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: Lot 9006 Litchfield Promenade Jane Brook – Rural/Residential Subdivision

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) and associated geographic information system (GIS) vector (shapefile) dataset showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

1.1 **Short description**

The proponent DJM Jane Brook Pty Ltd seeks to gain approval for the clearing of Black Cockatoo habitat within 13 residential Building Envelopes located within (current) Lot 9006 on Plan 400724, within the suburb of Jane Brook, Perth, Western Australia (WA) (Figure 1; Attachment B).

The site has been subject to a prior Referral and Approval under the EPBC Act in 2010 (EPBC 2009/5261; DEWHA 2010) (Figure 2; Attachment B and Attachment C). The proposed action varies slightly to the conditions set out in the 2010 Approval, although we expect a better environmental outcome for Matters of National Environmental Significance (MNES) can be achieved.

The proposed action will involve the clearing of 0.323 hectares (ha) of Black Cockatoo foraging habitat as well as 17 potential breeding trees (significant trees) within 13 building envelopes. Further to this, approximately 204 trees located within the Building Protection Zone (BPZ) of these envelopes will be pruned for bushfire management purposes (resulting in the loss of a small amount of foraging habitat). Pruning will continue into the future once buildings are established to maintain the effectiveness of the BPZ (required by WA building standards; DFES 2016). The BPZ varies for each Building Envelope but ranges from 10m to a maximum of 35m.

1.2 **Latitude and longitude**

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

	Latitude			Longitude		
Vertex	**Degrees**	**Minutes**	**Seconds**	**Degrees**	**Minutes**	**Seconds**
1	-31	51	13.0	116	3	53.8
2	-31	51	47.5	116	3	52.8
3	-31	51	47.5	116	3	40.5
4	-31	51	43.0	116	3	40.3
5	-31	51	43.2	116	3	46.4
6	-31	51	29.6	116	3	46.8
7	-31	51	26.1	116	3	46.9
8	-31	51	26.7	116	3	44.3
9	-31	51	21.4	116	3	43.8
10	-31	51	19.6	116	3	48.6

Refer to Figure 1(Attachment B) for the Site Location

Spatial data relating to this referral is included as Attachment A.

1.3 **Locality and property description**

The property is located 21 kilometres north east of the Perth CBD within the suburb of Jane Brook. The property is located along the slopes of the Darling Scarp, within the Jarrah Forest IBRA Region (Northern Jarrah Forest Subregion). Figure 1(Attachment B) illustrates the location of the property in relation to surrounding features.

1.4	**Size of the development footprint or work area (hectares)**	The size of Lot 9006 is 19.4 ha. The action is only expected to take place within the Building Envelopes and BPZ of the subdivision (Figure 3; Attachment B). The total area of all 13 Building Envelopes is 1.35 ha. The total area of all 13 BPZs is 5.58 ha (The BPZ varies for each Building Envelope but ranges from 10m to a maximum of 35m).
1.5	**Street address of the site**	The street address of the property is currently Lot 9006 Litchfield Promenade, Jane Brook WA 6056 Note that following subdivision, the proposed lots will take on a more conventional street address.

1.6 **Lot description**

The proposed action will take place on the existing Lot 9006 on Plan 400724. It is expected that Lot 9006 will be subdivided into 13 Lots (identified in Figure 3; Attachment B).

1.7 **Local Government Area and Council contact (if known)**

City of Swan:

Natasha Kepert
Planning Officer, Statutory Planning
Email: Natasha.Kepert@swan.wa.gov.au
Phone: (08) 9267 9255

1.8 **Time frame**

Immediately following approval.

1.9	**Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?		No
		✓	Yes, you must also complete section 2.2
1.10	**Alternative time frames etc** Does the proposed action include alternative time frames, locations or activities?	✓	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** Is the action subject to a state or territory environmental impact assessment?	✓	No The proposed action is entitled to an exemption for Subdivision Approval under WA Law (Schedule 6, Clause 9 of the Clearing Regulations 2004 [DoP 2005]). WAPC subdivision approval reference: 149832
			Yes, you must also complete Section 2.5
1.12	**Component of larger action** Is the proposed action a component of a larger action?	✓	No
			Yes, you must also complete Section 2.7
1.13	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?		No
		✓	Yes, provide details: The Site has previously been subject to another Referral under the EPBC Act, submitted in 2009 and Approved in 2010 (EPBC 2009/5261). See Appendix A for the decision notice of this assessment. See Section 2.5 for more details on how this referral relates to the 2010 Approval. Figure 3 (Attachment B) compares the assessment boundary for the 2010 Assessment versus this Referral.
1.14	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	✓	No
			Yes, provide details:
1.15	**Great Barrier Reef Marine Park** Is the proposed action inside the Great Barrier Reef Marine Park?	✓	No
			Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

2.1 Description of proposed action

This should be a detailed description outlining all activities and aspects of the proposed action and should reference figures and/or attachments, as appropriate.

The proposed action will involve the clearing of 0.323 hectares (ha) of remnant native vegetation as well as 50 native trees within 13 building envelopes (Figure 3; Attachment B). 17 of these were found to be potential Black Cockatoo breeding trees (i.e. significant trees; See Section 3.1 [d]).

Further to this, approximately 204 trees located within the Building Protection Zone (BPZ) of these envelopes will be pruned for bushfire management purposes (resulting in the loss of a small amount of foraging habitat). See Section 5 for details on pruning activities proposed.

Pruning will continue into the future once buildings are established to maintain the effectiveness of the BPZ (required by WA building standards; DFES 2016). The BPZ varies for each Building Envelope but ranges from 10m to a maximum of 35m.

2.2 Alternatives to taking the proposed action

Alternate Building Envelopes have been considered in the development of this referral. The envelopes presented here represent the best compromise between construction feasibility and environmental protection. This process is described in Section 2.3.

The proposed action presented in this referral will result in a better outcome for MNES than the approved 2010 action.

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

The previous approval for the larger site (DEWHA 2010) was based on Building Envelopes that did not fully consider engineering constraints to construction. A large area of the site consists of outcropping rocks and steep gradients, limiting constructability of houses within the envelopes. Furthermore, the zoning of the site requires the maintenance of important landscape features (see Section 2.4). The new Building Envelopes were also made to be compliant to the zoning requirements.

Alternate envelope placement was considered when developing this referral. The final envelopes were determined to provide the best environmental outcome while also providing a safe surface for construction. This action will result in a net benefit to the number of trees retained (although these will be different trees to those identified in 2010).

2.4 Context, planning framework and state/local government requirements

The site is located within an area that is zoned as 'Rural' under Perth's Metropolitan Region Scheme (MRS) and as 'Landscape' under the City of Swan Local Planning Scheme No. 17 (City of Swan 2016).

The general uses of the Rural Zone are generally to (DoP 2014):

- Provide for Rural land uses such as:
    - Agriculture;
    - Tourism;
    - Basic raw material extraction;
    - Mining;

- Maintenance of significant environmental and landscape values.

The objectives of the Landscape Zone are to:
- Provide for low density rural residential while recognizing the visual characteristics of the landscape;
- Ensure (as far as practicable) that the environmental and landscape characteristics of the area are not compromised by development and use of the land;
- Encourage the rehabilitation of degraded areas through selected replanting of indigenous flora.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

The site has previously been subject to an impact assessment by the Commonwealth Government under the EPBC Act in 2010 for impacts to Black Cockatoos (**EPBC 2009/5261**) (DEWHA 2010; Attachment C). 360 Environmental conducted a tree survey for all potential habitat trees within a larger development area (Figure 2 [Attachment B]; 360 Environmental 2009). At the time, the guidelines for determining 'significant' habitat trees were not established so all trees capable of supporting black cockatoo species were surveyed. A total of 1422 trees were surveyed. The status of these trees as being 'significant' by today's standards was not determined.

The proposal was given a 'Not a controlled action if undertaken in a particular manner' decision and subsequently approved. The 2010 approval allowed for development of the site, but required the retention of particular trees (those outside the building envelopes and road reserves included in the referral). The approval resulted in 977 trees marked for retention, and 445 trees being marked for clearing within the greater site. Within Lot 9006, 61 trees were approved to be cleared (those within the superseded building envelopes), and 545 were marked for retention.

It is worth noting that the 2010 Approval was heavily dependent on the identification of individual trees surveyed using handheld GPS, which has potentially caused a degree of error when identifying specific trees.

A number of the approval conditions of the 2010 Approval are relevant to this Referral:

Condition 1: The person taking the action may clear any of the 445 trees identified at Attachment 1 (See Attachment C of this Referral)
Condition 2: The person taking that action must not clear any of the 977 trees identified in Attachment 2 (See Attachment C of this Referral)
Condition 7: Within the Building Protection Zones and the Setback identified in Attachment 4, the person taking the action may prune vegetation to ensure that the crowns of trees do not touch.

Note that this referral only applies to the lots detailed in Figure 3 (Attachment B). Other areas of Lot 9006 (road reserve and areas set aside as Public Open Space) do not form part of this proposed action.

A copy of the decision letter is attached as Attachment C.

As the current building envelopes differ slightly to those approved under this referral, a new referral (this document) has been prepared to demonstrate the potential impact in accordance with current guidelines and to highlight the improved benefits to MNES.

2.6 Public consultation (including with Indigenous stakeholders)

Public consultation will take place as part of the EPBC referral process on the Department of the Environment's (DotE's) website.

Consultation regarding the site was undertaken in the 2010 Approval process.

2.7 A staged development or component of a larger project

The proposed action is a component of a larger project that has already been approved (DEWHA 2010)

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 sites within 1 kilometre of the property. The closest site (Fremantle Prison) is located 35.8 km from the property on which the action will take place. All MNES areas within 10 km are shown on Figure 4 (Attachment B).

Nature and extent of likely impact

n/a - The action will not impact any World Heritage sites.

3.1 (b) National Heritage Places

Description

There are no National Heritage Places within 1 kilometre of the property. The closest site (Goldfields Water Supply Scheme, WA) is located 13.5 km from the property on which the action will take place. All MNES areas within 10 km are shown on Figure 4 (Attachment B).

Nature and extent of likely impact

n/a - The action will not impact any National Heritage sites.

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

Description

No Ramsar listed wetlands occur within 1 kilometre of the property. The closest site (Forrestdale and Thomsons Lakes) is located 33.7 km from the property on which the action will take place. All MNES areas within 10 km are shown on Figure 4 (Attachment B).

Nature and extent of likely impact

n/a - The action will not impact any Wetlands of International Importance. The property is not within the catchments for these wetlands.

3.1 (d) Listed threatened species and ecological communities

Description

A search of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) identified 13 Threatened flora and fauna species as potentially occurring within a 1 kilometre radius of the project area (DotE 2016) (Attachment D).

No Threatened Ecological Communities (TECs) are known to occur within 1 kilometre of the project area.

Table 1 lists the likelihood of a species occurring within the property based on an assessment of:

- The habitat/vegetation typically associated with the conservation significant species;
- The typical soil type the species in known to grow/occur in;
- The landform (topography, hydrology) the species generally occurs on;
- The condition of the site;
- Current land use.

Table 1. EPBC Act listed Threatened species likelihood of occurrence within Lot 9006

Scientific Name	Common Name	Habitat Description and Distribution	Likelihood of Occurrence	Likelihood Justification
Birds				
Calyptorhynchus banksii naso	Forest Red-tailed Black Cockatoo (FRBC)	Habitat The FRBC inhabits dense *Eucalyptus marginata* (Jarrah), *Eucalyptus diversicolor* (Karri) and *Corymbia calophylla* (Marri) forests that receive more than 600 mm of average annual rainfall. Breeding has been recorded in every month with peaks in autumn-winter (April-June) and spring (August-October) (Johnstone *et al*. 2013a). The FRBC feeds primarily on Marri and Jarrah fruit. However, they are also known to feed on *Eucalyptus patens* (Blackbutt), *Eucalyptus staeri* (Albany Blackbutt), Karri, *Allocasuarina fraseriana* (Sheoak) and *Persoonia longifolia* (Snottygobble). The FRBC can obtain energy faster when feeding on Marri and Jarrah than other food sources. These two plant species make up 90% of the FRBC's diet (Johnstone & Kirkby 1999). The Forest Red-tailed Black Cockatoo is thought to make use of trees capable of developing hollows of suitable size (typically 12cm in diameter) to breed within its range (DSEWPAC 2012). Hollows are thought to develop in trees over a certain diameter in size (species dependent; DSEWPAC 2012). These 'significant' trees or potential breeding trees are typically a subject of surveys for the species. Distribution The FRBC is distributed throughout the humid and subhumid regions of south-western Western Australia; from Gingin through the Darling Ranges to the southwest from around Bunbury to Albany (Johnstone 1997). The FRBC generally occurs in pairs or small flocks, although occasionally can be found in large flocks of up to 200.	Possible	The site contains potential foraging and breeding habitat for this species, but is at the northern range of the distribution. The species was noted as flying over the site in previous surveys (360 Environmental 2009)
Calyptorhynchus baudinii	Baudin's Black Cockatoo	Habitat The FRBC inhabits dense *Eucalyptus marginata* (Jarrah), *Eucalyptus diversicolor* (Karri) and *Corymbia calophylla* (Marri) forests that receive	Possible	The site contains potential foraging and breeding habitat

		more than 750 mm of average annual rainfall. During breeding and non-breeding periods, the species can occur as far north as the Northern Jarrah Forest, wherever Marri is present. The Baudin's Black Cockatoo is thought to make use of trees capable of developing hollows of suitable size (typically 12cm in diameter) to breed within its range (DSEWPAC 2012). Hollows are thought to develop in trees over a certain diameter in size (species dependent; DSEWPAC 2012). These 'significant' trees or potential breeding trees are typically a subject of surveys for the species. <u>Distribution</u> Baudin's Cockatoo is distributed through the south-western humid and sub-humid zones, from the northern Darling Range and adjacent far east of the Swan Coastal Plain (south of the Swan River), south to Bunbury and across to Albany (Johnstone and Storr 1998).		but is at the northernmost range of the species and is not a preferred habitat type.
Calyptorhynchus latirostris	Carnaby's Cockatoo	<u>Habitat</u> The Carnaby's Cockatoo inhabits woodlands and scrubs of semi-arid interior of Western Australia, in non-breeding season wandering in flocks to coastal areas, especially pine plantations. Carnaby's feed on seeds, nuts and flowers of a variety of native and exotic plants. Food sources include proteaceous plant species (such as *Banksia* spp., *Hakea* spp., *Dryandra* spp., and *Grevillea* spp.), Pine trees (*Pinus* sp.), Marri, and *Eucalyptus* such as Jarrah, and Sheoak (Shah 2006; DSEWPaC 2012). Seeds from seed pods of *Banksia* and the cones of pine trees provide the highest energetic yield for Carnaby's Cockatoo. Breeding has been recorded from early July to mid-December, and primarily occurs in the Wheatbelt (Johnstone & Storr 1998). However, this species is currently expanding its breeding range westward and south into the Jarrah-Marri forests of the Darling Scarp and into the Tuart forests of the Swan Coastal Plain (SCP) including Yanchep, Baldivis, Lake Clifton and near Bunbury (Johnstone & Kirkby 2011). The Carnaby's Black Cockatoo is thought to make use of trees capable of developing hollows of suitable size (typically 12cm in diameter) to breed within its range (DSEWPAC 2012). Hollows are thought to develop in trees over a certain diameter in size (species dependent; DSEWPAC 2012). These 'significant' trees or potential breeding trees are typically a subject of surveys for the species. <u>Distribution</u> Occurs in south-west to lower Murchison in the north and east to Nabawa, Wilroy, Waddi Forest, Manmanning, Durokoppin, Lake Cronin and just east of Condingup. Endemic to Western Australia. Occurs in subpopulations across the south-west. Residential in high-rainfall areas, but where it	Likely	The site contains potential foraging and breeding habitat for this species. Evidence of use has been noted in previous surveys (360 Environmental 2009)

		occurs in eastern areas, it migrates to coastal areas where rainfall is higher after the breeding season (winter to spring) (DSEWPaC 2012).		
Leipoa ocellata	Malleefowl	Habitat The Malleefowl inhabits shrublands and low woodlands that are dominated by mallee vegetation and/or low-growing multi-stemmed *Eucalyptus* species. Occasionally inhabiting *Acacia* shrublands (DotE 2016a). Distribution The Malleefowl is scattered in remnant Wheatbelt vegetation and south to the coast, including Roe Plain to the south of the Nullarbor Plain. Recorded from Cape Farquhar (north of Carnarvon) to the Eyre Bird Observatory (DotE 2016a).	Unlikely	Due to the lack of understorey the project area does not have suitable habitat for the Malleefowl.
Rostrulata australis	Australian Painted Snipe	Habitat Occupies shallow wetlands (generally freshwater or brackish) and flooded plains, usually requiring areas of bare, wet mud and dense undergrowth and canopy cover. Also known to inhabit flooded grasslands, paddocks or crops as a secondary habitat (DotE 2016a). Distribution This species is dispersive / part-migratory, dependent on local conditions. It has a patchy distribution in the south-west of WA (DotE 2016a).	Unlikely	There are no wetlands present within the project area. It is not considered that the project area has suitable habitat for this species.

Mammals				
Dasyurus geoffroii	Chuditch, Western Quoll	Habitat Chuditch populations occur in both moist, densely vegetated, steeply sloping forest and drier, open, gently sloping forest (DotE 2016a). The Chuditch now has a patchy distribution through the *Eucalyptus marginata* (Jarrah) forest and mixed *Eucalyptus diversicolor* (Karri)/ *Corymbia calophylla* (Marri)/Jarrah forest of south-west Western Australia (DotE 2016a). Distribution The Chuditch is now known only from Western Australia where it predominantly occurs in Jarrah forest. Occasional records have been obtained from the Wheatbelt and Goldfields where it persists in very low numbers. The majority of Chuditch records are from the contiguous forest in south-west Western Australia (DotE 2016a).	Unlikely	The project area does not have suitable habitat for the Chuditch.
Flora				
Andersonia gracilis	Slender Andersonia	*Andersonia gracilis* is presently known from the Badgingarra, Dandaragan and Kenwick areas where it is found on seasonally damp, black sandy clay flats near or on the margins of swamps, often on duplex soils supporting low open heath vegetation with species such as *Calothamnus hirsutus*, *Verticordia densiflora* and *Kunzea recurva* over sedges (DEC 2006).	Unlikely	The project area is outside of this species known distribution and does not contain suitable habitat for this species.

Caladenia huegelii	King Spider-orchid	*Caladenia huegelii* occurs in areas of mixed woodland of Jarrah, Candlestick Banksia (*Banksia attenuata*), Holly Banksia (*B. ilicifolia*) and Firewood Banksia (*B. menziesii*) with scattered Sheoak and Marri over dense shrubs of Blueboy (*Stirlingia latifolia*), Swan River Myrtle (*Hypocalymma robustum*), Yellow Buttercups (*Hibbertia hypericoides*), Buttercups (*H. subvaginata*), Balga (*Xanthorrhoea preissii*), Coastal Jugflower (*Adenanthos cuneatus*) and *Conostylis* species, from just north of Perth to the Busselton area, usually within 20 km of the coast. Throughout its range the species tends to favour areas of dense undergrowth. Soil is usually deep grey-white sand usually associated with the Bassendean sand-dune system. However, rare plants have been known to extend into the Spearwood system (in which calcareous yellow sands dominate) in some areas (DEC 2009).	Unlikely	The understorey of Lot 9006 is dominated by pasture.
Diuris micrantha	Dwarf Bee-orchid	Found in small populations on dark, grey to blackish, sandy clay-loam substrates in winter wet depressions or swamps (TSSC 2008a).	Unlikely	No wetlands or watercourses are mapped within the site and there is considerable separation to groundwater. Nearby records are most likely associated with swampy habitats.
Diuris purdiei	Purdie's Donkey-orchid	*Diuris purdiei* grows on sand to clay soils, in areas subject to winter inundation, and amongst native sedges and dense heath with scattered emergent *Melaleuca preissiana*, Marri, Jarrah and *Nuytsia floribunda* (TSSC 2008b).	Unlikely	No wetlands or watercourses are mapped within the site. In addition topographical contours suggest that stormwater would flow away from the site preventing inundation.
Drakaea elastica	Glossy-leafed Hammer-orchid	Grows on bare patches of white sand over a dark sandy loam on low-lying damp areas near ephemeral lakes, or on the slopes adjacent to winter wet depressions, swamps and water courses (DotE 2016a).	Unlikely	No suitable habitat occurs in the project area.

Thelymitra dedmaniarum	Cinnamon Sun Orchid	This species has a preference for open wandoo woodland on red-brown sandy loam, associated with dolerite and granite outcropping (DotE 2016a)	Unlikely	The project area does contain remnant wandoo and rocky outcrops; however the site has been in a degraded condition for a long time. DPaW's NatureMap database also did not contain a record of the species within 5 kilometres of the site (Attachment E).
Thelymitra stellata	Star Sun Orchid	This species grows among low heath and scrub in Jarrah (*Eucalyptus marginata*) and Wandoo (*E. wandoo*) woodland, both on ridges and slopes, flats, also on riverbanks and breakaways, with primary habitat considered as being the tops of hills and breakaways (DotE 2016a).	Unlikely	The project area does contain remnant wandoo and rocky outcrops; however the site has been in a degraded condition for a long time. Previous Surveys on the site did not find this species although it was a target of the survey (360 Environmental 2007) DPaW's NatureMap database also did not contain a record of the species within 5 kilometres of the site (Attachment E).

Nature and extent of likely impact

Based on the likelihoods of occurrence table above, we expect that the site only holds value for avian species, most likely:

- Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*);
- (To a lesser extent; possibly) Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*);
- (Possibly) Baudin's Black Cockatoo (*Calyptorhynchus baudinii*).

The extent and nature of impact is:

- Clearing of trees within the revised building envelopes (resulting in the loss of potential roosting trees and foraging habitat);
- Pruning (so that crowns do not touch) within the BPZs of the building envelopes (resulting in the loss of some foraging habitat; the BPZ ranges from 10m to a maximum of 35m).

The site is located in the central area of the known extent of the Carnaby's Black Cockatoo and in the northern boundary of the extent of the Forest Red-tail and Baudin's Black Cockatoos (DotE 2014)

A Black Cockatoo Survey completed by 360 Environmental in 2009 to support the earlier referral and approval identified foraging evidence in Lot 9006 (360 Environmental 2009). The survey also noted three flocks of Carnaby's Black Cockatoo present in the area and one flock of Forest Red-tails flying overhead. However, no evidence of site use by the Forest Red-tail or Baudin's Black Cockatoos were found. The survey also identified two hollows in the larger site, but these were too small and unlikely to be used by Black Cockatoos (360 Environment al 2009).

A significant tree assessment was undertaken by 360 Environmental in 2016 to support this referral. This survey identified 17 potential breeding trees (significant), none of which had visible hollows (Figures 5 and 9; Attachment B).

A vegetation survey undertaken in 2007 on the site indicates that Lot 9006 is composed primarily of remnant Marri and Wandoo over pasture in Completely Degraded, Poor or Very Poor condition (360 Environmental 2007; condition is unlikely to have improved due to continuing land uses). Therefore, the site is only capable of holding foraging habitat and potentially some roosting (within remnant trees). The primary focus of this assessment will be impacts to Carnaby's Black Cockatoo as this is the species that is most likely to use the site. While Forest Red-tails may occasionally visit, it is expected that only the Carnaby's Black Cockatoo will be most affected.

The number of habitat trees proposed to be cleared for the revised building envelopes is significantly less than that which was approved in 2010 (DEWHA 2010). Therefore, an assessment of the extent of impact of this referral in comparison to the 2010 approved action is detailed below.

Table 2 presents a comparison of the clearing requirements (number of trees) and potential foraging habitat of this action to the previously approved action (DEWHA 2010) (Figures 5 and 6; Attachment B).

Table 2. Clearing and pruning requirements of this Referral in comparison to the existing 2010 Approval (determined by overlaying the 2010 survey data over the revised Building Envelopes)

	This Referral	2010 Approval
Total Trees to be Cleared	**50**[1]	61
Potential Breeding Trees to be Cleared (based on current guidance, unavailable for 2009 survey)	**17**	21[2]
Total Trees to be Pruned[3]	**Up to 204**	Up to 243

Foraging Habitat to be Cleared (ha)	**0.323**	0.390
Foraging Habitat to be Pruned (ha)	**Up to 1.545**	Up to 1.866

[1] Note that the actual number of trees required to be cleared actually is less than 50 (estimated to be 47), due to the natural collapse of stags between 2010 and 2016. For the sake of an unbiased comparison, the tree count data from 2010 has been used, supplemented by the significant tree survey carried out by 360 Environmental in 2016. This estimate assumes that no trees have died since 2010 and is therefore conservative

[2] Not determined – estimated based on same percentage of significant trees encountered in 2016 survey.

[3] No set number of trees was mentioned in the 2010 Approval – this figure shows the number of trees within the BPZs of the 2010 and 2016 building envelopes. The 2010 BPZs were considerably larger, resulting in more trees that may have needed pruning.

This action will result in fewer trees being cleared within the proposed subdivisions (50 as opposed to 61), allowing for a nett of 11 trees to be retained. Note that trees that are proposed to be cleared (against the decision to retain made in 2010) are represented as red triangles, while trees that were marked for clearing in 2010 that are now retainable are marked as green circles.

Significant tree information is not available for trees outside the proposed Building Envelopes, although we expect that a similar density of significant trees is likely. This is due to the similar age and type of surrounding vegetation, as well as clearing practices.

The breakdown of trees and foraging habitat to be cleared within each Building Envelope is detailed in Table 3 below. Note that estimates of potential breeding trees for the 2010 Approval cannot be determined.

Table 3. Habitat Types to be cleared within each building envelope

Proposed Building Envelope	Habitat Types	This Referral	2010 Approval
2230	**Foraging Habitat**	**0.043 ha**	0.070 ha[1]
	Potential Breeding Trees	**3**	-
	Total Habitat Trees	6	10
2159	**Foraging Habitat**	**0.004 ha**	0.004 ha[1]
	Potential Breeding Trees	**1**	-
	Total Habitat Trees	1	0
2160	**Foraging Habitat**	**0.025 ha**	0.032 ha[1]
	Potential Breeding Trees	**4**	-
	Total Habitat Trees	4	4
2161	**Foraging Habitat**	**0.043 ha**	0.024 ha[1]
	Potential Breeding Trees	**3**	-
	Total Habitat Trees	8	5
2162	**Foraging Habitat**	**0.009 ha**	0.020 ha[1]
	Potential Breeding Trees	**0**	-
	Total Habitat Trees	5[2]	7
2163	**Foraging Habitat**	**0.020 ha**	0.017 ha[1]
	Potential Breeding Trees	**2**	-
	Total Habitat Trees	5[3]	2
2164	**Foraging Habitat**	**0.011 ha**	0.005 ha[1]
	Potential Breeding Trees	**0**	-
	Total Habitat Trees	1	0
2165	**Foraging Habitat**	**0.029 ha**	0.031 ha[1]
	Potential Breeding Trees	**2**	-
	Total Habitat Trees	5	4
2166	**Foraging Habitat**	**0.019 ha**	0.011 ha[1]
	Potential Breeding Trees	**0**	-
	Total Habitat Trees	3	5
2167	**Foraging Habitat**	**0.033 ha**	0.060 ha[1]
	Potential Breeding Trees	**2**	-
	Total Habitat Trees	5	10

2168	**Foraging Habitat**	**0.052 ha**	0.087 ha[1]
	Potential Breeding Trees	**0**	-
	Total Habitat Trees	6	11
2169	**Foraging Habitat**	**0.018 ha**	0.020 ha[1]
	Potential Breeding Trees	**0**	-
	Total Habitat Trees	1	3
2170	**Foraging Habitat**	**0.017 ha**	0 ha[1]
	Potential Breeding Trees	**0**	-
	Total Habitat Trees	0	0
TOTALS	**Total Foraging Habitat**	**0.323 ha**	0.390 ha[1]
	Total Potential Breeding Trees	**17**	**-**
	Total Habitat Trees	50	61

1 Estimates of foraging habitat clearing was not included in the 2010 Approval. The old Building Envelopes were overlaid with the current habitat mapping (for this referral; Figure 6; Attachment B) to give a meaningful estimate of the clearing that would have been required under the 2010 Approval

[2] 2 trees surveyed for the 2010 Approval have since collapsed (stags)

[3] 1 tree surveyed for the 2010 Approval has since collapsed (stag)

From Tables 1 and 2, the revised building envelopes clearly result in a better outcome for the species.

An assessment of the action against the DotE's Significant Impact Guidelines 1.1 Criteria for Endangered species is detailed in Table 4 below to determine the significance of the proposed action (DEWHA 2013).

As only the Carnaby's Cockatoo is Endangered, the proposed action was assessed in relation to the more conservative criteria. Similarly, as only the Carnaby's Black Cockatoo is most likely to use the site, impacts to the other two species are likely to be equal to or less than the impacts to this species.

Table 4. Assessment against the Significant Impact Guidelines

Significant Impact Criteria	Assessment
1. Lead to a long-term decrease in the size of a population	The current population size for the Carnaby's Black Cockatoo is estimated to be in the range of 11,000 to 60,000 birds. The population generally breeds in the Wheatbelt region to the east of the Site (DotE 2016). The DotE maintains that the long-term survival of the species depends on the persistence of suitable breeding habitat (woodland), nest-sites (hollows), and foraging habitat. The proposed action will only affect foraging habitat, as potential breeding trees do not contain suitable hollows (360 Environmental 2009; 2016). The small (0.323 ha) of foraging habitat that is required to be cleared is relatively insignificant in comparison to available habitat in surrounding areas (See Criteria 2 below; Figures 7 and 8; Attachment B). We expect that the clearing of a small amount of foraging habitat and no breeding habitat is unlikely to affect the population size of the species.
2. Reduce the area of occupancy of the species	The Department of the Environment's Species of National Environmental Significance (SNES) indicates that the Carnaby's Black Cockatoo is likely to occur within a 243,048 km^2 area (DotE 2014). Clearing of 0.0000323 km^2 of habitat is insignificant in relation to the species' area of occupancy (also in relation to nearby conservation estate [Figure 8; Attachment B]). The Department of Parks and Wildlife Western Australia (DPaW) maintains a spatial dataset of potential foraging habitat for the Carnaby's Black Cockatoo within the Swan Coastal Plain and Jarrah Forrest IBRA Regions (DPaW 2013). The total mapped extent of habitat is around 550,423 and 2,779,133 ha respectively. The DPaW in conjunction with the Department of Agriculture and Food, Western Australia (DAFWA) also maintain a native vegetation clearing extents database and a Pre-European Vegetation Extents Database (DPaW 2014; DAFWA 2012a). The

	current extents for pre-European vegetation associations (modified from the work of JS Beard) across the State are updated with land clearing information supplied by the Department of Environment Regulation (DER) to give the most comprehensive estimate of native vegetation clearing available. The proposed action falls within Association 4, described as medium woodland; Marri and Wandoo (Figure 7; Attachment B). The DPaW estimates: • 27.88% (293,984 ha) of the pre-European extent of this Association remains in the State (22.7% of this is in land managed by the DPaW); • 28.0% (286, 905 ha) of the pre-European extent of this Association remains in the Jarrah Forest IBRA Region (22.9% of this is in land managed by the DPaW) • 32.44% (199,262 ha) of the pre-European extent of this Association remains in the Northern Jarrah Forrest IBRA Subregion (30.21% of this is in land managed by the DPaW) • 53.61% (13,213 ha) of the pre-European extent of this Association remains in the City of Swan Local Government Area (LGA) (36.86% of this is in land managed by the DPaW) We expect that the clearing of 0.323 ha and 17 Significant Trees is negligible in the scale of available habitat in the surrounding areas, such as John Forrest National Park (0.002% of the habitat available in the City of Swan LGA; Figures 7 and 8; Attachment B).
3. Fragment an existing population into two or more populations	The current range of the Carnaby's Black Cockatoo Extends from Kalbarri to Cape Arid, covering an area approximately 32,000 km^2 based on Bird Life International (DotE 2016). Little information is known on the distribution of populations due to their motility. We expect that the clearing associated with this action is unlikely to affect the range or populations of the species as the proposed clearing is much smaller in comparison to the range of movement of the species. The species's also have a large range of movement. Clearing of this scale will not fragment the population.
4. Adversely affect habitat critical to the survival of a species	The DotE maintains that the long-term survival of the species depends on the persistence of suitable breeding habitat (woodland), nest-sites (hollows), and foraging habitat (DotE 2016). The proposed action will only affect foraging habitat (360 Environmental 2009). The small (0.323 ha) of foraging habitat that is required to be cleared is relatively insignificant in comparison to available habitat in surrounding areas (See Criteria 2 above). The proposed action is also located within 5km of a number of conservation estate which all have formal protection (Figure 8; Attachment B): • John Forrest National Park (2,698 ha) • R50069 Nature Reserve (252 ha) • Talbot Rd Nature Reserve (71 ha) Broad scale vegetation mapping of these conservation estate indicates that they contain large extents of intact and relatively intact foraging and breeding habitat (DAFWA 2012; Figure 7; Attachment B). The tree survey by 360 Environmental in areas to be cleared also did not identify any trees capable of supporting breeding. The clearing of a small amount of habitat (not likely used for breeding), close to a large area of protected habitat (likely used as breeding habitat), suggests it is unlikely that the proposed action will adversely affect habitat critical to the survival of the species.
5. Disrupt the breeding cycle of the species	A survey by 360 Environmental in February 2016 within the building envelopes did not identify any hollows which could be used by Black Cockatoos for breeding. It is therefore expected that clearing of trees within the building envelope will not affect the breeding habits of the species at present. The proponent will inform prospective purchasers of the 13 lots at point of sale that pruning activities within the BPZ should be undertaken outside of the breeding

	season (outside of September to November), to minimise any possible disruptions to the breeding cycle of these species.
6. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	The proposed action is located on the western boundary of the much larger John Forrest National Park. As previously mentioned, the Department of Parks and Wildlife Western Australia maintains a spatial dataset of potential foraging habitat for the Carnaby's Black Cockatoo within the Swan Coastal Plain and Jarrah Forrest (DPaW 2013). The total mapped extent of habitat is around 550,423 and 2,779,133 ha respectively. It is very likely that the clearing of 0.323 ha is negligible in the scale of available foraging habitat.
7. Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	The Department of Environment considers competition for hollows by other native species and feral European honey bees (*Apis mellifera*) as being biggest threatening invasive species to Black Cockatoos (DotE 2016a). The proposed action is unlikely to increase the prevalence of honey bees in the area. The proposed action is unlikely to cause an increased prevalence of competitive bird species (native ducks, gallah's, corellas) over existing levels; several small water bodies do exist close to the site that could attract these species. We therefore expect that the clearing of 0.323 ha of habitat will not result in an increase in invasive species present over existing levels.
8. Introduce disease that may cause the species to decline	The proposed action will enable residential housing to be built. This is unlikely to introduce disease that may cause the Black Cockatoos to decline. The only possible direct disease and parasite vector associated with developing the project area would be the attraction of cats which are known to favour 'edge effects' created from fragmented habitats. The use of earth-moving procedures can introduce dieback that may cause tree deaths in certain species. Both Marri and Wandoo are not susceptible to the disease (DWG 2016; DEC 2003).
9. Interfere with the recovery of the species	The proposed action is unlikely to interfere with the recovery of the species as it only contains 0.323 ha of foraging habitat, 17 potential breeding trees, and no trees with hollows. There are other larger patches of remnant vegetation within DPaW Regional Parks, Bush Forever sites and DPaW managed lands that would provide better quality habitat for the Black Cockatoos.

Based on the assessment in Table 4, we therefore expect that impact to the three Black Cockatoo Species is not significant for the following reasons:

- The action will result in a greater number of trees (overall and significant) protected in comparison to the previous approval;
- The action will result in the removal of an insignificant amount of habitat in comparison to those available in the local area, and IBRA Regions;
- The action is located in close proximity to several areas of large conservation estate containing extensive foraging, roosting and breeding habitat for both Carnaby's and Red-tailed Black Cockatoos;
- None of the significant trees surveyed displayed any suitable hollows for breeding;
- Forest Red-tailed Black Cockatoos and Baudin's Black Cockatoos are likely to only use the site infrequently, due to the species' preference for habitat south of the Central Perth area (DotE 2016).

3.1 (e) Listed migratory species

Description

A number of Migratory species are likely to occur within the surrounding area based on the results of the PMST (Attachment D). Table 5 details a likelihood of occurrence of these species within the property based on:

- The habitat/vegetation typically associated with the conservation significant species;
- The typical soil type the species in known to grow/occur in;
- The landform (topography, hydrology) the species generally occurs on;
- The condition of the site;
- Current land use; and
- Whether nearby records of the species has been found in the DPaW's NatureMap database search (Attachment E).

Table 5. EPBC Act Listed Migratory Species Likelihood of Occurrence Justification

Scientific Name	Common Name	Habitat Description and Distribution	Likelihood of Occurrence	Likelihood Justification
Migratory Marine Species				
Apus pacificus	Fork-tailed Swift	The Fork-tailed Swift is almost exclusively aerial (DotE 2016a). They mostly occur over inland plains but sometimes above foothills or in coastal areas (DotE 2016a). This species is known to forage high above the tree canopy but is rarely recorded lower, so it is independent of terrestrial habitats (Johnstone & Storr 1998).	Unlikely	This species is almost exclusively aerial.
Migratory Terrestrial Species				
Merops ornatus	Rainbow Bee-eater	The Rainbow Bee-eater is most often found in open forests, woodlands and shrublands, and cleared areas, usually near water (Australian Museum 2007). It can be found on farmland with remnant vegetation and in orchards and vineyards (Australian Museum 2007). It will use disturbed sites such as quarries, cuttings and mines to build its nesting tunnels (Australian Museum 2007).	Possible	The site does not contain any waterbodies which makes it unlikely to be preferable habitat for the Rainbow Bee-eater. However it is possible that this species utilises the site occasionally. The species is distributed all across Australia making impacts unlikely.
Motacilla cinerea	Grey Wagtail	The DotE suggests that this species has a strong association with water, particularly rocky substrates along water courses but also lakes and marshes (DotE 2016a). The species does not breed in Australia. The Grey Wagtail has been sighted along the south coast of Western Australia (Bird Life Australia 2015)	Unlikely	The site does not contain wetlands or standing water bodies
Migratory Wetland Species				
Ardea alba	Great Egret, White Egret	Prefer shallow water, particularly when foraging, but may be seen on any watered area, including damp grasslands (Australian Museum 2007). The Great Egret usually feeds on	Unlikely	The site does not contain wetland habitat or suitable prey for the species.

		molluscs, amphibians, aquatic insects, small reptiles, crustaceans and occasionally other small animals, but fish make up the bulk of its diet (DotE 2016a).		
Ardea ibis	Cattle Egret	Found in grasslands, woodlands and wetlands, and is not common in arid areas (Australian Museum 2007). It also uses pastures and croplands, especially where drainage is poor (Australian Museum 2007). The Cattle Egret prefers grasshoppers, especially during breeding season, but eats many other invertebrates (DotE 2016a). Cattle Egret pairs are monogamous for the breeding season, and they breed in colonies, usually with other water birds. Their shallow platform nests are made in wetland areas in trees and bushes, usually as high as possible (DotE 2016a).	Unlikely	The site does not contain wetland habitat.
Pandion haliaetus	Osprey	Occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands (DotE 2016a). They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia (DotE 2016a).	Unlikely	The site does not contain wetland or coastal habitat.
Tringa nebularia	Common Greenshank	The Common Greenshank is found in a variety of inland wetland habitat and sheltered coastal habitats (DotE 2016a). It also roosts and feeds in wetland areas.	Unlikely	The site does not contain wetland or coastal habitat.

Nature and extent of likely impact

With the exception of the Rainbow Bee-eater, the site does not hold any preferred habitat for the species listed above. Migratory species are unlikely to be impacted by the proposed action. The rainbow Bee-eater is distributed throughout Australia and is also unlikely to be impacted by the proposed action).

3.1 (f) Commonwealth marine area

Description

The action will not impact any Commonwealth Marine Area. The closest Site (Two Rocks Marine National Park Zone) is located 42.5km from the property on which the action will take place.

Nature and extent of likely impact

n/a – The action will not impact a Commonwealth Marine Area

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 action will not impact any Commonwealth Land. The closest Site (RAAF Pearce) is located 16.6 from the property on which the action will take place.

Nature and extent of likely impact

n/a – The action will not impact any Commonwealth Land

3.1 (h) The Great Barrier Reef Marine Park

Description

The action will not take place within or near the Great Barrier Reef Marine Park.

Nature and extent of likely impact

n/a - The action will not impact the Great Barrier Reef Marine Park.

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

Description

The action is not in relation to coal seam gas development or a large coal mining development.

Nature and extent of likely impact

n/a – The action is not in relation to coal seam gas.

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**	✓	No

Great Barrier Reef Marine Park?		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

360 Environmental has previously conducted a spring flora and fauna survey within the larger 2010 Approval assessment area. Within 5 kilometres of the site, the DPaW estimates that 970 species of plants and 404 species of animal has been recorded (Attachment C).

The site itself holds limited value to these species due to the degraded condition of the site.

3.3 (b) Hydrology, including water flows

No streams of watercourses flow through the site, although Jane Brook, does flow to the south of the site (500 m southwest of the site). Groundwater levels are unknown due to the lack of groundwater monitoring bores in the area. Due to the surface topography of the site, it is expected to be relatively deep (to not result in surface expressions).

3.3 (c) Soil and Vegetation characteristics

According to DAFWA's soil-landscape mapping, the site is described as "deeply incised valleys with red loamy earths, shallow duplexes and rock outcrop and jarrah-marri-wandoo forest and woodland with mixed shrublands" (DAFWA 2012b).

A flora and vegetation survey identified that the vegetation within Lot 9006 consists of remnant Marri and Wandoo over pasture (360 Environmental 2007).

3.3 (d) Outstanding natural features

Due to the gradient and geology of the site, rocky outcrops do occur parallel to the slope.

3.3 (e) Remnant native vegetation

The site is parkland cleared with remnant stands of Marri and Wandoo. In terms of vegetation condition, the site is listed as being in Completely Degraded, Very Poor and Poor condition (360 Environmental 2007)

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

The elevation of the site ranges from 55 m AHD (Australian Height Datum) to 135 m AHD (DoW 2015).

3.3 (g) Current state of the environment

The entire site is in a very degraded condition (Completely Degraded according the West Australian Bush Forever Condition Scale), being parkland cleared (no understorey).

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

The site is not located in any heritage place (Aboriginal or European).

3.3 (i) Indigenous heritage values

The Western Australian Department of Aboriginal Affairs (DAA) maintains the Aboriginal Heritage Sites Database which catalogues all known sites with confirmed, unconfirmed or no Aboriginal Heritage Values. These sites are classified as 'Registered', 'Lodged' and 'Stored' sites respectively.

A search of the database identified no known Aboriginal Heritage sites occurring within the proposed action area (DAA 2015)

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

The site consists of a unique landform – rock outcrops on the slopes of the Darling Scarp. As such, it has been zoned as 'Landscape' under the local planning scheme (see Section 2.4)

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

Lot 9006 is designated as Freehold.

3.3 (l) Existing land/marine uses of area

The current land use is pasture.

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

The proposed land use of Lot 9006 will be low density rural residential housing

4 Environmental outcomes

We expect that the proposed action will result in a net benefit in habitat retention for all three Black Cockatoo Species compared to the original 2010 Approval because:

- As shown in Tables 1 and 2, the modified building envelope results in a greater number of trees (including potential breeding trees) being retained than what was approved to be cleared;
- The modified building envelopes will also result in a greater retention of foraging habitat than what was approved to be cleared in 2010;
- Conditions of the 2010 Approval relating to the planting of additional trees within POS areas have been met and exceeded by the developer of the overall site (Mirvac), adding to the net benefit environmental outcome (see below).

360 Environmental was involved in formal correspondence to the DotE regarding the approval of the larger site. Evidence of Point 3 can be found in our letter from February 2015 addressed to Alex Taylor:

"Mirvac (the developer of the larger site) is proud of the development at Jane Brook and has already undertaken a significant rehabilitation program that was far in excess of the required 3430 trees under approval EPBC 2009/5261. In December 2010, Mirvac planted 7500 seedlings which comprised of a variety of *Banksia Menzesii*, *Corymbia callophylla* and *Eucalyptus wandoo* seedlings and then approximately 1000 per year since."

5 Measures to avoid or reduce impacts

Siting and Design

Building Envelopes were adjusted to provide the best compromise between environmental outcomes (by avoiding large stands of vegetation) and engineering constraints. The Building Envelopes presented in this Referral are the outcome of these avoidance measures. The Building Envelope design was also made to be compliant with the zoning of the site, which contains provisions to protect environmental values (City of Swan 2016). The Building Envelopes in this referral result in less clearing than the original approval, and less potential impact to Black Cockatoos.

Clearing Works

The Building Envelopes will be clearly marked by surveyors prior to clearing and the clearing contractor will be informed of the importance of compliance with EPBC requirements prior to the start of each day's clearing.

An Environmental Scientist will inspect and flag trees within the Building Envelope no more than two days prior to clearing. These trees will be inspected for any Black Cockatoos occupying them (unlikely due to the absence of nest hollows). Only flagged trees within the Building Envelope will be cleared (estimated to be 50 trees, including 17 significant trees).

Pruning and Maintenance Activities

Following clearing and construction, vegetation within the BPZ will need to be pruned and maintained in perpetuity for fire safety (in accordance with the standards for BPZ's in WA; DFES 2016). Pruning activity within the BPZ will include (adapted from the DFES Standards):

- Crowns of trees within the BPZ should be separated where practical such that there is a clear separation distance between adjoining tree crowns;
- There are to be no tree crowns or branches overhanging the building or asset and a minimum horizontal clearance of 2 metres is required between tree branches and buildings or assets;
- Prune lower branches of trees within the BPZ (up to 2 metres off the ground) to stop a surface fire spreading to the canopy of the trees;
- Trees or shrubs in the BPZ are to be cleared of any dead material.

Prior to pruning, all trees will be checked by the owners to ensure that they are not being used for breeding activities by Black Cockatoos at that time.

The proponent will inform prospective purchasers of the 13 lots at point of sale that pruning activities within the BPZ should be undertaken outside of the breeding season (outside of September to November), to minimise any possible disruptions to the breeding cycle of these species.

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 significant impacts on the matters protected under Part 3 of the EPBC Act are likely) and the reasons why.

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.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act.

We expect that the proposed action is not a controlled action for several reasons, mainly due to the impact not being significant:

- The action will result in a greater number of trees (overall and significant) protected in comparison to the previous approval;
- The action will result in the removal of an insignificant amount of habitat in comparison to those available in the local area, and IBRA Regions;
- The action is located in close proximity to several areas of large conservation estate containing extensive foraging, roosting and breeding habitat for both Carnaby's and Red-tailed Black Cockatoos;
- None of the significant trees surveyed displayed any suitable hollows for breeding;
- Forest Red-tailed Black Cockatoos and Baudin's Black Cockatoos are likely to only use the site infrequently, due to the species' preference for habitat south of the Central Perth area (DotE 2016).

A detailed assessment on the significance of the action based on the DotE's Significant Impact Guidelines is presented in Section 3.1 (d), Table 4.

6.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

	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)

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

7 Environmental record of the responsible party

NOTE: If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** **Provide details** DJM Jane Brook Pty Ltd is part of the DJ MacCormick Property Group group of companies. DJ MacCormick Property Group was formed in 1974 and has an established track record of delivering land estates and property across Western Australia to the highest standard with sensitivity to environmental and community interests. Past and current estates include: Waterwheel Ridge in Bedfordale, Byford West in Byford, Via Vasse in Yalyalup, Bullsbrook Landing in Bullsbrook, Seville Central in Seville Grove, Alexander Parklands in Geraldton and Wellard Glen in Wellard.	✓	
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?** **If yes, provide details**		✓
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?** **If yes, provide details of environmental policy and planning framework** Although DJ MacCormick Property Group does not have formal documented environmental policies and planning frameworks that can be provided, the action will be undertaken in accordance with the procedures set out in Section 5 of this referral and any conditions imposed by the referral decision. The contractor who will perform the action (DJ MacCormick Contractors Pty Ltd) has environmental management certification (ISO 1400:2004).	✓	
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?** **Provide name of proposal and EPBC reference number (if known)**		✓

8 Information sources and attachments

(For the information provided above)

8.1 References

360 Environmental 2007, *Spring Flora and Vegetation Survey*, prepared for Mirvac (WA) Pty Ltd

360 Environmental 2009, *Black Cockatoo Survey*, prepared for Mirvac (WA) Pty Ltd

Australian Museum. 2007, ' Bird Finder' In: Birds in Backyards, Australian Museum, viewed on 12 May 2015, http://www.birdsinbackyards.net/finder/

Bird Life Australia 2015, *Grey Wagtail records*, from the Department of Environment, Australia.

City of Swan 2016, *Local Planning Scheme No. 17*, Government of Western Australia.

Department of Aboriginal Affairs (DAA) 2015, *Aboriginal Heritage Sites*, GIS Dataset, Government of Western Australia.

Department of Agriculture and Food (DAFWA) 2012a, *Pre-European Vegetation*, GIS Dataset, Government of Western Australia.

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Department of the Environment (DotE) 2014, *Species of National Environmental Significance (SNES)*, GIS Database, Commonwealth of Australia

Department of the Environment (DotE) 2015, *Referral Guideline for 14 Birds Listed as Migratory Species under the EPBC Act*, Commonwealth of Australia

Department of the Environment (DotE) 2016a, *Species Profiles and Threats database (SPRAT)*, Commonwealth of Australia. Reviewed on 23 February 2016

Department of the Environment (DotE) 2016b, *Protected Matters Search Tool (PMST)*, Commonwealth of Australia. Reviewed on 23 February 2016

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Department of Environment and Conservation (DEC) 2006, *Slender Andersonia (Andersonia Gracilis) Interim Recovery Plan*, Government of Western Australia. Reviewed on 23 February 2016
http://www.environment.gov.au/system/files/resources/7d4489c2-1205-4cd8-ab6c-a3d1273e1ba9/files/caladenia-huegelii.pdf

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http://www.environment.gov.au/system/files/resources/7d4489c2-1205-4cd8-ab6c-a3d1273e1ba9/files/caladenia-huegelii.pdf

Department of the Environment, Water, Heritage and the Arts (DEWHA) 2010, *Notification of Referral Decision – not a controlled action if undertaken in a particular manner*, EPBC 2009/5261, Commonwealth of Australia

Department of the Environment, Water, Heritage and the Arts (DEWHA) 2013, *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*, Commonwealth of Australia

Department of Fire and Emergency Services (DFES) 2016, *Standards for Building Protection Zones for buildings and critical infrastructure in Bushfire Prone areas*, Government of Western Australia. Available at: http://www.dfes.wa.gov.au/safetyinformation/fire/bushfire/BushfireProtectionPlanningPublications/FESA-Building_Protection_Zone_Standards.pdf

Department of Parks and Wildlife (DPaW) 2013, *Carnaby's Black Cockatoo Habitat*, GIS Dataset, Government of Western Australia.

Department of Parks and Wildlife (DPaW) 2013, *NatureMap Search Tool*, Government of Western Australia.

Department of Planning (DoP) 2005, *A Guide to the Exemptions and Regulations for Clearing Native Vegetation under the Environmental Protection Act 1986*, Government of Western Australia.

Department of Planning (DoP) 2014, *Rural Planning Guidelines*, Government of Western Australia.

Department of Sustainability, Environmental, Water, Population and Communities (DSEWPaC) 2012, *EPBC Act Referral Guidelines for Three Threatened Black Cockatoo Species: Carnaby's Black Cockatoo, Baudin's Cockatoo and Forest Red-tailed Black Cocaktoo*, Commonwealth of Australia

Department of Water (DoW) 2015, *Elevation Data*, GIS Dataset, Government of Western Australia.

Dieback Working Group (DWG) 2016, *Diagnosis for Pytophthora Dieback*, available at: https://www.dwg.org.au/diagnosis

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Johnstone, R and Storr, G. 1998, *The Handbook of Western Australian Birds Volume 1- Non Passerines*, Western Australian Museum, Perth.

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Johnstone, R. E., Kirkby, T., & Sarti, K. 2013b, The The breeding biology of the Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso* Gould in south-western Australia. I. Characteristics of nest trees and nest hollows. *Pacific Conservation Biology*. 19: 121-142.

Shah, B. 2006, *Conservation of Carnaby's Black Cockatoo on the Swan Coastal Plain, WA.* Perth: Birds Australia.

Threatened Species Scientific Committee (TSSC). 2008a, *Approved Conservation Advice for Diuris micrantha (Dwarf Bee-orchid)*. Available at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/55082-conservation-advice.pdf

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8.2 Reliability and date of information

It is worth noting that the 2010 Approval was heavily dependent on the identification of individual trees surveyed using handheld GPS, which has potentially caused a degree of error when identifying specific trees. A more reliable estimate is based on a specific number of trees and their general locations (identified in Figure 9; Attachment B) as well as an estimate of habitat to be cleared (Figure 6; Attachment B).

8.3 Attachments

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Attachment B
	GIS file delineating the boundary of the referral area (section 1)		Attachment A
	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)	✓	Attachment B
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)	✓	Attachment C
	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)		
	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 D and E
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		

9 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[1].

Project title: Lot 9006 Litchfield Promenade Jane Brook - Rural/ Residential Subdivision

9.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act[2], this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[3].

1. Name and Title:	Stuart Griffiths, Development Manager
2. Organisation (if applicable):	DJM Jane Brook Pty Ltd Organisation name should match entity identified in ABN/ACN search
3. EPBC Referral Number (if known):	
4: ACN / ABN (if applicable):	ACN 169 666 255
5. Postal address	PO Box 3039, East Perth WA 6892
6. Telephone:	(08) 9221 5121
7. Email:	info@djmaccormick.com.au
8. Name of proposed proponent (if not the same person at item 1 above and if applicable):	
9. ACN/ABN of proposed proponent (if not the same person named at	

[1] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Gateway (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

[2] *If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A,* EPBC Act*). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.*

item 1 above):

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:

□ an individual; OR

□ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR

□ 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)).

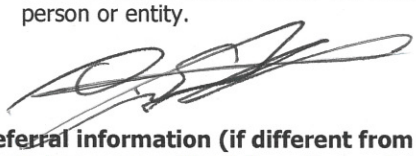
COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER

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 why it should be made:

□ not applicable.

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 10/03/2016

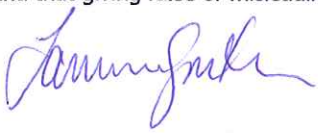
9.2 Person preparing the referral information (if different from 8.1)

Individual or organisation who has prepared the information contained in this referral form.

Name	Tamara Smith
Title	Director / Principal Environmental Scientist
Organisation	360 Environmental Pty Ltd
ACN / ABN (if applicable)	ABN: 50 109 499 041
Postal address	10 Bermondsey St, West Leederville, WA 6007
Telephone	(08) 9388 8360
Email	TamaraSmith@360environmental.com.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

REFERRAL CHECKLIST

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

HAVE YOU:

- ✓ Completed all required sections of the referral form?
- ✓ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ✓ Provided a map showing the location and approximate boundaries of the project area?
- ✓ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ✓ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ✓ Provided complete contact details and signed the form?
- ✓ Provided copies of any documents referenced in the referral form?
- ✓ Ensured that all attachments are less than three megabytes (3mb)?
- ✓ Sent the referral to the Department (electronic and hard copy preferred)?

Attachment A

Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

All data will be provide under a Creative Commons license (http://creativecommons.org/licenses/by/3.0/au/)