonia sericea* plants. Priority species do not have statutory protection, however these plants may be included in Public Open Space or used in landscaping in the development if possible.

The fauna assemblage on the site is expected to be highly modified due to the previous clearing of most of the site and surrounding development bringing disturbance and feral and domestic species.

3.3 (b) Hydrology, including water flows

Groundwater

The groundwater under the site has geological formations that have been grouped into three distinct aquifers:

- Superficial Aquifer (unconfined);
- Leederville Aquifer (confined); and
- Yarragadee north (confined) (DoW, 2015a).

The depth to groundwater ranges from 36 to 47m under the site. Groundwater flows to the west and the quantity and quality of groundwater will be maintained through the application of *Better Urban Water Management* (WAPC, 2008) and managed through the Western Australian Department of Water approvals process for Local Water Management Strategies and Urban Water Management Plans required at Structure planning and subdivision.

Surface Water

There are no wetlands mapped on the site in the Geomorphic Wetlands of the Swan Coastal Plain Dataset (Landgate, 2016b). The soils on the site are sandy and free draining and surface water run-off the site would be minimal. The management of stormwater is also under the Better Urban Water management regime and managed through the Western Australian Department of Water approvals process for Local Water Management Strategies and Urban Water Management Plans required at Structure planning and subdivision

3.3 (c) Soil and Vegetation characteristics

The soils on the site are derived from Tamala Limestone (JDSI, 2014). The Department of Agriculture and Food Western Australia's (DAFWA's) database maps one soil type on the site consisting of Karrakatta Sand Yellow Phase (211Sp_Ky) which is described as low, hilly to gently undulating terrain with Aeolian yellow sand over limestone at 1-2m (DAFWA, 2016).

The vegetation on the site prior to the significant amount of clearing in the past would have been part of the Cottesloe – Central and South Vegetation Complex (Hedde *et al.* 1980). Approximately 15,816ha (35.2%) of the original 44,899ha on the Southern Swan Coastal Plain remains of which 8,227ha has some protection (WALGA, 2013).

The majority of native vegetation on Lot 9000 and Lot 999 was cleared in the past leaving only a small central rectangular area of vegetation (Plate 2). The regrowth vegetation consists mostly of *Jacksonia sternbergiana* / *Acacia saligna* Tall Open Scrub up to 2m high over a weedy understorey comprising mostly of Annual Veldt grass (*Ehrharta calycina*), Gladiolus (*Gladiolus caryophyllaceus*) and Ursinia (*Ursinia anthemoides*). Scattered native shrub and herbaceous species occur in the understorey (Attachment 3). The central part of Lot 9000 remains uncleared and contains a Tuart (*Eucalyptus gomphocephala*)/Jarrah (*E. marginata*) and Sheoak (*Allocasuarina fraseriana*) Woodland over an open

heath with dominant native species *Hibbertia hypericoides*, *Xanthorrhoea preissii* and *Mesomelaena pseudostygia* (Attachment 3).

3.3 (d) Outstanding natural features

There are no outstanding natural features on the site.

3.3 (e) Remnant native vegetation

The site is vegetated with mostly regrowth native vegetation, most of which has regrown since 2004 (Attachment 3). A small patch of remnant vegetation (approximately 0.3ha) is located in the centre of the site. The vegetation type is discussed in 3.3(c) and condition in 3.3(g).

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

The site is between 46m Australian Height Datum (AHD) and 52mAHD (JDSi, 2015) (Attachment 3).

3.3 (g) Current state of the environment

All of Lot 999 Piccadilly Circus and the majority of Lot 9000 was cleared apart from a small central rectangular portion in Lot 9000 that was retained as native vegetation (Attachment 3). The site has several tracks through it and has some illegal dumping occurring. There is a cleared firebreak around the perimeter of the Connect Joondalup site.

The vegetation on the site is generally Degraded. The small central area that remains uncleared is considered to be in Good to Degraded condition (Attachment 3).

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

There are no Commonwealth Heritage Places or other places recognised as having heritage values on the site.

3.3 (i) Indigenous heritage values

Eight Heritage Surveys have been conducted in the area (Attachment 3).

The boundaries of two Registered Aboriginal Heritage Sites intersect the site as shown on the Department of Aboriginal Affairs (DAA) Aboriginal Heritage Inquiry System (Attachment 3) (DAA, 2015). The sites consist of Site 3504 'Joondalup Waugal Egg' and Site 3532 'Joondalup Caves', both mythological sites. One of the sites just touches the northern tip of the site.

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

There are no other important or unique values of the environment.

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

The site is freehold.

3.3 (l) Existing land/marine uses of area

The land is vegetated and largely unused with some access on informal tracks through the site.

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

There are no additional land uses proposed other than those referred to as the action.

4 Environmental outcomes

Two Black Cockatoo species listed under the EPBC Act as Matters of National Environmental Significance (Carnaby's black cockatoo and the Forest Red-tailed Black Cockatoo) may be impacted by the proposed action at the Referral area.

The predicted impact is the clearing approximately 0.3ha of foraging and up to 8 potential breeding trees for black cockatoos. The habitat on the site was assessed in a Black Cockatoo Habitat Assessment as outlined in the *EPBC Act referral guidelines for three threatened Black Cockatoo species: Carnaby's cockatoo (endangered) Calyptorhynchus latirostris Baudin's cockatoo (vulnerable) Calyptorhynchus baudinii Forest red-tailed Black Cockatoo (vulnerable) Calyptorhynchus banksii naso* (SEWPaC, 2012).

5 Measures to avoid or reduce impacts

Two threatened Black Cockatoo species listed under the EPBC Act as Matters of National Environmental Significance (Carnaby's black cockatoo and the Forest Red-tailed Black Cockatoo) may be impacted by the proposed action at the Referral area. The predicted impact is the clearing approximately 0.3ha of foraging and up to 8 potential breeding trees for black cockatoos.

The design for the final development will attempt to retain any of the significant trees on the site if possible, however this cannot not be guaranteed at this time.

To prevent impacts on surrounding areas the development will require management of a number of factors during the state approval process including:

- Stormwater management as outlined in a Local Water Management Strategy and Urban Water Management Plans;
- Groundwater protection as outlined in a Local Water Management Strategy and Urban Water Management Plans;
- Acid Sulphate Soil Investigations and, if required, management plans;
- Dieback management plan.

The requirements under the state approvals process will eliminate any potential impact on surrounding Black Cockatoo Habitat.

6 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. whether you think that

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

<input checked="checked" type="checkbox"/>
<input type="checkbox"/>

No, complete section 5.2

Yes, complete section 5.3

6.2 Proposed action IS NOT a controlled action.

Significant Impact Guidelines

The significance of the impact, according to the *Matters of National Environmental Significance Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*, (SEWPaC, 2009) depends on the sensitivity, value and quality of the environment and the intensity, duration, magnitude and geographic extent of the impacts. The significant impact criteria for listed flora and fauna species and ecological communities depend on the category of listing, eg. Endangered, Vulnerable or Migratory.

The assessment has been undertaken for Forest Red-tail Cockatoo which are listed as Vulnerable and Carnaby's Cockatoo which is listed as Endangered.

Forest Red-Tail Cockatoo

Assessment of the impact of clearing on Forest Red-tail Cockatoos against the criteria set out in these Guidelines for a significant impact on a Vulnerable species is made out below:

- *lead to a long-term decrease in the size of an important population of a species*

An important population is defined in the Significant Impact Guidelines 1.1 as "a population that is necessary for a species' long-term survival and recovery" and may be "key source populations either for breeding or dispersal, populations that are necessary for maintaining genetic diversity, and/or populations that are near the limit of the species' range".

Forest Red-tail Cockatoos occur in the humid and sub-humid zones in south-west Western Australia extending from north of Gingin to east of Albany. They predominantly occur in forested areas but also occur on the Swan Coastal Plain. The small number of birds that would use the site for foraging is not considered to meet the criteria for an important population. Therefore, the individuals that may intermittently use the site cannot be considered an important population.

Therefore, the proposed development of the site would not result in this outcome.

- *reduce the area of occupancy of an important population*

The small population that would use the site is not considered to meet the criteria for an important population. Therefore, the proposed development on the site would not result in this outcome.

- *fragment an existing important population into two or more populations*

The proposed development of Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus, Joondalup will not fragment a population of Black Cockatoos as the width of the clearing is minimal and the vegetation in Conservation Reserves surrounding site will not be impacted by the proposed development. Therefore, the proposed development on the site would not result in this outcome.

- *adversely affect habitat critical to the survival of a species*

The 8 trees that are potential breeding habitat did not have any evidence of breeding and is not habitat critical to reproduction. The small area of foraging habitat proposed to be cleared on the site is not considered to be critical to the survival of the species and there are considerable reserves in surrounding land. Therefore, the proposed development on the site would not result in this outcome.

- *disrupt the breeding cycle of an important population*

Forest Red-tail Cockatoos are highly unlikely to breed on the site. It is considered that the proposed development on the site would not result in this outcome.

- *modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline*

There are abundant trees for foraging including Eucalypts and Banksia woodlands within the vicinity of the site in several nearby Bush Forever sites and additional areas of bushland in the vicinity of the site that are zoned as 'Parks and Recreation' that are vegetated with similar habitat such that the clearing of the small area on the site would not cause the species to decline.

- *result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat*

Clearing vegetation for the development would not result in invasive species being introduced. Therefore, the proposed development on the site would not result in this outcome.

- *introduce disease that may cause the species to decline*

Clearing vegetation for the City Centre development would not result in disease being introduced. Therefore, the proposed development on the site would not result in this outcome.

- *interfere substantially with the recovery of the species*

The population that would intermittently use the site is very small in comparison to the geographic distribution of the species, and is not an important population. Therefore, any clearing of habitat on the site would not interfere substantially with the recovery of the species.

The conclusion in this assessment in accordance with the criteria set out in Significant Impact Guidelines 1.1 is that the proposed upgrade and therefore clearing of approximately 0.3ha of foraging habitat and up to 8 trees that provide potential breeding habitat on Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus, Joondalup would not have a significant impact on Forest Red-tail Cockatoos.

Carnaby's Black Cockatoo

Assessment of the impact of clearing on Carnaby's Cockatoos against the criteria set out in these Guidelines for a significant impact on an Endangered species is below:

- *Lead to a long-term decrease in the size of a population*

Clearing of approximately 0.3ha of native vegetation and up to 8 trees that are potential breeding habitat on the site is unlikely to impact the whole population of Carnaby's Cockatoos such that it will lead to a long-term decrease in the size of the population. Therefore, the proposed development on the site would not result in this outcome.

- *Reduce the area of occupancy of the species*

Habitat for Carnaby's Black Cockatoos in Conservation Areas near the site means the area occupied by Carnaby's Cockatoo is highly unlikely to be reduced due to the clearing of approximately 0.3ha of

native vegetation and up to 8 trees that are potential breeding habitat. Therefore, the proposed development on the site would not result in this outcome.

- *Fragment an existing population into two or more populations*

Clearing of approximately 0.3ha and up to 8 trees that are potential breeding habitat is unlikely to fragment the populations into sub-populations as the site is small with limited resources. Therefore, the proposed development on the site would not result in this outcome.

- *Adversely affect habitat critical to the survival of a species*

Carnaby's Cockatoos are highly unlikely to breed on the site and the clearing of up to 8 trees that are potential breeding habitat and the limited foraging habitat on the site is not considered to be critical to the survival of the species. Therefore, the proposed development on the site would not result in this outcome.

- *Disrupt the breeding cycle or a population*

Carnaby's Cockatoos are highly unlikely to breed on the site in the 8 trees that are potential breeding habitat. Therefore, the proposed development on the site would not result in this outcome.

- *Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline*

There are abundant trees for foraging including Eucalypts and Banksia woodlands to the north such that clearing of approximately 0.3ha of vegetation would not cause the species to decline.

- *Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat*

Clearing the vegetation would not result in invasive species being introduced that would be harmful to Carnaby's Black Cockatoos. Therefore, the proposed development on the site would not result in this outcome.

- *Introduce disease that may cause the species to decline*

Clearing vegetation for the proposed development would not result in disease being introduced. Therefore, the proposed development on the site would not result in this outcome.

- *Interfere with the recovery of the species*

The population that would use the site is very small in comparison to the geographic distribution of the species, and there are significant reserves in the immediate vicinity of the road. Therefore, any clearing of habitat on the site would not interfere with the recovery of the species

The conclusion of this assessment in accordance with the criteria set out in Significant Impact Guidelines 1.1 is that the proposed development approximately 0.3ha of foraging habitat and up to 8 trees that could provide potential breeding habitat would not have a significant impact on Carnaby's Black Cockatoos or Forest Red-Tailed Black Cockatoos.

6.3 Proposed action IS a controlled action

Matters likely to be impacted

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

Not Applicable

7 Environmental record of the responsible party

	Yes	No
<p>7.1 Does the party taking the action have a satisfactory record of responsible environmental management?</p> <p>The Western Australian Housing Authority has an excellent record for responsible, sustainable development and provides housing in the framework of Commonwealth and State Sustainability policies.</p>	✓	
<p>7.2 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?</p> <p>If yes, provide details</p>		✓
<p>7.3 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?</p> <p>The proponent is a Government Department</p> <p>If yes, provide details of environmental policy and planning framework</p> <p>Not Applicable</p>		
<p>7.4 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?</p> <p>2016/7642 Housing Authority/Residential Development/Yanchep Beach Rd, Yanchep/Western Australia/Residential development, Lots 9010 and 9031, Yanchep Beach Rd, Yanchep</p> <p>2015/7458 Western Australian Department of Housing/ Residential Development on Lot 800 Youle-Dean Road, Brabham Western Australia.</p> <p>2014/7389 Western Australian Department of Housing/Residential development/Kalamunda/WA/Residential Development - Lot 608 Dixon Road, Kalamunda, WA</p> <p>2013/7050 Western Australian Housing Authority/Residential development /Kiara/WA/Primary school, residential lots and open space, Lot 9000 Bottlebrush Drive, Kiara, WA 11 Nov 2013</p> <p>2013/6983 WA Housing Authority/Residential development/Lot 6 Talbot Road, Stratton/WA/Residential Development 02 Sep 2013</p> <p>2013/6955 Housing Authority/Commercial development/Glen Iris/WA/Urban Development Subdivision 05 Aug 2013</p> <p>2013/6935 Housing Authority T/A Department of Housing WA/Residential development/Assorted Lots Parade Rd, Washington Av & Bussell Hwy, Usher/WA/Residential Development 15 Jul 2013</p> <p>2013/6916 Department of Housing/Residential development/City of Kwinana/WA/Develop three sites into residential housing and mixed use developments 27 Jun 2013</p>	✓	

2012/6524 Gold Estates Holdings Pty Ltd & Housing Authority/Residential development/Hammond Park/WA/Lots 13, 14 & 18 Barfield Rd & Lots 48-51 Rowley Rd, Hammond Park 31 Aug 2012		
2011/6137 Satterley Property Group & Housing Authority/ Residential development/ Lot 9 Marmion Ave, Butler		
2007/3361 Satterley Property Group & Housing Authority/Residential development/Dalyellup Beach Estate, Bunbury		

8 Information sources and attachments

8.1 References

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8.2 Reliability and date of information

The information contained in this referral is current and to the best of our knowledge is true and accurate. It is based on site specific field investigation.

8.3 Attachments

Figures

- Figure 1: Regional Location
- Figure 2: Site Boundary and Topography
- Figure 3: Significant Trees
- Figure 4: Regional Context

Attachments

Attachment 1: Planning Context

Attachment 2: EPA Decision

Attachment 3: Environmental Assessment Report

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Figure 1 and 2
	GIS file delineating the boundary of the referral area (section 1)	✓	Provided by email and on CD
	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 4
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)	✓	Attachment 2
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)	✓	Attachment 2
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment 3
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Attachment 3
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

9 Contacts, signatures and declarations

Project title: Connect Joondalup: Lot 9000 McLarty Avenue and Lot 999 Piccadilly Circus, Joondalup

8.1 Person proposing to take action

Name	Richard Elliot
Title	Strategic Planner – Commercial Operations
Organisation	Housing Authority
ACN / ABN (if applicable)	56 167 671 885
Postal address	Locked Bag 22 EAST PERTH WA 6892
Telephone	(08) 9222 4832
Email	Richard.elliott@housing.wa.gov.au
Declaration	<p>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.</p> <p>I understand that giving false or misleading information is a serious offence.</p> <p>I agree to be the proponent for this action.</p> <p>I acknowledge that I may be liable for fees related to my proposed action following the introduction of cost recovery under the EPBC Act.</p>

Signature



Date

1/8/16

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

Name	Paul van der Moezel
Title	Managing Director
Organisation	The Trustee for Knightside Trust trading as PGV Environmental
ACN / ABN (if applicable)	44 981 725 498
Postal address	Unit 1, 61 Guthrie Street OSBORNE PARK WA 6017
Telephone	(08) 6500 8801
Email	paul@pgv.net.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

3 Aug 2016