



Firebird ecoSultants Pty Ltd
ABN-16 105 985 993

21 August 2018

RE: ECOLOGICAL ASSESSMENT FOR A PROPOSED SENIOR'S LIVING FACILITY WITHIN THE APPROVED RESIDENTIAL DEVELOPMENT ('THE BOWER') AT BOUNDARY ROAD MEDOWIE

Firebird ecoSultants Pty Ltd has been engaged by McCloy Development Management to conduct an ecological assessment, in relation to a proposed senior's living facility (the proposal) at Boundary Road, Medowie. This facility is proposed to be developed on land that has already been approved to be cleared, as part of 'The Bower' residential development. These ecological investigations have been conducted, under due diligence, to ensure that any additional ecological impacts from the modified site plans are detected and dealt with, where necessary.

This assessment recognises the relevant requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act), *Threatened Species Conservation Act 1995* (TSC Act), *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Port Stephens Comprehensive Koala Plan of Management* (CKPoM). Note: The *Biodiversity Conservation Act 2016* commenced on the 25th August 2017. The BC Act repeals the TSC Act as well as animal and plant provisions of the *National Parks and Wildlife Act 1974*. However, as per Section 29 of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*, former planning provisions continue to apply to pending Part 4 assessments lodged prior to the 24th of November 2018. This assessment therefore has been undertaken in accordance with the TSC Act as stated above.

PROJECT DESCRIPTION AND BACKGROUND

The proposal is for a Senior's Living facility. Attachment A provides site plans, including any Asset Protection Zones (APZs). This facility is proposed to be developed on land that has already been approved to be cleared, as part of The Bower residential development. Detailed ecological investigations have already been conducted on the site by RPS (2015) and by Firebird ecoSultants (as the Project Ecologist for The Bower clearing and construction works).

As part of the original project approval for The Bower, a large area of vegetation has been conserved in a designated conservation area adjacent to The Bower. This conservation area is the subject of a Voluntary Planning Agreement (VPA) between McCloy Medowie Pty Ltd and Office of Environment and Heritage (OEH) (VPA 05-11-683) and has been designed to offset the removal of vegetation in The Bower (including within the current proposed development footprint). Further, the conditions



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of consent, contained in the project approval for The Bower (see Attachment B) contains several clauses that address potential ecological impacts on the site.

METHODOLOGY

These assessment methods are designed to complement those previously undertaken by RPS (2015) and by Firebird ecoSultants (as the Project Ecologist for The Bower clearing and construction works). They included a desktop-based analysis of updated listings and records of threatened species in the area, a review of any relevant literature and a field-based survey of the site.

Assessment methods included the following:

- Ecological data relevant to the site was collated and reviewed (e.g. database searches of the Atlas of NSW Wildlife (BioNet) and the EPBC Act Protected Matters Search Tool and a review of any recent ecological studies);
- Consideration of relevant ecological survey and assessment policy guidelines (e.g. Murray et al., 2002; Department of Environment and Climate Change (DECC), 2009; DECC, 2007; Commonwealth of Australia, 2014);
- A 2-hour diurnal inspection of the land was undertaken on 1st August 2018 to confirm the vegetation and habitat values of the site, and to search for threatened species. Approximately 2 hours were spent on site undertaking a random meander flora survey and obtaining incidental observations of fauna and habitat values. The field inspection was restricted to the proposed development footprint and immediate surrounding areas. The survey methods undertaken are unlikely to detect all of the species present within the site. In order to address this, the habitat assessment and the presence of local records for threatened species were used to assess whether threatened species were likely to be present. Where necessary the precautionary principle of 'assumed presence' was applied.
- Consideration of any planning strategies relevant to the site (e.g. *Port Stephens Planning Strategy 2011*, *Port Stephens Council Development Control Plan 2014*, *Port Stephens Local Environment Plan 2013*, *Port Stephens CKPoM*); and
- Consideration of the previous consent conditions contained in the project approval for The Bower residential development (see Attachment B).



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RESULTS

Desktop Research

Several threatened species / populations, endangered ecological communities (EECs) and migratory species were recorded on the Atlas of NSW Wildlife database and EPBC Act Protected Matters Search Tool, within a 10 km radius of the site. These are provided in Attachment C and D.

The proposed development footprint occurs within land previously mapped by RPS (2015), as containing 'Derived Grassland with Scattered Canopy Trees'. RPS (2015) also concluded that the proposed development footprint would not be considered Preferred Koala Habitat, due to the lack of feed trees. RPS (2015) did however record a cluster of *Phascolarctos cinereus* (Koala) feed trees adjacent to the proposed development footprint; the majority of these trees will be retained in the 'Stage 5 'Park' area of The Bower.

Flora Survey

The proposed development footprint has largely been cleared, as part of the APZ for the early stages of the approved residential development. It consists of derived grassland and occasional canopy trees (see photo below). See Attachment E for the distribution of the site's vegetation and Attachment F for a full species list. The following provides a summary of the dominant floral characteristics:

Upper Stratum – 10 m to 15 m high, with a Projected Foliage Cover (PFC) of <5%. This stratum is dominated by *Angophora costata* (Smooth-barked Apple), *Eucalyptus resinifera* (Red Mahogany) and *Corymbia gummifera* (Red Bloodwood).

Mid Stratum – up to 2 m high with a PFC of <5%. This stratum is almost entirely absent. Only very occasional *Acacia longifolia* (Sydney Golden Wattle), *Pultenaea villosa* (Hairy Bush Pea) and the weed, *Lantana camara* (Lantana), were recorded.

Lower Stratum – <1 m high with a PFC of 10% to 70%. This stratum is dominated by *Imperata cylindrica* (Blady Grass), *Cynodon dactylon* (Common Couch) and the exotic species, *Andropogon virginicus* (Whiskey Grass), *Paspalum dilatatum* (Paspalum) and *Setaria pumila* (Pale Pigeon Grass).

No EECs or threatened flora species / populations were recorded. It is considered that the site is unlikely to provide significant habitat for any of the EECs, threatened species / populations predicted to occur in the area.

Habitat Assessment

The proposed development footprint is largely cleared and any hollow-bearing trees previously recorded in the area have been removed, in accordance with the residential development's project approval being for the establishment of te require Inner Protection Areas (IPAs). The site is highly disturbed, being adjacent to ongoing



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project works for the earlier stages of the residential development. Several mulch stockpiles were observed in the proposed development footprint. See photo below.

One *P. cinereus* (Koala) feed tree (as defined by the Port Stephens CKPoM) (being *Eucalyptus tereticornis* (Forest Red Gum)) was recorded; see Attachment E for its location. No evidence (i.e. scats, scratches or direct sightings) of *P. cinereus* (Koala) was observed during the field survey (and during the several surveys conducted by Firebird ecoSultants during the The Bower project works). It is considered highly unlikely that *P. cinereus* (Koala) would be currently present in the site, and even less likely as the project works progress to the later stages of the residential development. The proposed facilities do occur adjacent to the Stage 5 'Park' area of The Bower, where several *P. cinereus* (Koala) feed trees will be retained; although it is questionable as to whether this is an appropriate habitat area for *P. cinereus* (Koala), as no designated habitat corridors would connect this park to surrounding areas of bushland.

Overall, site is unlikely to provide significant habitat for any of the threatened species / populations predicted to occur in the area. Only relatively robust and mobile species would be likely to inhabit the site.



Photo: proposed development footprint



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IMPACT ASSESSMENT

The proposal would require the removal of the site's occasional canopy trees. All trees to be removed are of a relatively young age class (approx. 20 to 40 years). No hollow-bearing trees would be removed. One *P. cinereus* (Koala) feed tree (being *E. tereticornis* (Forest Red Gum) would be removed. This tree has a DBH of just under 30 cm and in accordance with the tree replacement requirements in *Technical Specifications Tree* (PSC, 2014), eight *E. tereticornis* (Forest Red Gum) replacement trees would be required.

It is important to note that, as part of the original project approval for The Bower, a large area of vegetation has been conserved in a designated conservation area adjacent to The Bower. This conservation area is the subject of a VPA between McCloy Medowie Pty Ltd and OEH (VPA 05-11-683) and has been designed to offset the removal of vegetation in The Bower (including within the current proposed development footprint). Further, the conditions of consent, contained in the project approval for 'The Bower' (see Attachment B) contains several clauses that address potential ecological impacts on the site, as summarised below:

- Clause 15 of the project approval requires a pre-clearance survey and supervision of vegetation removal by a qualified ecologist.
- Clause 38 of the project approval requires the replacement of any removed *P. cinereus* (Koala) (in accordance with the replacement ratios detailed in the *Technical Specifications Tree* (PSC, 2014)), OR, at Council's discretion, enhancement works which improve the integrity and viability of *P. cinereus* (Koala) food trees, habitat and corridors on the site.
- Several other clauses of the project approval address erosion / sediment and weed control measures.

Considering the above, impacts on threatened species / populations, EECs and migratory species are highly unlikely. It is considered that Assessments of Significance under section 5A of the EP&A Act (i.e. seven-part tests) and impact assessments under the EPBC Act would not be required; although an assessment under the Performance Criteria for Development Applications, in the Port Stephens CKPoM has been undertaken, as due diligence. This assessment (which is provided in Attachment G), concludes that the proposal would be consistent with the Port Stephens CKPoM Performance Criteria for Development Applications.

CONCLUSION AND RECOMMENDATIONS

The proposal is unlikely to impact on threatened species / populations, EECs or migratory species listed under the TSC Act or EPBC Act. It is considered that Assessments of Significance, under section 5A of the EP&A Act (i.e. seven-part tests), and impact assessments, under the EPBC Act, are not required. Referral to the NSW OEH or the Commonwealth Department of Environment would not be



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required. It is also considered that the proposal would be consistent with the Port Stephens CKPoM Performance Criteria for Development Applications.

The following mitigation measures are recommended.

- A pre-clearance survey and clearing supervision must be conducted, in accordance with Clause 15 of the project approval for 'The Bower' (see Attachment B).
- As per Clause 38 of the project approval for 'The Bower' (see Attachment B), the removal of the *E. tereticornis* (Forest Red Gum) tree must be compensated by either the planting of eight replacement trees OR, at Council's discretion, enhancement works which improve the integrity and viability of *P. cinereus* (Koala) food trees, habitat and corridors on the site.
- Appropriate erosion / sediment and weed control measures must be employed, in accordance with the relevant clauses in the project approval for 'The Bower' (see Attachment B).

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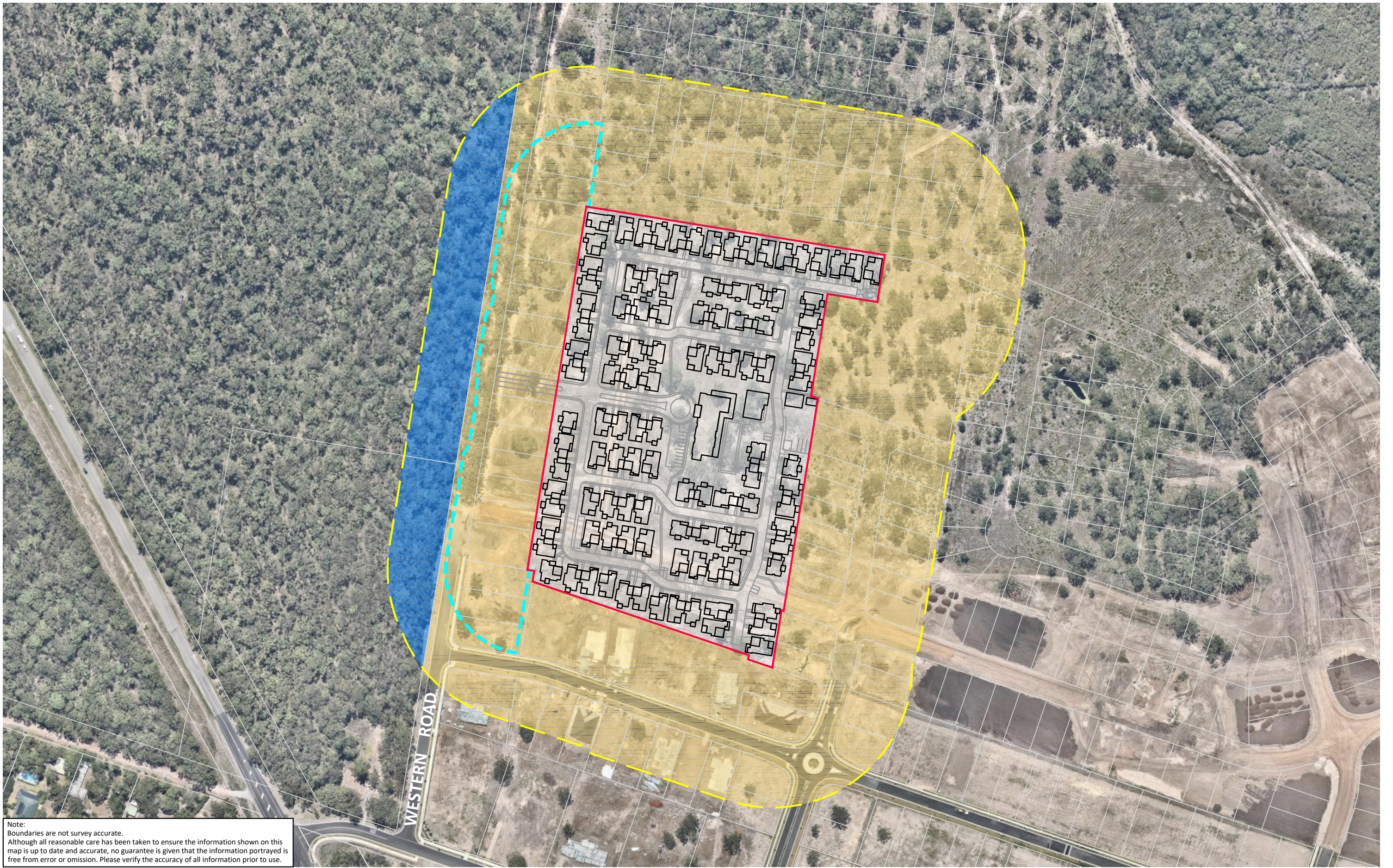
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ATTACHMENT A: SITE PLANS



Note:
Boundaries are not survey accurate.
Although all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

FIGURE 4-1: ASSET PROTECTION ZONES MAP

CLIENT
SITE DETAILS
DATE

Client
Seniors Living Boundary Road Medowie
1 August 2018

Legend

- Subject Site
- 100m Buffer
- 60m APZ
- Open Forest
- Managed Land



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ATTACHMENT B: PROJECT APPROVAL FOR 'THE BOWER'

NOTICE OF DETERMINATION OF MODIFIED DEVELOPMENT CONSENT

Development consent 16-2015-336-4 is modified by 16-2015-336-5 subject to the conditions in Schedule 1.

Notice is hereby made under Section 4.18 of the Environmental Planning and Assessment Act 1979, NSW (the Act) of a Development Consent issued under Section 4.16 of the Act, for the development described below. The consent should be read in conjunction with the conditions contained in Schedule 1 and the notes contained in Schedule 2. Details of approvals under Section 4.46 of the Act are contained in Schedule 3.

Determination Outcome: Approval, subject to amended conditions

APPLICATION DETAILS

Original Application No:	16-2015-336-1
Section 4.55 Application No:	16-2015-336-5
Property Address:	LOT: 101 DP: 1234206, LOT: 1 DP: 1224780, LOT: 93 DP: 753194, LOT: 94 DP: 753194, LOT: 95 DP: 753194, LOT: 96 DP: 753194 63 Boundary Road MEDOWIE, 65 Boundary Road MEDOWIE, 67 Boundary Road MEDOWIE, 69 Boundary Road MEDOWIE
Description of Development:	s4.55(1A) Modification to 416 Lot Torrens Title Subdivision - Amendments to Road Layout and Open Space Contributions
Date of original determination:	29 June 2016
Date from which the consent operates:	5 October 2016
Date of S4.55 Modification Determination:	12 April 2018
Date on which the consent shall lapse: (unless physical commencement has occurred)	6 October 2021


MISS E L DANIEL
Development Planner

SCHEDULE 1

REASONS WHY THE CONDITIONS HAVE BEEN IMPOSED

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts including economic and social impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

PART A – CONDITIONS OF DEFERRED COMMENCEMENT APPROVAL

DEFERRED COMMENCEMENT CONDITION SATISFIED AND OPERATIONAL
CONSENT LETTER ISSUED BY PORT STEPHENS COUNCIL ON 5th OCTOBER
2016.

PART B – CONDITIONS OF CONSENT APPLICABLE AFTER SATISFACTION OF DEFERRED COMMENCEMENT CONDITION(S)

- 1D. The development must be carried out in accordance with the plans and documentation listed below and endorsed with Council's stamp, except where amended by other conditions of this consent or as noted in RED by Council on the approved plans:

Plan/Doc. Title	Plan Ref. No.	Rev. No.	Date	Drawn By
Site Plan	HD01	25	02.03.18	High Definition Design Drafting
Staging Plan	HD04	25	06.03.18	High Definition Design Drafting
Dedication Plan	HD09	15	20.01.2016	High Definition Design Drafting
Stormwater Management Plan Figure 4	15055C DF04	2	31.08.2015	GCA Engineering Solutions
Stormwater Management Plan Figure 7	15055C DF07	3	18.09.2015	GCA Engineering Solutions
Stormwater Management Plan	15505C DF08	3	18.09.2015	GCA Engineering Solutions

Figure 8				
Landscape Masterplan	10729.5	I	12.04.2018	Terras Landscape Architects
Entry Feature Landscape Plan	10729.5	A	20.01.2016	Terras Landscape Architects

In the event of any inconsistency between conditions of this consent and the drawings/documents referred to above, the conditions of this consent prevail. If there is any inconsistency between the plans and documentation referred to above the most recent document shall prevail to the extent of any inconsistency.

2. A Subdivision Works Construction Certificate and/or Roads Act approval, as appropriate is required prior to commencement of works approved by this application. The person having the benefit of this consent must appoint a Principal Certifying Authority. If Council is not appointed as the Principal Certifying Authority then Council must be notified of who has been appointed. Note: at least two (2) days' notice must be given to Council of intentions to start works approved by this application.
- 3C. The development is to be carried out in accordance with the General Terms of Approval issued by the NSW Rural Fire Service (Ref: D18/4838 Date: 9 April 2018) (attached as Schedule 3).

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF THE CONSTRUCTION CERTIFICATE

- 4A. **Prior to the issue of any Construction Certificate other than bulk earthworks**, a regulatory traffic signage, line marking and Local Area Traffic Management (LATM) scheme shall be submitted to and approved by the Local Traffic Committee and Council's Natural Resources Unit. All recommendations of the traffic committee shall be designed and constructed as part of the development. The LATM scheme shall consider Western Road, Boundary Road, Road 2 and Road 4, whilst the regulatory signage and line marking shall cover the entire development including any required works on the existing external road network. The LATM is to include details regarding traffic calming devices and the management strategy for safe koala movement in relation to the area marked 'Park', Road 4 (also known as Carolina Road) and Basins 2 & 3. All design and works shall be in accordance with Council's 'Infrastructure Specification – AUS Spec'.
5. **Prior to the issue of the Construction Certificate for the relevant stage**, detailed civil works design drawings and specifications detailing Stormwater Management works generally in accordance with the Stormwater Drainage Strategy prepared by Geoff Craig & Associates Pty Ltd (Reference no. 15055, Revision 1 and dated 19 May 2015), including supplementary drawings (Dwg

Ref: 15055CdF07 r3 dated 18/09/2015 and Dwg Ref: 15055CdF08 r3 dated 18/09/2015) are to be submitted to and approved by the PCA. Documentation is to ensure that each stage is appropriately serviced by way of suitable drainage infrastructure and may include interim drainage infrastructure measures or satisfactory arrangements. The plans are to be prepared by a suitably qualified and experienced civil engineer, in accordance with Council's 'Infrastructure Design Specification – AUS Spec'.

6. **Prior to the issue of the Construction Certificate for the relevant stage**, a Construction Environmental Management Plan (CEMP) is to be submitted to and approved by the Certifying Authority and Council. The required CEMP must outline the sequence and construction methodology and specify mitigating measures to ensure all works are carried out with minimal environmental impact in relation to project staging, waste management, traffic management and environmental management. The CEMP must include but is not limited to:
 - a. Soil and Water Management Plan (including erosion and sediment control measures in accordance with *Managing Urban Stormwater – Soils and Construction, Volume 1* (Landcom, 2004);
 - b. Traffic Management Plan;
 - c. Noise and Dust Management Plan;
 - d. Tree removal and retention plans (including species, size and hollows). For those lots fronting Boundary Road, koala feed trees and hollow bearing trees are to be retained in accordance with Chapter D9 Clause D6.7 of the Port Stephens Council Development Control Plan 2014;
 - e. Inventory of the number of koala feed trees and hollows to be removed and compensatory measures in accordance with Council's Technical Specifications;
 - f. Tree clearing protocols in accordance with Council's Technical Specifications; and
 - g. Fauna rescue and relocation measures.
7. **Prior to issue of the Construction Certificate for the relevant stage**, an application (together with a plan) shall be made and submitted to Council for road names. The suggested names shall offer options, which shall be supported with reasons (historical or otherwise) for the chosen names. The road names shall be in accordance with the Geographical Names Board NSW requirements.
8. **Prior to the issue of a Construction Certificate for the relevant stage**, the following detailed civil engineering design drawings prepared in accordance with Council's *Infrastructure Specifications* are to be submitted to and approved by the Certifying Authority:
 - a. Road formations generally in accordance with the approved development plans;
 - b. Kerb and guttering provided on both sides of all roads;

- c. Concrete footpath 1.2 metres wide single side for all new roads, with the exception of Road 4 that shall feature a shared concrete path 2 metres on one side;
 - d. All footpaths and shared paths shall provide pedestrian access ramp connections to intersections and cross points;
 - e. Street lighting featuring Class P4 lighting in accordance with AS/NZS 1158 including the provision of current best practice energy efficient luminaires;
 - f. Pavement marking & signage;
 - g. Street trees in accordance with Port Stephens Council Tree Technical Specification and the approved Landscape Master Plan;
 - h. Pavement design;
 - i. Temporary turning heads shall be provided at each stage for all terminating roads;
 - j. Inter-allotment drainage shall be installed where stormwater from individual allotments cannot be discharged directly into the street drainage system;
 - k. No major utility sub-stations, kiosks, pump stations and the like shall be located within road reserves or drainage reserves (with the exception for the pump station as shown on the approved plans) and public open space areas. These shall be positioned within areas currently marked as lots and the lot consolidated into a neighbouring lot where it cannot achieve the minimum lot frontage and lot size;
 - l. Any associated works to ensure satisfactory transitions to existing infrastructure;
 - m. Identified trees for removal and retention; and
 - n. Clear identification of 'No Go Areas' for tree protection in accordance with the Construction Environmental Management Plan.
9. **Prior to the issue of the Construction Certificate for Stage 1**, structural detail for the entry feature to be erected on Lot 101 is to be provided to the Certifying Authority.
- 10A. **Prior to the issue of the Construction Certificate for Stage 5**, design details for the provision of a local playground marked as 'Park', as illustrated on the site plan (Plan Reference Number: dated 15/01/2018) are to be provided to and approved by Council's Parks and Recreation Unit. The local playground shall consist of:
- a. A small playground with a minimum of 3 play opportunities that have a capacity for approx. 15 children;
 - b. An amenities building. Preferred design/product – Landmark Pro 'Coastal' single/ unisex/ accessible/ auto locking doors or similar <http://www.landmarkpro.com.au/downloads/K9400.pdf>
 - c. Two picnic tables and two shelters;
 - d. Associated pathways to maximise accessibility and permeability;
 - e. Associated landscaping. Low water reliance. Consideration of potential shade trees for playground (species suitable for koala habitat environment);

- f. Materials selection needs to be high quality and durable. All built elements in accordance with relevant Australian Standards, codes and guidelines for accessibility.
11. **Prior to the issue of a Construction Certificate for the relevant stage**, the following detailed civil engineering design drawings and in accordance with Council's *Infrastructure Specifications* are to be submitted to and approved by Council as the Roads Authority under S138 of the Roads Act 1993:
- a. Road formations generally in accordance with the approved development plans;
 - b. Upgrade to Medowie Road/Boundary Road intersection to feature CHR (S) type intersection treatment in accordance with AustRoads *Guide to Road Design* 2010 and RMS supplements;
 - c. Western Road shall be formed as a "fire trial" in accordance with section 4.1.3 (3) of 'Planning for Bush Fire Protection 2006', from the northern extent of the development to Daniel James Trail;
 - d. Kerb and guttering provided on the eastern side of Western Road and both sides of Boundary Road, extending from the intersection of Medowie Road;
 - e. Flush kerb is to be provided on the western side of Western Road;
 - f. Street stormwater drainage systems;
 - g. Turning heads shall be provided at each stage for all terminating roads;
 - h. Concrete shared path 2 metres wide within Boundary Road and Western Road extending from Medowie Road to the relevant intersections with Road 4;
 - i. Concrete footpath 1.2 metres wide within the remaining extent of Western Road and Boundary Road;
 - j. Provision of connecting pedestrian access ramps at all intersections;
 - k. Street lighting featuring Class P4 lighting in accordance with AS/NZS 1158 including the provision of current best practice energy efficient luminaires;
 - l. Pavement marking & signage;
 - m. Street trees in accordance with Port Stephens Council Tree Technical Specification;
 - n. Pavement design;
 - o. Any associated works to ensure satisfactory transitions to existing infrastructure; and
 - p. Identified trees for removal and retention.
12. **Prior to the issue of a Construction Certificate for any affected lot** identified in the Phase 1 Environmental Site Assessment Report prepared by HLA – Envirosciences (now AECOM) (Ref: N4043001_RPT_3Aug06), an appropriately qualified consultant must be engaged to carry out remediation and validation of the contaminated site area in accordance with the EPA 'Managing Land Contamination Planning Guidelines' and the recommendations of the report. Documentary certification of completed remediation is to be provided to the Certifying Authority prior to the issue of the Construction Certificate.

CONDITIONS TO BE SATISFIED DURING THE DEMOLITION, EXCAVATION AND CONSTRUCTION PHASES

13. Construction work that is likely to cause annoyance due to noise is to be restricted to the following times:
 - Monday to Friday, 7am to 6pm;
 - Saturday, 8am to 1pm;
 - No construction work to take place on Sunday or Public Holidays.
14. **Prior to the commencement of works**, erosion and sediment control measures are to be installed, monitored, adapted and maintained for the relevant stage in accordance with the approved CEMP.
15. **Prior to the commencement of works for each stage**, a pre-clearance survey must be undertaken by a suitably qualified and experienced ecological consultant in accordance with the CEMP. The fauna ecologist must inspect all native trees approved for removal prior to felling within the disturbance footprint and advise the site manager and tree clearing staff of any habitat potential and precautions necessary during tree felling. The following strategies need to be employed to mitigate the effect of this clearing on native fauna that occur on the site:
 - a. The fauna ecologist must supervise the removal of all trees and provide the Principal Certifying Authority with a pre-clearance survey report at the completion of tree felling works.
 - b. The process of removal should be as per the ecologists' directions and include shaking the tree 24 hours prior to removal and leaving the felled tree in situ for 48 hours to allow any undetected fauna in hollows to escape.
 - c. Remove and modify hollows and nests from felled trees and re-establish these into suitable adjacent native vegetation within the site to provide compensatory habitat. This includes the mounting of hollows and nests on trees or poles, or on other buildings or structures. Re-use of hollows will be carried out in preference to the construction of artificial nesting boxes. The replacement ratio for retained tree hollows is 1:1.
 - d. Where original hollows cannot be retained, artificial nesting boxes must be provided to provide compensatory habitat in accordance with Council's *Nest Box Technical Specification*.
 - e. In circumstances where native fauna is detected during the removal of habitat trees, clearing is to cease until a licensed wildlife carer or consultant relocates the fauna species.
 - f. If the pre-clearance survey identifies any threatened species inhabiting a tree flagged for removal, all clearing works shall cease until a plan of management for the relocation of the species has been approved by Council in consultation with the Office of Environment and Heritage.

Where in spite of precautions, wildlife is injured; the fauna ecologist is to take the necessary action to treat the animal, which may include veterinary treatment or transfer of the animal to a local volunteer wildlife carer group.

16. **During works**, a construction waste storage facility is to be established on-site and regularly serviced for the duration of works.
17. It is the responsibility of the applicant to erect a PCA sign (where Council is the PCA, the sign is available from Council's Administration Building at Raymond Terrace or the Tomaree Library at Salamander Bay free of charge). The applicant is to ensure the PCA sign remains in position for the duration of works.
18. Where no sanitary facilities currently exist onsite for construction workers toilet accommodation for all tradespersons shall be provided from the time of commencement until the development is complete. The toilet facilities shall be located so as to have minimal impact of adjoining properties and shall not be placed on the road reserve, without separate approval from Council.
19. During the construction phase of the development, all materials, plant and equipment must be placed on the site of the development in order to ensure that pedestrian and vehicular access within adjoining public roads, footpaths and reserve areas is not restricted and to prevent damage to public infrastructure.
20. The only fill material that may be received at the development site is:
 - a. Virgin Excavated Natural Material (VENM) within the meaning of the *Protection of the Environment Operations Act 1997 (POEO)*; or
 - b. Any other waste-derived material the subject of a resource recovery exemption under s.91 of the *Protection of the Environment Operations (Waste) Regulation 2014* that is permitted to be used as fill material.

Note: Any waste-derived fill material the subject of a resource recovery exemption received at the development site must be accompanied by documentation as to the material's compliance with the exemption conditions which must be provided to the Principal Certifying Authority.

21. All works are to be carried out in accordance with the Construction Environmental Management Plan approved for the relevant stage.

CONDITIONS TO BE SATISFIED PRIOR TO THE ISSUE OF A SUBDIVISION CERTIFICATE

- 22D. **Prior to issue of each Subdivision Certificate**, a monetary contribution is to be paid to Council for the provision of 412 additional lots, pursuant to section 4.17(1) of the *Environmental Planning and Assessment Act 1979*, Section 7.11 of the *Environmental Planning and Assessment Act 1979*, and Councils Development Contribution Plan towards the provision of the following public facilities.



Stage 1 (37 lots minus 4 existing lots)

Facility	Per lot/dwelling	Total
Civic Administration	\$1,152.00	\$38,016.00
Public Open Space, Parks and Reserves	\$2,392.00	\$78,936.00
Sports and Leisure Facilities	\$5,642.00	\$186,186.00
Cultural and Community Facilities	\$2,833.00	\$93,489.00
Road Works	\$228.00	\$7,524.00
Fire & Emergency Services	\$1,592.00	\$52,536.00
Medowie Traffic and Transport	\$2,493.00	\$82,269.00
	Total	\$538,956.00

Stage 2 (30 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$34,560.00
Public Open Space, Parks and Reserves	\$2,392.00	\$71,760.00
Sports and Leisure Facilities	\$5,642.00	\$169,260.00
Cultural and Community Facilities	\$2,833.00	\$84,990.00
Fire & Emergency Services	\$228.00	\$6,840.00
Roadworks	\$1,592.00	\$47,760.00
Medowie Traffic and Transport	\$2,493.00	\$74,790.00
	Total	\$489,960.00

Stage 3a (10 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$11,520.00
Public Open Space, Parks and Reserves	\$2,392.00	\$23,920.00
Sports and Leisure Facilities	\$5,642.00	\$56,420.00
Cultural and Community Facilities	\$2,833.00	\$28,330.00
Fire & Emergency Services	\$228.00	\$2,280.00
Roadworks	\$1,592.00	\$15,920.00
Medowie Traffic and Transport	\$2,493.00	\$24,930.00
	Total	\$163,320.00

Stage 3b (19 lots)



Notice of Determination

Under section 4.16, 4.17 and 4.18(1)(a) and 4.55 of the Environmental Planning and Assessment Act 1979.

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$21,888.00
Public Open Space, Parks and Reserves	\$2,392.00	\$45,448.00
Sports and Leisure Facilities	\$5,642.00	\$107,198.00
Cultural and Community Facilities	\$2,833.00	\$53,827.00
Fire & Emergency Services	\$228.00	\$4,332.00
Roadworks	\$1,592.00	\$30,248.00
Medowie Traffic and Transport	\$2,493.00	\$47,367.00
	Total	\$310,308.00

Stage 4a (28 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$32,256.00
Public Open Space, Parks and Reserves	\$2,392.00	\$66,976.00
Sports and Leisure Facilities	\$5,642.00	\$157,976.00
Cultural and Community Facilities	\$2,833.00	\$79,324.00
Fire & Emergency Services	\$228.00	\$6,384.00
Roadworks	\$1,592.00	\$44,576.00
Medowie Traffic and Transport	\$2,493.00	\$69,804.00
	Total	\$457,296.00

Stage 4b (11 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$12,672.00
Public Open Space, Parks and Reserves	\$2,392.00	\$26,312.00
Sports and Leisure Facilities	\$5,642.00	\$62,062.00
Cultural and Community Facilities	\$2,833.00	\$31,163.00
Fire & Emergency Services	\$228.00	\$2,508.00
Roadworks	\$1,592.00	\$17,512.00
Medowie Traffic and Transport	\$2,493.00	\$27,423.00
	Total	\$179,652.00

Stage 5 (26 lots)

Facility	Per lot/dwelling	Total
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Notice of Determination

Under section 4.16, 4.17 and 4.18(1)(a) and 4.55 of the Environmental Planning and Assessment Act 1979.

Civic administration	\$1,152.00	\$29,952.00
Public Open Space, Parks and Reserves	\$2,392.00	\$62,192.00
Sports and Leisure Facilities	\$5,642.00	\$146,692.00
Cultural and Community Facilities	\$2,833.00	\$73,658.00
Fire & Emergency Services	\$228.00	\$5,928.00
Roadworks	\$1,592.00	\$41,392.00
Medowie Traffic and Transport	\$2,493.00	\$64,818.00
	Total	\$424,632.00

Stage 6 (34 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$39,168.00
Public Open Space, Parks and Reserves	\$2,392.00	\$81,328.00
Sports and Leisure Facilities	\$5,642.00	\$191,828.00
Cultural and Community Facilities	\$2,833.00	\$96,322.00
Fire & Emergency Services	\$228.00	\$7,752.00
Roadworks	\$1,592.00	\$54,128.00
Medowie Traffic and Transport	\$2,493.00	\$84,762.00
	Total	\$555,288.00

Stage 7 (27 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$31,104.00
Public Open Space, Parks and Reserves	\$2,392.00	\$64,584.00
Sports and Leisure Facilities	\$5,642.00	\$152,334.00
Cultural and Community Facilities	\$2,833.00	\$76,491.00
Fire & Emergency Services	\$228.00	\$6,156.00
Roadworks	\$1,592.00	\$42,984.00
Medowie Traffic and Transport	\$2,493.00	\$67,311.00
	Total	\$440,964.00

Stage 8 (27 lots)

Facility	Per lot/dwelling	Total
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Civic administration	\$1,152.00	\$31,104.00
Public Open Space, Parks and Reserves	\$2,392.00	\$64,584.00
Sports and Leisure Facilities	\$5,642.00	\$152,334.00
Cultural and Community Facilities	\$2,833.00	\$76,491.00
Fire & Emergency Services	\$228.00	\$6,156.00
Roadworks	\$1,592.00	\$42,984.00
Medowie Traffic and Transport	\$2,493.00	\$67,311.00
	Total	\$440,964.00

Stage 9 (18 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$20,736.00
Public Open Space, Parks and Reserves	\$2,392.00	\$43,056.00
Sports and Leisure Facilities	\$5,642.00	\$101,556.00
Cultural and Community Facilities	\$2,833.00	\$50,994.00
Fire & Emergency Services	\$228.00	\$4,104.00
Roadworks	\$1,592.00	\$28,656.00
Medowie Traffic and Transport	\$2,493.00	\$44,874.00
	Total	\$293,976.00

Stage 10 (22 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$25,344.00
Public Open Space, Parks and Reserves	\$2,392.00	\$52,624.00
Sports and Leisure Facilities	\$5,642.00	\$124,124.00
Cultural and Community Facilities	\$2,833.00	\$62,326.00
Fire & Emergency Services	\$228.00	\$5,016.00
Roadworks	\$1,592.00	\$35,024.00
Medowie Traffic and Transport	\$2,493.00	\$54,846.00
	Total	\$359,304.00

Stage 11 (33 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$38,016.00



Notice of Determination

Under section 4.16, 4.17 and 4.18(1)(a) and 4.55 of the Environmental Planning and Assessment Act 1979.

Public Open Space, Parks and Reserves	\$2,392.00	\$78,936.00
Sports and Leisure Facilities	\$5,642.00	\$186,186.00
Cultural and Community Facilities	\$2,833.00	\$93,489.00
Fire & Emergency Services	\$228.00	\$7,524.00
Roadworks	\$1,592.00	\$52,536.00
Medowie Traffic and Transport	\$2,493.00	\$82,269.00
Total		\$538,956.00

Stage 12 (26 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$29,952.00
Public Open Space, Parks and Reserves	\$2,392.00	\$62,192.00
Sports and Leisure Facilities	\$5,642.00	\$146,692.00
Cultural and Community Facilities	\$2,833.00	\$73,658.00
Fire & Emergency Services	\$228.00	\$5,928.00
Roadworks	\$1,592.00	\$41,392.00
Medowie Traffic and Transport	\$2,493.00	\$64,818.00
Total		\$424,632.00

Stage 13 (27 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$31,104.00
Public Open Space, Parks and Reserves	\$2,392.00	\$64,584.00
Sports and Leisure Facilities	\$5,642.00	\$152,334.00
Cultural and Community Facilities	\$2,833.00	\$76,491.00
Fire & Emergency Services	\$228.00	\$6,156.00
Roadworks	\$1,592.00	\$42,984.00
Medowie Traffic and Transport	\$2,493.00	\$67,311.00
Total		\$440,964.00

Stage 14 (41 lots)

Facility	Per lot/dwelling	Total
Civic administration	\$1,152.00	\$47,232.00
Public Open Space, Parks and Reserves	\$2,392.00	\$98,072.00

Sports and Leisure Facilities	\$5,642.00	\$231,322.00
Cultural and Community Facilities	\$2,833.00	\$116,153.00
Fire & Emergency Services	\$228.00	\$9,348.00
Roadworks	\$1,592.00	\$65,272.00
Medowie Traffic and Transport	\$2,493.00	\$102,213.00
	Total	\$669,612.00

Note: The amount of contribution payable under this condition has been calculated at the time of determination and in accordance with the Port Stephens Section 94 contributions plan. The contribution amount is valid for twelve months from the consent date. Should payment take place after twelve months the contribution shall be INDEXED at the time of actual payment in accordance with movement in the Consumer Price Index as published by the Australian Bureau of Statistics.

- 22.1. Relative to the Open Space contributions listed within condition 22D of this consent, a Material Public Benefit Agreement can be entered into with Council, **prior to the issue of Stage 5 subdivision certificate**, for the construction of additional Open Space "Park" embellishment in accordance with condition 10A of this consent. An offset will be provided against the Development Contribution for Open Space in one of two ways.
 - i. Part payment of the total monetary contribution – Council will consider those works as part payment of the total monetary contribution up to a value of \$150,000; or
 - ii. Payment is less than the total monetary contributions – the developer will need to pay the difference between the value of works and the total monetary contribution.
23. The applicant is required to notify Council in writing prior to commencing work of any existing damage to public infrastructure within the vicinity of the development; the absence of such notification signifies that no damage exists. **Prior to the issue of each Subdivision Certificate**, the applicant shall rectify any new damage to public infrastructure to the satisfaction of Council as the Roads Authority.
24. **As part of the Subdivision Certificate application for the final stage within each sub-catchment boundary**, as identified on the approved stormwater Management Plan, the land containing the relevant permanent stormwater management basin is to be dedicated to Council as drainage reserve, at no cost to Council.
25. **Prior to issue of the Subdivision Certificate for each stage**, a geotechnical report shall be submitted to the Principle Certifying Authority:

- a. classifying each lot in accordance with Australian Standards AS 2870, and
 - b. verifying that compaction of any approved fill-material on the lots is in accordance with AS3798 employing "Level 1" inspection and testing.
26. A detailed Operation and Maintenance Plan shall be prepared for all stormwater quality devices and submitted to the Principal Certifying Authority **prior to the issue of the Subdivision Certificate for the relevant stage.**
27. **Prior to issue of a Subdivision Certificate for the relevant stage**, the person having the benefit of this consent shall contact Council's Mapping Section via email at: addressing@portstephens.nsw.gov.au stating your Development Approval number, address of the property and the assessing officer to obtain the correct house numbering. Be advised that any referencing on Development Application plans to house or lot numbering operates to provide identification for assessment purposes only.
28. The temporary turning heads required shall be located within road reserve and/or right of access in favour of Council for use by the general public to cater for Heavy Rigid Vehicles and their turning paths in accordance with Australian Standard AS2890. Council shall be named as the sole authority to release, vary or modify the right of access. Details shall be provided **prior to issue of a Subdivision Certificate for the relevant stage.**
- 29A. All civil engineering works associated with the Roads Act Approval relative to the stage shall be carried out to the satisfaction of Council as the roads authority (with a compliance certificate issued) **prior to issue of a Subdivision Certificate for the relevant stage.** All works associated with the Roads Act Approval shall be at no cost to Council. The Boundary Road/Medowie Road intersection upgrade shall be completed **prior to the release of the first Subdivision Certificate.** The 'fire trail' to be constructed between the northern extent of the development to Daniel James Trail shall be completed **prior to the issue of the Subdivision Certificate for Stage 14.**
30. All subdivision works relative to the stage shall be carried out in accordance with the Construction Certificate and Council's Design and Construction Specification, Policies and Standards, to the satisfaction of Council or the Principal Certifying Authority **prior to issue of a Subdivision Certificate for the relevant stage.**
31. **Prior to issue of a Subdivision Certificate for the relevant stage**, certification shall be provided to the Principal Certifying Authority by a Registered Surveyor that all construction has been affected within the appropriate property, easement boundaries and rights of carriageway.
32. **Prior to the issue of a Subdivision Certificate for the relevant stage**, the developer is to provide the below plans and CAD files to Council. All CAD files shall be supplied in AutoCAD or compatible format in a known coordinate system (preferably GDA94 or MGA56).

- a. Works-as-executed drawings of all engineering works; and
 - b. Plans which include all lot and road boundaries, lot numbers and easements.
33. **Prior to issue of a Subdivision Certificate for the relevant stage**, the Section 50 Hunter Water Compliance Certificate which refers to the subdivision application and stage number must be obtained and submitted to the Principal Certifying Authority.
34. **Prior to the issue of a Subdivision Certificate for the relevant stage**, the Principal Certifying Authority is to be provided with written certification from the relevant service authority that electrical connections have been made to each created lot.
35. Unless otherwise stipulated by telecommunications legislation at the time of construction, the development must be provided with all necessary pits and pipes, and conduits to accommodate the future connection of optic fibre technology telecommunications.
36. Telecommunications infrastructure to services the premises must be installed which complies with the following:
- a. The requirements of the *Telecommunications Act 1997* (Cth);
 - b. For a fibre ready facility, the NBN Co's standard specifications current at the time of installation; and
 - c. For a line that is to connect a lot to telecommunications infrastructure external to the premises, the line is located underground.
37. **Prior to the issue of a Subdivision Certificate for the relevant stage**, the Principal Certifying Authority is to be provided with written certification from all relevant service providers that the telecommunications infrastructure is installed in accordance with Condition 35 and 36 and all applicable legislation at the time of construction has been provided.
38. **Prior to the issue of a Subdivision Certificate for the relevant stage**, any koala feed trees or hollow bearing trees removed as part of the development must be replaced according to the ratio detailed in the below table, or, at Council's discretion the applicant may conduct enhancement works which improve the integrity and viability of koala food trees, habitat and faunal movement corridors on the subject site.

Koala food tree size class (diameter breast height over bark)	Replacement Ratio (loss:gain)
<100 mm	1:6
100-300 mm	1:8
>300 mm	1:10

Tree Hollows	1:1
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On other land approved by Council for use as receiving land, replacement koala food trees must be:

- a. of the same species
- b. sourced from local provenance seed stock
- c. planted in a cluster and, where feasible, in the vicinity of any retained food trees
- d. protected, nurtured and maintained until the trees have reached a mature site of 5 metres – at the cost of the applicant.
- e. Any replacement trees that die before maturity must be replaced by the applicant and at their cost.

39. **Prior to the issue of a Subdivision Certificate for the relevant stage**, the Principal Certifying Authority is to be satisfied that all street tree planting has been installed and established in accordance with the approved landscaping plans and Construction Certificate documentation.
- 40A. **As part of the creation of Approved Lot 2**, the easements proposed over Basin 1 and the tail out drains associated with Basins 1, 2 and 3, located within approved Lot 2 are to be created in accordance with the provisions of the Conveyancing Act 1919. Basins 1, 2 and 3 are to be dedicated to Council at no cost to Council in the relevant plan of subdivision for the relevant stage.
- 41A. Approved Lot 2 is to be created and transferred to the Minister administering the National Parks and Wildlife Act 1974 (NSW) **prior to the issue of the Stage 1 Subdivision Certificate**.
42. **As part of the first Subdivision Certificate application**, the access easement from Boundary Road to County Close is to be created in accordance with the NSW Rural Fire Service General Terms of Approval and the provisions of the Conveyancing Act 1919.
- 43A. **Prior to the issue of a Subdivision Certificate for each relevant stage**, certification is to be provided to the PCA from a suitably qualified consultant (B-PAD Accredited) detailing that the development has been carried out in accordance with the General Terms of Approval issued by the NSW Rural Fire Service (Ref: D17/3108 Date: 13 December 2017) (attached as Schedule 3).
44. Existing dwellings on proposed lots 101, 108, 203 and 302 will not be occupied prior to the registration of the lots in the relevant plan of subdivision for the relevant stage.

SCHEDULE 2

RIGHT OF APPEAL

If you are dissatisfied with this decision:

- a review of determination can be made under Section 82A of the Act, or
- a right of appeal under Section 97 of the Act can be made to the Land and Environment Court within six (6) months from the date on which that application is taken to have been determined.

NOTES

- This determination contains references to section numbers as they appeared in the *Environmental Planning and Assessment Act 1979* (the Act) prior to the commencement of the *Environmental Planning and Assessment Amendment Act 2017*. The *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017* applies so that these references are taken to be a reference to the renumbered or relocated provision (See clause 4A).

<https://www.legislation.nsw.gov.au/#!/view/regulation/2018/67/part2/sec4a>

- This is not an approval to commence work. Building works cannot commence until a construction certificate is issued by Council or an accredited certifier.
- Consent operates from the determination date. For more details on the date from which the consent operates refer to section 83 of the Environmental Planning and Assessment Act 1979.
- Development consents generally lapse five years after the determination date, however different considerations may apply. For more details on the lapsing date of consents refer to section 95 of the Environmental Planning and Assessment Act 1979.

HOW TO READ MODIFIED CONDITIONS

The following conventions are used within this modified condition set:

- New conditions will generally be added to the end of the existing condition set and will be subsequently numbered. If a condition is added within the existing condition set, it will be suffixed with the appendage .1. For example if a new condition is to be added after existing condition 12, the new condition will be condition 12.1. If a second condition is to be added, it will be condition 12.2 and so on;
- The condition number of an amended condition is suffixed with the letter A. For example if condition 4 is amended, it becomes condition 4A. If the condition is amended a second time, it will become condition 4B and so on; and
- If a condition is deleted, the condition number will remain within the condition set with only the text 'CONDITION DELETED UNDER (DA REFERENCE NUMBER)' shown.

Should you have any questions about how to interpret this modified condition set, please contact Council.

SCHEDULE 3

APPROVAL UNDER SECTION 4.46



NSW RURAL FIRE SERVICE



General Manager
Port Stephens Council
PO Box 42
RAYMOND TERRACE NSW 2324

Your Ref: 16-2015-336-5
Our Ref: D18/4878
DA18031912281 DC

ATTENTION: Samuel Harvey

9 April 2018

Dear Mr Harvey

Integrated Development for 101//1234206, 1//1224780, 93-96//753194 – 63-69 Boundary Road, Medowie

I refer to your letter dated 6 April 2018 seeking general terms of approval for the above Integrated Development in accordance with Clause 55(1) of the 'Environmental Planning and Assessment Regulation 2000'.

This response is to be deemed a bush fire safety authority as required under section 100B of the 'Rural Fires Act 1997' and is issued subject to the following numbered conditions:

Asset Protection Zones

The intent of measures is to provide sufficient space and maintain reduced fuel loads so as to ensure radiant heat levels of buildings are below critical limits and to prevent direct flame contact with a building. To achieve this, the following conditions shall apply:

1. At the issue of subdivision certificate all proposed residential lots, the proposed park and perimeter road reserves (including Western Road adjacent to the development area) shall be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.
2. Any planting in proposed detention basins are to be consistent with an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for asset protection zones'.

Postal address

Records
NSW Rural Fire Service
Locked Bag 17
GRANVILLE NSW 2142

Street address

NSW Rural Fire Service
Planning and Environment Services (North)
Suite 1, 129 West High Street
COFFS HARBOUR NSW 2450

T (02) 6691 0400
F (02) 6691 0499
www.rfs.nsw.gov.au
Email: pes@rfs.nsw.gov.au

Water and Utilities

The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building. To achieve this, the following conditions shall apply:

3. Water, electricity and gas are to comply with section 4.1.3 of 'Planning for Bush Fire Protection 2006'.

Access

The intent of measures for public roads is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area. To achieve this, the following conditions shall apply:

4. Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'. This shall include the full construction of Western Road adjacent to the development area.
5. Temporary turning heads shall be provided to temporary dead end roads incorporating either a minimum 12 metre radius turning circle or turning bay with arms of 15 metres deep and 6 metres wide from the centreline of the road and have a turning radius of no less than 6 metres. The turning area can be removed upon opening of future proposed through roads.

The intent of measures for fire trails is to provide suitable access for fire management purposes and maintenance of APZs. To achieve this, the following conditions shall apply:

6. The proposed northern portion of Western Road, which is not adjacent to the development area, shall be constructed to be consistent with the fire trail requirements found in section 4.1.3 (3) of 'Planning for Bush Fire Protection 2006'.
7. An access entitlement registered pursuant to section 88B of the 'Conveyancing Act 1919' for a secondary access/egress point from Boundary Road to County Road is to be provided as shown in 'Plan of Easement Within Lots 8 & 9 D.P. 848006' prepared by Nigel Delfs, Reference 14277 and the signed agreement 'Re: Creation of Fire Trail Boundary Road, Medowie' dated 17 November 2015.
8. The proposed secondary access road/egress point from Boundary Road to County Road shall be constructed to be consistent with the fire trail requirements found in section 4.1.3 (3) of 'Planning for Bush Fire Protection 2006'.

General Advice – consent authority to note

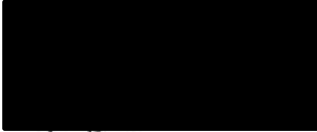
This approval is for the subdivision of the land only. Any further development application for class 1,2 & 3 buildings as identified by the 'Building Code of Australia' must be subject to separate application under section 79BA of the EP & A Act and address the requirements of 'Planning for Bush Fire Protection 2006'.

Reviewed determination

This letter is in response to additional information submitted and supersedes our previous approval dated 6 April 2018.

For any queries regarding this correspondence please contact Danette Cook on 1300 NSW RFS.

Yours sincerely



Alan Bawden
Team Leader, Development Assessment & Planning

The RFS has made getting information easier. For general information on 'Planning for Bush Fire Protection, 2006', visit the RFS web page at www.rfs.nsw.gov.au and search under 'Planning for Bush Fire Protection, 2006'.



Firebird ecoSultants Pty Ltd
ABN-16 105 985 993

ATTACHMENT C: ATLAS OF NSW WILDLIFE (BioNET) SEARCH RESULTS

Table: Threatened Species / Populations and EECs Identified Within a 10km Radius of the Site by a Search of the NSW Atlas of Wildlife

Scientific Name	Common Name	TSC Act	EPBC Act
Threatened Flora			
<i>Angophora inopina</i>	Charmhaven Apple	V	V
<i>Eucalyptus glaucina</i>	Slaty Red Gum	V	V
<i>Asperula asthenes</i>	Trailing Woodruff	V	V
<i>Melaleuca Biconvexa</i>	Biconvex Paperbark	V	V
<i>Asterolasia elegans</i>	-	E	E
<i>Euphrasia arguta</i>	-	CE	CE
<i>Tetradlea juncea</i>	Black-eyed Susan	V	V
<i>Grevillea parviflora ssp. Parviflora</i>	Small-flower Grevillea	V	V
<i>Cryptostylis hunteriana</i>	Leafless Tongue-orchid	V	V
<i>Phaius australis</i>	Lessor Swamp Orchid	E	E
<i>Thesium australe</i>	Austral Toadflax	V	V
<i>Pterostylis chaetophora</i>	-	V	-
Threatened Fauna			
<i>Ptilinopus magnificus</i>	Wompoo Fruit-dove	V	-
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E	-
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E	E
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-
<i>Burhinus grallarius</i>	Bush Stone Curlew	E	-
<i>Numenius madagascariensis</i>	Eastern Curlew	-	CE
<i>Hieraaetus morphnoides</i>	Little Eagle	V	-
<i>Rostratula australis</i>	Australian Painted Snipe	E	E



Firebird ecoSultants Pty Ltd
ABN-16 105 985 993

Scientific Name	Common Name	TSC Act	EPBC Act
<i>Calyptrorhynchus lathamii</i>	Glossy Black Cockatoo	V	-
<i>Glossopsitta pusilla</i>	Little Lorikeet	V	-
<i>Lathamus discolor</i>	Swift Parrot	E	E
<i>Ninox connivens</i>	Barking Owl	V	-
<i>Ninox strenua</i>	Powerful Owl	V	-
<i>Anthochaera Phrygia</i>	Regent Honeyeater	E	CE
<i>Grantiella picta</i>	Painted Honeyeater	V	V
<i>Dasyornis brachypterus</i>	Eastern Bristlebird	E	E
<i>Climacteris picumnus victoriae</i>	Brown Tree-creeper	V	-
<i>Chthonicola sagittata</i>	Speckled Warbler	V	-
<i>Epthianura albifrons</i>	White-fronted Chat	V	-
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	V	-
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V	-
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	-
<i>Petroica boodang</i>	Scarlet Robin	V	-
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	E	V
<i>Phascolarctos cinereus</i>	Koala	V	V
<i>Potorous tridactylus</i>	Long-nosed Potoroo (SE mainland)	V	V
<i>Petauroides volans</i>	Greater Glider	V	V
<i>Petaurus norfolkensis</i>	Squirrel Glider	V	-
<i>Phascogale tapoatafa</i>	Brush-tail Phascogale	V	-
<i>Pseudomys novaehollandiae</i>	New Holland Mouse	-	V
<i>Pseudomys oralis</i>	Hastings River Mouse	E	E



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Scientific Name	Common Name	TSC Act	EPBC Act
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V	-
<i>Kerivoula papuensis</i>	Gold-tipped Bat	V	-
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V
<i>Miniopterus australis</i>	Little Bentwing-bat	V	-
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	-
<i>Myotis macropus</i>	Southern Myotis	V	-
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V	-
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V
<i>Mixophyes balbus</i>	Stuttering Frog	E	V
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	E	V
Ecological Communities			
Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions (E, CE*)		E	CE
Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions (E, CE*)		E	CE
Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (E, V*)		E	V
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (E)		E	-
Hunter Floodplain Red Gum Woodland in the NSW North Coast and Sydney Basin Bioregions (E)		E	-
Hunter Lowland Redgum Forest in the Sydney Basin and New South Wales North Coast Bioregions (E)		E	-
Hunter Valley Foothills Slaty Gum Woodland in the Sydney Basin Bioregion (V, CE*)		V	CE
Hunter Valley Vine Thicket in the NSW North Coast and Sydney Basin Bioregions (E)		E	-
Hunter Valley Weeping Myall Woodland in the Sydney Basin Bioregion (E, CE*)		E	CE



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Scientific Name	Common Name	TSC Act	EPBC Act
Kurri Sand Swamp Woodland in the Sydney Basin Bioregion (E)		E	-
Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (E, CE*)		E	CE
Lower Hunter Spotted Gum-Ironbark Forest in the Sydney Basin Bioregion (E)		E	-
Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions (E, CE*)		E	CE
River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (E)		E	-
Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (E)		E	-
Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (E)		E	-
Sydney Freshwater Wetlands in the Sydney Basin Bioregion (E)		E	-
Warkworth Sands Woodland in the Sydney Basin Bioregion (E)		E	-
White Box Yellow Box Blakely's Red Gum Woodland (E, CE*)		E	CE

Status: V: Vulnerable, E: Endangered, CE: Critically Endangered



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ATTACHMENT D: EPBC PROTECTED MATTERS SEARCH RESULTS



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 21/08/18 15:57:22

[Summary](#)

[Details](#)

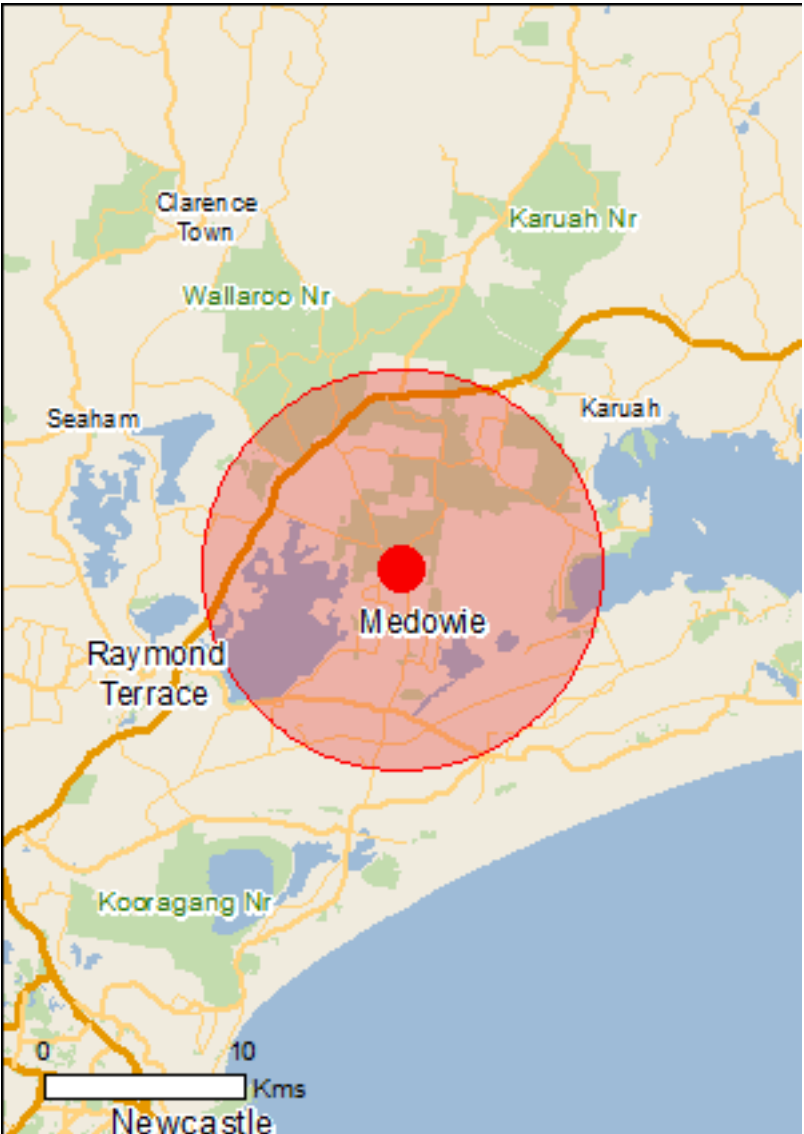
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 10.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	2
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	73
Listed Migratory Species:	70

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	5
Commonwealth Heritage Places:	1
Listed Marine Species:	93
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	12
Regional Forest Agreements:	1
Invasive Species:	44
Nationally Important Wetlands:	2
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)		[Resource Information]
Name		Proximity
Hunter estuary wetlands		Within 10km of Ramsar
Myall lakes		Within 10km of Ramsar

Listed Threatened Ecological Communities			[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.			
Name		Status	Type of Presence
Central Hunter Valley eucalypt forest and woodland		Critically Endangered	Community may occur within area
Coastal Swamp Oak (Casuarina glauca) Forest of New South Wales and South East Queensland ecological community		Endangered	Community likely to occur within area
Lowland Rainforest of Subtropical Australia		Critically Endangered	Community likely to occur within area
Subtropical and Temperate Coastal Saltmarsh		Vulnerable	Community likely to occur within area

Listed Threatened Species			[Resource Information]
Name		Status	Type of Presence
Birds			
Anthochaera phrygia Regent Honeyeater [82338]		Critically Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]		Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]		Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]		Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]		Critically Endangered	Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Endangered	Roosting known to occur within area
Dasyornis brachypterus Eastern Bristlebird [533]		Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]		Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea antipodensis gibsoni Gibson's Albatross [82270]		Vulnerable	Foraging, feeding or

Name	Status	Type of Presence
		related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Pterodroma leucoptera leucoptera Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area
Pterodroma neglecta neglecta Kermadec Petrel (western) [64450]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri platei Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within

Name	Status	Type of Presence
area		
Thalassarche cauta cauta Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche cauta steadi White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Fish		
Epinephelus daemeli Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area
Frogs		
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat may occur within area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat likely to occur within area
Mixophyes balbus Stuttering Frog, Southern Barred Frog (in Victoria) [1942]	Vulnerable	Species or species habitat likely to occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat known to occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat known to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Petrogale penicillata Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus		
Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat likely to occur within area
Pseudomys novaehollandiae		
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Plants		
Angophora inopina		
Charmhaven Apple [64832]	Vulnerable	Species or species habitat known to occur within area
Asperula asthenes		
Trailing Woodruff [14004]	Vulnerable	Species or species habitat likely to occur within area
Asterolasia elegans		
[56780]	Endangered	Species or species habitat may occur within area
Caladenia tessellata		
Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area
Commersonia prostrata		
Dwarf Kerrawang [87152]	Endangered	Species or species habitat likely to occur within area
Cryptostylis hunteriana		
Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat likely to occur within area
Cynanchum elegans		
White-flowered Wax Plant [12533]	Endangered	Species or species habitat likely to occur within area
Eucalyptus camfieldii		
Camfield's Stringybark [15460]	Vulnerable	Species or species habitat likely to occur within area
Eucalyptus parramattensis subsp. decadens		
Earp's Gum, Earp's Dirty Gum [56148]	Vulnerable	Species or species habitat known to occur within area
Grevillea parviflora subsp. parviflora		
Small-flower Grevillea [64910]	Vulnerable	Species or species habitat known to occur within area
Melaleuca biconvexa		
Biconvex Paperbark [5583]	Vulnerable	Species or species habitat known to occur within area
Persicaria elatior		
Knotweed, Tall Knotweed [5831]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis		
Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269)		
a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Syzygium paniculatum Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry [20307]	Vulnerable	Species or species habitat likely to occur within area
Tetratheca juncea Black-eyed Susan [21407]	Vulnerable	Species or species habitat known to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area

Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Sharks		
Carcharias taurus (east coast population) Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat may occur within area
Migratory Terrestrial Species		
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Roosting may occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land	[Resource Information]
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The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land - Commonwealth Land - Australian Telecommunications Commission Commonwealth Land - Defence Housing Authority Defence - RAAF BASE WILLIAMTOWN Defence - SALTASH AIR WEAPONS RANGE

Commonwealth Heritage Places	[Resource Information]
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Name	State	Status
Historic		
Williamtown RAAF Base Group	NSW	Listed place

Listed Marine Species	[Resource Information]
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* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species

Name	Threatened	Type of Presence
Arenaria interpres Ruddy Turnstone [872]		habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]		Roosting known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]	Critically Endangered	Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat may occur within area
Calidris tenuirostris Great Knot [862]		Roosting known to occur within area
Calonectris leucomelas Streaked Shearwater [1077]	Critically Endangered	Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]		Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]	Endangered	Roosting known to occur within area
Diomedea antipodensis Antipodean Albatross [64458]		Roosting known to occur within area
Diomedea epomophora Southern Royal Albatross [89221]		Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea gibsoni Gibson's Albatross [64466]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat likely to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting may occur within area
		Roosting likely to occur within area

Name	Threatened	Type of Presence
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311]		Roosting known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Roosting known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur

Name	Threatened	Type of Presence
Pluvialis fulva Pacific Golden Plover [25545]		within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Roosting known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Foraging, feeding or related behaviour likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Roosting known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat known to occur within area
Sterna albifrons Little Tern [813]		Species or species habitat likely to occur within area
Thalassarche bulleri Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche sp. nov. Pacific Albatross [66511]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Foraging, feeding or related behaviour likely to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area
Xenus cinereus Terek Sandpiper [59300]		Roosting known to occur within area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Roosting known to occur within area
		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]		Species or species habitat may occur within area
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area

Mammals		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area

Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat may occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Forestry Management Areas in Bulahdelah	NSW
Gir-um-bit	NSW
Gir-um-bit	NSW
Karuah	NSW
LNE Special Management Zone No1	NSW
Medowie	NSW
Medowie	NSW
Moffats Swamp	NSW
Tilligerry	NSW
Tilligerry	NSW
Wallaroo	NSW
Wallaroo	NSW

Regional Forest Agreements	[Resource Information]
Note that all areas with completed RFAs have been included.	
Name	State
North East NSW RFA	New South Wales

Invasive Species	[Resource Information]
Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.	

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur

Name	Status	Type of Presence
within area		
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species

Name	Status	Type of Presence
Oryctolagus cuniculus Rabbit, European Rabbit [128]		habitat likely to occur within area Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area

Nationally Important Wetlands		[Resource Information]
Name		State
Port Stephens Estuary		NSW
Salt Ash Air Weapons Range		NSW

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-32.71876 151.86669

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.



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ATTACHMENT E: VEGETATION AND HABITAT MAP



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ATTACHMENT F: RECORDED SPECIES LIST

FLORA

CLASS MAGNOLIOPSIDA (Flowering Plants)

ASTERACEAE

*Bidens pilosa**

Cobblers Pegs

*Conyza sumatrensis**

Tall Fleabane

*Senecio madagascariensis**

Fireweed

FABACEAE - Subfamily Faboideae

Hardenbergia violacea

False Sarsaparilla

Pultenaea villosa

Hairy Bush Pea

*Trifolium repens**

White Clover

FABACEAE – Subfamily Mimosoideae

Acacia longifolia

Sydney Golden Wattle

CONVULVULACEAE

Dichondra repens

Kidney Weed

LOBELIACEAE

Pratia purpurascens

Whiteroot

MALVACEAE

*Sida rhombifolia**

Paddy's Lucerne

MYRTACEAE

Angophora costata

Smooth-barked Apple

Corymbia gummifera

Red Bloodwood

Eucalyptus resinifera

Red Mahogany

Eucalyptus tereticornis

Forest Red Gum

PITTOSPORACEAE

Bursaria spinosa

Native Blackthorn

PLANTAGINACEAE

*Plantago lanceolata**

Lamb's Tongue

POACEAE

*Andropogon virginicus**

Whiskey Grass

Cynodon dactylon

Common Couch

Entolasia stricta

Wiry Panic

Imperata cylindrica

Blady Grass

*Paspalum dilatatum**

Common Paspalum

*Paspalum urvillei**

Giant Paspalum



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*Pennisetum clandestinum**

Setaria pumila

Themeda triandra

VERBENACEAE

*Lantana camara**

*Verbena bonariensis**

Kikuyu

Pale Pigeon Grass

Kangaroo Grass

Lantana

Purpletop

* Denotes non-endemic / introduced species



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ATTACHMENT G: ASSESSMENT UNDER THE PORT STEPHENS COMPREHENSIVE KOALA PLAN OF MANAGEMENT

PSC (2002) has prepared the CKPoM in accordance with SEPP 44. Rather than assessing the presence of 'potential' or 'core' Koala habitat, as defined under SEPP 44, the Performance Criteria for Re-zonings / Development Applications, in the CKPoM (PSC, 2002) must be addressed. Appendix 4 of the CKPoM describes the Performance Criteria for Development Applications; an assessment of the proposal against these criteria is provided below

a) Minimise the removal or degradation of native vegetation within Preferred Koala Habitat or Habitat Buffers

The proposal would require the removal of some scattered trees within a 'Habitat Buffer' area (the adjacent 'Preferred Koala Habitat' occurs within the Stage 5 'Park' area of The Bower, where a cluster of *E. tereticornis* (Forest Red Gum) trees will be retained). The removal of this area of vegetation has already been approved and offset, as part of The Bower residential development. It is not considered that the proposal would have any additional impacts to Preferred Koala Habitat or Habitat Buffers.

b) Maximise retention and minimise degradation of native vegetation within Supplementary Koala Habitat and Habitat Linking Areas

As above.

c) Minimise the removal of any individuals of preferred koala food trees, where ever they occur on a development site

One *P. cinereus* (Koala) feed tree (as defined by the Port Stephens CKPoM) was recorded; see Attachment E for its location. The removal of this tree has already been approved, as part of The Bower residential development and there is scope to mitigate its removal, with Clause 38 of The Bower project approval (which requires the replacement of any removed *P. cinereus* (Koala) in accordance with the replacement ratios detailed in the *Technical Specifications Tree* (PSC, 2014)), OR, at Council's discretion, enhancement works which improve the integrity and viability of *P. cinereus* (Koala) food trees, habitat and corridors on the site).

d) Make provision, where appropriate, for restoration or rehabilitation of areas identified as Koala Habitat including Habitat Buffers and Habitat Linking Areas over Mainly Cleared Land

As part of the original project approval for The Bower, a large area of vegetation has been conserved in a designated conservation area adjacent to The Bower. This conservation area is the subject of a VPA between McCloy Medowie Pty Ltd and OEH (VPA 05-11-683) and has been designed to offset the removal of vegetation in The Bower (including within the current proposed development footprint).



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e) Make provision for long term management and protection of koala habitat including both existing and restored habitat

As part of the original project approval for The Bower, a large area of vegetation has been conserved in a designated conservation area adjacent to The Bower. This conservation area is the subject of a VPA between McCloy Medowie Pty Ltd and OEH (VPA 05-11-683) and has been designed to offset the removal of vegetation in The Bower (including within the current proposed development footprint).

f) Not compromise the potential for safe movement of koalas across the site

The designated conservation area, detailed above, has been designed to maintain habitat connectivity across the landscape.

g) Be restricted to identified envelopes which contain all buildings and infrastructure and fire fuel reduction zone;

No clearing would occur external to the proposed development footprint (which includes the APZ).

h) Include measures to effectively minimise the threat posed to koalas by dogs, motor vehicles and swimming pools by adopting the following minimum standards.

If the keeping of domestic dogs has been permitted within the site, fencing of a type that would be required to contain dogs (and which may also preclude koalas) should be restricted to the designated building envelope. Fences which are intended to preclude koalas should be located away from any trees which now or in the future could allow koalas to cross the fence.

In order to effectively minimise the threat posed to koalas from traffic, motor vehicle speeds within the site must be restricted to 40 kph or less.

In the case of a swimming pool the development must reduce the risk of koala mortality by drowning in backyard swimming pools. Appropriate measures could include: trailing a length of stout rope (minimum diameter of 50mm), which is secured to a stable poolside fixture, in the swimming pool at all times; designing the pool in such a way that koalas can readily escape; or enclosing the pool with a fence that precludes koalas. This last option should include locating the fence away from any trees which koalas could use to cross the fence.

Based on the above assessment it is considered that the proposal would be consistent with the CKPoM (PSC, 2002) Performance Criteria for Development Applications.



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ATTACHMENT H: QUALIFICATIONS AND LICENSING

Fieldwork and report writing were undertaken by Lizzie MacDonald and Sarah Jones. Qualifications are attached.

Research was conducted under the following licences:

- NSW National Parks and Wildlife Service Scientific Investigation Licence SL100533;
- Animal Research Authority (Trim File No: TRIM 11/5655) issued by NSW Department of Primary Industries; and
- Animal Care and Ethics Committee Certificate of Approval (Trim File No: TRIM 11/5655) issued by Department of Primary Industries.

Certification

As the principal author, I Lizzie MacDonald, make the following certification:

- The results presented in the report are, in the opinion of the principal author and certifier, a true and accurate account of the species recorded, or considered likely to occur within the site;
- Commonwealth, state and local government policies and guidelines formed the basis of project surveying methodology, or where the survey work has been undertaken with specified departures from industry standard guidelines, details of which are discussed and justified in Section 2;
- All research workers have complied with relevant laws and codes relating to the conduct of flora and fauna research, including the *Animal Research Act 1995*, *National Parks and Wildlife Act 1974* and the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes*.

Signature of Principal Author and Certifier:

Lizzie MacDonald
Ecologist
B.Sc., G.Cert.EnvMgt&Sus