Referral of proposed action

Project title: Proposed residential development, College Grove WA

1 Summary of proposed action

1.1 Short description

The City of Bunbury proposes to clear native vegetation from seven lots in College Grove, WA (the Project Area), located approximately 5km southeast of the City of Bunbury CBD (Figure 1).

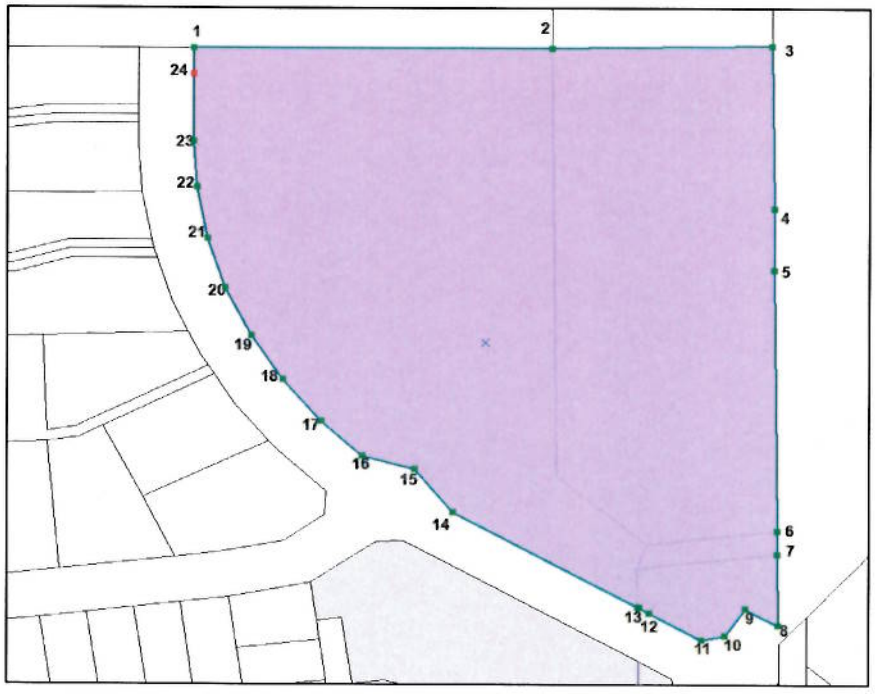
The City of Bunbury proposes to clear all native vegetation from two of the lots, for the purpose of residential development and to clear all native vegetation, with the exception of eleven trees from a further five lots as a bushfire risk mitigation "parkland cleared" separation zone for the proposed residential development.

The proposed residential development area includes Lots 298 Winthrop Avenue and 938 Somerville Drive. The parkland cleared area includes Lot 790 Oriel Court, Lot 997 Winthrop Avenue, Lot 934 Hildas Crescent and Lots 643 and 998 Somerville Drive. The proposed residential development area and the parkland cleared area make up the Project Area. The Project Area covers 4.8 hectares (ha) which includes 4.38ha of vegetation and 0.42ha of previously cleared areas, as presented in Figure 2.

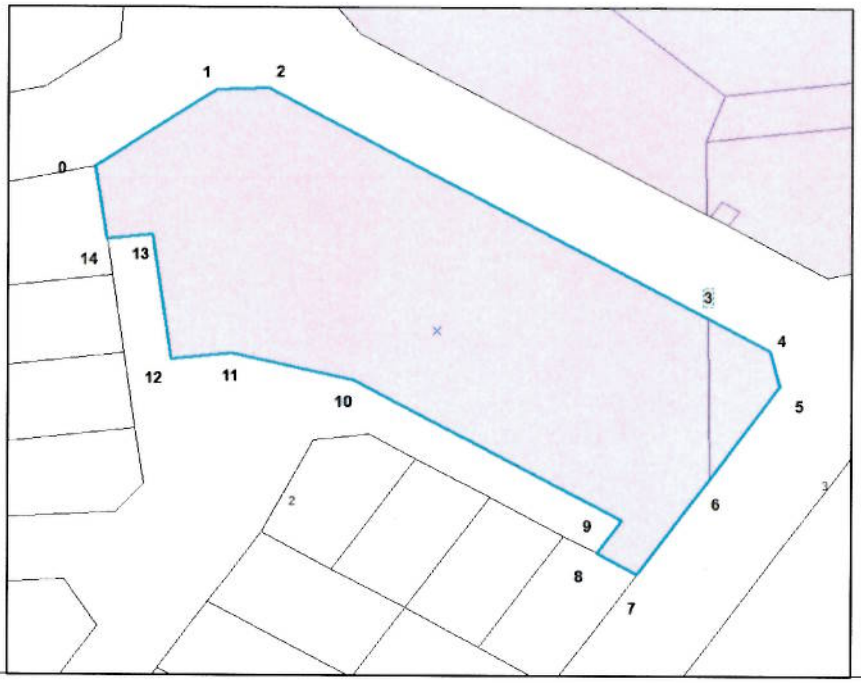
The Project is being referred to the Department of the Environment (DotE) under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) *"Listed threatened species and communities* (sections 18 and 18A)" as it may result in the loss of known habitat for four threatened fauna species and one migratory species including:

- Carnaby's Black Cockatoo *(Calyptorhynchus latirostis)* – Endangered
- Baudin's Black Cockatoo *(Calyptorhynchus baudinii)* – Vulnerable
- Forest Red tailed Black Cockatoo *(Calyptorhynchus banksii naso)* – Vulnerable
- Western Ringtail Possum (WRP) *(Pseudocheirus occidentalis)*
- Rainbow Bee-eater *(Merops ornatus).*

1.2	**Latitude and longitude**	**Location Point**	**Longitude**	**Latitude**
	Northern Portion (Lots 298 and 997 Winthrop Avenue, Lot 938 and 997 Somerville Drive and Lot 934 Hildas Close (Longitude and Latitude to be read in conjunction with map)	1	115.65622	-33.37193
		2	115.6576	-33.37193
		3	115.65844	-33.37192
		4	115.65845	-33.37256
		5	115.65845	-33.3728
		6	115.65847	-33.37383
		7	115.65847	-33.37392
		8	115.65847	-33.3742
		9	115.65835	-33.37414
		10	115.65827	-33.37425
		11	115.65818	-33.37426
		12	115.65794	-33.37416
		13	115.65793	-33.37414
		14	115.65722	-33.37376
		15	115.65708	-33.37359
		16	115.65688	-33.37354
		17	115.65672	-33.3734
		18	115.65657	-33.37324
		19	115.65645	-33.37306
		20	115.65635	-33.37287
		21	115.65628	-33.37268
		22	115.65624	-33.37248
		23	115.65623	-33.37229
		24	115.65622	-33.37203



Latitude and Longitude	Location Point	Longitude	Latitude
Southern Portion (Lot 790 Oriel Court and Lot 998 Somerville Drive)	0	115.65668	-33.37404
	1	115.65693	-33.37388
	2	115.65704	-33.37387
	3	115.65793	-33.37435
(Longitude and Latitude to be read in conjunction with map)	4	115.65806	-33.37442
	5	115.65808	-33.37449
	6	115.65794	-33.37468
	7	115.65779	-33.37488
	8	115.65771	-33.37484
	9	115.65776	-33.37477
	10	115.65721	-33.37448
	11	115.65696	-33.37442
	12	115.65684	-33.37444
	13	115.65680	-33.37418
	14	115.65670	-33.37419



1.3 Locality and property description

The Project Area is located in College GroveWA, 5km southeast of the City of Bunbury CBD and consists of seven lots (Figure 1, Attachment A). The Project Area includes the following lots:

Northern Portion:

- **Lot 298 Winthrop Avenue** is bordered to the west and south by Hildas Close
- , a residential area; to the north by native vegetation; to the east by Lot 938 Somerville Drive (native vegetation). Lot 298 consists of native bushland with two cleared tracks (east-west) present in the northern portion of this lot.
- **Lot 938 Somerville Drive** is bordered by Lot 298 Winthrop Avenue to the west; Somerville Drive to the east; native vegetation to the north and Lot 934 Hildas Close. Lot 938 consists of native vegetation with two cleared tracks (east-west) present in the northern portion of this lot.
- **Lot 934 Hildas Close** is located to the south of Lot 938 Somerville Drive and north of Lot 643 Somerville Drive and is bounded to the west by Lot 298 Winthrop Avenue and Somerville Drive to the east. This lot is predominantly cleared with a narrow strip of vegetation present along the northern boundary with Lot 398 Somerville Drive.
- **Lot 643 Somerville Drive** is located to the south of Lot 934 Hildas Close and east of Lot 298 Winthrop Avenue. This lot is bound by Hildas Close to the south and Somerville Drive to the east. This lot is predominantly cleared with a narrow strip of vegetation along the boundary with Lot 934.
- **Lot 997 Winthrop Avenue** is 0.0016ha and is inset into Lot 643 Somerville Drive and contains no native vegetation.

Southern Portion:

- **Lot 790 Oriel Court** is located in the southern portion of the Project Area and is bounded by Hildas Close to the north, a residential area to the east and south and Lot 998 Somerville Drive to the west. Lot 790 consists of native bushland, although some clearing has been undertaken around the perimeter of this lot.
- **Lot 998 Somerville Drive** is bounded by Hildas Close to the north, Lot 790 Oriel Court to the east and south, and Somerville Drive to the west. This lot is predominantly cleared with some vegetation on the boundary with Lot 790 Oriel Court.

The Project Area includes 4.38ha of vegetation proposed to be cleared for the Project as presented in Figure 1. The amount of clearing and vegetation in each lot is detailed in Table 1.

Table 1: Lot details and vegetation present in the Project Area

Lot Number	Cadastral land area (ha)	Project Area (ha)	Remnant Vegetation present (proposed clearing) (ha)
Lot 298 Winthrop Avenue	2.3	2.3	2.18
Lot 938 Somerville Drive	2.69	1.65	1.60
Lot 934 Hildas Close	0.05	0.05	0.02
Lot 643 Somerville Drive	0.14	0.14	0.01
Lot 997 Winthrop Avenue	0.0016	0.0016	0
Lot 998 Somerville Drive	0.03	0.03	0.01
Lot 790 Oriel Court	0.63	0.63	0.56
Total in Project Area[1]	**5.62ha**	**4.8ha**	**4.38ha**

[1] Rounded to the nearest two decimal places

1.4	**Size of the development footprint or work area (hectares)**	The Project Area is 4.8ha of which 4.38ha contains native vegetation.
1.5	**Street address of the site**	College Grove, Western Australia
1.6	**Lot description**	Northern portion includes Lots 298 and 997 Winthrop Avenue, Lots 938 (partial) and 997 Somerville Drive and Lot 934 Hildas Close. Southern portion includes Lot 790 Oriel Court and Lot 998 Somerville Drive.
1.7	**Local Government Area and Council contact (if known)**	City of Bunbury
1.8	**Time frame**	The first stage of the Project will involve clearing of native vegetation and is proposed to commence in Summer 2015/2016.

1.9	**Alternatives to proposed action**	✓	**No**
			Yes
1.10	**Alternative time frames etc**	✓	**No**
			Yes
1.11	**State assessment**		No
		✓	**Yes** The Project will also be referred to the Department of Environment Regulation as part of the bilateral assessment process
1.12	**Component of larger action**	✓	**No**
			Yes
1.13	**Related actions/proposals**	✓	**No**
			Yes
1.14	**Australian Government funding**	✓	**No**
			Yes
1.15	**Great Barrier Reef Marine Park**	✓	**No**
			Yes

2 Detailed description of proposed action

2.1 Description of proposed action

The City of Bunbury proposes to clear native vegetation from seven lots in College Grove to enable the land to be used for urban development. The Project Area will be developed for general residential purposes and "parkland cleared" as outlined in Figure 2. The Project Area is located approximately 5km southeast of the City of Bunbury CBD as presented in Figure 1.

The Project Area includes 4.38ha native vegetation proposed to be cleared in an incremental manner from southwest to northeast.

The proposed development will consist of two land uses (as presented in Figure 2):

1. A residential area (1.65ha) where all vegetation is proposed to be cleared.
2. A "parkland cleared" area (3.15ha) where all vegetation is proposed to be cleared, with the exception of eleven mature trees.

2.2 Alternatives to taking the proposed action

There are no alternatives to the proposed works.

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

There are no alternative locations or activities for the proposed Project, however the timeframe is dependent on approvals and the sale of the land to a developer.

2.4 Context, planning framework and state/local government requirements

The southern portion is designated 'Parks and Recreation Reserve' and the northern portion is zoned 'Residential' and 'Special Use' (S.U.39) and an area designated 'Public Purposes Reserve' under the City of Bunbury Town Planning Scheme No.7. The entire Project Area is zoned 'Urban' under the Greater Bunbury Region Scheme.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

As part of the development process, it was identified that the Project was likely to require referral under Commonwealth legislation due to potential impacts on threatened fauna species listed under the *Environment Protection and Biodiversity Conservation Act 1999*, particularly Black Cockatoos and the WRP. The Project will also require a state (DER) clearing permit prior to the removal of any vegetation.

2.6 Public consultation (including with Indigenous stakeholders)

The City of Bunbury has undertaken public consultation with a number of key stakeholders to determine and assess developable land areas within College Grove and environmental management options to protect the ecological functions and biodiversity values of the area. These have involved State Government, Local Government and organisations including:

- Department of Parks and Wildlife
- Department of Planning
- Western Australia Planning Commission
- Water Corporation
- AQWEST
- Main Roads Western Australia
- Telstra
- Western Power.

For the purpose of this referral, a summary of the response from the Department of Parks and Wildlife (DPAW) is provided below.

DPAW have acknowledged that it is their expectation the City would undertake flora and fauna surveys to identify the Project Area's environmental values, prior to any vegetation having been cleared.

DPAW recommends that flora and fauna surveys are undertaken in accordance with the Environmental Protection Authority (EPA) guidance statement 51 for flora and vegetation and guidance statement 56 for fauna surveys.

DPAW also note that the vegetation is likely habitation by Western Ringtail Possums and Black Cockatoos, which are both listed as threatened species under the Commonwealth of Australia's Environmental Protection and Biodiversity Conservation Act 1999 and Western Australia's Wildlife Conservation Act 1950 (WC Act).

DPAW advise the Project Area contains remnant vegetation which is important as a wildlife refuge and contributes to a corridor with nearby areas of remnant vegetation. Subject to the results of the flora and fauna surveys, should clearing occur, consideration will also need to be given to any potential direct impacts on any flora and fauna that is protected under the *Wildlife Conservation Act 1950*.

A summary of the responses from the remaining stakeholders and original response documents present as Appendix F.

2.7 A staged development or component of a larger project

The proposed works include the clearing of vegetation within the Project Area and then the development of the residential area as outlined in Figure 2).

The City of Bunbury will maintain the parkland cleared area of the Project Area in to the future as part of its local open space network.

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

3.1 (a) World Heritage Properties

Description
There are no World Heritage Properties located near or within the Project.

Nature and extent of likely impact

Not applicable.

3.1 (b) National Heritage Places

Description
There are no National Heritage Places located near or within the Project Area.

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 located near or within the Project Area.

Nature and extent of likely impact

Not applicable.

3.1 (d) Listed threatened species and ecological communities

Description

PMST Search Results

An EPBC Act Protected Matters Search (PMST) was conducted on 16 February 2015 (Attachment E). This report identified the following listed threatened species and ecological communities as potentially occurring within a 5km radius of the Project Area, including:

- 1 Threatened Ecological Community (TEC)
- 42 threatened species (10 flora species and 32 fauna species)
- 34 migratory species

The TEC and threatened flora and fauna species listed in the EPBC PMST are summarised below with the full report presented in Attachment B.

Threatened Ecological Communities

The threatened Ecological Community (TEC) identified as potentially occurring within 5km of the Project Area is "Claypans of the Swan Coastal Plain" which is critically Endangered.

This TEC corresponds with four separate ecological community types, identified as follows:

- Herb rich saline shrublands in clay pans (SCP07) – Vulnerable
- Herb rich shrublands in clay pans (SCP08) – Vulnerable
- Dense shrublands on clay flats (SCP09) – Vulnerable
- Shrublands on dry clay flats (SCP10a) – Endangered

Two of the ecological community types associated with the TEC's (SCP09 and SCP07) are located in close proximity of the Project Area. TEC SCP09 islocated 200m to the northeast of the Project Area within Manea Park and covers approximately 0.54 ha of the north eastern corner of the Project Area. TEC SCP07 is located approximately 70m to the south of Lot 790 Oriel Crescent (N.B. the wetland itself is located approximately 500m to the southeast of the site in Manea Park).

No TEC was identified within the Project Area during the field survey (CoB 2015) and is considered unlikely to occur within the Project Area as presented in Table 2. This TECs are associated with wetland communities; as the Project Area is an upland community it doesn't vegetation representative of these TECs.

Table 2: EPBC Act listed Threatened Ecological Communities

Code	Name	EPBC Status	Community Description	Likelihood
SCP09	Dense shrublands on clay flats	CE	This vegetation community type is shrublands or low open woodlands on clay flats that are inundated for long periods because it usually occurs very low in the landscape. Sedges are more apparent in this ecological community and include *Chorizandra enodis* (black bristlerush), *Cyathochaeta evenacea, Lepidosperma longitudinale* (pithy sword-sedge) and *Meeboldina coangustata.* Shrubs include *Hakea varia* (variable-leaved hakea) and *Melaleuca viminea* and occasionally *Xanthorrhoea preissii, Xanthorrhoea drummondii* (grass trees) and *Kingia australis* (TSSC 2012k)	Not present. The vegetation and soil type presented within the Project Area is not consistent with this TEC as discussed in the flora report (Attachment B).

SCP07	Herb rich saline shrublands in clay pans	CE	This vegetation community type occurs on heavy clay soils that are generally inundated from winter to mid-summer. In early spring many of the sites in this vegetation community are covered by free water up to 30cm deep. Aquatic species are common in this vegetation community early in the growing season. *Cotula coronopifolia* (water buttons) can form yellow floating mats in some pools while others are dominated by *Ornduffia submerse.* As the wetland dries a succession of species such as *Centrolepsis* spp. and annual *Stylidium* spp. (trigger plants) successfully germinate, grow and flower, resulting in an extended flowering period of over three months. Structurally this vegetation community type is quite variable ranging from woodlands to herblands. The most common overstorey taxa being *Melaleuca viminea, M. uncinata* (broom brush), *M. cuticularis* (saltwater paperbark) or *Casuarina obesa* (swamp sheoak). The species saltwater paperbark and swamp sheoak may indicate some saline influence for at least some part of the year. (TSSC 2012k)	Not present. The vegetation and soil type present within the Project Area is not consistent with this TEC as discussed in the flora report (Attachment B).

Threatened flora

A total of twelve EPBC listed threatened/declared flora species were identified as potentially occurring within 5km of the Project Area in the City of Bunbury (2015) flora report (Attachment B). Ten of these species were listed as potentially occurring in the EPBC PMST (Attachment E) with an additional two species, one known to occur within 5km and one from a widened search included.

A desktop likelihood of occurrence assessment of the twelve threatened flora identified is presented in the City of Bunbury (2015) flora report (Attachment B). This assessment determined that three species could possibly occur in the Project Area and the remaining nine species were considered unlikely to occur as outlined in Table 3 and Attachment B.

The City of Bunbury (2015) field survey did not identify any threatened flora species listed under the EPBC Act within the Project Area. Given the flora surveys were undertaken for the Project Area during periods (September – October 2014) in which these species would have been identifiable and hence all twelve threatened flora species are considered to be unlikely to occur in the Project Area.

Table 3: EPBC Act listed threatened flora species

Species	DPAW Status	EPBC Status	Likelihood of occurrence in the Project Area
Andersonia gracilis	T	EN	**Unlikely**, not recorded within 5 km of the Project Area and suitable habitat not known to occur within the Project Area.
Austrostipa jacobsiana	T	CR	**Unlikely**, recorded within 5 km of Project Area but suitable habitat is not known to occur within the Project Area.

Banksia nivea subsp. Ulignosa	T	EN	**Unlikely**, not recorded within 5 km of the Project Area and suitable habitat not known to occur within the Project Area.
Caladenia hueglii	T	EN	**Possible**, not recorded within 5km radius of the Project Area but suitable habitat may occur within the Project Area.
Centrolepis caespitosa	P4	EN	**Unlikely**, not recorded within 5 km of the Project Area and suitable habitat not known to occur within the Project Area.
Darwinia foetida	T	CR	**Unlikely**, not recorded within 5 km of the Project Area and suitable habitat not known to occur within the Project Area.
Diuris drummondii	T	VU	**Unlikely**, recorded within 5 km of Project Area but suitable habitat is not known to occur within the Project Area.
Diuris micrantha	T	VU	**Unlikely**, not recorded within 5 km of the Project Area and suitable habitat not known to occur within the Project Area.
Diuris purdiei[1]	T	EN	**Possible**, not recorded within 5km radius of the Project Area but suitable habitat may occur within the Project Area.
Drakaea elastica	T	EN	**Unlikely**, not recorded within 5 km of the Project Area and suitable habitat not known to occur within the Project Area.
Drakaea micrantha	T	VU	**Possible**, not recorded within 5km radius of the Project Area but suitable habitat may occur within the Project Area.
Lambertia echinata subsp. Occidentalis	T	EN	**Unlikely**, not recorded within 5 km of the Project Area and suitable habitat not known to occur within the Project Area.

Threatened Fauna

A total of 32 threatened fauna species were identified as potentially occurring within 5km of the Project Area by the EPBC PMST (Attachment E). The Harewood (2015) fauna survey reported that four of these species have previously been recorded within 5km of the Project Area based on desktop searches of the DPAW, Western Australian Museum NatureMap database and previous surveys of the Project Area (Attachment C). These species include:

- Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) – Endangered
- Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*) – Vulnerable
- Baudin's Black Cockatoo (*Calyptorhynchus baudinii*) – Vulnerable
- WRP (*Pseudocheirus occidentalis*) – Vulnerable

Harewood (2015) also undertook a likelihood of occurrence and impact assessment for the proposed project. This assessment considered there was suitable habitat present for a migratory species the Rainbow Bee-eater (*Merops ornatus*).

The assessment considers that potential impacts of the Project on fauna, in particular those of conservation significance will be in most instances low or very low. This conclusion is based on the relatively small area of

clearing likely to be required, the limited habitat that is present in the Project Area and the extent of similar habitat in adjoining areas, much of which is within secured reserves. Manea Park (approximately 428ha) is located directly to the east of Somerville Drive. As such, species currently utilising the Project Area as habitat are likely to persist in the locality despite the proposed clearing.

The PMST (Attachment E) identified marine reptile, fish, mammal, shark, and bird species (e.g. Southern Right Whale) as potentially present within 5km of the Project Area. These species have been excluded from this assessment as no marine habitat is present within the Project Area.

Targeted Survey for EPBC Act Listed Fauna Species

The targeted Threatened fauna assessment undertaken by Harewood (2015) recorded three threatened fauna species listed under the EPBC Act within the Project Area, the Carnaby's Black Cockatoo, Baudin's Black Cockatoo and the WRP. It should be noted that this assessment only provided for a brief snapshot of those species present at the time of sampling (daytime), in one season, and in one year. Not all species identified as potentially occurring would be recorded during a single survey, due to spatial and temporal variations in fauna population numbers.

Targeted Habitat Assessments

During the targeted fauna survey, Harewood (2015) undertook an assessment of Black Cockatoo and WRP habitat availability within the Project Area. This assessment involved a full assessment and mapping of Black Cockatoo and WRP habitat (Attachment B).

These assessments were undertaken to determine the extent and significance of Black Cockatoo and WRP habitat within the Project Area.

Black Cockatoo

The targeted Black Cockatoo habitat assessment took into consideration the preferred roosting, breeding and foraging plant species outlined in the DotE's *Referral guidelines for the three threatened species of Black Cockatoos* (DSEWPaC 2012). According to the current modelled distribution of the three Black Cockatoo species,the Project Area occurs within the mapped distribution area for all three species of Black Cockatoo (DSEWPaC 2012). The Project Area is located within the known breeding range for both the Carnaby's Black Cockatoo and Baudin's Black Cockatoo and the mapped distribution of where the Forest Red-tailed Black Cockatoo may occur (and therefore may breed).

The results of the Black Cockatoo habitat assessment identified foraging and potential breeding habitat for Black Cockatoos within the Project Area. There is 4.38ha of *Banksia* dominated vegetation onsite, though some jarrah and marri were also present, that would provide foraging habitat for Black Cockatoos species. Overall, these areas of native remnant vegetation within the Project Area provide high value foraging habitat for all three species of Black Cockatoos. In addition, foraging evidence from both the Carnaby's Black Cockatoo and Baudin's Black Cockatoo was found during the fauna survey in the form of chewed Marri nuts, Jarrah nuts and *Banksia* cones (Harewood 2015).

A total of twenty three potential breeding trees (suitable tree species with a diameter at breast height (DBH) greater than 500mm) were identified within the Project Area. Although nine trees were observed to contain hollows, these hollows were considered by Harewood (2015) to not be currently suitable for black cockatoo species to use for nesting purposes. None of the potential habitats containing hollows showed any recent or historical signs of nesting use by cockatoo species. Of these twenty three trees present within the Project Area only twelve are proposed to be cleared with eleven (including five containing hollows) being retained in the "parkland cleared" area (Figure 3).

No actual breeding events were recorded within the Project during the February 2015 field survey. There was also no evidence of roosting observed within the Project Area, however the survey only captured a diurnal

period, and therefore was unable to detect whether night roosting occurs.

WRP

The targeted Western Ringtail Possum (WRP) habitat assessment took into consideration the preferred habitat resources for the species, as well as the significant impact guidelines for the species (EPBC Act policy statement 3.10) (DEWHA 2009a). According to the significant impact guidelines, the Project Area is mapped as being 'Supporting Habitat' with the nearest area mapped as 'Core Habitat' located approximately 4km to the south-west in Gelorup.

A single WRP was present in the Project Area during the survey, located in the north west of the Project Area. No other evidence (i.e. scats/dreys) was found in the Project Area. The majority of the Project Area (4.38ha) appears to provide some suitable habitat for WRPs as vegetation is dominated by banksia which, while suitable as refuge and dispersal habitat, lacks value as foraging habitat. This may be a factor possibly limiting numbers in the area. This conclusion is consistent with observations made along Somerville Drive in the past where no WRPs were recorded in this general area despite several repeated surveys. (Harewood 2015).

Likelihood of Occurrence Assessment

A likelihood of occurrence assessment (based on the desktop and field investigations) of the potential presence of conservation significant fauna species was undertaken by Harewood (2015). The assessment determined that the three species of Black Cockatoos and the WRP are likely to occur. The remaining three terrestrial species (Australian bittern, chuditch and quokka) were considered unlikely to occur as outlined in Table 4.

Table 4: EPBC Act listed threatened fauna species

Name	Status	Comments on Potential Presence
Birds		
Botaurus poiciloptilus Australasian Bittern	Endangered	**Unlikely** No suitable wetland habitat is present within the Project Area.
Calyptorhynchus banksii naso Forest Red-tailed Black Cockatoo	Vulnerable	**Likely** This species has previously been recorded in close proximity to the Project Area and there is suitable foraging habitat (3.9 ha), roosting and potential breeding habitat (including twenty three potential breeding trees with a DBH ≥ 500 mm, none of which have hollows currently suitable for nesting) within the Project Area. The Project Area is located within the mapped breeding range of the species (DSEWPaC 2012).
Calyptorhynchus baudinii Baudin's Black Cockatoo	Vulnerable	**Present** This species has previously been recorded through foraging evidence in and there is suitable foraging habitat (4.38 ha), roosting and potential breeding habitat (including twenty three potential breeding trees with a DBH ≥ 500 mm, none of which have hollows currently suitable for nesting) within the Project Area. The Project Area is located within the mapped breeding range of the species (DSEWPaC 2012).
Calyptorhynchus latirostris Carnaby's Black Cockatoo	Endangered	**Present** This species has previously been recorded through foraging evidence in and there is suitable foraging habitat (4.38 ha), roosting and potential breeding habitat (including twenty three potential breeding trees with a DBH ≥ 500 mm, none of

		which have hollows currently suitable for nesting) within the Project Area. The Project Area is located within the mapped breeding range of the species (DSEWPaC 2012).

Mammals		
Dasyurus geoffroii Chuditch	Vulnerable	**Unlikely** The Chuditch has not previously been recorded in proximity to the Project Area, and there is very limited suitable habitat for the Chuditch in the Project Area.
Pseudocheirus occidentalis WRP	Vulnerable	**Present** A single WRP individual was observed within Lot 298 during the fauna survey. No other evidence of WRP presence was found during the survey. There is 4.38 ha of suitable refuge/dispersal habitat within the Project Area.
Setonix brachyurus Quokka	Vulnerable	**Unlikely** The Quokka is known from the south-west historically in well vegetated forest areas. This species has been experiencing a slow decline across its range, and is not known to occur in the Bunbury area.

Nature and extent of likely impact

Based on the results of the fauna survey (Harewood 2015), three Threatened fauna species listed under the EPBC Act are known to occur within the Project Area (*Calyptorhynchus baudinii, Calyptorhynchus latirostris* and *Pseudocheirus occidentalis*) with *Calyptorhynchus banksii naso* deemed likely to occur in the Project Area.

As no Threatened flora species or Threatened Ecological Communities are considered likely to occur in the Project Area, impacts to these species and communities are not considered further. In the absence of any mitigation, the following key impacts are likely for the four Threatened fauna species identified as known/likely to occur:

Black Cockatoos

The key potential impact to the three species of Black Cockatoos resulting from clearing for the project is the loss of habitat;

- Loss of an estimated 4.38 ha of habitat including foraging and potential breeding and roosting habitat
- Loss of potential breeding habitat including twelve suitable habitat trees. Of these twelve trees, four contained hollows. Although, these hollows were considered to be currently unsuitable for breeding at present (Harewood, 2015), they have the potential to develop into suitable nest hollows in the future.

In addition, other potential impacts to Black Cockatoos for the project include:

- Death or injury when hit by cars or trucks during both the clearing of the project area.
- Localised temporary disturbance to Black Cockatoos from increased noise, emissions and vibrations from the construction of the project.
- Increased competition for nest hollows with European honeybees and invasive bird species (e.g. long-billed corellas (*Cacatua tenuirostris*), by reducing the availability of tree hollows in the local area.

WRP

One WRP individual was recorded within the Project Area during the fauna survey. The key potential impact to the WRP resulting from the Project is the loss of an estimated 4.38 ha of habitat suitable for refuge and dispersal as the Project Area lacks value as foraging habitat (Harewood 2015).

The potential impacts predicted to result from the Project to the WRP includes:

- Loss of an estimated 4.38 ha of refuge and dispersal habitat.

In addition, other potential impacts to WRP for the project include:

- Death or injury when hit by cars or trucks during both the clearing of the project area.
- Localised temporary disturbance to WRPs from increased noise, emissions and vibrations from the construction of the project.

Significance of Potential Impacts

Black Cockatoos

In order to determine if the proposed Project will have a significant impact on the three species of Black Cockatoos, an assessment was undertaken against the Significant Impact Guidelines (DotE 2013), as presented in Table 5.

The Significant Impact Criteria have been applied to all three species of Black Cockatoos, and include criteria for Endangered species (Carnaby's Black Cockatoo) and Vulnerable species (Baudin's and Forest Red-tailed Black Cockatoo).

For the purpose of this assessment a 'population of a species' for the three species of Black Cockatoo is the population that occurs within the Greater Bunbury Region Scheme (GBRS) boundary[2]. The GBRS covers four local government areas, the City of Bunbury and the Shires of Harvey, Dardanup and Capel.

As defined by DotE (2013) an important population of a species is that which is necessary for a species' long-term survival and recovery. Black Cockatoo populations that occur in the GBRS area are important for each species long term survival as they are likely to be necessary for maintaining genetic diversity.

There is suitable foraging andpotential breeding habitat for Black Cockatoos within the Project Area and all three species are known to occur within the Project Area.

The outcome of this assessment concluded that the Project is **unlikely** to have a significant impact on all three species of Black Cockatoos.

An action is likely to have a significant impact on an endangered or vulnerable species if there is a real chance or possibility that it will:

Table 5: Significant Impact Criteria for three Species of Black Cockatoos

Significant Impact Criteria	Impact Outcome
Lead to a long-term decrease in the size of a population or important population of a species	**Unlikely** The Project is unlikely to lead to a long-term decrease the size of the population of Black Cockatoos that occurs in the region (within the GBRS) due to the proposed reduction in available habitat resources. *Foraging habitat* The proposed Project is likely to result in removal of up to 4.38ha of suitable foraging habitat. This 4.38ha of foraging habitat represents approximately 0.0003%[2] of the overall area of suitable foraging habitat within the GBRS boundary. At a smaller scale, the 4.38ha of foraging habitat within the Project Area represents 0.29%[2] of the area of suitable foraging habitat in the City of Bunbury. Therefore the loss of the foraging habitat within the Project Area represents a very small proportion of the estimated overall area of suitable foraging habitat within the GBRS area, and also within the City of Bunbury. *Roosting habitat* There are no known roosting sites within the Project Area and no evidence of roosting sites were recorded during the field survey. The nearest confirmed roosting site mapped by the Department of Parks and Wildlife (DPAW) is located approximately 17km south of the Project Area. Furthermore, as

[2] The area of suitable foraging habitat within the GBRS area is estimated at 130,211.11ha. Within the City of Bunbury it's estimated to be 1,488.82ha, within the Shire of Dardanup it's estimated at 24,556.00ha, within the Shire of Harvey it's estimated to be 85,808.44ha and within the Shire of Capel it's estimated at 18,348.84ha. This area calculation is based on the extent remaining of Beard (1979) vegetation associations which contain flora species suitable for Carnaby's Black Cockatoo foraging (based on Groom [2011]) and Baudin's and Forest Red-tailed Black Cockatoo foraging (based on DSEWPaC [2012]). For example, vegetation association 3: Medium forest; Jarrah-Marri is considered to provide suitable foraging habitat for Black Cockatoos.

	the location of roosting sites and foraging areas are known to vary from year to year, and given the limited availability of suitable roosting habitat in the Project Area there is a low likelihood that Black Cockatoos will utilise the Project Area for roosting once the hollows have sufficiently developed. However, given the availability of potential roosting habitat in the vicinity, as well as the availability of foraging habitat in the local area and region (as discussed above), the loss of 4.38ha of potential night roosting habitat is not considered substantial. *Breeding habitat* The Project Area is located within the known breeding range of Carnaby's Black Cockatoo and Baudin's Black Cockatoo, and within the mapped distribution of where the Forest Red-tailed Black Cockatoo may occur (and therefore may breed). The proposed Project is likely to result in removal of up to twelve potential breeding trees (of which four trees contain hollows). These hollow-bearing trees were scattered throughout the Project Area. None of the hollows were considered to be suitable for breeding and showed any recent or historical signs of breeding (nesting use) by Black Cockatoo species. No actual breeding events were recorded during the field survey. It is not possible to estimate the density of suitable breeding trees (including younger age class trees) within each of the mapped Beard (1979) vegetation associations. Therefore, it is difficult to estimate the extent of the impact of removing twelve potential breeding trees will have on the populations of Black Cockatoos that occur in the greater Bunbury area. However, the loss of the twelve potential breeding trees from the Project Area is not likely to have a substantial impact as there is similar potentially suitable breeding habitat adjacent to the Project Area in Manea Park and to the north of the Project Area. There is an estimated 1,448.82ha of mapped Beard (1979) vegetation associations that contain suitable breeding tree species within the City of Bunbury. However, this is an over estimation and actual breeding habitat present is likely to be considerably less than 1,448.82ha. Clearing for the Project will therefore reduce the availability of this potentially suitable breeding habitat in the City of Bunbury LGA by 0.29% (4.38ha of 1,448.82ha). *Outcome* Therefore, it is considered that clearance of up to 4.38ha of foraging and potential breeding habitat is not likely to lead to a long-term decrease in the size of the local populations of Black Cockatoos. The loss of potential breeding habitat (including twelve potential breeding trees) is unlikely to result in a shortage of hollows in the local area due to the presence of

	similar habitat in the locality.
Reduce the area of occupancy of the species	**Unlikely** The Project is unlikely to significantly reduce the area of occupancy of a population of Black Cockatoos within the local area or region. The three species of Black Cockatoos are known to occur throughout the greater Bunbury region (GBRS area), the Swan Coastal Plain Bio-region and the south-west region of Western Australia. Given the extensive land area that the species are known to occur in, the removal of 4.38ha of habitat (including foraging, potential breeding and roosting habitat) is not considered to be significantly large enough to reduce the area of occupancy of the species.
Fragment an existing important population or population into two or more populations	**Unlikely** The Project is unlikely to fragment the population into two or more populations. The Project proposes the clearing of three lots of remnant vegetation in the College Grove area, for development. These lots are located directly west of Manea Park. As these lots are located to the north of the park and development is present on three sides currently, it is considered unlikely that the proposed development will fragment the existing populations of the three species of Black Cockatoos in the greater Bunbury area (i.e. within the GBRS area). The proposed development of the Project Area is unlikely to impose a physical barrier to the movement of Black Cockatoos between the surrounding areas of remnant vegetation. The species is highly mobile and capable of traversing the gap (< 100m) between patches of habitat. Based on the mobility of Black Cockatoos and the occurrence of good quality habitat adjacent to the Project Area (i.e. Manea Park), fragmentation of potential populations is considered unlikely.
Adversely affect habitat critical to the survival of a species	**Unlikely** The Project is unlikely to affect habitat critical to the survival of a species of Black Cockatoo. Up to 4.38ha of Black Cockatoo habitat in the Project Area would be cleared for this Project. The habitat located within the Project Area does not consist of habitat described by a recovery plan as critical for the survival of the Carnaby's, Baudin's or the Forest Red-tailed Black Cockatoo (DEC 2008; DEC 2012), nor is it habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act (DotE 2013, pp. 10).
Disrupt the breeding cycle of a population or important population	**Unlikely** The works associated with the Project, are unlikely to disrupt

	the breeding cycle of a population or important population of Black Cockatoos. Although four hollow-bearing trees are proposed to be cleared, five will be retained in the "parkland cleared' area as presented in Figure 3. Harewood (2015) deemed the hollow bearing trees as being currently unsuitable for Black Cockatoo breeding. None of the trees with hollows showed any recent or historical signs of breeding (nesting use) by Black Cockatoo species and no actual breeding events were recorded during the February 2015 field survey. The eleven potential habitat trees being retained in the parkland cleared portion of the site and the abundance of potential breeding trees located in the locality (i.e. Manea Park) are considered to provide suitable alternatives for future breeding populations. Therefore the Project is considered unlikely to disrupt the breeding cycle of a population or important population.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	**Unlikely** The works associated with the Project, may modify and destroy a proportion of foraging habitat, potential breeding and potential roosting habitat for the three species of Black Cockatoos. However, due to the small extent of habitat being cleared it is considered highly unlikely that any of these species would decline. The clearing of 4.38ha of habitat for the Project consists of approximately 0.002% of the available habitat (potential foraging, breeding and roosting) for Black Cockatoos in the GBRS. Furthermore, within the City of Bunbury, clearing for the Project will reduce the available Black Cockatoo foraging habitat by 0.29%. The loss of twelve potential habitat trees, which may support breeding in the future, is considered unlikely to substantial due to the presence of similar habitat in the locality (e.g. Manea Park) and the GBRS. Despite these impacts, the proposed project is unlikely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that that a species of Black Cockatoo is likely to decline.
Result in invasive species that are harmful to an endangered species becoming established in the endangered species' habitat	**Unlikely** Hollow nesting birds including introduced species (i.e. Rainbow Lorikeet (*Trichoglossus haematodus*) and the Little Corella (*Cacatua sanguinea*)) and the European Honeybee are potential competitors with Black Cockatoos for hollows. Although there is the potential for the Project to exacerbate the competition for suitable nesting hollows in the locality, these invasive species currently established in the GBRS and so the Project is unlikely to result in these species becoming established.
Introduce disease that may cause the	**Unlikely**

species to decline	The Project is unlikely to introduce a disease that may cause this species to decline. A *Phytophthora* dieback assessment was undertaken in February 2015 by Bark Environmental (2015) (Attachment D) which reported that the south western portion of Lot 298 and Lot 938 were infested. It is possible that, if unmanaged, this project may exacerbate the prevalence of *Phytophthora* dieback in the native vegetation located directly north of the Project Area. The spread of dieback is most likely to occur during the clearing and construction phase of the Project, when there may be an increased risk of spreading dieback. As a result, the spread of dieback may result in in degradation of the quality of habitat for Black Cockatoos. However, the Project is unlikely to introduce a disease that may cause the Black Cockatoo population to decline.
Interfere with the recovery of the species	**Unlikely** The Project is unlikely to interfere substantially with the recovery of Carnaby's, Baudin's or the Forest Red-tailed Black Cockatoo as it is unlikely to interfere with the recovery actions outlined in the recovery plans for each of these species (DEC 2008; DEC 2012). For Carnaby's these actions include: • Protect and Manage Important Habitat • Conduct Research to Inform Management • Undertake Regular Monitoring • Manage Other Impacts • Undertake Information and Communication Activities • Engage with the Broader Community For the Baudin's and Forest Red-tailed Black Cockatoos these include: • Seek the funding required to implement future recovery actions. • Determine and promote non-lethal means of mitigating fruit damage by Baudin's Cockatoo in orchards. • Eliminate illegal shooting. • Develop and implement strategies to allow for the use of noise emitting devices in orchards. • Determine and implement ways to remove feral Honeybees from nesting hollows. • Identify factors affecting the number of breeding attempts and breeding success and manage nest hollows to increase recruitment. • Determine and implement ways to minimise the effects of mining and urban development on habitat loss. • Determine and implement ways to manage forests for

	the conservation of Forest Black Cockatoos. • Identify and manage important sites and protect from threatening processes. • Map feeding and breeding habitat critical to survival and important populations, and prepare management guidelines for these habitats. • Monitor population numbers and distribution. • Determine the patterns and significance of movement. Maintain the Cockatoo Care program and use other opportunities to promote the recovery of Forest Black Cockatoos.

Legend for Table 5

For the purpose of this assessment:

'population of a species' is defined under the EPBC Act as an occurrence of the species in a particular area. In relation to an endangered species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations; or
- a population, or collection of local populations, that occurs within a particular bioregion (DotE 2013, pp 9).

'important population of a species' is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- 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.

'invasive species' is an introduced species, including an introduced (translocated) native species, which out-competes native species for space and resources or which is a predator of native species. Introducing an invasive species into an area may result in that species becoming established. An invasive species may harm listed threatened species or ecological communities by direct competition, modification of habitat or predation (DotE 2013, pp 9).

'Habitat critical to the survival of a species or ecological community' refers to areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal;
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators);
- to maintain genetic diversity and long term evolutionary development; or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act (DotE 2013, pp10).

WRP

In order to determine the potential impacts and significance of these impacts to the WRP, both species specific *Significant Impact Guidelines for the WRP* (EPBC Act Policy Statement 3.10, DEWHA 2009a, 2009b) and the DotE 1.1 *Significant Impact Guidelines* (DotE 2013) were consulted and as assessment undertaken. The *Siginificant Impact Guidelines for the WRP* (DEWHA 2009a) were designed to be read in conjunction with the *Significant Impact Guidelines 1.1* (DotE 2013).

Significant Impact Guidelines for the WRP (DEWHA 2009a)

The purpose of this policy statement is to assist in determining whether a proposed action is likely to have a significant impact on the WRP in the southern Swan Coastal Plain, Western Australia which includes the Project Area.

The Project Area is located at the northern extent of the mapped boundary (see Figure 1 - DEWHA 2009a) defining the area considered by the guidelines. The Project Area is mapped as 'Supporting Habitat' for the species (as defined in DEWHA 2009a). Supporting habitat includes vegetation patches that buffer key local populations from threats, as well as providing foraging, breeding, and dispersal opportunities. This habitat provides the opportunity for an immigration source and emigration destination to allow for natural fluctuations in the species' fecundity (DEWHA 2009a). Supporting habitat provides connectivity on the plains and to the hinterland, thus increasing opportunities for foraging, breeding and dispersal (DEWHA 2009a). According to the Significant Impact Assessment guidelines (pp. 7, DEWHA 2009a) there is a real chance or possibility of a significant impact on the species if the action will result in one or more of the following to 'Supporting Habitat':

- Clearing in a remnant habitat patch that is greater than 0.5 ha in size
- Clearing of more than 50% of a remnant habitat patch that is between 0.2 and 0.5 ha in size
- Fragmentation of existing habitat linkages.

The WRP Significant Impact Guidelines (DEWHA 2009b) defines:

- A 'habitat linkage' as any continuous native or exotic vegetation that allows animals to move between areas. Linkages can be as fine-scale as canopy cover between neighboring trees.
- 'Fragmentation' of these linkages means to create a disjuncture between patches that affects the ability of animals to move, for example habitat trees separated by more than six meters. It should also be noted that areas of relatively poor-quality habitat (for example dispersed individual habitat trees) in key connective corridors will still have high ecological value. The impact of their loss may depend on the availability of alternative corridors, the number of trees removed and the ability of the landscape to function following the proposed action (DEWHA 2009b).

Outcomes of assessment against WRP Significant Impact Guidelines (DEWHA 2009b)

Clearing for the Project will result in a loss of up to 4.38 ha of supporting habitat (suitable for refuge and dispersal) for the WRP. The Project will involve clearing a habitat patch larger than 0.5 ha, although it is considered unlikely that this habitat will result in fragmentation of existing habitat linkages (as identified in EPA Bulletin 1108(2003) and Molloy *et al.* 2009). Fragmentation of such linkages can create a disjuncture between patches that affects the ability of WRP individuals to move (e.g. habitat trees separated by more than six metres (DEWHA 2009b). It is considered that the Project is unlikely to have a significant impact on this species as the existing north-south linkage and east-west linkages in the immediate area will be maintained (see Figure 3).

Significant Impact Guidelines 1.1 (DotE 2013)

An assessment of impacts on the WRP was undertaken against the DotE 1.1 Significant Impact Guidelines (DotE 2013a) and presented in Table 7. The outcome of the assessment considers the Project unlikely to have a significant impact on WRPs as outlined in Table 7.

For the purpose of this assessment an 'important population' of a species refers to the WRPs located in the Greater Bunbury Region, specifically including the Bunbury and Binningup Management Zones determined by Shedley and Williams (2014).

This population is termed the 'Greater Bunbury Region Important Population' and includes the 'sparse

population extending between Bunbury and Yallingup' population from the Species Profile and Threats database (SPRAT) by the DotE (DotE 2014).

Table 6: Significant Impact Criteria for the WRP

Significant Impact Criteria	Impact Outcome
Lead to a long term decrease in the size of an important population of a species	**Unlikely** WRPs are known to occur in the Project Area (Harewood 2015, Attachment C) and in the GBRS (see information in Harewood 2015, DPAW's NatureMap, Shedley and Williams 2014). A single WRP was present in the Project Area during the survey. However, as no other evidence was present Harewood (2015) suggested the population density is likely to be low in the Project Area. The proposed Project will result in the removal of 4.38ha of refuge and dispersal habitat, including four hollow-bearing trees that, in the future, could potentially provide diurnal resting sites or refuges for WRPs. However, the loss of four hollow-bearing trees is unlikely to lead to a future lack of available nesting resources for the species. As such the Project is considered unlikely to disrupt the breeding cycle of part of the population. The proposed Project is unlikely to significantly: • reduce the overall area of available habitat to an important population of the species • reduce the overall area of occupancy for an important population of the species • adversely affect habitat critical to the survival of the species • fragment existing habitat linkages or create new barriers to the movement of fauna WRPs to other areas of habitat. Given the small scale of the Project and the presence of similar habitat adjacent to the Project Area, it is considered unlikely that the Project will lead to a long-term decrease in the size of an important population of the WRP.
Reduce the area of occupancy of an important population of a species	**Unlikely** The Project is unlikely to substantially reduce the area of occupancy of the population of WRPs that occurs in the local area greater Bunbury region. The estimated area of suitable habitat available within the greater Bunbury region is approximately 16,327ha. The Project may reduce the overall area of habitat by 0.003% within the greater Bunbury region as a result of direct loss of habitat from clearing. Therefore removal of 4.38ha of habitat for the Project is not considered to be substantial for the species in a regional context, due to the extent of the known habitat adjacent the Project Area (Harewood 2015) as well as the availability of known and modelled suitable habitat within the locality and region (DPAW 2014 and Shedley and Williams 2014).

Fragment an existing important population into two or more populations	**Unlikely** Although the proposed Project will result in the loss of up to 4.38ha of refuge/dispersal habitat for the WRP, it is not considered likely to fragment an existing important population as the vegetation proposed to be cleared is adjacent to a residential area. The Project is unlikely to substantially contribute to fragmentation of the 'greater Bunbury region important population' into two or more populations as linkages are maintained through the vegetation in Manea Park located to the east of the Project Area. Manea Park provides a vegetated link both east-west through the Proposed Preston River to Ocean Regional Park and north-south link along the Preston River linkage.
Adversely affect habitat critical to the survival of a species	**Unlikely** The Project is unlikely to affect habitat critical to the survival of the population WRPs that occur in the greater Bunbury region. The DPAW Recovery Plan (DPAW 2014) for the WRP describes habitat critical to the survival of the species, including the Swan Coastal Plain. Populations on the Swan Coastal Plain are associated with stands of myrtaceous trees (usually peppermint trees) growing near swamps, water courses or floodplains, and at topographic low points which provide cooler often more fertile conditions (de Tores *et al*. 2004 as cited in DPAW 2014). The location of WRP populations is related to the quality of habitat, principally high canopy continuity and high nutrient foliage, and the number and type of refuges available (Jones *et al*. 1994, Wayne *et al*. 2006 – as cited in DPAW 2014). Based on the Recovery Plan description, the habitat within the Project Area is not considered habitat critical to the survival of the species.
Disrupt the breeding cycle of an important population	**Unlikely** The works associated with the Project are unlikely to disrupt the breeding cycle of the WRP population. While this species is known to occur within the both Project Area and the local area, the Project Area is not considered contain core breeding habitat for this species (Shedley and Williams 2014). It is therefore considered unlikely that the project will disrupt the breeding cycle of an important population of the species.
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	**Unlikely** The works associated with the Project, may modify and destroy a small proportion (4.38ha, or approximately 0.0003% of the overall area habitat within the Greater Bunbury Region) of known habitat for this species. Given the small area of the Project Area, the likely low population density and the presence of supporting habitat adjacent to the Project Area and the greater locality, it is considered unlikely that the potential impacts on the WRP population of the proposed clearing would be significant. The proposed Project is therefore unlikely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species habitat	**Unlikely** The Project may potentially exacerbate existing invasive species that already occur within or adjoining the Project Area. The invasive European honeybee (*Apis mellifera*) a number of other bird species also compete for tree hollows with the WRP (Wood and Wallis 1997). Bees and invasive bird species, in particular Rainbow Lorikeet (*Trichoglossus haematodus*) and the Little Corella (*Cacatua sanguinea*), are known to occur and inhabit numerous tree hollows in the surrounding area. As they are already present in the surrounding area, the project is unlikely to result in honeybees being introduced to the area. However, there is the potential for the project to exacerbate the competition with European honeybees for the reduced number of suitable nesting hollows in the local area. The Project is therefore unlikely to significantly increase or introduce new invasive species to Project Area, and is unlikely to result in invasive species that are harmful to the WRP becoming established in the WRP habitat in the surrounding area.
Introduce disease that may cause the species to decline	**Unlikely** The WRPs that are present in the Project Area are unlikely to be exposed to any additional diseases (that do not currently occur in that environment) as a result of the Project. It is considered unlikely that the Project would introduce diseases that may cause the Western Ringtail population to decline.
Interfere with the recovery of the species	**Unlikely** The DPAW Recovery Plan (DPAW 2014) for the WRP describes the long term goals of the recovery program for the species as: • To improve the population status, leading to future removal of the WRP from the Threatened species list of the EPBC Act and the WC Act. • To ensure that threatening processes do not impact on the ongoing viability of the WRP. The recovery plan identifies habitat loss and fragmentation from urban development as a key threatening process. The ten year goal identified in the recovery plan is to slow the decline in population size, extent and area of occupancy through managing major threatening processes affecting the subpopulations and their habitats, and allowing the persistence of the species in each of the identified key management zones (Swan Coastal Plain, southern forests and south coast). DPAW have deemed that the recovery plan will be unsuccessful if, within a ten year period, any of the following occur: • There is substantial loss of habitat and/or increasing threatening processes that result in a further contraction of the population size, extent or area of occupancy. • An evidence-based management approach cannot be applied to all populations.

	The Project is unlikely to improve the population status of the species. Although the Project is likely to contribute toward a key threatening process - habitat loss and fragmentation from urban development which may impact the ongoing viability an important population, it is considered unlikely to lead to a long term decline of an important population of the species. Given the peripheral location of the Project and the presence of similar supporting habitat and an intact ecological linkage (Manea Park) to the east of the Project Area it is unlikely the Project would be considered at risk of interfering with the recovery of an important population of the species.

Legend for Table 6

For the purpose of this assessment:

'important population of a species' is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- 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 (DotE 2013, pp 10).

'habitat critical to the survival of a species or ecological community' refers to areas that are necessary:

- for activities such as foraging, breeding, roosting or dispersal;
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators);
- to maintain genetic diversity and long term evolutionary development; or
- for the reintroduction of populations or recovery of the species or ecological community.

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the Register of Critical Habitat maintained by the Minister under the EPBC Act (DotE 2013, pp 10).

3.1 (e) Listed migratory species

Description

The EPBC Act PMST identified four Migratory species as potentially occurring within a 5 km radius of the Project Area (Attachment E), including:

- Great Egret (*Ardea alba*) – Migratory wetland
- Cattle Egret (*Ardea ibis*) – Migratory wetland
- White-bellied Sea-Eagle (*Haliaeetus leucogaster*) – Migratory terrestrial
- Rainbow Bee-eater (*Merops ornatus*) – Migratory terrestrial

A likelihood of occurrence assessment of these listed Migratory fauna species undertaken as part of the Harewood (2015) assessment determined that only one migratory fauna species is known to occur within the Project Area, the Rainbow Bee-eater. The Rainbow Bee-eater (*Merops ornatus*) was recorded by Harewood (2015) in the vicinity of Project Area as an opportunistic observation but not during the fauna survey (Attachment C).

Nature and extent of likely impact

The Rainbow Bee-eater is widespread throughout Australia occurring in a wide range of habitat types and is reasonably common bird in the south-west of Western Australia. The species utilise a wide-range of habitats to nest, and may utilise any areas with loose soils, banks or spoil in the Project Area as potential breeding. The Project Area may provide potential habitat for the Rainbow Bee-eater, and as a result clearing for the project will result in a loss of 4.38ha of potential habitat. However, no evidence of the Rainbow Bee-eater was found within the Project Area and as such it is considered unlikely the Project will significantly impact on individuals or a population of this species. This species also uses disturbed habitats and therefore is likely to continue to utilise the Project Area.

3.1 (f) Commonwealth marine area

Description

There are no Commonwealth marine areas located near or within the Project Area.

Nature and extent of likely impact

Not applicable

3.1 (g) Commonwealth land

Description

The Project Area is not located within or in proximity to a Commonwealth land.

Nature and extent of likely impact

Not applicable

3.1 (h) The Great Barrier Reef Marine Park

Description

The Project is not within 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 Project does not involve a water resource in relation to coal seam gas development and large 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
	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
	If yes, nature & extent of likely impact on the whole environment		

3.2 (c)	**Is the proposed action to be taken in a**	✓	No

	Commonwealth marine area?		Yes
	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
	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
	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 City of Bunbury (2015) undertook a Level 2 flora survey and targeted conservation significant species search to identify flora species of conservation significance and Threatened Ecological Communities potentially occurring within the Project Area (Attachment B). Harewood (2015) undertook a fauna survey which included a targeted MNES survey in February 2015, in order to identify threatened fauna species (Attachment C).

3.3 (b) Hydrology, including water flows

The Project Area is located within the Bunbury sub-area of the Bunbury Groundwater area. This groundwater area is protected under the *Rights in Water and Irrigation Act 1914* (RIWI Act). College Grove is located within the Preston Surface Water Allocation Areas, this area are not managed under the RIWI Act. Surface water flows (stormwater) is drained by a system of stormwater pits and drains on the western/southern Project Area boundary and an open drain along the eastern boundary with Somerville Drive. The stormwater network is located outside the Project Area along Hildas Close, Oriel Court and Somerville Drive.

There are no Ramsar listed wetlands or Nationally Important Wetland located within 5 km of the Project Area.

3.3 (c) Soil and Vegetation characteristics

<u>Vegetation</u>

The Project Area is located within the Swan Coastal Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion.

Broadscale vegetation mapping undertaken by Heddle *et al*. (1980) maps the Project Area as the Karrakatta vegetation complex. The Karrakatta vegetation complex is described as an Aeolian deposits with vegetation described as predominantly open Forest of Eucalyptus gomphocephala, E. marginata and Corymbia calophylla and woodland of E marginata and Banksia species.

<u>Soils</u>

Regional geological mapping indicates the geology of the Project Area is likely to comprise of sand associated with the Tamala Limestone formation which predominantly comprises creamy white to yellow or light grey, fine to medium grained quartz sand and minor clayey lenses, calcareous eolianite (Stewart et al. 2008; Geological Survey of Western Australia 1981).

The survey area occurs within, but at the westward boundary of, the Bassendean System, which is characterised by deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan from one to two metres (Barnesby and Proulx-Nixon, 2000). Three types of Bassendean sands have been identified and generally described below. Given the sites elevated position the Project Area, the Bassesndean Sand soil type present is likely to be Jandakot sands. The Jandakot sands are well draining sands generally present on crests and upper slopes of low hills and ridges. (City of Bunbury, 2015)

3.3 (d) Outstanding natural features

There are no outstanding natural features within the Project Area.

3.3 (e) Remnant native vegetation

The 4.38 ha of remnant vegetation within the Project Area was identified as containing two distinct vegetation units by the City of Bunbury (2015) flora report. The vegetation present in Lots 298 and 938 (approximately 3.9ha) was identified as *Eucalyptus marginata* Open Woodland over *Banksia attenuata* and *Xylomelum occidentale* Low Open Forest over *Kunzea glabrescens* Tall Open Shrubland over *Melaleuca thymoides, Macrozamia riedei,*

Stirlingia latifolia, Jacksonia horrida Shrubland to Open Heath over *Hibbertia hypericoides, Xanthorrhoea brunonis* Open Low Heath over *Brachyscome bellidioides, Trachymene pilosa, Asteridia pulverulenta* Very Open Herbland to Herbland. The remaining 0.6ha of vegetation is located in Lot 790 of the Project Area and consists of *Eucalyptus gomphocephala* Open Forest over *Banksia attenuata, Agonis flexuosa* and *Xylomelum occidentale* Low Woodland over *Allocasuarina humilis* Tall Open Shrubland over *Hibbertia hypericoides Low Shrubland over *Briza maxima* Grassland over mixed Open Herbland.

The remnant vegetation of the Project Area is largely intact and structurally diverse. There is 4.15ha considered to be in excellent condition and 0.16ha considered to be in Good condition (according to the Keighery Scale) as outlined in Figure 9 of the City of Bunbury (2015) flora report. These areas provide a high value habitat value for fauna species due to the variety of microhabitats and various resource niches available (i.e. fallen logs, hollows, sandy loose soil).

Approximately 0.5ha of the Project Area is considered to be Degraded/Completely Degraded according to the Keighery Scale (City of Bunbury 2015). In these areas, remnant vegetation has been degraded and is currently void of vegetation, replanted with non-native species or the understorey consists predominantly of weeds. These areas provide limited fauna habitat.

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

Not applicable.

3.3 (g) Current state of the environment

The Project Area has predominantly intact vegetation of Excellent condition (Keighery Scale). However, the periphery of the southern portion of the Project Area and the south eastern corner of the northern portion of the Project Area have vegetation considered to be Degraded/Completely degraded (Keighery Scale). The vegetation in the Project Area is known habitat for three Threatened Species and one Threatened Species and one Migratory species which are considered likely to occur as discussed in section 3.1.

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 within the Project Area.

3.3 (i) Indigenous heritage values

A search of the Department of Indigenous Affairs (DIA) Aboriginal Heritage Inquiry System indicates that there are no of indigenous heritage value either within or adjacent to the Project Area.

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

An Environmentally Sensitive Area (ESA), as classified under the WA *Environmental Protection Act 1986*, overlies the Project Area. This ESA is associated with a TEC/ geomorphic wetland located 200m to the northeast of the Project Area within Manea Park and covers approximately 0.54 ha of the north eastern corner of the Project Area. Another ESA associated with a second TEC/geomorphic wetlands is located approximately 70m to the south of Lot 790 Oriel Crescent (N.B. the wetland itself is located approximately 500m to the southeast of the site in Manea Park). The vegetation present in the Project Area is not considered to be consistent with these TECs as discussed in section 3.1.

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

Lot	Tenure
Lot 298 Winthrop Avenue	Freehold City of Bunbury
Lot 938 Somerville Drive	Crown land under a management order with the City of Bunbury
Lot 790 Oriel Court	Crown land under a management order with the City of Bunbury
Lot 934 Hildas Close	AQWEST
Lot 643 Somerville Close	Freehold City of Bunbury
Lot 997 Winthrop Avenue	Crown land under a management order with the City of Bunbury
Lot 998 Somerville Close	Crown land under a management order with the City of Bunbury

3.3 (l) Existing land/marine uses of area

The Project Area is predominantly uncleared native vegetation. Informal passive recreation activities (i.e. bushwalking) may occur onsite from time to time

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

There will be two distinct land uses; a residential development area and a parkland cleared area as outlined in Section 2.1.

4 Environmental outcomes

The following section outlines the proposed measures to reduce the potential impacts of the Project upon the three species of Threatened Black Cockatoos and the WRP. The mitigation measures are proposed for the planning and clearing phases of the proposed project as the City of Bunbury will not undertake the development of the Project Area past the clearing stage. An Environmental Management Plan will be developed and implemented to address issues associated with clearing the project area (e.g. vegetation protection, fire prevention, dust suppression and clearing controls).

Black Cockatoos

The proposed management measures for reducing the potential impacts to Black Cockatoos and their habitats within the Project Area, and surrounding areas are outlined below.
The design and development of the Project Area will minimise impacts to Black Cockatoo habitat through fauna sensitive design elements (e.g. signage – to alert drivers to the presence of flying Black Cockatoos) incorporated into the planning phase of the project prior to commencement of construction.

- Retention of eleven Black Cockatoo habitat trees (including five hollow-bearing trees) within the Parkland Cleared area.
- Development of environmental management plan for erosion, drainage, pest animal, dieback, weed and fire control protocols to be implemented for the clearing and construction phase.
- The City of Bunbury will retain management of the "parkland cleared" area into the future.

<u>Mitigation measures</u>

- Clearing will be undertaken progressively away from already cleared areas to allow Black Cockatoo individuals to move away from areas where site activities are being undertaken.
-
- All native vegetation and Black Cockatoo habitat to be retained will be clearly demarcated via erection of orange para-webbing fencing and flagging tape, so that "No Go" zones are clearly delineated and noted by construction workers and any accidental loss of native vegetation and habitat is avoided.
- All staff and contractors working within the Project Area will be inducted as to the Black Cockatoo constraints (e.g. areas that can be cleared and areas that are to be retained) and required actions regarding these values.

Western Ringtail Possums

The proposed management measures for reducing the potential impacts to WRPs and their habitats within the Project Area, and surrounding areas are outlined below.

<u>Mitigation measures</u>

- Pre-clearance fauna survey, with potential relocation of individuals into the adjacent area of retained habitat
- Clearing will be undertaken progressively away from already cleared areas to allow Black Cockatoo individuals to move away from areas where site activities are being undertaken.
- All native vegetation and Black Cockatoo habitat to be retained will be clearly demarcated via erection of orange para-webbing fencing and flagging tape, so that "No Go" zones are clearly delineated and noted by construction workers and any accidental loss of native vegetation and habitat is avoided.
- All staff and contractors working within the Project Area will be inducted as to the WRP constraints (e.g. areas that can be cleared and areas that are to be retained) and required actions regarding these values.

5 Conclusion on the likelihood of significant impacts

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

✓	No, complete section 5.2
	Yes, complete section 5.3

5.2 Proposed action IS NOT a controlled action.

The proposed action is not a controlled action because the proposed works are not likely to have a significant impact on the MNES.

The potential impacts on Matters of National Environmental Significance have been assessed and determined the key potential impact from the project is the loss of habitat for four Threatened fauna species listed under the EPBC Act and one fauna species listed as migratory under the EPBC Act.

- Carnaby's Black Cockatoo (Calyptorhynchus latirostris) - Endangered
- Baudin's Black Cockatoo (Calyptorhynchus baudinii) - Vulnerable
- Forest Red-tailed Black Cockatoo (Calyptorhynchus banksii naso) - Vulnerable
- Western Ringtail Possum (Pseudocheirus occidentalis) - Vulnerable
- Rainbow Bee-eater (Merops ornatus) - Migratory

It is considered that clearance of up to 4.38ha of foraging habitat is unlikely to lead to a long-term decrease in the size of the local populations of the three species of Black Cockatoos. The loss of potential breeding habitat (12 potential breeding trees) is not considered to significantly affect the population due to the availability of breeding habitat in the area. Therefore the removal of 0.29% of breeding habitat is unlikely to lead to a long-term decrease the size of the population of Black Cockatoos that occurs in the region (within the GBRS area).

Clearing of the habitat for the proposed project will result in a loss of up to 4.38ha of supporting habitat for the WRP. The project is not likely to have a significant impact on the local population as the proposed clearing is considered unlikely to result in fragmentation of existing habitat linkages and is unlikely to cause population fragmentation/decline.

Clearing of up to 4.38ha of vegetation for the project is unlikely to have a significant impact the Rainbow Bee-eater.

5.3 Proposed action IS a controlled action

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

6 Environmental record of the responsible party

		Yes	No
6.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** The City of Bunbury recognises the importance of its local natural environment in contributing to the health, wellbeing and economic prosperity of the community and region and is committed to protecting local biodiversity and managing natural areas. The City of Bunbury if committed to good environmental management. It's goals for best environmental management are detailed in the City Vision Strategy (2007) and the Strategic Community Plan (2015). The documents are available at: City Vision Strategy http://www.bunbury.wa.gov.au/pdf/Planning%20and%20Building/City%20Vision%20Strategy%20_Sept%202007_reduced.pdf. Strategic Community Plan (2015) http://www.bunbury.wa.gov.au/pdf/Council/Strategic%20Community%20Plan_Feb%202015_FINAL%20FOR%20WEB.pdf The City of Bunbury employs three Environmental Officers who strategically guide the sustainable management of natural areas, provide educational support, specialist advice and active involvement in natural resource management.	✓	
6.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details**		✓
6.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework** The Corporate Strategic Plan details the City of Bunbury's commitment to environmentally sustainable development.	✓	

6.4 Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act? ✓

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

The table below provides the most recent referrals from the City of Bunbury to Department of Environment.

Reference Number	Title of Referral	Date Received
2014/7148	City of Bunbury/Natural resources management/Loughton Park, Bunbury, WA/WA/Proposed Fuel Reduction Burn, Loughton Park, Bunbury WA	04/03/2014
2013/6872	City of Bunbury/Transport – air and space/Lot 507, South Western Highway, Davenport, Bunbury/WA/Clearing for Bunbury Airport Expansion	21/05/2013
2011/6153	City of Bunbury/Transport – land/Somerville Drive and Robertson Drive, Bunbury/WA/Somerville Drive Extension	21/10/2011

7 Information sources and attachments

7.1 References

ASRIS 2015 *Australian Soil Resource Information System,* [Online], available from http://spatial.agric.wa.gov.au/slip/.

de Tores, P.J., Hayward, M.W. and Rosier, S.M., 2004, *The WRP, Pseudocheirus occidentalis, and the quokka, Setonix brachyurus. Case studies: Western Shield Review - February 2003*. Conservation Science Western Australia, Vol. 5 (2), pg. 235-257.

Department of Parks and Wildlife (DPAW) 2014, *WRP (Pseudocheirus occidentalis) Recovery Plan, Wildlife Management Program No. 58*, Department of Parks and Wildlife, Perth. February 2014

Department of Planning 2014, *Greater Bunbury Region Scheme Map*, Produced by the Department for Planning and Infrastructure, South West Planning Services, Bunbury, Western Australia, 2014

Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) 2012, *Environmental Protection and Biodiversity Conservation Act 1999 referral guidelines for three Threatened black cockatoo species*, Canberra, DSEWPaC.

Department of the Environment (DEC) 2008, *Forest Black Cockatoo (Baudin's Cockatoo Calyptorhynchus baudinii and Forest Red-tailed Black Cockatoo Calyptorhynchus banksii naso) Recovery Plan,* Department of Environment and Conservation, Perth

Department of the Environment (DEC) 2012, *Carnaby's Cockatoo (Calyptorhynchus latirostris) Recovery Plan*. Western Australian Wildlife Management Program No. 52, Department of Environment and Conservation, Perth.

Department of the Environment (DotE) 2013. Matters of National Environmental Significance 'Significant Impact Guidelines 1.1' Commonwealth of Australia

Department of the Environment, Water, Heritage and the Arts (DEWHA), 2009a, Significant impact guidelines for the vulnerable WRP (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia, EPBC Act policy statement 3.10.

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

Jones, B.A., How, R.A. and Kitchener, D.J., 1994a, *A Field Study of Pseudocheirus occidentalis (Marsupialia: Petauridae), I. Distribution and Habitat*, Wildlife Research 21: 175-187.

May, S.A. and Norton, T.W., 1996, *Influence of fragmentation and disturbance on the potential impact of feral predators on native fauna in Australian forest ecosystems*, Wildlife Research, 23 (4): 387-400.

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Shedley, E. and Williams, K., 2014, *A review of suitable habitat for WRP (Pseudocheirus occidentalis) in the Bunbury to Dunsborough coastal plain*, Unpublished report for the Department of Parks and Wildlife, Bunbury, Western Australia.

Trimming, E.M., Chambers B.K., D., Grillo, de Tores P.J., and Bencini R., 2009, '*Road Kills of the WRP (Psedocheirus occidentalis) Occur at Specific Hotspots*'. **In:** Semi-Centenary and 55th Meeting in Perth July 5-9, 2009 Scientific Program.

Western Australian Planning Commission (WAPC), 2014, *Planning for the Bush Fire Protection Guidelines DRAFT.* Western Australian Planning Commission , Perth, Western Australia.

Wayne, A.F., Cowling, A., Lindenmayer, D.B., Ward, C.G., Vellios, C.V., Donnelly, C.F. and Calver, M.C., 2006, *The abundance of a Threatened arboreal marsupial in relation to anthropogenic disturbances at local- and landscape- scales in Mediterranean-type forest in Western Australia*. Biological Conservation 127: 463-476.

Wood, M.S., and Wallis, R.L. 1997, *Potential competition for nest sites between feral European honeybees (Apis mellifera) and common brushtail possums (Trichosurus vulpecula)*. Australian Mammalogy 20: 377-381.

7.2 Reliability and date of information

A various flora, fauna and dieback surveys were undertaken by a qualified and experienced ecologists in Summer 2015.

The flora survey involved an assessment of the vegetation types and condition of the vegetation, noting or collecting all flora species visible at the time of survey. The survey methodology employed was consistent with the EPA guidelines for flora surveys as outlined in Guidance Statement No. 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia and Terrestrial Biological Surveys as an Element of Biodiversity Protection, Position Statement No. 3.

The flora field assessment methodology involved a combination of sampling in representative vegetation types and meandering transects of the Project Area on foot to record plant species present (visible) at the time of the survey. The field survey was conducted within the appropriate spring survey period.

The fauna assessments were consistent with the EPA Guidance Statement for the Assessment of Environmental Factors for Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (Guidance Statement No. 56). The methodology used to undertake the fauna assessment was as followed opportunistic searching across all habitat types and opportunistic visual and aural surveys.

7.3 Attachments

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Figure 1
	GIS file delineating the boundary of the referral area (section 1)		GIS File attached
	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)	✓	**<u>Attachment A</u>** **Figure 1:** Project Location **Figure 2:** Proposed developed land use **Figure 3:** Black Cockatoo habitat values
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)	X	N/A
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)	X	No public consultation undertaken
	copies of any flora and fauna investigations and surveys (section 3)	✓	Attachment A – Figures Attachment B – Flora survey Attachment C – Fauna survey Attachment D – Dieback survey Attachment E – EPBC

		PMST search
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 B – Flora survey Attachment C – Fauna survey Attachment D – Dieback survey
report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)	✓	Attachment F

8 Contacts, signatures and declarations

Project title:	Proposed residential development, College Grove WA

8.1 Person proposing to take action

Name	Andrew Brien
Title:	Chief Executive Officer
Organisation:	City of Bunbury
ACN / ABN:	61 002 948 455
Postal address:	PO Box 21, Bunbury WA 6231
Telephone:	(08) 9792 7000
Email:	records@bunbury.wa.gov.au
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence. 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 1/10/15

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

Name	Orla O'Donnell
Title:	Environmental Officer
Organisation:	City of Bunbury
ACN / ABN:	61 002 948 455
Postal address:	PO Box 21, Bunbury WA 6231
Telephone:	(08) 9792 7077
Email:	oodonnell@bunbury.wa.gov.au
Name	Orla O'Donnell
Title:	Environmental Officer
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 1/10/15

REFERRAL CHECKLIST

HAVE YOU:

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

Attachments have been forwarded as separate PDF files