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Lot 6 Taronga Place, Eglinton (EPBC 2017/7872)

Vegetation and Conservation Area Management Plan

Prepared for
Urban Quarter
by Strategen

October 2018

Lot 6 Taronga Place, Eglinton (EPBC 2017/7872)

Vegetation and Conservation Area Management Plan

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October 2018

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Client: Urban Quarter

Report Version	Revision No.	Purpose	Strategen author/reviewer	Submitted to Client	
				Form	Date
Draft Report	A	Client review	A.Dalton / D. Newsome	Electronic	06 / 09 / 2018
Final Report	0	For submission	A.Dalton / D. Newsome	Electronic	11 / 09/ 2018
Final Report	1	For submission	E Payne / K Choo	Electronic	02 / 10 / 2018

Filename: URQ16447.03 R006 Rev 1 - 2 October 2018

Executive Summary

Prime Eglinton Pty Ltd proposes to develop Lot 6 Taronga Place, Eglinton.

The Department of the Environment and Energy (DEE) have requested that a Vegetation and Conservation Area Management Plan (VCAMP) is prepared for EPBC Approval (2017/7872). The purpose of this document therefore is to inform post EPBC approval. This VCAMP aims to:

- provide measures to avoid and mitigate impacts to the endangered Carnaby's Black-Cockatoo (CBC) and their habitat, within the Project Area and in conservation areas adjacent, prior to, during and post construction
- provide measures to avoid and mitigate impacts to Banksia Woodland Threatened Ecological Community (Banksia woodland TEC) in conservation areas in and adjacent to the Project Area
- identify objectives, interim targets, performance indicators and completion criteria
- provide timeframes for the implementation and completion of the above objectives
- develop a monitoring and reporting program
- identify contingency measures
- establish roles and responsibilities.

The Project Area contains approximately 100.25 ha of potential foraging habitat ranging from Good to Very Poor – Nil foraging quality for CBC and 49.29 ha of Banksia Woodland TEC. Where possible CBC habitat and Banksia Woodland TEC has been proposed to be retained in Public Open Space (POS) conservation areas in the Eastern Precinct. The area of vegetation to be retained in the conservation POS areas (A and B) is 8.14 ha. Within this area is 8.04 ha of CBC foraging habitat and Banksia woodland TEC.

The retention areas have been informed by landscape and engineering design to ensure that the area is not adversely impacted by earthworks and that the vegetation can be retained within a landscape design that supports the long term viability of the vegetation and habitat whilst supporting the landscape design concept and functionality of the POS area.

This VCAMP also outlines measures to mitigate any indirect impacts to areas of vegetation adjacent to the Project Area. Areas of conserved Banksia woodland TEC located directly west and north of the Project Area are to be retained in conservation under a separate EPBC approval (EPBC 2010/5777).

Management of indirect impacts to the adjacent Banksia Woodland TEC focus on the prevention of loss or degradation to the Banksia Woodland TEC contained in these areas.

An assessment of the potential impacts and risks of the Project to CBC and Banksia Woodland TEC in conservation areas in and adjacent to the Project Area have been undertaken in this VCAMP. Results of the risk assessment have been used to develop management measures that form part of this VCAMP, including:

- Banksia woodland TEC management
- Black Cockatoo management
- weed and pathogen management
- amenity management (such as dust, erosion and rubbish).

Monitoring activities will be undertaken to determine performance against objectives during and post construction. Contingency measures will be initiated if monitoring indicates that targets and performance indicators are not being met.

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Appendix 1 EPBC Referral outcome (2017/7872)
Appendix 2 EPBC approval conditions

1. Introduction

Prime Eglinton Pty Ltd (Prime Eglinton) is developing Lot 6 Taronga Place, Eglinton, for residential and commercial landuse (the Project) (Figure 1). The Project will result in the clearing of Carnaby's Black Cockatoo, *Calyptorhynchus latirostris* (CBC) habitat, which is listed as an Endangered species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and Banksia Woodland Threatened Ecological Community (TEC) which is listed as an Endangered community under the EPBC Act. A referral (EPBC 2017/7872) under the EPBC Act was submitted to the Department of the Environment and Energy (DEE) in January 2017. The proposed development was approved subject to conditions on 18 September 2018.

The development includes the retention of at least 8 hectares (ha) of CBC and Banksia Woodland TEC, to be retained in Conservation Public Open Space (POS) areas (Figure 2). Conditions 3 and 4 of the approval relate to the demonstration of the retention and management of 8 ha in POS (Figure 2) as well as management of construction activities to prevent impacts to CBC and Banksia Woodlands TEC during construction.

1.1 Vegetation and Conservation Area Management Plan

In accordance with condition 3 of the EPBC Approval 2017/7872, Prime Eglinton is required to retain 8 ha of Carnaby's Black Cockatoo and Banksia Woodlands TEC in POS which is to be transferred to the City of Wanneroo within 5 years of commencement of the action, for the purpose of conservation (Figure 2).

Condition 4 of EPBC Approval 2017/7872 requires Prime Eglinton to prepare a Vegetation and Conservation Area Management Plan (VCAMP) to prevent impacts to CBC habitat and Banksia Woodland TEC during construction.

This VCAMP has been prepared in accordance with DEEs Environmental Management Plan Guidelines and specific guidance provided by the Department. This VCAMP has been prepared to support the collection and presentation of records to support the requirements of Condition 7, 8 and 9 of EPBC Act Approval 2017/7872 relating to the substantiation of actions relevant to the approval, provision of an annual report and the undertaking of an independent audit of compliance with the conditions.

This VCAMP identifies targets, management measures, monitoring actions, completion criteria, reporting, contingencies and auditing to be undertaken by Prime Eglinton to satisfy approval conditions.

This plan has been developed to ensure best practice management is employed during the clearing and construction stages of development, to minimise impacts to retained vegetation within the Project Area. This VCAMP also specifically refers to preventing impacts to CBC and the Banksia Woodlands of the Swan Coastal Plain TEC in and adjacent to the Project Area.

The VCAMP has been prepared to address the requirements of condition 4 of EPBC 2017/7872 specifically, however also assists in the implementation of conditions 1, 2, 3 and 4, as presented in Table 1.

Table 1: Conditions of approval reference table

Condition	Condition requirement	Plan reference
1	Not more than 92.25 ha of CBC habitat or 41.29 ha of Banksia Woodlands TEC within the project area is approved to be cleared.	Section 4 and Table 5 Section 6 and Table 9
2	Within 7 days prior to clearing of any area of CBC habitat, all potential nesting trees within the area to be cleared will need to be investigated (and documented) to determine if there are any hollows that are being utilised, or capable of being utilised, by CBC for nesting.	Section 4 and Table 5 Section 6 and Table 9
3	To minimise impacts to the CBC and Banksia Woodlands TEC, written evidence that at least 8 ha of CBC and Banksia Woodlands TEC has been transferred to the City of Wanneroo as POS for the purposes of conservation.	Section 6.1
4	To mitigate impacts to the CBC and Banksia Woodlands TEC, a VCAMP is required to be prepared and submitted for approval. The action cannot be commenced until the VCAMP has been approved. The approved VCAMP must be implemented.	This VCAMP
4 (a) i	Measures to prevent impacts to CBC habitat and Banksia Woodlands TEC during construction, including preventing and/or controlling site access, weeds, dieback, erosion, dust and fire.	Section 6.2 and Table 9 Section 6.3 and Table 10 Section 6.4 and Table 11
4 (a) ii	Measures to prevent impacts to CBC habitat and Banksia Woodlands TEC during construction, include delineating vegetation to be retained through temporary fencing / signage to avoid accidental clearing or disturbance outside of the impact area.	Section 6.2 and Table 9
4 (b)	Objectives, targets and completion criteria for post construction rehabilitation measures such as site clean-up and weed management, including information on the mapping, monitoring and removal of noxious weeds.	Section 4.0 and Table 5 Section 7.1 and Table 12
4 (c)	Access control measures (e.g. fencing) to prevent or manage access to the areas of Public Open Space proposed to be retained for conservation.	Section 6.2 and Table 9 Section 6.3 and Table 10
4 (d)	Bushfire control measures.	Bushfire Management Plan
4 (e)	Design and engineering controls to ensure that stormwater is not directed toward retained and adjacent areas of vegetation and that stormwater is appropriately managed to reduce hydrological impacts and prevent the mobilisation of dieback or other contaminants.	Section 6.2 and Table 9 Section 6.3 and Table 10
4 (f)	Clear objectives and performance indicators for all management actions, mitigation measures and practices prescribed by the VCAMP including details of the monitoring to be undertaken to demonstrate the effectiveness of the measures.	Section 4.0 and Table 5 Section 7.1 and Table 12
4 (g)	Corrective actions for circumstances where an action, mitigation measures or practice prescribed by the VCAMP including details of the monitoring to be undertaken to demonstrate the effectiveness of the measures.	Section 9.0 and Table 14
4 (h)	Timeframes for implementing the above measures.	Section 6.2 and Table 9 Section 6.3 and Table 10 Section 6.4 and Table 11

1.2 Project description

Lot 6 Taronga Place, Eglinton (Project Area) (Figure 1) comprises an area of 149 ha and is located west of Wanneroo Road, in the City of Wanneroo, 42 km north of Perth CBD. The Project Area is predominantly situated in the central east of the Alkimos-Eglinton District Structure Plan (DSP). The Project Area is currently zoned 'Urban' under the Metropolitan Region Scheme (MRS) and 'Urban Development and 'rural' under the City of Wanneroo's Town Planning Scheme No. 2.

As part of the wider Alkimos-Eglinton DSP, future development of the Project Area will include the construction of residential, commercial and Public Open Space land uses as well as the clearing of rail reserve and parts of the Freeway reserve. A portion of the Project Area includes a road reserve for a future Mitchell Freeway extension and a rail reserve for a future rail extension, these reserves are indicated in Figure 2.

The Project Area contains approximately 100.25 ha of potential foraging habitat for CBC (listed as Endangered under the EPBC Act) and approximately 49.29 ha of Banksia woodland TEC. 8 ha of CBC habitat and Banksia Woodland TEC will be retained in the Project Area in the Conservation POS. Conservation POS will include two areas of retention, area 'A' and area 'B' (Figure 2).

This VCAMP outlines measures to prevent any direct and indirect impacts to areas of vegetation adjacent to the Project Area. Two areas of conserved Banksia woodland TEC, are located directly west and north of the Project Area. These two areas are to be retained in conservation under a separate development approval (EPBC 2010/5777). It should be noted for clarity, that the adjacent site is under separate ownership to the proposal area and is not related to the proposed development within the Project Area. For this reason, management of indirect impacts to the Banksia Woodland TEC adjacent to the Project Area, focus on the prevention of loss or degradation to the vegetation and the spread of weeds and dieback into areas of Banksia Woodland TEC.

1.2.1 Timing

The construction and development of the project, has been divided into three phases. The third phase of construction (phase 3) will be undertaken in the eastern precinct, which contains the conservation POS areas (Figure 2). The three phases of construction and proposed timelines are outline in Table 2.

Table 2: Phases of the development construction

Development phase	Timing	Location
Phase 1	Years 0 to 5 of development construction	Western precinct
Phase 2	Years 5 to 10 of development construction	Central precinct
Phase 3	Years 5 to 10+ of development construction	Eastern precinct



Figure 1: Site Location

Legend

- Project Area
- Local Road
- Miscellaneous Road
- State Road



Vegetation and Conservation Area Management Plan
Lot 6 Taronga Place, Eglinton
EPBC 2017/7872

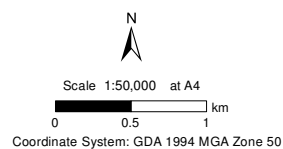




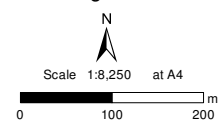
Figure 2: Conservation Public Open Space (POS)

Legend

- Project Area
- Freeway and Rail Reserve
- Black Cockatoo Habitat & Banksia Woodland TEC retention areas (8.14 ha)
- 20m Buffer



Vegetation and Conservation Area Management Plan
 Lot 6 Taronga Place, Eglinton
 EPBC 2017/7872



Coordinate System: GDA 1994 MGA Zone 50
 Date: 5/09/2018

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1.3 Purpose

This VCAMP provides details of how direct and indirect impacts to Black Cockatoo habitat and the Banksia Woodlands TEC will be managed.

This VCAMP aims to:

- provide measures to avoid and prevent impact to Carnaby's Black-Cockatoo (CBC) and their habitat within the Project Area, prior to, during and post construction
- provide measures to avoid and mitigate impacts to Banksia Woodland TEC in and adjacent to the Project Area
- identify objectives, interim targets, performance indicators and completion criteria
- provide timeframes for the implementation and completion of the above objectives
- develop a monitoring and reporting program
- identify contingency measures
- establish roles and responsibilities.

1.4 Statutory and policy context

1.4.1 Environment Protection and Biodiversity Conservation Act 1999

An EPBC Act referral for the Project was submitted to DEE in January 2017. The Project was determined to be a controlled action (EPBC 2017/7872), requiring assessment via preliminary documentation on 3 April 2017 (Appendix 1). The Project was approved by the Minister on 18 September 2018. Conditions 3 and 4 of the EPBC approval (2017/7872) required a VCAMP to be prepared (Appendix 2).

1.4.2 Environmental Protection Act 1986

In 2006, the Environmental Protection Authority (EPA) assessed the Alkimos-Eglinton MRS to reflect the Alkimos-Eglinton Structure Plan under 48A of the Environmental Protection Act 1986 (EP Act). Ministerial Statement 772 was subsequently released which concluded that subject to MS conditions there was no environmental reasons why the MRS amendment could not be implemented. This amendment area includes the project area.

The project area and its surroundings have been subjected to historical clearing for a number of decades. A portion of the project area has been subject to an approved Native Vegetation Clearing Permit (CPS 922/1) under Part V of the Environmental Protection Act 1986. The permit related to the clearing of 35 ha of native vegetation within Lot 6 Taronga Place for the purposes of grazing and pasture. The Native Vegetation Clearing Permit was approved in 2007 and the clearing was since undertaken.

1.4.3 City of Wanneroo Local Planning Policy

Local Planning Policy 4.3 Public Open Space

The CoW Local Planning Policy (LLP) 4.3 aims to ensure that new POS areas provide a balance of the following:

- a diversity of recreational uses and options for the community
- nature spaces protecting local natural assets whilst providing the community with managed access
- incorporation of water sensitive urban design principles
- high levels of amenity
- affordability (including consideration of future maintenance costs)
- environmental sustainability
- sports sites for organised sporting activities.

The LLP discusses a minimum of three percent (3%) of the gross sub-divisible area shall be provided as POS for the purposes of conservation and recreation where any of the following significant natural assets exist:

- Threatened and Priority Ecological Communities
- Declared Rare and Priority Flora Species
- Specially Protected and Priority Fauna Species; Matters of National Environmental Significance (as per EPBC Act 1999)
- wetlands
- karstic features e.g. caves and pinnacles
- vegetation complexes with less than 30% of their original extent remaining (as detailed in the City's Local Biodiversity Strategy)
- coastal vegetation
- significant trees (refer to LLP 4.8).

The Conservation POS has been designed to meet both the City of Wanneroo and EPBC Act approval and management requirements. In accordance with Condition 3 of EPBC approval (2017/7872), the Conservation POS areas will be transferred to the City of Wanneroo within 5 years of commencement of the action.

2. Existing environment

2.1 Vegetation

Regional vegetation complex mapping (Hedde et.al 1986) indicates that the Project Area consists of Cottesloe Complex Central and South. The EPA (2015) reports that approximately 33% of this vegetation complex is remaining within the Perth Peel Region.

A flora and vegetation assessment was undertaken over the LSP area over two events; in late October and early November 2016 to confirm the flora and vegetation values contained within the proposed action area. The survey also had the objective of defining the extent of the Banksia woodlands of the Swan Coastal Plain TEC present within the proposed action area.

Nine vegetation types (VTs) were defined and mapped within the Project Area, which include

- BaBmEt – *Banksia attenuata*, *Banksia menziesii* Low Woodland with *Eucalyptus tottiana* woodland over Open Heath of *Allocasuarina humilis* and *Xanthorrhoea preissii* over Low Open Shrubland of *Hibbertia hypericoides* over mixed Herbland
- BaBmBp – *Banksia attenuata*, *Banksia menziesii*, *Banksia prionotes* Open Low Woodland over Open Low Shrubland of *Xanthorrhoea preissii* and *Hibbertia hypericoides* over mixed Herbland including **Pelargonium capitatum* and exotic grasses
- Bs – Tall Open Scrub of *Banksia sessilis* over patches of *Melaleuca huegelii* over Low Shrubland of *Melaleuca acerosa*, *Grevillea preissii* and *Calothamnus quadrifidus* over Open Sedgeland of *Lomandra maritime*, *Desmocladius asper*, *Mesomelaena pseudostygia* and *Lepidosperma squamatum*
- Ed – Woodland of *Eucalyptus decipiens* with scattered *E. tottiana* and patches of *Allocasuarina fraseriana*, over Open Heath to Open Shrubland of *Hibbertia hypericoides* and *Calothamnus quadrifidus*
- EdBs – Woodland of *Eucalyptus decipiens* over Tall Open Scrub to Shrubland of *Banksia sessilis* and *Jacksonia sternbergiana* over Open Heath to Open Shrubland of *Hibbertia hypericoides* and *Calothamnus quadrifidus*
- EdBa – Woodland to Low Open Woodland of *Eucalyptus decipiens* and *Banksia attenuata* with Scattered *Eucalyptus tottiana* and patches of *Allocasuarina fraseriana*, over Tall Open Scrub to Shrubland of *Banksia sessilis* and *Jacksonia sternbergiana* over Open Heath to Open Shrubland of *Allocasuarina humilis*, *Acacia saligna* and *Xanthorrhoea preissii* over Low Shrubland of *Hibbertia hypericoides* and *Calothamnus quadrifidus*
- Pasture – Scattered remnant *Eucalyptus* sp. and *Banksia* sp. over pasture weeds
- Planted trees – Planted *Eucalyptus* sp. over pasture weeds
- Regrowth - Recently cleared with re-emergent understory species including *Hibbertia hypericoides*, *Acacia pulchella*, *Allocasuarina humilis*, *Calothamnus quadrifidus* and *Conostylis aculeata*.

The Project Area contains approximately 148.43 ha of vegetation in varying condition, ranging from Excellent through to Completely Degraded as per the condition scale outlined in Keighery (Figure 3). Historical land use (e.g. agriculture) has impacted the vegetation condition via the introduction and spread of weeds and other human disturbances (e.g. vehicle use). Numerous exotic grass species were recorded during the 2016 surveys, such as *Ehrharta calycina* (Perennial veldt grass), which competes with native taxa and subsequently reduces the diversity of native shrubs and herbs, therefore impacting the native community composition.

The Banksia Woodland TEC to be retained in the Conservation POS is in Very Good – Excellent condition (Figure 3, Figure 4). It is worthwhile to note; a Dieback assessment was completed for the Banksia woodland TEC in the Project Area by Glevan Consulting (2017). Dieback was not recorded in the Project Area from this assessment.

2.2 Banksia woodland TEC

Statistical analyses of the vegetation types identified that the federally listed Banksia Woodlands of the Swan Coastal Plain TEC, mapped as the woodland communities BaBmEt and BaBmBp, is limited to the representative of FCT28. Based on this assessment 49.29 ha of Banksia Woodland TEC is present within the Project Area.

FCT28 sites, Spearwood Banksia attenuata or Banksia attenuata – Eucalyptus woodlands, have an average species richness (ASR) of 55.1 species (Approved Conservation Advice 2016). FCT 28 occur predominantly in the Karrakatta and Cottesloe units of the Spearwood dune system, with recorded locations from Seabird south to Thompsons Lake (Gibson 1994). The ASR recorded within VT BaBmEt, BaBmBp and EdBa (i.e. vegetation types representing the Banksia TEC) was 24.0, approximately 43.5 % of the ASR of FCT28. The low ASR recorded within the proposed action area reflects the historical clearing and agricultural use of large areas of the vegetation mapped as Banksia Woodland TEC with vegetation present being subsequent regeneration of Banksia woodland. The majority of the vegetation of the site is therefore not a high quality representation of the FCT.

FCT 28 is not listed as a State Priority Ecological Community (PEC) or TEC. Details on the extent and % or hectares remaining of FCT 28 is not available, however the scarcity of this community type can be inferred from information on the Vegetation Complex and Vegetation Association that FCT 28 forms part of.

FCT 28 is part of the Spearwood Dune Vegetation Complex. The Vegetation Association 949 forms part of the Spearwood Complex. The Banksia Woodland of the Swan Coastal Plain Conservation Advice, 2016 identifies Vegetation Association 949 as a major component of the ecological community. Table E1 of the Conservation Advice indicates that Vegetation Association 949, as it intersects with the Spearwood Complex, has seen a decline of 48.59% (51.41% remaining) compared with the assessed pre-European extent.

At the Vegetation Complex level, the site is within the Spearwood Complex, specifically the Cottesloe Complex – Central and South. The Cottesloe Complex – Central and South has 35% of its pre-European extent remaining, with 18.5% proposed for protection through Bush Forever (Government of Western Australia 2016). The Eastern Precinct contains two areas of Banksia woodland TEC proposed to be retained within the conservation POS areas A and B, as depicted in Figure 4. The area of vegetation containing the retained Banksia woodland TEC is 8.04 ha. To provide local context, Figure 5 depicts the Banksia Woodland TEC located outside of the Project Area.

2.3 Black Cockatoo habitat

CBC are endemic to the south-west of Western Australia. They primarily occur in uncleared remnant native eucalypt woodlands, particularly those that contain Salmon Gum and Wandoo, and in shrubland or kwongan heathland dominated by *Hakea*, *Dryandra*, *Banksia* and *Grevillea* species (Department of Sustainability Environment Water Population and Communities [DSEWPoC] 2012). Current data on distribution of this species shows that there are numerous records from the Northern Swan Coastal Plain.

Bamford Consulting Ecologists (BCE) undertook a targeted Black Cockatoo habitat survey within the Project Area on 24th May 2017 and 14th June 2017. Survey methodology followed the recommendations of (DEE 2017). The suitability of the Project Area for Black Cockatoo foraging was assessed by inspecting the entire site, on foot, and calculating a foraging habitat value for areas of similar vegetation type/condition.

The survey determined foraging habitat for Carnaby's Black Cockatoo was present within the Project Area. This is due to the presence of the known feed species of Carnaby's Black Cockatoo, *Banksia attenuata*, *B. menziesii* and *B. sessilis*. Evidence of foraging was also recorded within the Project Area, with feed signs ranging in age from very recent (likely to have been fed upon on the day of the site inspection) to old, suggesting a history of foraging activity at the site.

The Project Area supports 100.25 ha of foraging habitat for Carnaby's Black Cockatoo.

A total of 16 significant trees are located within the project area, 2 of these trees have hollows of suitable size to be used by black cockatoo, however 1 of these trees has a hollow of unsuitable orientation. 8 of the significant trees are proposed to be retained in the Conservation POS. None of these trees represent breeding habitat and the Project Area was assessed as being generally poorly suited to breeding by Black Cockatoo (BCE 2017).

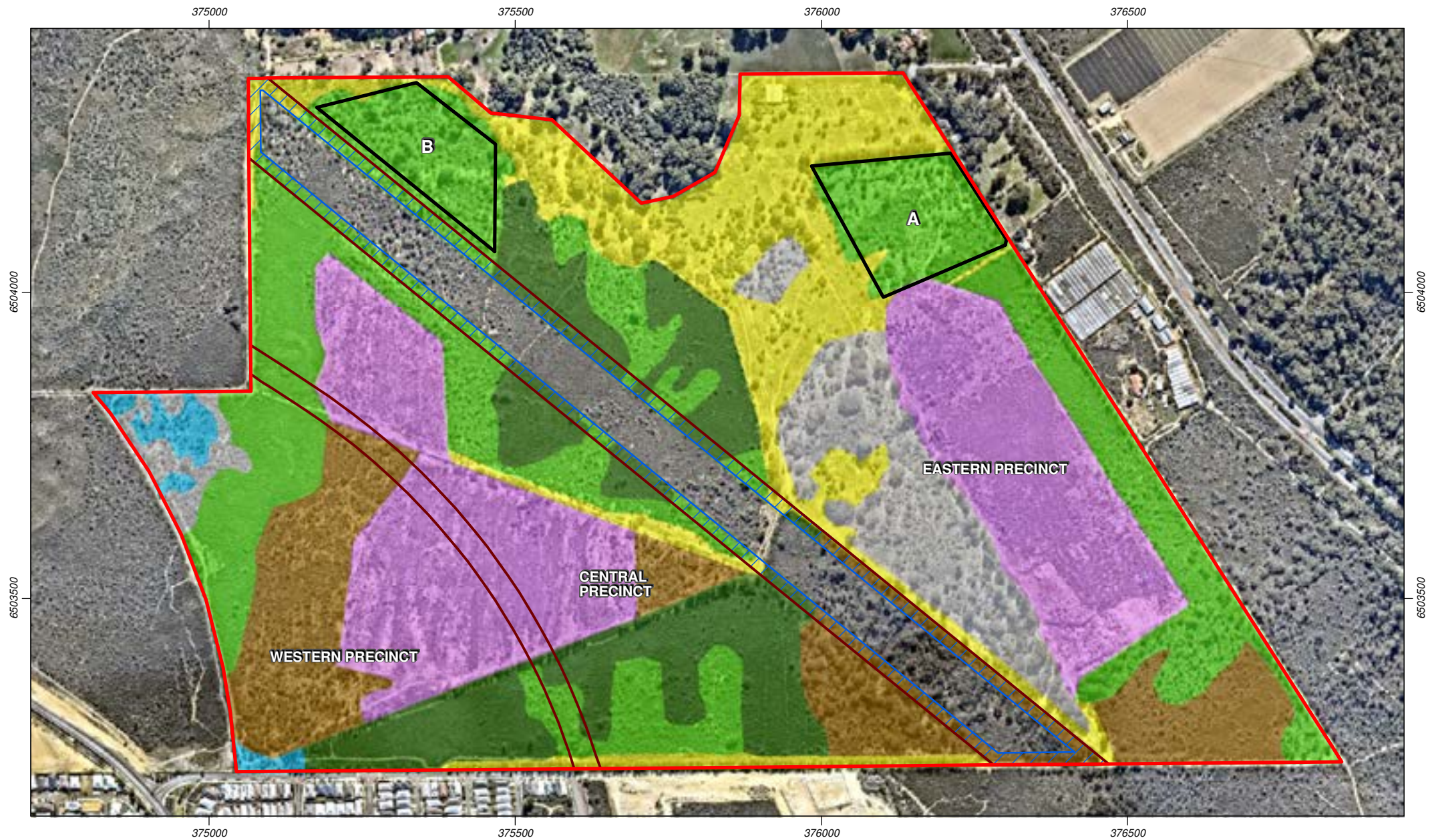


Figure 3: Vegetation Condition within the Project Area

Legend

- Project Area
- Freeway and Rail Reserve
- Black Cockatoo Habitat & Banksia
- Woodland TEC retention areas (8.14 ha)
- 20m Buffer

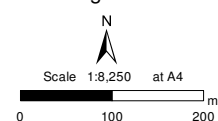
Vegetation Condition

- Excellent (19.71 ha)
- Very Good - Excellent (39.90 ha)
- Very Good (19.64 ha)

- Good - Very Good (12.16 ha)
- Good - Degraded (33.14 ha)
- Degraded (1.68 ha)
- Completely Degraded (22.83 ha)



Vegetation and Conservation Area Management Plan
Lot 6 Taronga Place, Eglinton
EPBC 2017/7872



Coordinate System: GDA 1994 MGA Zone 50
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Data source: Nearmap: Aerial image, flown 06/2018. Landgate: Cadastre, 11/2017. Client: Urban Quarter. Development layout, 08/2018. Created by: c.thatcher



Figure 4: Banksia woodland TEC within the Project area



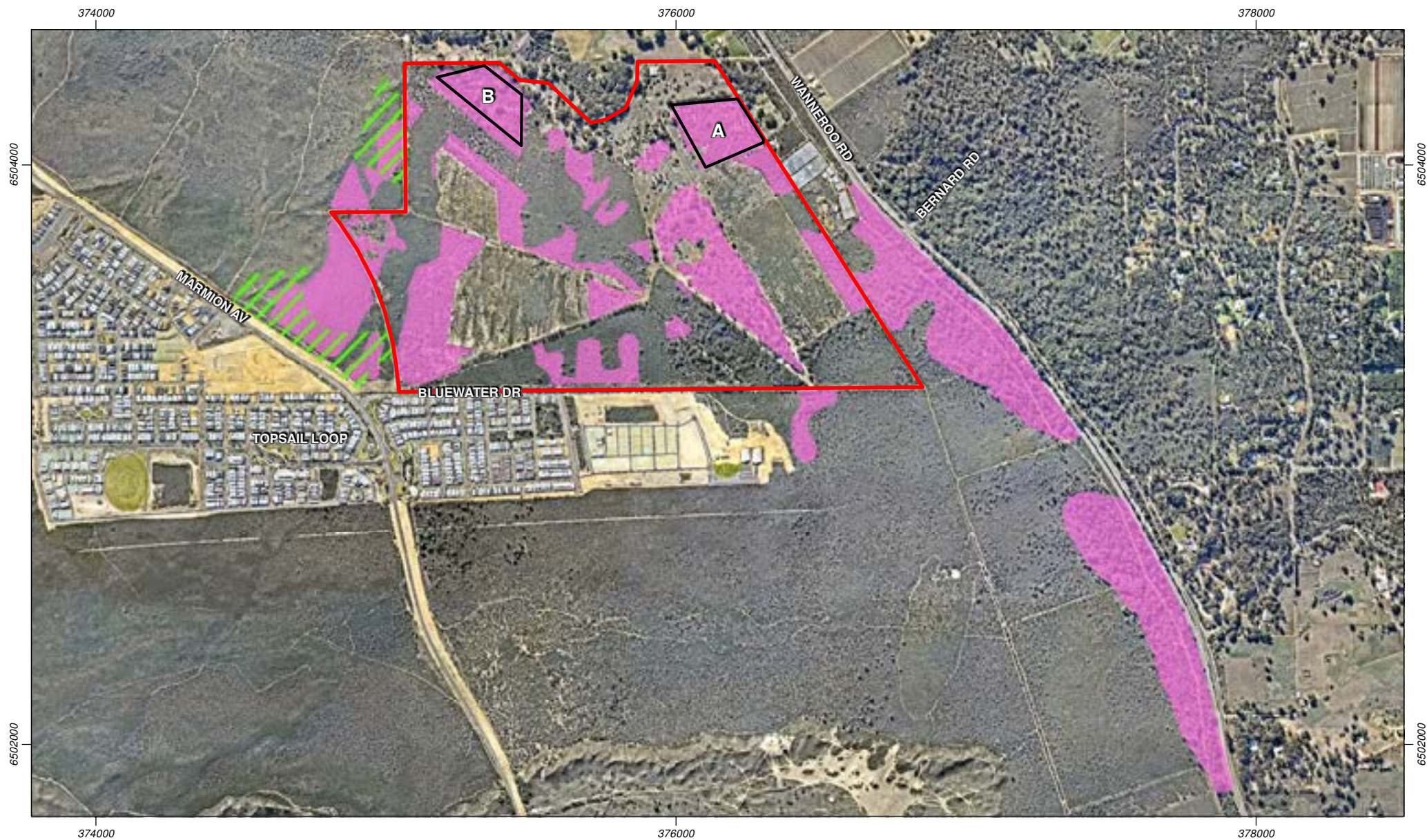


Figure 5: Banksia Woodlands TEC within and adjacent to Project Area

Scale 1:18,000 at A4

0 250 500 m

Coordinate System: GDA 1994 MGA Zone 50
Note that positional errors may occur in some areas

Date: 28/09/2018

Author: JCrute

Source: Aerial image: Nearmap, flown 04/2016.

Legend

LSP area

Project area

Banksia Woodlands TEC

Conservation areas to be retained as per EPBC (2010/5777)

Black Cockatoo Habitat & Banksia Woodland TEC retention areas (8.14 ha)

3. Potential impacts and risks

An assessment of the potential impacts and risks to CBC and the Banksia Woodland TEC in and adjacent to the Project Area, as a result of the Project Area being developed has been undertaken. Results of the risk assessment have been used in developing management measures that form part of this VCAMP.

3.1 Threats to Carnaby's Black Cockatoo

Threats to CBC are described in the *EPBC Act referral guidelines for three threatened Black Cockatoo species* (DSEWPac 2012b) and are summarised as follows:

Habitat loss and degradation, including:

- loss and isolation of mature, hollow-bearing trees necessary for breeding
- lack of or loss of younger age class trees required to replace old trees that die or are destroyed, leading to a shortage of hollows in the future
- loss, degradation and fragmentation of foraging habitat¹
- removal of native vegetation corridors, restricting the birds' ability to migrate across the landscape
- loss, degradation and isolation of night roost sites and surrounding feeding or watering habitat
- loss and degradation of habitat by secondary impacts such as introduction of dieback caused by *Phytophthora cinnamomi* (and other plant diseases), weed invasion which can affect seed set, and hydrological changes (such as flooding, drainage or salinity).

Interactions with humans, including:

- death or injury when hit by cars or trucks, particularly road constructions that concentrate birds
- at roadsides to feed on roadside vegetation and spilt grain, or drink from rainwater retained as puddles on roadsides
- death or injury from crop protection measures which may trap or injure birds, or prohibit them from accessing nearby native vegetation
- disturbance to birds from noise, light, vibrations and fumes
- shooting of birds (for example where they are coming into conflict with humans over fruit or nut crops)
- poaching of birds and eggs.

Adverse impacts from invasive species, including:

- competition for nest hollows with European honeybees and invading bird species
- injury and death from European honeybees.

3.1.1 Threats to Banksia Woodlands of the Swan Coastal Plain TEC

Threats to the Banksia Woodlands of the Swan Coastal Plain TEC are described in TSSC (2016) and summarised as follows:

- the greatest threat is clearing and fragmentation. This includes:
 - * clearing for urban developments, especially in the Perth metropolitan region but also in the urban centres of Bunbury and Busselton
 - * associated urban degradation/disturbance such as rubbish dumping, uncontrolled vehicle access, wildflower and seed harvesting

¹ This is particularly important in breeding areas: removal of vegetation around breeding sites, and the removal of native vegetation corridors that connect breeding and foraging sites, reduces the amount of food available to breeding birds and can affect chick survival rates. Breaks of more than 4 km have been shown to prevent breeding birds reaching resources.

- * clearing for agriculture and horticulture (mainly in the past)
- * mining for basic raw materials (e.g. road/building materials), mineral sands and silica sands, that involve vegetation clearing and hydrological impacts
- dieback diseases (especially those caused by *Phytophthora* species)
- invasive species
- fire regime change (particularly increased fire frequency; prescribed burning during late autumn to late spring when plants are in active growth, flowering and seed development and animals are active)
- hydrological degradation (groundwater abstraction, eutrophication, soil acidification)
- climate change (increasing temperatures, declining rainfall, changing rainfall timing)
- grazing (including overabundance of kangaroos particularly in peri-urban reserves)
- decline in pollinating and seed dispersing fauna
- loss of keystone *Banksia* species and fragmenting of nectar/pollen nutritional networks e.g. loss of *Banksia ilicifolia* in water drawdown areas.

3.1.2 Potential impacts

Potential impacts to CBC and the Banksia Woodland TEC as a result of the Project development have been identified below.

The key impacts to CBC as described in Table 3 have been derived from a review of threats as listed in the section 3.1.1 above.

Table 3: Potential impacts of the proposal on CBC

Impact	Description
Loss of foraging and potential breeding habitat	The Project will result in the removal of CBC foraging and potential breeding habitat.
Habitat impacts through introduction and / or spread of dieback	<p>The dieback (<i>Phytophthora cinnamomi</i>) assessment concluded that there was no evidence of Dieback occurring in the Project Area.</p> <p>However, the development of the Project Area may introduce or spread dieback within the Project Area, which could lead to decline in vegetation health.</p> <p>Soil containing dieback may be transported on footwear and / or machinery and equipment used during clearing and construction operations.</p> <p>Stormwater during and post construction may result in mobilisation of pathogens, such as dieback, into the CBC habitat.</p>
Habitat impacts through introduction and / or spread of weeds	<p>The Project has the potential to introduce new weed species and / or spread existing weeds from the Project Area to Conservation POS areas.</p> <p>Habitat contained in POS areas are at high risk of establishment of invasive species through edge effects.</p> <p>Soil containing weed and seed matter may be transported on footwear and/or machinery and equipment used during clearing operations.</p> <p>Stormwater during and post construction may result in mobilisation of weeds into the CBC habitat.</p>
Interactions with humans	There is the potential of death or injury to Black Cockatoo by vehicle strike within the residential development during and post construction.
Habitat impacts through fire regime alteration	<p>The residential development could indirectly impact the CBC habitat in and adjacent to the Project Area through fire regime alteration if not managed appropriately.</p> <p>A Bushfire Management Plan (BMP) has been prepared to provide guidance on how to plan for and manage the potential bushfire risk to future assets of the project through implementation of a range of bushfire risk mitigation measures. The BMP will be updated concurrently with future subdivision and construction stages, and is likely to span over a decade.</p>
Grazing	There is the potential for CBC habitat to be impacted by over grazing from kangaroos.

The key impacts to Banksia Woodlands of the Swan Coastal Plain TEC as described in Table 4 have been derived from a review of threats as listed in Section 3.1.1 above.

Table 4: Potential impacts of the proposal on Banksia woodland TEC in and adjacent to Project Area

Impact	Description
Urban degradation / disturbance	<p>Though unlikely, the project has the potential to result in unauthorised rubbish dumping, or rubbish drift from the Project Area into the Banksia Woodland TEC in and adjacent to the Project Area.</p> <p>Unauthorised access to the adjacent Banksia Woodland TEC associated with the Project Area is unlikely as there will be a fence separating the boundary between the two. Banksia Woodland TEC retained in POS will also be fenced off.</p>
Habitat impacts through introduction and / or spread of dieback	<p>The dieback (<i>Phytophthora cinnamomi</i>) assessment concluded there was no evidence of Dieback occurring in the Project Area. The development of the Project Area may introduce or spread dieback into Banksia Woodland TEC in or adjacent to the Project Area, which could lead to decline in vegetation health.</p> <p>Soil containing dieback may be transported on footwear and / or machinery and equipment used during clearing and construction operations.</p> <p>Stormwater during and post construction may result in mobilisation of pathogens, such as dieback, into the Banksia Woodlands TEC.</p>
Habitat impacts through introduction and / or spread of weeds	<p>The Project has the potential to introduce new weed species and / or spread existing weeds spread weeds within the Project Area, and indirectly into the adjacent Banksia Woodland TEC.</p> <p>Habitat contained in the POS or adjacent Banksia Woodland TEC are at higher risk of establishment of invasive species through edge effects.</p> <p>Soil containing weed and seed matter may be transported on footwear and/or machinery and equipment used during clearing operations.</p> <p>Stormwater during and post construction may result in mobilisation of weeds into the Banksia Woodlands TEC.</p>
Habitat impacts through fire regime alteration	<p>The residential development could indirectly impact the Banksia Woodland TEC in and adjacent to the Project Area through fire regime alteration if not managed appropriately.</p> <p>A BMP has been prepared to provide guidance on how to plan for and manage the potential bushfire risk to future assets of the project through implementation of a range of bushfire risk mitigation measures. The BMP will be updated concurrently with future subdivision and construction stages, and is likely to span over a decade.</p>
Grazing	<p>There is the potential for Banksia woodland TEC to be impacted by over grazing from kangaroos.</p>

4. Environmental objectives, targets, indicators and completion criteria

Management measures to avoid or reduce impacts to Matters of National Environmental Significance (MNES) are primarily focussed on managing clearing within the Project Area, retention of Black Cockatoo foraging habitat within the Conservation POS (8 ha), maintaining the quality of Banksia Woodland TEC in Conservation POS and measures to prevent offsite impacts to adjacent vegetation.

This VCAMP also outlines the objectives in regards to habitat retention post construction, which provides a framework of actions which are appropriate to manage, maintain and enhance retained CBC habitat and Banksia Woodland TEC in the Project Area (Figure 2). The conservation POS areas will be managed to maintain and enhance the CBC habitat and Banksia Woodland TEC in a manner which will benefit the seasonal presence of CBC in the Yanchep – Eglinton region. The conservation POS will also provide passive recreational and educational opportunities for the local residents.

Environmental objectives, performance targets, performance indicators and completion criteria for the key environmental factors relevant to the Project are detailed in Table 5.

Table 5: Objectives, targets, performance indicators and completion criteria to achieve environmental outcomes

Environmental Factor	Environmental objective	Performance targets	Performance indicators	Completion Criteria
Factor 1 – Black Cockatoo habitat	To mitigate impacts to Carnaby's Black Cockatoo habitat	No degradation of vegetation retained in conservation POS areas in Project Area	No evidence of CBC habitat decline as a result of weeds, pests and plant pathogens	At the completion of construction, monitoring shows: <ul style="list-style-type: none"> weed density is comparable to baseline levels (determined at the time of the 2016 surveys) no spread of dieback no evidence of widespread predation by pests At the completion of construction, the quality of the habitat in conservation POS areas has not been reduced from baseline levels*
		No more than 92.25 ha of CBC habitat is cleared within the Project area	No more than 92.25 ha of CBC habitat is cleared within the Project area No clearing outside of the approval boundary	No clearing outside of the approved clearing boundaries
		A minimum of 8 ha is retained within the Conservation POS	No instances of over-clearing	No clearing within the Conservation POS
		No clearing of potential breeding trees during CBC breeding season	Potential breeding trees inspected by a suitably qualified person prior to clearing during the breeding season	At the completion of the Project, no potential breeding trees were cleared within the breeding season and all required nest boxes have been installed
		No CBC mortality resulting from the Project construction activities	No records of CBCs injury/death	No preventable incidents relating to collisions with CBC
		No evidence of fire within the Project Area	No fire evident in conservation POS	At the completion of construction, the quality of the habitat in conservation POS areas has not been reduced*due to fire
Factor 2 – Banksia woodland TEC	To mitigate impacts to the Banksia Woodland TEC in areas retained in the Project Area (conservation POS areas) and adjacent	No clearing or degradation to vegetation outside clearing boundary	No more than 41.29 ha of Banksia woodland TEC is cleared No clearing outside of approved boundary	No loss or degradation of vegetation within the conservation POS areas
			No evidence of vegetation condition decline in the conservation POS areas	At the completion of construction there is no evidence of vegetation condition decline* in the conservation POS areas (A and B)
			No damage to Banksia Woodland TEC in conservation areas in or adjacent to the Project Area due to the introduction or spread of weeds or dieback	At the completion of construction, the Banksia woodland TEC in Conservation POS areas in or adjacent to the Project Area is free of ^significant weeds and dieback and that the cover of other weeds is at or below the % determined during the 2016 surveys
		No weeds or pathogens spread from the Project Area to Conservation POS areas	No visible signs of erosion or excessive dust within or at the boundaries of the Project Area during construction	No visible signs of erosion or excessive dust within or at the boundaries of the Project Area during construction At the completion of construction, no visible signs of erosion

Environmental Factor	Environmental objective	Performance targets	Performance indicators	Completion Criteria
Factor 3 – Amenity	To ensure that impacts to amenity are reduced as low as reasonably practicable	No visible signs of erosion or excessive dust within or at the boundaries of the Project Area during construction	No project associated rubbish observed within the conservation areas in or adjacent to the Project Area	At the completion of construction, Conservation POS is free of rubbish associated with the Project Area
		No Project associated rubbish observed within the conservation areas in or adjacent to Project Area		

*Reduced or a decline in the quality of habitat or vegetation quality is defined as any reduction from 'good to excellent' to a lower quality class; i.e. degraded to good

^Significance in this instance are defined as weeds, pests and plant pathogens that have serious impact on bushland, including Declared Pests under the BAM Act, Weeds of National Significance identified during monitoring.

5. Risk assessment

A qualitative risk assessment has been undertaken using the methods, definitions and matrix described in the *Environmental Management Plan Guidelines* (Department of the Environment 2014). The risk framework is presented in Table 6 and the definitions for the qualitative measure of likelihood and consequence are presented in Table 7. The risk matrix is presented in Table 8.

Table 6: Risk framework

		Consequence				
Likelihood		Minor	Moderate	High	Major	Critical
	Highly Likely	Medium	High	High	Severe	Severe
	Likely	Low	Medium	High	High	Severe
	Possible	Low	Medium	Medium	High	Severe
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

Table 7: Likelihood and consequence

Likelihood	Consequence
Qualitative measure of likelihood (how likely is it that this event/circumstances will occur after management actions have been put in place/are being implemented)	
Highly likely	Is expected to occur in most circumstances.
Likely	Will probably occur during the life of the project.
Possible	Might occur during the life of the project.
Unlikely	Could occur but considered unlikely or doubtful.
Rare	May occur in exceptional circumstances.
Qualitative measure of consequences (what will be the consequence/result if the issue does occur)	
Minor	Minor risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing low cost, well characterised corrective actions.
Moderate	Moderate risk of failure to achieve the plan's objectives. Results in short term delays to achieving plan objectives, implementing well characterised, high cost/effort corrective actions.
High	High risk of failure to achieve the plan's objectives. Results in medium-long term delays to achieving plan objectives, implementing uncertain, high cost/effort corrective actions.
Major	The plan's objectives are unable to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies.
Critical	The plan's objectives are unable to be achieved, may include widespread and severe environmental harm, with no evidenced mitigation strategies.

Project risks were determined based on key project impacts identified as part of the EPBC Act assessment process. Qualitative measures of likelihood and consequences were determined to establish a risk ranking in accordance with the risk framework (Table 6). Potential risks were ranked to determine inherent risk arising from a potential impact prior to the implementation of mitigation/management measures. Although all impacts/risks were ranked as having a low or medium residual risk, mitigation measure and monitoring activities have been identified for each key impact/risk identified (these are discussed in further detail in Section 6 and Section 7 respectively). The outcomes of the risk assessment are presented in Table 8.

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Table 8: Risk assessment

Management objective	Event or circumstance	Corrective and preventative actions	Risk			Management action triggers/s	Monitoring activities (Section 7 and Table 12)	Contingency actions
			Likelihood	Consequence	Risk rating			
1. To mitigate impacts to Carnaby's Black Cockatoo habitat	Accidental clearing	Provision of GPS coordinates of areas approved to be cleared. Delineation of retained vegetation and development boundary / adjacent vegetation. Installation of a visible temporary 1.8m chain mesh fence with shade cloth will be installed around retention areas that includes a 2m buffer.	Rare	Moderate	Low	Clearing of vegetation in designated conservation POS or vegetation adjacent to Project Area	Monitoring of vegetation and clearing boundaries to be undertaken prior to clearing, during construction and weekly ongoing	See Section 9.
	Wildfire prejudices attainment of targets and/or completion criteria	A BMP has been developed to reduce and manage fire risk in the Project Area. The BMP ensures adequate separation exists between the development and CBC habitat to reduce the risk of incidental fire. A four metre firebreak will separate CBC habitat retained in conservation POS areas from the development. Additional areas of CBC habitat will be retained in the development wherever possible.	Unlikely	High	Medium	Evidence of fire in retained areas of CBC habitat	Monitor condition of vegetation and any evidence of fire	See Section 9.
	Dieback introduced to retained vegetation areas	Dieback management measures from this VCAMP will be implemented to minimise and manage dieback.	Unlikely	High	Medium	Signs of dieback evident in retained vegetation areas	Monitor vegetation condition Inspection of vehicles prior to entry into Dieback uninfected areas in the conservation area Dieback mapping within the conservation POS areas	See Section 9.
	Unauthorised access results in loss of habitat values	Areas containing retained CBC habitat will be fenced and access by personnel and vehicles will be restricted in retained habitat areas in and adjacent to the Project Area.	Possible	Moderate	Medium	Degradation of habitat due to unauthorised access	Monitor quality of habitat Integrity of fencing surrounding habitat will be monitored fortnightly for the first 6 months following commencement of clearing and then quarterly thereafter during construction	See Section 9.
	Vehicle collisions with CBC	Installation of fauna warning signage on roads close to significant fauna habitats. Speed limits to implemented and enforced on site. Educate workforce in site inductions on reducing vehicle speed near areas of potential CBC habitat.	Possible	Moderate	Medium	Vehicle collisions with CBC or other fauna	Any vehicle collisions with CBC or other fauna will be recorded and intervention or remediation works will be undertaken as necessary (e.g. educate workforce)	See Section 9.
	Approval development on or/near project prejudicing plan outcomes	Prime Eglinton to follow management measures outlined in all environmental management plans related to this project including this VCAMP that align with mitigating impacts to CBC and maintain the quality of conserved habitat areas. Site inductions will inform all site personnel of objectives and management measures.	Rare	Moderate	Low	Plan outcomes compromised and not achieved	This VCAMP will be reviewed on an annual basis to ensure that the plan takes into consideration amendments to operations, monitoring results, audits, continuous improvement and changes in regulatory and corporate requirements	See Section 9.
2. To mitigate impacts to Banksia Woodland TEC	Accidental clearing	Provision of GPS coordinates of areas approved to be cleared. Delineation of retained vegetation and development boundary / adjacent vegetation. Installation of a visible temporary 1.8m chain mesh fence with shade cloth will be installed around retention areas that includes a 2m buffer.	Rare	Moderate	Low	Clearing of vegetation in designated conservation POS or vegetation adjacent to Project Area	Monitoring of vegetation and clearing boundaries to be undertaken prior to clearing, during construction and weekly ongoing	See Section 9.
	Wildfire prejudices attainment of targets and/or completion criteria	A BMP has been developed to reduce and manage fire risk in the Project Area. The BMP ensures adequate separation exists between the development and Banksia woodland TEC to reduce the risk of incidental fire. A four metre firebreak will separate Banksia woodland TEC retained in conservation POS areas from the development. Areas of Banksia Woodland TEC will be retained in the development wherever possible.	Unlikely	High	Medium	Evidence of fire in conservation POS	Monitor condition of vegetation and any evidence of fire	See Section 9.
	Dieback introduced to retained vegetation areas	Dieback management measures from this VCAMP will be implemented to minimise and manage dieback.	Unlikely	High	Medium	Signs of dieback evident in retained vegetation areas	Monitor vegetation condition Inspection of vehicles prior to entry into Dieback uninfected areas in the conservation area Dieback mapping within the conservation POS areas	See Section 9.

Management objective	Event or circumstance	Corrective and preventative actions	Risk			Management action triggers/s	Monitoring activities (Section 7 and Table 12)	Contingency actions
			Likelihood	Consequence	Risk rating			
3. Ensuring that impacts to amenity are reduced as low as reasonably practicable	Spread of weeds in retained vegetation areas (Conservation POS)	Hygiene control and staff training (e.g. inductions, toolbox/site meetings and communications). Weed control program will be developed based on weed monitoring.	Possible	Moderate	Medium	Increase of weeds in Conservation POS areas Introduction and/ or increase in abundance of significant weed species in conservation areas Incorrect hygiene procedures being undertaken	Annual weed monitoring Mapping the distribution of the newly introduced significant weed species	See Section 9.
	Approval development on or/near project prejudicing plan outcomes	Prime Eglinton to follow management measures outlined in all environmental management plans related to this project including this VCAMP that align with mitigating impacts to Banksia woodland TEC and maintain the quality of conserved retention areas. Site inductions will inform all site personnel of objectives and management measures.	Rare	Moderate	Low	Plan outcomes compromised and not achieved	This VCAMP will be reviewed on an annual basis to ensure that the plan takes into consideration amendments to operations, monitoring results, audits, continuous improvement and changes in regulatory and corporate requirements	See Section 9.
	Excessive dust	Stabilise earthwork slopes as soon as practicable after completion. A temporary 1.8m chain mesh fence with shade cloth will be installed, only in areas where construction will be occurring adjacent to vegetation outside the Project area or retained vegetation in the Project Area.	Possible	High	Medium	Excessive dust observed during inspections Public complaints received regarding the level of dust from the Project Area	Opportunistic dust monitoring Visual monitoring of stockpiles	See Section 9.
	Erosion	Ensure that storm water flow from earth work slopes is not directed towards any vegetation adjacent to the Project Area or towards Conservation POS areas. Stabilise all slopes that are subject to water run off or wind erosion.	Possible	High	Medium	Visible signs of erosion within or at the boundaries of the site	Visual inspection of earthwork slopes to monitor erosion	See Section 9.
	Rubbish	Temporary 1.8m chain mesh fence with shade cloth will be installed around retained areas will be constructed to minimise any rubbish dumping in conservation areas. Staff training will be carried out to all site personnel through site inductions. Site maintenance will include rubbish removal.	Possible	Moderate	Medium	Project associated rubbish observed along the development boundary fence and / or within conservation POS areas	Removal of any rubbish drift along the boundary Removal of any Project associated rubbish dumped in the adjacent Banksia Woodland TEC from the Project Area	See Section 9.

6. Management measures

6.1 Implementation

This VCAMP will be implemented by Prime Eglinton through induction for personnel and contractors, the implementation of on-ground management actions and through the appointment of suitably qualified contractors.

Prime Eglinton will implement an adaptive management system to complement the existing environmental management plans, which effectively meet the environmental objectives. To achieve this, the VCAMP will be reviewed on an annual basis to ensure that the plan takes into consideration amendments to operations, monitoring results, audits, continuous improvement and changes in regulatory and corporate requirements.

This VCAMP outlines the management of the conservation POS areas until they are vested in the Crown under the Management of the City of Wanneroo. Condition 3 requires that Conservation POS containing at least 8.04 ha of CBC habitat and Banksia Woodland TEC, must be transferred to CoW for purposes of conservation. In accordance with Condition 3 of EPBC 2017/7872, handover of the Conservation POS to the CoW is required within 5 years from the commencement of the action.

Ownership and management responsibilities of the Conservation POS will remain with Prime Eglinton until the Conservation is vested in the crown and is under management of CoW.

6.2 Black Cockatoo habitat and Banksia Woodland TEC management

CBC are a highly mobile species and as such direct impacts to individuals are unlikely. The greatest risk to CBC is if clearing is undertaken during the breeding season (July to February), when birds are actively nesting within hollows. This is highly unlikely to occur with the Project Area as no suitable hollows have been recorded within the Project Area. CBC may also be susceptible to harm when foraging on road verges.

The identification and delineation of areas to be cleared within the Project Area is important to ensure that no unapproved clearing is undertaken in the Banksia Woodland TEC. Furthermore, the identification and delineation of areas to be retained within POS and conservation areas adjacent to the Project Area (EPBC approval 2017/5777) is important during the design and construction phases, as well as post construction. If retained vegetation is not adequately delineated within these areas, it may become unnecessarily degraded during construction.

Relevant management actions will be implemented to reduce the risk of harm to CBC and other fauna during and post construction. These management actions are detailed in Table 9.

Table 9: Management measures for Black Cockatoo and Banksia Woodlands TEC

Action	Timing	Responsibility
<p>A temporary 1.8m chain mesh fence with shade cloth will be installed in the following circumstances:</p> <ul style="list-style-type: none"> along the project boundary to delineate between construction and adjacent property where vegetation is present on the adjacent property; and along the boundary of retained vegetation within the Project Area be it Conservation POS or other retained vegetation. 	Pre-construction	Site Manager
Provide GPS co-ordinates of areas approved to be cleared and retained to the contractor to ensure no unapproved clearing is undertaken.	Prior to the commencement of clearing	Prime Eglinton
Clearly mark CBC habitat proposed to be retained on construction drawings and delineated by survey pegs and/or temporary fencing along the entire stage boundary.	Pre- & during clearing	Project Manager
Clearly mark trees proposed to be retained on construction drawings and by coloured tape within the Project site.	Pre- & during clearing	Project Manager
Install appropriate temporary signage where appropriate to restrict unauthorised access to retention areas (once defined).	Pre and during construction	Site Manager
Maintain appropriate separation between the retention area boundaries and development area interface to control access (for example fencing, bollards, footpaths, garden beds).	Post-construction	Site Manager
<p>Investigate and document potential CBC nesting trees within the area to be cleared to determine if there are any hollows being utilised or are capable of being utilised by CBC for nesting.</p> <p>If any CBC(s) is detected utilising any hollow in any tree, the approval holder must:</p> <ul style="list-style-type: none"> clearly identify and mark the nesting tree maintain a register of nesting trees only clear the identified nesting tree and vegetation within a 10 m radius of that tree, if a suitably qualified person has verified that the hollow in the tree is no longer being used by the CBC(s). 	Within 7 days of clearing, during CBC breeding season (1 July to 28 February)	Suitably qualified person*
<p>For each cleared hollow that is being utilised, or capable of being utilised by the CBC(s), at least three artificial nesting hollows must be installed, whereby:</p> <ul style="list-style-type: none"> installed within a 12 km radius of the cleared nesting tree(s) constructed, positioned, erected and maintained in accordance with relevant artificial hollow guidance, to maximise the likelihood that the artificial nesting hollows are utilised by CBC installed before the commencement of the following breeding season inspected and maintained at least annually to check for condition and evidence of CBC use. 	Prior to 1 July of preceding year	Prime Eglinton
Contact the Department of Biodiversity, Conservation and Attractions (DBCA) Wildcare Helpline 24 hour emergency hotline on (08) 9474 9055 if sick or injured animals are encountered.	Within 12 hours of the sick or injured fauna being encountered	Site Manager
Temporary drainage to be constructed away from retained or adjacent vegetation such that surface water flows do not interact with vegetation.	Prior to and during construction	Site Manager
<p>Permanent fencing (as approved by the CoW) will be installed around the boundary of the Conservation POS.</p> <p>This fencing will also restrict unwanted fauna (i.e. kangaroos, rabbits and domestic animals) from entering Conservation POS areas.</p>	Within four weeks of approval from CoW, post construction	Prime Eglinton
Educational signage to be installed to inform residents on the conservation values related to Black Cockatoo, associated with the conservation POS.	Within four weeks of approval from CoW, post construction	Prime Eglinton

*suitably qualified person is a person who has professional qualifications and at least three years of relevant work experience surveying for CBC and who can give authoritative assessment, advice and analysis on performance relative to the subject matter using relevant protocols, standards, methods or literature. If the person does not have appropriate professional qualifications, the person must have at least five years of work experience related to the subject matter and can give an authoritative assessment, advice and analysis on performance relative to the subject matter using relevant protocols, standards, methods or literature.

6.3 Weed and pathogen management

Weed management will be undertaken in response to the potential to degrade both the CBC habitat and Banksia Woodland TEC in Conservation POS areas A and B, as presented in the risk assessment (Section 5).

Appropriate management measures will be implemented prior to, during and after construction works to minimise potential spread of weed and dieback infestations to vegetation within the retained vegetation in the Project Area. Vegetation will be maintained in good-excellent condition, in accordance with the baseline 2016 survey results.

Weed management will be implemented using several techniques, including:

- spot spraying – where hand-spraying apparatus is applied directly to the target plant
- hand weeding – physical removal of the weed.

A Dieback assessment was completed for the Banksia woodland TEC in the Project Area by Glevan Consulting (2017). Dieback was not recorded in the Project Area from this assessment.

Relevant management measures for weeds and pathogens are provided in Table 10.

Table 10: Management measures for weed and pathogen management

Action	Timing	Responsibility
Prior to entering the Project Area, all vehicles, machinery, equipment and footwear are free of mud and soil.	At all times	Site Manager
Restrict access of vehicles to areas of construction to minimise the spread or introduction of weeds or pathogens. Access restrictions will be communicated through inductions, signage and fencing.	Pre- & during construction	All personnel
Ensure any fill/soil brought onto site is certified disease free.	During construction	Project Manager
If necessary, based on monitoring, develop a weed control program and appoint an experienced contractor to manage weeds within the Conservation POS areas A and B.	During construction and post-construction for a period of five years up until handover of Conservation POS areas and to CoW. Frequency will depend on the type of weeds present based on the advice of a weed control expert	Environmental consultant
During weed control the following practices will be implemented: <ul style="list-style-type: none"> • use of biodegradable marking dye during all spot spraying tasks • installation of safety warning signage around the perimeter of the area to be controlled including information on the type of weed control and planned timing (signage shall be in place prior to application, and removed once area has dried) • undertaking spraying only under calm weather as identified in the herbicide manufacturers recommendations. 	During construction and post-construction for a period of 5 years up until handover of POS to CoW	Landscape contractor
All plants and other materials used in landscaping will be free of soil that may contain dieback or weeds (i.e. plants supplied by a NIASA accredited nursery).	During landscaping	Landscape contractor
All construction personnel will be inducted in relation to weed and dieback risk, potential impacts and management.	Prior to commencing works on site	Site Manager
Stormwater management will be designed and constructed to prevent drainage into sensitive areas, i.e. the Conservation POS to prevent the spread of weeds and pathogens.	Detailed design and construction	Prime Eglinton

6.4 Amenity

Dust, erosion and rubbish will be managed to minimise any impacts to CBC habitat or Banksia Woodland TEC in Conservation POS areas in and adjacent to Project Area. Rubbish and dust drift into the conservation areas in and adjacent to the Project Area containing Banksia Woodland TEC and CBC habitat is unlikely due to the temporary fencing that will be erected to separate construction activities. Management measures for the Project Area's amenity are outline in Table 11.

Table 11: Management measures for dust, erosion and rubbish drift and dumping from within the Project Area

Action	Timing	Responsibility
Earthwork contours are graded away from adjacent or retained vegetation.	Within three months of Project completion	Site Manager
Stabilise all slopes that are potentially subject to water run off or wind erosion.	Within three months of Project completion	Site Manager
Cleared areas will be stabilised to prevent wind-blown dust generating on site.	During construction	Project Manager
Water carts will be used in conjunction with earth moving activities and as required based on prevailing weather conditions at the time of construction works.	During construction	Project Manager
Inspection of the construction boundary to identify any dust emissions outside the construction boundary.	During times of high winds, in accordance with Bureau of Meteorology updates and opportunistically	Site Manager
The site induction will include details regarding waste management on site.	At all times	Site Manager
Remove rubbish that may drift along the boundary before it enters retained Conservation POS or the adjacent Banksia Woodland TEC.	During clearing and construction	Site manager
Removal of any rubbish that has been dumped or drifted into the retained Conservation POS area or adjacent Banksia Woodland TEC as a result of the Project construction activities.	During clearing and construction	Site manager

7. Monitoring

7.1 Monitoring program

A monitoring program has been developed to evaluate performance against targets and completion criteria identified in Table 5. The monitoring program has been developed to achieve the following objectives:

- to mitigate impacts to Carnaby's Black Cockatoo habitat
- to mitigate impacts to the Banksia Woodland TEC in areas retained in the Project Area (conservation POS areas) and adjacent
- to ensure that impacts to amenity are reduced as low as reasonably practicable.

The following monitoring schedule (Table 12) has been developed to enable an assessment of the effectiveness of the management measures outlined in section 6.

Table 12: Monitoring and reporting schedule

Monitoring activity	Performance Targets	Parameter/s measured	Where	When	Related approved survey/monitoring guidelines	Reliability
Assessment of impacts to Black Cockatoos	Protection of fauna and its habitat by ensuring no unauthorised clearing or earthworks	Record of fauna expert appointed to inspect clearing area for Black Cockatoo activity and associated report/memo	Clearing areas	Within 7 days of clearing, during CBC breeding season (1 July to 28 February)	N/A	High
	No death or injury to Black Cockatoo caused by vehicle collisions	Reports of fauna collisions and actions taken	Project Area	as soon as possible following the incident	N/A	High
	No unauthorised loss or degradation of vegetation retained in conservation areas in or adjacent to Project Area	No loss or degradation to Black Cockatoo habitat retained in conservation areas	Project Area	Annually as a minimum when clearing and construction are taking place and/or following clearing of a stage adjacent to the Conservation POS	N/A	High
	No evidence of fire in the retained Black Cockatoo habitat	Reports of fire in the Project Area Condition of the vegetation	Around retention (POS) areas	As soon as possible following the incident	N/A	High
Assessment of impacts to Banksia Woodland TEC	No clearing or degradation to vegetation outside clearing boundary	Site inspection to assess the condition of fencing used to delineate areas of retention, and barriers used to block unwanted access	Around retention areas (once defined) near clearing boundaries	Fortnightly for the first 6 months following commencement of clearing and then quarterly thereafter during construction	N/A	High
		Approved clearing boundaries cross referenced against site inspections and/or current aerial photography	Clearing boundaries	Fortnightly during clearing, or as otherwise required by regulatory authorities as part of construction site inspections	N/A	High
		Cleared area not to exceed approved clearing area	Project Area	Annually during construction after clearing has commenced	N/A	High
	No evidence of fire in the retained Banksia Woodland TEC	Reports of fire in the Project Area Condition of the vegetation	Around retention (POS) areas	As soon as possible following the incident	N/A	High

Monitoring activity	Performance Targets	Parameter/s measured	Where	When	Related approved survey/monitoring guidelines	Reliability
Weed and dieback assessment	No increase in weed distribution of species. No evidence of plant pathogens within the Conservation POS areas	Site walkover to assess distribution, and abundance of weed species	Conservation POS areas, and along the boundary to adjacent vegetation	Annually in spring following commencement of construction until handover to CoW	N/A	High
	No evidence of Dieback in Conservation POS areas	Site assessment undertaken by a dieback consultant to determine if dieback is present	Conservation POS areas	Three years after the commencement of construction	N/A	High
Amenity	No visible signs of erosion or excessive dust within or at the boundaries of the Project Area during construction	Site walkover to assess the extent of erosion and dust Visual inspection of earthwork slopes to monitor erosion	Project Area	Opportunistically during clearing and construction and/or following heavy rain and strong wind conditions	N/A	High
	No Project associated rubbish observed within the conservation areas in or adjacent to Project Area	Site inspection to assess project associated rubbish drift / dumping in the conservation areas or along the boundary	Within the Project Area conservation areas or along the Project Area boundary	Fortnightly during clearing and construction	N/A	High

8. Data handling and management

8.1 Data Control

The Project Manager shall nominate a position (the Environmental Consultant) responsible for co-ordinating all data control activities for the implementation of environmental management. This includes responsibility for:

1. Document development and standardisation.
2. Data distribution.
3. Collection and filing systems.
4. Data protection and duplication.
5. Removal of obsolete data from circulation.

All data will be recorded and managed according to a standard template, which will contain document control information on the review date and revision number.

A register of the distribution of all data (including the date of distribution and persons distributed to) shall be kept by the Project Manager for the Project.

All environmentally related documents will state on the hardcopy version that it is "*Uncontrolled Once Printed*".

8.2 Records Register

A register shall be kept of all environmental documentation (e.g. management plans, procedures, records, monitoring data and forms). The register will be updated and maintained by the Environmental Consultant. The Records Documentation Register shall contain:

- a list of all documents (document number and title, document type, document title, issue date, revision date, and responsibility for the document)
- a key stakeholders list to which documentation is regularly distributed (including a contact name, postal, telephone and email contact details).

8.3 Environmental Records

8.3.1 Collection and Receipt

Environmental records for the following items will be maintained by the Environmental Officer, unless otherwise stated:

- environmental incidents, i.e. fauna injury or death, unauthorised clearing, fire
- stakeholder consultation register
- complaints register
- investigation reports
- environmental approvals including licences and permits
- environmental correspondence to regulatory authorities (correspondence regarding employees and contractors will be the responsibility of the HR Department/Commercial Manager)
- site general induction attendance (HR/Training Department)
- assessment of competency (HR/Training Department)
- area specific environmental inductions
- environmental monitoring results and record sheets

- environmental monitoring equipment maintenance and calibration records
- environmental inspections
- environmental audits
- meeting minutes (each Department)
- annual environmental reports
- third party environmental consultant reports
- system management reviews
- environmental emergency response environmental drills and scenarios (Safety Department).

Records shall be collected as evidence of organisational performance and to demonstrate compliance with legislative requirements and company standards.

All records must be legible and shall be (where provided) on the standard record template. Should a record not be on a standard record form (e.g. a letter of complaint from an external source) the person responsible for the collection of the record shall document the receipt date of the record, and the element of the environment the record pertains to, clearly on the front page of the record.

All meetings where environmental matters are discussed shall be documented using a standard meeting minutes template. The minutes will include a list of attendees, date and purpose of the meeting, issues raised, actions required and persons accountable for actions.

8.3.2 Induction and training

An induction package will be prepared and implemented by the Construction Contractor. The induction is required to be completed by all construction, associated contractors, rehabilitation and hygiene personnel, prior to conducting works on site. The induction package will include the following and additional information as required:

- 'no-go' and/or restricted areas, including Conservation POS, project boundary etc
- CBC habitat location on site and general awareness information
- Banksia TEC location on site and general awareness information
- fauna and flora protection
- dust management measures
- safety measures, including information regarding PEE
- speed limits
- general housekeeping
- emergency preparedness and response.

8.3.3 A hygiene register will also be maintained by the Site Manager. Storage and Retrieval

Maintenance of records is important to provide evidence of the company's continual improvement on environmental management and performance. Records shall be stored such that they are protected from damage or tampering.

Electronic records shall be password protected, where necessary, and the information 'backed up' on a regular basis. Backup materials shall be stored in a location distant from the record's origin.

A computer virus protection program shall be installed and regularly updated to prevent electronic records from corruption. Hard copies shall be kept away from water and direct sunlight that could damage the print and make the record illegible.

Both electronic and hardcopy records shall be kept in a location and system from which they can be readily retrieved.

8.3.4 Record Retention and Disposal

Once the retention time has expired, hardcopy records shall be removed from the storage area by the Document Controller and destroyed by shredding or removal to a document disposal facility. Electronic records past their retention dates shall be deleted from the database or computer drive.

8.4 Supply Chain Information

Regular and accurate information will be collected from all suppliers and contractors and provided to the relevant Contract Manager. The specific nature and frequency of the environmental information will be detailed in the contract that has been agreed upon, but as a minimum will include:

- adherence to all relevant legislation and regulation
- environmental management activities and performance
- incidents and corrective measures
- energy and fuel use
- suggestions for improvement in the Company's Contract Management process.

8.5 Reporting

The performance of the VCAMP will be assessed annually against the performance targets in (Table 5), and will be reported on as part of the Compliance Assessment Report (CAR).

In the event that performance targets are not met during the reporting period, a written report will be included in the CAR detailing the corrective actions that were undertaken, and the effectiveness of the corrective actions to rectify any potential impacts.

Table 13: Environmental management plan reporting table

Environmental factor and objective	Performance target	Reporting on the management objective and performance target
Factor 1 – Black Cockatoo habitat To mitigate impacts to Carnaby's Black Cockatoo habitat	Protection of fauna and its habitat by ensuring no unauthorised clearing or earthworks	<ul style="list-style-type: none"> Fauna and its habitat were protected No unauthorised clearing or earthworks were undertaken during the Project construction activities
	No death or injury to Black Cockatoo caused by vehicle collisions	<ul style="list-style-type: none"> No fauna mortality resulted from the Project construction activities Report on any fauna collisions and actions taken
	No unauthorised loss or degradation of vegetation retained in conservation areas in or adjacent to Project Area	<ul style="list-style-type: none"> No loss or degradation of vegetation retained in conservation areas occurred
	No evidence of fire in the retained Black Cockatoo habitat	<ul style="list-style-type: none"> No evidence of fire in POS areas
Factor 2 – Banksia Woodland TEC To mitigate impacts to Banksia Woodland TEC	No clearing or degradation to vegetation outside clearing boundary	<ul style="list-style-type: none"> No unauthorised loss or degradation of vegetation within retained vegetation within the conservation area No unauthorised loss or degradation of vegetation outside the Project Area in adjacent conservation areas
	No weeds or pathogens spread from the Project Area to Conservation POS areas	<ul style="list-style-type: none"> Project Area and adjacent conservation area is free of significant weeds Dieback was not introduced in to the Conservation POS areas
	No evidence of fire in the retained Banksia Woodland TEC	<ul style="list-style-type: none"> No evidence of fire in the Project Area Condition of vegetation in retention areas
	No increase in weed distribution of species. No evidence of plant pathogens within the Conservation POS areas	<ul style="list-style-type: none"> Distribution and abundance of weed species
	No evidence of Dieback in retained Conservation POS areas	<ul style="list-style-type: none"> No evidence of Dieback
Factor 3 – Amenity To ensure that impacts to amenity are reduced as low as reasonably practicable	No visible signs of erosion or excessive dust within or at the boundaries of the Project Area during construction	<ul style="list-style-type: none"> The amenity of the area and health of the surrounding environment was minimised and maintained No visible erosion within or along the boundaries of the Project Area No visible signs of dust lift during construction and operation
	No Project associated rubbish observed within the conservation areas in or adjacent to Project Area	<ul style="list-style-type: none"> No rubbish observed within conservation areas in or adjacent to the Project Area

9. Contingency response

Contingency measures will be initiated if monitoring indicates that targets, completion criteria and performance indicators are not being met. In the event that performance targets are not met, Prime Eglinton will investigate the potential cause and any potential impacts that may have resulted. If the performance targets are not met, and it is deemed to be the result of the project, the corrective actions detailed in Table 14 will be implemented.

Table 14: Contingency measures

Trigger	Contingency action	Responsibility
Site induction and training		
Inductions and appropriate training is not being undertaken and/or do not include appropriate induction material.	<ul style="list-style-type: none"> investigate cause. Ensure relevant personnel undertake inductions and training. Revise and update risk assessment and management actions where applicable. 	Construction contractor
Fauna		
Clearing of trees containing hollows without inspection being completed undertaken during the CBC breeding season	<ul style="list-style-type: none"> Determine if any impacts have occurred, check hollows of felled trees for cockatoos. Investigate cause. Re-train operators in clearing requirements. Report clearing breach to DEE. Report to Department of Biodiversity, Conservation and Attractions (DBCA) as necessary. Undertake required remedial measures as determined with DEE. 	Project Manager
Clearing of more than 8 ha of CBC earmarked for retention within the Conservation POS	<ul style="list-style-type: none"> Determine extent of clearing of CBC habitat within PRR. Report clearing breach to DEE. Undertake required remedial measures as determined with DEE. Investigate cause with the Project team and update procedures to ensure the breach does not happen again. 	Project Manager
Degradation of the Conservation POS	<ul style="list-style-type: none"> Determine extent of degradation. Determine cause of degradation. Develop measures to prevent degradation, based on the cause of degradation, i.e. weeds, trampling of vegetation etc. Monitor mitigation measures and habitat condition. Continue to implement mitigation measures as required following outcomes of monitoring. 	Project Manager
Vehicle collisions with native fauna	<ul style="list-style-type: none"> Investigate cause. Undertake intervention or remediation works (e.g. educate workforce, speed limit reduction). Monitor success. Revise and update risk assessment and management actions where applicable. 	Construction contractor
Evidence of fire in conservation POS	<ul style="list-style-type: none"> investigate cause. monitor condition of vegetation. revise BMP if required. 	Environmental consultant

Trigger	Contingency action	Responsibility
Vegetation		
Clearing outside of designated clearing footprint and/or clearing of vegetation in designated Conservation POS areas	<ul style="list-style-type: none"> notify DEE in accordance with approval requirements and Department of Biodiversity, Conservation and Attractions (DBCAs) where applicable. investigate cause including interviews with contractors to determine when the incident occurred, what was involved and why it occurred. redefine boundaries if due to inadequate boundary marking. Undertake required remedial measures as determined with DEE. communicate incident investigation outcomes to personnel. reconcile clearing against the requirements of the EPBC 2017/7872. 	Prime Eglinton Project Manager / Environmental Consultant
Evidence of fire in Conservation POS areas	<ul style="list-style-type: none"> investigate cause. monitor condition of vegetation. revise BMP if required. 	Environmental consultant
Weeds and dieback		
Signs of dieback evident in Conservation POS areas	<ul style="list-style-type: none"> Identify potential sources of dieback spread and determine likely cause. Map dieback affected areas. Undertake dieback control -control methods may include phosphite treatment to minimise the spread of dieback. Review success of dieback control methods and continue monitoring. Review and update the VCAMP as required to include further hygiene controls. 	Dieback consultant
Introduction and/ or increase in abundance of significant weed species in Conservation POS areas	<ul style="list-style-type: none"> Map the distribution of the newly introduced significant weed species. Identify activities that may have potentially introduced the significant weed species. Plan and implement a significant weed control program (may involve seeking advice from relevant authorities). Apply hygiene control and staff training (e.g. inductions, toolbox/site meetings and communications). Review and update the VCAMP as required to include further hygiene controls. 	Environmental consultant
Increase of weeds in Conservation POS areas	<ul style="list-style-type: none"> Re-educate personnel on the importance of demarcation, fencing and/or weed management. Implement measures to prevent further weed infestations (e.g. screening fencing, weed control in adjacent land), as practicable. Undertake annual weed control activities as required. Revise and update risk assessment and management actions where applicable. 	Project Manager Prime Eglinton/ Environmental consultant
Incorrect hygiene procedures being undertaken	<ul style="list-style-type: none"> Determine why appropriate hygiene procedures were not followed. Implement remedy, which could include: <ul style="list-style-type: none"> educating employees on appropriate hygiene measures erect signs to highlight prohibited access. Review staff training (e.g. inductions, toolbox/site meetings and communications). Monitor success of control. 	Site manager
Amenity		
Public complaints received regarding the level of dust from the Project Area	<ul style="list-style-type: none"> Investigate cause. Ensure dust control measures are being implemented and are appropriate. Implement appropriate control to reduce or rectify impact. Where required, re-educate personnel on the importance of dust and noise management. Revise and update risk assessment and management actions where applicable. 	Construction contractor

Trigger	Contingency action	Responsibility
Integrity of temporary and/or permanent fencing compromised	<ul style="list-style-type: none"> • Determine how integrity was compromised, if possible. • Determine if additional measures required to prevent reoccurrence. • Undertake maintenance of fencing and implement additional measures as required. • Monitor success of measures undertaken. 	Project Manager
Excessive dust observed during site inspections	<ul style="list-style-type: none"> • Investigate cause. • Ensure dust and noise control measures are being implemented and are appropriate. • Implement appropriate control to reduce or rectify impact. • Where required, re-educate personnel on the importance of dust management. • Revise and update risk assessment and management actions where applicable. 	Construction contractor
Visible signs of erosion within or at the boundaries of the site	<ul style="list-style-type: none"> • Investigate cause. • Ensure erosion control measures are being implemented and are appropriate. • Implement appropriate control to reduce or rectify impact. • Where required, re-educate personnel on the importance of erosion management. • Revise and update risk assessment and management actions where applicable. 	Site manager
Project associated rubbish observed along the development boundary fence and / or within conservation POS areas	<ul style="list-style-type: none"> • Removal of any rubbish drift along the boundary. • Removal of any Project associated rubbish dumped in the adjacent Banksia Woodland TEC from the Project Area. • Review staff training (e.g. inductions, toolbox/site meetings and communications). • Monitor success of control. 	Site manager

10. Roles and responsibilities

All contractors and staff will be required to operate in accordance with this VCAMP. Key personnel and responsibilities are described in Table 15

Table 15: Roles and responsibilities associated with the Construction Environmental Management Plan

Role	Responsibilities
Prime Eglinton Project Manager	<ul style="list-style-type: none"> act as primary liaison between Prime Eglinton and the Construction Project Manager ensure all contracts implement environmental management provisions review reports as prepared by the Construction Project Manager provide support to the Construction Project Manager as required review the effectiveness of the VCAMP in achieving environmental objectives, including a review of any corrective actions report to regulatory authorities as required under approval conditions.
Site Manager/ Environmental Consultant	<ul style="list-style-type: none"> overall accountability to ensure construction activities do not adversely impact upon the environmental values of the Project Area through correct VCAMP implementation ensure all construction personnel attend inductions and required training programs and are aware of their requirements of the VCAMP and related procedures ensure environmental incidents are reported to the Prime Eglinton Project Manager in accordance with the VCAMP review and ensure closing out of any corrective actions provide support to construction personnel and other contractors on-site as required during the construction phase.
Environmental Consultant	<ul style="list-style-type: none"> to be appointed by Prime Eglinton data control, monitoring and reporting site environmental induction and supervision of performance overall accountability that a Dieback assessment is undertaken within the conservation area and that the Construction Project Manager, Landscaping contractor and Project Manager are aware of the results and effects on conservation area management undertake Black Cockatoo inspections as required technical review of and evaluation of the monitoring program provide specialised advice to personnel.
Landscaping Contractor	<ul style="list-style-type: none"> maintain relevant records and provide progress activity reports to the Project Manager that include details of activities undertaken, including for example: <ul style="list-style-type: none"> * weed control details (herbicide name, volumes, method, date and location, weather conditions, other relevant observations) * ensure all landscaping personnel are aware of the requirements of the VCAMP and related management plans.
Construction personnel/ contractors	<ul style="list-style-type: none"> implementation of the VCAMP as instructed by the Construction Project Manager compliance with all applicable legal requirements and those specified in the VCAMP report all environmental incidents to the Construction Project Manager attend environmental inductions or any other training as required by this VCAMP.
Dieback consultant	<ul style="list-style-type: none"> conduct a survey and report if dieback suspected to be spread in Project Area as a result of the Project Undertake dieback control and continue monitoring.
City of Wanneroo	<ul style="list-style-type: none"> The CoW will take over management of the conservation POS areas within 5 years of commencement of the development provide for the long term management and protection of CBC habitat and Banksia Woodland TEC within the retained conservation POS areas.

11. Emergency contacts and procedures

In the event of a serious emergency occurring in the Project Area, the following procedures will be followed:

1. Stop work.
2. All personnel on site shall leave the Project Area and return to the emergency assembly area.
3. Await further instructions from the Site Manager.

Site personnel shall not return to the work area unless advised to do so by the Site Manager. The Site Manager will notify the relevant services as to the emergency. Emergency contact information is detailed below in Table 16.

Table 16: Emergency contact information

Emergency contact	Contact number
Ambulance / Police / Fire Brigade	000
Department of Water and Environmental Regulation (DWER) pollution watch 24 hour hotline	1300 784 782
Department of Biodiversity, Conservation and Attractions (DBCA) Wildcare Helpline, 24 hour emergency hotline	(08) 9474 9055

12. Glossary of terms

Banksia Woodland TEC	Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community
BMP	Bushfire Management Plan
CAR	Compliance Assessment Report
CBC	Carnaby's Black Cockatoo
CoW	City of Wanneroo
Cth	Commonwealth
DBCA	Department of Biodiversity, Conservation and Attractions
DBH	Diameter at breast height
DEE	Department of Environment and Energy (Cth)
Development Area	Lot 6 Taronga Place, Eglinton (excluding POS)
DotE	Department of the Environment (Cth; former)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (Cth; former)
DWER	Department of Water and Environment Regulation
EMP	Environmental Management Plan
EPBC Act	Environmental Protection and Biodiversity and Conservation Act 1999 (Cth)
MNES	Matters of National Environmental Significance
MRS	Metropolitan Region Scheme
NIASA	Nursery Industry Accreditation Scheme Australia
LLP	Local Planning Policy
Project Area	Lot 6 Taronga Place, Eglinton (including POS)
POS	Public Open Space
Prime Eglinton	Prime Eglinton Pty Ltd
Strategen	Strategen Environmental
VCAMP	Vegetation and Conservation Area Management Plan

13. References

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- Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) 2012b, *EPBC Act Referral Guidelines for three threatened Black-Cockatoo species*, DSEWPaC, [Online], Available from: <http://www.environment.gov.au/system/files/resources/895d4094-af63-4dd3-8dff-ad2b9b943312/files/referral-guidelines-wa-black-cockatoo.pdf> [3 May 2017].
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- Threatened Species Scientific Committee (TSSC) 2016, *Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community*, [Online], Australian Government, Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>.

Appendix 1
EPBC Referral outcome (2017/7872)



**Notification of
REFERRAL DECISION AND DESIGNATED PROPONENT – controlled action
DECISION ON ASSESSMENT APPROACH – preliminary documentation**

Residential and Commercial Development on Lot 6 Taronga Place, Eglinton, Western Australia (EPBC 2017/7872)

This decision is made under section 75 and section 87 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

proposed action	To clear native vegetation to develop Lot 6, Taronga Place, Eglinton, Western Australia for residential and commercial land use [See EPBC Act Referral 2017/7872].
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decision on proposed action	The proposed action is a controlled action. The project will require assessment and approval under the EPBC Act before it can proceed.
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relevant controlling provisions	<ul style="list-style-type: none">Listed threatened species and communities (sections 18 & 18A)
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designated proponent	Prime Eglinton Pty Ltd ACN: 616 213 186
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assessment approach	The project will be assessed by preliminary documentation.
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Decision-maker

Name and position	Bruce Edwards Assistant Secretary Assessments (WA, SA, NT) and Air Branch
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Signature

date of decision	3 April 2017
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Appendix 2

EPBC approval conditions



Proposed Approval

Residential and Commercial Development on Lot 6 Taronga Place, Eglinton, Western Australia (EPBC 2017/7872)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	Prime Eglinton Pty Ltd
proponent's ACN (if applicable)	ACN: 616 213 186
proposed action	To clear vegetation to develop Lot 6, Taronga Place, Eglinton, Western Australia for residential and commercial land use [See EPBC Act Referral 2017/7872].

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 31 December 2028.

Decision-maker

name and position	Gregory Manning Assistant Secretary Assessments (WA, SA, NT) and Post Approvals Branch
signature	Proposed Decision – Do Not Sign
date of decision	Proposed Decision – Do Not Date

Conditions attached to the approval

1. The **approval holder** must not **clear** more than 92.25 hectares of **Carnaby's Black Cockatoo habitat** or 41.29 hectares of **Banksia Woodlands TEC** within the project area shown at Attachment 1.
2. Within 7 days prior to **clearing** of any area of **Carnaby's Black Cockatoo habitat**, the **approval holder** must investigate and document all potential nesting trees within the area to be **cleared** to determine if there are any hollows that are being utilised, or are capable of being utilised, by the **Carnaby's Black Cockatoos** for nesting. The investigation must be undertaken by a **suitably qualified person**.
 - a. If any **Carnaby's Black Cockatoo(s)** is detected utilising any hollow in any tree, the **approval holder** must:
 - i. clearly identify and mark the nesting tree
 - ii. maintain a register of nesting trees
 - iii. only clear the newly identified nesting tree and vegetation within a 10 metre radius of the tree, if a **suitably qualified person** has verified that the hollow in the tree is no longer being used by the **Carnaby's Black Cockatoo**.
 - b. For each **cleared** hollow that is being utilised, or capable of being utilised by the **Carnaby's Black Cockatoo**, the proponent must install at least three (3) artificial nesting hollows, where the artificial nesting hollows must be:
 - i. installed within a 12 km radius of the **cleared** nesting tree(s)
 - ii. constructed, positioned, erected and maintained in accordance with relevant **artificial hollow guidance**, to maximise the likelihood that the artificial nesting hollows are utilised by the **Carnaby's Black Cockatoo**
 - iii. installed before the commencement of the following **breeding season** for the **Carnaby's Black Cockatoo**
 - iv. inspected and maintained at least annually to check for condition and evidence of **Carnaby's Black Cockatoo** use.
3. To minimise impacts to the **Carnaby's Black Cockatoo** and the **Banksia Woodlands TEC**, the **approval holder** must, within 5 years of **commencement** of the action, provide the **Department** with written evidence that at least 8 hectares of **Carnaby's Black Cockatoo habitat** and **Banksia Woodlands TEC** has been transferred to the City of Wanneroo as **Public Open Space** for the purposes of conservation.
4. To mitigate impacts to the **Carnaby's Black Cockatoo** and the **Banksia Woodlands TEC**, the **approval holder** must prepare and submit a *Vegetation and Conservation Area Management Plan* (VCAMP) for the approval of the **Minister**. The **approval holder** must not **commence** the action unless the **Minister** has approved the VCAMP. The approved VCAMP must be implemented.

The VCAMP must be prepared in accordance with the **Department's Environmental Management Plan Guidelines** and include, but not be limited to:

- a. measures to prevent impacts to **Carnaby's Black Cockatoo habitat** and **Banksia Woodlands TEC** during construction, including to:
 - i. prevent and/or control site access, weeds, *Phytophthora* dieback, erosion, dust and fire
 - ii. delineate vegetation to be retained through, for example, the erection of temporary fencing or signage to avoid accidental **clearing** or disturbance outside of the impact area
 - b. objectives, targets and completion criteria for post construction rehabilitation measures such as site clean-up and weed management, including information on the mapping, monitoring and removal of noxious weeds
 - c. access control measures (e.g. fencing) to prevent or manage access to the areas of **Public Open Space** proposed to be retained for conservation
 - d. bushfire control measures
 - e. design and engineering controls to ensure that stormwater is not directed toward retained and adjacent areas of vegetation and that stormwater is appropriately managed to reduce hydrological impacts and prevent the mobilisation of dieback or other contaminants
 - f. clear objectives and performance indicators for all management actions, mitigation measures and practices prescribed by the VCAMP including details of the monitoring to be undertaken to demonstrate the effectiveness of the measures
 - g. corrective actions for circumstances where an action, mitigation measure or practice prescribed by the VCAMP fails to meet, or is unlikely to meet, its prescribed objective, and trigger action points at which these corrective actions will be implemented
 - h. timeframes for implementing the above measures.
5. To compensate for the loss of up to 92.25 hectares of **Carnaby's Black Cockatoo habitat** and 41.29 hectares of **Banksia Woodlands TEC** the **approval holder** must, within one year after the **commencement** of the action provide the **Department** with:
- a. written evidence that
 - i. 380 hectares of land at **Lot 5450 Wannamal Road West, Boonarring**
 - ii. 117 hectares of **Carnaby's Black Cockatoo habitat** and **Banksia Woodlands TEC** at **Lot 3333 Mimegarra Road, Cataby**
- have both been purchased and are being managed for conservation by the **DBCA**, using monies provided by the proponent for that purpose.

- b. the **offset attributes**, **shapefiles** and textual descriptions and maps to clearly define the location and boundaries of the **offset areas**, that the **approval holder** has transferred to the **DBCA**.
6. Within 30 days after the **commencement** of the action, the **approval holder** must advise the **Department** in writing of the actual date of **commencement**.
7. The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the VCAMP required by this approval (Condition 4), and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be published in the general media.
8. Within three months of every 12 month anniversary of the **commencement** of the action, the **approval holder** must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. Reports must remain on the website for the life of this approval. The **approval holder** must continue to comply with this condition until such time as agreed to in writing by the **Minister**.
9. Upon the direction of the **Minister**, the **approval holder** must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.
10. The **approval holder** may choose to revise a management plan approved by the **Minister** under condition 4 without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the revised plan would not be likely to have a **new or increased impact**. If the **approval holder** makes this choice they must notify the **Department** in writing that the approved plan has been revised and provide the **Department**, at least four weeks before implementing the revised plan, with:
 - a. an electronic copy of the revised plan;
 - b. an explanation of the differences between the revised plan and the approved plan; and
 - c. the reasons the **approval holder** considers that taking the action in accordance with the revised plan would not be likely to have a **new or increased impact**.
11. The **approval holder** may revoke their choice under condition 10 at any time by notice to the **Department**. If the **approval holder** revokes the choice to implement a revised plan,

without approval under section 143A of the Act, the plan approved by the **Minister** must be implemented.

12. If the **Minister** gives a notice to the **approval holder** that the **Minister** is satisfied that the taking of the action in accordance with the revised plan would be likely to have a **new or increased impact**, then:

- a. Condition 10 does not apply, or ceases to apply, in relation to the revised plan; and
- b. The **approval holder** must implement the plan approved by the **Minister**.

To avoid any doubt, this condition does not affect any operation of conditions 10 and 11 in the period before the day the notice is given.

13. Conditions 10, 11 and 12 are not intended to limit the operation of section 143A of the **EPBC Act** which allows the **approval holder** to submit a revised plan to the **Minister** for approval.
14. Unless otherwise agreed to in writing by the **Minister**, the **approval holder** must publish all management plans referred to in these conditions of approval on their website for the duration of this approval. Each management plan must be published on the website within 1 month of being approved by the **Minister** or being submitted under condition 10 and must remain on the website for the life of this approval.

Definitions

- a. **Approval holder** means the name of the person to whom this approval is granted.
- b. **Artificial hollow guidance** means WA Department of Parks and Wildlife publications "*How to design and place artificial hollows for Carnaby's cockatoos*" (2015) and "*How to monitor and maintain artificial hollows for Carnaby's cockatoo*" (2015), or as otherwise updated from time to time.
- c. **Banksia Woodlands TEC** is the **EPBC Act** listed Banksia Woodlands of the Swan Coastal Plain ecological community
- d. **Breeding season** for the **Carnaby's Black Cockatoo** is the period between 1 July and 28 February of any year.
- e. **Carnaby's Black Cockatoo** is the **EPBC Act** listed Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*).
- f. **Carnaby's Black Cockatoo habitat** includes foraging, breeding, potential breeding and roosting habitat for **Carnaby's Black Cockatoo**, as defined in the *EPBC Act Referral Guidelines for three species of Western Australian black cockatoos: Carnaby's Black Cockatoo (Calyptorhynchus latirostris), (Endangered) Baudin's Black Cockatoo (Calyptorhynchus baudinii) (Vulnerable) and Forest Red-tailed Black Cockatoo (Calyptorhynchus banksii naso) (Vulnerable) (October 2012).*
- g. **Clear, cleared or clearing** includes but is not limited to the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds – see the *Australian weeds strategy 2017 to 2027* available from <http://www.agriculture.gov.au/pests-diseases-weeds/pest->

[animals-and-weeds/review-aus-pest-animal-weed-strategy/aus-weeds-strategy](#) for further guidance).

- h. **Commence/Commencement of the action** is any works or actions (including but not limited to **clearing**, the use of construction or excavation equipment and any other site preparatory works) that will directly or indirectly impact on **Carnaby's Black Cockatoo habitat** and/or the **Eucalypt Woodlands TEC**.
- i. **Department** means the Commonwealth Department of Environment and Energy or any other agency that administers the **EPBC Act** from time to time and includes, where the context permits, the officers, delegates, employees and successors of the **Department**.
- j. **Department's Environmental Management Plan Guidelines** is the Environmental Management Plan Guidelines, Commonwealth of Australia 2014. Available at: <http://www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines>.
- k. **EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).
- l. **EPBC Environmental Offsets Policy** is the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* (October 2012), or as updated from time to time. Available at: <http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>.
- m. **Lot 5450 Wannamal Road West, Boonarring** means the 380 ha of land comprising 380 hectares of **Carnaby's Black Cockatoo habitat** and 165 hectares of **Banksia Woodlands TEC** as shown in [Attachment 2](#).
- n. **Lot 3333 Mimegarra Road, Cataby** means the 117 ha of **Carnaby's Black Cockatoo habitat** and **Banksia Woodlands TEC** as shown in [Attachment 3](#).
- o. **Minister** means the Minister administering the **EPBC Act** including any delegate of the Minister.
- p. **New or increased impact** means a new or increased environmental impact or risk relating to any protected matter, when compared to the likely impact under an Action management plan that has been approved by the **Minister** (as outlined in the *Guidance on 'New or Increased Impact' relating to changes to approved management plans under EPBC Act environmental approvals* (2017) available from <http://www.environment.gov.au/epbc/publications/new-increased-impact-guidance>).
- q. **Offset area** means the two offset sites at **Lot 5450 Wannamal Road West, Boonarring** and **Lot 3333 Mimegarra Road, Cataby**
- r. **Offset attributes** is an excel file ('.xls') capturing relevant attributes of the **offset area**, including the corresponding **EPBC Act** reference ID number, the physical address of the **offset area**, coordinates of the boundary points in decimal degrees, the **EPBC Act** protected matters that the **offset area** compensates, any additional **EPBC Act** protected matters which benefit from the **offset area**, the size of the **offset area** in hectares and the legal mechanism used to protect and conserve the **offset area**.
- s. **Public Open Space** are the areas of **Carnaby's Black Cockatoo habitat** and **Banksia Woodlands TEC**, totalling at least 8 hectares, which will be ceded to the City of

Wanneroo for ongoing management. The vegetative condition of these areas must be at least Very-Good to Excellent as shown in Attachment 4.

- t. **Shapefile** is an ESRI shapefile containing '.shp', '.shx' and '.dbf' files and other files capturing attributes of the **offset area**, including the shape, **EPBC Act** reference ID number and **EPBC Act** protected matters present at the relevant site. Attributes should also be captured in '.xls' format.
- u. **Suitably qualified person** means a person who has professional qualifications and at least three years of relevant work experience surveying for the **Carnaby's Black Cockatoo** and who can give authoritative assessment, advice and analysis on performance relative to the subject matter using relevant protocols, standards, methods or literature. If the person does not have appropriate professional qualifications, the person must have at least five years of work experience related to the subject matter and can give an authoritative assessment, advice and analysis on performance relative to the subject matter using relevant protocols, standards, methods or literature.



Attachment 1: Project Area

Scale 1:5,000 at A4



Coordinate System: GDA 1994 MGA Zone 52
Note that positional errors may occur in some areas.
Date: 23/08/2018
Author: C. Thacker
Source: Aerial image: Heatmap, flown 06/03/18

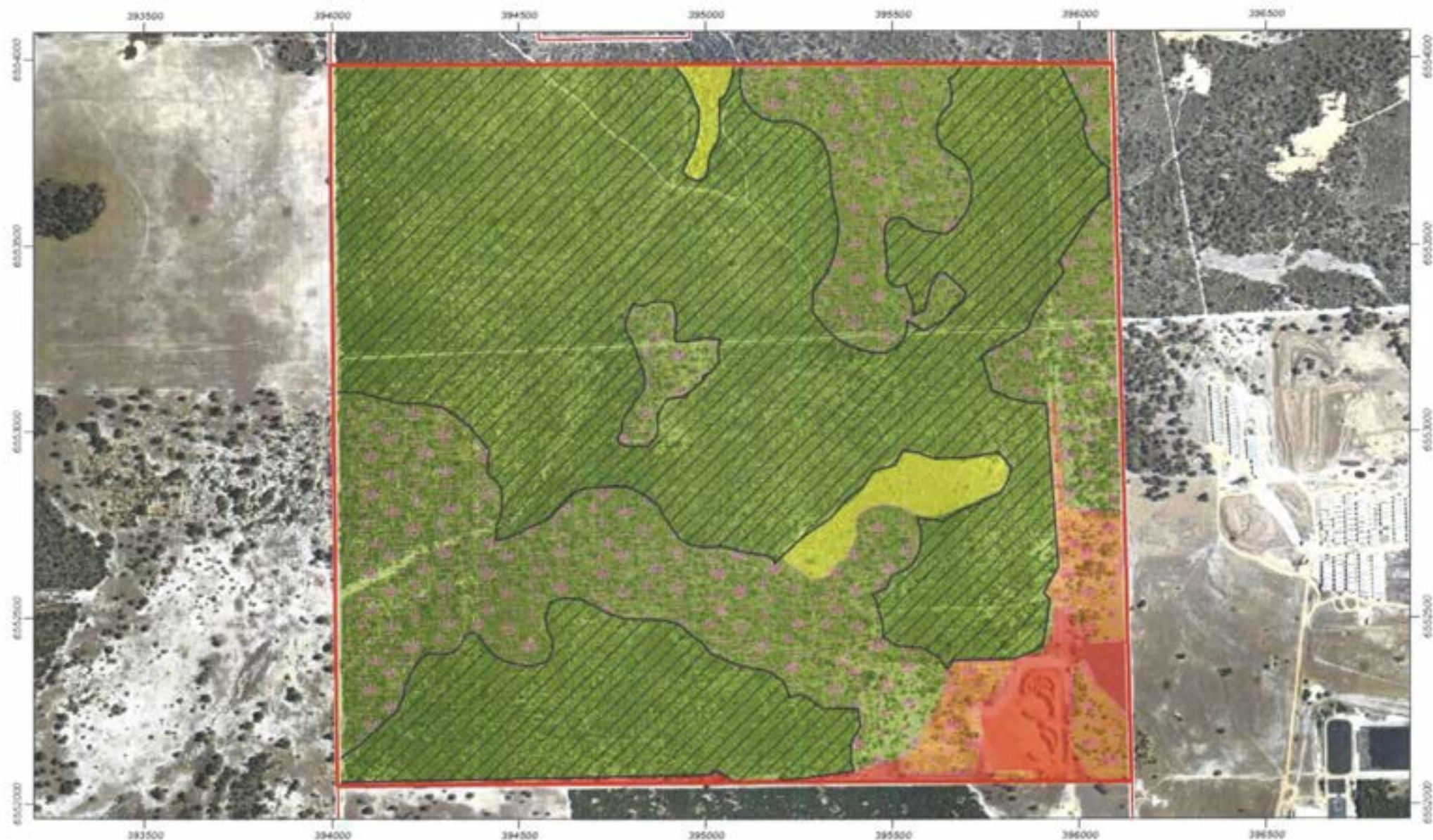
Legend

- Proposed action area
- Freeway and Rail reserve
- Banksia TEC

Black cockatoo foraging habitat value

- 3: Low to moderate foraging value
- 4: Moderate foraging value

- 5: Moderate to high foraging value
- 6: High foraging value



Attachment 2: Lot 5450 Wannamal Road West, Boonarring

Scale 1:14,000 at A4

0 100 200
m

Coordinate System: GDA 1994 MGA Zone 50
Note that positional errors may occur in some areas

Date: 23/09/2016

Author: CThatcher

Source: Aerial Tree survey - January 2015; Banksia Woodlands - January 2015

Legend

 Offset site Lot 5450 (380 ha)

 Banksia Woodland

 Potential breeding/roosting trees

Black Cockatoo foraging quality

 1

 2

 3

 5



Attachment 4: Vegetation Condition of the Project Area

Scale: 1:5,000 @A4

Coordinate System: GDA 1994 MGA Zone 50

Note that positional errors may occur in some areas

Date: 22/09/2018

Author: C. Thatcher

Source: Aerial images: Nearmap; flown 08/02/18

Legend

 Proposed action area

 Freeway and Rail reserve

Vegetation condition

 Excellent (19.71 ha)

 Very Good - Excellent (39.90 ha)

 Very Good (19.64 ha)

 Good - Very Good (12.16 ha)

 Good - Degraded (33.14 ha)

 Degraded (1.68 ha)

 Completely Degraded (22.83 ha)