

2/460 Roberts Road
SUBIACO WA 6008

T (08) 9381 5513
F (08) 9381 5514

www.coterra.com.au
info@coterra.com.au

STRATEGIC PLANNING FOR LOTS 86, 1199, AND PART OF LOT 650 THOMAS RD CASUARINA

Introduction

Several strategic planning documents have been released over the past few years, which are potentially shaping the future development of your land. Given these documents are often prepared at a high level, they may not have taken into account the environmental constraints of this particular area within their proposed design. As such we have prepared this short letter report to inform you, your design team and the planning authorities as to the potential environmental constraints which may apply to future development in your western landholdings, namely Lots 86, 1199 and the western portion of Lot 650 Thomas Rd Casuarina.

This summary report outlines:

- the results of the GHD and Bennett Environmental Consulting vegetation and flora survey of the site;
- the value of this vegetation for foraging and nesting to the protected Black Cockatoo species,
- assess likelihood of need for referral to the Federal Department for Environment (DotE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the Environmental Protection Authority (EPA) under the *Environmental Protection Act 1986* and the Department of Environment Regulation (DER) under the Environmental Protection (Clearing of Native Vegetation) Regulations 2004,
- outline possible assessment outcomes by the State and Federal environmental agencies, and
- conclusions will then be made as to guide the strategic planning for the site.

Vegetation and Flora Survey Results

Hedde et al mapping (1980) identified the site as Aeolian Deposits of the Swan Coastal Plain within the Bassendean Complex - Central and South: "Vegetation ranges from woodland of *E. marginata* - *C. fraseriana* - *Banksia* spp. to low woodland of *Melaleuca* species and sedgelands on the moister sites. This area includes the transition of *E. marginata* to *E. todtiana* in the vicinity of Perth" (GHD 2012). Approximately 27% of the original extent of this vegetation remains on the Swan Coastal Plain (EPA, 2006 and Local Biodiversity Program, 2013), which places it within the 'Vulnerable' status category (DNRE, 2002).

GHD (2012) conducted a desktop review and Level 2 flora survey in May 2012, and mapped 5 vegetation types across the landholdings being (figure in Appendix A):

- Banksia Woodland – Woodland of *Banksia attenuata*, *Banksia menziesii* and *Allocasuarina fraseriana* over Shrubland of *Hibbertia* spp., *Acacia* spp. and *Leucopogon conostephiodes* over Grassland of *Ehrharta ?calycina* and *Briza maxima* over Sparse Sedgeland of *Schoenus curvifolius* and *Lepidosperma pubisquamum* over Herbland of *Dasypogon bromeliifolius*, *Carpobrotus* sp. and *Phlebocarya ciliata*
- Mixed Myrtaceous Closed Shrubland – Closed Shrubland of *Kunzea glabrescens*, *Melaleuca teretifolia* and *Melaleuca* sp. over Herbland of *Isolepis* sp. and *Carpobrotus* sp.
- Sedgeland – Sedgeland of *Juncus krausii* subsp. *Australiensis* over Grassland of *Phalaris ?paradoxa*
- Eucalyptus and Melaleuca Open Woodland to Woodland – Open Woodland to Woodland of *Eucalyptus rudis*, *Corymbia calophylla* and *Melaleuca* spp. over weeds
- Highly degraded/cleared – Some scattered trees (*Eucalyptus*. Spp. and *Melaleuca* spp. and shrub species remain with an understory dominated by introduced grasses and herbs.

Vegetation condition was also recorded by GHD (2012) with the western portions of the landholdings ranging from Very Good through to Completely Degraded (Appendix B – figure of vegetation condition). The Banksia woodland in the north-west corner of the site adjoining the Thomas Rd/Kwinana Freeway intersection contains the best condition vegetation within the western portion of the Bombara landholdings, rated at between Very Good to Good, with some small patches of Degraded. This area historically was not grazed and impacted by livestock unlike the remainder of the property.

A spring survey conducted in October 2012 by Bennett Environmental identified no threatened and priority flora on site, however it did identify a further two vegetation units occurring further to the east of the Bombara landholdings (areas not subject of this report).

Fauna Survey

GHD (2012) also conducted a Level 1 fauna survey of the site. The fauna habitat types were divided into five broad categories being (GHD, 2012):

- Banksia woodland (particularly the patch of Banksia woodland in the north-west of the site) - high habitat value for many fauna species including Black Cockatoos.
- Mixed Myrtaceous Closed Shrubland – recently burnt, small, fragmented with limited habitat value.
- Sedgeland – would provide breeding habitat for frogs as well as other additional habitat complexity, however the sedgelands are degraded and there is extensive weed evasion.

- Eucalyptus and Melaleuca woodland – these areas have been grazed extensively and there is limited diversity within the habitat type. It would provide some roosting and cover for fauna species, particularly birds.

Three conservation significant species of fauna were recorded on site during the GHD survey (2012):

- *Calyptorhynchus baudinii* (Baudin's Black Cockatoo) – listed as Endangered under the EPBC Act and Threatened under the *Wildlife Conservation Act 1950* (WC Act).
- *Calyptorhynchus banksii naso* (Forest Red-tailed Black Cockatoo) – listed as Vulnerable under the EPBC Act
- *Isoodon obesulus fusciventer* (Southern Brown Bandicoot) – Priority 5

GHD (2012) also determined that it was likely that *Calyptorhynchus latirostris* (Carnaby's Black Cockatoo) would also be present within the site. This cockatoo is listed as Endangered under the EPBC Act. All three of these species of cockatoo are Matters of National Environmental Significance (MNES) under the EPBC Act.

The cockatoos listed above are known to feed, roost or nest on several of the plant species recorded within during the flora surveys of the site (GHD 2012, Bennett Environmental Consulting 2012):

- *Acacia saligna* – used for feeding
- *Allocasuarina fraseriana* – used for feeding
- *Corymbia calopyhlla* (Marri) – used for feeding, nesting, roosting
- *Eucalyptus rudis* (Flooded Gum) – used for roosting
- *Banksia attenuata* (Slender Banksia) – used for feeding
- *Banksia ilicifolia* (Holly Banksia) – used for feeding
- *Banksia menziesii* (Firewood Banksia) – used for feeding
- *Banksia sessilis* (Parrot Bush) – used for feeding
- *Xanthorrhoea preissii* (Grass Tree) – used for feeding
- *Erodium botrys* (Corkscrew Grass) – used for feeding

High value foraging habitat was identified in 4.42ha of the site (Appendix C), which consisted mostly of the Banksia woodland in the north-west corner of the site. Other smaller patches of vegetation were identified as potential roosting and breeding sites.

Future Planning Design for the Site

The DotE recommends that when designing your proposal, avoiding impacts on black cockatoos should be the principal aim, thereby prioritising impact avoidance over impact minimization. The DotE emphasizes that as a first priority every effort should be made to avoid impacts to the Matters of National Environmental Significance (MNES). At a seminar attended today, Nicole Matthews of the DotE advised that "Development that is designed to avoid MNES will be prioritised".

The EPA is guided by the 'precautionary principle' when assessing proposals (EPA, 2008):

Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, decisions should be guided by careful evaluation to avoid, where practicable, serious or irreversible damage to the environment.

In addition the EPA considers carefully the principle of intergenerational equity whereby (EPA, 2008):

The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. Conservation of biological diversity and ecological integrity should be a fundamental consideration.

The EPA expects "a rational linkage between the consideration of environmental issues and the various levels or tiers of the planning process. The EPA anticipates that planning processes will be put in place to ensure adequate environmental information and evaluation at each stage of planning. For many issues this will be at an early stage of the planning. The location, design and management of land uses and developments should be derived from appropriate studies, consultation and consistency with whole-of-government, agency, EPA and other accredited environmental strategies, policies and criteria." (EPA, 2008)

Currently none of the strategic planning documents we have reviewed for the area, including the Casuarina Concept Plan, Jandakot Structure Plan, Eastern Residential Intensification District Structure Plan, propose conservation of any of the vegetation within the western landholdings, proposing mostly commercial uses in this location. This may indicate that the environmental values of this area have not been considered as part of the planning process thus far.

Referrals

Currently the need for referral to the Federal Department for Environment is likely to be triggered in the future development of the site if the high value habitats in the site are proposed for clearing, in particular the area in the north-west corner of the site containing the Banksia woodland. Following referral, the Minister can make one of three decisions:

1. Not controlled action - If the proposed action is not likely to be significant, approval is not required if the action is taken in accordance with the referral. Consequently, the action can proceed (subject to any state or local government requirements).
2. Not controlled action — 'particular manner' If the proposed action is not likely to be significant if undertaken in a particular manner, approval is not required.
3. Controlled action - If the proposed action is likely to be significant, it is called a 'controlled action'. The matters which the proposed action may have a significant impact on (eg Ramsar wetlands or threatened species) are known as the controlling provisions. Consequently, the proposed action will require approval and is subject to the formal assessment and approval process. The type of assessment (approach) will be decided at the same time.

The significant impact referral triggers which have been identified by DotE for black cockatoos are as follows:

- Clearing of any known nesting tree.
- Clearing of any part or degradation of breeding habitat.
- Clearing of more than 1 ha of quality foraging habitat.
- Creating a gap of greater than 4 km between patches of black cockatoo habitat (breeding, foraging or roosting).
- Clearing or degradation (including pruning the top canopy) of a known roosting site.

The follow actions are also identified as potentially requiring referral under the EPBC Act:

- Degradation (such as through altered hydrology or fire regimes) of more than 1 ha of foraging habitat. Significance will depend on the level and extent of degradation and the quality of the habitat.
- Clearing or disturbance in areas surrounding black cockatoo habitat that has the potential to degrade habitat through introduction of invasive species, edge effects, hydrological changes, increased human visitation or fire.
- Actions that do not directly affect the listed species but that have the potential for indirect impacts such as increasing competitors for nest hollows.
- Actions with the potential to introduce known plant diseases such as *Phytophthora* spp.

Should all 4.4ha of the vegetation in this area be proposed for clearing as per the strategic documents, it is likely that a Controlled Action under the EPBC Act would be determined. Based on our past experience with referrals of a similar nature it is likely that the decision would:

- Require acquisition of an offsite offset which provides cockatoo habitat value to mitigate for the proposed clearing; and/or
- Require onsite planting of black cockatoo habitat to mitigate for the proposed clearing.

The ratio's which would be applicable to offsite acquisition or onsite planting are generally identified as:

- 4:1 or higher for the creation of foraging habitat – i.e for every hectare of cleared habitat, 4ha were created through new plantings of foraging species. The department seeks to create new foraging habitat based on the conclusion that there is not enough foraging habitat to support current black cockatoo populations.
- 6:1 or higher for protection of foraging habitat – protecting existing habitat that is under threat can also assist black cockatoos. The Department identified that this needs to be a higher ratio than creating new habitat because this measure does not add new habitat to existing resources.
- 6:1 or higher for the protection of breeding habitat. The department prefers protecting existing breeding habitat because of the time it takes for new breeding habitat (seedlings) to become viable (more than 230 years). Given this length of time, the ratio for creating new breeding habitat needs to be higher (above 10:1).

If all of the 4.4ha of vegetation on your site is proposed to be cleared, an offset of between 17.6 – 26.4ha will likely be required which will be difficult to impossible to

achieve within your current landholding of approximately 65ha. An offsite offset will then be a more likely option, which is likely to be a significant cost. Given these high ratios for required offsets, the most logical and cost effective option is to preserve the vegetation in its current location wherever possible in the first instance.

Any proposal to clear the vegetation on site may also need assessment under the EP Act if it is considered to have a potential significant environmental impact under Section 38 of the Act, or it may be automatically referred under Section 48A as part of a rezoning process. The potential impacts on the vegetation and the cockatoos will likely be key environmental factors for assessment.

In addition, all clearing of native vegetation requires a clearing permit unless it is exempt as per the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

Under section 51O of the EP Act, the CEO must have regard to 10 clearing principles when deciding to grant, or refuse, a permit. The first two Principles, as specified in Schedule 5 of the EP Act, are listed below:

1. Native vegetation should not be cleared if it comprises a high level of biological diversity.
2. Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

The vegetation in the north-west corner of your site, given its Very Good to Good condition, and its high value as a foraging habitat for Endangered Black Cockatoos, may not meet these two principles, which could result in a refusal of a clearing permit.

Strategic Assessment of MNES

Whilst the above section describes the current situation with regards to the EPBC Act, there are changes coming into effect within the next 1-2 years which are likely to affect your development. The Federal Government in conjunction with several State Government departments are currently undergoing a strategic assessment of future development within the combined Perth/Peel Region, covering an area of approximately 900,000ha. The outputs of this process will be a MNES Plan and an Impact Assessment Report (IAR) from the Federal DotE, and also Section 16e advice from the State Government EPA.

One of the key issues being assessed in this process is the potential impact of further development on the Black Cockatoos, and the increasing fragmentation/clearing of remnant vegetation. These plans are still in the process of preparation and will not be available for public comment until mid-2014, with finalization not expected until 2015.

Following approval of the MNES Plan and IAR documents by the Federal Minister for the Environment, proposals that are 'consistent' with the MNES Plan will not need further referral or assessment by the DotE. Offsets for clearing of vegetation are still expected to be required under this plan. However, State Government referrals and assessments will still need to be carried out and remain unchanged, apart from that they will now also be assessed against the Section 16(e) advice, the MNES Plan and IAR.



Conclusions

Areas of the western Bombara landholdings on Thomas Rd have been found to hold significant values as a Black Cockatoo foraging and roosting habitat, with two threatened cockatoo species having been recorded on site and another likely to occur on site. In particular the area in the north-west of the site adjoining Thomas Rd is considered to be of highest conservation value, given it contains high value cockatoo foraging habitat and also vegetation that is in Very Good-Good condition, offering other biodiversity conservation opportunities.

The DotE emphasizes that as a first priority, every effort should be made to avoid impacts to the Matters of National Environmental Significance (MNES). Given planning of your site is in the early stages, protection of the Banksia woodland in the north-west corner of your site is still possible.

However, current strategic planning documents for the site do not propose retention of the vegetation in the western portion of the site perhaps due to lack of detailed information available to decision makers on the site's characteristics.

Currently under the existing arrangements under the EPBC Act, the proposed clearing of this vegetation is likely to result in assessment by the DotE as a Controlled Action. This will likely result in the need for significant offsets that may be difficult to achieve within your development. An offsite offset will therefore be more likely and will be a significant cost to be factored into your development.

There is also the possibility that a clearing permit for the vegetation in the north-west corner of the site may be refused, which could result in an overall fatal flaw in the planning design.

To avoid these situations occurring, it is recommended that future development within your site be designed to avoid impacts and protect the Banksia woodland in the north-west corner of the site in the first instance.

Yours Sincerely

Stacey Harley
Director

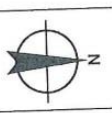
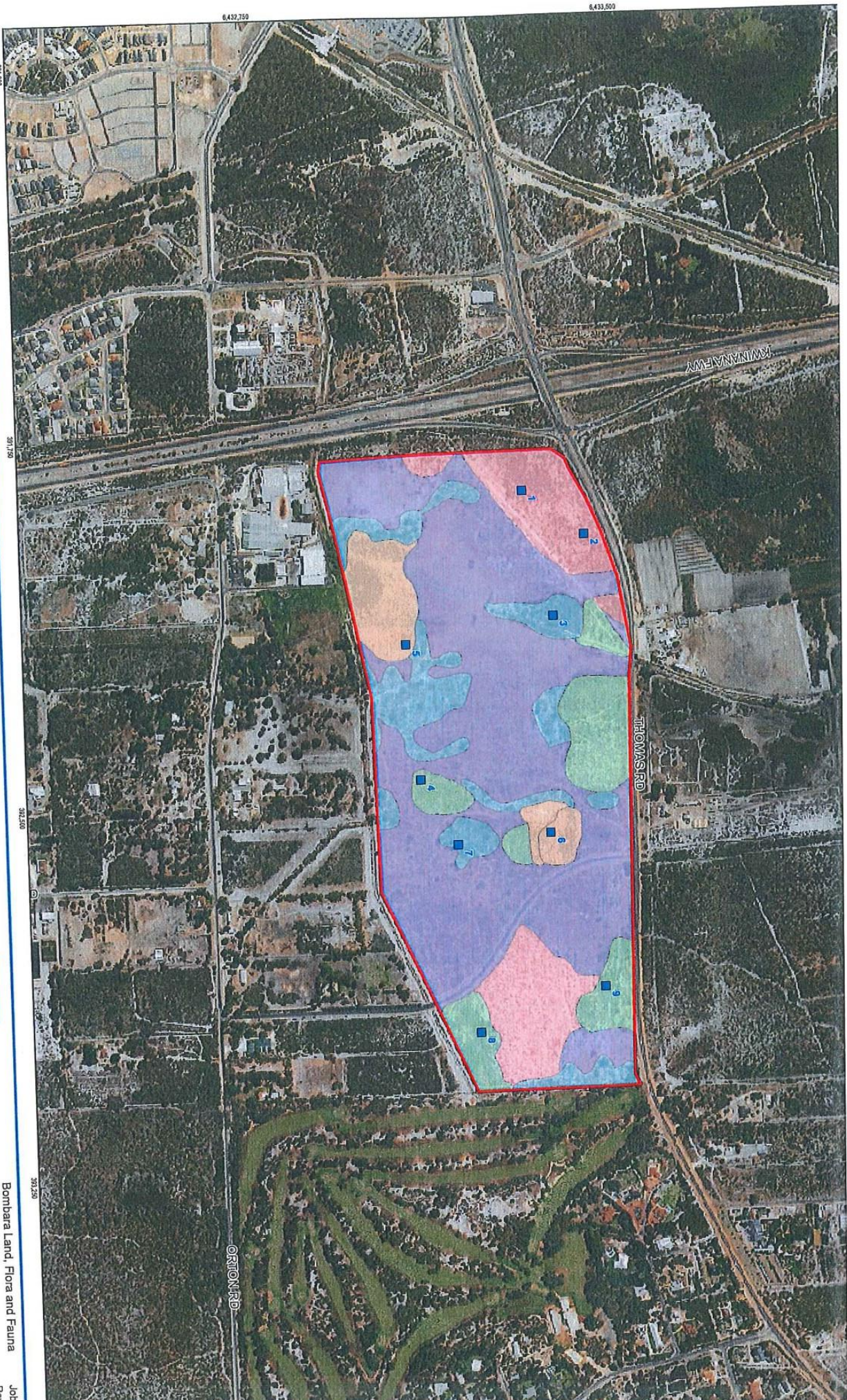
REFERENCES

- Bennett Environmental Consulting (2012) Spring Survey at Lot 650 Thomas Rd Casuarina. Prepared for Coterra Environment, October 2012.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action Planning for native biodiversity at multiple scales - catchment, bioregional, landscape, local. Victoria: Department of Natural Resources and Environment.
- Environmental Protection Authority (2006) Guidance for the Assessment of Environmental Factors: Level of Assessment for Proposals Affecting Natural Areas within the System 6 Region and Swan Coastal Plain Portion of the System 1 region. EPA, Perth.
- Environmental Protection Authority (2008) Environmental Guidance for Planning and Development. Guidance Statement No. 33. EPA, Perth.
- GHD (2012) Report for Lot 650 Thomas Rd Casuarina - Flora and Fauna Assessment. Produced for H & M Bombara, June 2012.
- Local Biodiversity Program (2013) 2013 Native Vegetation extent by Vegetation complexes on the Swan Coastal Plain south of Moore River.



APPENDIX A

Vegetation Types (GHD 2012)



LEGEND

- Quadrat Location
- Study Boundary
- Banksia Woodland
- Eucalyptus and Melaleuca
- Open Woodland to Woodland
- Mixed Myrtaceous Closed Shrubland
- Sedgeland
- Highly Degraded/Cleared



SLIP ENABLER

**Vegetation Types and
Survey Site Locations**

Job Number 61-26
Revision 0
Date 11 Jul

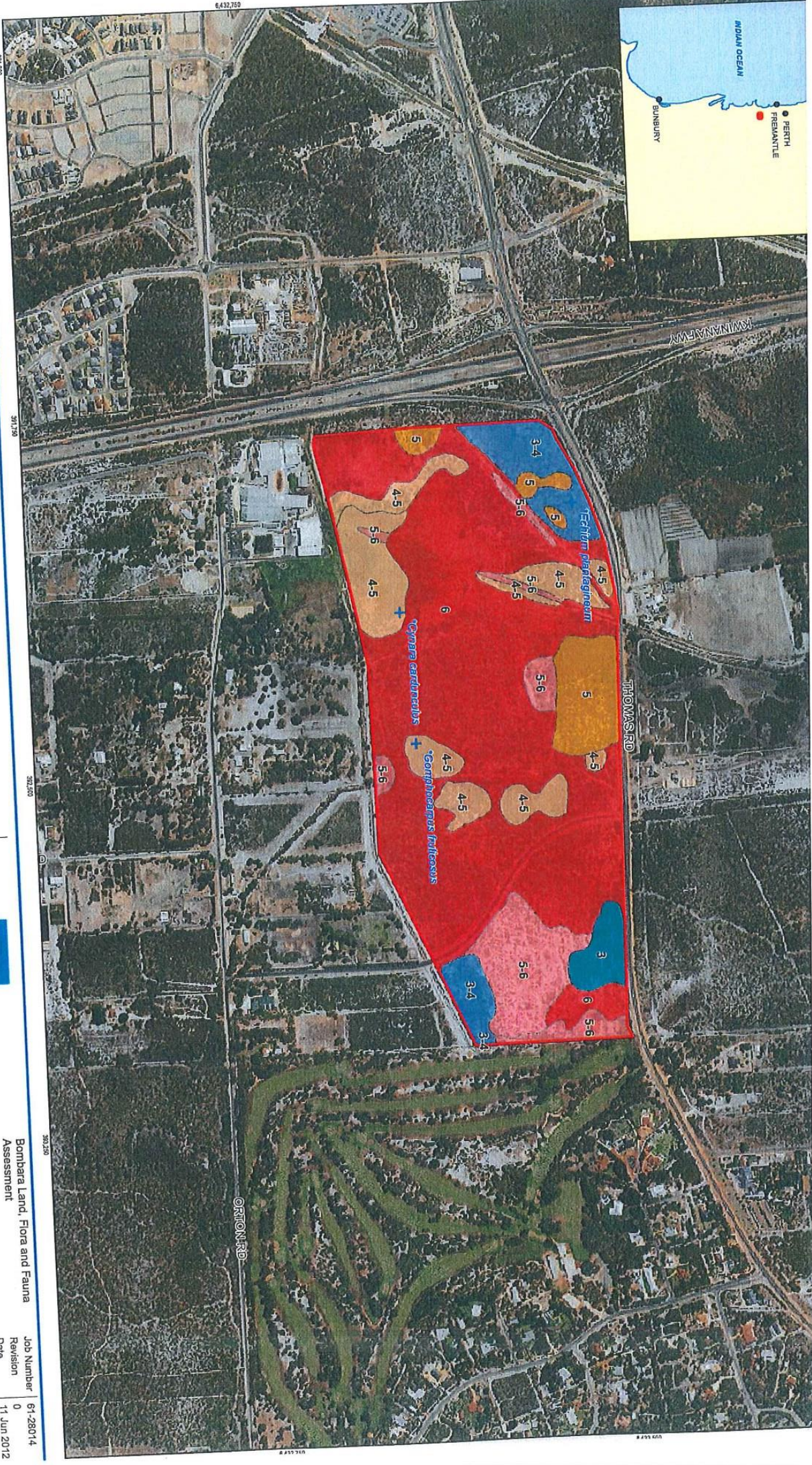
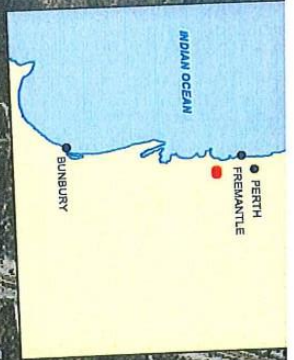
239 Adelaide Terrace Perth WA 6004 Australia T 61 8 6222 6222 F 61 8 6222 8555 E permain@chd.com.au W www.chd.com.au

CHD/10097/VEGETATION/0012/2014_G005_Fig2_Fauna and
Fauna Assessment. CHD Landcare and Hugo Bonham make no representation or warranty about the accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility for any loss or damage (including consequential loss) that may be incurred by any party as a result of the map being inaccurate, incomplete or obsolete in any way. CHD/10097/VEGETATION/0012/2014_G005_Fig2_Fauna and Fauna Assessment. CHD Landcare and Hugo Bonham make no representation or warranty about the accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility for any loss or damage (including consequential loss) that may be incurred by any party as a result of the map being inaccurate, incomplete or obsolete in any way. CHD/10097/VEGETATION/0012/2014_G005_Fig2_Fauna and Fauna Assessment. CHD Landcare and Hugo Bonham make no representation or warranty about the accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility for any loss or damage (including consequential loss) that may be incurred by any party as a result of the map being inaccurate, incomplete or obsolete in any way.



APPENDIX B

Vegetation Condition (GHD 2012)



1:7,500 (A4)3
 0 37.5 75 150 225 300 375
 Metres
 Map Projection: Transverse Mercator
 Horizontal: Map Grid of Australia, 1994, Zone 50



- LEGEND**
- Declared Weeds
 - Study Boundary
 - 1. Pristine or Nearly so
 - 2. Excellent
 - 3. Very Good
 - 4. Good
 - 4-5
 - 5. Degraded
 - 5-6
 - 6. Completely Degraded

CHD
 SLP ENABLER
 Vegetation Condition and Declared Flora Species Assessment
 Bombara Land, Flora and Fauna Assessment
 Job Number 61-28014
 Revision 0
 Date 11 Jun 2012
 239 Adelaide Terrace Perth WA 6004 Australia T 61 8 6222 8222 F 61 8 6222 8555 E perth@chd.com.au W www.chd.com.au



APPENDIX C

Black Cockatoo Habitat (GHD 2012)



Job Number 61-28014
 Revision 0
 Date 11 Jun 2012

Bombara Land, Flora and Fauna
 Assessment

SLIP ENABLER



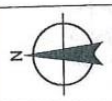
239 Adelaide Terrace Perth WA 6004 Australia T 61 8 6222 8222 F 61 8 6222 8555 E permail@ghd.com.au W www.ghd.com.au

Figure 4

- LEGEND**
- Study Boundary
 - High Value Foraging Habitat
 - Potential Roosting Habitat
 - Potential Breeding Tree
 - Potential Breeding Tree with Hollows

Black Cockatoo Trees

- Potential Breeding Tree
- Potential Breeding Tree with Hollows



1:7,500 (at A3)
 Metres
 0 37.5 75 150 225 300 375

Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1984
 GCS: Map Grid of Australia 1984, Zone 50

G:\10280\10280\MapDocs\1028014_G07_P14_rev0.mxd
 © 2012, with all other rights reserved by Esri. All rights reserved. No warranty is made by Esri for any use of the information shown on this map that is not intended by Esri. All other marks, logos, and text are the property of their respective owners.