

# **ORDINARY COUNCIL**

## **LATE REPORTS**

**Wednesday 16 August 2017**

# Ordinary Council Meeting

Wednesday, 16 August 2017

## Items of Business

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| 12.09         | <b>DA2016 - 53.1 AND PP2016 - 3.1 PLANNING PROPOSAL AND 2 INTO 5 LOT SUBDIVISION, LOT 15 DP 1099742 AND LOT 7 DP 1142473, NO. 40 READING STREET, PORT MACQUARIE</b> |      |
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# 4 Your Natural and Built Environment

16/08/2017

## What we are trying to achieve

A connected, sustainable, accessible community and environment that is protected now and into the future.

## What the result will be

We will have:

- Effective management and maintenance of essential water, waste and sewer infrastructure
- A community that is prepared for natural events and climate change
- Sustainable and environmentally sensitive development outcomes that consider the impact on the natural environment
- Accessible transport network for our communities
- Infrastructure provision and maintenance that meets community expectations and needs
- Well planned communities that are linked to encourage and manage growth
- Accessible and protected waterways, foreshores, beaches and bushlands
- An environment that is protected and conserved for future generations
- Renewable energy options that are understood and accessible by the community

## How we will get there

- 4.1 Provide (appropriate) infrastructure and services including water cycle management, waste management, and sewer management
- 4.2 Aim to minimise the impact of natural events and climate change, for example, floods, bushfires and coastal erosion
- 4.3 Facilitate development that is compatible with the natural and built environment
- 4.4 Plan for integrated transport systems that help people get around and link our communities
- 4.5 Plan for integrated and connected communities across the Port Macquarie-Hastings area
- 4.6 Restore and protect natural areas
- 4.7 Provide leadership in the development of renewable energy opportunities
- 4.8 Increase awareness of issues affecting our environment, including the preservation of flora and fauna

**FOR USE BY PLANNERS/SURVEYORS TO PREPARE LIST OF  
PROPOSED CONDITIONS - 2011****NOTE: THESE ARE DRAFT ONLY****DA NO: 2016/53****DATE: 24/07/2017****PRESCRIBED CONDITIONS**

The development is to be undertaken in accordance with the prescribed conditions of Part 6 - Division 8A of the *Environmental Planning & Assessment Regulations* 2000.

**A – GENERAL MATTERS**

- (1) (A001) The development is to be carried out in accordance with the plans and supporting documents set out in the following table, as stamped and returned with this consent, except where modified by any conditions of this consent.

| <b>Plan / Supporting Document</b>       | <b>Reference</b> | <b>Prepared by</b>       | <b>Date</b>      |
|---|------------------|--------------------------|------------------|
| Subdivision Plan                        | 9830             | Frank O'Rourke           | January 2016     |
| Statement of Environmental Effects      | -                | R G Little               | 11 February 2016 |
| Bush Fire Assessment                    | -                | Krisann Johnson          | 6 May 2015       |
| Statutory Ecological Assessment         | EC1038           | Naturecall Environmental | August 2015      |
| Aboriginal Cultural Heritage Assessment | -                | Adise Pty Ltd            | June 2017        |

In the event of any inconsistency between conditions of this development consent and the plans/supporting documents referred to above, the conditions of this development consent prevail.

- (2) (A004) An application for a Construction Certificate will be required to be lodged with Council prior to undertaking subdivision works and a Subdivision Certificate is required to be lodged with Council on completion of works.
- (3) (A008) Any necessary alterations to, or relocations of, public utility services to be carried out at no cost to council and in accordance with the requirements of the relevant authority including the provision of easements over existing and proposed public infrastructure.
- (4) (A009) The development site is to be managed for the entirety of work in the following manner:
1. Erosion and sediment controls are to be implemented to prevent sediment from leaving the site. The controls are to be maintained until the development is complete and the site stabilised with permanent vegetation;
  2. Appropriate dust control measures;

3. Building equipment and materials shall be contained wholly within the site unless approval to use the road reserve has been obtained. Where work adjoins the public domain, fencing is to be in place so as to prevent public access to the site;
4. Building waste is to be managed via an appropriate receptacle;
5. Toilet facilities are to be provided on the work site at the rate of one toilet for every 20 persons or part of 20 persons employed at the site.
6. Building work being limited to the following hours, unless otherwise permitted by Council;
  - Monday to Saturday from 7.00am to 6.00pm
  - No work to be carried out on Sunday or public holidaysThe builder to be responsible to instruct and control his sub-contractors regarding the hours of work.
- (5) (A011) The design and construction of all public infrastructure works shall be in accordance with Council's adopted AUSPEC Specifications.
- (6) (A012) This consent does not provide for staging of the development. Any staging will require a separate consent or an amendment to this consent.
- (7) (A013) The general terms of approval from the following authorities, as referred to in section 93 of the Environmental Planning and Assessment Act 1979, and referenced below, are attached and form part of the consent conditions for this approval.
  - **NSW Rural Fire Service** - The General Terms of Approval, Reference D16/3282-DA16093004070 DC and dated 7 December 2016, are attached and form part of this consent.
- (8) (A029) The provision, at no cost to Council, of concrete foot paving for the full street frontages of proposed Lots 1 to 4. For Reading Street a 1.2 metre wide footpath is required with design details in accordance with AUSPEC and Council Standard drawing ASD100 series. The design plans must be approved by Council pursuant to Section 138 of the Roads Act.
- (9) (A032) The developer is responsible for any costs relating to minor alterations and extensions to ensure satisfactory transitions of existing roads, drainage and Council services for the purposes of the development.
- (10) (A033) The applicant shall provide security to the Council for the payment of the cost of the following:
  - a. making good any damage caused to any property of the Council as a consequence of doing anything to which the consent relates,
  - b. completing any public work (such as road work, kerbing and guttering, footway construction, utility services, stormwater drainage and environmental controls) required in connection with the consent,
  - c. remedying any defects in any such public work that arise within twelve (12) months after the work is completed.

Such security is to be provided to Council prior to the issue of the Subdivision Certificate/Construction Certificate or Section 138 of the Roads Act, 1993.

The security is to be for such reasonable amount as is determined by the consent authority, being an amount that is 10% of the contracted works for Torrens Title subdivision development/the estimated cost plus 30% for building development of public works or \$5000, whichever is the greater of carrying out the development by way of:

- i. deposit with the Council, or
- ii. an unconditional bank guarantee in favour of the Council.

The security may be used to meet any costs referred to above and on application being made to the Council by the person who provided the security any balance remaining is to be refunded to, or at the direction of, that person. Should Council have to call up the bond and the repair costs exceed the bond amount, a separate invoice will be issued. If no application is made to the Council for a refund of any balance remaining of the security within 6 years after the work to which the security relates has been completed the Council may pay the balance to the Chief Commissioner of State Revenue under the Unclaimed Money Act 1995.

- (11) (A057) The applicant is to ensure the proposed development will drain to the existing point of connection to Council's sewerage system.
- (12) (A195) Boundary fencing for all 4 lots are to be constructed of metal and suffice as a koala proof fence. Provision of access gates to the proposed public reserve is not permitted.
- (13) (A196) The Developer is to comply with the Reading Street Environmental Land Planning Agreement under Section 93F of the Environmental Planning and Assessment Act 1979 between Port Macquarie-Hastings Council and Ronald Gordon Little and Adele Lillian Little. The planning agreement, as varied or substituted from time to time, is to be performed in connection with the carrying out of the development the subject of this consent.

#### **B – PRIOR TO ISSUE OF A CONSTRUCTION CERTIFICATE**

- (1) (B001) Prior to release of the Construction Certificate, approval pursuant to Section 68 of the Local Government Act, 1993 to carry out water supply, stormwater and sewerage works is to be obtained from Port Macquarie-Hastings Council. The following is to be clearly illustrated on the site plan to accompany the application for Section 68 approval:
  - Position and depth of the sewer (including junction)
  - Stormwater drainage termination point
  - Easements
  - Water main
  - Proposed water meter location
- (2) (B003) Submission to the Principal Certifying Authority prior to the issue of a Construction Certificate detailed design plans for the following works associated with the developments. Public infrastructure works shall be constructed in accordance with Port Macquarie-Hastings Council's current AUSPEC specifications and design plans are to be accompanied by AUSPEC DQS:
  - 1. Sewerage reticulation.
  - 2. Water supply plans shall include hydraulic plans for internal water supply services and associated works in accordance with AS 3500, Plumbing Code of Australia and Port Macquarie-Hastings Council Policies.
  - 3. Stormwater systems.
  - 4. Landscaping.
  - 5. Detailed driveway profile in accordance with Australian Standard 2890, AUSPEC D1, and ASD208, Port Macquarie-Hastings Council current version.

6. Provision of a 1.2m concrete footpath across the road frontage of proposed Lots 1 to 4.
- (3) (B006) An application pursuant to Section 138 of the Roads Act, 1993 to carry out works required by the Development Consent on or within public road is to be submitted to and obtained from Port Macquarie-Hastings Council prior to release of the Construction Certificate.
- Such works include, but not be limited to:
- Civil works
  - Traffic management
  - Work zone areas
  - Hoardings
  - Concrete foot paving (1.2m wide)
  - Footway and gutter crossing
  - Functional vehicular access
- (4) (B017) Submission to Council of an application for water main connections and compliance with Council's requirements for the provision of such connections. Payments of costs to provide for these connections and/or extensions are to be made prior to the issue of the Construction Certificate.
- (5) (B054) Where a vehicular access is provided, details (in the form of a longitudinal section) must be submitted to and approved by Port Macquarie-Hastings Council prior to release of the Construction Certificate demonstrating how the access will comply with Council's adopted AUSPEC Design and Construction Guidelines.
- (6) (B057) The existing sewer including junction and/or stormwater drainage shall be located on the site and the position and depth indicated on the plans which accompany the application for the Construction Certificate.
- (7) (B070) Where augmentation is required on adjoining property, owner's consent shall be provided to Council with any Section 68 application and/or Construction Certificate application for subdivision works where augmentation is required on adjoining property including:
- Public and/or private drainage infrastructure (i.e. interallotment drainage, Council drainage)
  - Council's sewer infrastructure (i.e. sewer junction, sideline or manhole)
- (8) (B071) Prior to the issue of any Construction Certificate, the provision of water and sewer services to the land are to be approved by the relevant Water Authority and relevant payments received.
- (9) (B085) The location of electricity substations are to be clearly illustrated on the Construction Certificate plans. All substations are to remain on private property unless otherwise agreed to by Port Macquarie-Hastings Council.
- (10) (B064) The applicant's landscape consultant shall consult with service authorities regarding the selection and placement of street trees near services. The location of all proposed and existing overhead and underground service lines shall be indicated on the Detailed Landscape Plan to be submitted with the Construction Certificate application.
- (11) (B195) A stormwater drainage design is to be submitted and approved by Council prior to the issue of a Construction Certificate. The design must be prepared in accordance with Council's AUSPEC Specifications and the requirements of Relevant Australian Standards and make provision for the following:

- a) The legal point of discharge for the proposed development is defined as an interallotment drainage system.
- b) The design is to be generally in accordance with the stormwater drainage concept plan on Drawing No 9830 prepared by Frank O'Rourke & Associates Pty Ltd and dated 28 January 2016
- c) All allotments must be provided with a direct point of connection to the piped drainage system. Kerb outlets are not permitted.
- d) The design requires the provision of interallotment drainage in accordance with AUSPEC D5. In this regard, the proposal to divert the existing interallotment drainage system around existing landscaping within proposed Lot 2 is an inefficient solution in that the proposal results in an unnecessary extent of encumbrance within the yard of that lot and a hydraulically inefficient solution. The proposed system should be realigned such that it runs parallel to the northern property boundary of Lot 2.
- e) The design shall incorporate on-site stormwater detention facilities to limit site stormwater discharge to pre development flow rates for all storm events up to and including the 100 year ARI event. Note that pre development discharge shall be calculated assuming that the site is a 'greenfield' development site as per AUSPEC requirements. As an alternative, where a single end of line solution is not considered feasible, on-site stormwater detention facilities may be incorporated into the design of the future dwellings to be constructed on each of the proposed allotments.

In this regard, if OSD facilities are proposed to be constructed as part of a future dwelling construction, a restriction / covenant must be placed on the title of each allotment at time of subdivision requiring that OSD facilities be constructed as part of any future building development to achieve site specific targets that comply with the above.

In this instance the CC plans must nominate the maximum permissible site discharge for each allotment.
- f) Where works are staged, a plan is to be provided which demonstrates which treatment measure/s is/are to be constructed with which civil works stage. Separate plans are required for any temporary treatment (where applicable e.g. for building phase when a staged construction methodology is adopted) and ultimate design.
- g) The design is to make provision for the natural flow of stormwater runoff from uphill/upstream properties/lands. The design must include the collection of such waters and discharge to the Council drainage system.
- h) The design shall provide details of any components of the existing stormwater drainage system servicing the site that are to be retained.

#### **C – PRIOR TO ANY WORK COMMENCING ON SITE**

- (1) (C001) A minimum of one (1) week's notice in writing of the intention to commence works on public land is required to be given to Council together with the name of the principal contractor and any major sub-contractors engaged to carry out works. Works shall only be carried out by a contractor accredited with Council.
- (2) (C004) Prior to works commencing an application being made to the electricity and telecommunications service providers. Services are required to be underground.

- (3) (C008) No access through the reserve shall be allowed without first obtaining written approval from Council's Parks and Gardens Manager. No clearing or damage to any vegetation on the reserve is permitted. No spoil, fill, waste liquids or solid materials shall be stockpiled on or allowed to move beyond the fence line for any period on the adjoining reserve during or after the development. In the event of accidental damage, the site must be revegetated to the satisfaction of Council. Such approval would need to be undertaken in accordance with Council Policy.
- (4) (C013) Where a sewer manhole exists within a property, access to the manhole shall be made available at all times. Before during and after construction, the sewer manhole must not be buried, damaged or act as a stormwater collection pit. No structures, including retaining walls, shall be erected within 1.0 metre of the sewer manhole or located so as to prevent access to the manhole.
- (5) (C015) Tree protection fencing, compliant with *AS 4970/2009 Protection of trees on development sites* must be provided. The fencing shall be in place prior to the commencement of any works or soil disturbance and maintained for the entirety of the works.
- (6) (C195) As part of the pre-start induction, all personnel engaged for initial development-related earthworks (including tree clearing) on proposed lots 2, 3 and 4 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time.

#### **D – DURING WORK**

- (1) (D001) Development works on public property or works to be accepted by Council as an infrastructure asset are not to proceed past the following hold points without inspection and approval by Council. Notice of required inspection must be given 24 hours prior to inspection, by contacting Council's Customer Service Centre on (02) 6581 8111. You must quote your Construction Certificate number and property description to ensure your inspection is confirmed:
  - a. at completion of installation of erosion control measures
  - b. before commencement of any filling works;
  - c. when trenches are open, stormwater/water/sewer pipes and conduits jointed and prior to backfilling;
  - d. before pouring of kerb and gutter;
  - e. prior to the pouring of concrete for sewerage works and/or works on public property;
  - f. during construction of sewer infrastructure;
  - g. during construction of water infrastructure;
  - h. prior to sealing and laying of pavement surface course.

All works at each hold point shall be certified as compliant in accordance with the requirements of AUSPEC Specifications for Provision of Public Infrastructure and any other Council approval, prior to proceeding to the next hold point.
- (2) (D003) The site is in an area known to contain rock that may contain naturally occurring asbestos (NOA). Should potential NOA be located on site notification shall be provided to Council and Workcover prior to works proceeding. No work shall recommence until a NOA management plan has been approved by Council or Workcover.

- (3) (D006) A copy of the current stamped approved construction plans must be kept on site for the duration of site works and be made available upon request to either the Principal Certifying Authority or an officer of the Council.
- (4) (D022) The proponent is responsible for ensuring that the existing stormwater pipe traversing/adjoining the land is not damaged while performing any works. If the existing stormwater pipe is damaged during the course of performing the works, the proponent will:
  - a. notify Council immediately when the breakage occurs, and
  - b. repair the damage at no cost to Council
- (5) (D043) Any damage to a tree nominated for retention/protection during the construction phase shall be treated by an Arborist with a minimum qualification AQF level 5 (diploma level) or an international qualification considered equivalent by Council, or a person deemed suitable by Council at the developer's expense.
- (6) (D045) A suitably qualified ecological consultant shall inspect all native trees that have been approved for removal before they are felled. If there are any koala or other fauna species in the tree, work in the vicinity is to cease until the animal has moved from the area. If it is likely that hollows are providing habitat for native species, traps shall be set for several nights and any native species found shall be relocated to an appropriate nearby location.
- (7) (D050) The capacity and effectiveness of tree protection fencing, compliant with AS 4970/2009 *Protection of trees on development sites* shall be maintained at all times in accordance with the approved management plan until such time as the site is no longer subject to any construction or earth moving works.
- (8) (D195) Hollows from the hollow bearing trees numbered H1, H2, H3, and H4 in the Statutory Ecological Assessment shall be removed by an Arborist with a minimum qualification AQF level 5 (diploma level) or an international qualification considered equivalent by Council, or a person deemed suitable by Council at the developer's expense prior to the trees being felled. The recovered hollows are to be installed in suitable trees within the proposed public reserve, as determined by a suitably qualified ecological consultant and with the written agreement of Council.
- (9) (D196) All personnel (including volunteers) engaged to undertake vegetation rehabilitation works on proposed lot 5 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time.
- (10) (D197) In the event that any identified or suspected Aboriginal objects are detected at any time, all disturbance works should immediately cease within 20m of the find and temporary protective fencing erected around this 'no-go zone' pending further management advice from the Office of Environment & Heritage (OEH) and the Birpai Local Aboriginal Land Council (LALC). If the find consists of or includes human remains, the NSW Police Department and the OEH Environmental Line (ph 131 555) should also be notified as soon as practicable.

Works may not recommence within the designated 'no-go zone' until formal written clearance to do so has been provided by the OEH and the Birpai LALC.

#### **E – PRIOR TO OCCUPATION OR THE ISSUE OF SUBDIVISION CERTIFICATE**



- (1) (E005) Prior to the release of any bond securities held by Council for infrastructure works associated with developments, a formal written application is to be submitted to Council specifying detail of works and bond amount.
- (2) (E006) Completion of engineering and environmental works for any land (other than proposed public roads) to be transferred to Council, in accordance with the approved Construction Certificate.
- (3) (E008) Payment to Council, prior to the issue of the Subdivision Certificate of the Section 94 contributions set out in the "Notice of Payment – Developer Charges" schedule attached to this consent unless deferral of payment of contributions has been approved by Council. The contributions are levied, pursuant to the Environmental Planning and Assessment Act 1979 as amended, and in accordance with the provisions of the following plans:
  - Hastings S94 Administration Building Contributions Plan
  - Hastings Administration Levy Contributions Plan
  - Hastings S94 Major Roads Contributions Plan
  - Hastings S94 Open Space Contributions Plan
  - Community Cultural and Emergency Services Contributions Plan 2005

The plans may be viewed during office hours at the Council Chambers located on the corner of Burrawan and Lord Streets, Port Macquarie, 9 Laurie Street, Laurieton, and High Street, Wauchope.

The attached "Notice of Payment" is valid for the period specified on the Notice only. The contribution amounts shown on the Notice are subject to adjustment in accordance with CPI increases adjusted quarterly and the provisions of the relevant plans. Payments can only be made using a current "Notice of Payment" form. Where a new Notice of Payment form is required, an application in writing together with the current Notice of Payment application fee is to be submitted to Council.
- (4) (E009) As part of Notice of Requirements by Port Macquarie-Hastings Council as the Water Authority under Section 306 of the Water Management Act 2000, the payment of a cash contribution, prior to the issue of a Subdivision Certificate, of the Section 64 contributions, as set out in the "Notice of Payment – Developer Charges" schedule attached to this consent unless deferral of payment of contributions has been approved by Council. The contributions are levied in accordance with the provisions of the relevant Section 64 Development Servicing Plan towards the following:
  - augmentation of the town water supply headworks
  - augmentation of the town sewerage system headworks
- (5) (E010) Driveways, access aisles and parking areas shall be provided with a concrete surface. Such a surface shall be on a suitable pavement, constructed and maintained in accordance with Council's Development, Design and Construction Manuals (as amended).
- (6) (E034) Prior to occupation or the issuing of the Subdivision Certificate provision to the Principal Certifying Authority of documentation from Port Macquarie-Hastings Council being the local roads authority certifying that all matters required by the approval issued pursuant to Section 138 of the Roads Act have been satisfactorily completed.
- (7) (E038) Interallotment drainage shall be piped and centrally located within an inter-allotment drainage easement, installed in accordance with Council's current AUSPEC standards (minimum 225mm pipe diameter within a minimum 1.5m easement). Details shall be provided:

- As part of a Construction Certificate application for subdivision works with dedication of the easement as part of any Subdivision Certificate associated with interallotment drainage.
- (8) (E051) Prior to occupation or the issuing of any Occupation Certificate a Section 68 Certificate of Completion shall be obtained from Port Macquarie-Hastings Council.
  - (9) (E053) All works shall be certified by a practicing Civil Engineer or Registered Surveyor as compliant with the requirements of AUSPEC prior to issue of Occupation/Subdivision Certificate or release of the security bond, whichever is to occur first.
  - (10) (E056) A Certificate of Compliance under the provisions of Section 307 of the *Water Management Act* must be obtained prior to the issue of any occupation or subdivision certificate. The application for the certificate is to include a copy of the Registered Surveyor's Linen Plan and a Work-as-Executed plan.
  - (11) (E066) Ancillary works shall be undertaken at no cost to Council to make the engineering works required by this Consent effective to the satisfaction of Director of Council's Infrastructure Division. Such works shall include, but are not limited to the following:
    - a. The relocation of underground services where required by civil works being carried out.
    - b. The relocation of above ground power and telephone services
    - c. The relocation of street lighting
    - d. The matching of new infrastructure into existing or future design infrastructure
  - (12) (E068) Prior to the issue of a Subdivision Certificate, evidence to the satisfaction of the Certifying Authority from the electricity and telecommunications providers that satisfactory services arrangements have been made to the lots (including street lighting and fibre optic cabling where required).
  - (13) (E072) Lodgement of a security deposit with Council upon practical completion of the subdivision works.
  - (14) (E081) The applicant will be required to submit prior to the issue of the Subdivision Certificate, a geotechnical report confirming construction of all earthworks in accordance with AUSPEC D6 and/or indicating the suitability of all allotments for future home/building sites; such report to provide details of:
    - a. Site classification of all allotments in accordance with AS2870.2011 - *Residential Slabs and Footings*.
  - (15) (E082) Submission of a compliance certificate accompanying Works as Executed plans with detail included as required by Council's current AUSPEC Specifications. The information is to be submitted in electronic format in accordance with Council's "CADCHECK" requirements detailing all infrastructure for Council to bring in to account its assets under the provisions of AAS27. This information is to be approved by Council prior to issue of the Subdivision or Occupation Certificate. The copyright for all information supplied, shall be assigned to Council.
  - (16) (E195) Where the proposed residential allotments are required to construct on-site stormwater detention facilities as part of any future construction works as per the requirements of condition B(197), a positive covenant is to be created under Section 88E of the Conveyancing Act 1919, burdening the owner(s) with the requirement to construct on-site stormwater detention facilities as part of any works to construct a dwelling or ancillary structures on the site that result in the creation of impervious surfaces.

The terms of the 88E instrument with positive covenant must specify the maximum permissible site stormwater discharge permitted for the site and require the ongoing maintenance of the on-site stormwater detention facilities once in place following future construction works.

Evidence of registration with the Lands and Property Information NSW shall be submitted to and approved by the Principal Certifying Authority concurrently with the issue of a Subdivision Certificate.

- (17) (E196) A 1.8m high solid fence shall be provided on both sides of the battleaxe handle of Lot 3 from the building line (4.5m from the front boundary) to the end of the battleaxe handle prior to the issue of a Subdivision Certificate.
- (18) (E197) Written evidence is to be provided to the Principal Certifying Authority that Council's Environmental Services Section is satisfied with the completed installation of hollows within the proposed public reserve

#### **F – OCCUPATION OF THE SITE**

nil

**From:** Have Your Say  
**To:** [Julie Priest](#); [Stephen Nicholson](#); [Julie Priest](#)  
**Subject:** Jandale31 completed Reading St draft planning & development Submission  
**Date:** Wednesday, 12 July 2017 9:07:59 AM

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[REDACTED] just submitted a submission 'Reading St draft planning & development Submission' with the responses below.

**Name**

Jan and Dale Clingeffer

**Address**

31 Reading Street, Port Macquarie 2444

**Email**

[REDACTED]

**Please share your thoughts and ideas here.**

- We purchased our block approx 9 years ago as it was opposite a reserve and informed at that stage that the reserve would never be rezoned to building blocks. - The area is a habitat for wildlife. - Koala Hospital does release koala's in this area - The particular section that is considered for rezoning can be extremely damp during heavy rains. The lowest section has filled with rainwater and remained there for a week. - Especially after rain frogs can be heard each night - Wallabies have been seen in this area. - The particular section that is considered for rezoning can be extremely damp during heavy rains. The lowest section has filled with rainwater and remained there for a week.

**If you have any files or images that support your views, upload them here.**

[https://s3-ap-southeast-2.amazonaws.com/ehq-production-australia/27d04f9af938a21851589e82d0561792686481c7/file\\_answers/files/015/734/881/original/Koala.JPG?1499814465](https://s3-ap-southeast-2.amazonaws.com/ehq-production-australia/27d04f9af938a21851589e82d0561792686481c7/file_answers/files/015/734/881/original/Koala.JPG?1499814465)



Brian and Sharon Glawson

37 Reading Street

Port Macquarie, NSW, 2444

10 July 2017

The General Manager

Port Macquarie Hastings Council

P.O. Box 84

Port Macquarie, NSW 2444

Dear Sir

**Comment on Development Application - Lot 7 DP 1142473 and No 40 Reading Street**

Herein enclosed is our response to the proposed development application relating to Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie. We are opposed to the proposal on a number of fronts as listed.

**1. Lack of Objectivity**

An Officer of Port Macquarie Hastings Council has prepared and endorsed a Planning Proposal under section 55 of the EP&A Act, Port Macquarie-Hastings LEP 2011 (Amendment 41) including:

- Proposed changes to the LEP,
- Development Application for Subdivision, and
- Voluntary Planning Agreement

Being for;

“Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie”

The Executive Summary prepared by the Council Officer is the first clue that the Planning Proposal has not been considered objectively. The proposal in summary extracted from the proposal is as follows;

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street

In summary, the proposal from Ron Little, the Applicant, is:

- (a) to adjust the planning controls on Lot 7 DP 1142473, Reading Street, Port Macquarie to enhance environmental outcomes by providing better habitat connectivity, and
- (b) a subdivision creating three residential lots (plus boundary adjustment with No 40 Reading Street) which are compatible with those environmental outcomes.

The summary missed what should be the third summary point being:

*"The loss of all biodiversity on the three created lots including the loss of 36% of the hollow bearing trees on the existing lot 7"*

Figure 1 below extracted from Councils Planning Proposal shows the well vegetated area occupied by the proposed three residential allotments.

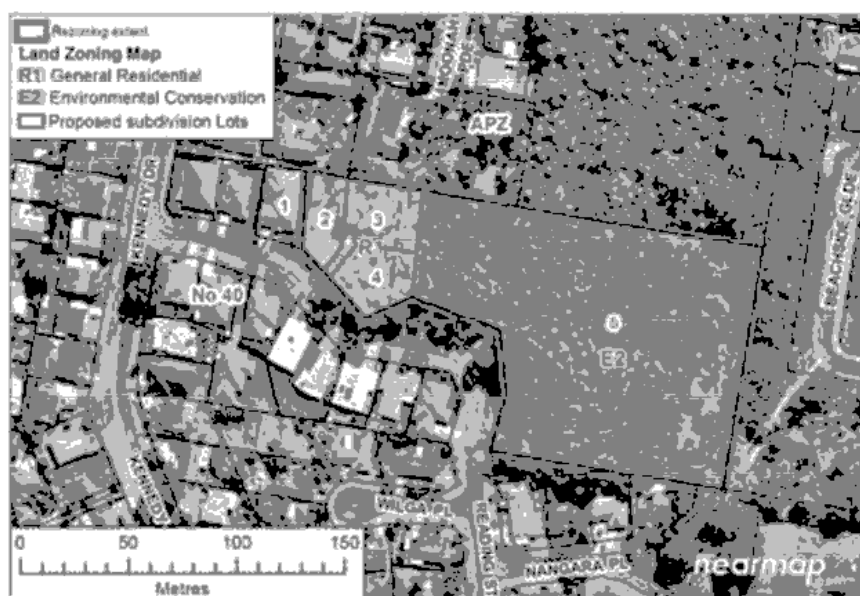


Figure 1 Proposed zoning and subdivision layout

## 2. R1 General Residential Zone - will never be developed in any case

On page 9 of the executive summary the Planning Proposal states:

The south-eastern portion of Lot 7 has some flood-free land and is zoned R1 General Residential, though it does not have easy access to facilitate residential subdivision.

Of the R1 zoned General Residential land in the South East corner of lot 7 only approximately half is flood free and suitable for residential development and rather than "not easy" the access is so difficult that it makes it uneconomic to develop the residential land.

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street

The proponent is being rewarded with the right to develop;

- 2,737 square meters of flood free land zoned Environmental Protection E2
- with ready access to services
- and in so doing destroy a significant vegetated area with environmental value

In return for the proponent giving up;

- 3,054 square meters of land zoned residential
- Half of which is flood prone and not suitable for residential development
- Which is in an environmentally decayed state being far more disturbed than the three proposed residential lots; and
- In any case the residential land is land locked and without doubt uneconomic to develop as access would cost many multiples of the value of the residential lots which could be established

We argued that the proponent is being given a free kick to offload land which is of no commercial value to the Council to manage at the cost of ratepayers and in return given approval to destroy a significant vegetated area for the purposes of making a tidy profit which is otherwise not possible.

### **3. Existing Residential Zoning can't be built on economically**

Further on page 9 of the Executive Summary it states:

To the north is the vegetated Wrights Creek corridor, and to the east is a vegetated linkage to Sea Acres National Park. The vegetation on the eastern portion of Lot 7 has additional ecological value through the provision of connectivity between these 2 areas, where at present there is land zoned R2 Low Density Residential.

The proposal seeks to preserve the vegetation on Lot 7, other than on the western side, where three residential lots are proposed.

The statement would be reasonable if it was possible to develop the residential land to the South East of Lot 7 however for the practical reasons of flooding risk over half of the land and the cost of access being vastly disproportionate than any realisable value from the sale of residential allotments the statement is flawed.

It is obviously apparent that there will never be residential development in the south east corner of Lot 7 so it is a fallacy to suggest that planning consent for the development and destruction of vegetated land to the South West and the proposal as a whole is required to prevent development of the residential zoned land in the South East corner.

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street



Part 1 of the Planning Proposal states the following objective:

2. In lieu of potential subdivision of the south-eastern corner of Lot 7 (which is currently zoned R1 General Residential), rezoning a small part on the western end of Lot 7 to allow for approval of 3 additional residential lots plus residue lot subdivision.

This objective is a fallacy as there is no conceivable opportunity for the currently zoned land to be developed as it is effectively land locked with the cost of any access being many multiples of the market value of any development. Further the objective suggests that the rezoning of the western area is "small". This is misleading as it is 2,737 square metres of vegetated flood free land being approximately twice the area of the flood free residential zoned land to the east. The free gift to the developer is disproportionate to the existing value of his asset which has effectively of no realisable value and in reality is a liability.

#### 4. Negative Environmental Outcomes

The proposed subdivision will have the following negative environmental outcomes:

- Threatened Flora – Biconvex Paperbark (*Melaleuca biconvex*) will be removed for the development. Whilst this species does occur in the area the continual loss of this threatened species will not aid its survival
- Koalas – While the site of the proposed development is not listed as potential koala habitat it is not unusual to see koalas in the trees as they travel between habitat areas. The loss of this vegetation will result in less refuge from dogs and cats. The photograph below is of a Koala opposite 37 Reading Street taken on 2<sup>nd</sup> of July 2016. We first moved into Reading street in 2009 and it is certainly not unusual in our experience to see Koalas transiting through the area.

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street



- Other threatened Fauna Species – The Planning Report notes that:

*“The sites provides suitable habitat for some listed threatened species which have been recorded within 10km of the site. None were observed on the site, and the site would comprise only part of their range. The proposal enhances the area, size, connectivity and long term protection of habitat”*

The above statement is misleading on a number of accounts:

- Given the type of survey conducted it is not surprising that no threatened species were observed on the site
- Quote obviously it would only be part of their range but that does not mean it should continually be reduced until there is none left; and
- The proposal does not enhance the area of their possible range nor the connectivity as the existing residential land can never be developed in reality as previously discussed. Rather the area and range will be reduced.

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street

## 5. NSW Office of Environment & Heritage (OEH)

OEH made a number of recommendations two of which appear to be inadequately dealt with in the Planning Report.

### a. Offset for Hollow Bearing Trees

Lot 7 has 11 hollow bearing trees of which 4 or 36% are contained within the proposed development. As the scores for these 4 hollow bearing trees is higher than 12 then under OEH guidelines they should be retained except in exceptional circumstances. It is not clear what is proposed. The Statutory Ecological Assessment states at page 60;

The site survey identified 4 hollow-bearing trees in the development envelope. Provided the structural root zones are left intact, these will most likely be retained.

And further at page 64;

As shown in Figure 9, assessment under the DCP HBT protocol determined that these trees scored between 10 and 11, and may be removed subject to compensatory habitat measures. The proponent has advised an intention to retain these trees, and PMHC have advised that provided the structural root zone is not impacted, this will be accepted in this instance.

The OEH identified that the assessment by the developer's contractor was in error and the scores for all 4 hollow bearing trees exceeded 12 and hence were of even greater value. Of concern is that it would appear that the conclusions of the author of the Statutory Ecological Assessment were done on the basis of the hollow bearing trees remaining. Should the hollow bearing trees be proposed for removal then the Assessment will need revisiting.

Further the exceptional reasons for their removal have not been made out. Quite obviously if the proposed development does not proceed the hollow bearing trees can remain.

Councils planning report responds to the OED recommendation on page 70 as follows;

2. Offset the proposed removal of the four HBTs located within the residential subdivision in accordance with the development provisions specified in Section 2.3.3.9 of DCP 2013.

*Response: Refer to the start of Appendix H.*

However appendix H only refers to the Aboriginal Archaeological Assessment with no reference to the hollow bearing trees. Before making a decision Council is obliged to address the OEH recommendation and provide the opportunity for comment from the community.

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street

**b. Biometric Assessment Tool**

The OEH recommended that the Applicant demonstrate the adequacy of the proposed offset as per below;

3. The applicant should demonstrate the adequacy of the proposed offset site (Lot 5) through the use of a biometric assessment tool such as the Biobanking Assessment Methodology (BBAM) (OEH 2014) or equivalent biometric.

*Response:* It is considered unnecessary to carry out further assessment to confirm the benefits of providing an improved corridor linkage on the eastern portion of Lot 7.

Council's response is inadequate in that it provides no reasoned argument that an appropriate Biobanking Assessment is not required. This is not transparent. In any case such an assessment would be at the cost of the Development Proponent so one would ask why Council has not followed the OEH advice? The logic for Council not accepting this recommendation from an expert government department is concerning and hardly in the community's interest. In accord with the OEH recommendation the Applicant should be required to use the Biobanking Assessment Methodology to prove that the proposal has merit since at present there is no evidence of such other than an assumption or perhaps an opinion.

**Summary**

In summary it is our contention that the proposed development should be rejected by Council for the reasons stated herein and particularly because the development of the existing residential land is not practical and will never occur in any case so the offset is really a fallacy and the development if it proceeds will result in a net reduction in biodiversity and provide the developer a free kick to realise a commercial gain which he otherwise would not be able to achieve.

Yours Sincerely



Brian and Sharon Glawson

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street

Objection to Development Application - Lot 7 DP 1142473 and No 40 Reading Street

**From:** bill peel  
**To:** [Council](#); [Stephen Nicholson](#)  
**Cc:** [Thor Aaso](#); [Rebecca Montague-Drake](#)  
**Subject:** In support of: the applications relating to Lot 7 DP 1142473, & No 40 Reading Street, Port Macquarie  
**Date:** Wednesday, 12 July 2017 12:43:26 PM  
**Attachments:** [READING STREET SUBMISSION DATA.xlsx](#)

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To Whom It May Concern:

I am writing in support of the proposed subdivision and voluntary Planning Agreement for the dedication of environmental land to the Council and the concomitant modification of the Port Macquarie LEP.

Over the last 12 years I have undertaken detailed assessments of the importance of this Regional Corridor that represents the last remaining link between Wrights Creek Bushland Reserve and the Sea Acres National Park. Before the clearing of the land (now Shelly Beach Homes), I recorded about a million bird movements per year over Pacific Drive between these two important areas of remnant vegetation in the city. The genetic integrity and long-term viability of both reserves is integrally linked through these two sites, of which the proposed planning amendment is a fundamental (and final) part.

As a component of the Shelly Beach Homes DA a 60m wide corridor was retained and dedicated to maintain the functionality of the Regional Corridor along Wrights Creek into Sea Acres National Park. The Reading Street LEP amendment between the subject land and Sea Acres will complete and protect the corridor. In addition, the rehabilitation of the partially cleared area on the eastern edge of subject land which forms part of the VPA will improve the viability and connectivity value of the link.

Under the status quo, the land as defined under the current LEP, would have allowed building of dwellings to sever this last link. The proposed relocation of the building envelopes in this new subdivision layout to the western end of the subject land on Redding Street, will have the dual benefits of:

1. Consolidating the urban area; whilst
2. Reinforcing and permanently protecting the biological link.

Due to the short survey period of the ecological assessment provided in the proposal, there are deficiencies in the biological records for the subject land. I am able to update this data. I have attached an annotated excel spreadsheet (READING STREET SUBMISSION DATA) which provides additional relevant information on this site and its functionality as a link as a part of this important regional corridor.

These data are recorded over 2 years (4 censuses each season: totalling 136 censuses in all), and are provided in the attachment below. I can confirm the following 17 NSW TSC Act and/or Federally listed EPBC Act species have been recorded using the corridor (of which the proposed amendment forms a part):

- Koala
- Grey-headed Flying Fox
- Powerful Owl
- Glossy Black Cockatoo
- Woompoo Fruit Dove
- Rose-crowned Fruit Dove
- Square-tailed Kite
- Little Lorikeet
- Rufous Fantail
- Black-faced Monarch
- Spectacled Monarch
- Satin Flycatcher
- Fork-tailed Swift
- White-throated Needletail
- Green Catbird
- Oriental Cuckoo
- Sooty Tern

These taxa represent both resident and migratory species. The presence of these species significantly upgrades the importance of this OEH Regional Corridor link and the necessity for proposed DA and LEP

amendment to be approved. This will ensure its maximum functionality as a biological link whilst protecting it in perpetuity through its dedication to Council which has a good record of management of its Bushland Reserves.

These significant species are only a small portion of the records, with 104 bird species and 7 other mammals and reptiles in total that I have recorded using this corridor.

I commend this proposal to the relevant authorities and look forward to the LEP amendment being approved without delay.

Yours sincerely,

Bill Peel  
Ecologist.

12/07/2017

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Reading Street Submission Data - PASSING THROUGH

| HABITAT PREFERENCE | SPECIES RECORDED           | MOVEMENT BEHAVIOUR |         |            |           | RECORDED<br>IN THIS<br>CENSUS | CUMULATIVE<br>TOTAL<br>RECORDS BY<br>SPECIES* |    | CUMULATIVE<br>RECORDS BY<br>HABITAT<br>PREFERENCE                       |
|--------------------|----------------------------|--------------------|---------|------------|-----------|-------------------------------|---|----|---|
|                    |                            | Migratory          | Nomadic | Dispersive | Sedentary |                               |   |    |   |
|                    | Lewins Honeyeater          |                    |         | 1          |           | 1                             | 328   | 85 | 951 records:<br>RAINFORREST<br>BIRDS<br>ARE 21% OF<br>CENSUS<br>RECORDS |
|                    | Figbird                    |                    | 1       |            |           | 1                             | 150   |    |   |
|                    | Regent Bowerbird           |                    |         | 1          |           | 1                             | 110   |    |   |
|                    | Brush Turkey               |                    |         | 1          |           | 1                             | 71  |    |   |
|                    | Brown Cuckoo Dove          |                    | 1       |            |           | 1                             | 53  | 14 |   |
|                    | Green Catbird              |                    |         | 1          |           | 1                             | 52  | 14 |   |
|                    | Rufous Fantail             | 1                  |         |            |           | 1                             | 34  | 9  |   |
|                    | Spangled Drongo            | 1                  |         |            |           | 1                             | 28  | 7  |   |
|                    | White-headed Pigeon        |                    | 1       |            |           | 1                             | 27  |    |   |
|                    | White-throated Treecreeper |                    |         |            | 1         | 1                             | 27  | 7  |   |
|                    | Brown Gerygone             |                    |         |            | 1         | 1                             | 21  | 5  |   |
|                    | Grey Goshawk               |                    |         | 1          |           | 1                             | 16  |    |   |
|                    | Shining Bronze Cuckoo      | 1                  |         |            |           | 1                             | 11  | 3  |   |
|                    | Yellow-throated Scrub-wren |                    |         |            | 1         | 1                             | 6   | 2  |   |
|                    | Large-billed Scrub Wren    |                    |         |            | 1         | 1                             | 4   | 1  |   |
|                    | Spectacled Monarch         | 1                  |         |            |           | 1                             | 3   | 1  |   |
|                    | Brush Cuckoo               | 1                  |         |            |           | 1                             | 3   | 1  |   |
|                    | Fantail Cuckoo             | 1                  |         |            |           | 1                             | 3   | 1  |   |
|                    | Bassian Thrush             | 1                  |         |            |           | 1                             | 2   |    |   |
|                    | Black-faced Monarch        | 1                  |         |            |           | 1                             | 1   |    |   |
|                    | Noisy Pitta                | 1                  |         |            |           | 1                             | 1   | 0  |   |
|                    | Rose-crowned Fruit-dove    |                    | 1       |            |           |                               | 0   | 0  |   |
|                    | Wonga Pigeon               |                    |         |            | 1         |                               | 0   | 0  |   |
|                    | Topknot Pigeon             |                    | 1       |            |           |                               | 0   | 0  |   |
|                    | Oriental Cuckoo            | 1                  |         |            |           |                               | 0   | 0  |   |
|                    | Woompoo Fruit Dove         |                    | 1       |            |           |                               | 0   | 0  |   |
|                    | Rose Robin                 | 1                  |         |            |           |                               | 0   | 0  |   |
|                    |                            |                    |         |            |           |                               |   |    |   |



| Reading Street Submission Data - PASSING THROUGH |                           |                    |         |            |           | Page 7 of 25            |                                      | 12/07/2017 |   |
|--|---------------------------|--------------------|---------|------------|-----------|-------------------------|--------------------------------------|------------|---|
| HABITAT PREFERENCE                               | SPECIES RECORDED          | MOVEMENT BEHAVIOUR |         |            |           | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |            | CUMULATIVE RECORDS BY HABITAT PREFERENCE  |
|  |                           | Migratory          | Nomadic | Dispersive | Sedentary |                         |                                      |            |   |
|  | Rainbow Lorikeet          |                    | 1       |            |           | 1                       | 301                                  |            | 2784 records:<br>WET FOREST +<br>RAIN FOREST<br>BIRDS ARE 61%<br>OF CENSUS<br>RECORDS |
|  | Brown Thornbill           |                    |         | 1          |           | 1                       | 262                                  | 68         |   |
|  | Silvereye                 | 1                  |         |            |           | 1                       | 220                                  | 57         |   |
|  | Little Wattlebird         |                    |         |            | 1         | 1                       | 218                                  | 57         |   |
|  | White-browed Scrub Wren   |                    |         |            | 1         | 1                       | 209                                  | 54         |   |
|  | Kookaburra                |                    |         | 1          |           | 1                       | 190                                  | 49         |   |
|  | Eastern Spinebill         |                    |         | 1          |           | 1                       | 168                                  | 44         |   |
|  | Eastern Yellow Robin      |                    |         | 1          |           | 1                       | 166                                  | 43         |   |
|  | Grey Fantail              |                    |         | 1          |           | 1                       | 155                                  | 40         |   |
|  | Satin Bowerbird           |                    |         | 1          |           | 1                       | 150                                  | 39         |   |
|  | Golden Whistler           |                    |         | 1          |           | 1                       | 141                                  | 37         |   |
|  | Redbrowed Firetail Finch  |                    |         | 1          |           | 1                       | 94                                   | 24         |   |
|  | Mistletoebird             |                    |         | 1          |           | 1                       | 84                                   |            |   |
|  | Eastern Whipbird          |                    |         |            | 1         | 1                       | 80                                   | 21         |   |
|  | Black-faced Cuckoo Shrike |                    |         | 1          |           | 1                       | 68                                   |            |   |
|  | Australian King Parrot    |                    |         | 1          |           | 1                       | 50                                   |            |   |
|  | Crested Shrike-tit        |                    |         |            | 1         | 1                       | 43                                   | 11         |   |
|  | Dollarbird                | 1                  |         |            |           | 1                       | 31                                   | 8          |   |
|  | Sacred Kingfisher         | 1                  |         |            |           | 1                       | 26                                   | 7          |   |
|  | Torresian Crow            |                    |         | 1          |           | 1                       | 24                                   | 6          |   |
|  | Yellow-faced Honeyeater   | 1                  |         |            |           | 1                       | 23                                   | 6          |   |
|  | Grey Butcherbird          |                    |         | 1          |           | 1                       | 21                                   | 5          |   |
|  | Ciccadabird               | 1                  |         |            |           | 1                       | 18                                   | 5          |   |
|  | Grey Shrike-thrush        |                    |         |            | 1         | 1                       | 17                                   | 4          |   |
|  | Koel                      | 1                  |         |            |           | 1                       | 15                                   | 4          |   |
|  | Olive-backed Oriole       | 1                  |         |            |           | 1                       | 9                                    | 2          |   |
|  | Square-tailed Kite        | 1                  |         |            |           | 1                       | 1                                    | 0          |   |

2784 records:  
WET FOREST +  
RAINFOREST  
BIRDS ARE 61%  
OF CENSUS  
RECORDS

| Reading Street Submission Data - PASSING THROUGH   |                              |                    |         | Page 8 of 25 |           | 12/07/2017              |                                      |    |   |
|--|------------------------------|--------------------|---------|--------------|-----------|-------------------------|--------------------------------------|----|---|
| HABITAT PREFERENCE   | SPECIES RECORDED             | MOVEMENT BEHAVIOUR |         |              |           | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |    | CUMULATIVE RECORDS BY HABITAT PREFERENCE  |
|  |                              | Migratory          | Nomadic | Dispersive   | Sedentary |                         |                                      |    |   |
| BUSH BIRDS:<br>OPEN FOREST<br>AND/OR FOREST<br>EDGES: (CORRIDORS<br>AND WELL-TREED<br>PARKS) | Scaly-breasted Lorikeet      | 1                  |         |              |           | 1                       | 146                                  |    | 549 records:<br>OPEN FOREST<br>AND/OR FOREST<br>EDGES:<br>(CORRIDORS AND<br>WELL-TREED<br>PARKS) BIRDS<br>ARE 12% OF<br>CENSUS<br>RECORDS |
|  | Variegated Wren              |                    |         |              | 1         | 1                       | 121                                  | 32 |   |
|  | Australian Raven             |                    |         | 1            |           | 1                       | 65                                   |    |   |
|  | Spotted Pardalote            |                    |         | 1            |           | 1                       | 51                                   | 13 |   |
|  | Superb Fairy Wren            |                    |         |              | 1         | 1                       | 40                                   | 10 |   |
|  | White-breasted Wood Swallow  | 1                  |         |              |           | 1                       | 19                                   | 5  |   |
|  | White-throated Needletail    | 1                  |         |              |           | 1                       | 16                                   | 4  |   |
|  | Striated Pardalote           |                    |         |              | 1         | 1                       | 16                                   | 4  |   |
|  | Bar-shouldered Dove          |                    |         |              | 1         | 1                       | 11                                   | 3  |   |
|  | Brown Falcon                 |                    | 1       |              |           | 1                       | 8                                    |    |   |
|  | Pied Butcherbird             |                    |         |              | 1         | 1                       | 8                                    | 2  |   |
|  | Red Wattlebird               |                    |         | 1            |           | 1                       | 7                                    |    |   |
|  | Pallid Cuckoo                | 1                  |         |              |           | 1                       | 7                                    | 2  |   |
|  | Collared Sparrowhawk         |                    |         | 1            |           | 3                       | 6                                    |    |   |
|  | Eastern Rosella              |                    |         |              | 1         | 1                       | 5                                    |    |   |
|  | Rufous Whistler              | 1                  |         |              |           | 1                       | 4                                    | 1  |   |
|  | Striated Thornbill           |                    |         |              | 1         | 1                       | 4                                    | 1  |   |
|  | White-cheeked Honeyeater     | 1                  |         |              |           | 1                       | 3                                    | 1  |   |
|  | Satin Flycatcher             | 1                  |         |              |           | 1                       | 3                                    | 1  |   |
|  | Fork-tailed Swift            | 1                  |         |              |           | 1                       | 3                                    | 1  |   |
|  | Yellow-tailed Black Cockatoo |                    |         | 1            |           | 1                       | 2                                    | 1  |   |
|  | New Holland Honeyeater       |                    |         | 1            |           | 1                       | 2                                    | 1  |   |
|  | Little Lorikeet              |                    | 1       |              |           |                         | 1                                    | 0  |   |
|  | Noisy Friarbird              | 1                  |         |              |           | 1                       | 1                                    | 0  |   |
|  | Glossy Black Cockatoo        |                    |         |              | 1         |                         | 0                                    | 0  |   |
|  | White-bellied Cuckoo Shrike  |                    | 1       |              |           |                         | 0                                    | 0  |   |
|  | Yellow Thornbill             |                    |         |              | 1         |                         | 0                                    | 0  |   |
|  | Blue-faced Honeyeater        |                    | 1       |              |           |                         | 0                                    | 0  |   |

549 records:  
OPEN FOREST  
AND/OR FOREST  
EDGES:  
(CORRIDORS AND  
WELL-TREED  
PARKS) BIRDS  
ARE 12% OF  
CENSUS  
RECORDS

| HABITAT PREFERENCE                                       | SPECIES RECORDED      | MOVEMENT BEHAVIOUR                                   |         |            |           | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |    | CUMULATIVE RECORDS BY HABITAT PREFERENCE |
|--|-----------------------|--|---------|------------|-----------|-------------------------|--------------------------------------|----|--|
|  |                       | Migratory  | Nomadic | Dispersive | Sedentary |                         |                                      |    |  |
| BUSH BIRDS:<br>URBAN ADAPTED<br>OR<br>INTRODUCED SPECIES | Pacific Baza          |  |         | 1          |           |                         | 0                                    | 0  |  |
|  | Scarlet Honeyeater    | 1  |         | 1          |           |                         | 0                                    | 0  |  |
|  | Powerful Owl          |  |         | 1          |           |                         | 0                                    | 0  |  |
|  | Noisy Miner           |  |         | 1          |           |                         | 0                                    | 0  |  |
|  | Black Shouldered Kite |  | 1       |            |           |                         | 0                                    | 0  |  |
|  | Pheasant Coucal       |  |         | 1          |           | 1                       | 0                                    | 0  |  |
|  | Spotted Turtledove    |  |         |            | 1         | 1                       | 111                                  | 29 |  |
|  | Galah                 |  |         | 1          |           | 1                       | 58                                   |    |  |
|  | Magpie                |  |         | 1          |           | 1                       | 46                                   | 12 |  |
|  | Welcome Swallow       |  |         | 1          |           | 1                       | 20                                   | 5  |  |
| BUSH BIRDS:<br>URBAN ADAPTED<br>OR<br>INTRODUCED SPECIES | Indian Myna           |  |         |            | 1         | 1                       | 17                                   |    |  |
|  | Willie Wagtail        |  |         | 1          |           | 1                       | 16                                   | 4  |  |
|  | Crested Pigeon        |  |         |            | 1         | 1                       | 5                                    | 1  |  |
|  | Mudlark               |  |         |            | 1         | 1                       | 4                                    | 1  |  |
|  | Magpie Lark           |  |         | 1          |           | 1                       | 3                                    | 1  |  |
|  | Feral Pigeon          |  |         | 1          |           | 1                       | 2                                    | 1  |  |
|  | Pied Cormorant        |  |         | 1          |           | 1                       | 8                                    |    |  |
|  | Sea Eagle             |  |         | 1          |           | 1                       | 7                                    |    |  |
|  | Great Cormorant       |  |         | 1          |           |                         | 1                                    | 0  |  |
|  | Sooty Tern            |  |         | 1          |           |                         | 0                                    | 0  |  |
| BUSH BIRDS:<br>URBAN ADAPTED<br>OR<br>INTRODUCED SPECIES | White-faced Heron     |  |         | 1          |           |                         | 0                                    | 0  |  |
|  | Brahminy Kite         |  |         | 1          |           |                         | 0                                    | 0  |  |
|  |                       |  |         | 1          |           |                         | 0                                    | 0  |  |
|  |                       |  |         | 1          |           |                         | 0                                    | 0  |  |
| Total species recorded in                                | 84                    | NUMBER OF BIRDS RECORDED IN 136 SURVEYS OVER 2 YEARS |         |            |           |                         | 4582                                 |    |  |
| Percentage all recorded                                  | 82%**                 |  |         |            |           |                         |                                      |    |  |

Reading Street Submission Data - PASSING THROUGH

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| HABITAT PREFERENCE                              | SPECIES RECORDED       | MOVEMENT BEHAVIOUR  |         |            |           | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* | CUMULATIVE RECORDS BY HABITAT PREFERENCE   |
|---|------------------------|---|---------|------------|-----------|-------------------------|--------------------------------------|--|
|   |                        | Migratory   | Nomadic | Dispersive | Sedentary |                         |                                      |  |
| OTHER ANIMALS RECORDED IN OR USING THE CORRIDOR | Grey-headed Flying Fox | ** this figure shows that 18% of the birds previously recorded at the Shelly Beach Homes site have not used the remaining (narrower) corridor since the balance was cleared and housing construction began. |         |            |           |                         |                                      | SPECIES LOST SINCE CLEARING<br><br>*A zero in this column means these species were recorded on the Shelly Beach Homes site prior to clearing for housing, but not since. |
|   | Deer                   |   |         |            |           |                         |                                      |  |
|   | Wallaby                |   |         |            |           |                         |                                      |  |
|   | Bandicoot              |   |         |            |           |                         |                                      |  |
|   | Koala                  |   |         |            |           |                         |                                      |  |
|   | Carpet Python          |   |         |            |           |                         |                                      |  |
|   | Goanna                 |   |         |            |           |                         |                                      |  |
|   | Land Mullet            |   |         |            |           |                         |                                      |  |

Resident

Passing through

12/07/2017

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Reading Street Submission Data - PERIOD FORAGING

| HABITAT PREFERENCE | SPECIES RECORDED           | MOVEMENT BEHAVIOUR |         |            | RECORDED<br>IN THIS<br>CENSUS | CUMULATIVE<br>TOTAL<br>RECORDS BY<br>SPECIES* |     | CUMULATIVE<br>RECORDS BY<br>HABITAT<br>PREFERENCE                      |
|--------------------|----------------------------|--------------------|---------|------------|-------------------------------|---|-----|--|
|                    |                            | Migratory          | Nomadic | Dispersive | Sedentary                     |   |     |  |
|                    | Lewins Honeyeater          |                    |         | 1          |                               | 1   | 85  | 951 records:<br>RAINFOREST<br>BIRDS<br>ARE 21% OF<br>CENSUS<br>RECORDS |
|                    | Figbird                    |                    | 1       |            |                               | 1   | 150 |  |
|                    | Regent Bowerbird           |                    |         | 1          |                               | 1   | 110 |  |
|                    | Brush Turkey               |                    |         | 1          |                               | 1   | 71  |  |
|                    | Brown Cuckoo Dove          |                    | 1       |            |                               | 1   | 53  |  |
|                    | Green Catbird              |                    |         | 1          |                               | 1   | 52  |  |
|                    | Rufous Fantail             | 1                  |         |            |                               | 1   | 34  |  |
|                    | Spangled Drongo            | 1                  |         |            |                               | 1   | 28  |  |
|                    | White-headed Pigeon        |                    | 1       |            |                               | 1   | 27  |  |
|                    | White-throated Treecreeper |                    |         |            | 1                             | 1   | 27  |  |
|                    | Brown Gerygone             |                    |         |            | 1                             | 1   | 21  |  |
|                    | Grey Goshawk               |                    |         | 1          |                               | 1   | 16  |  |
|                    | Shining Bronze Cuckoo      | 1                  |         |            |                               | 1   | 11  |  |
|                    | Yellow-throated Scrub-wren |                    |         |            | 1                             | 1   | 6   |  |
|                    | Large-billed Scrub Wren    |                    |         |            | 1                             | 1   | 4   |  |
|                    | Spectacled Monarch         | 1                  |         |            |                               | 1   | 3   |  |
|                    | Brush Cuckoo               | 1                  |         |            |                               | 1   | 3   |  |
|                    | Fantail Cuckoo             | 1                  |         |            |                               | 1   | 3   |  |
|                    | Bassian Thrush             | 1                  |         |            |                               | 1   | 2   |  |
|                    | Black-faced Monarch        | 1                  |         |            |                               | 1   | 1   |  |
|                    | Noisy Pitta                | 1                  |         |            |                               | 1   | 1   |  |
|                    | Rose-crowned Fruit-dove    |                    | 1       |            |                               |   | 0   |  |
|                    | Wonga Pigeon               |                    |         |            | 1                             |   | 0   |  |
|                    | Topknot Pigeon             |                    | 1       |            |                               |   | 0   |  |
|                    | Oriental Cuckoo            | 1                  |         |            |                               |   | 0   |  |
|                    | Woompoo Fruit Dove         |                    | 1       |            |                               |   | 0   |  |
|                    | Rose Robin                 | 1                  |         |            |                               |   | 0   |  |

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Reading Street Submission Data - PERIOD FORAGING

| HABITAT PREFERENCE | SPECIES RECORDED          | MOVEMENT BEHAVIOUR |         |            | RECORDED<br>IN THIS<br>CENSUS | CUMULATIVE<br>TOTAL<br>RECORDS BY<br>SPECIES* |    | CUMULATIVE<br>RECORDS BY<br>HABITAT<br>PREFERENCE |
|--------------------|---------------------------|--------------------|---------|------------|-------------------------------|---|----|---|
|                    |                           | Migratory          | Nomadic | Dispersive | Sedentary                     |   |    |   |
|                    | Rainbow Lorikeet          |                    | 1       |            |                               | 1   |    |   |
|                    | Brown Thornbill           |                    |         | 1          |                               | 1   | 68 |   |
|                    | Silvereye                 | 1                  |         |            |                               | 1   | 57 |   |
|                    | Little Wattlebird         |                    |         |            | 1                             | 1   | 57 |   |
|                    | White-browed Scrub Wren   |                    |         |            | 1                             | 1   | 54 |   |
|                    | Kookaburra                |                    |         | 1          |                               | 1   | 49 |   |
|                    | Eastern Spinebill         |                    |         | 1          |                               | 1   | 44 |   |
|                    | Eastern Yellow Robin      |                    |         | 1          |                               | 1   | 43 |   |
|                    | Grey Fantail              |                    |         | 1          |                               | 1   | 40 |   |
|                    | Satin Bowerbird           |                    |         | 1          |                               | 1   | 39 |   |
|                    | Golden Whistler           |                    |         | 1          |                               | 1   | 37 |   |
|                    | Redbrowed Firetail Finch  |                    |         | 1          |                               | 1   | 24 |   |
|                    | Mistletoebird             |                    |         | 1          |                               | 1   | 84 |   |
|                    | Eastern Whipbird          |                    |         |            | 1                             | 1   | 80 |   |
|                    | Black-faced Cuckoo Shrike |                    |         | 1          |                               | 1   | 68 |   |
|                    | Australian King Parrot    |                    |         | 1          |                               | 1   | 50 |   |
|                    | Crested Shrike-itt        |                    |         |            | 1                             | 1   | 43 |   |
|                    | Dollarbird                | 1                  |         |            |                               | 1   | 31 |   |
|                    | Sacred Kingfisher         | 1                  |         |            |                               | 1   | 26 |   |
|                    | Torresian Crow            |                    |         | 1          |                               | 1   | 24 |   |
|                    | Yellow-faced Honeyeater   | 1                  |         |            |                               | 1   | 23 |   |
|                    | Grey Butcherbird          |                    |         | 1          |                               | 1   | 21 |   |
|                    | Ciccadabird               | 1                  |         |            |                               | 1   | 18 |   |
|                    | Grey Shrike-thrush        |                    |         |            | 1                             | 1   | 17 |   |
|                    | Koel                      | 1                  |         |            |                               | 1   | 15 |   |
|                    | Olive-backed Oriole       | 1                  |         |            |                               | 1   | 9  |   |
|                    | Square-tailed Kite        | 1                  |         |            |                               | 1   | 1  | 0   |

2784 records:  
WET FOREST +  
RAINFOREST  
BIRDS ARE  
61% OF CENSUS  
RECORDS

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Reading Street Submission Data - PERIOD FORAGING

| HABITAT PREFERENCE   | SPECIES RECORDED             | MOVEMENT BEHAVIOUR |         |            | RECORDED<br>IN THIS<br>CENSUS | CUMULATIVE<br>TOTAL<br>RECORDS BY<br>SPECIES* |    | CUMULATIVE<br>RECORDS BY<br>HABITAT<br>PREFERENCE |
|--|------------------------------|--------------------|---------|------------|-------------------------------|---|----|---|
|  |                              | Migratory          | Nomadic | Dispersive | Sedentary                     |   |    |   |
| BUSH BIRDS:<br>OPEN FOREST<br>AND/OR FOREST<br>EDGES: (CORRIDORS<br>AND WELL-TREED<br>PARKS) | Scaly-breasted Lorikeet      | 1                  |         |            |                               | 1   |    |   |
|  | Variegated Wren              |                    |         |            | 1                             | 1   | 32 |   |
|  | Australian Raven             |                    |         | 1          |                               | 1   | 65 |   |
|  | Spotted Pardalote            |                    |         | 1          |                               | 1   | 51 | 13  |
|  | Superb Fairy Wren            |                    |         |            | 1                             | 1   | 40 | 10  |
|  | White-breasted Wood Swallow  | 1                  |         |            |                               | 1   | 19 | 5   |
|  | White-throated Needletail    | 1                  |         |            |                               | 1   | 16 | 4   |
|  | Striated Pardalote           |                    |         |            | 1                             | 1   | 16 | 4   |
|  | Bar-shouldered Dove          |                    |         |            | 1                             | 1   | 11 | 3   |
|  | Brown Falcon                 |                    | 1       |            |                               | 1   | 8  |   |
|  | Pied Butcherbird             |                    |         |            | 1                             | 1   | 8  | 2   |
|  | Red Wattlebird               |                    |         | 1          |                               | 1   | 7  |   |
|  | Pallid Cuckoo                | 1                  |         |            |                               | 1   | 7  | 2   |
|  | Collared Sparrowhawk         |                    |         | 1          |                               | 3   | 6  |   |
|  | Eastern Rosella              |                    |         |            | 1                             | 1   | 5  |   |
|  | Rufous Whistler              | 1                  |         |            |                               | 1   | 4  | 1   |
|  | Striated Thornbill           |                    |         |            | 1                             | 1   | 4  | 1   |
|  | White-cheeked Honeyeater     | 1                  |         |            |                               | 1   | 3  |   |
|  | Satin Flycatcher             | 1                  |         |            |                               | 1   | 3  | 1   |
|  | Fork-tailed Swift            | 1                  |         |            |                               | 1   | 3  | 1   |
|  | Yellow-tailed Black Cockatoo |                    |         | 1          |                               | 1   | 2  | 1   |
|  | New Holland Honeyeater       |                    |         | 1          |                               | 1   | 2  |   |
|  | Little Lorikeet              |                    | 1       |            |                               |   | 1  |   |
|  | Noisy Friarbird              | 1                  |         |            |                               | 1   | 1  |   |
|  | Glossy Black Cockatoo        |                    |         |            | 1                             |   | 0  | 0   |
|  | White-bellied Cuckoo Shrike  |                    | 1       |            |                               |   | 0  | 0   |
|  | Yellow Thornbill             |                    |         |            | 1                             |   | 0  | 0   |
|  | Blue-faced Honeyeater        |                    | 1       |            |                               |   | 0  | 0   |

549 records:  
OPEN FOREST  
AND/OR FOREST  
EDGES:  
(CORRIDORS  
AND WELL-  
TREED PARKS)  
BIRDS ARE 12%  
OF CENSUS  
RECORDS

12/07/2017

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Reading Street Submission Data - PERIOD FORAGING

| HABITAT PREFERENCE                 | SPECIES RECORDED      | MOVEMENT BEHAVIOUR                                   |         |            | RECORDED<br>IN THIS<br>CENSUS | CUMULATIVE<br>TOTAL<br>RECORDS BY<br>SPECIES* | CUMULATIVE<br>RECORDS BY<br>HABITAT<br>PREFERENCE |  |
|------------------------------------|-----------------------|--|---------|------------|-------------------------------|---|---|--|
|                                    |                       | Migratory  | Nomadic | Dispersive | Sedentary                     |   |   |  |
|                                    | Pacific Baza          |  |         | 1          |                               | 0   | 0   |  |
|                                    | Scarlet Honeyeater    | 1  |         | 1          |                               | 0   | 0   |  |
|                                    | Powerful Owl          |  |         | 1          |                               | 0   | 0   |  |
|                                    | Noisy Miner           |  |         | 1          |                               | 0   | 0   |  |
|                                    | Black Shouldered Kite |  | 1       |            |                               | 0   | 0   |  |
|                                    | Pheasant Coucal       |  |         | 1          |                               | 0   | 0   |  |
|                                    | Spotted Turtle dove   |  |         |            | 1                             | 111   | 29  |  |
|                                    | Galah                 |  |         | 1          |                               | 58  |   |  |
|                                    | Magpie                |  |         | 1          |                               | 46  | 12  |  |
|                                    | Welcome Swallow       |  |         | 1          |                               | 20  | 5   |  |
|                                    | Indian Myna           |  |         |            | 1                             | 17  |   |  |
|                                    | Willie Wagtail        |  |         | 1          |                               | 16  | 4   |  |
|                                    | Crested Pigeon        |  |         |            | 1                             | 5   | 1   |  |
|                                    | Mudlark               |  |         |            | 1                             | 4   | 1   |  |
|                                    | Magpie Lark           |  |         | 1          |                               | 3   | 1   |  |
|                                    | Feral Pigeon          |  |         | 1          |                               | 2   |   |  |
|                                    | Pied Cormorant        |  |         | 1          |                               | 8   |   |  |
|                                    | Sea Eagle             |  |         | 1          |                               | 7   |   |  |
|                                    | Great Cormorant       |  |         | 1          |                               | 1   |   |  |
|                                    | Sooty Tern            |  |         | 1          |                               | 0   | 0   |  |
|                                    | White-faced Heron     |  |         | 1          |                               | 0   | 0   |  |
|                                    | Brahminy Kite         |  |         | 1          |                               | 0   | 0   |  |
| Total species recorded in corridor | 84                    | NUMBER OF BIRDS RECORDED IN 136 SURVEYS OVER 2 YEARS |         |            |                               | 4582  |   |  |
| Percentage all recorded            | 82%**                 |  |         |            |                               |   |   |  |

BUSH BIRDS:  
URBAN ADAPTED  
OR  
INTRODUCED SPECIES282 records:  
URBAN  
ADAPTED BIRDS  
ARE 6% OF  
CENSUS  
RECORDS16 records:  
MARINE,  
COASTAL  
AND/OR  
AQUATIC BIRDS  
ARE 0.34% OF  
CENSUS  
RECORDS



| Reading Street Submission Data - PERIOD FORAGING |                        |   |         | Page 15 of 25 |                         | 12/07/2017                           |  |
|--|------------------------|---|---------|---------------|-------------------------|--------------------------------------|--|
| HABITAT PREFERENCE                               | SPECIES RECORDED       | MOVEMENT BEHAVIOUR  |         |               | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* | CUMULATIVE RECORDS BY HABITAT PREFERENCE   |
|  |                        | Migratory   | Nomadic | Dispersive    | Sedentary               |                                      |  |
| OTHER ANIMALS RECORDED IN OR USING THE CORRIDOR  | Grey-headed Flying Fox | ** this figure shows that 18% of the birds previously recorded at the Shelly Beach Homes site have not used the remaining (narrower) corridor since the balance was cleared and housing construction began. |         |               |                         |                                      | SPECIES LOST SINCE CLEARING<br><br>*A zero in this column means these species were recorded on the Shelly Beach Homes site prior to clearing for housing, but not since. |
|  | Deer                   |   |         |               |                         |                                      |  |
|  | Wallaby                |   |         |               |                         |                                      |  |
|  | Bandicoot              |   |         |               |                         |                                      |  |
|  | Koala                  |   |         |               |                         |                                      |  |
|  | Carpet Python          |   |         |               |                         |                                      |  |
|  | Goanna                 |   |         |               |                         |                                      |  |
|  | Land Mullet            |   |         |               |                         |                                      |  |
|  |                        |   |         |               |                         |                                      |  |
|  |                        | Resident  |         |               |                         |                                      |  |
|  |                        | Aseasonally passing through   |         |               |                         |                                      |  |
|  |                        | Periodic foraging   |         |               |                         |                                      |  |

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## Reading Street Submission Data - HUNTING PREDATOR

| HABITAT<br>PREFERENCE | SPECIES RECORDED           | MOVEMENT BEHAVIOUR |         |            |           | RECORDED<br>IN THIS<br>CENSUS | CUMULATIVE<br>TOTAL<br>RECORDS BY<br>SPECIES* |    | CUMULATIVE<br>RECORDS BY<br>HABITAT<br>PREFERENCE                      |
|-----------------------|----------------------------|--------------------|---------|------------|-----------|-------------------------------|---|----|--|
|                       |                            | Migratory          | Nomadic | Dispersive | Sedentary |                               |   |    |  |
|                       | Lewins Honeyeater          |                    |         | 1          |           | 1                             | 328   | 85 | 951 records:<br>RAINFOREST<br>BIRDS<br>ARE 21% OF<br>CENSUS<br>RECORDS |
|                       | Figbird                    |                    | 1       |            |           | 1                             | 150   |    |  |
|                       | Regent Bowerbird           |                    |         | 1          |           | 1                             | 110   |    |  |
|                       | Brush Turkey               |                    |         | 1          |           | 1                             | 71  |    |  |
|                       | Brown Cuckoo Dove          |                    | 1       |            |           | 1                             | 53  |    |  |
|                       | Green Catbird              |                    |         | 1          |           | 1                             | 52  | 14 |  |
|                       | Rufous Fantail             | 1                  |         |            |           | 1                             | 34  | 9  |  |
|                       | Spangled Drongo            | 1                  |         |            |           | 1                             | 28  | 7  |  |
|                       | White-headed Pigeon        |                    | 1       |            |           | 1                             | 27  |    |  |
|                       | White-throated Treecreeper |                    |         |            | 1         | 1                             | 27  | 7  |  |
|                       | Brown Gerygone             |                    |         |            | 1         | 1                             | 21  | 5  |  |
|                       | Grey Goshawk               |                    |         | 1          |           | 1                             | 16  | 4  |  |
|                       | Shining Bronze Cuckoo      | 1                  |         |            |           | 1                             | 11  | 3  |  |
|                       | Yellow-throated Scrub-wren |                    |         |            | 1         | 1                             | 6   | 2  |  |
|                       | Large-billed Scrub Wren    |                    |         |            | 1         | 1                             | 4   | 1  |  |
|                       | Spectacled Monarch         | 1                  |         |            |           | 1                             | 3   | 1  |  |
|                       | Brush Cuckoo               | 1                  |         |            |           | 1                             | 3   | 1  |  |
|                       | Fantail Cuckoo             | 1                  |         |            |           | 1                             | 3   | 1  |  |
|                       | Bassian Thrush             | 1                  |         |            |           | 1                             | 2   |    |  |
|                       | Black-faced Monarch        | 1                  |         |            |           | 1                             | 1   |    |  |
|                       | Noisy Pitta                | 1                  |         |            |           | 1                             | 1   | 0  |  |
|                       | Rose-crowned Fruit-dove    |                    | 1       |            |           |                               | 0   | 0  |  |
|                       | Wonga Pigeon               |                    |         |            | 1         |                               | 0   | 0  |  |
|                       | Topknot Pigeon             |                    | 1       |            |           |                               | 0   | 0  |  |
|                       | Oriental Cuckoo            | 1                  |         |            |           |                               | 0   | 0  |  |
|                       | Woompoo Fruit Dove         |                    | 1       |            |           |                               | 0   | 0  |  |
|                       | Rose Robin                 | 1                  |         |            |           |                               | 0   | 0  |  |

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## Reading Street Submission Data - HUNTING PREDATOR

| HABITAT<br>PREFERENCE | SPECIES RECORDED          | MOVEMENT BEHAVIOUR |         |            |           | RECORDED<br>IN THIS<br>CENSUS | CUMULATIVE<br>TOTAL<br>RECORDS BY<br>SPECIES* |    | CUMULATIVE<br>RECORDS BY<br>HABITAT<br>PREFERENCE |
|-----------------------|---------------------------|--------------------|---------|------------|-----------|-------------------------------|---|----|---|
|                       |                           | Migratory          | Nomadic | Dispersive | Sedentary |                               |   |    |   |
|                       | Rainbow Lorikeet          |                    | 1       |            |           | 1                             | 301   |    |   |
|                       | Brown Thornbill           |                    |         | 1          |           | 1                             | 262   | 68 |   |
|                       | Silvereye                 | 1                  |         |            |           | 1                             | 220   | 57 |   |
|                       | Little Wattlebird         |                    |         |            | 1         | 1                             | 218   | 57 |   |
|                       | White-browed Scrub Wren   |                    |         |            | 1         | 1                             | 209   | 54 |   |
|                       | Kookaburra                |                    |         | 1          |           | 1                             | 190   | 49 |   |
|                       | Eastern Spinebill         |                    |         | 1          |           | 1                             | 168   | 44 |   |
|                       | Eastern Yellow Robin      |                    |         | 1          |           | 1                             | 166   | 43 |   |
|                       | Grey Fantail              |                    |         | 1          |           | 1                             | 155   | 40 |   |
|                       | Satin Bowerbird           |                    |         | 1          |           | 1                             | 150   | 39 |   |
|                       | Golden Whistler           |                    |         | 1          |           | 1                             | 141   | 37 |   |
|                       | Redbrowed Firetail Finch  |                    |         | 1          |           | 1                             | 94  | 24 |   |
|                       | Mistletoebird             |                    |         | 1          |           | 1                             | 84  |    |   |
|                       | Eastern Whipbird          |                    |         |            | 1         | 1                             | 80  | 21 |   |
|                       | Black-faced Cuckoo Shrike |                    |         | 1          |           | 1                             | 68  |    |   |
|                       | Australian King Parrot    |                    |         | 1          |           | 1                             | 50  |    |   |
|                       | Crested Shrike-tit        |                    |         |            | 1         | 1                             | 43  | 11 |   |
|                       | Dollarbird                | 1                  |         |            |           | 1                             | 31  | 8  |   |
|                       | Sacred Kingfisher         | 1                  |         |            |           | 1                             | 26  | 7  |   |
|                       | Torresian Crow            |                    |         | 1          |           | 1                             | 24  | 6  |   |
|                       | Yellow-faced Honeyeater   | 1                  |         |            |           | 1                             | 23  | 6  |   |
|                       | Grey Butcherbird          |                    |         | 1          |           | 1                             | 21  | 5  |   |
|                       | Ciccadabird               | 1                  |         |            |           | 1                             | 18  | 5  |   |
|                       | Grey Shrike-thrush        |                    |         |            | 1         | 1                             | 17  | 4  |   |
|                       | Koel                      | 1                  |         |            |           | 1                             | 15  | 4  |   |
|                       | Olive-backed Oriole       | 1                  |         |            |           | 1                             | 9   | 2  |   |
|                       | Square-tailed Kite        | 1                  |         |            |           | 1                             | 1   | 0  |   |

2784 records:  
WET FOREST  
+  
RAINFOREST  
BIRDS ARE  
61% OF  
CENSUS  
RECORDS

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## Reading Street Submission Data - HUNTING PREDATOR

| HABITAT PREFERENCE  | SPECIES RECORDED             | MOVEMENT BEHAVIOUR |         |            |           | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |    | CUMULATIVE RECORDS BY HABITAT PREFERENCE |
|---|------------------------------|--------------------|---------|------------|-----------|-------------------------|--------------------------------------|----|--|
|   |                              | Migratory          | Nomadic | Dispersive | Sedentary |                         |                                      |    |  |
| BUSH BIRDS:<br>OPEN FOREST<br>AND/OR FOREST<br>EDGES:<br>(CORRIDORS AND WELL-TREED PARKS) | Scaly-breasted Lorieet       | 1                  |         |            |           | 1                       | 146                                  |    |  |
|   | Variegated Wren              |                    |         |            | 1         | 1                       | 121                                  | 32 |  |
|   | Australian Raven             |                    |         | 1          |           | 1                       | 65                                   |    |  |
|   | Spotted Pardalote            |                    |         | 1          |           | 1                       | 51                                   | 13 |  |
|   | Superb Fairy Wren            |                    |         |            | 1         | 1                       | 40                                   | 10 |  |
|   | White-breasted Wood Swallow  | 1                  |         |            |           | 1                       | 19                                   | 5  |  |
|   | White-throated Needletail    | 1                  |         |            |           | 1                       | 16                                   | 4  |  |
|   | Striated Pardalote           |                    |         |            | 1         | 1                       | 16                                   | 4  |  |
|   | Bar-shouldered Dove          |                    |         |            | 1         | 1                       | 11                                   | 3  |  |
|   | Brown Falcon                 |                    | 1       |            |           | 1                       | 8                                    |    |  |
|   | Pied Butcherbird             |                    |         |            | 1         | 1                       | 8                                    | 2  |  |
|   | Red Wattlebird               |                    |         | 1          |           | 1                       | 7                                    |    |  |
|   | Pallid Cuckoo                | 1                  |         |            |           | 1                       | 7                                    | 2  |  |
|   | Collared Sparrowhawk         |                    |         | 1          |           | 3                       | 6                                    |    |  |
|   | Eastern Rosella              |                    |         |            | 1         | 1                       | 5                                    |    |  |
|   | Rufous Whistler              | 1                  |         |            |           | 1                       | 4                                    | 1  |  |
|   | Striated Thornbill           |                    |         |            | 1         | 1                       | 4                                    | 1  |  |
|   | White-cheeked Honeyeater     | 1                  |         |            |           | 1                       | 3                                    |    |  |
|   | Satin Flycatcher             | 1                  |         |            |           | 1                       | 3                                    | 1  |  |
|   | Fork-tailed Swift            | 1                  |         |            |           | 1                       | 3                                    | 1  |  |
|   | Yellow-tailed Black Cockatoo |                    |         | 1          |           | 1                       | 2                                    | 1  |  |
|   | New Holland Honeyeater       |                    |         | 1          |           | 1                       | 2                                    |    |  |
|   | Little Lorieet               |                    | 1       |            |           |                         | 1                                    |    |  |
|   | Noisy Friarbird              | 1                  |         |            |           | 1                       | 1                                    |    |  |
|   | Glossy Black Cockatoo        |                    |         |            | 1         |                         | 0                                    | 0  |  |
|   | White-bellied Cuckoo Shrike  |                    | 1       |            |           |                         | 0                                    | 0  |  |
|   | Yellow Thornbill             |                    |         |            | 1         |                         | 0                                    | 0  |  |

549 records:  
OPEN FOREST  
AND/OR  
FOREST  
EDGES:  
(CORRIDORS  
AND WELL-  
TREED PARKS)  
BIRDS ARE  
12% OF  
CENSUS  
RECORDS

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## Reading Street Submission Data - HUNTING PREDATOR

| HABITAT PREFERENCE  | SPECIES RECORDED      | MOVEMENT BEHAVIOUR                                   |         |            |           | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |    | CUMULATIVE RECORDS BY HABITAT PREFERENCE |
|---|-----------------------|--|---------|------------|-----------|-------------------------|--------------------------------------|----|--|
|   |                       | Migratory  | Nomadic | Dispersive | Sedentary |                         |                                      |    |  |
|   | Blue-faced Honeyeater |  | 1       |            |           |                         | 0                                    | 0  |  |
|   | Pacific Baza          |  |         | 1          |           |                         | 0                                    | 0  |  |
|   | Scarlet Honeyeater    | 1  |         | 1          |           |                         | 0                                    | 0  |  |
|   | Powerful Owl          |  |         | 1          |           |                         | 0                                    | 0  |  |
|   | Noisy Miner           |  |         | 1          |           |                         | 0                                    | 0  |  |
|   | Black Shouldered Kite |  | 1       |            |           |                         | 0                                    | 0  |  |
|   | Pheasant Coucal       |  |         | 1          |           | 1                       | 0                                    | 0  |  |
|   | Spotted Turtle dove   |  |         |            | 1         | 1                       | 111                                  | 29 |  |
| BUSH BIRDS:<br>URBAN ADAPTED<br>OR<br>INTRODUCED<br>SPECIES | Galah                 |  |         | 1          |           | 1                       | 58                                   |    |  |
|   | Magpie                |  |         | 1          |           | 1                       | 46                                   | 12 |  |
|   | Welcome Swallow       |  |         | 1          |           | 1                       | 20                                   | 5  |  |
|   | Indian Myna           |  |         |            | 1         | 1                       | 17                                   |    |  |
|   | Willie Wagtail        |  |         | 1          |           | 1                       | 16                                   | 4  |  |
|   | Crested Pigeon        |  |         |            | 1         | 1                       | 5                                    | 1  |  |
|   | Mudlark               |  |         |            | 1         | 1                       | 4                                    | 1  |  |
|   | Magpie Lark           |  |         | 1          |           | 1                       | 3                                    | 1  |  |
|   | Feral Pigeon          |  |         | 1          |           | 1                       | 2                                    |    |  |
|   | Pied Cormorant        |  |         | 1          |           | 1                       | 8                                    |    |  |
|   | Sea Eagle             |  |         | 1          |           | 1                       | 7                                    |    |  |
|   | Great Cormorant       |  |         | 1          |           |                         | 1                                    |    |  |
|   | Sooty Tern            |  |         | 1          |           |                         | 0                                    | 0  |  |
|   | White-faced Heron     |  |         | 1          |           |                         | 0                                    | 0  |  |
|   | Brahmany Kite         |  |         | 1          |           |                         | 0                                    | 0  |  |
|   | 84                    | NUMBER OF BIRDS RECORDED IN 136 SURVEYS OVER 2 YEARS |         |            |           |                         | 4582                                 |    |  |
| Total species recorded in corridor                          | 84                    |  |         |            |           |                         |                                      |    |  |
| Percentage all recorded                                     | 82%**                 |  |         |            |           |                         |                                      |    |  |

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12/07/2017

Reading Street Submission Data - HUNTING PREDATOR

| HABITAT PREFERENCE                              | SPECIES RECORDED       | MOVEMENT BEHAVIOUR |         |            |           | RECORDED IN THIS CENSUS   | CUMULATIVE TOTAL RECORDS BY SPECIES*   | CUMULATIVE RECORDS BY HABITAT PREFERENCE |
|---|------------------------|--------------------|---------|------------|-----------|---|--|--|
|   |                        | Migratory          | Nomadic | Dispersive | Sedentary |   |  |  |
| OTHER ANIMALS RECORDED IN OR USING THE CORRIDOR | Grey-headed Flying Fox |                    |         |            |           | ** this figure shows that 18% of the birds previously recorded at the Shelly Beach Homes site have not used the remaining (narrower) corridor since the balance was cleared and housing construction began. | SPECIES LOST SINCE CLEARING<br><br>*A zero in this column means these species were recorded on the Shelly Beach Homes site prior to clearing for housing, but not since. |  |
|   | Deer                   |                    |         |            |           |   |  |  |
|   | Wallaby                |                    |         |            |           |   |  |  |
|   | Bandicoot              |                    |         |            |           |   |  |  |
|   | Koala                  |                    |         |            |           |   |  |  |
|   | Carpenter Python       |                    |         |            |           |   |  |  |
|   | Goanna                 |                    |         |            |           |   |  |  |
|   | Land Mullet            |                    |         |            |           |   |  |  |

- 
- Resident
- Aseasonally passing through
- Periodic foraging
- Hunting predator

| Reading Street Submission Data - MIGRANTS |                            |                    |         | Page 21 of 25 |                         |                                      | 12/07/2017 |  |  |
|---|----------------------------|--------------------|---------|---------------|-------------------------|--------------------------------------|------------|--|--|
| HABITAT PREFERENCE                        | SPECIES RECORDED           | MOVEMENT BEHAVIOUR |         |               | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |            | CUMULATIVE RECORDS BY HABITAT PREFERENCE |  |
|   |                            | Migratory          | Nomadic | Dispersive    | Sedentary               |                                      |            |  |  |
|   | Lewins Honeyeater          |                    |         | 1             |                         | 1                                    | 85         |  |  |
|   | Figbird                    |                    | 1       |               |                         | 1                                    | 150        |  |  |
|   | Regent Bowerbird           |                    |         | 1             |                         | 1                                    | 110        |  |  |
|   | Brush Turkey               |                    |         | 1             |                         | 1                                    | 71         |  |  |
|   | Brown Cuckoo Dove          |                    | 1       |               |                         | 1                                    | 53         |  |  |
|   | Green Catbird              |                    |         | 1             |                         | 1                                    | 52         | 14                                       |  |
|   | Rufous Fantail             | 1                  |         |               |                         | 1                                    | 34         | 9  |  |
|   | Spangled Drongo            | 1                  |         |               |                         | 1                                    | 28         |  |  |
|   | White-headed Pigeon        |                    | 1       |               |                         | 1                                    | 27         |  |  |
|   | White-throated Treecreeper |                    |         |               | 1                       | 1                                    | 27         | 7  |  |
|   | Brown Gerygone             |                    |         |               | 1                       | 1                                    | 21         | 5  |  |
|   | Grey Goshawk               |                    |         | 1             |                         | 1                                    | 16         | 4  |  |
|   | Shining Bronze Cuckoo      | 1                  |         |               |                         | 1                                    | 11         | 3  |  |
|   | Yellow-throated Scrub-wren |                    |         |               | 1                       | 1                                    | 6          | 2  |  |
|   | Large-billed Scrub Wren    |                    |         |               | 1                       | 1                                    | 4          | 1  |  |
|   | Spectacled Monarch         | 1                  |         |               |                         | 1                                    | 3          | 1  |  |
|   | Brush Cuckoo               | 1                  |         |               |                         | 1                                    | 3          | 1  |  |
|   | Fantail Cuckoo             | 1                  |         |               |                         | 1                                    | 3          | 1  |  |
|   | Bassian Thrush             | 1                  |         |               |                         | 1                                    | 2          |  |  |
|   | Black-faced Monarch        | 1                  |         |               |                         | 1                                    | 1          |  |  |
|   | Noisy Pitta                | 1                  |         |               |                         | 1                                    | 1          | 0  |  |
|   | Rose-crowned Fruit-dove    |                    | 1       |               |                         |                                      | 0          | 0  |  |
|   | Wonga Pigeon               |                    |         |               | 1                       |                                      | 0          | 0  |  |
|   | Topknot Pigeon             |                    | 1       |               |                         |                                      | 0          | 0  |  |
|   | Oriental Cuckoo            | 1                  |         |               |                         |                                      | 0          | 0  |  |
|   | Woompoo Fruit Dove         |                    | 1       |               |                         |                                      | 0          | 0  |  |
|   | Rose Robin                 | 1                  |         |               |                         |                                      | 0          | 0  |  |
|   | Rainbow Lorikeet           |                    | 1       |               |                         | 1                                    | 301        |  |  |
|   | Brown Thornbill            |                    |         | 1             |                         | 1                                    | 262        | 68                                       |  |
|   | Silvereye                  | 1                  |         |               |                         | 1                                    | 220        | 57                                       |  |

951 records:  
RAINFORST  
BIRDS  
ARE 21% OF  
CENSUS  
RECORDS

| Reading Street Submission Data - MIGRANTS |                             |                    |         | Page 22 of 25 |                         |                                      | 12/07/2017 |  |   |
|---|-----------------------------|--------------------|---------|---------------|-------------------------|--------------------------------------|------------|--|---|
| HABITAT PREFERENCE                        | SPECIES RECORDED            | MOVEMENT BEHAVIOUR |         |               | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |            | CUMULATIVE RECORDS BY HABITAT PREFERENCE |   |
|   |                             | Migratory          | Nomadic | Dispersive    | Sedentary               |                                      |            |  |   |
|   | Little Wattlebird           |                    |         |               | 1                       | 1                                    | 218        | 57                                       | 2784 records:<br>WET FOREST +<br>RAINFOREST<br>BIRDS<br>ARE 61% OF<br>CENSUS<br>RECORDS |
|   | White-browed Scrub Wren     |                    |         |               | 1                       | 1                                    | 209        | 54                                       |   |
|   | Kookaburra                  |                    |         | 1             |                         | 1                                    | 190        | 49                                       |   |
|   | Eastern Spinebill           |                    |         | 1             |                         | 1                                    | 168        | 44                                       |   |
|   | Eastern Yellow Robin        |                    |         | 1             |                         | 1                                    | 166        | 43                                       |   |
|   | Grey Fantail                |                    |         | 1             |                         | 1                                    | 155        | 40                                       |   |
|   | Satin Bowerbird             |                    |         | 1             |                         | 1                                    | 150        | 39                                       |   |
|   | Golden Whistler             |                    |         | 1             |                         | 1                                    | 141        | 37                                       |   |
|   | Redbrowed Firetail Finch    |                    |         | 1             |                         | 1                                    | 94         | 24                                       |   |
|   | Mistletoebird               |                    |         | 1             |                         | 1                                    | 84         |  |   |
|   | Eastern Whipbird            |                    |         |               | 1                       | 1                                    | 80         | 21                                       |   |
|   | Black-faced Cuckoo Shrike   |                    |         | 1             |                         | 1                                    | 68         |  |   |
|   | Australian King Parrot      |                    |         | 1             |                         | 1                                    | 50         |  |   |
|   | Crested Shrike-tit          |                    |         |               | 1                       | 1                                    | 43         | 11                                       |   |
|   | Dollarbird                  | 1                  |         |               |                         | 1                                    | 31         | 8  |   |
|   | Sacred Kingfisher           | 1                  |         |               |                         | 1                                    | 26         | 7  |   |
|   | Torresian Crow              |                    |         | 1             |                         | 1                                    | 24         |  |   |
|   | Yellow-faced Honeyeater     | 1                  |         |               |                         | 1                                    | 23         |  |   |
|   | Grey Butcherbird            |                    |         | 1             |                         | 1                                    | 21         | 5  |   |
|   | Ciccadabird                 | 1                  |         |               |                         | 1                                    | 18         | 5  |   |
|   | Grey Shrike-thrush          |                    |         |               | 1                       | 1                                    | 17         | 4  |   |
|   | Koel                        | 1                  |         |               |                         | 1                                    | 15         | 4  |   |
|   | Olive-backed Oriole         | 1                  |         |               |                         | 1                                    | 9          | 2  |   |
|   | Square-tailed Kite          | 1                  |         |               |                         | 1                                    | 1          | 0  |   |
|   | Scaly-breasted Lorikeet     | 1                  |         |               |                         | 1                                    | 146        |  |   |
|   | Variegated Wren             |                    |         |               | 1                       | 1                                    | 121        | 32                                       |   |
|   | Australian Raven            |                    |         | 1             |                         | 1                                    | 65         |  |   |
|   | Spotted Pardalote           |                    |         | 1             |                         | 1                                    | 51         | 13                                       |   |
|   | Superb Fairy Wren           |                    |         |               | 1                       | 1                                    | 40         | 10                                       |   |
|   | White-breasted Wood Swallow | 1                  |         |               |                         | 1                                    | 19         | 5  |   |



| Reading Street Submission Data - MIGRANTS   |                              |                    |         | Page 23 of 25 |           |                         | 12/07/2017                           |    |   |
|---|------------------------------|--------------------|---------|---------------|-----------|-------------------------|--------------------------------------|----|---|
| HABITAT PREFERENCE  | SPECIES RECORDED             | MOVEMENT BEHAVIOUR |         |               |           | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES* |    | CUMULATIVE RECORDS BY HABITAT PREFERENCE  |
|   |                              | Migratory          | Nomadic | Dispersive    | Sedentary |                         |                                      |    |   |
| BUSH BIRDS:<br>OPEN FOREST<br>AND/OR FOREST<br>EDGES:<br>(CORRIDORS AND WELL-TREED PARKS) | White-throated Needletail    | 1                  |         |               |           | 1                       | 16                                   | 4  | 549 records:<br>OPEN FOREST<br>AND/OR FOREST<br>EDGES:<br>(CORRIDORS AND WELL-TREED PARKS) BIRDS<br>ARE 12% OF<br>CENSUS<br>RECORDS |
|   | Striated Pardalote           |                    |         |               | 1         | 1                       | 16                                   | 4  |   |
|   | Bar-shouldered Dove          |                    |         |               | 1         | 1                       | 11                                   | 3  |   |
|   | Brown Falcon                 |                    | 1       |               |           | 1                       | 8                                    |    |   |
|   | Pied Butcherbird             |                    |         |               | 1         | 1                       | 8                                    | 2  |   |
|   | Red Wattlebird               |                    |         | 1             |           | 1                       | 7                                    |    |   |
|   | Pallid Cuckoo                | 1                  |         |               |           | 1                       | 7                                    | 2  |   |
|   | Collared Sparrowhawk         |                    |         | 1             |           | 3                       | 6                                    | 2  |   |
|   | Eastern Rosella              |                    |         |               | 1         | 1                       | 5                                    |    |   |
|   | Rufous Whistler              | 1                  |         |               |           | 1                       | 4                                    | 1  |   |
|   | Striated Thornbill           |                    |         |               | 1         | 1                       | 4                                    | 1  |   |
|   | White-cheeked Honeyeater     | 1                  |         |               |           | 1                       | 3                                    |    |   |
|   | Satin Flycatcher             | 1                  |         |               |           | 1                       | 3                                    | 1  |   |
|   | Fork-tailed Swift            | 1                  |         |               |           | 1                       | 3                                    | 1  |   |
|   | Yellow-tailed Black Cockatoo |                    |         | 1             |           | 1                       | 2                                    | 1  |   |
|   | New Holland Honeyeater       |                    |         | 1             |           | 1                       | 2                                    |    |   |
|   | Little Lorikeet              |                    | 1       |               |           |                         | 1                                    |    |   |
|   | Noisy Friarbird              | 1                  |         |               |           | 1                       | 1                                    |    |   |
|   | Glossy Black Cockatoo        |                    |         |               | 1         |                         | 0                                    | 0  |   |
|   | White-bellied Cuckoo Shrike  |                    | 1       |               |           |                         | 0                                    | 0  |   |
|   | Yellow Thornbill             |                    |         |               | 1         |                         | 0                                    | 0  |   |
|   | Blue-faced Honeyeater        |                    | 1       |               |           |                         | 0                                    | 0  |   |
|   | Pacific Baza                 |                    |         | 1             |           |                         | 0                                    | 0  |   |
|   | Scarlet Honeyeater           | 1                  |         | 1             |           |                         | 0                                    | 0  |   |
|   | Powerful Owl                 |                    |         | 1             |           |                         | 0                                    | 0  |   |
|   | Noisy Miner                  |                    |         | 1             |           |                         | 0                                    | 0  |   |
|   | Black Shouldered Kite        |                    | 1       |               |           |                         | 0                                    | 0  |   |
|   | Pheasant Coucal              |                    |         | 1             |           | 1                       | 0                                    | 0  |   |
|   | Spotted Turtledove           |                    |         |               | 1         | 1                       | 111                                  | 29 |   |
|   | Galah                        |                    |         | 1             |           | 1                       | 58                                   |    |   |

| Reading Street Submission Data - MIGRANTS       |                        |   |         |            | Page 24 of 25 |                         | 12/07/2017   |  |
|---|------------------------|---|---------|------------|---------------|-------------------------|--|--|
| HABITAT PREFERENCE                              | SPECIES RECORDED       | MOVEMENT BEHAVIOUR  |         |            |               | RECORDED IN THIS CENSUS | CUMULATIVE TOTAL RECORDS BY SPECIES*   | CUMULATIVE RECORDS BY HABITAT PREFERENCE |
|   |                        | Migratory   | Nomadic | Dispersive | Sedentary     |                         |  |  |
| URBAN ADAPTED OR INTRODUCED SPECIES             | Welcome Swallow        |   |         | 1          |               | 1                       | 20   | 5  |
|   | Indian Myna            |   |         |            | 1             | 1                       | 17   |  |
|   | Willie Wagtail         |   |         | 1          |               | 1                       | 16   | 4  |
|   | Mudlark                |   |         |            | 1             | 1                       | 7  | 2  |
|   | Crested Pigeon         |   |         |            | 1             | 1                       | 5  | 1  |
|   | Feral Pigeon           |   |         | 1          |               | 1                       | 2  |  |
|   | Pied Cormorant         |   |         | 1          |               | 1                       | 8  |  |
|   | Sea Eagle              |   |         | 1          |               | 1                       | 7  |  |
|   | Great Cormorant        |   |         | 1          |               |                         | 1  |  |
|   | Sooty Tern             |   |         | 1          |               |                         | 0  | 0  |
|   | White-faced Heron      |   |         | 1          |               |                         | 0  | 0  |
|   | Brahmany Kite          |   |         | 1          |               |                         | 0  | 0  |
|   | 84                     | NUMBER OF BIRDS RECORDED IN 136 SURVEYS OVER 2 YEARS  |         |            |               |                         | 4582   |  |
| Total species recorded in corridor              |                        |   |         |            |               |                         |  |  |
| Percentage all recorded                         | 82%**                  |   |         |            |               |                         |  |  |
| OTHER ANIMALS RECORDED IN OR USING THE CORRIDOR | Grey-headed Flying Fox | ** this figure shows that 18% of the birds previously recorded at the Shelly Beach Homes site have not used the remaining (narrower) corridor since the balance was cleared and housing construction began. |         |            |               |                         | SPECIES LOST SINCE CLEARING<br><br>*A zero in this column means these species were recorded on the Shelly Beach Homes site prior to clearing for housing, but not since. |  |
|   | Deer                   |   |         |            |               |                         |  |  |
|   | Wallaby                |   |         |            |               |                         |  |  |
|   | Bandicoot              |   |         |            |               |                         |  |  |
|   | Koala                  |   |         |            |               |                         |  |  |
|   | Carpet Python          |   |         |            |               |                         |  |  |
|   | Goanna                 |   |         |            |               |                         |  |  |
| Land Mullet                                     |                        |   |         |            |               |                         |  |  |

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## Reading Street Submission Data - MIGRANTS

| % OF HABITAT USE ACROSS HABITAT PREFERENCES |             |    |     |    |             |     |               |     |        |    |       |
|---|-------------|----|-----|----|-------------|-----|---------------|-----|--------|----|-------|
|   | Rain-forest | %  | WSF | %  | Open Forest | %   | Urban-adapted | %   | Marine | %  | TOTAL |
| Resident                                    | 1           | 8  | 10  | 83 | 0           | 0   | 1             | 8   | 0      | 0  | 12    |
|   | 7           | 27 | 5   | 19 | 9           | 35  | 2             | 8   | 3      | 12 | 26    |
| Periodic foraging                           | 6           | 26 | 5   | 22 | 9           | 39  | 3             | 13  | 0      | 0  | 23    |
| Hunting predator                            | 1           | 20 | 2   | 40 | 2           | 40  | 0             | 0   | 0      | 0  | 5     |
| Summer breeding migrant                     | 5           | 45 | 4   | 36 | 2           | 18  | 0             | 0   | 0      | 0  | 11    |
| Summer non-breeding migrant                 | 0           | 0  | 0   | 0  | 2           | 100 | 0             | 0   | 0      | 0  | 2     |
|   | 1           | 50 | 1   | 50 | 0           | 0   | 0             | 0   | 0      | 0  | 2     |
| Edge only                                   | 0           | 0  | 0   | 0  | 0           | 0   | 2             | 100 | 0      | 0  | 2     |
| TOTALS                                      | 21          |    | 27  |    | 24          |     | 8             |     | 3      |    | 83    |

99  
101  
100  
100  
99  
100  
100  
100

Resident  
Aseasonally passing through  
Periodic foraging  
Hunting predator  
Summer breeding migrant  
Summer non-breeding migrant  
Winter migrant  
Edge only

| % HABITAT USE BY HABITAT TYPE |            |     |     |     |             |    |             |    |        |     |       |
|-------------------------------|------------|-----|-----|-----|-------------|----|-------------|----|--------|-----|-------|
|                               | Rainforest | %   | WSF | %   | Open Forest | %  | Urban-adapt | %  | Marine | %   | TOTAL |
| Resident                      | 1          | 5   | 10  | 37  | 0           | 0  | 1           | 12 | 0      | 0   | 12    |
|                               | 7          | 33  | 5   | 19  | 9           | 37 | 2           | 25 | 3      | 100 | 26    |
| Periodic foraging             | 6          | 29  | 5   | 19  | 9           | 37 | 3           | 37 | 0      | 0   | 23    |
| Hunting predator              | 1          | 5   | 2   | 7   | 2           | 8  | 0           | 0  | 0      | 0   | 5     |
| Summer breeding migrant       | 5          | 24  | 4   | 15  | 2           | 8  | 0           | 0  | 0      | 0   | 11    |
| Summer non-breeding migrant   | 0          | 0   | 0   | 0   | 2           | 8  | 0           | 0  | 0      | 0   | 2     |
|                               | 1          | 5   | 1   | 4   | 0           | 0  | 0           | 0  | 0      | 0   | 2     |
| Edge only                     | 0          | 0   | 0   | 0   | 0           | 0  | 2           | 25 | 0      | 0   | 2     |
| TOTALS                        | 21         | 101 | 27  | 101 | 24          | 98 | 8           | 99 | 3      | 100 | 83    |

*PUBLIC EXHIBITION DATES*

**Wednesday 14 June 2017 to Wednesday 12 July 2017**

# **Planning Proposal under section 55 of the EP&A Act**

## **Port Macquarie-Hastings LEP 2011 (Amendment No 41)**

- *Proposed changes to the LEP,*
- *Development Application for subdivision, and*
- *Voluntary Planning Agreement*

### ***Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie***

Ccl ref: DD032.2016.00000003.001

DPE ref: PP\_2016\_PORTM\_ PORTM\_004\_00 (16/12298)

Date: 8/06/2017



Planning Proposal under sec 55 of the EP&A Act  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

**Planning Proposal status (for this copy)**

| Stage  | Version Date<br>(blank until achieved) |
|--|--|
| Adopted by Council & referred to Dept of Planning (sec 56 (1))           | 12/09/2016                             |
| Gateway Panel determination (sec 56 (2))                                 | 21/09/2016                             |
| Revisions required: Yes. Completed                                       | 21/09/2016                             |
| Public Exhibition (where applicable) (sec 57)                            | 08/06/2017                             |
| For Council review (sec 58 (1))  |  |
| Adopted by Council for final submission to Dept of Planning (sec 58 (2)) |  |

**Council reference:** DD032.2016.00000003.001

Port Macquarie-Hastings LEP 2011 (Amendment No 41)

**Department of Planning & Environment reference:** PP 2016\_PORTM\_004\_00 (16/12298)

**Council Address**

Port Macquarie-Hastings Council  
PO Box 84  
PORT MACQUARIE NSW 2444

**Contact Officer**

Stephen Nicholson  
Senior Strategic Town Planner  
Email [stephen.nicholson@pmhc.nsw.gov.au](mailto:stephen.nicholson@pmhc.nsw.gov.au)  
Phone 02 6581 8111

**Adoption of the Planning Proposal****1. For initial Gateway determination**

This Planning Proposal was endorsed on 12 September 2016 by the undersigned Council delegate:

Signed Peter Cameron

Name Peter Cameron

Position Group Manager Strategic Land Use Planning

**2. For section 58 finalisation**

This Planning Proposal was endorsed on ..... by Port Macquarie-Hastings Council, or the undersigned Council delegate (delete one):

Signed \_\_\_\_\_

Name \_\_\_\_\_

Position \_\_\_\_\_

Planning Proposal under sec 55 of the EP&A Act  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Exhibition information

### Content

For an overview of what this exhibition relates to refer to the **Executive Summary**, starting on page 6. The specifics are covered in more detail in:

- Proposed changes to the local planning controls applying to Lot 7 DP 1142473, Reading Street, Port Macquarie - refer to **Chapter 1** (starting on page 13), which contains a description and evaluation of the proposed changes,
- Development Application for subdivision of Lot 7 and the adjoining No 40 Reading Street - refer to **Chapter 2** (starting on page 24), and
- Proposed Voluntary Planning Agreement relating to the proposed dedication as public reserve of proposed Lot 5 in that subdivision - refer to **Chapter 3** (starting on page 27).

The "Gateway Determination" from the NSW Department of Planning and Environment, relating to the proposed LEP changes, is in **Appendix A**. Other Appendices contain supporting assessments or documents. In electronic form, the Appendices may be in separate files to download.

### Exhibition

The exhibition period is from **Wednesday 14 June 2017** to **Wednesday 12 July 2017**, with the Planning Proposal available for inspection by any person at Council's offices at Port Macquarie and on <http://haveyoursay.pmhc.nsw.gov.au/>.

### Submissions

Any person may make a written submission to Council up **until the end of the exhibition period**.

The submission should quote Council's reference - DD032.2016.00000003.001, and be

emailed to [council@pmhc.nsw.gov.au](mailto:council@pmhc.nsw.gov.au),

posted to The General Manager,

or lodged through <http://haveyoursay.pmhc.nsw.gov.au/>

Port Macquarie-Hastings Council,

PO Box 84,

PORT MACQUARIE NSW 2444.

Note that any submission may be made public.

Section 147 (5) of the *Environmental Planning and Assessment Act 1979* states in part:

"A person who makes a relevant public submission to a council in relation to a relevant planning application made to the council is required to disclose the following reportable political donations and gifts (if any) made by the person making the submission or any associate of that person within the period commencing 2 years before the submission is made and ending when the application is determined:

- all reportable political donations made to any local councillor of that council,
- all gifts made to any local councillor or employee of that council."

If further information or forms are required, ask Council's Customer Service staff.

### Further information

Please contact Stephen Nicholson on phone 02 6581 8111.

*Planning Proposal under sec 55 of the EP&A Act*  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

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Planning Proposal under sec 55 of the EP&amp;A Act

Executive Summary

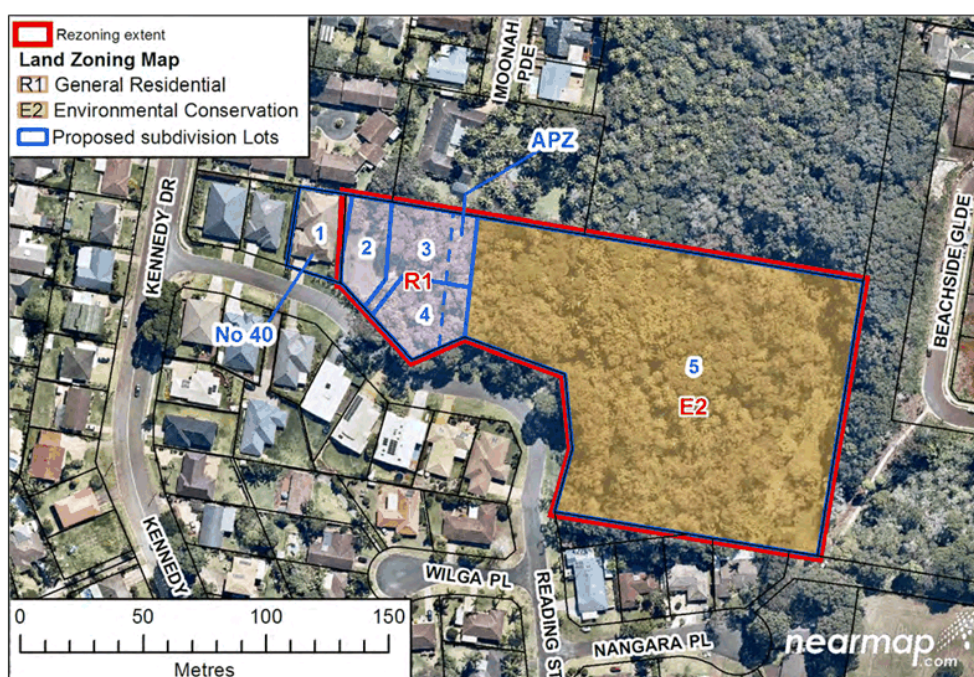
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Executive Summary

In summary, the proposal from Ron Little, the Applicant, is:

- (a) to adjust the planning controls on Lot 7 DP 1142473, Reading Street, Port Macquarie to enhance environmental outcomes by providing better habitat connectivity, and
- (b) a subdivision creating three residential lots (plus boundary adjustment with No 40 Reading Street) which are compatible with those environmental outcomes.

**Figure 1** shows the proposed zoning and subdivision layout.



**Figure 1** Proposed zoning and subdivision layout

The land is located in the Shelly Beach neighbourhood of Port Macquarie, as shown in **Figure 2**.

The measures required to achieve this, and as described in the balance of this Planning Proposal, comprise:

### Chapter 1 - LEP Amendment

Amendments to *Port Macquarie-Hastings Local Environmental Plan 2011* for Lot 7 DP 1142473, Reading Street, Port Macquarie, affecting:

- the Land Zoning Map
- the Lot Size Map and
- the Floor Space Ratio Map.

Planning Proposal under sec 55 of the EP&A Act  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

Executive Summary

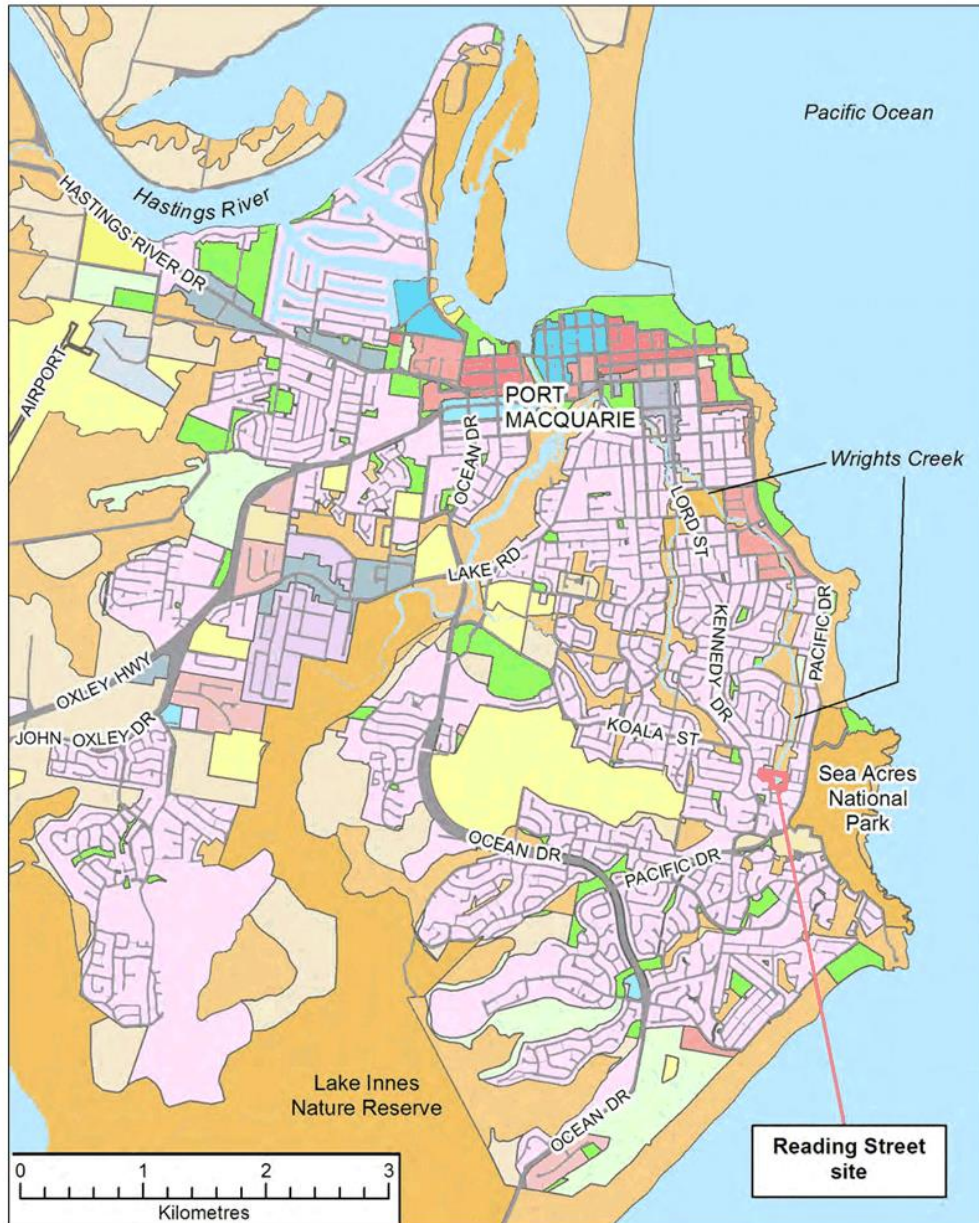


Figure 2 Location map

## Chapter 2 - Development Application

The development application seeks consent for a subdivision of Lot 7 DP 1142473 and Lot 15 DP 1099742 (No 40) Reading Street, Port Macquarie involving:

- a boundary adjustment between Lots 7 and 15

*Planning Proposal under sec 55 of the EP&A Act* *Executive Summary*  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

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- creation of three residential lots within Lot 7 and
- dedication of the balance (proposed Lot 5) of Lot 7 to Council as public reserve.

### Chapter 3 - Voluntary Planning Agreement

The proposal includes dedication of around 1.5 hectares of land to Council. This cannot be required by conditions of consent.

Therefore Council has also received an offer to enter into a Voluntary Planning Agreement for dedication of the environmental land in connection with the above applications. Pursuant to clause 25D of the Environmental Planning and Assessment Regulation 2000, a copy of the Reading Street Environmental Land Agreement is included - as contained in **Appendix D**.

More detailed mapping is included in **Chapter 1 LEP Amendment - Part 4 Mapping** and in **Chapter 2 Development Application**.

The 3 Chapters and the 7 Appendices provide further details, supporting information, or contain information as required to facilitate formal assessments.

The key issue is the removal of the E2 Environmental Conservation zoning over part of Lot 7. The main grounds to support this are:

The substitute area to be zoned E2 is both larger, and has greater ecological value, as it enhances habitat connectivity between Sea Acres National Park and the Wrights Creek corridor.

While some of the substitute land proposed to be zoned E2 is degraded, this will regenerate under the care of Council's Bushland Regeneration team.

## Background

---

|                          |   |
|--------------------------|---|
| <b>Property Details</b>  | Lot 7 DP 1142473 and No 40, Lot 15 DP 1099742, Reading Street, Port Macquarie. Refer to <b>Figure 2</b> for the location  |
| <b>Applicant Details</b> | Ron Little  |
| <b>Land owners</b>       | Lot 7 - Ron and Adele Little<br>Lot 15 - Natalie Xavier   |
| <b>Brief history</b>     | <p>Lot 7 DP 1142473 is the residue of the staged subdivision of the northern section of Reading Street, Port Macquarie by Ron Little. It is on the upper reaches of Wrights Creek, and part of it is vulnerable to local flooding.</p> <p>When residential zoning was first applied to this portion of Port Macquarie in 1980, most of what is now Lot 7 was zoned 6(b) Private Recreation Proposed. The area zoned 6(b) is currently zoned E2 Environmental Conservation in <i>Port Macquarie-Hastings Local Environmental Plan 2011</i>.</p> <p>The western 20 m of Lot 7 provides a bushfire asset protection zone to Lot 15, and is cleared and zoned RU6 Transition.</p> |

Planning Proposal under sec 55 of the EP&A Act

Executive Summary

Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

**Combined  
application**

The south-eastern portion of Lot 7 has some flood-free land and is zoned R1 General Residential, though it does not have easy access to facilitate residential subdivision.

To the north is the vegetated Wrights Creek corridor, and to the east is a vegetated linkage to Sea Acres National Park. The vegetation on the eastern portion of Lot 7 has additional ecological value through the provision of connectivity between these 2 areas, where at present there is land zoned R2 Low Density Residential.

The proposal seeks to preserve the vegetation on Lot 7, other than on the western side, where three residential lots are proposed.

This is provided for under **Division 4B Instrument amendments and development applications** of **Part 3 Environmental Planning Instruments** of the *Environmental Planning and Assessment Act 1979*. This states in part:

Nothing in this Act prevents:

- (a) the making of a development application to a consent authority for consent to carry out development that may only be carried out if an environmental planning instrument applying to the land on which the development is proposed to be carried out is appropriately amended, or
- (b) the consideration by a consent authority of such a development application,

subject to this Division.

Review by State Government authorities has considered both simultaneously.

Division 4B also encourages the concurrent public exhibition of the proposed LEP amendments and the development application.

While Council can consider any submissions and may make decisions on the proposed LEP amendments, determination of the Development Application will be deferred until after the LEP amendment comes into force.



## Acronyms, Glossary and References

**APZ - Asset Protection Zone**, in relation to bushfire protection, is a buffer zone between a bush fire hazard and buildings, which is managed progressively to minimise fuel loads and reduce potential radiant heat levels, flame, ember and smoke attack. Refer to *Planning for Bushfire Protection 2006*.

**ASS - Acid sulfate soils**, means naturally occurring sediments and soils containing iron sulfides (principally pyrite) and/or their precursors or oxidation products. The exposure of the sulfides to oxygen by drainage or excavation leads to the generation of sulfuric acid. **Actual acid sulfate soils** have already become acidic, which can leach into other soils or into waterways. Either way, they can damage ecosystems (eg fish kills after rain) or buried pipes or foundations. **Potential acid sulfate soils** are soils which contain iron sulfides or sulfidic material which have not been exposed to air and oxidised.

**ASS** can also mean the **Acid Sulfate Soils Map**, one of the map series of *LEP 2011*. This is relevant to clause 7.1, which has an objective of ensuring that development does not disturb, expose or drain acid sulfate soils and cause environmental damage. The Map is relevant to some provisions of the *Codes SEPP*.

**BASIX** - A suite of sustainable planning measures to make all residential dwelling types in NSW energy and water efficient. Key components are [SEPP \(Building Sustainability Index: BASIX\) 2004](#) and certification of compliance with the BASIX targets at different stages of building approval and construction.

[Coastal Design Guidelines 2003](#) are guidelines issued by the former Coastal Council, and which are referred to in Section 117 Ministerial Direction No 2.2.

**Codes SEPP**, or [State Environmental Planning Policy \(Exempt and Complying Development Codes\) 2008](#), contains State-wide provisions that identify certain types of development that can be carried out as **exempt development**, or with a simplified **complying development** approval process.

**DP&E** - the NSW **Department of Planning & Environment**, who have a significant role in under the EP&A Act, and who advise, and act under delegation for, the Minister of Planning.

**EPBC Act** - the Commonwealth [Environment Protection and Biodiversity Conservation Act 1999](#), the Australian Government's key piece of environmental legislation.

**EEC - endangered ecological community**, one of the categories of species and habitats subject to protections under the [Threatened Species Conservation Act 1995](#).

**EP&A Act** - the [Environmental Planning and Assessment Act 1979](#), the relevant NSW Act providing the framework for controlling planning and development within New South Wales. Refer also to **EP&A Reg** for supporting details.

**EP&A Reg** - the [Environmental Planning and Assessment Regulation 2000](#), which contains supporting details to the EP&A Act.

[Floodplain Development Manual 2005](#) - the supporting document to the NSW Flood Prone Land Policy. Relevant both to Section 117 Ministerial Direction No 4.3 and to assessment of development applications. To be read with a *Guideline on*

Planning Proposal under sec 55 of the EP&A Act  
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Acronyms, Glossary and References

*Development Controls on Low Flood Risk Areas* supplement issued in January 2007.

**FSR Map** - the **Floor Space Ratio Map**, one of the map series of LEP 2011. Refer to **Chapter 1 Part 4 – Mapping**.

**Gateway determination** - the statement by the Minister, or his delegate, on the relevant steps and other requirements relating to the processing of a planning proposal - refer section 56 of the EP&A Act. The determination relevant to this planning proposal is contained in **Appendix A**.

[A guide to preparing Local Environmental Plans](#), DP&E August 2016 - provides guidance and information on the process for making local environmental plans under Part 3 of the EP&A Act.

[A guide to preparing planning proposals](#), DP&E August 2016 - provides guidance and information on the process for preparing planning proposals, in accordance with section 55 (3) of the EP&A Act.

[Guidelines for Preparing Coastal Zone Management Plans](#) is the current manual relating to the management of the coastline for the purposes of section 733 of the *Local Government Act 1993*, as referred to in Section 117 Ministerial Direction No 2.2.

**LEP** - a **Local Environmental Plan** under the EP&A Act, providing Council-level planning controls over development, subject to any overriding SEPP controls. It consists of written text (based on the *Standard Instrument (Local Environmental Plans) Order 2006*), and several map series, the most important of which is the Land Zoning Map.

A LEP is made or amended by the processing of a Planning Proposal (such as this) in accordance with Part 3 (particularly Division 4) of the EP&A Act.

The LEP for this Council area is [Port Macquarie-Hastings Local Environmental Plan 2011](#) (sometimes abbreviated to **LEP 2011**).

**LSZ Map** - the **Lot Size Map**, one of the map series of LEP 2011. Refer to **Chapter 1 Part 4 – Mapping**.

**LZN Map** - the **Land Zoning Map**, one of the map series of LEP 2011. This map identifies the Land Use Zone, which works with the Land Use Table within the LEP text to determine the permissibility of most development. Refer to **Chapter 1 Part 4 – Mapping**.

**NCRP** - [North Coast Regional Plan 2036](#), is the NSW Government's 20 year blueprint for the future of the North Coast. Related to this is the [North Coast Regional Plan 2036 - Implementation Plan 2017-2019](#). Local planning by Councils of the North Coast needs to be consistent with these documents..

[NSW Coastal Policy: A Sustainable Future for the New South Wales Coast 1997](#) is referred to in Section 117 Ministerial Direction No 2.2.

[Planning for Bushfire Protection 2006](#) is a publication from the NSW Rural Fire Service outlining the required bush fire protection measures for development applications located on land that has been designated as bush fire prone.

**Planning Proposal** - a document containing relevant background information about a proposed LEP or LEP amendment. The minimum requirements are set out in

printed guidelines from the DP&E, though can be subject to requirements of a Gateway determination.

This Planning Proposal incorporates the related Development Application DA2016-0053 and proposed Voluntary Planning Agreement - as it is appropriate they be exhibited, considered and determined together.

**PMHC** means Port Macquarie-Hastings Council.

**Section 117 Ministerial Directions** - these are directions issued by the Minister of Planning, and which specify State-wide requirements for planning proposals. If a proposal is inconsistent with a requirement of a Direction, then the Secretary of DP&E (or his delegate) may still permit the planning proposal to proceed if the inconsistency is justified in the particular circumstances. Assessment of this Proposal in relation to these Section 117 Ministerial Directions is in **Appendix C**.

**SEPP** - a **State Environmental Planning Policy**, made under Part 3 of the EPA& Act, and overruling LEPs where there is any inconsistency. Refer to the list of SEPPs relevant to this Council area on [Council's website](#). Assessment of this Proposal in relation to these SEPPs is in **Appendix B**.

**Standard Instrument (Local Environmental Plans) Order 2006** - the specification of the mandatory and discretionary content of LEP text.

**Standard Technical Requirements for Spatial Datasets and Maps**, DP&E November 2015 - describes the technical specifications for LEP maps and the associated digital mapping data, particularly in relation to introduction of LEP mapping into the DP&E [Planning Portal](#).

**TSCA** - the **Threatened Species Conservation Act 1995**, the key piece of legislation relating to protecting species, populations and ecological communities threatened with extinction in NSW. Protection of threatened fish and marine vegetation comes under the *Fisheries Management Act 1994*.

**Towards 2030 Community Strategic Plan**, PMHC June 2011 - Council's community strategic plan, as required by section 402 of the [Local Government Act 1993](#). At the time of writing, it is anticipated that an updated plan will be adopted by Council on 21 June 2017.

**UGMS** - Council's **Urban Growth Management Strategy 2011-2031**, adopted in December 2010, and which sets the framework for major changes to the LEP and other actions to facilitate urban development within the Council area. It is related to Council's *Towards 2030 Community Strategic Plan*.

**VPA** - **Voluntary Planning Agreements** between Council and landowners under Division 6 of Part 4 of the EP&A Act. Through negotiation, they allow for flexibility in infrastructure provision or for other public purposes, which can be hard to achieve with fixed Council-wide requirements relating to infrastructure provision or funding or other implications of development. Refer to **Chapter 3** and **Appendix D**.

*Planning Proposal under sec 55 of the EP&A Act* Chapter 1 - LEP Amendment  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Chapter 1 - LEP Amendment

This Chapter covers the description, justification and review of the proposed amendment to *Port Macquarie-Hastings Local Environmental Plan 2011*.

### Part 1 - Objectives or Intended Outcomes

The intended outcomes are:

1. Retention and enhancement of the vegetation on the eastern portion of Lot 7, to protect the upper catchment of Wrights Creek, and to provide habitat connectivity between Wrights Creek and Sea Acres National Park. This vegetation will be dedicated to Council for its future protection and management.
2. In lieu of potential subdivision of the south-eastern corner of Lot 7 (which is currently zoned R1 General Residential), rezoning a small part on the western end of Lot 7 to allow for approval of 3 additional residential lots plus residue lot subdivision.

### Part 2 - Explanation of Provisions

The proposed LEP amendment involves amendments to the LEP Maps solely in relation to Lot 7 DP 1142473, Reading Street, Port Macquarie, as detailed in Part 4 of this Chapter. The Map Series affected are:

- Land Zoning Map
- Lot Size Map
- Floor Space Ratio Map.

### Part 3 – Justification

#### A - Need for the planning proposal.

##### 1. Is the planning proposal a result of any strategic study or report?

The proposal is consistent with the *Mid North Coast Regional Strategy 2006-31* or Council's *Urban Growth Management Strategy 2011-2031*, but is not a result of these strategies.

##### 2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The planning proposal is considered to be the best means of achieving the intended outcomes.

#### B - Relationship to strategic planning framework.

##### 3. Is the planning proposal consistent with the objectives and actions of the applicable regional strategy (including any exhibited draft plans or strategies)?

This infill proposal is consistent with the objectives and actions of the *Mid North Coast Regional Strategy 2006-2031*, particularly those relating to Environment and Natural Resources and to Settlement and Housing. The proposal is also consistent with the objectives and actions of the exhibited Draft North Coast Regional Plan, March 2016.



Planning Proposal under sec 55 of the EP&A Act

Chapter 1 - LEP Amendment

Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

The Mid North Coast Farmland Mapping Project is not relevant.

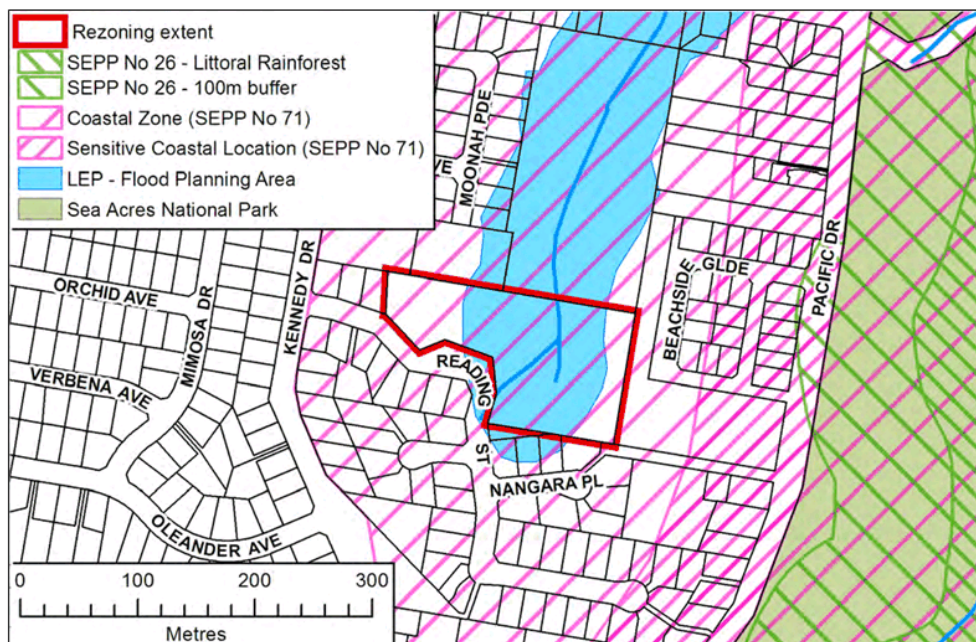
**4. Is the planning proposal consistent with Council's Community Strategic Plan and Urban Growth Management Strategy 2010 – 2031?**

The proposal is consistent with Council's Urban Growth Management Strategy 2011-2031, particularly the objectives relating to Natural Environment & Hazards and to Housing.

The planning proposal is consistent with Council's Community Strategic Plan.

**5. Is the planning proposal consistent with applicable State Environmental Planning Policies?**

Detailed assessment of consistency is contained in **Appendix B**. The only relevant SEPP is *SEPP No 71 - Coastal Protection*, as the land is within the 'coastal zone' as defined in the *Coastal Protection Act 1979*.



**Figure 3 SEPPs and Flood Planning Area**

Most of the SEPP is focused on coastal foreshores and the marine environment. The proposal is consistent with the relevant provisions of the SEPP.

Note that new coastal management reforms will be replacing this SEPP, though the final details are not yet available.

The Ecological Assessment (refer **Appendix I**) includes details of an assessment under *SEPP No 44 - Koala Habitat Protection*, and concludes the site does not qualify as Core Koala Habitat. It is noted that the proposal enhances corridors for wildlife movement.

Planning Proposal under sec 55 of the EP&A Act

Chapter 1 - LEP Amendment

Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## **6. Is the planning proposal consistent with applicable Ministerial Directions (s.117 directions)?**

Detailed assessment of consistency is contained in **Appendix C**. Relevant Ministerial Directions that the proposal is consistent with include:

- 3.2 Caravan Parks and Manufactured Home Estates
- 4.3 Flood Prone Land
- 6.3 Site Specific Provisions.

The Department of Planning & Environment has agreed that the planning proposal's inconsistencies are of minor significance in relation to the following Directions:

- 1.2 Rural Zones
- 1.5 Rural Lands
- 2.1 Environmental Protection Zones
- 2.2 Coastal Protection
- 3.1 Residential Zones

The proposal was partially inconsistent with Direction 4.4 Planning for Bushfire Protection, in relation to the requirement that 'In the preparation of a planning proposal the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under section 56 of the Act'. That consultation has now occurred (refer to **Appendix E**), and the Department has subsequently agreed the initial inconsistency has been justified (refer to **Appendix A**).

## **C - Environmental, social and economic impact.**

### **7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?**

Full details are contained in the Ecological Assessment (refer **Appendix I**).

No critical habitat is affected.

#### **Threatened flora species**

A large population of Biconvex Paperbark (*Melaleuca biconvex*) was recorded over the central, eastern and western parts of the site in both the wet sclerophyll forest and swamp rainforest communities. The Biconvex Paperbark is also in the adjoining property to the north of the site, and occurs in many locations throughout Port Macquarie, and is likely to occur at other various locations in the Wrights Creek corridor where suitable habitat occurs.

Within the proposed development envelope and bushfire Asset Protection Zone [APZ] 52 plants/stems were counted, though only 6 trees with a trunk diameter over 20 cm at breast height were counted - the majority of the smaller stems are likely to be suckers from the larger trees. There is negligible impact on the local populations of Biconvex Paperbark.

#### **Endangered Ecological Communities**

The site contains the following three vegetation communities that qualify as Endangered Ecological Communities under the *Threatened Species Conservation Act*

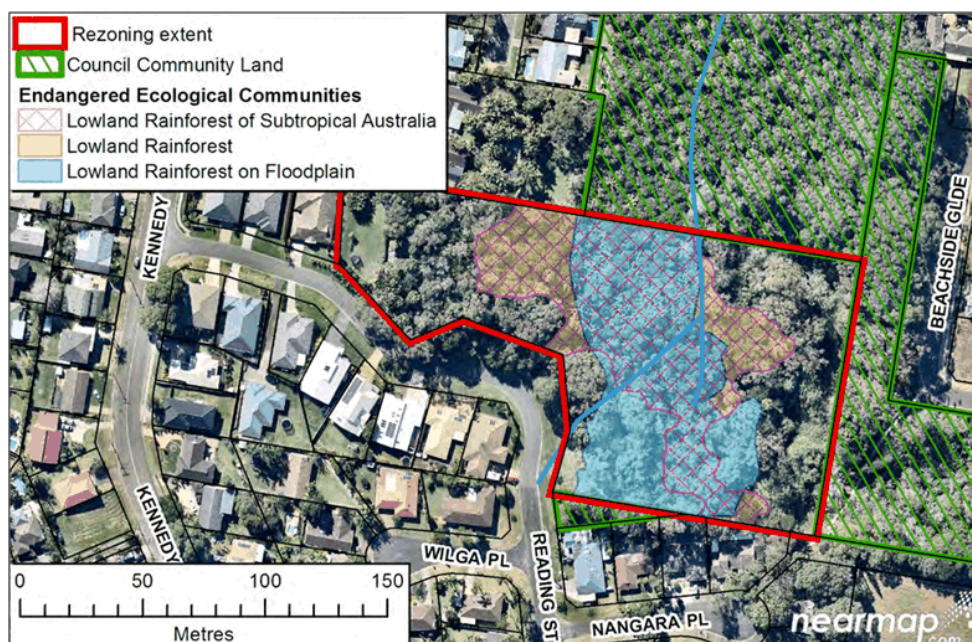
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1995 (NSW) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*:

- (a) *Lowland Rainforest on Floodplain in the NSW North Coast Bioregion* (NSW)
- (b) *Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions* (NSW)
- (c) *Lowland Rainforest of Subtropical Australia* (Commonwealth)

The extent of these is shown on **Figure 4**.

The proposed R1 General Residential zone and the proposed development lots do not contain any EEC, while the current R1 General Residential zone does. In this regard the proposal contains an improvement for the EECs.



**Figure 4 Endangered Ecological Communities** (Source: Ecological Assessment, by Naturecall 2015)

#### Koalas

The site contains only one primary koala food tree species, which is less than 15% of the canopy trees on the site. This means the site is not Potential Koala Habitat under *SEPP No 44 - Koala Habitat Protection*, with no further assessment required. The site does provide secondary foraging habitat and a linkage.

No Koala scats were found on the site, although there is an anecdotal report of a koala on the site in the past.

#### Other threatened Fauna species

The site provides suitable habitat for some listed threatened species which have been recorded within 10 km of the site. None were observed on the site, and the site

would comprise only part of their range. The proposal enhances the area, size, connectivity and long term protection of habitat.

**8. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?**

The proposal improves the connectivity of the habitat corridors linking Wrights Creek and Sea Acres National Park, through securing the land in public ownership in perpetuity and through improving its condition via long-term rehabilitation.

This is consistent with the Port Macquarie Regional Corridor which extends from Lake Cathie to the North Shore. (Refer to Section 4.4.2 of the Ecological Assessment in **Appendix I**.)

Some of the land currently zoned R1 General Residential is affected by the Flood Planning Area - refer to **Figure 3**. The LEP mapping changes will mean all the land proposed to be zoned R1 General Residential will be outside the Flood Planning Area.

**9. How has the planning proposal adequately addressed any social and economic effects?**

Based on a recommendation from the Office of Environment and Heritage (refer to **Appendix E**), an Aboriginal Cultural Heritage Assessment has been prepared. A copy of this Assessment is in **Appendix H**. It concludes that the proposed rezoning and associated residential development on Lot 7 DP 1142473 should be allowed to proceed without further Aboriginal cultural heritage constraints, providing three management recommendations are fully implemented.

The proposal provides improved environmental outcomes and for creation of three residential lots. There are negligible social and economic effects.

**D - State and Commonwealth interests.**

**10. Is there adequate public infrastructure for the planning proposal?**

There is adequate public infrastructure to service the three additional residential lots within the urban area of Port Macquarie.

**11. What are the views of State and Commonwealth public authorities consulted in accordance with the gateway determination?**

The relevant public authorities are considered to be:

- Office of Environment and Heritage, in relation to environmental impacts
- Rural Fire Service, in relation to bush fire hazard management.

The views of these public authorities have been sought following receipt of the Gateway determination, and their responses are in **Appendix E**.

**Part 4 – Mapping**

**A - Affected land**

The land directly affected by the planning proposal is shown in **Figure 1**, on page 6.

The location of the relevant land is shown in **Figure 2**, on page 7.



Planning Proposal under sec 55 of the EP&A Act Chapter 1 - LEP Amendment  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## B - Comparison of before and after

Following are map extracts showing the current mapping and proposed changes, illustrating what is shown and what is proposed to be shown in the legal maps.

The **Land Zoning Map** is the primary map, with the applicable zones being relevant to:

- Permissibility in the Land Use Table in Part 2 of the LEP text
- The application of other LEP clauses
- The application of some provisions in SEPPs such as the Codes SEPP and the Infrastructure SEPP.

The change in areas of zones is:

| Zone                          | Current       | Decrease      | Increase     | No change     | Proposed      |
|-------------------------------|---------------|---------------|--------------|---------------|---------------|
| R1 General Residential        | 3,054         | -3,054        | 2,737        | 0             | 2,737         |
| E2 Environmental Conservation | 13,761        | -1,852        | 3,054        | 11,910        | 14,964        |
| RU6 Transition                | 886           | -886          | 0            | 0             | 0             |
| <b>Total (sq m)</b>           | <b>17,701</b> | <b>-5,791</b> | <b>5,791</b> | <b>11,910</b> | <b>17,701</b> |

The **Lot Size Map** defines the minimum lot size for subdivision, and for some zones the minimum lot size required for dwellings. Refer to LEP clauses 2.6 and 4.1 to 4.2C. Dedication of proposed Lot 5 to a public authority is exempt development, which means it is irrelevant whether it meets the required minimum lot size.

The **Floor Space Ratio Map** sets maximum floor space ratios for some land. Refer to LEP clauses 4.4 and 4.5.

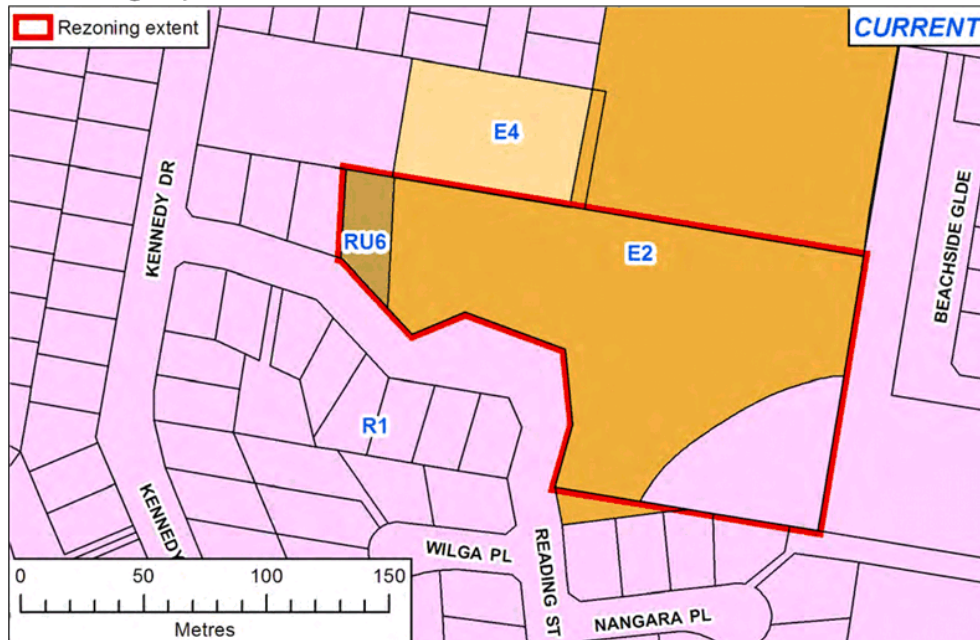
Other map series that apply to the land, though not proposed to be altered, are:

- **Flood Planning Map** - refer to LEP clauses 7.3 and 7.4. The extent of the Flood Planning Area is shown in **Figure 3** on page 14. In this location, the boundary of the area affected by the Probable Maximum Flood aligns with the Flood Planning Area, so clause 7.4 is not applicable.
- **Height of Buildings Map** - refer to LEP clause 4.3. The applicable maximum height is 8.5 metres.

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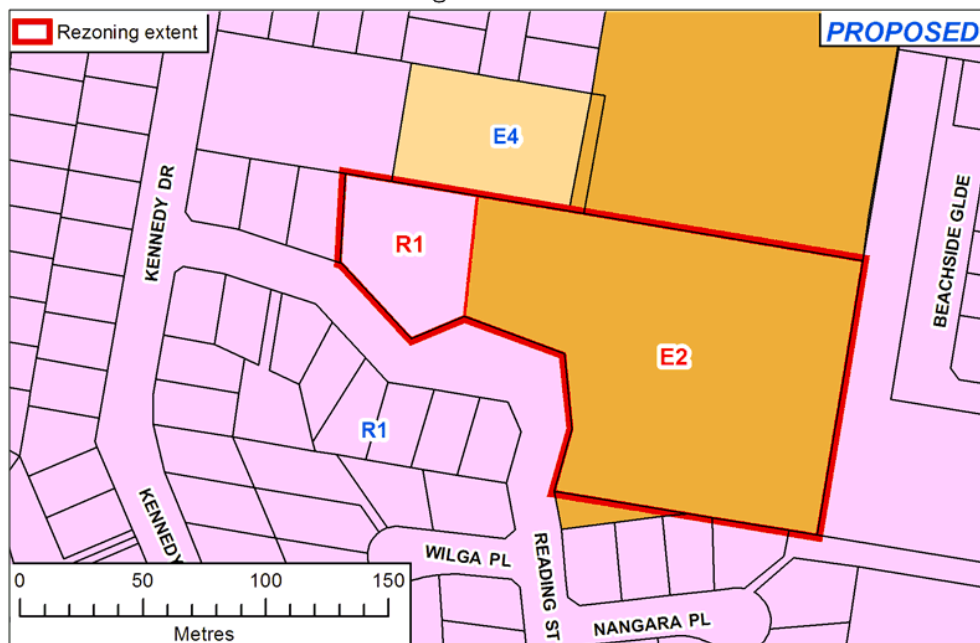
Chapter 1 - LEP Amendment

Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

**Land Zoning Map****Figure 5 Land Zoning Map - Current**

Zone Codes

|    |                            |     |                     |
|----|----------------------------|-----|---------------------|
| E2 | Environmental Conservation | R1  | General Residential |
| E4 | Environmental Living       | RU6 | Transition          |

**Figure 6 Land Zoning Map - Proposed**

DD032.2016.00000003.001

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Planning Proposal under sec 55 of the EP&A Act Chapter 1 - LEP Amendment  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

Lot Size Map

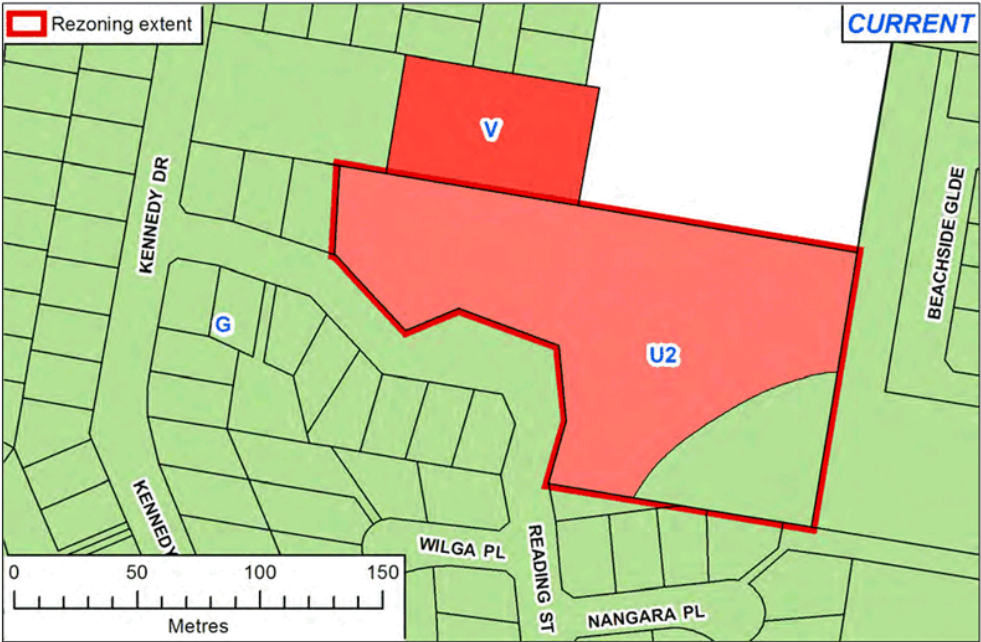


Figure 7 Lot Size Map - Current

|       |    |         |    |         |
|-------|----|---------|----|---------|
| Codes | G  | 450 m²  | V  | 2000 m² |
|       | U2 | 1800 m² | Y3 | 1.5 ha  |

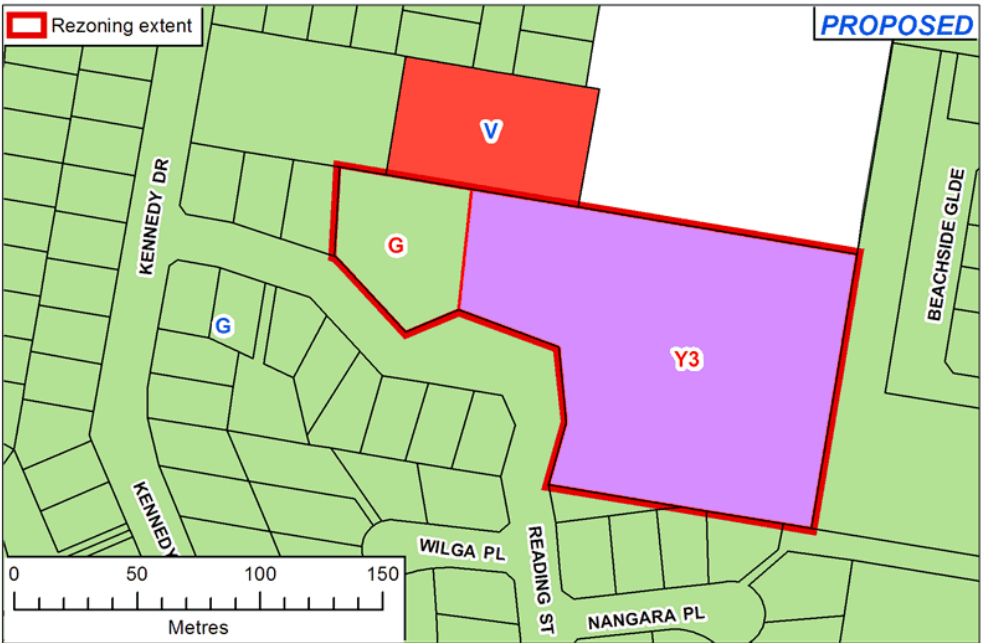


Figure 8 Lot Size Map - Proposed

DD032.2016.00000003.001

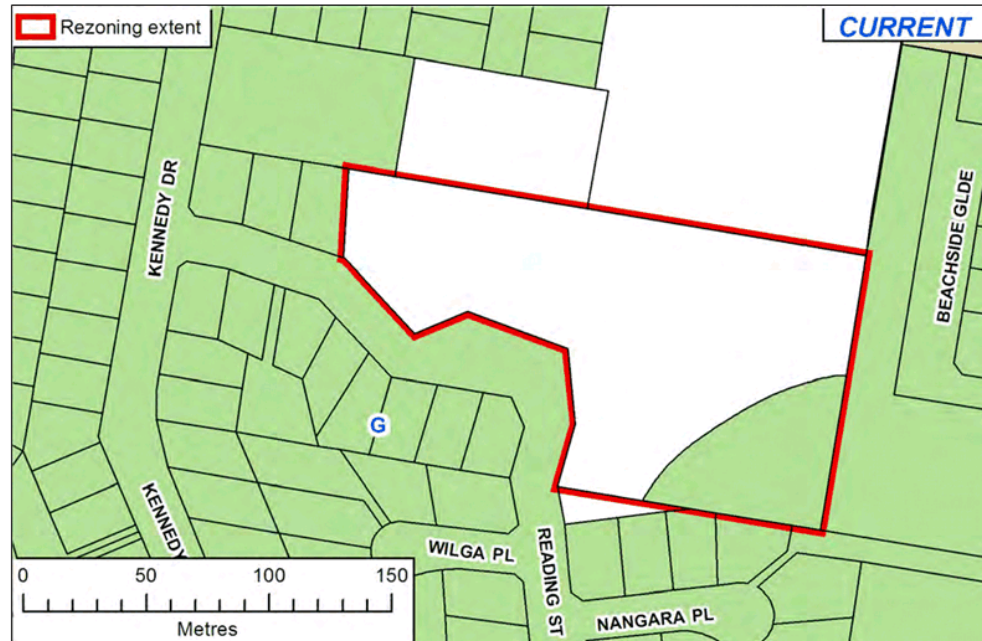
20

8/06/2017

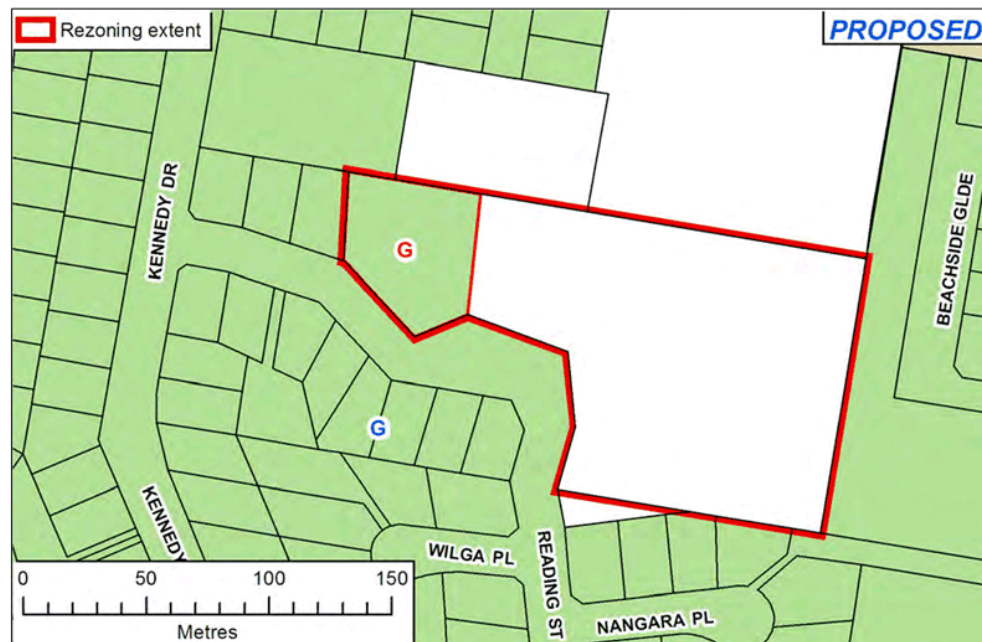
Planning Proposal under sec 55 of the EP&amp;A Act

Chapter 1 - LEP Amendment

Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

**Floor Space Ratio Map****Figure 9 Floor Space Ratio Map - Current**

Code        G    0.65:1

**Figure 10 Floor Space Ratio Map - Proposed**

DD032.2016.00000003.001

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8/06/2017



*Planning Proposal under sec 55 of the EP&A Act* *Chapter 1 - LEP Amendment*  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

### **C - Draft LEP maps**

If the Planning Proposal is approved then the current relevant LEP map sheets will be replaced by the new map sheets incorporating the changes shown on the preceding pages.

The map sheets to be replaced are:

| <b>Map sheets</b>                        | <b>Map sheet identifier</b>                    |
|--|--|
| <b>Land Zoning Map</b><br>LZN_013G       | <a href="#">6380_COM_LZN_013G_020_20170105</a> |
| <b>Lot Size Map</b><br>LSZ_013G          | <a href="#">6380_COM_LSZ_013G_020_20170119</a> |
| <b>Floor Space Ratio Map</b><br>FSR_013G | <a href="#">6380_COM_FSR_013G_020_20170105</a> |

These map sheets are at a scale of 1:20,000, and draft map sheets to replace them will be prepared closer to final approval. The maps on the preceding pages show the proposed changes more clearly.

### **Part 5 – Community Consultation**

The proposal is considered to be a low impact proposal, as it:

- is consistent with the pattern of surrounding land use zones and/or land uses,
- is consistent with the strategic planning framework,
- presents no issues with regard to infrastructure servicing,
- is not a principal LEP, and
- does not reclassify public land.

However, there is a combined exhibition, including LEP amendment, Development Application, and a proposed Voluntary Planning Agreement, and the latter requires a 28 day public exhibition period, this is the minimum period that will be used.

Consultation in accordance with the Council's Public Consultation Policy is proposed for the site. The proposed consultation strategy in conjunction with the public exhibition for this proposal will be:

- Notification in a locally circulating newspaper.
- Notification on Council's website.
- Written notification to affected and adjoining landowners.

Planning Proposal under sec 55 of the EP&A Act Chapter 1 - LEP Amendment  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Part 6 – Project Timeline

This project timeline is based on anticipated dates and timeframes, though there can be unexpected delays. It is assumed that Council will have delegation to carry out certain plan-making functions. Delegation would be exercised by Council's General Manager or the Director of Development and Environmental Services.

|  | 2016 |   |   |   |   |   | 2017 |   |   |   |   |   |   |   |   |   |   |   |
|--|------|---|---|---|---|---|------|---|---|---|---|---|---|---|---|---|---|---|
| Anticipated dates  | J    | A | S | O | N | D | J    | F | M | A | M | J | J | A | S | O | N | D |
| Commencement<br>(date of Gateway determination)  |      |   | X |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| Timeframe for the completion of<br>required technical information  |      |   | X |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| Timeframe for government agency<br>consultation<br>(pre and post exhibition as required by<br>Gateway determination) |      |   |   | X |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| Voluntary Planning Agreement signed  |      |   |   |   |   | X |      |   |   |   |   |   |   |   |   |   |   |   |
| Aboriginal Cultural Heritage Assessment  |      |   |   |   |   |   |      |   | X | X | X |   |   |   |   |   |   |   |
| Commencement and completion dates<br>for public exhibition period  |      |   |   |   |   |   |      |   |   |   |   | X | X |   |   |   |   |   |
| Dates for public hearing (if required)   |      |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| Timeframe for consideration of<br>submissions  |      |   |   |   |   |   |      |   |   |   |   |   |   | X |   |   |   |   |
| Timeframe for the consideration of a<br>proposal post exhibition   |      |   |   |   |   |   |      |   |   |   |   |   |   | X |   |   |   |   |
| Date of submission to the department<br>to finalise the LEP  |      |   |   |   |   |   |      |   |   |   |   |   |   |   | X |   |   |   |
| Date Council will make the plan<br>(if delegated)  |      |   |   |   |   |   |      |   |   |   |   |   |   |   | X |   |   |   |
| Date Council will forward to the<br>department for notification.   |      |   |   |   |   |   |      |   |   |   |   |   |   |   |   | X |   |   |

*Planning Proposal under sec 55 of the EP&A Act* Chapter 2 - Development Application  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Chapter 2 - Development Application

This Chapter covers the description and review the Development Application.

Summary information from the Development Application form:

|                                | Details  |
|--------------------------------|--|
| <b>Application No</b>          | DA2016 - 53.1  |
| <b>Property details</b>        | Lot 15 DP 1099742 (No 40) and Lot 7 DP 1142473, Reading Street, Port Macquarie, NSW, 2444                  |
| <b>Applicant</b>               | Ron Little   |
| <b>Existing use</b>            | Lot 15 - 1 residential building<br>Lot 7 - vacant land   |
| <b>Proposed works</b>          | 'Subdivision - 2 into 4 lots residential subdivision and public reserve'<br>Includes associated earthworks |
| <b>Integrated development?</b> | Yes - requires a section 100B bush fire safety authority under the <i>Rural Fires Act 1997</i> .           |

The following pages contain:

- a reduced size copy of the Plan of a Subdivision
- a reduced size copy of a Services Compilation Plan

Supporting documentation is reproduced in the **Appendices**:

- F** **Statement of Environmental Effects**
- G** ***Bush Fire Assessment, Subdivision Development, Lot 7 Reading St, Port Macquarie NSW***, by Krisann Johnson, April 2015
- H** ***Aboriginal cultural heritage assessment, Lot 7 DP 1142473, Reading Street, Port Macquarie NSW***, by J P Collins, Adise Pty Ltd, April 2017
- I** ***Statutory Ecological Assessment: Proposed Subdivision of Lot 7 DP 1142473, Reading Street, Port Macquarie***, by Naturecall Environmental, August 2015

The application has been reviewed by the Office of Environment and Heritage and Rural Fire Service - refer to **Appendix E** for their comments.

Note that assessment of the application by Council will be done in conjunction with post-exhibition review of this combined application, and, under Section 72J of the *Environmental Planning and Assessment Act 1979*, may be assessed as if the LEP Amendment described in **Chapter 1** is in force. However, determination and issue of the Notice of Determination is deferred until the LEP Amendment has been approved and has commenced.

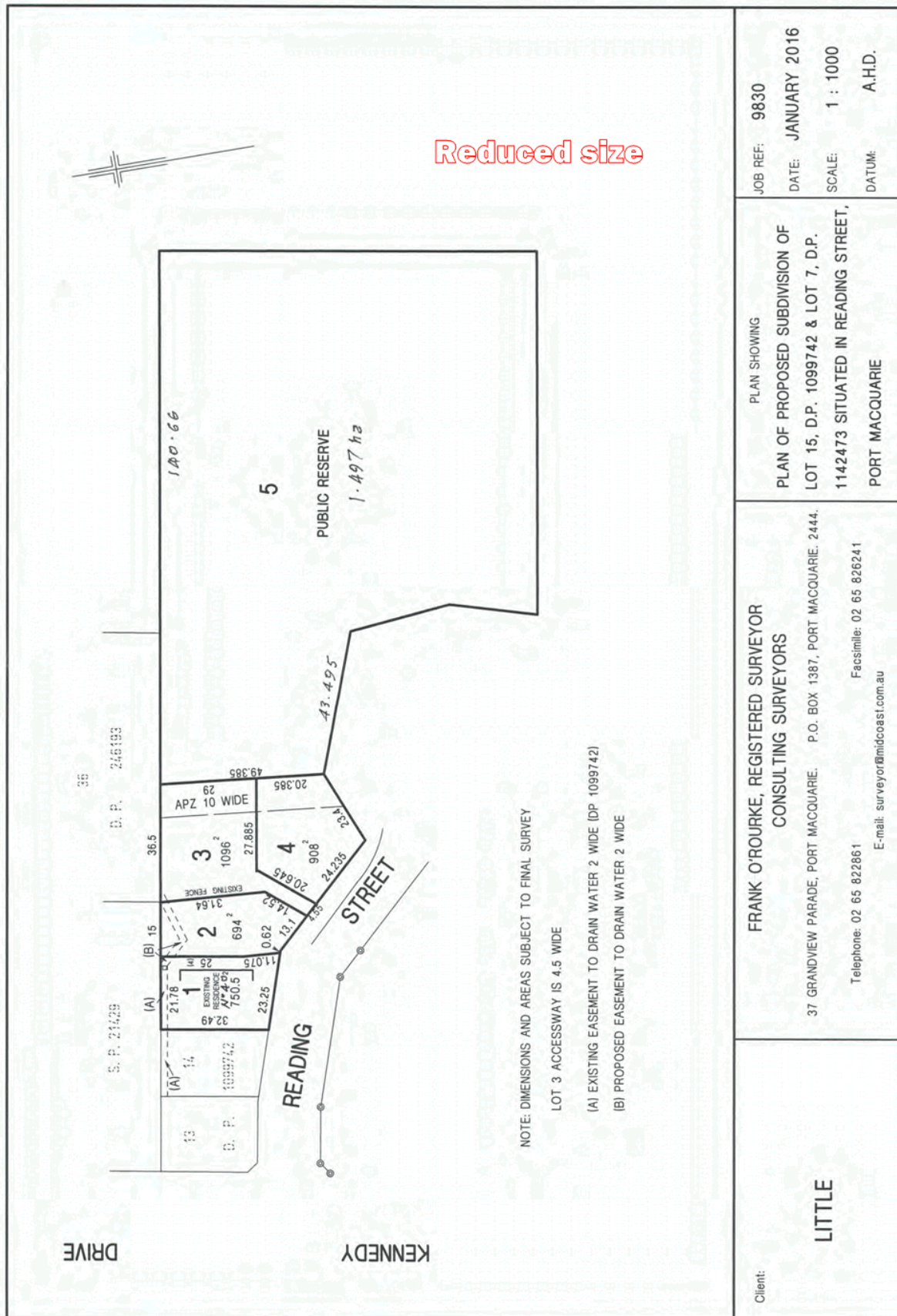
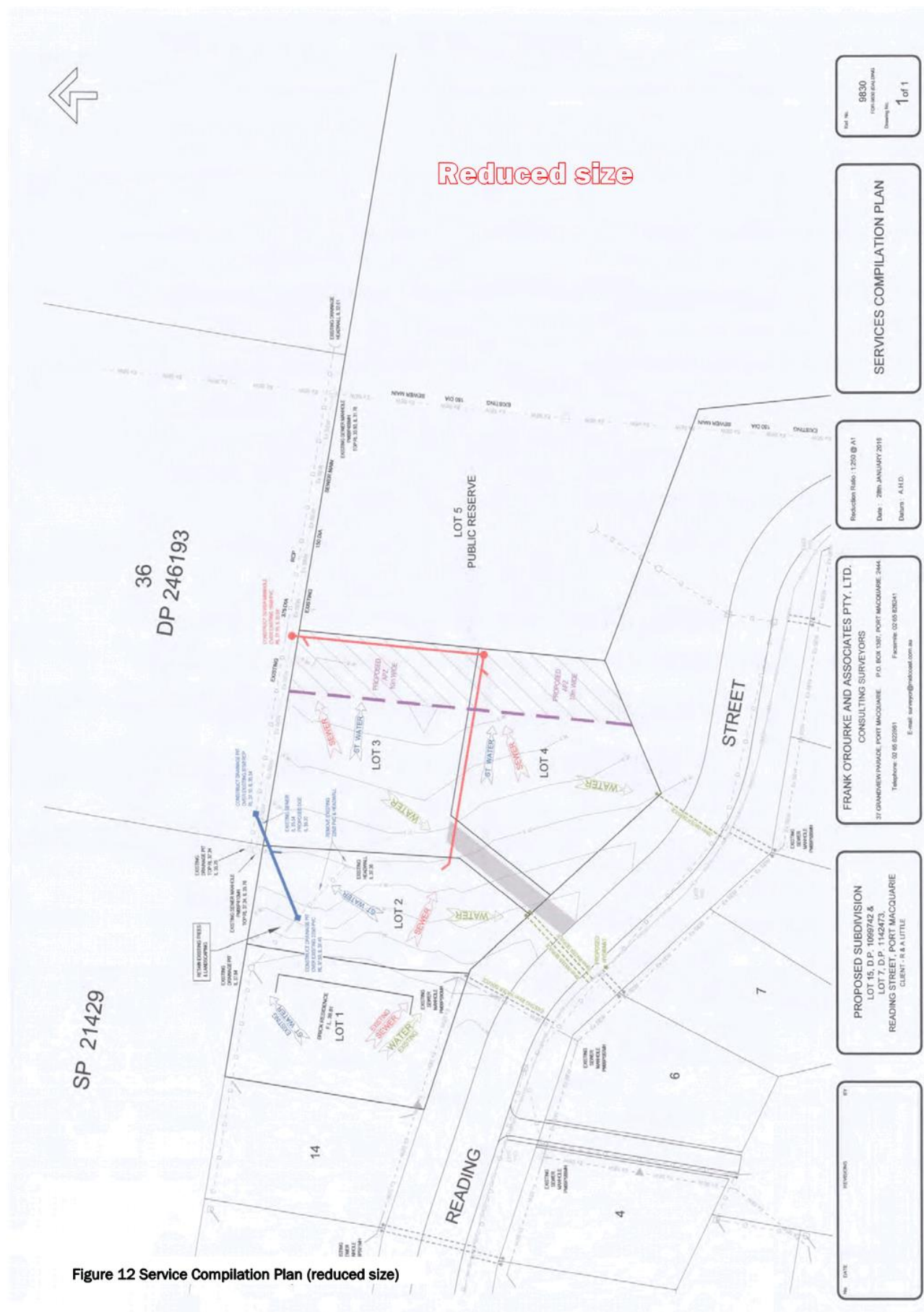


Figure 11 Plan of Proposed Subdivision (reduced size)





*Planning Proposal under sec 55 of the EP&A Act* Chapter 3 - Voluntary Planning Agreement  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

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## Chapter 3 - Voluntary Planning Agreement

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This Chapter covers the description and review the Voluntary Planning Agreement.

While there has been informal agreement that the environmentally significant part of the site will be dedicated to Council, there is no valid basis by which Council can impose this as a requirement of any development consent. The creation of 3 new residential lots does not provide grounds for such a requirement.

The *Environmental Planning and Assessment Act 1979* provides a mechanism outside the development consent process in Part 4 - Division 6 - **Subdivision 2 Planning Agreements**.

The relevant sections, and the supporting Regulations, outline the process and content of Planning Agreements.

Council has also received an offer to enter into a Voluntary Planning Agreement for dedication of the environmental land in connection with the above applications. Pursuant to clause 25D of the Environmental Planning and Assessment Regulation 2000, a copy of the Reading Street Environmental Land Agreement is included within this Planning Proposal.

This copy of the Voluntary Planning Agreement [VPA] associated with this rezoning and development application is contained in **Appendix D**.

The legal drafting can be difficult to understand, and the VPA includes an Explanatory Note in an Appendix (of the VPA). It states in part:

The objective of the Draft Planning Agreement is to require the Developer to dedicate to the Council the Environmental Dedication Land for the purpose of environmental conservation.

The draft VPA provides more details on this, particularly covering timing in relation to various development scenarios.

The procedures require that the VPA has been available for public inspection for at least 28 days prior to Council entering into the agreement. In addition this preferably should occur in conjunction with associated public notification for the related LEP amendment or development application.

Following the public exhibition of this Planning Proposal, a report will be submitted for Council's consideration and (except for the development application) determination in relation to:

- the proposed LEP amendments,
- the development application,
- entering into the planning agreement, and
- the assessment of any submissions from the public exhibition.

*Planning Proposal under sec 55 of the EP&A Act* *Appendix A – Gateway Determination*  
*Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie*

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## **Appendix A – Gateway Determination**

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A copy of the Gateway Determination issued on 21 September 2016 for this Planning Proposal is on the following pages.

The Determination identifies processing requirements, such as:

- possible changes to this proposal,
- consultation with relevant public authorities,
- community consultation.

A subsequent letter from the Department of Planning & Environment dated 9 May 2017 modifies the timeframe, and updates the agreed inconsistencies. A copy of that letter follows.



Mr Craig Swift-McNair  
General Manager  
Port Macquarie Hastings Council  
PO Box 84  
PORT MACQUARIE NSW 2444

Our ref: PP\_2016\_PORTM\_004\_00 (16/12298)  
Your ref: DD032.2016.00000003.001

Attention: Stephen Nicholson

Dear Mr Swift-McNair

**Planning proposal to amend Port Macquarie-Hastings LEP 2011**

I am writing in response to your Council's letter dated 12 September 2016 requesting a Gateway determination under section 56 of the Environmental Planning and Assessment Act 1979 (the Act) in respect of the planning proposal to amend Port Macquarie-Hastings LEP 2011 to rezone and to undertake other associated changes to Lot 7 DP 1142473, Reading St, Port Macquarie.

As delegate of the Minister for Planning, I have now determined the planning proposal should proceed subject to the conditions in the attached Gateway determination.

I have also agreed, as delegate of the Secretary, the planning proposal's inconsistencies with S117 Directions 1.2 Rural Zones, 1.5 Rural Lands, 2.1 Environmental Protection Zones, 2.2 Coastal Protection and 3.1 Residential Zones are of minor significance. No further approval is required in relation to these Directions.

Council will still need to obtain the agreement of the Department's Secretary to comply with the requirements of S117 Direction 4.4 Planning for Bushfire Protection. Council should ensure this occurs prior to the plan being made.

Plan making powers were delegated to councils by the Minister in October 2012. It is noted that Council has requested to be issued with delegation for this planning proposal. I have considered the nature of Council's planning proposal and have decided to issue an authorisation for Council to exercise delegation to make this plan.

The amending Local Environmental Plan (LEP) is to be finalised within 9 months of the week following the date of the Gateway determination. Council should aim to commence the exhibition of the planning proposal as soon as possible. Council's request to draft and finalise the LEP should be made directly to Parliamentary Counsel's Office 6 weeks prior to the projected publication date. A copy of the request should be forwarded to the Department of Planning and Environment for administrative purposes.



The State Government is committed to reducing the time taken to complete LEPs by tailoring the steps in the process to the complexity of the proposal, and by providing clear and publicly available justification for each plan at an early stage. In order to meet these commitments, the Minister may take action under section 54(2)(d) of the Act if the time frames outlined in this determination are not met.

Should you have any queries in regard to this matter, I have arranged for Ms Gina Davis of the Department's regional office to assist you. Ms Davis can be contacted on (02) 6701 9687.

Yours sincerely



21 September 2016

**Craig Diss**  
**Acting Director Regions, Northern**  
**Planning Services**

Encl:  
Gateway Determination  
Written Authorisation to Exercise Delegation  
Attachment 5 – Delegated Plan Making Reporting Template



## Gateway Determination

**Planning proposal (Department Ref: PP\_2016\_PORTM\_004\_00):** to rezone and to undertake associated changes to Lot 7 DP 1142473, Reading Street, Port Macquarie.

I, the Acting Director Regions, Northern at the Department of Planning and Environment as delegate of the Minister for Planning, have determined under section 56(2) of the *Environmental Planning and Assessment Act 1979* (the Act) that an amendment to the Port Macquarie Hastings Local Environmental Plan (LEP) (2011) to rezone and to undertake other associated changes to Lot 7, DP 1142473, Reading St, Port Macquarie should proceed subject to the following conditions:

1. Prior to public exhibition, Part 2 'Explanation of Provisions' of the planning proposal shall be amended to remove references to the proposed savings provision.
2. Community consultation is required under sections 56(2)(c) and 57 of the Act as follows:
  - a. the planning proposal is classified as low impact as described in *A Guide to Preparing LEPs (Department of Planning and Environment 2016)* and must be made publicly available for a minimum of **28 days**; and
  - b. the relevant planning authority must comply with the notice requirements for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals as identified in section 5.5.2 of *A Guide to Preparing LEPs (Department of Planning and Environment 2016)*.
3. Consultation is required with the following public authorities and organisations under section 56(2)(d) of the Act and/or to comply with the requirements of relevant S117 Directions:
  - NSW Office of Environment and Heritage
  - NSW Rural Fire Service

Each public authority or organisation is to be provided with a copy of the planning proposal and any relevant supporting material, and given at least 21 days to comment on the proposal.

4. A public hearing is not required to be held into the matter by any person or body under section 56(2)(e) of the Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).



Planning &  
Environment

5. The timeframe for completing the LEP is to be **9 months** from the week following the date of the Gateway determination.

Dated 21 day of September 2016



**Craig Diss**  
**Acting Director Regions, Northern**  
**Planning Services**  
**Department of Planning and**  
**Environment**

**Delegate of the Minister for Planning**

**Planning &  
Environment**

Mr Craig Swift-McNair  
General Manager  
Port Macquarie-Hastings Council  
PO Box 84  
Port Macquarie NSW 2444

Our ref: 16/12298  
Your ref: DD32.2016.00000003.001

Attention: Stephen Nicholson

Dear Mr Swift-McNair

**Planning Proposal PP\_2016\_PORTM\_004\_00 – Alteration of Gateway  
Determination**

I refer to your letter of 4 May 2017 seeking an extension of time to complete Planning Proposal PP\_2016\_PORTM\_004\_00 to rezone land and undertake other associated changes to Lot 7 DP 1142473, Reading Street, Port Macquarie.

I have determined as the delegate of the Minister, in accordance with section 56(7) of the *Environmental Planning and Assessment Act 1979* to alter the Gateway determination dated 21 September 2016 for PP\_2016\_PORTM\_004\_00. The Alteration of the Gateway Determination is enclosed.

I also refer to your request for the Secretary's agreement that the inconsistency of the above proposal with section 117 Direction 4.4 Planning for Bushfire Protection is justified. I have considered this matter and as a delegate of the Secretary, I have agreed that the inconsistency is justified in accordance with the terms of the Direction.

Council can now proceed with its assessment of the proposal.

If you have any questions in relation to this matter, I have arranged for Ms Gina Davis to assist you. Ms Davis can be contacted on (02) 6701 9687.

Yours sincerely

A black rectangular redaction box covering the signature of Craig Diss.

9 May 2017

**Craig Diss**  
**Acting Director Regions, Northern**  
**Planning Services**

Encl:  
Alteration to Gateway Determination

Department of Planning and Environment  
Northern Region | 49 Victoria Street Grafton 2460 | Locked Bag 9022 Grafton 2460 | [planning.nsw.gov.au](http://planning.nsw.gov.au)



Planning &  
Environment**Alteration of Gateway Determination*****Planning proposal Department Ref: PP\_2016\_PORTM\_004\_00***

I, the Acting Director Regions, Northern at the Department of Planning and Environment as delegate of the Minister for Planning, have determined under section 56(7) of the *Environmental Planning and Assessment Act 1979* (the Act) to alter the Gateway determination dated 21 September 2016 for the proposed amendment to the Port Macquarie-Hastings Local Environmental Plan 2011 as follows:


1. Delete condition 5:

"5. The timeframe for completing the LEP is to be **9 months** from the week following the date of the Gateway determination."

and replace with a new condition 5:

"5. The planning proposal is to be completed by 28 December 2017."

Dated 9 day of May 2017



Craig Diss  
Acting Director Regions, Northern  
Planning Services  
Department of Planning and Environment  
Delegate of the Minister for Planning

Planning Proposal under sec 55 of the EP&A Act      Appendix B – Consistency with applicable State Envir  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Appendix B – Consistency with applicable State Environmental Planning Policies

Listed below are the SEPPs that apply to land within the Port Macquarie-Hastings Local Government Area.

| State Environmental Planning Policies                         | Consistency   |
|---|---|
| 14 Coastal Wetlands   | Not relevant  |
| 15 Rural Landsharing Communities                              | Not relevant  |
| 21 Caravan Parks  | Not relevant  |
| 26 Littoral Rainforests                                       | Not relevant.<br>Note the SEPP applies to land 140 m to the east - refer to <b>Figure 3</b> on page 14.   |
| 30 Intensive Agriculture                                      | Not relevant  |
| 32 Urban Consolidation (Redevelopment of Urban Land)          | Not relevant  |
| 33 Hazardous and Offensive Development                        | Not relevant  |
| 36 Manufactured Home Estates                                  | Not relevant  |
| 44 Koala Habitat Protection                                   | Relevant.<br>The Ecological Assessment Report (refer <b>Appendix I</b> ) contains a Koala Habitat Assessment which concluded the site did not meet the criteria to be Potential Koala Habitat. Further action under the SEPP not required. Consistent.  |
| 50 Canal Estate Development                                   | Not relevant  |
| 55 Remediation of Land  | Not relevant  |
| 62 Sustainable Aquaculture                                    | Not relevant  |
| 64 Advertising and Signage                                    | Not relevant  |
| 65 Design Quality of Residential Flat Development             | Not relevant  |
| 71 Coastal Protection ( <i>c/l</i> 7-8)                       | Relevant - the land is within the 'coastal zone' as defined in the <i>Coastal Protection Act 1979</i> - refer to <b>Figure 3</b> on page 14.<br><br>'Sensitive coastal land', as defined in the SEPP is located 65 m to the east of Lot 7, and 220 m east of any of the proposed residential lots.<br><br>The requirements for a Master Plan do not apply.<br><br>Most of the SEPP is focused on coastal foreshores and the marine environment.<br><br>Detailed review of the relevant provisions of this SEPP is contained in the table following. |
| (Affordable Rental Housing) 2009                              | Not relevant  |
| (Building Sustainability Index: BASIX) 2004                   | Not relevant  |
| (Exempt and Complying Development Codes) 2008                 | Not relevant  |
| (Housing for Seniors or People with a Disability) 2004        | Not relevant  |
| (Infrastructure) 2007   | Not relevant  |
| (Major Development) 2005                                      | Not relevant  |
| (Mining, Petroleum Production and Extraction Industries) 2007 | Not relevant  |
| (Rural Lands) 2008  | Not relevant  |

Planning Proposal under sec 55 of the EP&A Act      Appendix B – Consistency with applicable State Envir  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

| State Environmental Planning Policies | Consistency  |
|---------------------------------------|--------------|
| (State and Regional Development) 2011 | Not relevant |
| (Temporary Structures) 2007           | Not relevant |

| SEPP No 71 - Coastal Protection<br>- relevant provisions   | Comments   |
|--|--|
| <b>Clause 2 Aims of Policy</b>   |  |
| (g) to protect and preserve native coastal vegetation,   | This proposal provides for better outcomes for connectivity and ongoing conservation of the native coastal vegetation.   |
| (j) to manage the coastal zone in accordance with the principles of ecologically sustainable development (within the meaning of section 6 (2) of the <a href="#">Protection of the Environment Administration Act 1991</a> )   | This proposal involves low impact residential development within the existing urban area of Port Macquarie.  |
| (k) to ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area,   | The proposal, in conjunction with the continuing current LEP provisions, will lead to residential development which is compatible with existing adjoining development.   |
| (l) to encourage a strategic approach to coastal management.   | The proposal provides a strategic solution to enhanced environmental outcomes through relocation of a residential zoning on Lot 7.   |
| <b>Clause 8 Matters for consideration</b>  |  |
| (d) the suitability of development given its type, location and design and its relationship with the surrounding area,   | The proposal, in conjunction with the continuing LEP provisions, will lead to residential development which is compatible with existing adjoining development.   |
| (i) existing wildlife corridors and the impact of development on these corridors,  | The proposal will remove the risk of development in key linkage areas, and enhance protection of the existing wildlife corridor.   |
| (o) only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,   | The proposal accommodates limited residential subdivision on part of the site where it will have minimal environmental impacts.  |
| (p) only in cases in which a development application in relation to proposed development is determined:<br>(i) the cumulative impacts of the proposed development on the environment, and<br>(ii) measures to ensure that water and energy usage by the proposed development is efficient. | No cumulative impacts are envisaged.<br>Future housing will be subject to BASIX assessment.  |
| <b>Part 4 Development control</b>  | Clause 13 is already covered by clause 5.3 (3) of LEP 2011.<br>The other clauses focus more on direct coastal impacts.<br>Effluent disposal and stormwater are subject to general standards in Council's consents. |

Planning Proposal under sec 55 of the EP&A Act      Appendix C – Consistency with applicable Section 117  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Appendix C – Consistency with applicable Section 117 Ministerial Directions

Listed below are the Section 117 (2) Directions (including Objectives) that apply to land within the Port Macquarie-Hastings Local Government Area.

Copies of the full Directions are available on the Department of Planning & Environment website.

| Section 117(2) Directions and Objectives   | Consistency   |
|--|---|
| <b>1 Employment and Resources</b>  |   |
| <b>1.1 Business and Industrial Zones</b><br>The objectives of this direction are to: <ul style="list-style-type: none"> <li>(a) encourage employment growth in suitable locations,</li> <li>(b) protect employment land in business and industrial zones, and</li> <li>(c) support the viability of identified strategic centres.</li> </ul>   | Not relevant  |
| <b>1.2 Rural Zones</b><br>The objective of this direction is to protect the agricultural production value of rural land.<br>The direction states: <ul style="list-style-type: none"> <li>(4) A planning proposal must:               <ul style="list-style-type: none"> <li>(a) not rezone land from a rural zone to a residential, business, industrial, village or tourist zone.</li> <li>(b) not contain provisions that will increase the permissible density of land within a rural zone (other than land within an existing town or village).</li> </ul> </li> </ul>   | The proposal involves the rezoning of 886 sq m of land zoned RU6 Transition.<br>This small area is located within an urban area and its loss will not affect the agricultural production value of rural land.<br>A planning proposal can be inconsistent where the inconsistency is of minor significance.<br><b>Approval of the inconsistency has been given.</b>  |
| <b>1.3 Mining, Petroleum Production and Extractive Industries</b><br>The objective of this direction is to ensure that the future extraction of State or regionally significant reserves of coal, other minerals, petroleum and extractive materials are not compromised by inappropriate development.   | Not relevant  |
| <b>1.4 Oyster Aquaculture</b><br>The objectives of this direction are: <ul style="list-style-type: none"> <li>(a) to ensure that Priority Oyster Aquaculture Areas and oyster aquaculture outside such an area are adequately considered when preparing a planning proposal,</li> <li>(b) to protect Priority Oyster Aquaculture Areas and oyster aquaculture outside such an area from land uses that may result in adverse impacts on water quality and consequently, on the health of oysters and oyster consumers.</li> </ul>  | Not relevant  |
| <b>1.5 Rural Lands</b><br>The objectives of this direction are to: <ul style="list-style-type: none"> <li>(a) protect the agricultural production value of rural land,</li> <li>(b) facilitate the orderly and economic development of rural lands for rural and related purposes.</li> </ul> <u>When this direction applies:</u> <ul style="list-style-type: none"> <li>(3) This direction applies when:               <ul style="list-style-type: none"> <li>(a) a relevant planning authority prepares a planning proposal that will affect land within an existing or proposed rural or environment protection zone (including the alteration of any existing rural or environment protection zone boundary) or</li> <li>(b) a relevant planning authority prepares a planning proposal that changes the existing minimum lot size on land within a</li> </ul> </li> </ul> | Relevant, as the proposal alters existing rural and environment protection zone boundaries and the minimum lot size for some of that land.<br>Notwithstanding the apparent consistency described below, in the event of any possible inconsistency being raised, the Department of Planning & Environment has taken the approach of giving <b>approval for any inconsistency on the basis of being of minor significance.</b> |



Planning Proposal under sec 55 of the EP&A Act      Appendix C – Consistency with applicable Section 117  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

| Section 117(2) Directions and Objectives  | Consistency   |
|---|---|
| <p>rural or environment protection zone.</p> <p>(4) A planning proposal to which clauses 3(a) or 3(b) apply must be consistent with the Rural Planning Principles listed in <i>State Environmental Planning Policy (Rural Lands) 2008</i>.</p>  | <p>The 8 Rural Planning Principles focus on protecting agricultural production and rural communities. The only relevant principles are:</p> <p>(e) the identification and protection of natural resources, having regard to maintaining biodiversity, the protection of native vegetation, the importance of water resources and avoiding constrained land,</p> <p>(h) ensuring consistency with any applicable regional strategy of the Department of Planning or any applicable local strategy endorsed by the Director-General.</p> <p>The proposal is consistent with both of these.</p>  |
| <p>(5) A planning proposal to which clause 3(b) applies must be consistent with the Rural Subdivision Principles listed in <i>State Environmental Planning Policy (Rural Lands) 2008</i>.</p>   | <p>The Rural Subdivision Principles are generally not relevant, other than 'the consideration of the natural and physical constraints and opportunities of land'.</p> <p>The proposal is consistent.</p>  |
| <b>2 Environment and Heritage</b>   |   |
| <b>2.1 Environmental Protection Zones</b>   |   |
| <p>The objective of this direction is to protect and conserve environmentally sensitive areas.</p> <p>The Direction requires:</p> <p>(4) A planning proposal must include provisions that facilitate the protection and conservation of environmentally sensitive areas.</p> <p>(5) A planning proposal that applies to land within an environment protection zone or land otherwise identified for environment protection purposes in a LEP must not reduce the environmental protection standards that apply to the land (including by modifying development standards that apply to the land).</p> | <p>For the areas zoned E2 Environmental Conservation the details of the change are discussed in more detail in Chapter 1 of this Planning Proposal. The area currently zoned E2 is 1.378 ha, and the proposed area is 1.497 ha.</p> <p>The proposal protects the environmentally sensitive area, and there is no reduction in environmental protection standards.</p> <p>While there is a net increase in the area zoned E2 Environmental Conservation, there is 0.185 ha of land which will no longer be zoned E2. Rezoning this land to R1 General Residential is an inconsistency with the Direction.</p> <p>A proposal can be inconsistent if the inconsistency is of minor significance, which applies to this proposal.</p> <p><b>Approval of the inconsistency has been given.</b></p> |
| <b>2.2 Coastal Protection</b>   |   |
| <p>The objective of this direction is to implement the principles in the NSW Coastal Policy.</p> <p>The Direction states:</p> <p>A planning proposal must include provisions that give effect to and are consistent with:</p>   | <p>The site is within the Coastal zone - refer to <b>Figure 3</b> on page 14.</p> <p>Notwithstanding the apparent consistency described below, in the event of any possible inconsistency being raised, the Department of</p>   |

Planning Proposal under sec 55 of the EP&A Act Appendix C – Consistency with applicable Section 117  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

| Section 117(2) Directions and Objectives  | Consistency   |
|---|---|
|   | Planning & Environment has taken the approach of giving <b>approval for any inconsistency on the basis of being of minor significance.</b>  |
| (a) the NSW Coastal Policy: A Sustainable Future for the New South Wales Coast 1997, and  | <p>The Policy has 143 Strategic Actions, primarily focussed on coastal and estuarine interfaces. The most relevant Actions are:</p> <p>1.1.9 Local environmental plans will be prepared with appropriate zonings and other provisions for areas of recognised conservation value.</p> <p>2.1.3 Physical and ecological processes and hazards will be considered when assessing development applications.</p> <p>This proposal is consistent.</p>  |
| (b) the Coastal Design Guidelines 2003, and   | <p>The Guidelines identify Port Macquarie as a Coastal City.</p> <p>The Five principles for coastal settlement structure are:</p> <ol style="list-style-type: none"> <li>1. Defining the footprint and boundary of the settlement</li> <li>2. Connecting open spaces</li> <li>3. Protecting the natural edges</li> <li>4. Reinforcing the street pattern</li> <li>5. Appropriate buildings in a coastal context.</li> </ol> <p>This proposal is consistent with these principles.</p>   |
| (c) the manual relating to the management of the coastline for the purposes of section 733 of the Local Government Act 1993. [By Gazette Notice dated 19/07/2013 the current manual is <i>Guidelines for Preparing Coastal Zone Management Plans</i> , July 2013] | <p>The guidelines are intended to provide guidance on the preparation of a Coastal Zone Management Plans, which are intended to address issues including:</p> <ul style="list-style-type: none"> <li>• managing risks to public safety and built assets</li> <li>• pressures on coastal ecosystems, and</li> <li>• community uses of the coastal zone.</li> </ul> <p>The community uses are focussed on the appropriate land uses adjoining the coastline or waterways, and particularly for land at risk of coastal processes. For this site within urban Port Macquarie, there are no points of concern. This proposal is consistent with the Guidelines.</p> |
| <b>2.3 Heritage Conservation</b><br>The objective of this direction is to conserve items, areas, objects and places of environmental heritage significance and indigenous heritage significance.  | Not relevant  |
| <b>2.4 Recreation Vehicle Areas</b><br>The objective of this direction is to protect sensitive land or land   | Not relevant  |

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Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

| Section 117(2) Directions and Objectives  | Consistency  |
|---|--|
| with significant conservation values from adverse impacts from recreation vehicles.   |  |
| <b>3 Housing, Infrastructure and Urban Development</b>  |  |
| <b>3.1 Residential Zones</b><br>The objectives of this direction are: <ul style="list-style-type: none"> <li>(a) to encourage a variety and choice of housing types to provide for existing and future housing needs,</li> <li>(b) to make efficient use of existing infrastructure and services and ensure that new housing has appropriate access to infrastructure and services, and</li> <li>(c) to minimise the impact of residential development on the environment and resource lands.</li> </ul> The direction applies as there is an alteration to an existing residential zone boundary, and requires: <ul style="list-style-type: none"> <li>A planning proposal must include provisions that encourage the provision of housing that will:               <ul style="list-style-type: none"> <li>(a) broaden the choice of building types and locations available in the housing market, and</li> <li>(b) make more efficient use of existing infrastructure and services, and</li> <li>(c) reduce the consumption of land for housing and associated urban development on the urban fringe, and</li> <li>(d) be of good design.</li> </ul> </li> <li>A planning proposal must, in relation to land to which this direction applies:               <ul style="list-style-type: none"> <li>(a) contain a requirement that residential development is not permitted until land is adequately serviced (or arrangements satisfactory to the council, or other appropriate authority, have been made to service it), and</li> <li>(b) not contain provisions which will reduce the permissible residential density of land.</li> </ul> </li> </ul> | While this is relevant, the proposal only applies to a small area of Residential zoned land, and it relies on the existing LEP provisions that generally address this Direction.<br><br>However, the proposal involves the loss of 0.305 ha of land currently zoned R1 General Residential, though parts of this is subject to flooding or contains significant vegetation.<br><br>This means that the proposal is inconsistent with the Direction.<br><br>An inconsistency with the Direction can be allowed where it is of minor significance.<br><br><b>Approval of the inconsistency has been given.</b> |
| <b>3.2 Caravan Parks and Manufactured Home Estates</b><br>The objectives of this direction are: <ul style="list-style-type: none"> <li>(a) to provide for a variety of housing types, and</li> <li>(b) to provide opportunities for caravan parks and manufactured home estates.</li> </ul>   | Briefly the Direction requires that Councils retain provisions permitting caravan parks and identify suitable sites for manufactured home estates. As a planning proposal merely altering boundaries of zones etc, this proposal is consistent.  |
| <b>3.3 Home Occupations</b><br>The objective of this direction is to encourage the carrying out of low-impact small businesses in dwelling houses.  | Not relevant   |
| <b>3.4 Integrating Land Use and Transport</b><br>The objective of this direction is to ensure that urban structures, building forms, land use locations, development designs, subdivision and street layouts achieve the following planning objectives: <ul style="list-style-type: none"> <li>(a) improving access to housing, jobs and services by walking, cycling and public transport, and</li> <li>(b) increasing the choice of available transport and reducing dependence on cars, and</li> <li>(c) reducing travel demand including the number of trips generated by development and the distances travelled, especially by car, and</li> <li>(d) supporting the efficient and viable operation of public</li> </ul>   | Not relevant   |

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| Section 117(2) Directions and Objectives   | Consistency  |
|--|--|
| transport services, and<br>(e) providing for the efficient movement of freight.  |  |
| <b>3.5 Development Near Licensed Aerodromes</b><br>The objectives of this direction are:<br>(a) to ensure the effective and safe operation of aerodromes, and<br>(b) to ensure that their operation is not compromised by development that constitutes an obstruction, hazard or potential hazard to aircraft flying in the vicinity, and<br>(c) to ensure development for residential purposes or human occupation, if situated on land within the Australian Noise Exposure Forecast (ANEF) contours of between 20 and 25, incorporates appropriate mitigation measures so that the development is not adversely affected by aircraft noise. | Not relevant   |
| <b>3.6 Shooting Ranges</b><br>The objectives are:<br>(a) to maintain appropriate levels of public safety and amenity when rezoning land adjacent to an existing shooting range,<br>(b) to reduce land use conflict arising between existing shooting ranges and rezoning of adjacent land,<br>(c) to identify issues that must be addressed when giving consideration to rezoning land adjacent to an existing shooting range.   | Not relevant   |
| <b>4 Hazard and Risk</b>   |  |
| <b>4.1 Acid Sulfate Soils</b><br>The objective of this direction is to avoid significant adverse environmental impacts from the use of land that has a probability of containing acid sulfate soils.   | Not relevant   |
| <b>4.2 Mine Subsidence and Unstable Land</b><br>The objective of this direction is to prevent damage to life, property and the environment on land identified as unstable or potentially subject to mine subsidence.   | Not relevant   |
| <b>4.3 Flood Prone Land</b><br>The objectives of this direction are:<br>(a) to ensure that development of flood prone land is consistent with the NSW Government's Flood Prone Land Policy and the principles of the <i>Floodplain Development Manual 2005</i> , and<br>(b) to ensure that the provisions of an LEP on flood prone land is commensurate with flood hazard and includes consideration of the potential flood impacts both on and off the subject land.<br>The direction applies as the proposal alters a zone that affects flood prone land.  | Part of Lot 7 is identified as within the Flood Planning Area, including some of the land zoned R1 General Residential in the south-eastern portion of the Lot - refer to <b>Figure 3</b> on page 14.<br>The proposal will result in the entire portion within the Flood Planning Area being within the E2 Environmental Conservation zone.<br>The removal of the potential for housing within the Flood Planning Area is consistent with the Direction. |
| <b>4.4 Planning for Bushfire Protection</b><br>The objectives of this direction are:<br>(a) to protect life, property and the environment from bush fire hazards, by discouraging the establishment of incompatible land uses in bush fire prone areas, and<br>(b) to encourage sound management of bush fire prone areas.<br><i>Further details:</i><br><b>When this direction applies</b><br>This direction applies when a relevant planning authority prepares a planning proposal that will affect, or is in proximity to land mapped as bushfire prone land.  | Almost all of Lot 7 is identified as Category 2 Bushfire Prone - refer to <b>Figure 13</b> on page 44. The portion currently zoned RU6 Transition is part Category 2 and part Buffer.<br>The Development Application shows a 10 m wide Asset Protection Zone [APZ] on the eastern side of the proposed residential lots. The DA documentation includes a Bush Fire Assessment (refer to <b>Appendix G</b> ), which concludes that                        |

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| Section 117(2) Directions and Objectives  | Consistency  |
|---|--|
|   | 'The objectives for PBP 2006 have been met'.   |
| <b>What a relevant planning authority must do if this direction applies</b>   | In terms of the requirements of the Direction:   |
| (4) In the preparation of a planning proposal the relevant planning authority must consult with the Commissioner of the NSW Rural Fire Service following receipt of a gateway determination under section 56 of the Act, and prior to undertaking community consultation in satisfaction of section 57 of the Act, and take into account any comments so made,  | (4) This can only be done following issue of the Gateway Determination, and so was <b>an inconsistency as at the time of issue of the determination</b> . Consultation has been carried out, and the DP&E have the initial inconsistency has been justified.   |
| (5) A planning proposal must:<br>(a) have regard to <i>Planning for Bushfire Protection 2006</i> ,<br>(b) introduce controls that avoid placing inappropriate developments in hazardous areas, and<br>(c) ensure that bushfire hazard reduction is not prohibited within the APZ.   | (5) The requirements of paragraphs (a) and (b) have been complied with, as shown in the Bush Fire Assessment report in <b>Appendix G</b> .<br>In relation to paragraph (c), clause 5.11 of LEP 2011 allow bushfire hazard reduction without consent where it is authorised by the <i>Rural Fires Act 1997</i> . No change is proposed. |
| (6) A planning proposal must, where development is proposed, comply with the following provisions, as appropriate:<br>(a) provide an Asset Protection Zone (APZ) incorporating at a minimum:<br>(i) an Inner Protection Area bounded by a perimeter road or reserve which circumscribes the hazard side of the land intended for development and has a building line consistent with the incorporation of an [APZ], within the property, and<br>(ii) an Outer Protection Area managed for hazard reduction and located on the bushland side of the perimeter road,<br>(b) for infill development (that is development within an already subdivided area), where an appropriate APZ cannot be achieved, provide for an appropriate performance standard, in consultation with the NSW Rural Fire Service. If the provisions of the planning proposal permit Special Fire Protection Purposes (as defined under section 100B of the <i>Rural Fires Act 1997</i> ), the APZ provisions must be complied with,<br>(c) contain provisions for two-way access roads which links to perimeter roads and/or to fire trail networks,<br>(d) contain provisions for adequate water supply for firefighting purposes,<br>(e) minimise the perimeter of the area of land interfacing the hazard which may be developed,<br>(f) introduce controls on the placement of combustible materials in the Inner Protection Area. | (6) Compliance with the relevant requirements is assessed in the Bush Fire Assessment report (refer <b>Appendix G</b> ).   |
| <b>5 Regional Planning</b>  |  |
| <b>5.1 Implementation of Regional Strategies</b><br>The objective of this direction is to give legal effect to the vision, land use strategy, policies, outcomes and actions contained in regional strategies.  | Not relevant   |

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| Section 117(2) Directions and Objectives   | Consistency  |
|--|--|
| <b>5.4 Commercial &amp; Retail Development along the Pacific Hwy, North Coast</b><br>The objectives for managing commercial and retail development along the Pacific Highway are:<br>(a) to protect the Pacific Highway's function, that is to operate as the North Coast's primary inter- and intra-regional road traffic route;<br>(b) to prevent inappropriate development fronting the highway;<br>(c) to protect public expenditure invested in the Pacific Highway;<br>(d) to protect and improve highway safety and highway efficiency;<br>(e) to provide for the food, vehicle service and rest needs of travellers on the highway; and<br>(f) to reinforce the role of retail and commercial development in town centres, where they can best serve the populations of the towns.   | Not relevant   |
| <b>5.10 Implementation of Regional Plans</b><br>The objective of this direction is to give legal effect to the vision, land use strategy, goals, directions and actions contained in Regional Plans.   | Not relevant   |
| <b>6 Local Plan Making</b>   |  |
| <b>6.1 Approval and Referral Requirements</b><br>The objective of this direction is to ensure that LEP provisions encourage the efficient and appropriate assessment of development.   | Not relevant   |
| <b>6.2 Reserving Land for Public Purposes</b><br>The objectives of this direction are:<br>(a) to facilitate the provision of public services and facilities by reserving land for public purposes, and<br>(b) to facilitate the removal of reservations of land for public purposes where the land is no longer required for acquisition.  | Not relevant   |
| <b>6.3 Site Specific Provisions</b><br>The objective of this direction is to discourage unnecessarily restrictive site specific planning controls.<br>A planning proposal that amends a LEP in order to permit a particular development proposal to be carried out must either:<br>(a) allow that land use to be carried out in the zone the land is situated on, or<br>(b) rezone the site to an existing zone already applying in the environmental planning instrument that allows that land use without imposing any development standards or requirements in addition to those already contained in that zone, or<br>(c) allow that land use on the relevant land without imposing any development standards or requirements in addition to those already contained in the principal environmental planning instrument being amended.<br>Also, the planning proposal must not contain or refer to drawings that show details of the development proposal. | This Direction applies to this proposal, and it is consistent as it amends the LEP Map sheets for the site using existing map classifications. |

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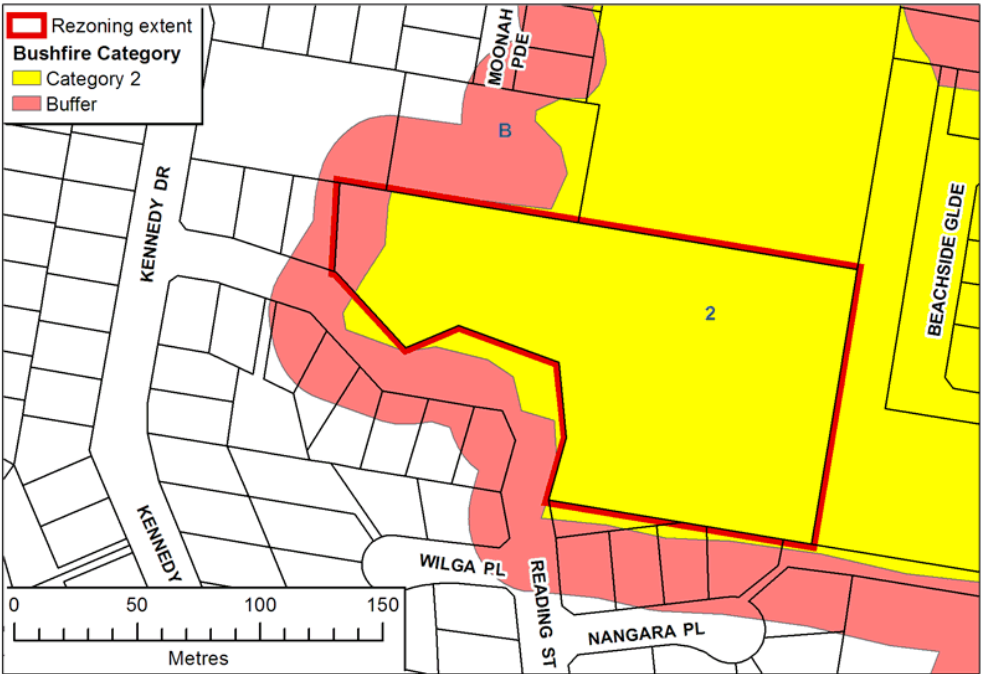


Figure 13 Bushfire prone land mapping

*Planning Proposal under sec 55 of the EP&A Act      Appendix D – Voluntary Planning Agreement document*  
*Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie*

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## **Appendix D – Voluntary Planning Agreement document**

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A copy of the VPA referred to in **Chapter 3** is on the following pages.





**Deed**

**Reading Street Environmental Land  
Planning Agreement**

Under s93F of the *Environmental Planning and Assessment Act 1979*

**Port Macquarie-Hastings Council**

**Ronald Gordon Little**

**Adele Lillian Little**

Date:

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Reading Street Environmental Land Planning Agreement  
Port Macquarie-Hastings Council  
Ronald Gordon Little and Adele Lillian Little



## Reading Street Environmental Land Planning Agreement

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## **Reading Street Environmental Land Planning Agreement**

### **Summary Sheet**

#### **Council:**

**Name:** Port Macquarie-Hastings Council  
**Address:** Cnr Lord & Burrawan Streets Port Macquarie NSW 2444  
**Telephone:** (02) 6581 8111  
**Facsimile:** (02) 6581 8123  
**Email:** council@pmhc.nsw.gov.au  
**Representative:** Vanessa Penfold

#### **Developer:**

**Name:** Ronald Gordon Little and Adele Lillian Little  
**Address:** 1A Moonah Parade, Port Macquarie NSW 2444  
**Telephone:** (02) 6582 1267  
**Email:** delron1@bigpond.com  
**Representative:** Ronald Gordon Little

#### **Land:**

See definition of *Developer Land* in clause 1.1.

#### **Development:**

See definition of *Development* in clause 1.1.

#### **Development Contributions:**

See clause 9.

#### **Application of s94, s94A and s94EF of the Act:**

See clause 8.

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**Ronald Gordon Little and Adele Lillian Little**

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**Security:**

See Part 4.

**Registration:**

See clause 16.

**Restriction on dealings:**

See clause 17.

**Dispute Resolution:**

See Part 3.

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## **Reading Street Environmental Land Planning Agreement**

Under s93F of the *Environmental Planning and Assessment Act 1979*

### **Parties**

**Port Macquarie-Hastings Council** ABN 11 236 901 601 of Cnr Lord & Burrawan Streets Port Macquarie NSW 2444 (**Council**)

and

**Ronald Gordon Little and Adele Lillian Little** of 1A Moonah Parade Port Macquarie NSW 2444 (**Developer**)

### **Background**

- A The Developer owns the Developer Land.
- B The Developer has lodged Development Application DA2016/53 with the Council seeking Development Consent to adjust the boundary between the Developer Land and the Neighbour Land and to subdivide the Developer Land to create 3 Final Lots and the Environmental Dedication Land as a separate lot.
- C The Developer has sought the preparation of the Planning Proposal for the purposes of the LEP Amendment to facilitate the Development.
- D The Parties enter into this Deed in connection with the LEP Amendment and the carrying out of the Development.

### **Operative provisions**

#### **Part 1 - Preliminary**

##### **1 Interpretation**

- 1.1 In this Deed the following definitions apply:

**Act** means the *Environmental Planning and Assessment Act 1979* (NSW).

**Approval** includes approval, consent, licence, permission or the like.

**Authority** means the Commonwealth or New South Wales government, a Minister of the Crown, a government department, a public authority

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**Ronald Gordon Little and Adele Lillian Little**



established by or under any Act, a council or county council constituted under the *Local Government Act 1993*, or a person or body exercising functions under any Act including a commission, panel, court, tribunal and the like.

**Claim** includes a claim, demand, remedy, suit, injury, damage, loss, Cost, liability, action, proceeding or right of action.

**Cost** means a cost, charge, expense, outgoing, payment, fee and other expenditure of any nature.

**Deed** means this Deed and includes any schedules, annexures and appendices to this Deed.

**Developer Land** means land comprised in Lot 7 in DP 1142473 and any lot created by the subdivision of that lot.

**Development** means the development described in Development Application DA2016-0053 lodged with the Council around 4 February 2016 being the adjustment of the boundary between the Developer Land and the Neighbour Land and subdivision of the Developer Land to create 3 Final Lots and the Environmental Dedication Land as a separate lot.

**Development Application** has the same meaning as in the Act.

**Development Consent** has the same meaning as in the Act.

**Development Contribution** means the dedication of land to the Council free of cost to be used for or applied towards a public purpose.

**Dispute** means a dispute or difference between the Parties under or in relation to this Deed.

**Environmental Dedication Land** means the part of the Developer Land marked as such on the Map being the part that will be zoned E2 Environmental Conservation under the LEP following the taking effect of the LEP Amendment.

**Final Lot** means a lot created in the Development for separate residential occupation and disposition or a lot of a kind or created for a purpose that is otherwise agreed by the Parties, not being a lot created by a subdivision of land:

- (a) that is to be dedicated or otherwise transferred to the Council, or
- (b) on which is situated a dwelling-house that was in existence on the date of this Deed.

**GST** has the same meaning as in the GST Law.

**GST Law** has the same meaning as in *A New Tax System (Goods and Services Tax) Act 1999* (Cth) and any other Act or regulation relating to the imposition or administration of the GST.

**Just Terms Act** means the *Land Acquisition (Just Terms Compensation) Act 1991*.

**LEP** means the *Port Macquarie-Hastings Local Environmental Plan 2011*.

**LEP Amendment** means an amendment to the LEP as described in the Planning Proposal.

**Map** means the sheet or sheets in the Schedule.

**Neighbour Land** means land comprised in Lot 15 in DP 1099742 and any lot created by the subdivision of that lot.

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**Ronald Gordon Little and Adele Lillian Little**



**Party** means a party to this Deed.

**Plan of Subdivision** has the same meaning as in s195(1) of the *Conveyancing Act 1919*.

**Planning Proposal** means the planning proposal, within the meaning of s55 of the Act, prepared by the Council and titled '*LEP Amendment No 41 Reading Street*' proposing an amendment to the LEP to rezone the Developer Land to partly R1 General Residential and partly E2 Environmental Conservation.

**Regulation** means the *Environmental Planning and Assessment Regulation 2000*.

- 1.2 In the interpretation of this Deed, the following provisions apply unless the context otherwise requires:
- 1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Deed.
  - 1.2.2 A reference in this Deed to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in Sydney.
  - 1.2.3 If the day on which any act, matter or thing is to be done under this Deed is not a business day, the act, matter or thing must be done on the next business day.
  - 1.2.4 A reference in this Deed to dollars or \$ means Australian dollars and all amounts payable under this Deed are payable in Australian dollars.
  - 1.2.5 A reference in this Deed to a \$ value relating to a Development Contribution is a reference to the value exclusive of GST.
  - 1.2.6 A reference in this Deed to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.
  - 1.2.7 A reference in this Deed to any agreement, deed or document is to that agreement, deed or document as amended, novated, supplemented or replaced.
  - 1.2.8 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Deed.
  - 1.2.9 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
  - 1.2.10 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
  - 1.2.11 A word which denotes the singular denotes the plural, a word which denotes the plural denotes the singular, and a reference to any gender denotes the other genders.
  - 1.2.12 References to the word 'include' or 'including' are to be construed without limitation.
  - 1.2.13 A reference to this Deed includes the agreement recorded in this Deed.



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- 1.2.14 A reference to a Party to this Deed includes a reference to the servants, agents and contractors of the Party, the Party's successors and assigns.
- 1.2.15 A reference to 'dedicate' or 'dedication' in relation to land is a reference to dedicate or dedication free of cost.
- 1.2.16 Any schedules, appendices and attachments form part of this Deed.
- 1.2.17 Notes appearing in this Deed are operative provisions of this Deed.

## **2 Status of this Deed**

- 2.1 This Deed is a planning agreement within the meaning of s93F(1) of the Act.

## **3 Commencement**

- 3.1 This Deed takes effect on the date when all Parties have executed this Deed.
- 3.2 The Party who executes this Deed last is to insert on the front page the date they did so and provide a copy of the fully executed and dated Deed to any other person who is a Party.

## **4 Application of this Deed**

- 4.1 This Deed applies to the LEP Amendment, the Developer Land and the Development.

## **5 Warranties**

- 5.1 The Parties warrant to each other that they:
  - 5.1.1 have full capacity to enter into this Deed, and
  - 5.1.2 are able to fully comply with their obligations under this Deed.

## **6 Further agreements**

- 6.1 The Parties may, at any time and from time to time, enter into agreements relating to the subject-matter of this Deed that are not inconsistent with this Deed for the purpose of implementing this Deed.

## **7 Surrender of right of appeal, etc.**

- 7.1 The Developer is not to commence or maintain, or to cause or procure the commencement or maintenance, of any proceedings in any court or tribunal or similar body appealing against, or questioning the validity of this Deed, or an Approval relating to the Development in so far as the subject-matter of the proceedings relates to this Deed.

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## **8 Application of s94, s94A and s94EF of the Act to the Development**

- 8.1 This Deed does not exclude the application of s94A or s94EF of the Act to the Development.
- 8.2 This Deed does not exclude the application of s94 of the Act to the Development except in relation to a condition of any Development Consent imposed under that section in relation to the Development requiring the making of a development contribution to the Council towards the cost of public open space.
- 8.3 The benefits under this Deed are not to be taken into consideration when determining a development contribution under s94 of the Act in relation to the Development.

## **Part 2 – Development Contributions**

### **9 Dedication of Environmental Dedication Land**

- 9.1 The Developer is to dedicate the Environmental Dedication Land to the Council free of cost to the Council in accordance with the provisions of this Deed.
- 9.2 The Environmental Dedication Land is to be dedicated to the Council for the public purpose of environmental conservation on the registration of the first Plan of Subdivision for the Development.

### **10 Procedure for dedication of land**

- 10.1 The Environmental Dedication Land is dedicated for the purposes of this Deed when:
  - 10.1.1 a deposited plan is registered in the register of plans held with the Registrar-General that dedicates or creates the Environmental Dedication Land as a public reserve or drainage reserve under the *Local Government Act 1993*, or
  - 10.1.2 the Council is given:
    - (a) an instrument in registrable form under the *Real Property Act 1900* duly executed by the Developer as transferor that is effective to transfer the title to the Environmental Dedication Land to the Council when executed by the Council as transferee and registered,
    - (b) the written consent to the registration of the transfer of any person whose consent is required to that registration, and
    - (c) a written undertaking from any person holding the certificate of title to the production of the certificate of title for the purposes of registration of the transfer.

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- 10.2 The Developer is to do all things reasonably necessary to enable registration of the instrument of transfer to occur.
- 10.3 The Developer is to ensure that the Environmental Dedication Land dedicated to the Council under this Deed is free of all encumbrances and affectations (whether registered or unregistered and including without limitation any charge or liability for rates, taxes and charges) except as otherwise agreed in writing by the Council.
- 10.4 If, having used all reasonable endeavours, the Developer cannot ensure that the Environmental Dedication Land to be dedicated to the Council under this Deed is free from all encumbrances and affectations, the Developer may request that Council agree to accept the land subject to those encumbrances and affectations, but the Council may withhold its agreement in its absolute discretion.

## **Part 3 – Dispute Resolution**

### **11 Dispute resolution – expert determination**

- 11.1 This clause applies to a Dispute between any of the Parties to this Deed concerning a matter arising in connection with this Deed that can be determined by an appropriately qualified expert if:
  - 11.1.1 the Parties to the Dispute agree that it can be so determined, or
  - 11.1.2 the Chief Executive Officer of the professional body that represents persons who appear to have the relevant expertise to determine the Dispute gives a written opinion that the Dispute can be determined by a member of that body.
- 11.2 A Dispute to which this clause applies is taken to arise if one Party gives another Party a notice in writing specifying particulars of the Dispute.
- 11.3 If a notice is given under clause 11.2, the Parties are to meet within 14 days of the notice in an attempt to resolve the Dispute.
- 11.4 If the Dispute is not resolved within a further 28 days, the Dispute is to be referred to the President of the NSW Law Society to appoint an expert for expert determination.
- 11.5 The expert determination is binding on the Parties except in the case of fraud or misfeasance by the expert.
- 11.6 Each Party is to bear its own costs arising from or in connection with the appointment of the expert and the expert determination.
- 11.7 The Parties are to share equally the costs of the President, the expert, and the expert determination.

### **12 Dispute Resolution - mediation**

- 12.1 This clause applies to any Dispute arising in connection with this Deed other than a Dispute to which clause 11 applies.

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- 12.2 Such a Dispute is taken to arise if one Party gives another Party a notice in writing specifying particulars of the Dispute.
- 12.3 If a notice is given under clause 12.2, the Parties are to meet within 14 days of the notice in an attempt to resolve the Dispute.
- 12.4 If the Dispute is not resolved within a further 28 days, the Parties are to mediate the Dispute in accordance with the Mediation Rules of the Law Society of New South Wales published from time to time and are to request the President of the Law Society to select a mediator.
- 12.5 If the Dispute is not resolved by mediation within a further 28 days, or such longer period as may be necessary to allow any mediation process which has been commenced to be completed, then the Parties may exercise their legal rights in relation to the Dispute, including by the commencement of legal proceedings in a court of competent jurisdiction in New South Wales.
- 12.6 Each Party is to bear its own costs arising from or in connection with the appointment of a mediator and the mediation.
- 12.7 The Parties are to share equally the costs of the President, the mediator, and the mediation.

## **Part 4 - Enforcement**

### **13 Acquisition of land required to be dedicated**

- 13.1 If the Developer does not dedicate the Environmental Dedication Land at the time at which it is required to be dedicated, the Developer consents to the Council compulsorily acquiring the Environmental Dedication Land for compensation in the amount of \$1.00 without having to follow the pre-acquisition procedure under the Just Terms Act.
- 13.2 The Council is to only acquire the Environmental Dedication Land pursuant to clause 13.1 if it considers it reasonable to do so having regard to the circumstances surrounding the failure by the Developer to dedicate the Environmental Dedication Land.
- 13.3 Clause 13.1 constitutes an agreement for the purposes of s30 of the Just Terms Act.
- 13.4 If, as a result of the acquisition referred to in clause 13.1, the Council is required to pay compensation to any person other than the Developer, the Developer is to reimburse the Council that amount, upon a written request being made by the Council.
- 13.5 The Developer indemnifies and keeps indemnified the Council against all Claims made against the Council as a result of any acquisition by the Council of the whole or any part of the Environmental Dedication Land except if, and to the extent that, the Claim arises because of the Council's negligence or default.
- 13.6 The Developer is to promptly do all things necessary, and consents to the Council doing all things necessary, to give effect to this clause 13, including without limitation:
  - 13.6.1 signing any documents or forms,

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- 13.6.2 giving land owner's consent for lodgement of any Development Application,
- 13.6.3 producing certificates of title to the Registrar-General under the *Real Property Act 1900*, and
- 13.6.4 paying the Council's costs arising under this clause 13.

## **14 Breach of obligations**

- 14.1 If the Council reasonably considers that the Developer is in breach of any obligation under this Deed, it may give a written notice to the Developer:
  - 14.1.1 specifying the nature and extent of the breach,
  - 14.1.2 requiring the Developer to:
    - (a) rectify the breach if it reasonably considers it is capable of rectification, or
    - (b) pay compensation to the reasonable satisfaction of the Council in lieu of rectifying the breach if it reasonably considers the breach is not capable of rectification,
  - 14.1.3 specifying the period within which the breach is to be rectified or compensation paid, being a period that is reasonable in the circumstances.
- 14.2 Any costs incurred by the Council in remedying a breach may be recovered by the Council as a debt due in a court of competent jurisdiction.
- 14.3 For the purpose of clause 14.2, the Council's costs of remedying a breach the subject of a notice given under clause 14.1 include, but are not limited to:
  - 14.3.1 the costs of the Council's servants, agents and contractors reasonably incurred for that purpose,
  - 14.3.2 all fees and charges necessarily or reasonably incurred by the Council in remedying the breach, and
  - 14.3.3 all legal costs and expenses reasonably incurred by the Council, by reason of the breach.
- 14.4 Nothing in this clause 14 prevents the Council from exercising any rights it may have at law or in equity in relation to a breach of this Deed by the Developer, including but not limited to seeking relief in an appropriate court.

## **15 Enforcement in a court of competent jurisdiction**

- 15.1 Without limiting any other provision of this Deed, the Parties may enforce this Deed in any court of competent jurisdiction.
- 15.2 For the avoidance of doubt, nothing in this Deed prevents:
  - 15.2.1 a Party from bringing proceedings in the Land and Environment Court to enforce any aspect of this Deed or any matter to which this Deed relates, or
  - 15.2.2 the Council from exercising any function under the Act or any other Act or law relating to the enforcement of any aspect of this Deed or any matter to which this Deed relates.

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## Part 5 – Registration & Restriction on Dealings

### 16 Not Used

### 17 Restriction on dealings

- 17.1 The Developer is not to:
  - 17.1.1 sell or transfer the Developer Land or any part, or
  - 17.1.2 assign the Developer's rights or obligations under this Deed, or novate this Deed,to any person unless:
  - 17.1.3 the Developer has, at no cost to the Council, first procured the execution by the person to whom the Developer Land or part is to be sold or transferred or the Developer's rights or obligations under this Deed are to be assigned or novated, of a deed in favour of the Council on terms reasonably satisfactory to the Council, and
  - 17.1.4 the Council has given written notice to the Developer stating that it reasonably considers that the purchaser, transferee, assignee or novatee, is reasonably capable of performing its obligations under this Deed, and
  - 17.1.5 the Developer is not in breach of this Deed, and
  - 17.1.6 the Council otherwise consents to the transfer, assignment or novation, such consent not to be unreasonably withheld.
- 17.2 Clause 17.1 does not apply in relation to any sale or transfer of the Developer Land if this Deed is registered on the title to the Developer Land at the time of the sale.

## Part 6 – Indemnities & Insurance

### 18 Risk

- 18.1 The Developer performs this Deed at its own risk and its own cost.

### 19 Release

- 19.1 The Developer releases the Council from any Claim it may have against the Council arising in connection with the performance of the Developer's obligations under this Deed except if, and to the extent that, the Claim arises because of the Council's negligence or default.



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## **20 Indemnity**

- 20.1 The Developer indemnifies the Council from and against all Claims that may be sustained, suffered, recovered or made against the Council arising in connection with the performance of the Developer's obligations under this Deed except if, and to the extent that, the Claim arises because of the Council's negligence or default.

## **Part 7 – Other Provisions**

### **21 Review of Deed**

- 21.1 The Parties agree to review this Deed if either party is of the opinion that any change of circumstance has occurred, or is imminent, that materially affects the operation of this Deed.
- 21.2 For the purposes of clause 21.1, the relevant changes include (but are not limited to) any change to a law that restricts or prohibits or enables the Council or any other planning authority to restrict or prohibit any aspect of the Development.
- 21.3 For the purposes of addressing any matter arising from a review of this Deed referred to in clause 21.1, the Parties are to use all reasonable endeavours to agree on and implement appropriate amendments to this Deed.
- 21.4 If this Deed becomes illegal, unenforceable or invalid as a result of any change to a law, the Parties agree to do all things necessary to ensure that an enforceable agreement of the same or similar effect to this Deed is entered into.
- 21.5 A failure by a Party to agree to take action requested by the other Party as a consequence of a review referred to in clause 21.1 (but not 21.4) is not a Dispute for the purposes of this Deed and is not a breach of this Deed.

### **22 Notices**

- 22.1 Any notice, consent, information, application or request that is to or may be given or made to a Party under this Deed is only given or made if it is in writing and sent in one of the following ways:
- 22.1.1 delivered or posted to that Party at its address set out in the Summary Sheet,
- 22.1.2 faxed to that Party at its fax number set out in the Summary Sheet, or
- 22.1.3 emailed to that Party at its email address set out in the Summary Sheet.
- 22.2 If a Party gives the other Party 3 business days' notice of a change of its address, fax number or email, any notice, consent, information, application or request is only given or made by that other Party if it is delivered, posted, faxed or emailed to the latest address or fax number.

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- 22.3 Any notice, consent, information, application or request is to be treated as given or made if it is:
- 22.3.1 delivered, when it is left at the relevant address,
  - 22.3.2 sent by post, 2 business days after it is posted,
  - 22.3.3 sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number, or
  - 22.3.4 sent by email and the sender does not receive a delivery failure message from the sender's internet service provider within a period of 24 hours of the email being sent.
- 22.4 If any notice, consent, information, application or request is delivered, or an error free transmission report in relation to it is received, on a day that is not a business day, or if on a business day, after 5pm on that day in the place of the Party to whom it is sent, it is to be treated as having been given or made at the beginning of the next business day.

## **23 Approvals and Consent**

- 23.1 Except as otherwise set out in this Deed, and subject to any statutory obligations, a Party may give or withhold an approval or consent to be given under this Deed in that Party's absolute discretion and subject to any conditions determined by the Party.
- 23.2 A Party is not obliged to give its reasons for giving or withholding consent or for giving consent subject to conditions.

## **24 Costs**

- 24.1 The Parties are to pay their own costs of preparing, negotiating, executing and stamping this Deed, and any document related to this Deed.
- 24.2 The Developer is to pay to the Council the Council's reasonable costs of enforcing this Deed within 7 days of a written demand by the Council for such payment.

## **25 Entire Deed**

- 25.1 This Deed contains everything to which the Parties have agreed in relation to the matters it deals with.
- 25.2 No Party can rely on an earlier document, or anything said or done by another Party, or by a director, officer, agent or employee of that Party, before this Deed was executed, except as permitted by law.

## **26 Further Acts**

- 26.1 Each Party must promptly execute all documents and do all things that another Party from time to time reasonably requests to effect, perfect or complete this Deed and all transactions incidental to it.



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## **27 Governing Law and Jurisdiction**

- 27.1 This Deed is governed by the law of New South Wales.
- 27.2 The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them.
- 27.3 The Parties are not to object to the exercise of jurisdiction by those courts on any basis.

## **28 Joint and Individual Liability and Benefits**

- 28.1 Except as otherwise set out in this Deed:
  - 28.1.1 any agreement, covenant, representation or warranty under this Deed by 2 or more persons binds them jointly and each of them individually, and
  - 28.1.2 any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

## **29 No Fetter**

- 29.1 Nothing in this Deed shall be construed as requiring Council to do anything that would cause it to be in breach of any of its obligations at law, and without limitation, nothing shall be construed as limiting or fettering in any way the exercise of any statutory discretion or duty.

## **30 Illegality**

- 30.1 If this Deed or any part of it becomes illegal, unenforceable or invalid as a result of any change to a law, the Parties are to co-operate and do all things necessary to ensure that an enforceable agreement of the same or similar effect to this Deed is entered into.

## **31 Severability**

- 31.1 If a clause or part of a clause of this Deed can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way.
- 31.2 If any clause or part of a clause is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this Deed, but the rest of this Deed is not affected.

## **32 Amendment**

- 32.1 No amendment of this Deed will be of any force or effect unless it is in writing and signed by the Parties to this Deed in accordance with clause 25D of the Regulation.

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### 33 Waiver

- 33.1 The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Deed, does not amount to a waiver of any obligation of, or breach of obligation by, another Party.
- 33.2 A waiver by a Party is only effective if it is in writing.
- 33.3 A written waiver by a Party is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

### 34 GST

- 34.1 In this clause:  
**Adjustment Note, Consideration, GST, GST Group, Margin Scheme, Money, Supply and Tax Invoice** have the meaning given by the GST Law.  
**GST Amount** means in relation to a Taxable Supply the amount of GST payable in respect of the Taxable Supply.  
**GST Law** has the meaning given by the *A New Tax System (Goods and Services Tax) Act 1999* (Cth).  
**Input Tax Credit** has the meaning given by the GST Law and a reference to an Input Tax Credit entitlement of a party includes an Input Tax Credit for an acquisition made by that party but to which another member of the same GST Group is entitled under the GST Law.  
**Taxable Supply** has the meaning given by the GST Law excluding (except where expressly agreed otherwise) a supply in respect of which the supplier chooses to apply the Margin Scheme in working out the amount of GST on that supply.
- 34.2 Subject to clause 34.4, if GST is payable on a Taxable Supply made under, by reference to or in connection with this Deed, the Party providing the Consideration for that Taxable Supply must also pay the GST Amount as additional Consideration.
- 34.3 Clause 34.2 does not apply to the extent that the Consideration for the Taxable Supply is expressly stated in this Deed to be GST inclusive.
- 34.4 No additional amount shall be payable by the Council under clause 34.2 unless, and only to the extent that, the Council (acting reasonably and in accordance with the GST Law) determines that it is entitled to an Input Tax Credit for its acquisition of the Taxable Supply giving rise to the liability to pay GST.
- 34.5 If there are Supplies for Consideration which is not Consideration expressed as an amount of Money under this Deed by one Party to the other Party that are not subject to Division 82 of the *A New Tax System (Goods and Services Tax) Act 1999*, the Parties agree:
  - 34.5.1 to negotiate in good faith to agree the GST inclusive market value of those Supplies prior to issuing Tax Invoices in respect of those Supplies;

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- 34.5.2 that any amounts payable by the Parties in accordance with clause 34.2 (as limited by clause 34.4) to each other in respect of those Supplies will be set off against each other to the extent that they are equivalent in amount.
- 34.6 No payment of any amount pursuant to this clause 34, and no payment of the GST Amount where the Consideration for the Taxable Supply is expressly agreed to be GST inclusive, is required until the supplier has provided a Tax Invoice or Adjustment Note as the case may be to the recipient.
- 34.7 Any reference in the calculation of Consideration or of any indemnity, reimbursement or similar amount to a cost, expense or other liability incurred by a party, must exclude the amount of any Input Tax Credit entitlement of that party in relation to the relevant cost, expense or other liability.
- 34.8 This clause continues to apply after expiration or termination of this Deed.

### **35 Explanatory Note**

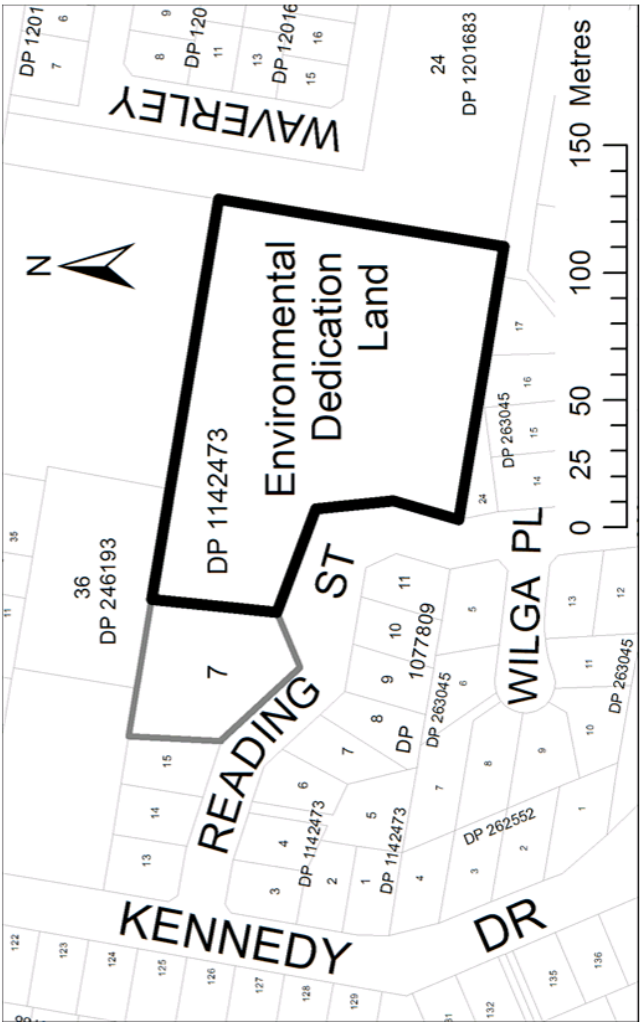
- 35.1 The Appendix contains the Explanatory Note relating to this Deed required by clause 25E of the Regulation.
- 35.2 Pursuant to clause 25E(7) of the Regulation, the Parties agree that the Explanatory Note is not to be used to assist in construing this Deed.

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Schedule  
(Clause 1.1)

Map



Reading Street Environmental Land Planning Agreement  
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**Execution**

**Executed as a Deed**

**Dated:**

**Executed on behalf of the Council**

\_\_\_\_\_  
General Manager

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Witness

**Executed by Ronald Gordon Little**

\_\_\_\_\_  
Name/Position

\_\_\_\_\_  
Witness

**Executed by Adele Lillian Little**

\_\_\_\_\_  
Name/Position

\_\_\_\_\_  
Witness

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## **Appendix**

(Clause 35)

*Environmental Planning and Assessment Regulation 2000*

(Clause 25E)

## **Explanatory Note**

### **Draft Planning Agreement**

Under s93F of the *Environmental Planning and Assessment Act 1979*

### **Parties**

**Port Macquarie-Hastings Council** ABN 11 236 901 601 of Cnr Lord & Burrawan  
Streets Port Macquarie NSW 2444 (**Council**)

**Ronald Gordon Little and Adele Lillian Little** of 1A Moonah Parade Port Macquarie  
NSW 2444 (**Developer**)

### **Description of the Land to which the Draft Planning Agreement Applies**

Lot 7 in DP 1142473 and includes any lot created by the subdivision of that lot.

### **Description of LEP Amendment and Proposed Development**

This Draft Planning Agreement is in connection with a proposed amendment to the LEP to rezone the Developer Land to partly R1 Low Density Residential and partly E2 Environmental Conservation.

This Draft Planning Agreement is in connection with the development described in Development Application DA2016-0053 lodged with the Council around 4 February 2016 being the subdivision of the Developer Land and the Neighbour Land to adjust the boundary between them and to subdivide the Developer Land to create Final Lots and the Environmental Dedication Land as a separate lot.

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## **Summary of Objectives, Nature and Effect of the Draft Planning Agreement**

### **Objectives of Draft Planning Agreement**

The objective of the Draft Planning Agreement is to require the Developer to dedicate to the Council the Environmental Dedication Land for the purpose of environmental conservation.

### **Nature of Draft Planning Agreement**

The Draft Planning Agreement is a planning agreement under s93F of the Environmental Planning and Assessment Act 1979 (Act). The Draft Planning Agreement is a voluntary agreement under which the Developer is required to dedicate the Environmental Dedication Land for public purposes (as defined in s93F(2) of the Act).

### **Effect of the Draft Planning Agreement**

The Draft Planning Agreement:

- relates to the LEP Amendment and the carrying out of the Development on the Developer Land,
- does not exclude the application of s94A or s94EF of the Act to the Development,
- does not exclude the application of s94 of the Act to the Development except in relation to a condition of any Development Consent relating to the Development requiring the making of a development contribution towards the cost of public open space.
- requires the Developer to dedicate the Environmental Dedication Land to the Council free of cost to the Council,
- imposes restrictions on the Parties transferring the Developer Land or part or assigning an interest under the agreement,
- provides two dispute resolution methods for a dispute under the agreement, being expert determination and mediation,
- provides that the agreement is governed by the law of New South Wales, and
- provides that the *A New Tax System (Goods and Services Tax) Act 1999* (Cth) applies to the agreement.

## **Assessment of the Merits of the Draft Planning Agreement**

### **The Planning Purposes Served by the Draft Planning Agreement**

The Draft Planning Agreement:

- promotes and co-ordinates the orderly and economic use and development of the Developer Land to which the agreement applies,
- promotes the protection of the environment.

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**How the Draft Planning Agreement Promotes the Public Interest**

The Draft Planning Agreement promotes the public interest by promoting the objects of the Act as set out in s5(a)(ii) and (vi).

**For Planning Authorities:**

***Development Corporations - How the Draft Planning Agreement Promotes its Statutory Responsibilities***

N/A

***Other Public Authorities – How the Draft Planning Agreement Promotes the Objects (if any) of the Act under which it is Constituted***

N/A

***Councils – How the Draft Planning Agreement Promotes the Elements of the Council's Charter***

The Draft Planning Agreement promotes the elements of the Council's charter by:

- promoting ecologically sustainable development, by providing the Council with monetary development contributions to be put towards the management of the environment in Council's local government area;
- effectively managing public land assets for which the Council is responsible by raising funds towards the management of those assets; and
- engaging in long-term strategic planning on behalf of the local community for the management of public land in Council's ownership and control.

***All Planning Authorities – Whether the Draft Planning Agreement Conforms with the Authority's Capital Works Program***

The management of environmental land is consistent with and conforms to the Capital Works Program envisaged by Council's 2013-2017 Delivery Program.

***All Planning Authorities – Whether the Draft Planning Agreement specifies that certain requirements must be complied with before a construction certificate, occupation certificate or subdivision certificate is issued***

The Draft Planning Agreement does not contain requirements that must be complied with before a construction certificate, occupation certificate or subdivision certificate is issued for the development.



Planning Proposal under sec 55 of the EP&A Act  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

Appendix E – Public Authority comments

## Appendix E – Public Authority comments

Consultation was made with the following authorities:

- Office of Environment and Heritage [OEH]
- Rural Fire Service [RFS]

Copies of their comments are on the following pages.

The following responses are provided on their comments.

### OEH recommendations

1. Recalculate the HBT values for the four HBTs within the proposed residential subdivision in accordance with the DCP 2013 hollow-bearing tree assessment protocol on the basis that the HBTs are located within "habitat".

Response: Agreed - refer to the update at the start of **Appendix H**.

2. Offset the proposed removal of the four HBTs located within the residential subdivision in accordance with the development provisions specified in Section 2.3.3.9 of DCP 2013.

Response: Refer to the start of **Appendix H**.

3. The applicant should demonstrate the adequacy of the proposed offset site (Lot 5) through the use of a biometric assessment tool such as the Biobanking Assessment Methodology (BBAM) (OEH 2014) or equivalent biometric.

Response: It is considered unnecessary to carry out further assessment to confirm the benefits of providing an improved corridor linkage on the eastern portion of Lot 7.

4. The potential for future bushfire APZ commitments within the proposed Public Reserve and offset site should be considered when determining the adequacy of any biodiversity offset for the proposed subdivision. Any proposed loss of vegetation, or reduction in the rehabilitation potential of the site due to the provision of APZs, should be considered during the application of the relevant biometric tool.

Response: Currently there are changes being implemented to the requirements for provision of Asset Protection Zones [APZ] adjoining existing development. Having regard to the possibility of a future APZ for the houses immediately to the south of the proposed Lot 5 (ie on the northern side of Nangara Place), it is noted:

- APZ management is about management of fuel load, primarily minimising the flammable ground cover. If it is necessary to reduce canopy cover, this would initially target non-native species.
- Any potential fire would be coming from or through the rainforest vegetation, and would be unlikely to have high intensity and speed.
- The likely APZ width would probably be less than 20 m, and would be measured from the backs of the houses.

Based on this the area within proposed lot 5 affected by a possible APZ would be in the order of 1235 sq m, and does not necessarily require removal of all native vegetation.

The net increase in land zoned E2 Environmental Conservation is 1, 203 sq m - refer **Chapter 1 Part 4**. There is no net loss, as provision of an APZ would probably be required irrespective of this proposed rezoning and subdivision.

5. Amend Chapter 3 of the Planning Proposal to detail council's intention to declare and manage the portion of land dedicated to council as "community land containing significant natural features" in accordance with Section 36C of the *Local Government Act 1993*.

*Planning Proposal under sec 55 of the EP&A Act* *Appendix E – Public Authority comments*  
*Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie*

---

Alternatively, council is encouraged to examine the potential benefits in applying for a BioBanking Agreement over the site.

*Response:* The land is being rezoned to E2 Environmental Conservation, and is to be dedicated to Council as public reserve. It is Council's intention to include this within Council's managed bushland. It is unclear what additional benefits would come from either of the recommended options.

6. Council should consider rezoning Lot 24 DP 1201683 to E2 and manage it in conjunction with Lot 5 of the subject land as "community land containing significant natural features" in accordance with Section 36C of the *Local Government Act 1993*. Again, as an alternative, council is encouraged to consideration applying for a BioBanking Agreement over the site.

*Response:* Lot 24 is the land to the east and was dedicated to Council when the Waverley Glade subdivision occurred. Currently zoned R1 General Residential, it was dedicated to Council for the purpose of environmental management, and is classified as Community Land under the *Local Government Act 1993*. There is a separate project of applying appropriate zonings to such land, and the OEH request will be addressed in the near future.

- 7 The applicant should prepare a detailed Aboriginal Cultural Heritage assessment to inform any final decision regarding the proposed subdivision.

*Response:* The Assessment has been prepared, and a copy is contained in **Appendix H**.

#### **Rural Fire Service comments**

The matters raised will be addressed by default.



Our Ref: DOC16/482002  
Your Ref: DD032.2016.00000003.001

General Manager  
Port Macquarie - Hastings Council  
PO Box 84  
Port Macquarie NSW 2444

Attention: Mr Stephen Nicholson

Dear Mr Swift - McNair

**Re: LEP amendments and subdivision – Reading Street, Port Macquarie.**

Thank you for your letter dated 22 September about the combined planning proposal and residential subdivision for Reading Street, Port Macquarie seeking comments from the Office of Environment and Heritage (OEH). I appreciate the opportunity to provide input.

The OEH has statutory responsibilities relating to biodiversity (including threatened species, populations, ecological communities, or their habitats), Aboriginal and historic heritage, National Parks and Wildlife Service estate, flooding and estuary management.

We have reviewed the documents supplied and advise that, although we have no concerns about NPWS estate or historic heritage, a number of issues are apparent with respect to the assessments for biodiversity, and Aboriginal cultural heritage. The main issues with the combined planning proposal and proposed subdivision include:

- Incorrect assessment of hollow-bearing tree (HBT) values within the proposed subdivision footprint;
- The adequacy of the proposed offset measures has not been demonstrated using an appropriate biometric tool;
- Lack of consideration of potential future bushfire Asset Protection Zone (APZ) commitments to neighbouring residential properties; and
- Lack of a detailed Aboriginal cultural heritage assessment.

These issues are discussed in detail in **Attachment 1** to this letter.

In summary, the OEH provides the following recommendations to be considered by council prior to exhibiting the planning proposal and determining the development application:

Locked Bag 914 Coffs Harbour NSW 2450  
Federation House, Level 8, 24 Moonee Street  
Coffs Harbour NSW 2450  
Tel: (02) 6659 8200 Fax: (02) 6659 8281  
ABN 30 841 387 271  
[www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)

1. Recalculate the HBT values for the four HBTs within the proposed residential subdivision in accordance with the Port Macquarie - Hastings Development Control Plan 2013 (DCP 2013) Hollow-bearing Tree Assessment Protocol on the basis that the HBTs are located within "habitat".
2. Offset the proposed removal of the four HBTs located within the residential subdivision in accordance with the development provisions specified in Section 2.3.3.9 of DCP 2013.
3. Demonstrate the adequacy of the proposed offset site (Lot 5) through the use of a biometric assessment tool such as the OEH's BioBanking Assessment Methodology (BBAM) or equivalent biometric.
4. Consider the potential for future bushfire APZ commitments within the proposed Public Reserve and offset site when determining the adequacy of any biodiversity offset for the proposed subdivision.
5. Amend Chapter 3 of the Planning Proposal to detail council's intention to declare and manage the portion of land dedicated to council as "*community land containing significant natural features*" in accordance with Section 36C of the *Local Government Act 1993*. Alternatively, council may wish to consider a BioBanking Agreement over the site to provide in-perpetuity protection, along with regular payments from the BioBanking Trust Fund to manage the site for conservation purposes.
6. Prepare a detailed ACH assessment to inform any final decision regarding the proposed subdivision.

Furthermore, although not subject to the planning proposal or development application, we strongly encourage council to consider rezoning Lot 24 DP 1201683 to E2- Environmental Conservation and manage it in conjunction with Lot 5 of the subject land as "*community land containing significant natural features*" in accordance with Section 36C of the *Local Government Act 1993* (or a BioBanking Agreement). This would provide more secure long term protection for the existing habitat linkages and wildlife corridor function between remnant native vegetation along Wright's Creek and Sea Acres Nature Reserve.

If you have any further questions about these issues, Mr Don Owner, Regional Operations Officer, Regional Operations, OEH, can be contacted on 6659 8233 or at [don.owner@environment.nsw.gov.au](mailto:don.owner@environment.nsw.gov.au).

Yours sincerely



28 November 2016.

**NICKY OWNER**  
**A/Senior Team Leader Planning, North East Region**  
**Regional Operations**

Contact officer: DON OWNER  
6659 8233

Enclosure: Attachment 1: Detailed OEH Comments – Reading Street Planning Proposal and Residential Subdivision.



**Attachment 1: Detailed OEH Comments – Reading Street Planning Proposal and Residential Subdivision.****1. Biodiversity**Hollow-bearing Trees

The planning proposal would result in a portion of the subject land being rezoned from E2 – Environmental Protection to R1 – Residential in order to facilitate a proposed residential subdivision on the subject land. However, following on from the rezoning, the proposed residential subdivision must comply with Clause 2.3.3.8(a) of the Port Macquarie - Hastings Development Control Plan 2013 (DCP 2013), which requires all hollow-bearing trees within the development area to be accurately located by survey and assessed by an appropriately qualified ecologist in accordance with Council's hollow-bearing tree assessment protocol. This procedure appears to have been complied with by the applicant's ecologist, with the results of this work summarised in Table 13 of the Statutory Ecological Assessment (SEA) prepared by NatureCall Environmental and dated 2015.

In Table 13 of the SEA three of the four hollow-bearing trees (HBTs) located within the proposed residential subdivision were allocated a "habitat or linkage proximity score" of zero on the basis that they were greater than 30 metres away from either "habitat" or a "linkage". In addition, the fourth HBT within the proposed residential subdivision was allocated a score of two on the basis that it was within 30 metres of either "habitat" or a "linkage". However, all four of the HBTs located within the proposed residential subdivision appear to be situated within "habitat" suitable for a variety of native hollow-dependent fauna species. Therefore, all four of these HBTs should have been allocated the maximum score of three for this HBT assessment component.

Consequently, the correct application of the DCP 2013 hollow-bearing tree assessment protocol would have resulted in scores for HBTs located within the proposed residential subdivision ranging from 12.5 to 14. Subsequently, in accordance with Clause 2.3.3.8(d) of the DCP 2013, the applicant would have been required to either retain all of the HBTs within environmental lands or provide a development exclusion buffer (i.e. of a radius of 1.25 times the height of the tree measured from its base) around each of the HBTs located within the proposed residential subdivision.

Furthermore, statements in the SEA were inconsistent about whether the HBTs within the proposed residential subdivision would be retained. For example, it was stated in Table 15 of the SEA that four HBTs were to be removed, yet in Section 6.1.1 it was stated that the four HBTs in the development envelope would most likely be retained.

OEH Recommendations:

1. Recalculate the HBT values for the four HBTs within the proposed residential subdivision in accordance with the DCP 2013 hollow-bearing tree assessment protocol on the basis that the HBTs are located within "habitat".
2. Offset the proposed removal of the four HBTs located within the residential subdivision in accordance with the development provisions specified in Section 2.3.3.9 of DCP 2013.

Suitability and Adequacy of the Proposed Biodiversity Offset

The applicant has proposed to offset the rezoning of 0.185 ha of E2 zoned land to R1 by rezoning 0.304 of R1 zoned land to E2. However, the area of E2 zoned land to be lost consists of native vegetation in moderate to good condition, provides known habitat for a threatened flora species and contains four HBTs of moderate to high value. Conversely, the proposed offset area (i.e. existing R1 zoned land) consists of highly disturbed native vegetation in low condition, no threatened flora species habitat and no HBTs.



Attachment 1: Detailed OEH Comments – Reading Street Planning Proposal and Residential Subdivision

The potential loss of biodiversity values appears to be addressed by the proposed subdivision through the dedication of proposed Lot 5 to council to be managed for conservation purposes in perpetuity. However, the applicant has not utilised any form of biometric assessment tool to clearly demonstrate that an appropriate and sufficient offset has been provided.

*OEH Recommendation:*

3. The applicant should demonstrate the adequacy of the proposed offset site (Lot 5) through the use of a biometric assessment tool such as the Biobanking Assessment Methodology (BBAM) (OEH 2014) or equivalent biometric.

Bushfire Asset Protection Zone Requirements

The southern boundary of the proposed offset site adjoins existing residential properties with minimal apparent space between the existing dwellings and the offset site boundary in which to accommodate bushfire Asset Protection Zones (APZs). The proposed rehabilitation of the offset site would most likely increase the bushfire hazard risk to adjacent residential properties, which may require Council to incorporate APZ measures within the public reserve. Any future APZ measures that encroach into the public reserve would significantly reduce potential offsetting values.

*OEH Recommendation:*

4. The potential for future bushfire APZ commitments within the proposed Public Reserve and offset site should be considered when determining the adequacy of any biodiversity offset for the proposed subdivision. Any proposed loss of vegetation, or reduction in the rehabilitation potential of the site due to the provision of APZs, should be considered during the application of the relevant biometric tool.

Future Management of Conservation Lands

The OEH's principles for offsetting can be found at the following link:

<http://www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm>. One of these principals is that the offset site must be managed for conservation in-perpetuity. The proposed solution is for Lot 5 to be dedicated to council for management as public reserve.

The stated intention for the eastern portion of lot 7 (i.e. proposed Lot 5) is to "*retain and enhance the vegetation in order to protect the upper catchment of Wright's Creek and to provide habitat connectivity between Wright's Creek and Sea Acres Nature Reserve (NR)*". Therefore, given this stated intention and known environmental values of the subject land, the OEH would expect council to declare the residual lot as "*community land containing significant natural features*" in accordance with Section 36C of the *Local Government Act 1993*. Such a declaration would ensure that future management of the land would be undertaken in accordance with a site-specific Plan of Management with objectives and performance targets designed to protect the natural values of the area.

Alternatively, a BioBanking Agreement over the subject land would provide in-perpetuity protection for the site, as well as regular payments from the BioBanking Trust Fund to manage the site for conservation purposes. More information regarding the use of BioBanking Agreements can be found at <http://www.environment.nsw.gov.au/biobanking/participants.htm>

*OEH Recommendation:*

5. Amend Chapter 3 of the Planning Proposal to detail council's intention to declare and manage the portion of land dedicated to council as "*community land containing significant natural features*" in accordance with Section 36C of the *Local Government Act 1993*. Alternatively, council is encouraged to examine the potential benefits in applying for a BioBanking Agreement over the site.

Attachment 1: Detailed OEH Comments – Reading Street Planning Proposal and Residential Subdivision

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Potential to Improve Wildlife Corridor Function

The planning proposal and proposed subdivision has the potential to improve habitat linkage and wildlife corridor function between remnant native vegetation along Wright's Creek and Sea Acres NR. However, council managed land on Lot 24 DP 1201683 provides an important part of the remaining habitat link, but remains zoned R1. Although not subject to this planning proposal, rezoning of Lot 24 DP 1201683 to E2 would significantly improve the long-term protection of the habitat link between Wright's Creek and Sea Acres NR.

*OEH Recommendation:*

6. Council should consider rezoning Lot 24 DP 1201683 to E2 and manage it in conjunction with Lot 5 of the subject land as "*community land containing significant natural features*" in accordance with Section 36C of the *Local Government Act 1993*. Again, as an alternative, council is encouraged to consideration applying for a BioBanking Agreement over the site.

**2. Aboriginal Cultural Heritage**

The OEH has reviewed the planning proposal from the perspective of Aboriginal cultural heritage (ACH) and notes that no evidence of possible ACH constraints to future developments resulting from the proposed subdivision has been provided. It appears that no consideration to ACH values has as yet been given with regard to this proposal.

*OEH Recommendation:*

7. The applicant should prepare a detailed ACH assessment to inform any final decision regarding the proposed subdivision.

**NSW RURAL FIRE SERVICE**

The General Manager  
Port Macquarie Hastings Council  
PO Box 84  
PORT MACQUARIE NSW 2444

Your reference: PMH LEP 2011 AM41  
Our reference: L09/0007  
DA 16120705133AB

**Attention:** Christopher Gardiner

8 December 2016

Dear Mr Gardiner

**Agency Comment – Port Macquarie LEP 2011 Amendment 41 Planning Proposal for Lot 7 DP 1142473; 40 Reading Street Port Macquarie**

I refer to your letter dated 22 September 2016 seeking comments from the NSW Rural Fire Service (NSW RFS) with respect to the above Planning Proposal.

The NSW RFS has reviewed the submitted documentation and understands the Planning Proposal will amend Port Macquarie Hastings Local Environmental Plan 2011 in the following manner:

- Rezone part Lot 7 DP 1142473 from E2 Environment Conservation to R1 General Residential land use zone;
- Amend the lot size map to permit residential subdivision within the R1 land use zone;
- Amend the floor space ratio map within the R1 land use zone.

The purpose of the rezoning is to permit an additional 3 residential lots within the R1 land use zone and the creation of lot 5 within the E2 land use zone, which will be transferred to Council for its future protection and management (Council DA/2016/53).

The NSW RFS has no objection to the Planning Proposal proceeding and provides the following comment:

- Council needs to be satisfied that vegetation within proposed lots 3 and 4 can be managed, at subdivision stage, to create Asset Protection Zones for future dwellings as per DA/2016/53.
- Future Development Applications will need to comply with the specifications and requirements of *Planning for Bush Fire Protection 2006*.

**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](http://www.rfs.nsw.gov.au)



For any queries regarding this correspondence please contact Alan Bawden on 1300 NSW RFS.

Yours sincerely



**John Ball**  
**Manager – Customer Service Centre Coffs Harbour**

*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](http://www.rfs.nsw.gov.au) and search under 'Planning for Bush Fire Protection, 2006'.*

*Planning Proposal under sec 55 of the EP&A Act*      *Appendix F – Statement of Environmental Effects*  
*Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie*

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## **Appendix F – Statement of Environmental Effects**

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The Statement of Environmental Effects submitted with the development application is on the following pages.

2016-53.1



## STATEMENT OF ENVIRONMENTAL EFFECTS

This form is to be submitted for minor development applications only, such as new dwellings, alterations and additions and ancillary structures, change of use/first use of commercial and industrial premises. Other applications will require a comprehensive SOEE. Refer to SOEE Fact Sheet or Council's Duty Planner for assistance.

If you answer "yes" to any item in sections 4 to 8 you will need to detail the likely impact(s) and the proposed means of mitigating or reducing such impact(s). If insufficient space has been provided, attach additional sheet(s).

## 1. PROPERTY DETAILS

Lot No ..... 7 ..... Section No. .... 1142473 ..... DP/SP No. .... Street No ..... 40 .....  
 Street Name ..... 15 ..... ROADINA ..... 1099742 .....  
 Suburb/Town ..... PORT MACQUARIE ..... Postcode ..... 2448 .....

## 2. PROPOSAL DESCRIPTION

Provide a description of the proposed development. ....

5 LOT SUBDIVISION

The following questions are to be completed for applications relating to home business/industry, shops, commercial and industrial premises.

Hours of operation? ..... N/A .....

Client and staff numbers? ..... " .....

Type, size and quantity of goods to be made, stored or transported? .....

N/A

Details of any deliveries (i.e. hours, frequency, type of vehicles)? .....

N/A

Details of any retailing? ..... N/A .....

Comments: .....

.....

.....

### 3. PLANNING INFORMATION

What is the zoning of the subject land? ..... RESIDENTIAL - RU 6 - E2 .....

What is the current use of the land/building? ..... RESIDENTIAL + VACANT .....

Is your proposal:

- permissible in the zone? Yes ☐ No ☐
- consistent with the zone objectives? Yes ☒ No ☐

Does your proposal comply with the relevant:

- development standards (i.e. FSR, heights) in the Local Environmental Plan? N/A Yes ☐ No ☐
- development control plan (e.g. setbacks, car parking)? N/A Yes ☐ No ☐

If you answered "no" to any of the above questions, a detailed justification is required. Additionally, you should discuss your proposal with the Duty Planner before lodging your development application.

### 4. SITE SUITABILITY

Will the development:

- affect any neighbouring residences by overshadowing or loss of privacy? Yes ☐ No ☒
- result in the loss or reduction of views? Yes ☐ No ☒
- impact on any item of heritage or cultural significance? Yes ☐ No ☒
- result in land use conflict or incompatibility with neighbouring premises? Yes ☐ No ☒
- be out of character with the surrounding area? Yes ☐ No ☒
- be visually prominent within the existing landscape/streetscape? Yes ☐ No ☒
- require excavation or filling in excess of 1 metre? Yes ☐ No ☒
- require the erection or display of any advertising signage? Yes ☐ No ☒

Comments: .....

.....

.....

## 5. ENVIRONMENTAL IMPACTS

Is the site affected by any of the following natural hazards?

If yes, please indicate which hazard.

Flooding ☐ Bushfire ☒ Acid sulfate soils ☐Yes ☐ No ☐

(Note: Information on natural hazards available from Council.)

Will the proposal:

- result in any form of air pollution (smoke, dust, odour, etc)? Yes ☐ No ☒
- have the potential to cause any form of water pollution? Yes ☐ No ☒
- emit noise levels that could affect neighbouring properties? Yes ☐ No ☒
- be considered potentially hazardous or offensive (refer SEPP 33 for definitions)? Yes ☐ No ☒
- affect native or aquatic habitat? Yes ☐ No ☒
- have an impact on a threatened species or habitat? Yes ☐ No ☒
- involve the removal of any trees? (If yes, detail type and number below.) Yes ☐ No ☒

Comments: .....

.....

.....

## 6. ACCESS, TRAFFIC &amp; UTILITIES

Are electricity and telecommunications services available to the site? Yes ☒ No ☐Does the site have access to town water? Yes ☒ No ☐Does the site have access to town sewerage? Yes ☒ No ☐If you answered no to the above, is a waste water report attached? Yes ☐ No ☐

Provide details of on-site parking, including number of spaces. .... N/A

Is lawful and practical access available to the site? Yes ☒ No ☐Will the development increase local traffic movements and volumes? Yes ☒ No ☐Are appropriate manoeuvring, unloading and loading facilities available on site? Yes ☒ No ☐

(Note: Turning templates may be required for medium density, commercial and industrial.)

Provide details of proposed method of stormwater disposal (e.g. street, rubble drain, rainwater tank)

..... N/A



Comments: .....  
.....  
.....

7. SOCIAL & ECONOMIC IMPACTS (Not applicable to new dwellings, additions or like.)

Will the proposal have any social or economic impacts in the area? Yes ☐ No ☒

Have you conducted any community consultation (e.g. neighbours, Police)? Yes ☐ No ☒

Have you considered Council's Social Impact Assessment Policy? Yes ☐ No ☒

Comments: .....  
.....  
.....

8. WASTE DISPOSAL

Provide details of waste management, including reuse and recycling .....  
..... N/A

How and where will the wastes be stored? .....  
..... e/p.

Does the proposed use generate any special wastes (e.g. medical, contaminated)? Yes ☐ No ☒

Will the use generate trade wastes (e.g. greasy or medical wastes)? Yes ☐ No ☒

Comments: .....  
.....  
.....

APPLICANT'S SIGNATURE

DATE

11-2-16

*Planning Proposal under sec 55 of the EP&A Act*

*Appendix G – Bush Fire Assessment*

*Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie*

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## **Appendix G – Bush Fire Assessment**

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A bush fire safety authority under Section 100B of the *Rural Fires Act 1997* is required for subdivision of bush fire prone land that could lawfully be used for residential purposes. This separate approval makes the proposal 'integrated development', with concurrent assessment by the Rural Fire Service. The requirements of the Service (refer to **Appendix E**) will be incorporated into any development consent.

To assist in the assessment of the proposal, a Bush Fire Assessment has been included with the application. A copy is on the following pages.

Where an approved residential subdivision has a bush fire safety authority, clause 273 of the *Environmental Planning and Assessment Regulation 2000* can simplify the subsequent approval process for dwellings and ancillary buildings within that subdivision.

The Assessment incorrectly refers to a turning circle in Sections 2.2, 3.2 and 3.5 - this is not proposed as part of this development.

NOTE: In electronic form, the Bush Fire Assessment may be supplied as a separate electronic file.

**2015**

# Bush Fire Assessment

Subdivision Development

Lot 7 Reading St  
Port Macquarie NSW



Krisann Johnson  
BPD-PD 18578 Certified Consultant

S & K Johnson Constructions Pty Ltd  
PO Box 2111  
Port Macquarie NSW 2444



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### Section 1 Introduction

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- 1.2 Legislation

### Section 2 Site Assessment

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### Section 3 Bush Fire Hazard Assessment

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- 4.1 Asset Protection Zone
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### Section 5 Conclusion

### Attachments

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Lot 7 Reading St, Port Macquarie NSW

## Executive Summary

The following Bushfire Assessment has been carried out to inform the property owners, builders, Certifying Authority, NSW RFS and other stakeholders of the bushfire planning requirements associated with the residential land subdivision development at Lot 7 Reading St, Port Macquarie NSW.

The development was assessed under Section 100B of the Rural Fires Act 1997. The requirements listed in Clause 44 of the Rural Fires Regulation 2008 were addressed. A Bushfire Safety Authority will need to be issued before the development can be approved.

This report provides an assessment of the bushfire protection measures required for the development to guard against the potential impact of bushfires. Recommendations have been made in respect of APZ fuel management, construction standards, access and services.

This document assesses how the development will conform to the aims, objectives and performance criteria set out in Chapter 4 of PBP 2006.

The objectives for PBP 2006 have been met by:

- Exceeding the minimum 10 metre APZ requirement and not more than 29 kW/m<sup>2</sup> radiant heat for any future new dwellings on the proposed lots. This will provide for defensible space and avoid flame contact and excessive radiant heat.
- Recommending the establishment and maintenance of the Asset Protection Zones.
- Utilizing the existing public road network for safe access and egress for emergency services personnel and home owners
- Providing adequate service of water and locating electricity underground so as to not contribute to the risk of fire.

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Lot 7 Reading St, Port Macquarie NSW



## Disclaimer

The following report is made on the assessment undertaken by S & K Johnson Constructions Pty Ltd in April 2015.

The report recognizes the fact that no property and lives can be guaranteed to survive a bushfire attack. The report examines ways of reducing the risk of bushfire attack upon the proposed development.

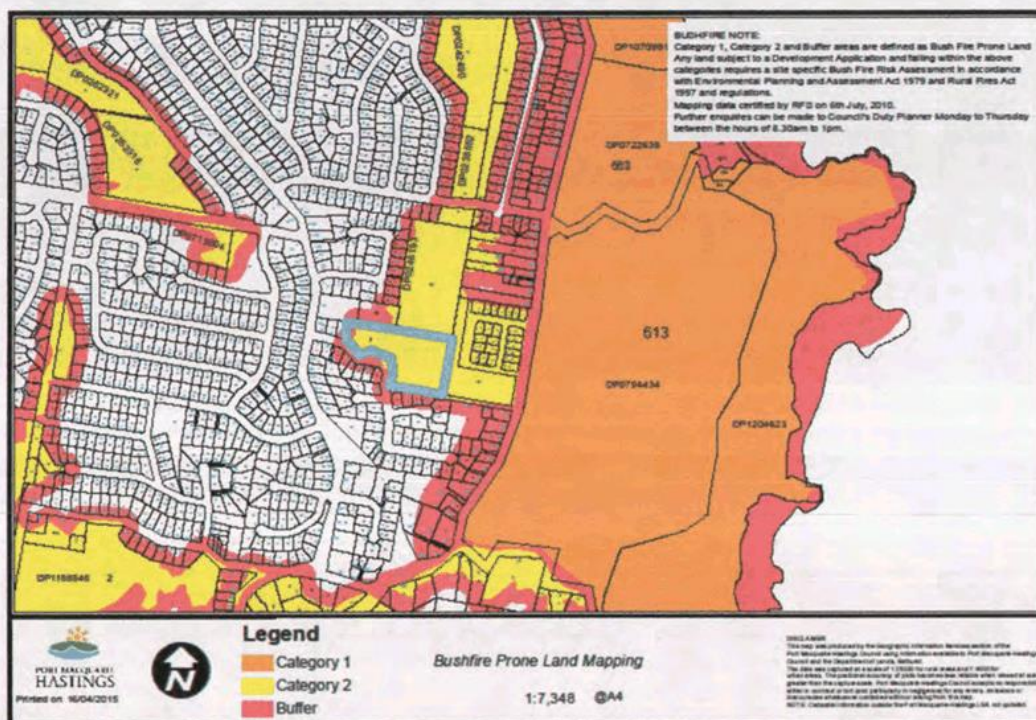
Whilst the assessors use their best endeavors to ensure that the information contained within this report is valid and comprehensive, the company makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which might be incurred as a result of the data being inaccurate or incomplete in any way and for any reason.

Lot 7 Reading St, Port Macquarie NSW



## 1.1 Introduction

The site is identified as **bushfire prone** by Port Macquarie Hastings Council using their *Bushfire Prone Land Map*. Site assessment confirms that this site is within 100 metres of significant vegetation deemed to be a bushfire hazard.



In NSW, *Planning for Bushfire Protection 2006* (PBP 2006) sets out the aims, objectives and performance criteria required for development in bushfire prone areas. This proposed development will be assessed against these aims and objectives.

Lot 7 Reading St, Port Macquarie NSW



The purpose of this report is to:

- Identify the site
- Provide an assessment of the bushfire hazard
- Address the relevant requirements of Clause 44 of the Rural Fires Regulation 2002 and *Planning for Bushfire Protection 2006*
- Identify if the development complies with the aims and objectives of *Planning for Bushfire Protection 2006*
- Provide the relevant information for the New South Wales Rural Fire Service (NSW RFS) and Certifying Authority to make a determination for granting a Bushfire Safety Authority or development approval.

The objectives of this report are to:

- Ensure that the proposed development has sufficient bushfire protection measures in place to minimize the impact of bushfires, and
- Reduce the risk to property and the community from bushfire.

The references referred to during this assessment are:

- *Planning for Bushfire Protection 2006*
- *Building Code of Australia 2011*
- *AS 3959 – Building in Bushfire Prone Areas 2009*
- *Keith, D Ocean Shores to Desert Dunes 2004*
- *Overall Fuel Hazard Guide Forest Science Centre Victoria 2003*

Lot 7 Reading St. Port Macquarie NSW

## 1.2 Legislation

As noted earlier, this development will be assessed under Section 100B of the Rural Fires Act 1997. This section requires that the proposed development meet the aims and objectives of *Planning for Bushfire Protection 2006*. It also requires that a Bushfire Safety Authority be issued by the NSW RFS before development approval is granted.

*Planning for Bushfire Protection 2006* notes specific objectives for subdivision developments. These are:

- Minimize perimeters of the subdivision exposed to the bushfire hazard
- Minimize bushland corridors that permit the passage of bushfire
- Provide for the siting of future dwellings away from ridge-tops and steep slopes
- Ensure that separation distances (APZ) between a bushfire hazard and future dwellings enable conformity with the deemed-to-satisfy requirements of the BCA
- Provide and locate, where the scale of development permits, open space as public refuge areas
- Ensure the on-going maintenance of asset protection zones
- Provide clear and ready access from all properties to the public road system for residents and emergency services
- Ensure the provision of an adequate supply of water and other services to facilitate effective fire fighting

Not all of these objectives are relevant here, given the small scale of the development, but they still must be considered. This proposal will need to meet the objectives listed above along with the Performance Criteria noted in Chapter 4 of *Planning for Bushfire Protection 2006*.

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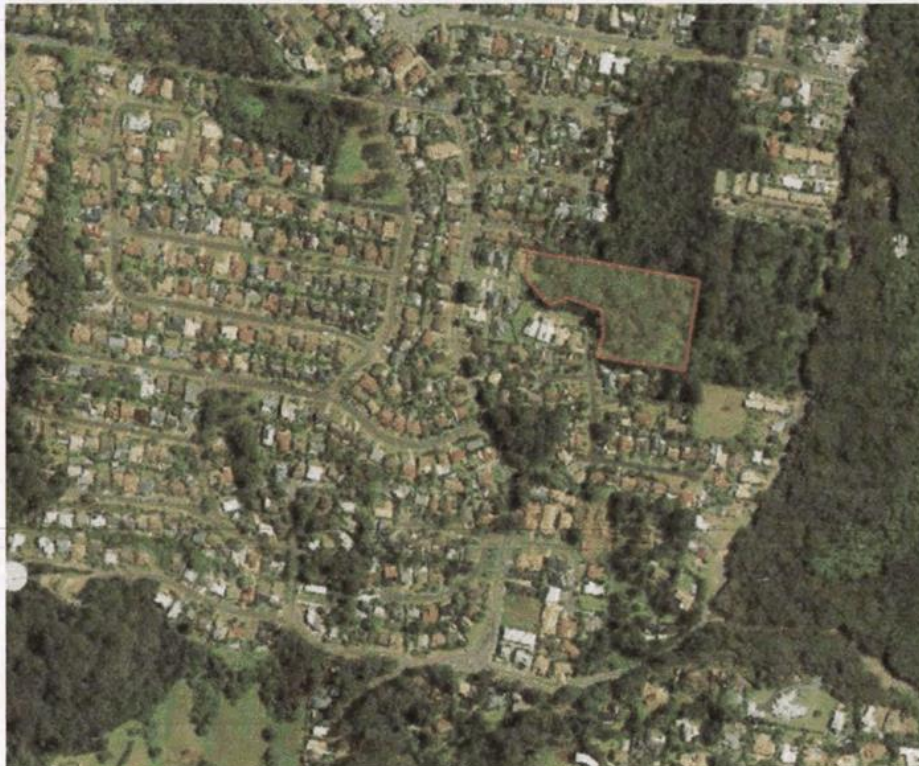
Lot 7 Reading St, Port Macquarie NSW



## Section 2 Site Assessment

### 2.1 Site Details

The lot to be assessed is Lot 7 DP 1142473 Reading Street, Port Macquarie.



Lot 7 Reading St, Port Macquarie NSW



The site is located within a residential area in the 'Shelley Beach' area to the southeast of the CBD of Port Macquarie on the Mid North Coast of NSW. The boundaries adjoin both developed residential allotments as well as E2 protected land.



Most of the existing lot is heavily vegetated with Swamp Rainforest (classification received from Port Macquarie Hastings Council). The vegetation connects with more heavily vegetated lots to the north and east.

The owners of the adjoining lot (40 Reading St) have cleared and been using some of the site as their APZ against the remaining vegetation (owners of both lots are related). More vegetation will need to be removed to enable this development to proceed.

Lot 7 Reading St, Port Macquarie NSW





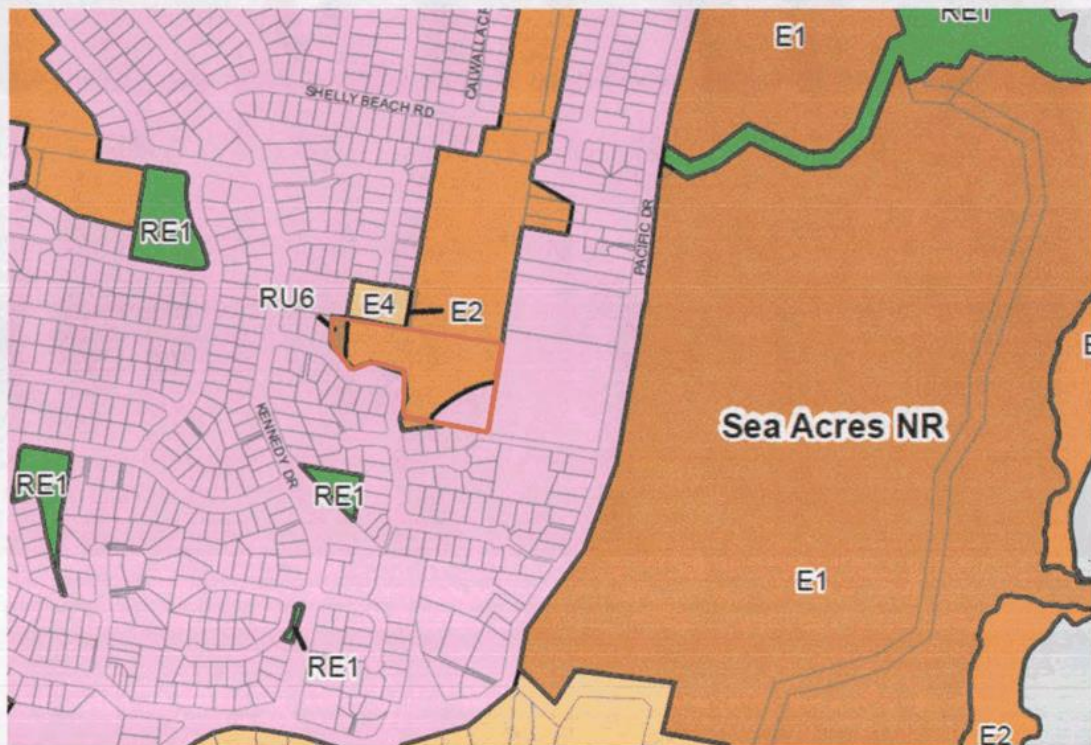
Existing side yard at 40 Reading St that will become part of the new land subdivision



Lot 7 Reading St, Port Macquarie NSW



The Local Government Area is Port Macquarie Hastings. The lot is multi zoned with RU6 (Transition), E2 (Environmental Conservation) and R1 (Residential) in accordance with Port Macquarie Local Environmental Plan 2011. The zonings will alter with this development to have new areas zoned Residential and the rest E2. The RU6 will become R1.

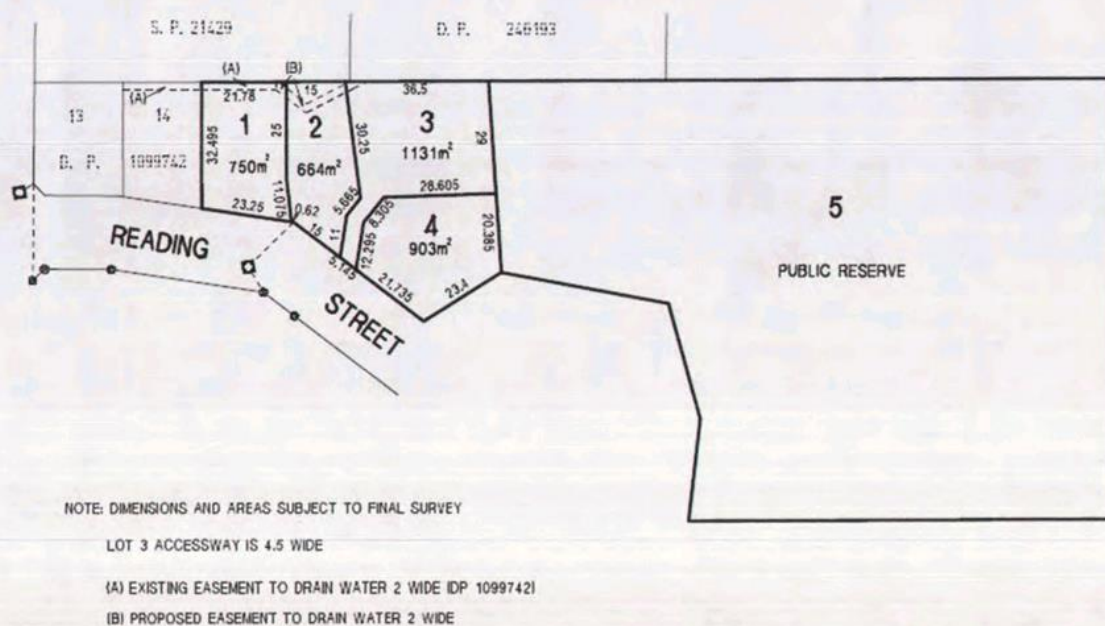


Lot 7 Reading St, Port Macquarie NSW

## 2.2 Proposed Development

The proposal is relatively straight forward – create five (5) new lots from the one (1) existing lot. New lots 1 – 4 will become Residential lots and Lot 5 will become Public Reserve and handed to Port Macquarie Hastings Council to maintain as part of its existing E2 Conservation.

The new lots will all be accessed from Reading Street. The new subdivision plan is provided below:



Lot 1 – is the existing side yard of 40 Reading St and zoned RU6. Vegetation has already been cleared from this lot. The zoning will change to R1. The lot will be accessed directly from Reading St. There will be 51.5 metres of cleared developed land between this lot and the remaining vegetation.

Lot 2 – is part of the existing E2 land. The zoning will change to R1. There will be vegetation removed to allow for construction of future dwellings. There will be 33.7 metres of cleared developed land between this lot and the remaining vegetation.

Lot 3 – is part of the existing E2 land. It is located behind Lot 4 and accessed by a battle-axe driveway. The zoning will change to R1. The existing vegetation will be removed from this lot. The eastern boundary will adjoin the Public Reserve and hazard vegetation. An APZ area will need to be set aside within this lot to provide a buffer from the hazard.

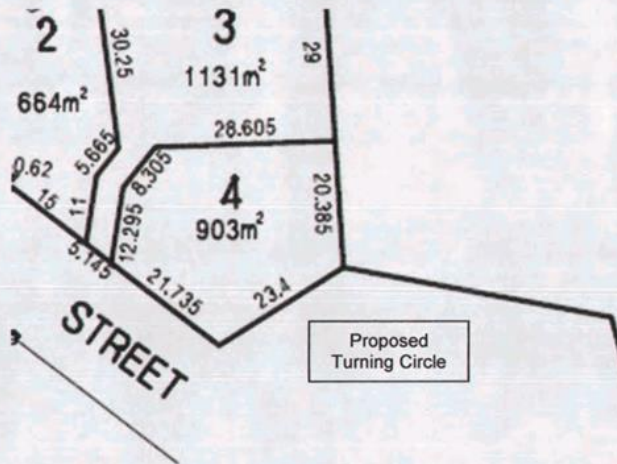
Lot 4 – Is part of the existing E2 land. It is accessed directly from Reading St. The zoning will change to R1. The eastern boundary will adjoin the Public Reserve and hazard vegetation. An APZ area will need to be set aside within this lot to provide a buffer from the hazard.

Lot 7 Reading St, Port Macquarie NSW



Lot 5 – is to be given to Port Macquarie Hastings Council as a Public Reserve. This lot will remain as E2 zoned land with the portion of R1 land in the south eastern corner rezoned to E2.

A vehicular turning circle will be created alongside Lot 4 and the Public Reserve in an area already owned and managed by Port Macquarie Hastings Council.



Lot 7 Reading St, Port Macquarie NSW

## 2.3 Hazard Vegetation

The vegetation on and surrounding the subject site was assessed over a distance of 140 metres from the proposed development. The vegetation formations were classified using the system set out in Keith (2004) and Appendix 3 of NSW Rural Fire Service, *Planning for Bushfire Protection*, 2006 and Table 2.3 of AS 3959 - 2009.

### Subject Site

The site is heavily vegetated with a Swamp Rainforest which is well connected with a larger vegetation community of the same type that runs north and east from the site. The Swamp Rainforest classification has been given by Port Macquarie Hastings Council who will take over the maintenance of the new Lot 5 Public Reserve.



NOTE: Approximate new lot boundary locations

Lot 7 Reading St, Port Macquarie NSW





Lot 7 Reading St, Port Macquarie NSW





The western corner of the site area has been cleared and is presently being used by the owners of 40 Reading St as their APZ. This will become new Lot 1. Lots 2 – 4 will be cleared of vegetation. Some understorey clearing has already begun. Lot 5 will remain as is.



NOTE: Approximate boundary location only

Lot 7 Reading St, Port Macquarie NSW



Adjacent to the subject site

The hazard vegetation impacting the new Residential Lots 1-4 is from the new Lot 5 in the east. This has been classified as Swamp Rainforest. It is well connected with larger rainforest communities that grow to the north and east of the site.



Residential allotments and supporting infrastructure is present to the north, west and south of the new lots 1-4 for greater than 140 metres. Hence there is no bushfire hazard to these elevations; the hazard is to the east.

As stated earlier, the hazard vegetation both within the new lots and external to it is classified as a Swamp Rainforest typical of this part of the Mid North Coast of NSW.

For this assessment the classification of Rainforest (F) of Table 2.3 AS3959-2009 will be used.

The vegetation that will remain is generally unmanaged and it is anticipated to remain so.

Lot 7 Reading St, Port Macquarie NSW



## 2.4 Slope

The slope on the site is level. There is a down slope on the new Lot 1 down towards the vegetated lots. Once clearing has occurred, there will be no vegetation on Lots 2-4. This means that all of the new residential lots will be clear of vegetation. The remaining vegetation on Lot 5 is the imposing hazard which is growing on level slopes.



NOTE: Approximate boundary locations only

## 2.5 Environment and Heritage Issues

There are no known Cultural, Heritage or Environmental issues present on the new residential lots 1-4. New Lot 5 will be set aside as E2 Environmental Conservation land to allow for a continuation of the E2 corridor that has been established to the north and east.

Lot 7 Reading St, Port Macquarie NSW

## Section 3 Bushfire Hazard Assessment

This bushfire hazard assessment was determined using the site assessment methodology set out in Appendix 3 of *Planning for Bushfire Protection 2006*.

### 3.1 Vegetation

The vegetation impacting upon each site is made up of a Swamp Rainforest typical of this area. The vegetation is classed as Rainforest F (using Table 2.3 of AS 3959-2009).

Note: This was discussed in more detail in an earlier section of the report.

### 3.2 Asset Protection Zone Distance and Defendable Space

*Planning for Bushfire Protection 2006* notes the following distance requirements for APZs. This distance may include both an inner and an outer protection zone.

**Subdivision** (Table A2.5, Appendix 2, p58)

| Rainforest vegetation | Level Slopes | APZ = 10 metres = 10m IPZ |
|-----------------------|--------------|---------------------------|
|-----------------------|--------------|---------------------------|

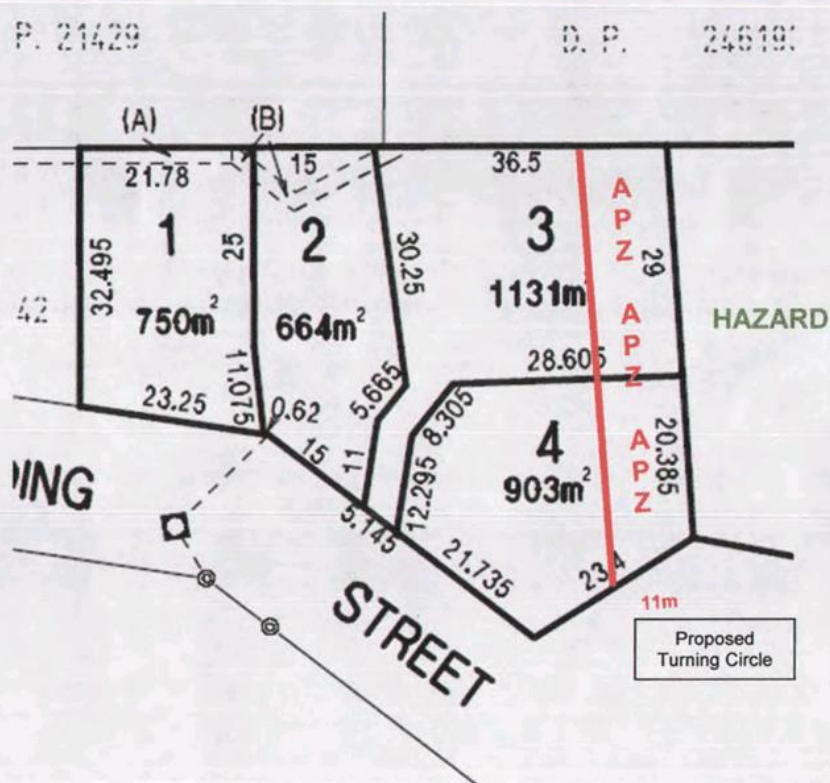
This report needs to show that this distance can be adequately met for the new lot boundaries; not requiring vegetation removal from an external lot.

Each of the new residential Lots 1-4 will be cleared of any existing vegetation. The hazard impacting is from the vegetation growing on remaining Lot 5. Lots 1 & 2 will have the Lots 4 & 5 to provide a buffer; Lots 4 & 5 will require an 11 metre APZ easement to be set along their eastern boundaries. These lots are large (903 m<sup>2</sup> and 1131 m<sup>2</sup>) which allows room for this to be achieved and still offer a sufficient sized building envelope for these lots. This will need to be noted on plans for consent.

---

Lot 7 Reading St, Port Macquarie NSW





|       | Hazard Direction | Vegetation type | APZ required | Distance available                         | APZ met? |
|-------|------------------|-----------------|--------------|--|----------|
| Lot 1 | East             | Rainforest      | 10 metres    | 51.5 metres of cleared land                | Yes      |
| Lot 2 | East             | Rainforest      | 10 metres    | 36.5 metres of cleared land                | Yes      |
| Lot 3 | East             | Rainforest      | 10 metres    | 11 metre IPZ to be set on Eastern boundary | Yes      |
| Lot 4 | East             | Rainforest      | 10 metres    | 11 metre IPZ to be set on Eastern boundary | Yes      |

It is noted that the requirement for Asset Protection Zones as set out in *Planning for Bushfire Protection 2006*, can be satisfied.

### 3.3 FDI

The subject site is located within the Port Macquarie Hastings Council Local Government Area in the North Coast Region. The Forest Fire Danger Index for the North Coast Region is rated at **80** for use in determining asset protection zone requirements and categories for bushfire attack.

Lot 7 Reading St, Port Macquarie NSW

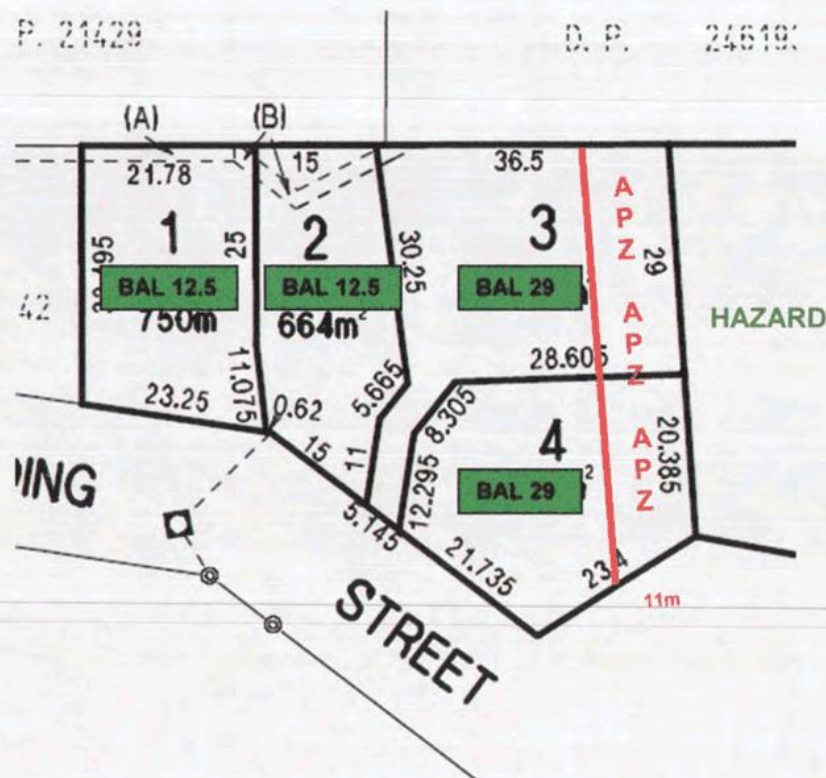
### 3.4 Category of Bush Fire Attack and Construction Standards

Given that the proposed subdivision does not involve the erection of any new buildings the determination of a Bushfire Attack Level that would be applicable to new buildings is not relevant at this time.

Notwithstanding the above, it is noted that compliance with the minimum Defendable Space / Asset Protection Zone requirements for each of the proposed lots will provide for opportunities for future dwellings to be constructed upon the proposed lots in compliance with the requirements provided for in AS 3959 – 2009.

|       | Hazard Direction  | Impacting Slope | Min. APZ available | Bushfire Attack Level |
|-------|-------------------|-----------------|--------------------|-----------------------|
| Lot 1 | East - Rainforest | Level           | 51.5 m             | BAL 12.5              |
| Lot 2 | East - Rainforest | Level           | 36.5 m             | BAL 12.5              |
| Lot 3 | East - Rainforest | Level           | 11 m               | BAL 29                |
| Lot 4 | East - Rainforest | Level           | 11 m               | BAL 29                |

Note – the specific location of any future dwelling on the new lots may result in a different BAL construction level, the BALs given above are based on distances from boundaries, they do not include any side setbacks.



Lot 7 Reading St, Port Macquarie NSW

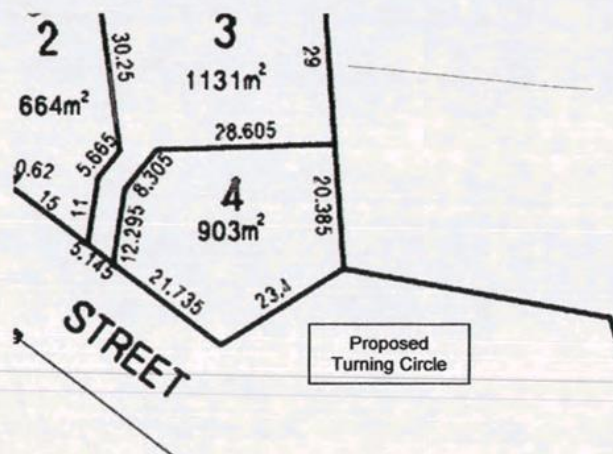


### 3.5 Access

The existing lots are within an existing residential subdivision so a public road network is already in place to the sites. Each of the new lots will still be accessed via the same Reading St. No changes are considered necessary to Reading St as it is a well maintained 2 way sealed road.



The hazard growing on new Lot 5 can also be accessed via Reading St. As noted earlier, it is proposed that an additional turning circle is created alongside Lot 5 in an area of land already owned by Port Macquarie Hastings Council.



Lot 7 Reading St, Port Macquarie NSW - Pg 22

### 3.6 Services – Gas, Water and Electricity Supply

New power services will need to be added for the additional lots. These are to be underground.

There is reticulated water to this area. The existing water services will need to be expanded to cover the additional lots. Fire hydrant spacing will need to comply with AS 2419.1 – 2005.

### 3.7 Emergency and Evacuation Management Plan

A formal bushfire emergency/evacuation plan does not need to be prepared for this subdivision. However, any owners of new residences should create their own Bush Fire Survival Plan and ensure all occupants are aware of the risks. Should a bushfire threaten this property, it is essential that all residents are skilled to deal with it. Set procedures with decisions already made will reduce confusion and panic during any emergency.



## Section 4 Recommendations

The following measures are recommended to reduce the risk of bushfire on the proposed subdivision. These recommendations are linked to the Performance Criteria set out in *PBP 2006*. It is believed that by implementing these recommendations the aims and objectives of *PBP 2006* will be met.

### 4.1 Performance Criteria – Defendable Space / Asset Protection Zones

- Radiant levels to not exceed 29 kW/m<sup>2</sup> on a proposed building
- APZs are managed to prevent fire spread
- APZ maintenance is practical

### Recommendation

- The entirety of the new Lots 1-4 are to be treated as Inner Protection Zones and this to remain in place for the life of the building.
- The IPZ will need to be created as the new lots are presently vegetated. They will need to be cleared of all vegetation before any dwelling construction commences. The IPZ requirements also covers future vegetation that may be planted such as gardens
- Lots 3 and 4 will have an 11 metre deep APZ easement from their eastern boundary towards the west. This will be treated as an IPZ with no building allowed in this area.
- The requirements for vegetation within an Inner Protection Zone:
  - The canopy cover must be less than 15%
  - Any canopy must be located more than 5 metres from any roofline.
  - Trees should have lower limbs removed up to a height of 2 metres above the ground (4 metres if emergency vehicles need to park next to or drive around them).
  - Shrubs and gardens need to be 1.5m away from exposed windows and doors.

### 4.2 Performance Criteria – Access and Egress (Public + Property Access)

- Access to properties recognizes risk to fire fighters and residents
- Safe all weather access to structures
- Road widths and design enables safe access for vehicles
- Roads clearly signposted and buildings clearly numbered

### Recommendations

- No new public roads or access roads are required as part of this development

Lot 7 Reading St, Port Macquarie NSW

- Ensure the existing public road remains in good working condition after the development has occurred
- New properties are to be clearly numbered

#### 4.3 Performance Criteria – Services – Water, Electricity and Gas

- A water supply reserve dedicated for firefighting purposes is installed and maintained.
- Location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings
- Location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings

#### Recommendations

- Water supply will need to meet AS 2419.1 – 2005 for fire hydrant spacing and size
- New electrical transmission lines to be located underground

#### 4.4 Performance Criteria – Construction Standards

- The proposed building can withstand bush fire attack in the form of wind, smoke, embers, radiant heat and flame contact.

#### Recommendation

- It is noted that as the proposed development does not involve the construction of any buildings at this stage, the application of the requirements of Planning for Bushfire Protection 2006 and AS 3959-2009 is not considered relevant in this instance.
- Notwithstanding the above point, based on the shapes and sizes of the proposed lots it is considered that the requirements of *Planning for Bushfire Protection 2006* for the siting, design and construction of any future residential buildings can be satisfied.
- All new dwellings are to be individually assessed to ensure they meet the aims and objectives of *Planning for Bushfire Protection 2006*.

Lot 7 Reading St, Port Macquarie NSW



## Section 5 Conclusion

The site has been studied, and it has been determined that there is significant vegetation present within 100 metres of the lots which could carry a bushfire in extreme fire conditions – this makes the proposed lots 'bushfire prone'. Any further development of these lots will require additional protection measures to reduce the impact a bushfire could have on the buildings and its occupants.

As this development includes a subdivision of land it is assessed under 100B of the Rural Fires Act. A Bushfire Safety Authority is required before the development can be approved. It is necessary to ensure that the objectives of *Planning for Bushfire Protection 2006* can be met, in particular those relating to Asset Protection Zones and minimum BALs.

The report notes that the proposed development can satisfy the aim and objectives of PBP 2006.

The objectives for PBP 2006 have been met by:

- Exceeding the minimum 10 metre APZ requirement and not more than 29 kW/m<sup>2</sup> radiant heat for any future new dwellings on the proposed lots. This will provide for defensible space and avoid flame contact and excessive radiant heat.
- Recommending the establishment and maintenance of the Asset Protection Zones.
- Utilizing the existing public road network for safe access and egress for emergency services personnel and home owners
- Providing adequate services of water and locate electricity underground so as to not increase the risk of fire to a building

Whilst the protection measures outlined in this report will greatly improve the chances of a future building surviving a bushfire event, it does not guarantee it. The unpredictable nature of bushfire events precludes any such guarantee. It is the responsibility of the owner to ensure the ongoing maintenance and upkeep of the building, roads and landscaping – without it the whole system will fail.

If there are queries or concerns about the assessment or the recommendations please feel free to contact myself on 0402 318073.

Prepared by Krisann Johnson \_\_\_\_\_

May 6, 2015.

UTS Planning for Bushfire Prone Areas  
UWS G.Dip. Design for Bushfire Prone Areas

Lot 7 Reading St, Port Macquarie NSW





*Planning Proposal under sec 55 of the EP&A Act      Appendix H – Aboriginal Cultural Heritage Assessment*  
*Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie*

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## **Appendix H – Aboriginal Cultural Heritage Assessment**

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In their review of this proposal, the Office of Environment and Heritage (refer **Appendix E**) recommended that a detailed Aboriginal Cultural Heritage Assessment be prepared to inform any final decision regarding the proposed subdivision.

A copy of the Assessment, prepared by Jacqueline P Collins of Adise Pty Ltd, follows.

The Executive Summary on page 2 provides an overview, and concludes:

On the basis of Aboriginal consultation, background information and the nil field survey result, it is concluded that the proposed rezoning and associated residential development on Lot 7 DP 1142473, as addressed in this report, should be allowed to proceed without further Aboriginal cultural heritage constraints, providing the following management recommendations are fully implemented.

- 1) As part of the pre-start induction, all personnel engaged for initial development-related earthworks (including tree clearing) on proposed lots 2, 3 and 4 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time (Recommendation 3).
- 2) All personnel (including volunteers) engaged to undertake vegetation rehabilitation works on proposed lot 5 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time (Recommendation 3).
- 3) In the event that any identified or suspected Aboriginal objects are detected at any time, all disturbance works should immediately cease within 20m of the find and temporary protective fencing erected around this 'no-go zone' pending further management advice from the OEH and/or the Birpai LALC. If the find consists of or includes human remains, the NSW Police Department and the OEH Environmental Line (ph 131 555) should also be notified as soon as practicable.

Works may not recommence within the designated 'no-go zone' until formal written clearance to do so has been provided.

LOT 7 DP 1142473, READING STREET, PORT MACQUARIE NSW

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*Aboriginal cultural heritage assessment*

June 2017

Prepared for:

Port Macquarie-Hastings Council  
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Lot 7 DP 1142473, Reading Street, Port Macquarie- Aboriginal Cultural Heritage Assessment

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## EXECUTIVE SUMMARY

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Port Macquarie-Hastings Council (PMHC) has received a combined rezoning application and development application relating to Lot 7 DP 1142473, Reading Street, within the urban area of Port Macquarie. Upon a review of Council's planning proposal, which seeks to amend *Port Macquarie-Hastings LEP 2011* in line with this application, the Office of Environment and Heritage (OEH) advised that a detailed Aboriginal cultural heritage assessment should be prepared to inform any final decision with respect to the proposed subdivision, "for the purpose of identifying any tangible Aboriginal objects that may be present on, or under, the subject lands (and to) identify any intangible ACH values that may form constraints with regard to future developments/ground disturbing works that may occur, or be approved ...". This assessment was commissioned by PMHC in response to the OEH advice and involved consultation with the Birpai Local Aboriginal Land Council (LALC), literature review, heritage register searches, and a field inspection with Birpai LALC senior sites officer Jason Holten (who is also chairperson of the recently formed Birpai Traditional Owners Indigenous Corporation).

Lot 7 DP 1142473 comprises a 1.84ha vegetated residue property ('the study area') situated approximately 750m inland of the coast. Under the proposal, the study area would be zoned E2 Environmental Conservation, with the exception of the western 2,737m<sup>2</sup>, to be zoned R1 General Residential. The R1 zoned land is to be subdivided into three residential allotments (proposed lots 2, 3 and 4). Proposed lot 2 has been cleared of all natural vegetation and supports managed lawn and garden plants. Development of proposed lots 3 and 4 would require clearance of 2,073m<sup>2</sup> of disturbed wet sclerophyll forest. The remaining 15,663m<sup>2</sup> of the property (proposed lot 5) would be dedicated to PMHC to facilitate the protection and rehabilitation of the upper Wrights Creek rainforest and wet sclerophyll forest, and provide improved fauna habitat linkage with nearby protected forests.

As revealed by heritage register searches, the literature review, and cultural information disclosed by Jason Holten, the study area does not contain registered or otherwise reported Aboriginal objects, nor is it known to contain or impinge upon any specific sites/places of special traditional, historic or contemporary social/cultural significance. No Aboriginal sites/objects were detected during the field survey. Even so, all extant natural vegetation (and its associated fauna habitat) is valued as a tangible landscape link between contemporary Birpai people and the environment as it was before European settlement.

This assessment found no evidence to suggest that the study area contains or is reasonably likely to contain any substantial archaeological materials. Undetected Aboriginal objects (if any) are expected to be restricted to a low-density distribution of isolated stone artefacts. Irrespective of the possible presence of isolated stone artefacts, the archaeological potential of proposed lots 2, 3 and 4 is not considered sufficient to warrant further heritage investigation or earthworks monitoring. This conclusion is equally applicable to the cleared eastern extremity of the study area (within proposed lot 5), where vegetation restoration would probably require minor disturbances/excavations for weed removal and tree planting. Considering its environmental benefits, Jason Holten advised that the proposed rezoning would enhance rather than compromise Aboriginal landscape values, and that the loss of the disturbed forest on proposed lots 3 and 4 would be well compensated by the permanent reservation of lot 5 for environmental conservation purposes.

On the basis of Aboriginal consultation, background information and the nil field survey result, it is concluded that the proposed rezoning and associated residential development on Lot 7 DP 1142473, as addressed in this report, should be allowed to proceed without further Aboriginal cultural heritage constraints, providing the following management recommendations are fully implemented.

- 1) As part of the pre-start induction, all personnel engaged for initial development-related earthworks (including tree clearing) on proposed lots 2, 3 and 4 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time (Recommendation 3).
- 2) All personnel (including volunteers) engaged to undertake vegetation rehabilitation works on proposed lot 5 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time (Recommendation 3).
- 3) In the event that any identified or suspected Aboriginal objects are detected at any time, all disturbance works should immediately cease within 20m of the find and temporary protective fencing erected around this 'no-go zone' pending further management advice from the OEH and the Birpai LALC. If the find consists of or includes human remains, the NSW Police Department and the OEH Environmental Line (ph 131 555) should also be notified as soon as practicable.

Works may not recommence within the designated 'no-go zone' until formal written clearance to do so has been provided by the OEH and the Birpai LALC.

Lot 7 DP 1142473, Reading Street, Port Macquarie- Aboriginal Cultural Heritage Assessment

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Lot 7 DP 1142473, Reading Street, Port Macquarie- Aboriginal Cultural Heritage Assessment

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#### ACRONYMS AND ABBREVIATIONS

|         |   |
|---------|---|
| ACH     | Aboriginal cultural heritage  |
| ACHA    | Aboriginal cultural heritage assessment   |
| AHD     | Australian Height Datum   |
| AHIMS   | Aboriginal Heritage Information Management System                                 |
| AHIP    | Aboriginal Heritage Impact Permit   |
| APZ     | Asset protection zone   |
| CEO     | Chief executive officer   |
| CRs     | <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> |
| PMHC    | Port Macquarie-Hastings Council   |
| km      | kilometre/s   |
| LALC    | Local Aboriginal Land Council   |
| LEP     | Local Environmental Plan  |
| LGA     | Local Government Area   |
| m       | metre/s   |
| NPW Act | <i>National Parks and Wildlife Act 1974</i> , as amended                          |
| NPW     | National Parks and Wildlife   |
| NPWS    | National Parks and Wildlife Service NSW   |
| OEH     | Office of Environment and Heritage, Department of Premier and Cabinet NSW         |
| PAD     | Potential Archaeological Deposit  |



## 1 INTRODUCTION

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### 1.1 Assessment background and purpose

Port Macquarie-Hastings Council has received a combined rezoning application and development application relating to Lot 7 DP 1142473, Reading Street, Port Macquarie, on the NSW mid-north coast (DA2016 - 53.1). A planning proposal seeking to amend *Port Macquarie-Hastings LEP 2011* in line with the rezoning application was determined by the Department of Planning and Environment under the 'Gateway' process on the 21<sup>st</sup> of September 2016, providing authority for PMHC to proceed with the proposed LEP amendment subject to a number of conditions, including consultation with the Office of Environment and Heritage.

Upon review of the planning proposal, the OEH advised that a detailed Aboriginal cultural heritage assessment should be prepared to inform any final decision regarding the proposed subdivision of Lot 7 DP 1142473, "for the purpose of identifying any tangible Aboriginal objects that may be present on, or under, the subject lands (and to) identify any intangible ACH values that may form constraints with regard to future developments/ground disturbing works that may occur, or be approved, as a result of the ... planning proposal" (PMHC 2017:3-4).

This assessment was commissioned by PMHC in response to the OEH advice. The assessment complies with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) and the scope of work listed in the consultancy brief (PMHC 2017:4), and includes:

- details and results of consultation with the Birpai LALC, and confirmation of its agreement with the report outcomes;
- heritage register searches and other background information to determine the location of known Aboriginal sites/objects/places, and establish a context for the assessment of any Aboriginal objects or PADs that may be present on Lot 7;
- details and results of a field inspection, with priority focus on proposed residential lots 2-4; and
- management recommendations appropriate to the extent and significance of the Aboriginal cultural heritage resource (both tangible and intangible), including advice as to further actions warranted or required by legislation prior to and/or during future development works.

### 1.2 Study area location

Lot 7 DP 1142473 comprises a 1.84ha vegetated residue lot ('the study area' as referred to in this report) situated within the urban area of Port Macquarie, approximately 750m inland of the coast on the headwaters of Wrights Creek (Figure 1). The property is bounded by Reading Street and residential blocks fronting Nangara Place to the south, a residence at No 40 Reading Street to the west, and residential allotments and undeveloped forest to the north and east (Figure 3).

### 1.3 Rezoning and subdivision proposal

In addition to that zoned E2 Environmental Conservation, the current land zoning includes a narrow sliver on the study area's western boundary set aside for bushfire asset protection (RU6 Transition), and an area in the south-eastern corner zoned R1 General Residential (Figure 2).

Under the proposed rezoning/LEP amendment, the entirety of Lot 7 DP 1142473 would be zoned E2 Environmental Conservation, with the exception of the western 2,737m<sup>2</sup>, to be zoned R1 General Residential. As per DA2016 - 53.1, the R1 zoned land would be subdivided into three residential allotments (proposed lots 2, 3 and 4). The subdivision would require a boundary adjustment with No 40 Reading Street (proposed lot 1), which currently includes an APZ within proposed lot 2, that would be shifted to the eastern margin of new lots 3 and 4 (Figure 3). Vegetation would be removed from lots 2-4 to facilitate the residential development and to maintain the APZ.

The E2 Environmental Conservation zoned land (proposed lot 5; Figure 3) would be dedicated to PMHC to provide an improved fauna habitat linkage between the Wrights Creek corridor to the north, and Sea Acres National Park further east. The existing forest would be retained and cleared land on the eastern margin rehabilitated.

### 1.4 Assessment personnel

Background research, Aboriginal consultation, field inspection and assessment, and report preparation was undertaken by Jacqueline Collins (Adise Pty Ltd), a full member of the Australian Association of Consulting Archaeologists Inc (AACAI), with 27 years' experience as an independent cultural heritage consultant. The assessment was assisted and informed by Jason Holten, Birpai LALC senior sites officer and chairperson of the Birpai Traditional Owners Indigenous Corporation.

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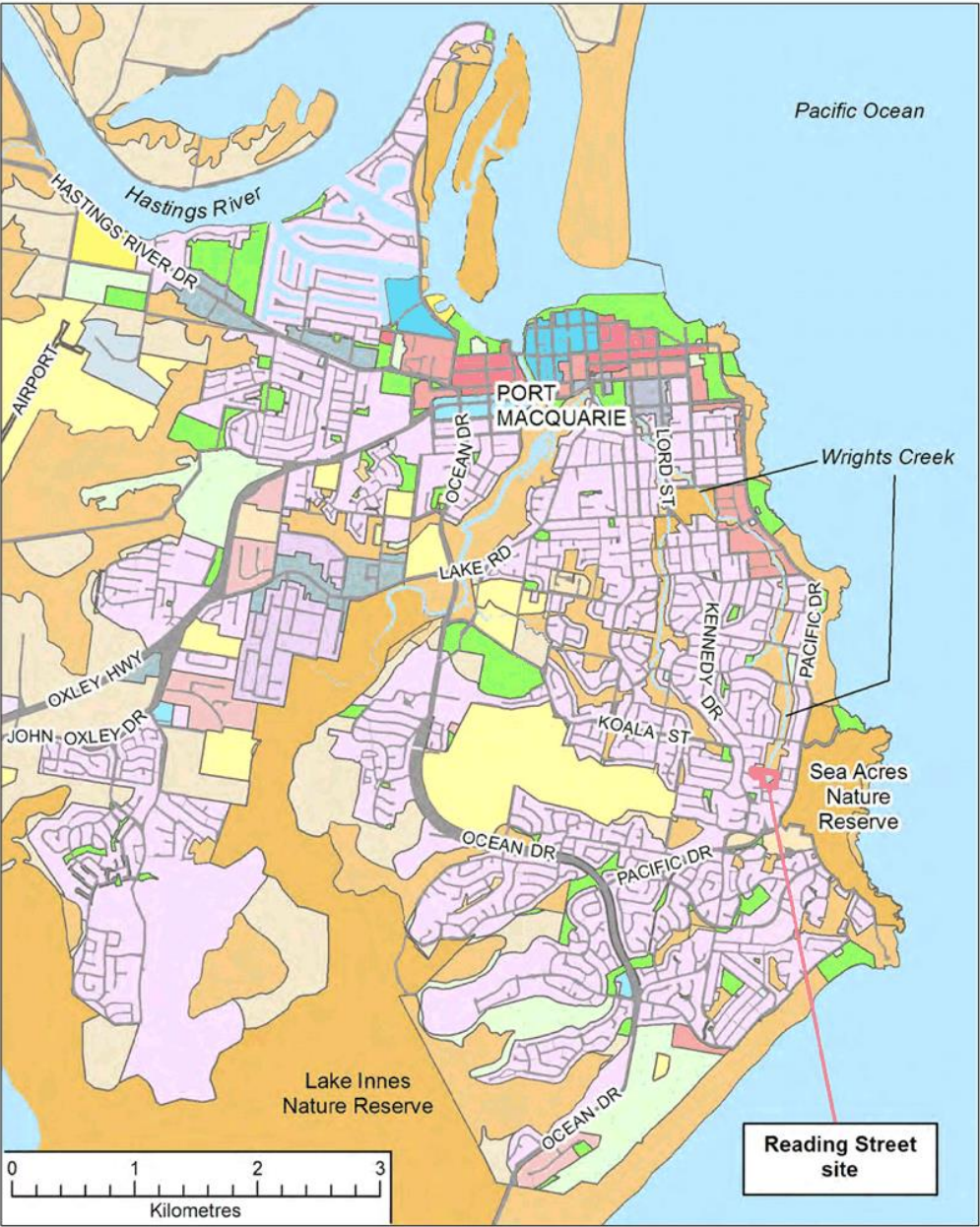


Figure 1. General location of Lot 7 DP 1142473, Reading Street ('the study area') (Source: Port Macquarie-Hastings Council 2017)



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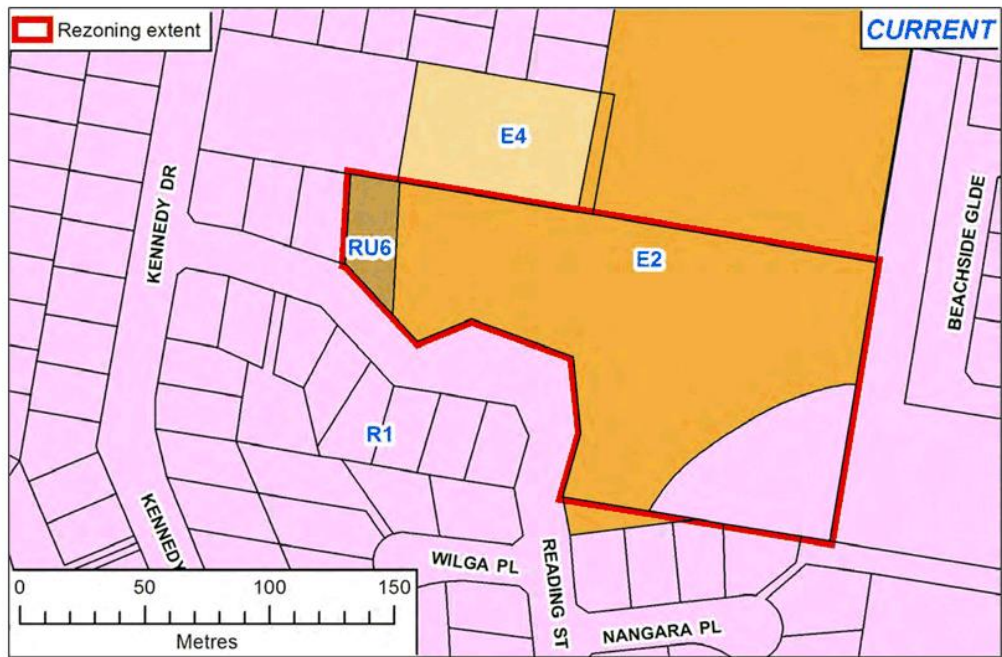


Figure 2: Existing land zonings (Source: Port Macquarie-Hastings Council 2016)

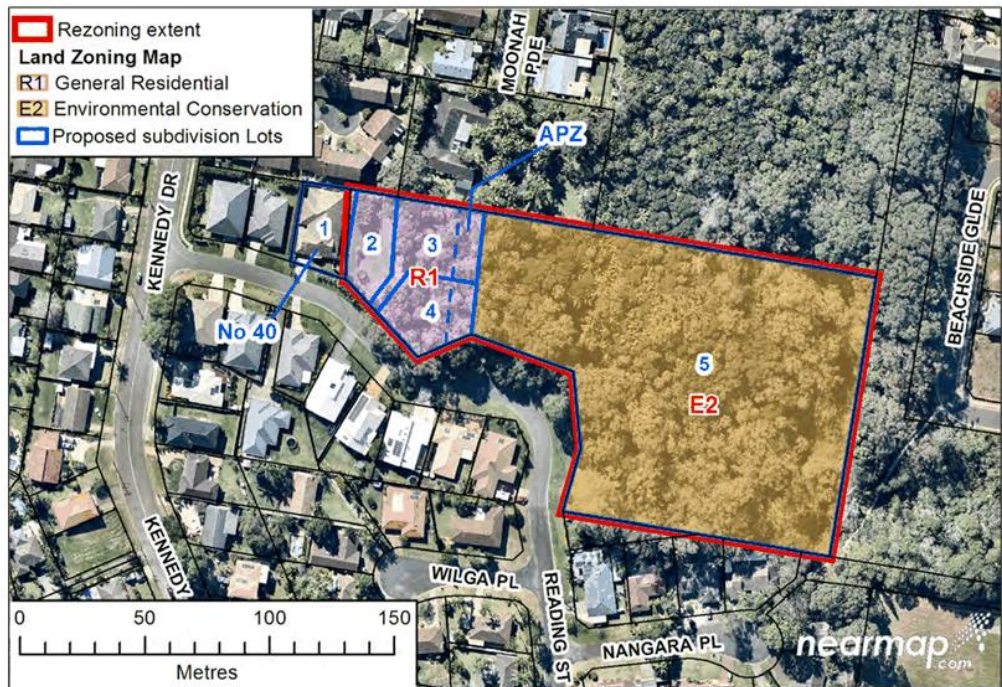


Figure 3: Proposed zoning and subdivision layout (Source: Port Macquarie-Hastings Council 2016)

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## 2 ABORIGINAL CONSULTATION AND INVOLVEMENT

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The *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a; the CRs) proscribe Aboriginal community consultation requirements in relation to applications for Aboriginal Heritage Impact Permits (AHIPs) and archaeological test excavations permitted without an AHIP under the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b). "Whilst the OEH recommends consultation with Aboriginal people as part of the assessment of Aboriginal cultural heritage to inform a planning proposal, use of the CRs is not required for such consultation. However, the CRs must be followed if a proposal requires an Aboriginal Heritage Impact Permit or the Aboriginal heritage assessment requires archaeological testing" (correspondence from Dimitri Young, Senior Team Leader Planning, OEH North East Region, Regional Operations to Jacqueline Collins, 12/08/2016; reproduced in Collins 2016a:Appendix C).

An on-line search of the Register of Native Title Claims, the National Native Title Register, the Register of Indigenous Land Use Agreements, and the Schedule of Native Title Applications conducted on the 21<sup>st</sup> of March 2017 revealed no relevant entries.

On the basis of the above information, in tandem with the perceived low likelihood of the need for an AHIP or subsurface archaeological testing, it was concluded that Aboriginal consultation would be most appropriately and effectively achieved through the involvement of the Birpai LALC of Port Macquarie.

PMHC provided the Birpai LALC with documents associated with the Lot 7 planning proposal prior to engaging the consultant. On review of these documents, the Land Council made the following comments (PMHC 2017:4):

- "Aboriginal cultural heritage assessment be prepared by a suitably qualified person in accord with the Due Diligence guidelines.
- As part of the assessment, the site be inspected by the officer preparing the assessment in conjunction with the BLALC's site officer.
- The report include a discussion of any points of significance identified by the sites officer during the inspection.
- The draft report, including recommendations, be provided to the BLALC for further comment before becoming a final report".

Upon engagement, the consultant contacted Birpai LALC CEO David Carroll and the assessment location and purpose were discussed. It was arranged that senior sites officer Jason Holten (who is also chairperson of the recently formed Birpai Traditional Owners Indigenous Corporation) would assist with the field survey and provide information relevant to assessing ACH values.

Before, during and after the field survey, Jason Holten was consulted to determine:

- whether the proposed rezoning (and the future development of lots 2-4) would adversely affect significant sites/places;
- the level of social/cultural significance attributed to known sites/places within and near the study area;
- whether the divulged cultural information is suitable for general public access. If not, what aspects of this information should be withheld, and/or not shared with other Aboriginal parties and/or administrative authorities; and
- management strategies that would need to be implemented to preserve Aboriginal cultural heritage attachments and values.

Jason Holten advised that the imparted cultural information (Section 4.2) is not sensitive or private, nor should it be flagged for restricted public access. The management recommendations presented in Section 7 were developed in liaison with Jason Holten.

A draft copy of this report was sent to the Birpai LALC for review and comment prior to its finalisation. While some minor changes were suggested (and have been made), the assessment findings and recommendations were supported (see correspondence, Appendix A).

## 3 ENVIRONMENTAL CONTEXT

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### 3.1 General setting

Port Macquarie is generally situated at the mouth of the Hastings River and experiences a humid sub-tropical climate, characterised by relatively high summer and low winter/spring rainfalls. Average daily temperatures range from a maximum of 25.8° to a minimum of 17.0° Celsius in summer, and 17.8° to 7.1° Celsius in winter (ERM Mitchell McCotter 1999). Despite climatic fluctuations (Attenbrow 2006:203-208), the lower Hastings region would have been conducive to year-round traditional Aboriginal occupation throughout the Holocene period.

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The eastern section of Port Macquarie, south of the Hastings River, features an elevated hill system that falls steeply away seaward to a series of small beaches enclosed by headlands and rocky outcrops. The outcropping rocks include quartz, chert, jasper, siliceous argillite, breccia, basalt, and other meta-sedimentary and volcanic materials (Goodwin 1962; Hill 1994; NPWS 1995) suitable for the manufacture of traditional Aboriginal stone implements. These same materials occur in pebble beds along the beaches, including Lighthouse Beach, which stretches for some 10km south from Tacking Point headland to Cathie Creek.

Hills inland of the eroded coastal scarp form part of the residual Thrumster soil landscape unit (Atkinson 2002). The strongly acid krasnozems typical of this unit originally supported a combination of tall open dry and wet sclerophyll forest, with closed littoral rainforest on the coastal fringe (eg Sea Acres National Park and Lighthouse Gully) and in sheltered gullies near the sea (eg Wrights Creek) (Atkinson 1999:56). The hills are dissected by small waterways that flow to Kooloonbung Creek and thence the Hastings River, or into Lake Innes, a back-barrier lagoon located approximately 4km south-west of the study area.

Prior to the 1933 excavation of a drain that admitted salt water from nearby Cathie Creek, Lake Innes was the largest fresh water body on the NSW coast (NPWS 1999:9; Armstrong 2002). In its natural state the lake was home to fish, swans, coots, swamphens and many thousands of ducks (Herman 1981:71; Diary of Albert Dick, summarised in NPWS 1994:18) that no doubt provided a reliable source of food for the local Birpai people.

### 3.2 The study area

The study area lies within the Thrumster soil landscape unit (Atkinson 2002), and straddles the head of Wrights Creek, a narrow waterway that flows northwards between the hills to enter Kooloonbung Creek 600m south of its confluence with the Hastings River. Elevation ranges from 40m AHD on the south-eastern corner to <35m AHD in the creek channel on the central northern boundary.

The topography is dominated by a low-lying drainage depression centred on Wrights Creek (within proposed lot 5), much of which is flood-prone (Naturecall 2015:Figure 3). The depression is fringed by very gently inclined hillslopes that are primarily contained within proposed lots 2, 3 and 4 (Figure 3) and the existing RU1 zoned land in the south-east (Figure 2).

Apart from where clearing has been undertaken on proposed lot 2 and the eastern hillslope, the study area is forested. A swamp rainforest dominated by Bangalow Palm, Cabbage Palm and Biconvex Paperbark runs through the centre of the allotment, following Wrights Creek. The rainforest merges with wet sclerophyll forest to the east and west. The wet sclerophyll forest supports Flooded Gum, Cabbage Palm and Brush Box, with a usually dense understorey of young canopy trees and other shrubs and mid-dense to sparse ground cover (Naturecall 2015). A range of plants identified within both the rainforest and sclerophyll forest (Naturecall 2015:Appendix 2) are known to have been utilised by Aboriginal people for food, medicinal and/or material culture purposes. These include Cabbage Palm, Black Plum, Bolwarra, Sandpaper Fig, Lilly Pilly, Tree Fern, Blady Grass, Cunjevoi, Native Ginger, Mat-Rush, Rose-leaf Bramble, Native Grape and Native Yam (Low 1991).

Although white chert has been recorded near Wrights Creek (Goodwin 1962:16), the study area is devoid of rock outcrops that could have been used for Aboriginal occupation, art production, the construction of stone arrangements, tool grinding or quarrying. Aside from introduced gravel, stone observed in the field was confined to erosion lags of small pebbles which are not expected to have been suitable for tool manufacture.

### 3.3 Landuse effects

Proposed lot 2 has been cleared of its original vegetation and is maintained as a bushfire APZ, with managed lawn, garden plantings and perimeter fencing (Plates 1 and 2). The topography of the western periphery of the allotment has been substantially modified. Extensive clearing has also been undertaken over much of the eastern hillslope, where the natural forest has been replaced by long grass and weeds (Plates 5 and 6).

The wet sclerophyll forest on proposed lots 3 and 4 has been 'underscrubbed' (Naturecall 2016:10) and used for the stacking of palm leaves and firewood (Plates 3 and 4). The hummocky ground evident across this area suggests at least a moderate level of surface disturbance. In the absence of any 'old growth' eucalypts or tree stumps indicative of past logging anywhere within the remaining wet sclerophyll forest, it seems that this forest may be a product of historical landscape changes.

Disturbance of the Wrights Creek rainforested depression (proposed lot 5) appears restricted to creek bank (Plate 7) and more widespread rain-wash erosion (Plate 8). Drainage within Wrights Creek itself has been augmented by the introduction of stormwater from Reading Street and its associated residential estate.



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Plate 1. Managed lawn, proposed lot 2



Plate 2. Surface exposure, proposed lot 2



Plate 3. Typical disturbance, proposed lot 3



Plate 4. Typical disturbance, proposed lot 4



Plate 5. Cleared forest, eastern hillslope, proposed lot 5



Plate 6. View west from eastern hillslope to wet sclerophyll forest, proposed lot 5

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Plate 7. Wrights Creek bank erosion, proposed lot 5



Plate 8. Typical rainforest water-wash exposure, proposed lot 5

## 4 ABORIGINAL CULTURAL HERITAGE CONTEXT

### 4.1 Ethno-history

The first written account of the Port Macquarie Birpai people comes from the journal of Surveyor-General John Oxley (1820), whose exploration party traversed the Hastings River valley from the west in 1818. Oxley (1820:307-328) observed "abundant signs" of Aborigines and their camps along the full length of the valley, and noted that "the natives in the vicinity (of Port Macquarie) appeared very numerous", where "a great many natives' canoes were seen on the river". On travelling south "at a distance from the seashore" between the Hastings River and Tacking Point, Oxley did not report meeting Aboriginal people or finding evidence of their presence.

At the time of first European settlement, speakers of the Birpai dialect (Radcliffe-Brown 1931; Enright 1932; Eades 1979) maintained alliances with other 'tribes' via a system of regulated movement for ceremonial, ritual, and social/secular purposes (Breton 1833; Howitt 1904; Fitzpatrick 1941:61.124). Initiation/Bora ceremonies at Port Macquarie were performed "on the summit of a low hill", which was first cleared of grass and the bark of surrounding trees "carved into rude representations of different animals" (Breton 1833:234). These ceremonies "always included several tribes, some of whom (came) from a distance of some hundred miles, and probably much farther" (Breton 1833, cited in Howitt 1904:576). There is an unsubstantiated report that a Bora ground once existed at Tacking Point (Alexander undated).

During the course of everyday traditional life, resource exploitation seems to have been undertaken by a number of extended family units that would gather and then disperse as conditions demanded (Henderson 1851; Godwin 1990:97). According to Birpai Elder, the late Bill Hotlen (Collins 1996:8), a seasonal landuse system was generally followed, with hinterland hunting through spring and summer, and movement to the coast for autumn and winter fishing. Oxley's (1820:328) discovery of an Aboriginal camp on the Camden Haven estuary containing well-constructed paperbark huts and "arms and utensils of every description" in the mid-spring of 1818 suggests that the margins of resource-rich estuaries may have been occupied on a semi-permanent basis.

Most of the region's material culture items (eg shields, spears, boomerangs, clubs, digging sticks, canoes, containers, woven nets and bags) were made from wood, bark or other vegetative material. A limited assemblage of items more conducive to long-term preservation was also used, including flaked and/or edge-ground pebble axes; stone scrapers, knives and points; flaked and/or split pebbles and blocks; and stone fish hook files (McCarthy 1944).

The frontier of European settlement moved north from Newcastle upon the 1821 establishment of a penal station at Port Macquarie. Traditional landuse patterns were substantially modified as long-held lands were alienated and freedom to move through the country was progressively restricted. The Aboriginal population of the Hastings region reportedly halved between 1835 and 1845, primarily owing to deaths caused by influenza, smallpox and other introduced diseases (Grey 1845:25, cited in Godwin 1990:110), and diminished from 500 in 1828 to 100 in 1845 within Port Macquarie itself (Cross 1845, cited in Godwin 1990:110).

By the early 20<sup>th</sup> century a large Aboriginal group, including people from Laurieton and Kempspey, lived on Sandy Flat, now within an industrial estate some 4km west of the present study area. Although often shifting camp, this group remained within the Sandy Flat locality. The camp



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residents gained casual work picking vegetables and attending to other crops that were once widely grown on the adjacent hills (pers comm. L. Moran and the late P. Preece, in Collins 1996a:14).

#### 4.2 Cultural heritage information disclosed for this assessment

As disclosed by Jason Holten (pers comm. 05/04/2017), information passed down by Birpai Elder the late Noel Holten indicates that a portion of the coastal ridge between Pacific Drive and Waverly Glade was used as a ceremonial and burial place. While the date of the reported burials is unknown, members of the Davis family are said to have conducted ceremonies on this ridge in historical times. The subject area, previously owned by the Birpai LALC and since developed as a residential estate, is located a short distance upslope of the study area's eastern boundary. However, Jason Holten advised that the study area itself is not known to contain or impinge upon any specific sites/places of special traditional, historic or contemporary cultural heritage significance, including the Waverly Glade estate burials and ceremonial ground.

The environment provided shelter, food and other resources to its traditional inhabitants. Conservation of natural vegetation and fauna habitat is thus seen as an important means of maintaining landscape/emotional attachments between the contemporary Birpai community and past generations. Given that the proposal addressed in this report would result in the permanent retention/conservation of the upper Wrights Creek rainforest and promote habitat connectivity with Sea Acres National Park, Jason Holten considered that the proposal would enhance rather than compromise Aboriginal landscape values, and that loss of the underscrubbed forest on proposed lots 3 and 4 would be suitably off-set by rehabilitation of cleared land on the eastern hillslope, much of which is currently zoned for residential use.

#### 4.3 Registered sites and places

##### 4.3.1 OEI Aboriginal Heritage Information Management System (AHIMS)

An extensive search of the AHIMS database performed on the 6<sup>th</sup> of March 2017 (AHIMS client service no. 269934) revealed 18 registered Aboriginal sites within 4km of the study area (Appendix B). As listed in Table 1 and plotted on Figure 4, the registered sites comprise seven shell middens (1 with an associated beach pebble quarry), six stone artefact scatters/open campsites, three isolated stone artefacts, one carved tree and a 'restricted' site. Of these, all but four occur on sand-based grounds (sand plains and coastal dunes).

None of the registered sites (including the 'restricted' site) lie within or near the study area, the closest being a shell midden/quarry (#30-3-0084) on the northern end of Lighthouse Beach below Tacking Point (Figure 4).

Table 1. Aboriginal sites registered on AHIMS within 4km of the study area

| AHIMS ID  | Site name                    | Site type                  | Landform             | # identified artefacts |
|-----------|------------------------------|----------------------------|----------------------|------------------------|
| 30-3-0232 | NQ 1 (Newtons Quarry)        | Isolated find              | Alluvial plain       | 1                      |
| 30-3-0219 | Kooloonbung 3                | Stone artefact scatter     | Bedrock ridge knoll  | 21                     |
| 30-3-0220 | Kooloonbung 2                | Stone artefact scatter     | Bedrock ridge knoll  | 34                     |
| 30-3-0218 | Kooloonbung 1                | Isolated find              | Bedrock ridge knoll  | 1                      |
| 30-3-0319 | Elkhorn Grove 1              | Shell midden               | Sand rise            | 0                      |
| 30-3-0320 | Elkhorn Grove 2              | Shell midden               | Sand rise            | 0                      |
| 30-3-0222 | Lighthouse 3                 | Shell midden               | Hind dune/sand plain | 3                      |
| 30-3-0234 | CBD 1 (Port Macquarie)       | Shell midden               | Sand plain           | Not counted            |
| 30-3-0214 | Short Street                 | Shell midden/open campsite | Sand plain           | 173                    |
| 30-3-0226 | Lighthouse 5                 | Stone artefact scatter     | Sand plain           | 4                      |
| 30-3-0227 | Lighthouse 6                 | Stone artefact scatter     | Hind dune            | 5                      |
| 30-3-0213 | Restricted site              | Restricted                 | Sand plain           | Restricted             |
| 30-3-0223 | CBD 2 (Port Macquarie)       | Open campsite              | Sand plain           | 54                     |
| 30-3-0225 | Lighthouse 4                 | Stone artefact scatter     | Hind dune            | >200                   |
| 30-3-0244 | Lighthouse 11                | Isolated find              | Sand plain           | 1                      |
| 30-3-0228 | Lighthouse 7                 | Shell midden               | Foredune             | >1,000                 |
| 30-3-0087 | Pelican Point Port Macquarie | Carved tree                | Sand plain           | 0                      |
| 30-3-0084 | Tacking Point                | Shell midden/quarry        | Foredune             | Unknown                |

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Figure 4. Aboriginal sites registered on AHIMS within the study locality  
(Base map source: Port Macquarie 9435-2S 1:25,000 scale topographic map, Land Information Centre 2000)

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#### 4.3.2 Other heritage registers

On-line searches of the Australian Heritage Database, NSW State Heritage Register and Inventory, and Schedule 5 (Environmental Heritage) of Port Macquarie Hastings LEP 2011, performed on the 26<sup>th</sup> of March 2017, revealed no listed Aboriginal heritage sites or places within or near the study area.

#### 4.4 Unregistered sites in the study locality

According to information presented by the NPWS (1995:9), an Aboriginal "axe head" was at some time discovered within Sea Acres National Park (then Nature Reserve), situated on and just above the coastal escarpment a minimum of 200m east of the study area. This artefact does not appear on the Appendix B AHIMS search and is thus assumed to be unregistered.

Also unregistered and as reported by Collins (1996:14), an edge-ground axe, a bifacial pebble 'chopper' and a grindstone are said to have been collected from the crest of a bedrock soil knoll some 2.5km south-west of the study area during the early 1980s.

#### 4.5 Past Aboriginal cultural heritage assessments in the study locality

Table 2. Summary of past Aboriginal cultural heritage assessments in the study locality

| Reference         | Survey landforms                               | Summary and results   |
|-------------------|--|---|
| Dean-Jones (1988) | Undulating hills; lowland; drainage depression | Survey of 7km long Port Macquarie ring road corridor (now Ocean Drive). No archaeological sites/materials or PADs were detected.  |
| Collins (1996a)   | Ridge spur knoll; lowland; drainage depression | Survey of a 12ha property south-west of Ocean Drive, proposed for the development of a manufactured home estate. Three Aboriginal sites were recorded, all outside the proposed impact area. These comprised: an isolated stone artefact (large siltstone pebble with end flaking) found on the knoll mid-slope (#30-3-0218); a scatter of 34 stone artefacts (flakes, flaked pieces, cores, split pebble, retouched block fractured piece) scattered between the crest and footslope of the knoll (#30-3-0220); and a scatter of 21 stone artefacts (flakes, flaked pieces, cores, split pebble, flake tool) on the upper slope and footslope of the knoll (#30-3-0219). Raw materials included siltstone, quartz, chert, jasper, greywacke, and fine-grained volcanic. The high incidence of pebble cortex within the assemblage suggested that most of the raw materials were probably collected from the ocean shoreline. |
| Collins (1996b)   | Lowland  | Survey of a 5ha area targeted for continued soil and sand extraction west of Ocean Drive. One isolated stone artefact (a greywacke uniface pebble tool; #30-3-0232) was recorded on drain spoil outside the proposed extraction area.   |
| Collins (1997a)   | Hillslopes; Lowland                            | Survey of a 6.3ha property west of Ocean Drive, proposed for residential development. No archaeological sites/materials or PADs were detected, either within or near the property.  |
| Collins (1997b)   | Hind dune ridge; sand plain; foredune          | Survey of a 37ha area sandwiched between Lighthouse Beach and Ocean Drive, proposed for extensions to Port Macquarie Golf Course. The survey resulted in the recording of a scatter of pipi shell fragments and more than 200 stone artefacts (flakes, flaked pieces, cores, flake and nuclear tools) on the foot of the hind dune (#30-3-0225), and a scatter of four re-deposited stone artefacts (cores, flake; #30-3-0226), both sites within the proposed extension area itself. A disturbed scatter of five stone artefacts was also recorded on the sand plain beyond the western boundary, along with four pipi shell middens/stone reduction sites along the Lighthouse Beach foredunes further south and east. Each of the foredune sites contained >1,000 stone artefacts, their assemblages dominated by split, shattered and flaked beach pebbles.   |
| Collins (2000)    | Sand rise; swamp                               | Survey of a 7.4ha land parcel fringing undulating hills on the western side of Ocean Drive, Lighthouse Beach, proposed for residential development. Two small, disturbed, pipi midden scatters (#30-3-0319 and #30-3-0320) were recorded on a sand rise adjacent to swamp. Neither site was considered to be associated with subsurface deposit. Consent to Destroy (#1457; 12/05/2003) the two shell scatters was subsequently issued by the NPWS to allow the development to proceed.   |
| RPS (2015)        | Undulating hills; lowland; drainage depression | Due diligence assessment (including field survey) of around 24.6ha of land to be affected by the widening of a 3km length of Ocean Drive, between Matthew Flinders Drive and Greenmeadows Drive. No archaeological materials or other cultural heritage constraints were identified.  |

As summarised in Table 2, a number of Aboriginal cultural heritage/archaeological assessments have been completed in the study locality for development planning purposes. These have together resulted in the field sampling of all types of coastal and sub-coastal landforms



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represented in the locality, and offer an insight to past Aboriginal landuse preferences and the likely types and distribution of Aboriginal objects that may occur within the study area.

In addition to the assessments listed in Table 2, McCarthy (1944) undertook a typological analysis of 78 stone artefacts selectively collected from shell middens along the Lighthouse Beach dunes, and site #30-3-0084 at Tacking Point in particular. These comprised a range of nuclear and flake tools, including uniface pebble implements (one with edge grinding), elouera, Bondi points and retouched blades, as well as pebble cores and trimming flakes made primarily on fine to coarse-grained chert, tuffaceous sandstone and white quartz (McCarthy 1944:415-417). The most extensive and archaeologically complex sites so far recorded in and around Port Macquarie are located on the Lighthouse Beach dunes and on sand-based ground near the mouth of the Hastings River (Collins and Sullivan 1996). Past surveys on the local coastal and sub-coastal bedrock soil lands have revealed a low density of Aboriginal sites off a single ridge spur knoll, which contained two separate stone artefact scatters and an isolated artefact made on raw materials probably collected from Lighthouse Beach (Collins 1996a). Material evidence for traditional use of the alluvial lowlands/drainage depressions is confined to the recording of one isolated pebble tool unearthed by the excavation of a drain (Collins 1996b).

#### 4.6 Discussion and archaeological predictions for the study area

Findings of past cultural heritage/archaeological assessments and the distribution of registered and otherwise reported Aboriginal objects point towards the operation of a 'collector' type of traditional landuse system (Binford 1980), involving the sustained (possibly seasonal) occupation of base camps strategically located along the coastal dunes and estuary banks. It is envisaged that sub-groups radiated out from the residential bases during the course of hunting and gathering, and in times of resource scarcity and/or adverse weather, resulting in the deposition of stone artefacts on special-activity encampments situated on elevated sub-coastal landforms, and the occasional discard or loss of isolated artefacts on lowlands that were visited for the purposes of resource extraction.

The study area comprises the head of a densely vegetated creek basin well within daily walking distance of extensive coastal middens/open campsites that feature a range of cultural materials suggestive of home base occupation rather than use as 'dinner-time' camps or shell processing stations (cf Meehan 1982:112-118). Although supporting a range of plant and animal species that were no doubt exploited in traditional times, rainforest and wet sclerophyll forest like that still present within the study area was once common in the Port Macquarie locality. The study area does not offer reliable water, stone materials suitable for tool manufacture, plant and fauna resources that could not have been found elsewhere, or elevated landforms likely to have been preferentially selected for the establishment of campsites.

As outlined in Section 4.2, Aboriginal oral evidence indicates that the coastal ridge a short distance east of the study area was used as a ceremonial and burial place. However, there is no suggestion that this ceremonial/burial place extended downslope into the study area itself, or that the study area contains or impinges upon any specific tangible or intangible sites/places of traditional, historic or contemporary cultural heritage significance.

Considering its sub-coastal topographic and vegetation context (Section 3), the types and distribution of registered and otherwise known nearby archaeological sites (Sections 4.3 and 4.4) and cultural heritage information imparted by Jason Holten (Section 4.2), it seems highly unlikely that the study area was subject to anything but itinerant resource extraction, such that it was predicted that its archaeological resource (if any) would be confined to:

- Scarred trees showing evidence of Aboriginal bark removal or other marking.
- Isolated stone artefacts. Consistent with past findings, any such artefacts will probably be reasonably large implements (eg chopping tools) made on beach pebbles.

## 5 FIELD SURVEY

### 5.1 Conduct and coverage

A pedestrian survey of the study area was undertaken by Jacqueline Collins (Adise Pty Ltd) with the assistance of Jason Holten (Birpai LALC senior sites officer) on the 5<sup>th</sup> of April 2017. The survey included the inspection of all ground surface exposures on proposed lots 2, 3 and 4 and the cleared hillside within the current R1 zoned land in the south-east. Given the substantial access and visibility constraints imposed by dense surface vegetation (especially palm leaf litter), the remainder of the study area was subject to a cursory inspection only, targeting erosion exposures and all mature trees.

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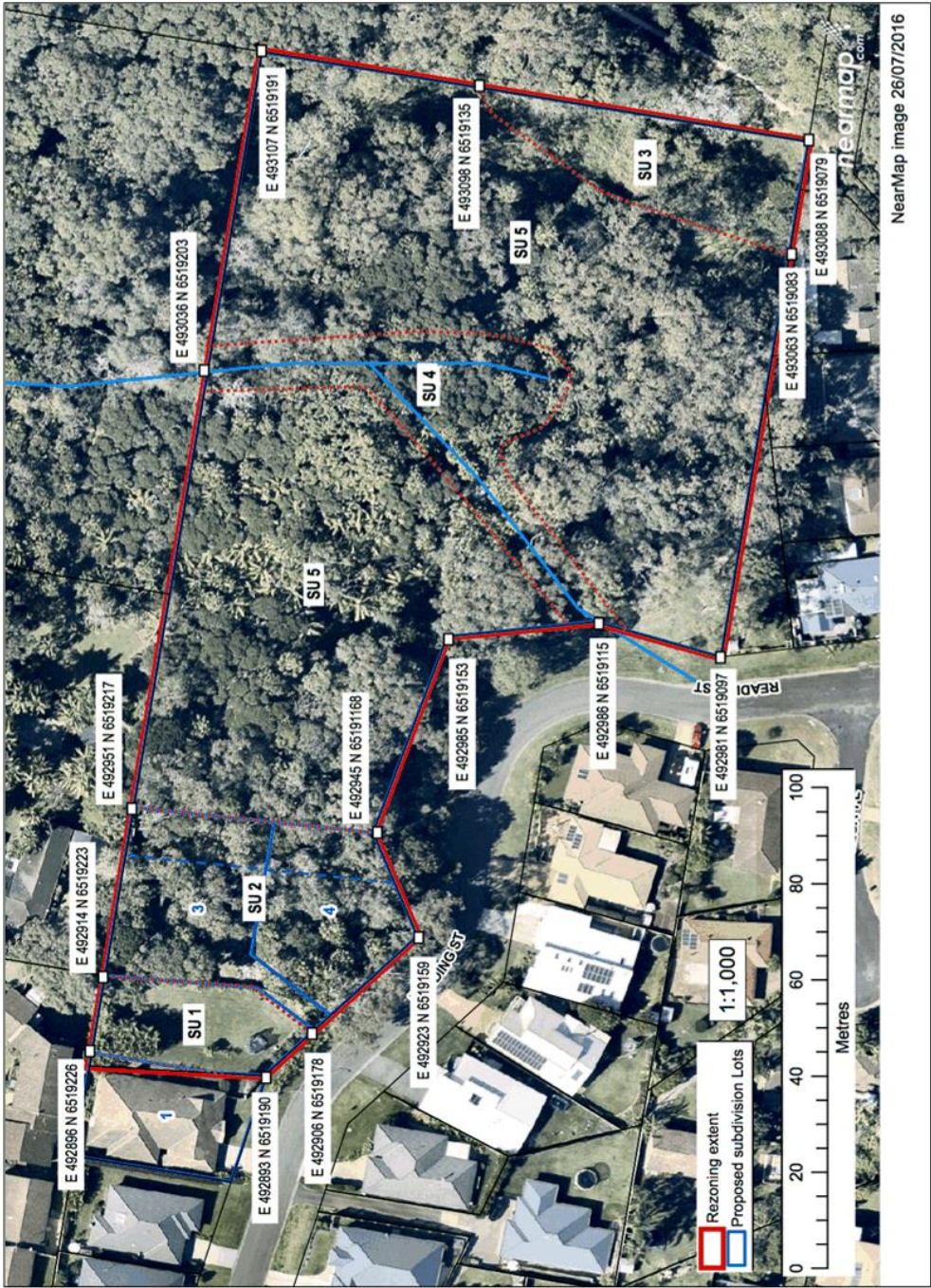


Figure 5. Location of survey units (Base map source: Port Macquarie-Hastings Council)



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For reporting purposes, the study area was divided into the five survey units (SUs) illustrated on Figure 5, which were delineated on the basis of topography and exposure conditions. Geospatial information with respect to the survey unit boundaries was determined using a hand-held (non-differential) Garmin Oregon 650 GPS unit set to supply GDA94/MGA94 grid coordinates.

To provide data suitable for evaluating survey effectiveness, variables constraining artefact detection were estimated for each of the survey units. These include an estimation of the mean frequency with which surface exposures were encountered, as well as an estimation of the likelihood of those exposures revealing archaeological evidence on the present surface. Once the variables of exposure and visibility are taken into account, it is estimated that 2.8% of the total study area was subject to effective survey coverage, including 8.0% of the hillslope (SU 1 and SU 2) to be affected by the proposed development of lots 2, 3 and 4 (Figure 5 and Table 3).

Table 3. Survey coverage details

| Survey unit | Landform  | Total area (m <sup>2</sup> )(approx.) | Exposure % of total | Visibility % on exposures | Effective coverage area (m <sup>2</sup> ) | Effective coverage % of total | Number of recorded sites/PADs |
|-------------|-----------|---------------------------------------|---------------------|---------------------------|---|-------------------------------|-------------------------------|
| SU 1        | Hillslope | 664                                   | 5                   | 100                       | 33.2                                      | 5.0                           | 0                             |
| SU 2        | Hillslope | 2,073                                 | 10                  | 90                        | 186.6                                     | 9.0                           | 0                             |
| SU 3        | Hillslope | 1,000                                 | 0                   | 0                         | 0.0                                       | 0.0                           | 0                             |
| SU 4        | Lowland   | 1,600                                 | 20                  | 90                        | 288.0                                     | 18.0                          | 0                             |
| SU 5        | Lowland   | 13,063                                | 0                   | 0                         | 0   | 0.0                           | 0                             |
| Total       |           | 18,400                                |                     |                           | 507.8                                     | 2.8                           | 0                             |

## 5.2 Results

No Aboriginal artefacts or potential archaeological deposits (PADs) were detected during the field survey, nor was the area found to support trees of an age sufficient to have been scarred or otherwise marked during traditional or historic times.

While it is conceded that only a small proportion of the ground surface was available for detailed inspection, the inspection, in conjunction with cultural information provided by Jason Holten, was sufficient to determine that Lot 7 DP 1142474 has a low level of archaeological sensitivity.

## 6 CONCLUSIONS AND IMPACT ASSESSMENT

This assessment found no evidence to suggest that Lot 7 DP 1142473 contains or is reasonably likely to contain any substantial archaeological materials. Undetected Aboriginal objects (if any) are expected to be restricted to a low-density distribution of isolated stone artefacts. Isolated artefacts have the potential to occur across all parts of any landscape used or visited by Aboriginal people in the past. Unless of an outstanding type or made on raw material exotic to the local area, these artefacts are likely to be of low scientific/archaeological significance, but may be of social/cultural value to the Aboriginal community.

The rezoning and residential development of proposed lots 2, 3 and 4 would directly affect 2,737m<sup>2</sup> of the western hillslope, including clearing of 2,073m<sup>2</sup> of wet sclerophyll forest, the ground surface of which has been disturbed by underscrubbing and other recent human uses. Irrespective of the possible presence of isolated stone artefacts, the archaeological potential of the proposed development area is not considered sufficient to warrant further archaeological investigation or earthworks monitoring. This conclusion is equally applicable to the cleared eastern extremity of the study area (within proposed lot 5), where vegetation restoration would probably require minor disturbances/ excavations for weed removal and tree planting.

The proposal would see the dedication of the remaining 15,663m<sup>2</sup> of Lot 7 DP 1142473 (proposed lot 5) to PMHC, such that the current R1 General Residential zoned land in the south-east corner would be added to the E2 Environmental Conservation zone to facilitate the permanent retention and rehabilitation of the upper Wrights Creek forest basin and provide improved fauna linkage with similar habitat to the north and east.

As disclosed by Birpai LALC senior sites officer Jason Holten, the study area is not known to contain or impinge upon any specific sites/places of special traditional, historic or contemporary social/cultural significance. However, all extant natural vegetation (and its associated fauna habitat) is

Lot 7 DP 1142473, Reading Street, Port Macquarie- Aboriginal Cultural Heritage Assessment

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valued as a tangible link between contemporary Birpai people and the environment as it was before European settlement. Considering its environmental benefits, Jason Holten advised that the proposed rezoning would enhance rather than compromise Aboriginal landscape values, and that loss of the disturbed forest on proposed lots 3 and 4 would be well compensated by the permanent reservation of proposed lot 5 for environmental conservation purposes.

On the basis of background information, Aboriginal consultation and the nil field survey result, it is concluded that the proposed rezoning and associated residential development on Lot 7 DP 1142473, as addressed in this report, should be allowed to proceed without further Aboriginal cultural heritage constraints, providing the management recommendations presented in Section 7.2 of this report are fully implemented.

## 7 MANAGEMENT RECOMMENDATIONS

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### 7.1 Primary statutory control and implications

The *National Parks and Wildlife Act 1974* (as amended) is administered by the OEH, and forms the primary basis for the statutory protection and management of Aboriginal cultural heritage in NSW. One of the objectives of the NPW Act is "... the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including but not limited to ... places, objects and features of significance to Aboriginal people" (Section 2A [1.b]).

Part 6 of the Act provides specific protection for Aboriginal objects and declared Aboriginal places by making it an offence to harm them unless authorised by a duly approved Section 90 Aboriginal Heritage Impact Permit (AHIP). As per Section 90(3) of the *National Parks and Wildlife Amendment Act 2010*, an AHIP "may be issued in relation to a specified Aboriginal object, Aboriginal place, land, activity or person or specified types or classes of Aboriginal objects, Aboriginal places, land, activities or persons."

The *National Parks and Wildlife Act 1974* defines a protected 'Aboriginal object' as-

'any deposit, object or material evidence (that is not a handicraft made for sale) relating to Aboriginal habitation of NSW, before or during the occupation of that area by persons of non-Aboriginal extraction (and includes Aboriginal remains).'

The provisions of the Act apply to all Aboriginal objects, regardless of whether or not they have been registered with the OEH, or whether they occur on private or public land. Except where destruction of an Aboriginal object is or will be demonstrably unavoidable, it is OEH policy to require conservation in its original location and context.

Places in the landscape of significance to Aboriginal people, which may be devoid of 'Aboriginal objects', can only be protected under the Act (Section 84) via declaration as an Aboriginal place. For the purposes of the Act, an 'Aboriginal place' is defined as a place that-

'in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture'.

The *National Parks and Wildlife Amendment Act 2010* made significant changes to the provisions of the *National Parks and Wildlife Act 1974*, most notably the introduction of a 'strict liability' offence (Section 86[2]) for instances where impacts to Aboriginal objects/places were not covered by an AHIP and objects/places were accidentally or otherwise unknowingly harmed.

It is a defence to prosecution under the Act if:

- the defendant can demonstrate that they exercised 'due diligence' to reasonably determine that no Aboriginal objects would be harmed; or
- any disturbance is prescribed by the *National Parks and Wildlife Amendment [Aboriginal Objects and Aboriginal Places] Regulation 2010* was a low impact act or omission. As listed in Clause 80B, Section 87(4j), designated low impact acts or omissions include "environmental rehabilitation work including temporary silt fencing, tree planting, bush regeneration and weed removal, but not including erosion control or soil conservation works (such as contour banks)".

This assessment has concluded that an AHIP under Part 6, Section 90 of the *National Parks and Wildlife Act 1974* is not required or warranted to authorise future development impacts within proposed lots 2, 3 and 4 or vegetation restoration on proposed lot 5, and demonstrates that PMHC has taken reasonable and practical measures ('due diligence') to determine whether the proposal will or is likely to harm Aboriginal objects. This assessment, in conjunction with implementation of the Section 7.2 management recommendations, would constitute a defence against the strict liability offence introduced by the *National Parks and Wildlife Amendment Act 2010*.

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This assessment provides no defence against prosecution for causing knowing harm to an Aboriginal object. To comply with the conditions of the NPW Act, Section 7.2 management recommendation 3) must be strictly adhered to if any Aboriginal object/s are detected during any stage of project implementation or at any other future time.

## **7.2 Recommendations**

- 1) As part of the pre-start induction, all personnel engaged for initial development-related earthworks (including tree clearing) on proposed lots 2, 3 and 4 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time (Recommendation 3).
- 2) All personnel (including volunteers) engaged to undertake vegetation rehabilitation works on proposed lot 5 should be informed of their legal obligations with respect to Aboriginal objects, including 'stop-work' conditions applicable in the event that any identified or suspected Aboriginal objects are discovered at any time (Recommendation 3).
- 3) In the event that any identified or suspected Aboriginal objects are detected at any time, all disturbance works should immediately cease within 20m of the find and temporary protective fencing erected around this 'no-go zone' pending further management advice from the OEH and the Birpai LALC. If the find consists of or includes human remains, the NSW Police Department and the OEH Environmental Line (ph 131 555) should also be notified as soon as practicable.

Works may not recommence within the designated 'no-go zone' until formal written clearance to do so has been provided by the OEH and the Birpai LALC.



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## GLOSSARY

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### ARTEFACT

An object or specimen produced by human agency. An artefact can usually be collected without being destroyed. This is in contrast to features, which are destroyed or dismantled after collection. All lithic debitage and tools are considered artefacts (Andrefsky 2005:252).

### BIFACIAL FLAKING/GRINDING

Flaking or grinding which has been undertaken on two opposing faces of an artefact (McCarthy 1976).

### BLADE

An elongated flake with lateral edges parallel or sub-parallel to each other. Specialised blades are produced by a systematic knapping technique (Crabtree 1972:42; McCarthy 1976:101).

### BLOCK FRACTURED PIECE

An irregular, chunky block of stone, not having a bulb of percussion or negative scars (Witter 1986:3).

### BONDI POINT

A type of backed stone implement which is asymmetrical in shape and triangular or flat trapezoid in section. Bondi Points range in length from 1cm to 6cm and vary from thin and narrow elongated points to broad, thick and sometimes hooked varieties. The implements are trimmed partially or completely along one or both edges of the thick margin. The Bondaian phase of the Eastern Regional Sequence spanning from 7,000 to 550 years ago is named after this point (McCarthy 1976:44).

### BORA/CEREMONIAL GROUND

While there are a number of different types of Bora ground, most common on the north coast is that composed of one or a pair of raised earth circles ranging in size from two to 40m in diameter. The Bora ground functioned as a stage for various initiation rites (Byrne 1989:18).

### CHERT

A dense, extremely hard, microcrystalline or cryptocrystalline siliceous sedimentary rock, consisting mainly of inter-locking quartz crystals, sub-microscopic and sometimes containing opal (amorphous silica). Chert occurs mainly as nodular or concretionary aggregations in limestone and dolomite, and less frequently as layered deposits (banded chert). It may be an organic deposit (radiolarian chert), an inorganic precipitate (the primary deposit of colloidal silica), or a siliceous replacement of pre-existing rocks (Lapidus 1987:102).

### CORE

A nucleus or mass of rock that shows signs of deliberate detached piece removal. A core is often considered an objective piece that functioned primarily as a source for detached pieces (Andrefsky 2005:254).

### CORTEX

The chemical or weathered surface on rocks (Andrefsky 2005:254).

### DRAINAGE DEPRESSION

A level to gently inclined, long, narrow, shallow open depression with smoothly concave cross-section, rising to moderately inclined side slopes, eroded or aggraded by sheet wash (Speight 1990:30).

### DUNE

A moderately inclined to very steep ridge or hillock built up by the wind (Speight 1990:30).

### EDGE-GROUND AXE

Axes which characteristically contain two abraded surfaces which meet at a bevel (Hiscock 1988:87).

### ELOUERA

A stone implement which is triangular in section and trimmed along one or both edges of its thick margin. The thick margin is generally crescentic but may be straight or irregular, and the thin margin varies from concave, through straight to convex. Eloueras are usually elongate blades up to 8cm long which were hafted to a handle and used in woodworking (McCarthy 1976:29-30).

### EROSION

The removal of the surface soil by water and/or wind (Speight 1990:92-93).

### FLAKE

A piece of stone detached from a larger mass by the application of force and having a feather, hinge or step termination and a bulb of percussion. A platform may be present if the proximal end is unbroken (Crabtree 1972:64).

### FLAKE TOOL

A flake that has been sharpened through deliberate retouch or which exhibits other evidence (eg usewear) to indicate that it has been used as a tool (Witter 1992:35).

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#### FLAKED PIECE

Chipped artefacts with negative flake scars which cannot be classified as a flake, core or retouched flake (Hiscock 1988:64).

#### GREYWACKE

Sedimentary rock. A very hard, dark grey or greenish-grey, coarse-grained sandstone characterised by angular particles and rock fragments embedded in a clayey matrix (Lapidus 1987:265).

#### HILLSLOPE

A gently inclined to precipitous slope, commonly simple and maximal, eroded by sheet wash, creep, or water-aided mass movement (Speight 1990:31).

#### HOLOCENE

The most recent epoch of geological time; the upper division of the Quaternary Period (Lapidus 1987:274).

#### JASPER

A compact, microcrystalline variety of quartz. Its colours are variable, including white, grey, red, brown and black (Lapidus 1987:308).

#### KRASNOZEM SOIL

An acid soil formed on basaltic rocks, with prominent, strong peds, having a dark A horizon grading into a clayey red B horizon (Eggleton 2001).

#### META-SEDIMENT

A metamorphosed sedimentary rock in which the original texture is still recognisable (Lapidus 1987:345).

#### NUCLEAR TOOL

A core which, rather than being specifically used to supply flakes to be used as tools, is itself the tool. A nuclear tool is thus a core-like tool that did not originate as a flake (Witter 1992:30).

#### PEBBLE

Stone worn and rounded by water and other natural forces (McCarthy 1976:101).

#### QUARTZ

Crystalline silica having no cleavage but a conchoidal fracture (Lapidus 1987:429).

#### RIDGE

A compound landform element comprising a narrow spine crest and its immediately adjoining slope with the spine length being greater than the width (Speight 1990:19).

#### SCARRED TREE

Aboriginal scarred trees are trees that have been scarred by Aboriginal people through the removal of bark or wood for a variety of commonplace tasks, including the construction of bark shelters, watercraft and containers. Other forms of Aboriginal tree wounding include deliberate marking (such as tree carving), the removal of wood for artefact manufacture, and cuttings made to collect food and assist with tree climbing (toe-holds). Early European settlers also stripped bark from trees, though for a more limited range of uses, especially the weather-proofing of buildings and other structures (Long 2005:6-7).

#### SHELL MIDDEN

Middens are Aboriginal open campsites which are dominated by shellfish remains. They are generally found near water and differ from natural shell beds in that they comprise predominantly mature specimens of edible mollusc species. They may also contain animal bone, stone artefacts, and charcoal and ash from cooking fires. Middens vary considerably in size. Some are thin surface scatters which have constituted little more than a meal for a small group gathering food away from a main camp, while others are well consolidated deposits several metres deep representing consistent use by large groups of people over hundreds of years (Byrne 1989:10).

#### SILTSTONE

A fine-grained sedimentary rock principally composed of silt-grade material. Intermediate between sandstone and shale, siltstone contains less clay than shale and lacks its fissility and fine laminations (Lapidus 1987:474).

#### STONE ARTEFACT

A fragment of stone that generally possesses one or more of the following characteristics:

- Positive or negative ring crack
- Distinct positive or negative bulb of force
- Definite erillure scar in position beneath a platform
- Definite remnants of flake scars (ie dorsal scars and ridges)

These traits indicate the application of an external force to a core, and are characteristic of the spalls removed by humans using direct percussion. Stone artefacts which have none of the above may be identified as such if they possess ground facet/s characteristic of human industry (Hiscock 1984:128).

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#### UNIFACIAL FLAKING

Flaking undertaken on one face of an artefact only (McCarthy 1976).

#### VOLCANIC ROCK

Very fine-grained or glassy igneous rock produced by volcanic action at or near the earth's surface, either extruded as lava or expelled explosively (Lapidus 1987:535).

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APPENDIX A. Birpai LALC response to review of draft report

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## Birpai Local Aboriginal Land Council

Monday 5 June 2017

JP Collins Consultant Archaeologist  
Advise Pty Ltd  
PO Box 6  
LAURIETON NSW 2443

Dear Jacqui,

**COMMENTS ON ABORIGINAL CULTURAL HERITAGE ASSESSMENT OF LOT  
7 DP 1142473 READING STREET**

Reference is made to the above report, dated April 2017 and prepared by JP Collins.

You are advised that in general the Birpai Local Aboriginal Land Council (LALC) agrees with the report, both in the potential for finding items of aboriginal heritage and in the proposed recommendations. We agree that there is low potential for of Items significance to aboriginal culture to be present at the site.

While we agree with the report we suggest the following minor changes to the recommendations be considered:

- Recommendation 3 be amended, with "and/or" be replaced with "and"
- The last line to add written clearance to do so has been provided by OEH and the Birpai LALC.

Please contact me at the Land Council on 6584 9066 if you need any additional information or to arrange a meeting.

Yours sincerely,



David Carroll  
Chief Executive Officer  
Birpai LALC

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APPENDIX B. Extensive AHIMS search result for land within 4km of the study area



AHIMS Web Services (AWS)  
Search Result

Purchase Order/Reference : Reading St PM  
Client Service ID : 269934

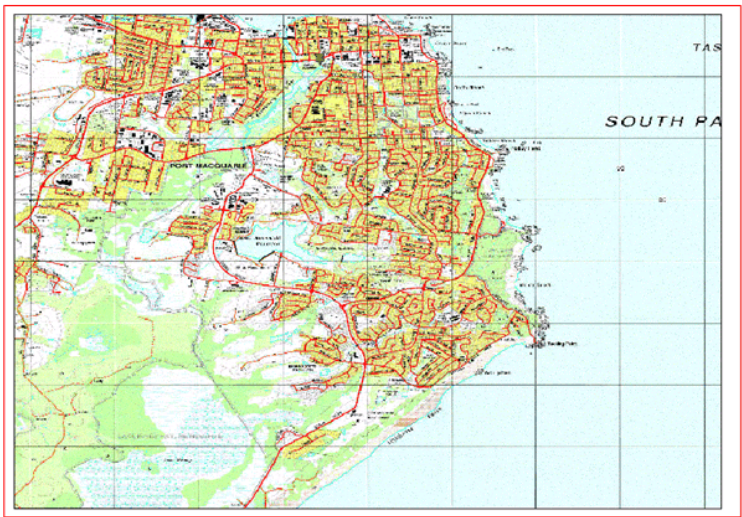
ADISE Pty Ltd

Date: 06 March 2017

Attention: Jacqueline Collins  
Email: jp\_collins@bigpond.com  
Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 489000 - 495000, Northings : 6515000 - 6523000 with a Buffer of 0 meters, conducted by Jacqueline Collins on 06 March 2017.


The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

|    |   |
|----|---|
| 18 | Aboriginal sites are recorded in or near the above location.          |
| 0  | Aboriginal places have been declared in or near the above location. * |

Lot 7 DP 1142473, Reading Street, Port Macquarie- Aboriginal Cultural Heritage Assessment



Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Reading St PM

Client Service ID : 269934


| SiteID    | SiteName  | Datum     | Zone | Easting   | Northing | Contact   | Site Status | Site Features        | Site Types     | Reports |
|-----------|---|-----------|------|-----------|----------|-----------|-------------|----------------------|----------------|---------|
| 30-3-0232 | NQ 1 (Newrons Quarry)   | Recorders | AGD  | 56 489500 | 6518620  | Open site | Valid       | Aredact :-           | Isolated Find  | 98713   |
| 30-3-0219 | Kooloonbung 3;  | Recorders | AGD  | 56 489900 | 6518320  | Open site | Valid       | Aredact :-           | Open Camp Site |         |
| 30-3-0220 | Kooloonbung 2;  | Recorders | AGD  | 56 489950 | 6518170  | Open site | Valid       | Aredact :-           | Open Camp Site |         |
| 30-3-0218 | Kooloonbung 1;  | Recorders | AGD  | 56 490070 | 6518250  | Open site | Valid       | Aredact :-           | Isolated Find  |         |
| 30-3-0319 | Elkhorn Grove 1   | Recorders | AGD  | 56 490630 | 6515880  | Open site | Destroyed   | Shell :-             | Permits        |         |
| 30-3-0320 | Elkhorn Grove 2   | Recorders | AGD  | 56 490660 | 6516010  | Open site | Destroyed   | Shell :-             | Permits        | 1457    |
| 30-3-0222 | Lighthouse 3;   | Recorders | AGD  | 56 491000 | 6515600  | Open site | Valid       | Shell :-, Aredact :- | Midden         | 1457    |
| 30-3-0234 | CBD 1 (Port Macquarie)  | Recorders | AGD  | 56 491030 | 6522620  | Open site | Valid       | Shell :-, Aredact :- | Midden         | 4198    |
| 30-3-0214 | Short Street  | Recorders | AGD  | 56 491040 | 6522580  | Open site | Valid       | Aredact :-           | Open Camp Site |         |
| 30-3-0226 | Light House 5;Light House Beach;                                  | Recorders | AGD  | 56 491080 | 6515360  | Open site | Valid       | Aredact :-           | Open Camp Site | 3886    |
| 30-3-0227 | Light House 6;Light House Beach;                                  | Recorders | AGD  | 56 491100 | 6515480  | Open site | Valid       | Aredact :-           | Open Camp Site | 3886    |
| 30-3-0213 | Restriction applied. Please contact ahims@environment.nsw.gov.au. | Recorders | AGD  | 56 491100 | 6515480  | Open site | Valid       | Aredact :-           | Permits        | 3586    |
| 30-3-0233 | CBD 2 (Port Macquarie)  | Recorders | AGD  | 56 491270 | 6522650  | Open site | Valid       | Aredact :-           | Open Camp Site | 4198    |
| 30-3-0225 | Light House 4;Light House Beach;                                  | Recorders | AGD  | 56 491300 | 6515550  | Open site | Valid       | Aredact :-           | Open Camp Site | 3886    |
| 30-3-0244 | Lighthouse 11   | Recorders | AGD  | 56 491350 | 6515850  | Open site | Valid       | Aredact :-           | Isolated Find  |         |
| 30-3-0228 | Light House 7;Light House Beach;                                  | Recorders | AGD  | 56 491460 | 6515480  | Open site | Valid       | Shell :-, Aredact :- | Midden         | 3886    |

Report generated by AHIMS Web Service on 06/03/2017 for Jacqueline Collins for the following area at Datum :GDA, Zone : 56, Eastings : 489000 - 495000, Northings : 6515000 - 6523000 with a Buffer of 0 meters. Additional Info : Aboriginal cultural heritage assessment to support a combined rezoning and development application. Number of Aboriginal sites and Aboriginal objects found is 18

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Page 1 of 2

Lot 7 DP 1142473, Reading Street, Port Macquarie- Aboriginal Cultural Heritage Assessment



Office of  
Environment  
& Heritage

Extensive search - Site list report

AHIMS Web Services (AWS)

SiteID  
30-3-0097

SiteName  
Pelican Point Port Macquarie

Zone  
56

Datum  
AGD

Eastings  
491000

Northings  
6522700

Contact  
Open site

SiteStatus  
Valid

SiteFeatures  
Modified Tree  
(Carved or Stamped):

SiteTypes  
Carved Tree

ReportID

30-3-0094

Tackling Pests

56

493900

6517500

Open site

Valid

Shell - Arched ...  
Stone Quarry ...

PermitID  
Midden Quarry

Contact  
Isabel McEryde

Recorders  
AGD

Recorders  
Isabel McEryde

PermitID

PermitID

PermitID

PermitID

Report generated by AHIMS Web Services on 06/03/2017 for Jacqueline Collins for the following area at Datum GDA Zone: 56, Eastings: 490000 - 495000, Northings: 6515000 - 6523000 with a Buffer of 10 metres. Additional Info: Aboriginal Cultural Heritage Assessment to support a combined recycling and development applications. Number of Aboriginal Sites and Aboriginal objects found is 18. This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omissions.

Page 2 of 2

Planning Proposal under sec 55 of the EP&A Act Appendix I – Statutory Ecological Assessment  
Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie

## Appendix I – Statutory Ecological Assessment

Part of the requirements of decisions under the EP&A Act is taken into account in deciding whether there is likely to be a significant effect on threatened species, populations, ecological communities, or their habitats.

Given the characteristics of the site, a detailed ecological assessment has been supplied with the application. A copy is on the following pages.

### Review by Office of Environment and Heritage

In their review of this proposal, the Office of Environment and Heritage (refer **Appendix E**), noted that the hollow bearing tree assessment in Table 13 (page 64) gave incorrect scores for four trees located within the proposed residential subdivision area - in their current surroundings they should have been given higher scores for proximity to habitat.

These comments are based on the Hollow Bearing Tree provisions (pages 2.3-5 to 2.3-8) of Chapter 2.3 of *Port Macquarie-Hastings Development Control Plan 2013*. Based on the OEH recommendation, the HBT values have been recalculated for the four HBTs at the top of Table 13. An updated Table 13 follows.

**Table 13: DCP HBT assessment results - revised in line with OEH comments**

| Tree                  | Alive/Dead |   | Trunk DBH |     | No. Hollows |     | Hollow Size (mm) |   | Habitat Proximity |   | Longevity |   | Total Score |
|-----------------------|------------|---|-----------|-----|-------------|-----|------------------|---|-------------------|---|-----------|---|-------------|
| H1 - Flooded Gum      | Alive      | 3 | 60-80     | 1.5 | 2-4         | 1.5 | >50mm            | 2 | In situ           | 3 | High      | 3 | <b>14</b>   |
| H2 - Flooded Gum      | Alive      | 3 | 60-80     | 1.5 | 2-4         | 1.5 | >50mm            | 2 | In situ           | 3 | High      | 3 | <b>14</b>   |
| H3 - Small-leaved Fig | Alive      | 3 | 60-80     | 1.5 | 2-4         | 1.5 | <50mm            | 1 | In situ           | 3 | High      | 3 | <b>13</b>   |
| H4 - Flooded Gum      | Alive      | 3 | 60-80     | 1.5 | 0-1         | 0   | >50mm            | 2 | In situ           | 3 | High      | 3 | <b>12.5</b> |
| H5 - Stag             | Dead       | 0 | -         | 0   | 2-4         | 1.5 | >50mm            | 2 | In situ           | 3 | Low       | 0 | <b>6.5</b>  |
| H6 - Stag             | Dead       | 0 | -         | 0   | 2-4         | 1.5 | >100             | 3 | In situ           | 3 | Low       | 0 | <b>7.5</b>  |
| H7 - Swamp Mahogany   | Alive      | 3 | >100      | 3   | 2-4         | 1.5 | >100             | 3 | In situ           | 3 | High      | 3 | <b>16.5</b> |
| H8 - Small-leaved Fig | Alive      | 3 | >100      | 3   | >5          | 3   | >50mm            | 2 | In situ           | 3 | High      | 3 | <b>17</b>   |
| H9 - Small-leaved Fig | Alive      | 3 | >100      | 3   | >5          | 3   | >50mm            | 2 | In situ           | 3 | High      | 3 | <b>17</b>   |
| H10 - Flooded Gum     | Alive      | 3 | <60       | 0   | 0-1         | 0   | >50mm            | 2 | In situ           | 3 | High      | 3 | <b>11</b>   |
| H11 - Stag            | Dead       | 0 | -         | 0   | 2-4         | 1.5 | >50mm            | 2 | In situ           | 3 | Low       | 0 | <b>6.5</b>  |

Note: Tree locations (H1 to H11) are shown in Figure 9 (page 66) of the Ecological Assessment.

The default Hollow Bearing Tree development provisions of the DCP state in part:

- a) All hollow bearing trees within the development area are to be accurately located by survey and assessed by an appropriately qualified ecologist in accordance with Council's **Hollow-bearing tree assessment** (HBT) protocol.



- b) Any tree that scores less than 8 using the HBT assessment protocol may be considered for removal subject to compensatory measures specified below.
- c) Any tree that scores 8-12 using the HBT assessment protocol may be considered for removal if management measures are 'impractical to allow retention'
- d) Any tree that scores more than 12 using the HBT assessment protocol the assessment must be retained and afforded a development exclusion buffer or located within environmental lands.
- e) Where a development exclusion buffer is proposed it shall have a radius of 1.25 times the height of the tree measured from its base.

Notes:

- i) The **HBT assessment protocol** is included at the end of this Chapter.
- ii) "Impractical to allow retention" means where the hazard rating, assessed under the Tree Hazard Evaluation Form (2nd Edition, as adopted by the International Society of Arboriculture) results in a long term rating of more than 10.

On this basis the four trees 'must be retained and afforded a development exclusion buffer or located within environmental lands'. To do so would significantly constrain the development envelopes within the proposed residential lots.

However, the default requirements can be set aside if the associated objectives can be achieved by an alternative solution. The associated Hollow Bearing Tree (2.3.3.8) Objectives are:

- To assist with the conservation of biological diversity and promote ecologically sustainable development.
- To assist in preventing the extinction and promote the recovery of threatened species and populations
- To protect the habitat of those threatened species and populations that are dependent on hollow-bearing trees for their survival.
- To assist in the elimination and/or management of processes that threaten the survival or evolutionary development of threatened species and populations.
- To ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed.
- To encourage the conservation of threatened species and populations by the adoption of measures involving co-operative management.
- To ensure that risk to people and property is minimised.

The proposed dedication of the residual land (including land currently zoned R1 General Residential) and consequential improvements to habitat corridors will better achieve those objectives. There are four living hollow bearing trees within the residual land, and in the long term scope for more, based on Council's management of environmentally significant land. Where necessary, Council supplements hollow bearing trees with nesting boxes.

The subsequent DCP provisions (2.3.3.9) have an objective of:

- To ensure that where a HBT cannot be retained and managed safely within the future developed landscape, satisfactory and effective ameliorative and compensatory measures shall be implemented prior to removal of the tree.

*Planning Proposal under sec 55 of the EP&A Act*      *Appendix I – Statutory Ecological Assessment*  
*Rezoning and subdivision of Lot 7 DP 1142473 and No 40 Reading Street, Port Macquarie*

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Based on the above, it is reasonable to conclude that this alternative solution adequately satisfies the relevant objectives.

The comments of the Office of Environment and Heritage (refer to **Appendix E**) anticipates this solution with their recommendation:

2. Offset the proposed removal of the four HBTs located within the residential subdivision in accordance with the development provisions specified in Section 2.3.3.9 of DCP 2013.

### **The Statutory Ecological Assessment**

A copy is on the following pages.



# Statutory Ecological Assessment:

## **Project:**

Proposed Subdivision of Lot 7 DP 1142473.  
Reading Street, Port Macquarie.

## **Client:**

Frank O'Rourke  
Consulting Surveyor

August 2015



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### Document Status

| Version | Purpose | Author        | Reviewed By    | Approved By | Date       |
|---------|---------|---------------|----------------|-------------|------------|
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| Rev 2   | Final   | Will Steggall | Jason Berrigan | Luke Bowden | 19/08/2015 |

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| 1        | 24/07/2015 | Electronic/<br>Email | Frank O'Rourke<br>Surveyors | Frank O'Rourke,<br>Ron Little | Client Copy |
| 2        | 24/07/2015 | Electronic/<br>Email | Naturecall                  | Jemma Ricks                   | File Copy   |
| 3        | 19/08/2015 | Electronic/<br>Email | Frank O'Rourke<br>Surveyors | Frank O'Rourke,<br>Ron Little | Client Copy |
| 4        | 19/08/2015 | Electronic/<br>Email | Naturecall                  | Jemma Ricks                   | File Copy   |

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## Executive Summary

The site is located on Reading Street in Port Macquarie and is largely forested and vacant aside from clearings in the west where an existing dwelling occurs. The site adjoins residential areas to the south, west and east, while retained habitat along Wrights Creek occurs to the north. A small patch of retained habitat to the southeast of the site provides linkage to Pacific Drive and Sea Acres Nature Reserve.

The site vegetation consists of a swamp rainforest community which is fringed by Flooded Gum dominated wet sclerophyll forest. The former community was found to be in good condition with little evidence of weed invasion and other disturbances. Weeds and other edge effects were however common in the wet sclerophyll forest which has been subject to previous clearing and underscrubbing, especially in the development envelope in the west of the site and in a highly disturbed patch of this community in the east.

The site forms part of the upper reaches of Wrights Creek which has a narrow floodplain extending through the centre of the site. The vegetation within the floodplain qualified as the EEC *Lowland Rainforest on Floodplain*. Rainforest vegetation occurring on site outside this floodplain also qualified as the EEC *Lowland Rainforest*. The entire swamp rainforest community on site qualified as the nationally listed EEC *Lowland Rainforest of Subtropical Australia*.

The survey detected a large population of the threatened flora species *Melaleuca biconvexa* in the study area. This species is listed as Vulnerable under both State and Federal legislation. This species mainly occurred in the central portion of the site and extended into adjacent habitat to the north. A small patch of this species is located in the development envelope.

The fauna survey did not detect any threatened fauna species, but the limited survey techniques undertaken is acknowledged as a limitation. A number of threatened fauna species were considered potential occurrences on the basis of habitats present in the study area and local records. These were mainly wide ranging species that would only have potential to use the site/study area as a small part of their larger range.

The site did not qualify as Potential Koala Habitat due to the lack of primary browse species and no Koalas were detected during the survey. Consequently, a Koala Plan of Management is not required for the proposal. A Koala was however previously observed on the site by a nearby resident, and the site is considered to have refuge and linkage values via being part of the Wrights Creek remnant and being surrounded by urban woodland which contains primary browse species.

The proposal is for a residential development in the west of the site which will see four Lots created and an APZ with an access to Reading St. A fifth residual Lot is proposed which encompasses the remainder of the site. This Lot will be dedicated to Council as a reserve and protected under via E2 zoning. As such, the proposed development will only see the removal/modification of about 1800m<sup>2</sup> of modified wet sclerophyll forest vegetation in the west of the site. This includes the patch of *Melaleuca biconvexa* and four low value hollow-bearing trees.

For the EECs, and known and potentially occurring threatened flora and fauna, the overall impacts of the proposal (while negative and contributing to threatening processes) are considered unlikely to be significant as:



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- The vegetation to be removed represents the marginal fringe of a much larger patch of habitat and has an evident disturbance history which has limited its values.
- About 90% of the site habitat will be retained and dedicated to Council as a reserve, and managed under a VMP. This habitat contains all of the site's EECs, along with most of the site's hollow-bearing trees and the overwhelming majority of the population of *Melaleuca biconvexa* on site.
- The local population of *Melaleuca biconvexa* extends well off site and the study area, and the loss of the relatively minor sub-population in the development envelope has no capability of undermining the genetic integrity or evolutionary potential of the species in the study area or locality.
- The Koala and fauna species considered to be potentially occurring on the site are unlikely to significantly rely on the habitats present in the study area due to their ecology, habitat limitations of the site, and the limited extent of the site; hence critical lifecycle stages are not likely to be restricted to the site or study area.
- Fragmentation impacts on habitats and local corridors will be minimal and no new barriers for the subject species will be created
- A range of mitigation measures will be implemented to ensure potential indirect impacts can be managed, including treating the new edge to minimise edge effects, and mitigating weed invasion over the residual.

Given the above, the proposal is considered unlikely to have a significant effect warranting referral to DoE or a Species Impact Statement.





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## 1.0 Introduction

Biodiversity Australia Pty Ltd Trading as Naturecall Environmental (hereafter referred to as 'Naturecall') was requested to undertake the required ecological and statutory assessments for a proposed residential subdivision at Reading Street, Port Macquarie.

The impact assessment for this development proposal has been undertaken in accordance with Section 5A of the *Environmental Planning and Assessment Act 1979*, as amended by the *Threatened Species Conservation (TSCA) Act 1995* which in turn has been amended by the *Threatened Species Conservation Legislation Amendments Act 2002* (Seven Part Test for Significance); the Commonwealth *Environment Protection and Biodiversity Conservation (EPBCA) Act 1999* - Matters of National Environmental Significance; and *State Environmental Planning Policy (SEPP) No. 44 - Koala Habitat Protection*. Assessment of the relevant provisions for hollow-bearing trees and EECs under the PMHC DCP 2013 is also provided.

The survey and assessment was performed in consideration of the draft Threatened Species Survey and Assessment – Guidelines for Developments and Activities (DEC 2004), and the Threatened Species Assessment Guidelines – Assessment of Significance (DECC 2007). The assessment has also been undertaken in accordance with the Ecological Consultants Association of NSW – Code of Ethics (2002) available at [www.ecansw.org.au](http://www.ecansw.org.au).

## 2.0 Background Information

### 2.1. Location of the Study Site and Key Definitions

The site comprises Lot 15 DP 1099742 and Lot 7 DP 1142473, and is 1.8ha in area. It is located on Reading Street in the central-southeast residential area of Port Macquarie, and forms part of the upper reaches of Wrights Creek (Figure 1).

The **study site** is Lot 15 DP 1099742 and Lot 7 DP 1142473. The **development footprint** is the actual area of land that will be directly impacted by the proposed development which is approximately 2600m<sup>2</sup>. The **study area** is land within 100m of the site. The locality is land within 10km radius of the site. These definitions are in line with DECC (2007).

### 2.2. Development Proposal

The study site is 1.8ha in area and is largely forested and vacant, aside from an existing dwelling in the western end. The site is predominantly zoned E2 – Environmental Conservation under the Port Macquarie-Hastings Council (PMHC) LEP (PMHC 2011), with Lots in the west zoned R1 – General Residential and RU6 – Transition.

The proposal is to subdivide the western portion of site into 4 residential Lots (proposed Lots 1-4), with a 1.46ha residual Lot (proposed Lot 5) remaining in the east which will be dedicated to Council as a public reserve (Figure 2). A 10m wide Asset Protection Zone (APZ) is proposed along the boundary between Lots 3/4 and Lot 5. This will also provide an access to Lot 3. A dwelling currently exists on



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proposed Lot 1 and proposed Lot 2 currently consists of managed lawn. Thus the assessment has focused on the vegetated parts of the site east of here.

The proposed development will require the removal of an estimated 1300m<sup>2</sup> of vegetation for the development footprint, and modification of 500m<sup>2</sup> of vegetation for the APZ. Approximately 90% of the site habitat will be retained and protected in the proposed public reserve.

A population of the threatened plant *Melaleuca biconvexa* has been recorded in the development footprint and also occurs extensively on the remainder of the site. The proposal will require the removal of a small stand of *Melaleuca biconvexa* to allow the development to proceed.

### 2.3. Soils, Topography and Geology

The site lies on the edge of a broad drainage depression and comprises part of the headwaters of Wrights Creek which flows from the site to the north and eventually drains into Kooloonbung Creek. Elevation ranges from 40m in the southeast and west, to <35m in the central-north where the creek bed is located. The 1:100 year flooding Average Recurrence Interval (ARI) for the creek is shown in Figure 3.

The soils across the site largely comprised clay and were saturated in the low lying central areas. A deep organic layer was often present, however had been washed away by recent floodwaters through the centre of the site leaving bare soil.

The site occurs on the Thrumster residual soil landscape which is generally the moderately fertile Krasnozems (Atkinson 1999) and is underlain by slate, chert and sandstone of the Watonga formation (Troedson and Hashimoto 2008).

### 2.4. Disturbance History

The site has been subject to varying levels of disturbance, with some areas in the east, west and south showing signs of historical clearing and logging. Recent disturbances largely consist of weed invasion around the periphery of the site and underscrubbing which is evident along the forest edge in the west. Evidence of domestic/introduced predators was also observed via a bird kill in the middle of the site.

The previous fire history of the site is unknown and charcoal was only observed on a few older Cabbage Palms. This indicates the site has been subject to fire, but this is likely to be >15 years ago.

Weeds occur in moderate to high density in canopy gaps, around the forest edges and in a disturbed area in the east of the site. Lantana (*Lantana camara*\*) and Senna (*Senna pendula* var. *glabrata*\*) were the most common weeds followed by Broadleaf Paspalum (*Paspalum mandiocanum*\*), Green Cestrum (*Cestrum parqui*\*), Wandering Jew (*Tradescantia fluminensis*\*) and Ginger Lily (*Hedychium gardnerianum*\*). A few piles of garden clippings were noted in the west of the site, and some of the weeds present are likely to be garden escapees eg. Arrowhead Vine (*Syngonium podophyllum*\*) Fishbone Fern (*Nephrolepis cordifolia*\*) and Fruit Salad Tree (*Monstera deliciosa*\*).

Minor bush regeneration works appear to have been undertaken in the east and west of the site targeting Lantana, and native plantings have been established around a stormwater basin on the southern boundary.



Photo 1: View of the site from Reading Street looking east

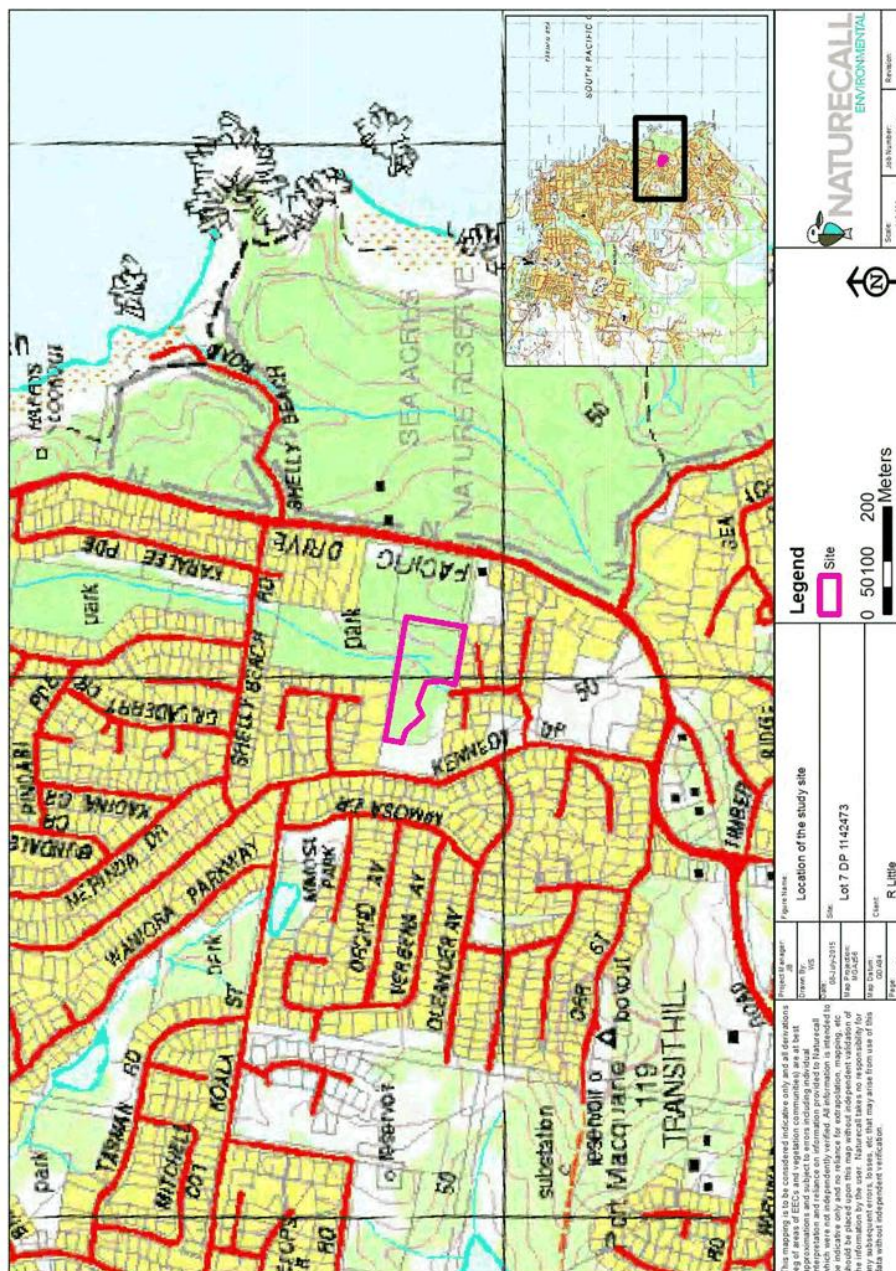


Photo 2: The development envelope comprising proposed Lots 3 and 4 looking east





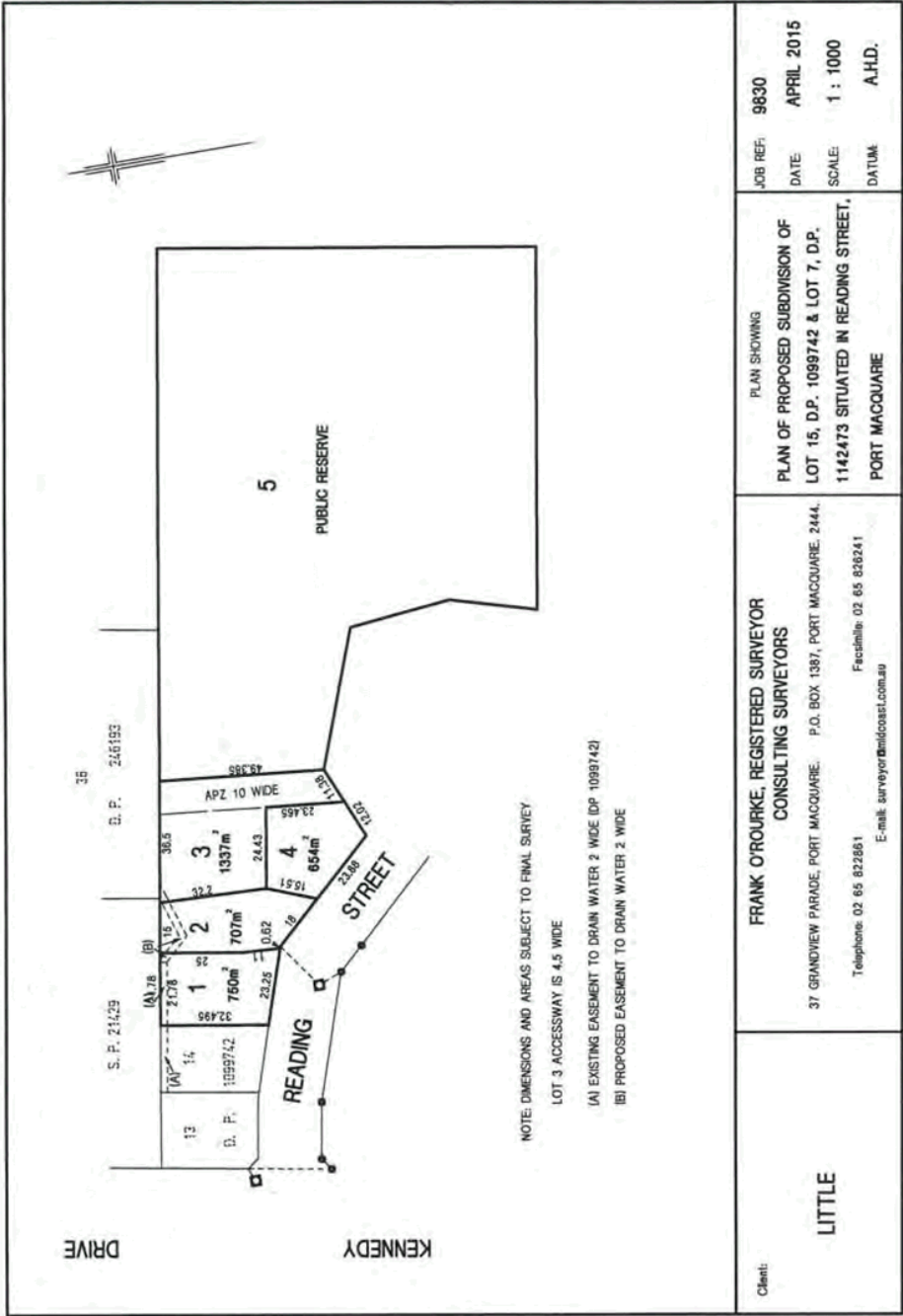
Figure 1: Site location





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Figure 2: Proposed subdivision layout

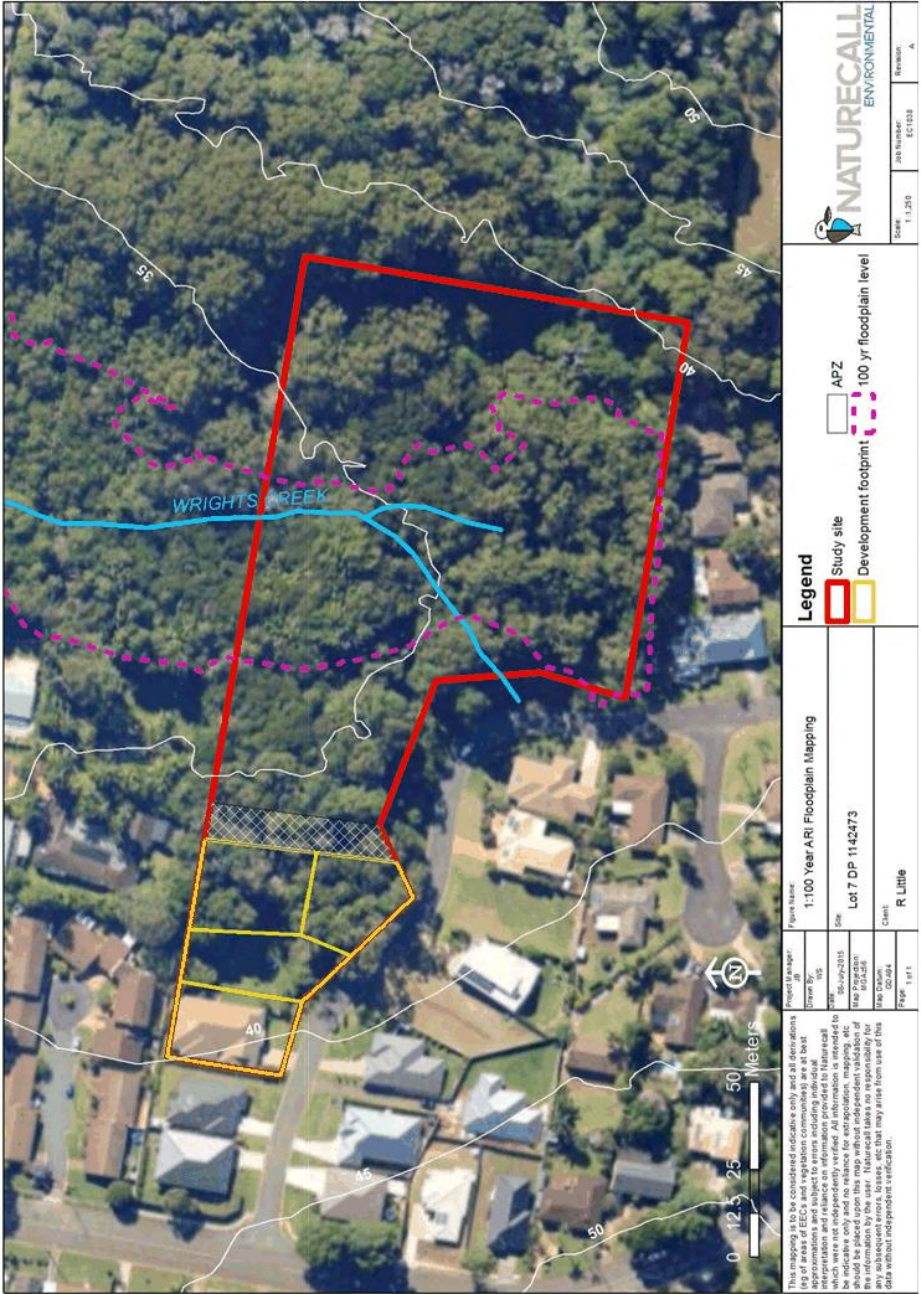






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Figure 3: 1:100 year ARI level of Wrights Creek





## 2.5. Adjacent Developments and Activities

Residential areas adjoin the site to the west and south, with E2 zoned land forming part of Wrights Creek corridor occurring to the north. A new residential subdivision is currently being established on adjoining land to the east of the site which is not reflected on the satellite imagery. This has retained a linkage in the south to Pacific Drive and Sea Acres Nature Reserve which is located <200m to the east of the site.

## 3.0 Flora Survey

### 3.1. Survey and Assessment Methodology

The flora survey consisted of three main components:

- Identification, description and mapping of the major vegetation communities on the site.
- Identification, mapping and condition assessment of any Endangered Ecological Communities listed under the Threatened Species Conservation Act 1995 (TSC Act), and Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).
- Searches for and (if found) mapping of threatened species listed under the Threatened Species Conservation Act 1995 (TSCA), and Environment Protection and Biodiversity Conservation Act 1999 (EPBCA).

#### 3.1.1. Vegetation Classification and Mapping

##### 3.1.1.1. Review of Existing Data

Existing vegetation mapping of the site produced by Biolink (2013) and vegetation layers on SIX Maps NSW were initially obtained. These were used to identify broad vegetation types present on the site to assist with survey design and allow comparison/review to the floristic data collected during the survey.

##### 3.1.1.2. Survey Methodology

Initially, vegetation was stratified into types with reference to such diagnostic features as colour, texture, crown architecture, aspect and topographic position. A process of selective field sampling and interpretation adjustment was continued until a satisfactory level of confidence in type recognition was reached. The boundaries of each type were mapped from satellite imagery of the site and checked by ground-truthing.

A combination of random meander walking transects and plot/quadrat based surveys were used. Plots were the main method used to sample the vegetation communities and were supplemented with random meanders to account for variation and to acquire a more comprehensive species list.

The stratification of sites for plot-based sampling was determined using satellite imagery patterns and existing vegetation mapping. Floristic data was collected for quadrats of fixed size of 20 x 20 square (400m<sup>2</sup>). The following attributes were measured or estimated at each site:



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- Australian Map Grid Reference (GDA-94. GPS measurement)
- Vegetation structure, including the height and foliage cover of each stratum.
- Location, aspect, elevation and slope.
- Geology and general soil characteristics.
- Topographic position.
- Approximate time since last fire and characterisation of intensity (ground cover burnt, shrubs burnt, tree tops burnt).
- Forms of disturbance other than fire.
- Presence of environmental weed species and severity of infestation.

A total of 5 vegetation plots were carried out (see Figure 4). The location of the quadrats is given in Table 1. Each quadrat survey was completed in 30 minutes and random meanders were conducted for 30-60 minutes. Within the plots and transects all trees, shrubs and dominant groundcover plants were identified and recorded.

Table 1: Location of quadrats

| Plot Number | Latitude | Longitude | Vegetation Type                  |
|-------------|----------|-----------|----------------------------------|
| 1           | -31.4621 | 152.9256  | Wet Sclerophyll Forest           |
| 2           | -31.4620 | 152.9264  | Swamp Rainforest                 |
| 3           | -31.4621 | 152.9270  | Wet Sclerophyll Forest           |
| 4           | -31.4628 | 152.9272  | Disturbed Wet Sclerophyll Forest |
| 5           | -31.4626 | 152.9264  | Wet Sclerophyll Forest           |

### 3.1.1.3. Vegetation Community Description and Mapping

The vegetation communities were described from data collected during plot and transect studies. Classification was based on the structural classification used by Walker and Hopkins (McDonald *et al.* 1990) and communities were aligned with rainforest sub-alliances of Floyd (1990) where applicable. Biometric classifications were determined by reference to the Biometric Vegetation Types Database (<http://www.environment.nsw.gov.au/vegetation/eoam/index.htm>).

Species identification was made with the assistance of Williams, Harden and McDonald (2009, 2006) and PlantNet (2015). Plant species were identified to species or subspecies level and nomenclature conforms to that currently recognized by the Royal Botanic Gardens and follows Harden and PlantNET for changes since Harden.

Desktop mapping was undertaken in ArcGIS 10.2.2 (ESRI 2014) using the data collected in the field and high resolution satellite imagery (Nearmaps 2012, Six Maps 2015).

### 3.1.2. Conservation Status Assessment

Identification of possible Threatened Ecological Communities (TECs) was based on the data collected by the survey and review of the relevant listings on the OEH website ([www.environment.nsw.gov.au](http://www.environment.nsw.gov.au)) and Department of Environment – MNES SPRAT website (DoE 2015a).





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### 3.1.3. Threatened Flora Species Searches and Occurrence Assessment

#### 3.1.3.1. Searches

Searches for the locally recorded threatened flora recorded in the LGA and regionally (OEH 2015a, DoE2015b) in similar habitats to those occurring on the site (see Appendix 1), were carried out over the survey period.

Threatened plant searches consisted of undertaking random meanders throughout the site for locally and regionally recorded threatened species. A total of 4 hours was dedicated to this task which saw the site thoroughly searched.

In addition to this, stem counts and flagging of *Melaleuca biconvexa* in the development envelope/APZ was undertaken along with mapping of major occurrences over the remainder of the site.

#### 3.1.3.2. Potential Occurrence Assessment

Potential occurrence assessment of threatened flora species is provided in Appendix 1. This section assesses all considered threatened species listed under the TSCA 1995 and EPBCA 1999 for their potential to occur on site based on the following factors (DEC 2004, Forest Fauna Surveys 1997, DECC 2007):

- Presence/absence of suitable habitat.
- Condition and disturbance history of habitat.
- Local and regional records.
- Location of site within known distribution of the species.
- Connectivity with habitat where species is known to occur.

#### 3.1.4. Survey Limitations

The study site was intensively traversed by foot during specific flora surveys and during other survey activities during the survey period.

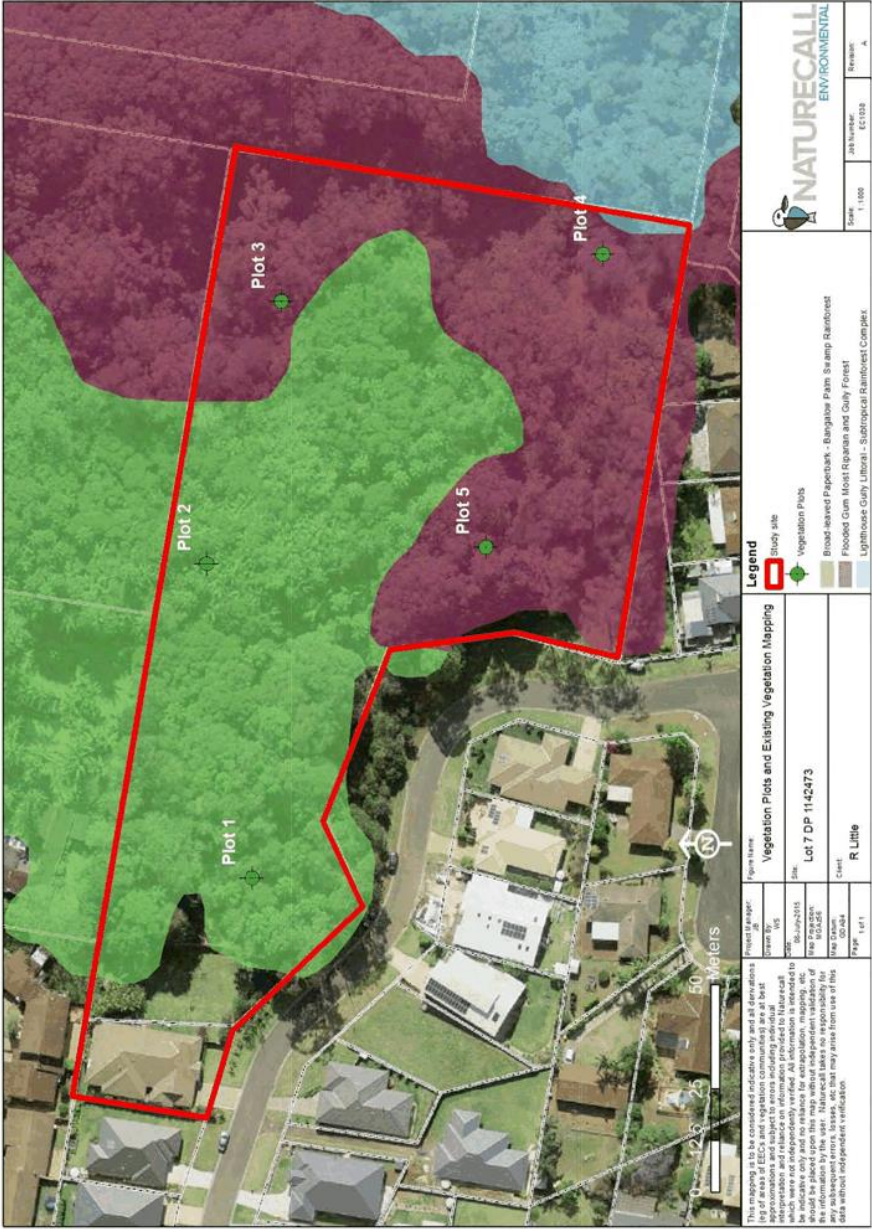
The survey was undertaken in winter when most plants are generally not flowering or may be dormant. However the high accessibility of the site and limited diversity resulted in a very high detection rate of plants present.

Regardless, any short-term survey will only provide a list of plants detected during a brief interval of time (DEC 2004). The total species list of an area is usually much greater than can be detected in such a short time and it can be influenced by factors such as: size of the property, fire history, time since disturbance, flowering season (particularly orchids), and presence of reproductive material (DEC 2004).



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Figure 4: Location of vegetation plots and Biolink mapping of the site







### 3.2. Vegetation Communities

The site generally has a dense forest cover with elements of swamp forest, wet sclerophyll forest and rainforest. This along with past disturbances in some areas and broad ecotones made it difficult to assign to defined vegetation classes and delineate community boundaries.

In reference to existing LGA wide mapping (Biolink 2013) and the vegetation community survey results, two broad vegetation types were identified, namely wet sclerophyll forest dominated by Flooded Gum and swamp rainforest dominated by Bangalow Palm, Cabbage Palm and Biconvex Paperbark.

A highly disturbed area of wet sclerophyll forest occurs in the east of the site and managed lawns occur along the Reading Street road reserve and in the residential lot in the west.

A description is provided in the following tables. Refer to site photos following and flora list in Appendix 2.

#### 3.2.1. Very Tall Open/Wet Sclerophyll Forest

Table 2: Very Tall Open/Wet Sclerophyll Forest description

|  |   |
|--|---|
| Site Vegetation Community (Specht/Keith) | <b>Very Tall Open/Wet Sclerophyll Forest</b>  |
| Biolink Veg Type                         | No 22: Flooded Gum Moist Riparian and Gully Forest  |
| Biometric Community                      | Flooded Gum – Brush Box moist forest of the coastal ranges of the North Coast   |
| Location and Area                        | Occurs in the east, west and south of the site. A highly disturbed area occurs along the eastern boundary. Total area is 0.9ha.   |
| Description                              | <p><b>a) Canopy:</b></p> <p><i>Structure and species:</i> The canopy generally consisted of a layer of mature trees with crowns touching to slightly separate. Height ranged from 18-30m and typical Diameter at Breast Height (DBH) ranged from 20-50cm.</p> <p>This community was characterised by an open canopy of Flooded Gums (<i>Eucalyptus grandis</i>) with occasional Cabbage Palms (<i>Livistona australis</i>) and Brushbox (<i>Lophostemon confertus</i>). Bangalow Palms (<i>Archontophoenix cunninghamiana</i>) occurred in ecotones with the swamp rainforest community, and a few Swamp Oak (<i>Casuarina glauca</i>) were found in the northeast of the community.</p> <p>A highly disturbed area occurs in the east of the site which had a sparse canopy of young Flooded Gums and Sandpaper Fig (<i>Ficus coronata</i>).</p> |



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| Site Vegetation Community<br>(Specht/Keith) | Very Tall Open/Wet Sclerophyll Forest  |
|---|--|
|   | <p><b>(b) Understorey:</b></p> <p><i>Structure and species:</i> Consists of a small to medium sized tree and/or palm layer ranging from 8-18m in height. Was generally lower in the west and taller in the south and east of the community. Cover was mid-dense to dense and usually greater than 70% aside from the disturbed area in the east of the site which was sparse.</p> <p>Dominant species in this layer generally comprised Biconvex Paperbark (<i>Melaleuca biconvexa</i>) and Cabbage Palm. Other common to occasional species included Scaly Treefern (<i>Cyathea cooperi</i>), Sandpaper Fig, Blackwood (<i>Acacia melanoxylon</i>) and Cheese Tree (<i>Glochidion ferdinandi</i>).</p> <p><b>(c) Shrub Layer:</b></p> <p><i>Structure and Species:</i> A shrub layer was usually present and consisted of an open to mid-dense layer of juvenile canopy/understorey trees and other shrubs to 8m in height. Young Cabbage Palms dominated some areas, while other areas comprised a mix of rainforest species such as Bolwarra (<i>Eupomatia laurina</i>), Guioa (<i>Guioa semiglauc</i>), Scentless Rosewood (<i>Synoum glandulosum</i>) Narrow-leaved Palm Lily (<i>Cordyline stricta</i>) and Forest Maple (<i>Cryptocarya rigida</i>). Disturbed edges of the community were often dominated by Lantana (<i>Lantana camara</i>*) and Senna (<i>Senna pendula</i> var. <i>glabrata</i>*).</p> <p><b>(d) Ground Layer:</b></p> <p><i>Structure and Species:</i> Groundcover vegetation ranged from mid-dense to sparse depending on the extent of canopy and understorey cover. Dominant to common species were Harsh Ground Fern (<i>Hypolepis muelleri</i>), Rasp Fern (<i>Doodia aspera</i>), Cunjevoi (<i>Alocasia brisbanensis</i>), Native Ginger (<i>Alpinia caerulea</i>) and Native Wandering Jew (<i>Commelina cyanea</i>). Low lying areas in the east and west of the community were often dominated by <i>Gahnia clarkei</i> and <i>Carex appressa</i>.</p> <p>The disturbed stand featured a dense groundcover of Harsh Ground Fern and exotic species such as Broadleaf Paspalum (<i>Paspalum mandiocanum</i>*), Crofton Weed (<i>Ageratina adenophora</i>*), and Wandering Jew (<i>Tradescantia fluminensis</i>*).</p> <p><b>(e) Lianas, scramblers, etc:</b></p> <p>Climbers were occasionally present in the lower layers of this community.</p> <p>Species commonly observed include Pearl Vine (<i>Sarcopetalum harveyanum</i>), Giant Pepper Vine (<i>Piper hederaceum</i> var. <i>hederaceum</i>), Common Milk Vine (<i>Marsdenia rostrata</i>) and Native Yam (<i>Dioscorea transversa</i>).</p> <p>Exotic vines encountered include Coastal Morning Glory (<i>Ipomoea cairica</i>*), Climbing Asparagus Fern (<i>Asparagus plumosus</i>*), Rambling Dock (<i>Acetosa sagittata</i>*) and Cape Ivy (<i>Delairea odorata</i>*).</p> |



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|  |   |
|--|---|
| Site Vegetation Community (Specht/Keith)                 | Very Tall Open/Wet Sclerophyll Forest   |
|  | (f) Epiphytes:<br><br>Absent  |
| Condition  | Edges of the community, especially in the east and west were in poor condition with edge effects such as weed invasion evident. Many of the Flooded Gums were also in poor condition.<br><br>Higher quality stands occurred in the north and south which showed much less weed invasion and higher species diversity. |
| Threatened plants recorded or potential habitat          | <i>Melaleuca biconvexa</i> was recorded in the eastern and western stands of this community where it was generally common in the understorey and shrub layer.   |
| Threatened Ecological Community or Endangered Population | Yes – parts of this community within the 1:100 ARI broadly match the criteria for <i>Lowland Rainforest on Floodplain</i> EEC.  |

### 3.2.2. Swamp Rainforest

Table 3: Swamp Rainforest description

|  |   |
|--|---|
| Site Vegetation Community (Specht/Keith) | Simple Notophyll Tall Closed Palm Forest (Swamp Rainforest)   |
| Biolink Veg type                         | No 65: Broad-leaved Paperbark – Bangalow Palm Swamp Rainforest  |
| Biometric Community                      | White Booyong – Fig subtropical rainforest of the North Coast   |
| Location and Area                        | Occurs throughout the centre of the site generally following Wrights Creek. Area on site is 0.68ha.   |
| Description                              | <p>a) <b>Emergents:</b></p> <p><i>Structure and species:</i> Small-leaved Fig (<i>Ficus obliqua</i>) occurred as an emergent in the centre of the community. Only a few large trees were present with height extending to approximately 25m. Flooded Gum occurs as an emergent around the edges of the community where it merges with the wet sclerophyll forest.</p> <p>b) <b>Canopy:</b></p> <p><i>Structure and species:</i> This community is characterised by a closed canopy with crowns touching to overlapping. Height ranges from 15-20m.</p> <p>Bangalow Palm and Biconvex Paperbark are co-dominant canopy species but tend to occur in monospecific clusters. Cabbage Palm, Cheese Tree and Blackwood were also recorded as associate canopy species.</p> |



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| Site Vegetation Community (Specht/Keith)                 | Simple Notophyll Tall Closed Palm Forest (Swamp Rainforest)   |
|--|---|
|  | <p><b>(c) Understorey:</b></p> <p><i>Structure and species:</i> Generally consists of a mid-dense to dense layer of palms. Height ranges from 3-15m and often merges with the canopy.</p> <p>This layer is dominated by young Cabbage Palms and Bangalow Palms along with occasional Sandpaper Figs and Scaly Treefern.</p> <p><b>(d) Shrub Layer:</b></p> <p><i>Structure and Species:</i> Generally absent, however ecotones and areas with canopy gaps feature young rainforest plants such as Scentless Rosewood, Black Plum (<i>Diospyros australis</i>) and Orange Thorn (<i>Pittosporum multiflorum</i>).</p> <p><b>(e) Ground Layer:</b></p> <p><i>Structure and Species:</i> Groundcover vegetation is generally absent due to the dense canopy and understorey cover and thick layer of leaf litter and palm fronds in places. Groundcover species were however observed in a few canopy gaps and were predominantly ferns eg Harsh Ground Fern and Binung (<i>Christella dentata</i>) along with Native Ginger (<i>Alpinia caerulea</i>) and young Cunjevoi.</p> <p><b>(f) Lianas, scramblers, etc:</b></p> <p>Climbers are reasonably common throughout the community, although few species were observed. Vine species recorded include Giant Pepper Vine Common Milk Vine and Pearl Vine.</p> <p><b>(g) Epiphytes:</b></p> <p>Staghorn (<i>Platycerium superbum</i>), Elkhorn (<i>Platycerium bifurcatum</i>) and Ribbon Fern (<i>Ophioglossum pendulum</i>) were the only epiphytes encountered. These were seen occasionally on canopy trees.</p> |
| Condition  | <p>This community was in very good condition with little evidence of modification and virtually no weeds in the interior where canopy cover was dense. Edges of the community showed minor weed invasion.</p> <p>Recent flooding has washed rubbish and debris into the community.</p>  |
| Threatened plants recorded or potential habitat          | <p><i>Melaleuca biconvexa</i> was recorded in this community as a co-dominant canopy species. All specimens were mature and very tall (&gt;15m and up to 20m).</p>  |
| Threatened Ecological Community or Endangered Population | <p>Yes – Areas within the 1:100 ARI qualify as <i>Lowland Rainforest on Floodplain</i> EEC and areas outside here qualify as <i>Lowland Rainforest</i> EEC. Also qualifies as the nationally listed <i>Lowland Rainforest of Subtropical Australia</i> EEC.</p>   |





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Photo 3: Wet sclerophyll forest at plot 3



Photo 4: Highly disturbed wet sclerophyll forest at plot 4



Photo 5: Underscrubbed wet sclerophyll forest at plot 1





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Photo 6: Swamp rainforest near plot 2





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Photo 7: Disturbed rainforest edge in the south



### 3.3. Comparison to PMHC LGA Vegetation Mapping

Biolink's (2013) LGA wide vegetation have mapped the site vegetation as Broad-leaved Paperbark – Bangalow Palm Swamp Rainforest and Flooded Gum Moist Riparian and Gully Forest. A small sliver of Lighthouse Gully Littoral – Subtropical Rainforest complex is mapped in the southeast of the site (Figure 4).

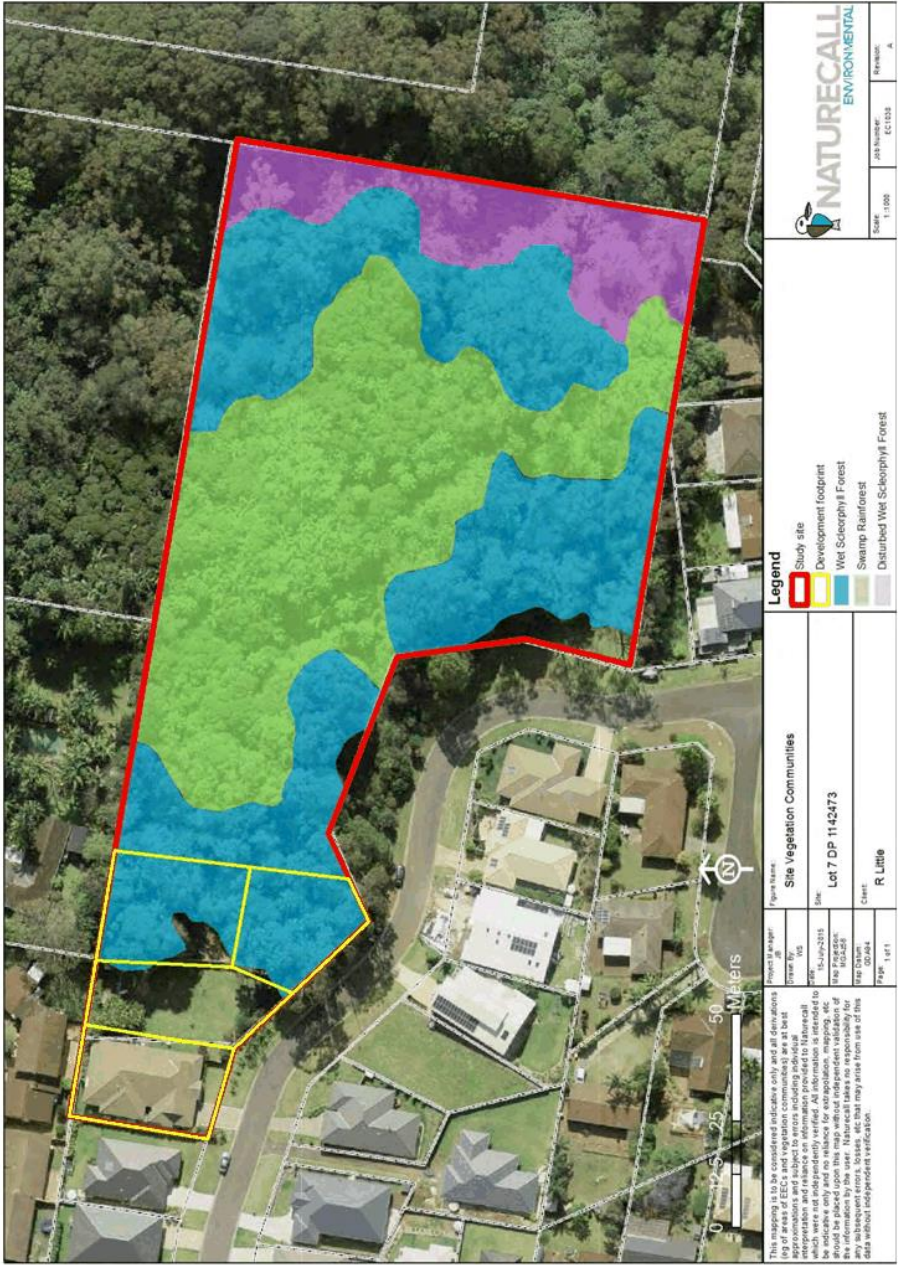
This mapping was generally considered to reflect the vegetation communities present on site and similar descriptions were used for the assessment. The area of these communities on site was however refined as the vegetation in the western end of the site was considered to be closer aligned to wet sclerophyll forest due to the presence of Flooded Gum as a co-dominant canopy species (see Figure 5).





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Figure 5: Site vegetation communities





### 3.4. Threatened Flora

#### 3.4.1. Results of Threatened Flora Survey

A single threatened flora species was recorded during the survey, namely the Biconvex Paperbark (*Melaleuca biconvexa*). This species is listed as Vulnerable under both the NSW TSC Act and nationally under the EPBC Act.

A large population of *Melaleuca biconvexa* was recorded over the central, eastern and western parts of the site in both the wet sclerophyll forest and swamp rainforest communities. Some individuals occurred in the proposed development envelope and APZ, and stem counts were undertaken here. A total of 52 plants/stems were counted, however this count is not likely to accurately reflect the number of individuals present as multiple stems frequently arise from a single rootstock and an estimate of population size is not possible from visual inspection of stands (NSWSC 1998). Only 6 trees over 20cm DBH were counted in this stand, and the majority of the smaller stems are likely to be suckers from these larger trees.

This species is very common over the remainder of the site and is likely to number in the low hundreds. As seen in Figure 6, several stands of pure *Melaleuca biconvexa* occur and were a co-dominant species in the swamp rainforest community. Compared to the specimens in the development envelope, these were all mature, showed good development and vigour; and were much taller, ranging from 15 to 20m in height, and with a DBH generally larger than 30cm. Those in the development envelope were generally younger, ranged from 1 to 13m, and some were suppressed.

None were in flower at the time of the survey which was outside the flowering period (September-October). Some recruitment was observed in the form of small seedlings and/or suckers which were observed under canopy trees, however it appears that very few are able to grow due to competition with adult trees and other species.

The Biconvex Paperbark occurs in many locations throughout Port Macquarie which is a known stronghold for the species. Records occur at Emerald Downs, Rushcutters Reserve, Ocean Drive, Lake Innes Nature Reserve, Thrumster and Innes Drive. (OEH 2015a, personal observations). Many Biconvex Paperbark were also observed in the adjoining property to the north of the site and they are likely to occur at other various location in the Wrights Creek corridor where suitable habitat occurs.





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Photo 8: *Melaleuca biconvexa* in development envelope



Photo 9: Large *Melaleuca biconvexa* in centre of site







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Figure 6: Location of Biconvex Paperbark on site and adjacent





### 3.4.2. Known Threatened Flora Records

The following threatened flora species have been recorded within 10km of the site (OEH Bionet 2015a, Personal observations):

Table 4: Locally recorded threatened flora

| Common Name and Species  | No. of Records | Legal Status       | Distance from Study Site/General Location                                    |
|--|----------------|--------------------|--|
| Scented Acronychia<br>( <i>Acronychia littoralis</i> )           | 7              | E-TSCA,<br>E-EPBCA | Sea Acres, Rocky Beach, North Shore  |
| Dwarf Heath Casuarina<br>( <i>Allocasuarina defungens</i> )      | 5              | E-TSCA,<br>E-EPBCA | Port Macquarie Airport, Ocean Drive just south of Port Macquarie             |
| Sand Spurge<br>( <i>Chamaesyce psammogeton</i> )                 | 4              | E-TSCA             | Tacking Point, Pelican Point   |
| White-flowered Wax Plant<br>( <i>Cynanchum elegans</i> )         | 1              | E-TSCA,<br>E-EPBCA | Sea Acres  |
| Spider Orchid<br>( <i>Dendrobium melaleucaphilum</i> )           | 1              | E-TSCA             | Outdated record (1922) from Port Macquarie                                   |
| Narrow-leaved Black Peppermint<br>( <i>Eucalyptus nicholii</i> ) | 3              | V-TSCA<br>V-EPBCA  | Planted specimens in Port Macquarie  |
| <i>Maundia triglochinosides</i>                                  | 3              | V-TSCA             | Lake Innes Nature Reserve, Emerald Downs                                     |
| Biconvex Paperbark<br>( <i>Melaleuca biconvexa</i> )             | 21             | V-TSCA<br>V-EPBCA  | Recorded on site, Thrumster, Lake Innes Drive, Emerald Downs, Port Macquarie |
| Red-flowered King of the Fairies<br>( <i>Oberonia titania</i> )  | 1              | V-TSCA             | Port Macquarie   |
| Brown Fairy-chain Orchid<br>( <i>Peristeranthus hillii</i> )     | 1              | V-TSCA             | Outdated record (1979) from Port Macquarie                                   |
| Rainforest Cassia<br>( <i>Senna acclinis</i> )                   | 1              | E-TSCA             | Port Macquarie   |
| Silverbush<br>( <i>Sophora tomentosa</i> )                       | 7              | E-TSCA             | Nobbys Beach, Shelley Beach, Flynn's Beach                                   |

### 3.4.3. Potential Occurrence Assessment

Searches of relevant literature and databases (OEH 2015a) found records of 12 threatened flora species in the locality. These species are assessed in Appendix 1 for their potential to occur on site, as are all species currently listed for the mid-north coast (OEH 2015a).



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As previously mentioned, the threatened Biconvex Paperbark was detected during the survey. For most of the remaining locally recorded threatened flora species, the site does not provide suitable habitat, or areas of suitable habitat are too disturbed. Proximity to dwellings within a long established urban area also suggests the area has been searched in the past by orchid collectors.

Some broadly suitable habitat exists for the Rainforest Cassia and White-flowered Wax Plant in the wet sclerophyll forest and rainforest edges, however weed invasion has reduced the quality of these habitats and extensive searches over the site failed to detect these species. As such, they are not considered likely potential occurrences.

### 3.5. Endangered Ecological Communities

As detailed in the following analysis, the site contains the following three vegetation communities that qualify as Endangered Ecological Communities under the TSC Act 1995 and EPBC Act 1999:

- *Lowland Rainforest on Floodplain in the NSW North Coast Bioregion*
- *Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions*
- *Lowland Rainforest of Subtropical Australia*

#### 3.5.1. Lowland Rainforest on Floodplain EEC

##### 3.5.1.1. NSW Final Determination Criteria

**"Lowland Rainforest on Floodplains on the NSW North Coast Bioregion"** generally occupies riverine corridors and alluvial flats with rich, moist silts often in sub-catchments dominated by basic volcanic substrates. Small, scattered remnants remain on the floodplains of the Tweed, Richmond, Clarence, Bellinger, Macleay, Hastings, Manning, and Hunter Rivers. In its natural state, this community supports a rich diversity of flora and fauna. Tree species often present include Figs, (*Ficus spp.*), Palms (*Archontophoenix cunninghamiana*, *Livistona australis*), Lilly Pilly's (*Syzygium spp.*) and vines (*Cissus spp.*, *Pandorea pandorana*, *Flagellaria indica*).

##### 3.5.1.2. Site Evaluation

The site forms part of the headwaters of Wrights Creek, and its associated floodplain (defined as the extent of the 1:100 ARI) passes through the centre of the site (Figure 3). The landform consisted of a broad drainage line/depression with a narrow creek line in the centre containing intermittent pools. This landscape has been subject to regular inundation (as evidenced by flood debris), falls within the 1:100 ARI, and has been shaped by alluvial processes (NSWSC 1999, *CBD Prestige Holdings Pty Ltd v Lake Macquarie City Council* [2005] NSWLEC 367, *Gales Holdings Pty Limited v Tweed Shire Council* [2008] NSWLEC 209, *Motorplex (Australia) Pty Limited v Port Stephens Council* [2007] NSWLEC 74, NSWSC 2004a). This portion of the site thus meets the geomorphological requirements of the Final Determination for *Lowland Rainforest on Floodplains of the NSW North Coast Bioregion* (NSWSC 1999).





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In floristic terms, the swamp rainforest vegetation meets the floristic criteria for this EEC, with recorded native species matching the species and a defined rainforest alliance (Suballiance 6: *Archontophoenix – Livistona*) listed under the Final Determination for this EEC. Characteristic canopy and understorey species for this EEC recorded on site include Bangalow Palm, Cabbage Palm, Small-leaved Fig, Scaly Treefern, Sandpaper Fig and Maiden's Blush. Where present, the ground layer was also characterised by species associated with this EEC.

The mapped wet sclerophyll forest within the 1:100 ARI is also considered to broadly qualify as *Lowland Rainforest on Floodplain* EEC. It is deemed more closely aligned with this EEC than other floodplain EECs (eg *River-flat Eucalypt Forest* or *Subtropical Coastal Floodplain Forest*) due to the absence of a mix of eucalypts which characterise the canopy of these EECs; presence of a number of rainforest species occurring in the understorey; and co-dominance of Cabbage Palm with Flooded Gum which was generally not present in stands of the community outside the 1:100 ARI.

The swamp rainforest and wet sclerophyll forest vegetation on the site falling within the 1:100 ARI therefore qualifies as part of the '*Lowland Rainforest on Floodplains of the NSW North Coast Bioregion*' EEC as it matches the key floristic descriptors, soil type, habitat and ecological process indicators described by the NSW Scientific Committee's Final Determination (NSWSC 1999).

### 3.5.2. Lowland Rainforest EEC

#### 3.5.2.1. NSW Final Determination Criteria

**"Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregion"** has been listed as an Endangered Ecological Community since December 2006 on Schedule 1 – Part 3 of the TSC Act 1995. Lowland Rainforest, in a relatively undisturbed state, has a closed canopy, characterised by a high diversity of trees whose leaves may be mesophyllous and encompass a wide variety of shapes and sizes. Typically, the trees form three major strata: emergents, canopy and sub-canopy which, combined with variations in crown shapes and sizes, give the canopy an irregular appearance (Floyd 1990). The trees are taxonomically diverse at the genus and family levels, and some may have buttressed roots. A range of plant growth forms are present in Lowland Rainforest, including palms, vines and vascular epiphytes. Scattered eucalypt emergents may occasionally be present. In disturbed stands the canopy continuity may be broken, or the canopy may be smothered by exotic vines.

#### 3.5.2.2. Site Evaluation

The NSW Final Determination criteria for this community states that it occurs on high-nutrient geological substrates on coastal plains, plateaus, footslopes and foothills up to 600m in elevation (NSWSC 2005). The extent of the site occurring outside of the Wrights Creek floodplain (defined as the 1:100 ARI shown in Figure 3) is considered to meet this criteria.

The swamp rainforest vegetation across the site meets the floristic criteria for this EEC and the final determination states that this EEC may occur in conjunction with the EEC - *Lowland Rainforest on Floodplains* where lithic substrates adjoin floodplain alluvium (NSWSC 2005). Characteristic canopy and understorey species for this EEC recorded on site include Bangalow Palm, Cabbage Palm, Small-leaved Fig, Guioa and Lilly Pilly. Where present, the ground layer was also characterised by species also associated with this EEC such as Rasp Fern, Native Ginger and Giant Maidenhair Fern.





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The swamp rainforest vegetation on the site falling outside of the 1:100 ARI therefore qualifies as part of the 'Lowland Rainforest of the NSW North Coast and Sydney Basin Bioregions' EEC as it matches the key floristic descriptors, soil type, habitat and ecological process indicators described by the NSW Scientific Committee's Final Determination (NSWSC 2005).

### 3.5.3. Lowland Rainforest of Subtropical Australia EEC

#### 3.5.3.1. EPBCA 1999 Criteria

**"Lowland Rainforest of Subtropical Australia"** is found from Maryborough to the Hunter. Predominantly occurs on basalt and alluvial soils, or enriched rhyolitic and metasediments. Generally occurs <300m above sea level but may occur >300m on north-facing slopes, and only in areas with annual rainfall >1300mm. May intergrade with the EEC - *Littoral Rainforest and Coastal Vine Thickets* but usually occurs >2km from ocean. Typically tall (20-30m) closed forest often with multiple tree layers dominated by diversity of rainforest species with emergent non-rainforest species constituting <30%. Emergents are typically figs, Hoop Pine and Brushbox.

#### 3.5.3.2. Site Evaluation

The key diagnostic criteria for *Lowland Rainforest of Subtropical Australia* EEC listed in the advice to the Scientific Committee (TSSC 2011) are:

- Distribution is primarily in the NSW North Coast and South Eastern Queensland Bioregions
- Occurs on: soils derived from basalt or alluvium; or enriched rhyolitic soils; or basaltic enriched metasediments
- Generally occurs at an altitude less than 300m above sea level
- Typically occurs in areas with high annual rainfall (>1300mm)
- Typically more than 2km inland from the coast
- Structure is typically tall (20-30m) closed forest, often with multiple canopy layers
- Patches of the ecological community typically have high species richness

The swamp rainforest community on the site is considered to meet all of the above criteria aside from the location requirement which states it typically occurs >2km inland. The site occurrence is considered an exception to this, as all the other criteria are met and it does not meet the landform and structure requirements of *Littoral Rainforest and Coastal Vine Thickets* EEC which occurs close to the ocean and is influenced by maritime stresses and nutrient inputs (DEWHA 2009).

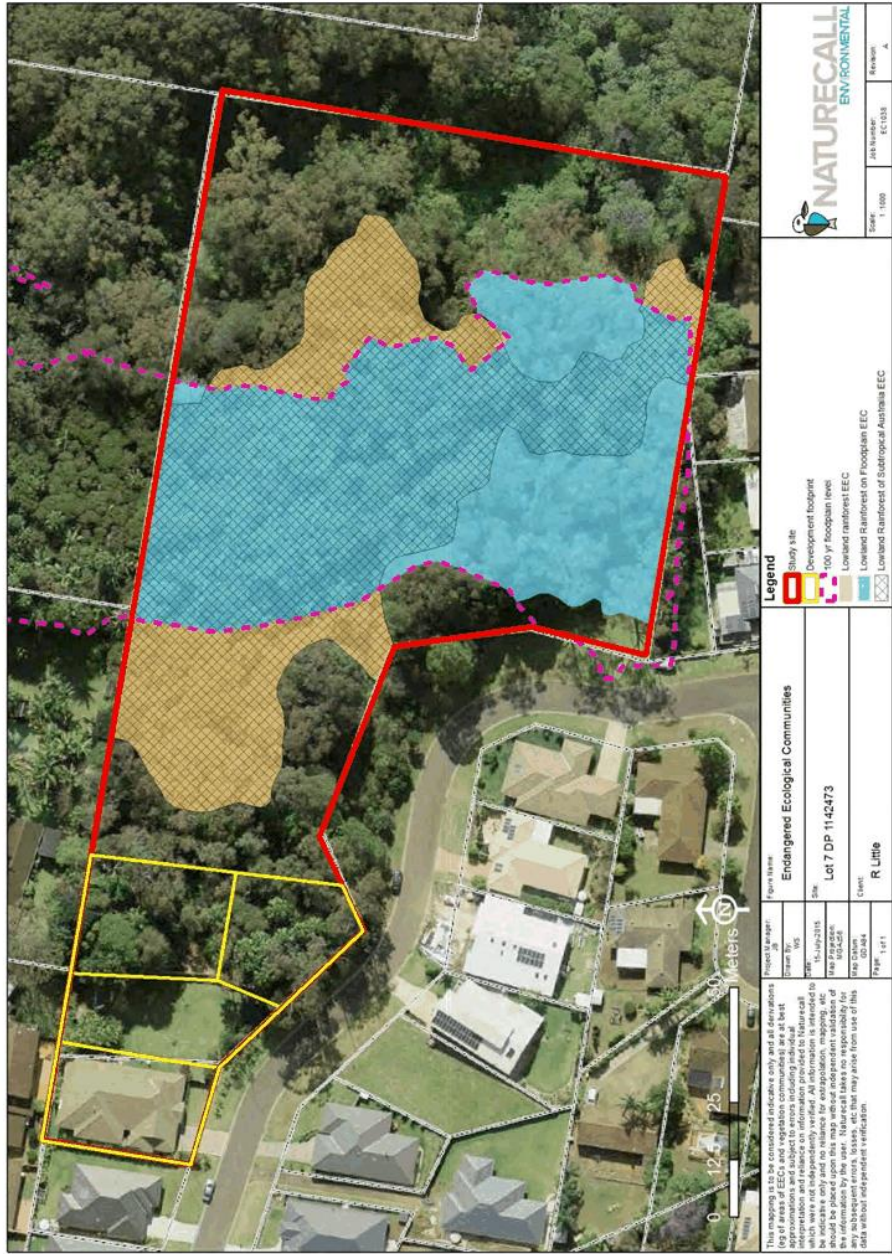
The condition thresholds for this EEC listed in the Scientific Committee advice (TSSC 2011) are also met by the swamp rainforest vegetation on site.

The swamp rainforest vegetation on the site therefore qualifies as part of the 'Lowland Rainforest of Subtropical Australia' EEC as it matches the key diagnostic criteria described by the Threatened Species Scientific Committee (TSSC 2011).



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Figure 7: Extent of EECs on the site



File Reference: EC-1038-BEC-REP-0001-Lot7ReadingStSEA-rev3.0



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### 3.5.4. Other TECs and Endangered Populations

No Endangered Populations were found on the site or in the study area.

A summary of TECs and Endangered Populations listed under the TSCA 1995 or EPBCA 1999 which occur in the North Coast Bioregion (OEH 2015b, DoE 2015b) and their potential for occurrence in the study area is provided in the following table:

Table 5: Review of Endangered Ecological Communities

| Act     | Literature Review  | Occurrence Assessment  |
|---------|--|--|
| TSC Act | “ <b>Subtropical Coastal Floodplain Forest of the NSW North Coast bioregion</b> ” is a characteristic ecological community listed as Endangered. This Endangered Ecological Community (EEC) is associated with clay-loams and sandy loams, on periodically inundated alluvial flats, drainage lines and river terraces associated with coastal floodplains. Subtropical Coastal Floodplain Forest (SCFF) generally occurs below 50m, but may occur on localised river flats up to 250 m elevation in the NSW North Coast bioregion. While the composition of the SCFF tree stratum varies considerably, the most widespread and abundant dominant canopy trees include <i>Eucalyptus tereticornis</i> , <i>E. siderophloia</i> , <i>Corymbia intermedia</i> , and <i>Lophostemon suaveolens</i> (latter only north of the Macleay floodplain). | The wet sclerophyll forest vegetation on the site is not considered a close floristic match for this EEC as the characteristic mix of canopy species is not present. |
| TSC Act | “ <b>River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions</b> ” is an EEC associated with silts, clay-loams and sandy loams on periodically inundated alluvial flats, drainage lines and river terraces associated with coastal floodplains. River-Flat Eucalypt Forest on Coastal Floodplains (RFEF) generally occurs below 50m elevations, but may occur on localised river flats up to 250m above sea level. In the North Coast, the most widespread and abundant dominant trees include <i>Eucalyptus tereticornis</i> , <i>E. amplifolia</i> , <i>Angophora floribunda</i> , <i>A. subvelutina</i> , <i>E. saligna</i> and <i>E. grandis</i> .   | The wet sclerophyll forest vegetation on the site is not considered a close floristic match for this EEC as the characteristic mix of canopy species is not present. |





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| Act     | Literature Review  | Occurrence Assessment  |
|---------|--|--|
| TSC Act | <p><b>"Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions"</b> is a characteristic ecological community listed as Endangered under the TSC Act 2004. This EEC is associated with humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines associated with coastal floodplains. Swamp Sclerophyll Forest on Coastal Floodplains (SSFCF) generally occurs below 20 m (though sometimes up to 50 m) elevation, often on small floodplains or where the larger floodplains adjoin lithic substrates or coastal sand plains. The structure of the community is typically open forest (but may be reduced to scattered trees via disturbance), and in some areas the tree stratum is low and dense ie a scrub. The community also includes some areas of farmland and tall reedland or sedgeland where trees are very sparse or absent. The most widespread and abundant dominant trees include <i>Eucalyptus robusta</i> and <i>Melaleuca quinquenervia</i>.</p>   | Vegetation on the site does not meet the floristic criteria of this EEC. |
| TSC Act | <p><b>"Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions"</b> is an EEC associated with grey-black clay-loams and sandy loams, where the groundwater is saline or sub-saline, on waterlogged or periodically inundated flats, drainage lines, lake margins and estuarine fringes associated with coastal floodplains. Swamp Oak Floodplain Forest (SOFF) generally occurs below 20 m (rarely above 10 m) elevation. The structure of the community may vary from open forests to low woodlands, scrubs or reedlands with scattered trees. SOFF has a dense to sparse tree layer in which Swamp Oak (<i>Casuarina glauca</i>) is the dominant species. Other trees including <i>Acmena smithii</i>, <i>Glochidion</i> spp. and <i>Melaleuca</i> spp. may be present as subordinate species. The understorey is characterised by frequent occurrences of vines ie <i>Parsonia straminea</i>, <i>Geitonoplesium cymosum</i> and <i>Stephania japonica</i> var. <i>discolor</i>, a sparse cover of shrubs, and a continuous groundcover of forbs, sedges, grasses and leaf litter.</p> | Vegetation on the site does not meet the floristic criteria of this EEC. |





| Act      | Literature Review   | Occurrence Assessment   |
|----------|---|---|
| TSC Act  | <p><b>"Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions"</b> has been listed as an Endangered Ecological Community under the TSC Act 2004. This EEC is associated with periodic or semi-permanent inundation by freshwater, (including areas with minor saline influence). They typically occur on silts, muds or humic loams in depressions, flats, drainage lines, backswamps, lagoons and lakes associated with coastal floodplains ie habitats where flooding is periodic and standing fresh water persists for at least part of the year in most years. Freshwater Wetlands on Coastal Floodplains (FWCF) generally occur below 20m elevations, and the structure of the community varies from sedgeland and reedlands to herbfields. Woody species of plants are generally scarce. The structure and composition of the community varies both spatially and temporally depending on the water regime (Yen and Myerscough 1989, Boulton and Brock 1999).</p> | No vegetation on the site matches the floristic criteria of this EEC.   |
| TSC Act  | <p><b>"Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions"</b> is typically a closed forest, the structure and composition of which is strongly influenced by its proximity to the ocean. The plant species of this community are predominantly rainforest species while emergent Eucalypts or Lophostemons are present in some stands. This community grows only in coastal areas within maritime influence on sand dunes and soil derived from underlying rocks.</p>   | Vegetation meeting the floristic and geomorphological criteria of this EEC does not occur on site or in the study area. |
| EPBC Act | <p><b>"Littoral Rainforest and Coastal Vine Thickets of Eastern Australia"</b> is a Critically Endangered Ecological Community listed under the EPBC Act 1999, which is generally identical to the TSC Act listing.</p>   | Vegetation meeting the floristic and geomorphological criteria of this EEC does not occur on site or in the study area. |
| TSC Act  | <p>A localised population of a distinctive variation of <i>Glycine clandestina</i>, identified as <i>Glycine</i> sp. "Scotts Head", has been listed as an Endangered Population. This population is restricted to part of the headland complex at Scotts Head.</p>  | The site is beyond the range of this population which only occurs at Scotts Head.                                       |



| Act     | Literature Review   | Occurrence Assessment  |
|---------|---|--|
| TSC Act | <b>"Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner Bioregion"</b> has been listed as an Endangered Ecological Community under the TSCA 1995. Coastal Saltmarsh is the ecological community occurring in the intertidal zone on the shores of estuaries and lagoons along the NSW coast. Characteristic species include: <i>Baumea juncea</i> , <i>Juncus kraussii</i> , <i>Sarcocornia quinqueflora</i> , <i>Sporobolus virginicus</i> , <i>Triglochin striata</i> , <i>Isolepis nodosa</i> , <i>Samolus repens</i> , <i>Selliera radicans</i> , <i>Suaeda australis</i> , <i>Zoysia macrantha</i> .                                | The site does not meet the floristic or geomorphological requirements of this EEC, hence it does not occur.                  |
| TSC Act | <b>"White Box Yellow Box Blakely's Red Gum Woodland"</b> is an EEC predicted to occur in Macksville, Dorrigo, Grafton, Kempsey, Korogoro Part, Nambucca, Coffs Harbour and Bare Part Atlas of Wildlife databases. This community is generally restricted to the tablelands and western slopes.  | Vegetation on the site does not meet the floristic and geomorphological criteria of this EEC.                                |
| TSC Act | <b>"Hunter Lowland Red Gum Forest in the Sydney Basin and North Coast Bioregions"</b> is an EEC found on gentle slopes arising from depressions and drainage flats on Permian sediments of the Hunter Valley floor in the Sydney Basin and NSW North Coast Bioregions.  | Vegetation on the site does not meet the floristic and geomorphological criteria of this EEC.                                |
| TSC Act | The "Population of <i>Eucalyptus seeana</i> in the Greater Taree Local Government Area" has been listed as an Endangered Population.  | <i>Eucalyptus seeana</i> does not occur on the site, and is beyond the specified distribution of this Endangered Population. |
| TSC Act | <b>"White Gum Moist Forest in the NSW North Coast Bioregion"</b> is an ECC characteristically dominated by White Gum ( <i>Eucalyptus dunnii</i> ) either in pure stands or with <i>E. saligna</i> , <i>E. microcorys</i> and/or <i>Lophostemon confertus</i> (NSWSC 2008a). White Gum Moist Forest typically occurs on the escarpment slopes and foothills of the north-east NSW, most commonly between 400 and 650 m elevation, where mean annual rainfall exceeds approximately 1000 mm and has a summer maximum (DECC 2007) on fertile soils. It is currently known from the local government areas of Clarence Valley, Coffs Harbour, Kyogle and Tenterfield. | White Gum does not occur on the site, thus the EEC does not occur.   |



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| Act     | Literature Review   | Occurrence Assessment   |
|---------|---|---|
| TSC Act | <p><b>"Hunter Valley Vine Thicket in the NSW North Coast and Sydney Basin Bioregions"</b> is a Critically Endangered Ecological Community (CEEC). This CEEC occurs on Carboniferous sediments (often on limestone) mainly on rocky slopes. The community typically forms a low closed forest dominated by low trees, shrubs and vines. The canopy is dominated by both varieties of <i>Elaeodendron australe</i> (Red Olive Plum), <i>Geijera parviflora</i> (Wilga), <i>Notelaea microcarpa</i> var. <i>microcarpa</i> (Native olive), and <i>Alectryon oleifolius</i> subsp. <i>elongatus</i> (Western Rosewood). Emergent eucalypts are common and include <i>Eucalyptus albens</i> (White Box), <i>E. dawsonii</i> (Slate Box), and <i>E. crebra</i> (Narrow-leaved Ironbark). Hunter Valley Vine Thicket has been recorded from the local government areas of Muswellbrook, Singleton, and Upper Hunter (NSWSC 2007b).</p> | This community does not occur on the site which is located outside the prescribed range, thus the EEC does not occur. |
| TSC Act | <p><b>"Lower Hunter Valley Dry Rainforest in the Sydney Basin and NSW North Coast Bioregions"</b> is an EEC which occurs on Carboniferous sediments of the Barrington footslopes along the northern rim of the Hunter Valley Floor, where it occupies gullies and steep hill slopes with south facing aspects. The community usually forms a closed forest 15-20m high with emergent trees 20-30m high. Vines are abundant and there is a dense shrub and ground layer (NSWSC 2007c).</p>   | This community does not occur on the site which is located outside the prescribed range, thus the EEC does not occur. |
| TSC Act | <p><b>"Themeda grassland on seaciffs and coastal headlands in the NSW North Coast, etc"</b> is an that belongs to the Maritime Grasslands vegetation class of Keith (2004) and its structure is typically closed tussock grassland, but may be open shrubland or open heath with a grassy matrix between the shrubs.</p>  | The site does not meet the floristic or geomorphological requirements of this EEC, hence it does not occur.           |
| TSC Act | <p><b>"Carex Sedgelands of the New England Tableland, Nandewar, Brigalow Belt South and NSW North Coast Bioregions"</b> is a preliminarily listed EEC in marshy regions dominated by sedges, grasses and semi-aquatic herbs. The species dominants are <i>Carex appressa</i>, <i>Stellaria angustifolia</i>, <i>Scirpus polystachyus</i>, <i>Carex gaudichaudiana</i>, <i>Carex</i> sp. <i>Bendemeer</i>, <i>Carex tereticaulis</i> and <i>Isachne globosa</i>, either as single species or in combinations. Other common species include <i>Geranium solanderi</i> var. <i>solanderi</i>, <i>Haloragis heterophylla</i>, <i>Lythrum salicaria</i>, <i>Epilobium billardierianum</i> subsp. <i>hydrophilum</i> and <i>Persicaria hydropiper</i> (Hunter and Bell 2009).</p>   | The site does not meet the floristic requirements of this EEC, hence it does not occur.                               |
| TSC Act | <p><b>"Hunter Floodplain Red Gum Woodland in the NSW North Coast and Sydney Basin Bioregions"</b> is an EEC that generally occurs on floodplains and on floodplains and associated floodplain rises along the Hunter River and tributaries.</p>   | This community does not occur on the site which is located outside the prescribed range, thus the EEC does not occur. |



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| Act     | Literature Review  | Occurrence Assessment   |
|---------|--|---|
| TSC Act | <p>'Coastal Cypress Pine Forest in the NSW North Coast Bioregion' is a distinctive vegetation community dominated by Coastal Cypress Pine (<i>Callitris columellaris</i>) and is typically found on coastal sand plains, north from the Angourie area on the far north coast of NSW.</p> | <p>The site is far beyond the known range of this EEC and the Coastal Pine does not occur, thus the EEC does not occur.</p> |





## 4.0 Fauna

### 4.1. Survey Methods

As per the rapid assessment methodology, fauna survey was limited to:

- Habitat evaluation
- Searches for secondary evidence eg scats and tracks
- Diurnal reptile and bird survey
- Hollow-bearing tree survey

The methods per survey measure are detailed below:

#### **a) Habitat Evaluation**

This was the main survey method employed to assess the suitability of site habitats for threatened species recorded in the locality, or in broadly similar habitats in the region.

Habitats on and adjacent to the study site were defined and assessed according to parameters such as:

- Structural and floristic characteristics of the vegetation eg understorey type and development, crown depth, groundcover density, etc.
- Degree and extent of disturbance eg fire, logging, weed invasion, modification to structure and diversity, etc.
- Soil type and suitability eg for digging and burrowing.
- Presence of water in any form eg rivers, dams, creeks, drainage lines, soaks.
- Size and abundance of hollows and fallen timber.
- Presence of sandbanks, shallow wading areas, rock walls, saltmarsh, roost areas, etc.
- Availability of shelter eg rocks, logs, hollows, undergrowth.
- Wildlife corridors, refuges and proximate habitat types.
- Presence of mistletoe, nectar, gum, seed, sap, etc sources.

This information is considered in Appendix 1 for evaluation of the potential occurrence of threatened species on or adjacent to the site based on cited ecology and personal experience/knowledge of the species.

#### **b) Secondary Evidence/Habitat Searches:**

Physical habitat searches involved lifting up of any timber, rocks and debris, and inspection of dense vegetation and leaf litter for frogs and reptiles; binocular inspection of trees for potential hollows and if found – inspection of the opening for signs of usage eg chewed or worn edges; observation of likely basking sites; searches for nests; and searches for scats, owl regurgitation pellets, tracks and scratches. A total of 4 hours was spent on habitat and secondary evidence searches.



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**c) Diurnal Reptile and Bird Survey**

This simply involved passive and active observation of any fauna on or directly adjacent to the site during survey activities. Birds and reptiles were the main focus as those considered likely to be present on or near the site are generally most active diurnally. A total of 3 hours was spent on this activity over 2 days.

Species identification was assisted by Simpson and Day (1996), Wilson and Knowles (1992), Strahan (1992), Briggs (1996), Robinson (1996), and Schode and Tideman 1990).

**d) Hollow-bearing Tree Survey**

All hollow-bearing trees and stags on the site were located and recorded via hand held GPS. Each tree marked with orange flagging tape and pink spray paint, and assigned an identifier number.

Each tree was subsequently assessed using the PMHC DCP 2013 hollow-bearing tree protocol. The results of this are shown in Section 7.

**4.2. Survey Results****4.2.1. Habitat Evaluation**

Table 6: Summary of site habitat values

| Habitat/ Attribute Type | Site/Study Area   | Potential Values to Threatened Species Occurrence  |
|-------------------------|---|--|
| Groundcover             | Ranges from open to dense depending on overstorey cover. Variety of herbs, ferns and sedges present.  | May provide cover for common reptiles, frogs and rodents. Unlikely to be significant to any threatened species.  |
| Leaf litter             | A thick layer of palm fronds was present throughout most of the site. Shallower accumulations were found where palm trees were absent.  | Palm fronds represent poor quality leaf litter due to slow decay and fibrous nature. Excellent refuge for reptiles, rodents, frogs and invertebrates. Unlikely significance to any threatened species due to isolation of Wrights Creek and disturbance history. |
| Logs and debris         | Some fallen timber occurs on site but was generally small diameter and not hollow.  | Potential cover for common species and invertebrate habitat.   |
| Hollows                 | A total of 11 hollow-bearing trees/stags were recorded on site, with 4 occurring in the development envelope (Photo 10). Most were low value trees or stags with small branch and trunk hollows, however some medium sized hollows were observed in a larger tree and stag in the residual site habitat (H6 and H7). Hollow-bearing trees are mapped in Figure 9. | Potential den sites for Yangochiropteran bats, birds, reptiles and small gliders or possums. Rainbow Lorikeets were found to be nesting in two of the hollow trees in the development envelope.  |



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| Habitat/ Attribute Type                                      | Site/Study Area   | Potential Values to Threatened Species Occurrence   |
|--|---|---|
| Wattles, Melaleucas, Callistemons and Banksias (shrub layer) | Juvenile and shrub forms of Melaleucas and wattles offer limited potential nectar sources.  | Minor insect attractant values.   |
| Decorticating Bark and Foliage                               | Flooded Gum offers limited decorticating bark accumulations which may be used for bat roosting and denning by gliders.<br><br>Some Cabbage Palms had dense underhanging accumulations of palm leaves which offered excellent bat roosting habitat.                                      | Potential roosting habitat for Common Blossom Bat, and some other foliage roosters.   |
| Sap and gum sources  | Brush Box and Flooded Gum were the main potential sap sources on site. These only occurred around the edges of the site.  | Small extent of potential sap sources on site for Squirrel Glider. Lack of records of Yellow-bellied Glider in Wrights Creek or Sea Acres NR precludes this species.  |
| Canopy and Understorey Nectar Sources                        | Brush Box and Flooded Gum are main potential nectar sources, with Cabbage Palm. Biconvex Paperbarks offer low quality resource.   | Potential foraging resources for Grey-headed Flying Fox, and perhaps Little Lorikeet, Squirrel Glider and Common Blossom Bat.   |
| Primary preferred Koala browse trees                         | Only a single old senescent Swamp Mahogany was found in the centre of the site.   | Site does not qualify as Potential Koala Habitat and no evidence found during survey. A nearby resident did however sight a Koala in southwest of site late last year.  |
| Allocasuarinas   | A few mature Forest Oak occur in the east of the site. Absent in development envelope.  | Minor extent of potential foraging resources on site unlikely to attract the Glossy Black Cockatoo.   |
| Aquatic/wetland habitats                                     | The upper reaches of Wrights Creek passes through the site flowing north. A narrow drainage channel was present and contained intermittent pools and some flowing water (Photo 9). No aquatic vegetation was observed.<br><br>The development envelope did not contain aquatic habitat. | Unlikely to provide habitat for threatened frogs such as Green-thighed Frog due to disturbance history, lack of records in the catchment, and urban context ie low quality water prone to high nutrients and contaminants.<br><br>Extent of aquatic habitat too small to provide foraging habitat for threatened waterbirds.<br><br>Channel may be too overgrown for Southern Myotis to forage. |



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| Habitat/ Attribute Type                     | Site/Study Area   | Potential Values to Threatened Species Occurrence  |
|---|---|--|
| Fruiting species                            | Residual site vegetation contains a suite of fruiting plants and shrubs such as Lilly Pilly, Small-leaved Fig, and Cabbage Palm.<br><br>Fruiting species were uncommon in the development envelope.                                     | Site contains suitable foraging resources for Wompoo Fruit-dove, Rose-crowned Fruit-dove, Barred Cuckoo Shrike and Grey Headed Flying Fox. |
| Passerine bird habitat                      | Parts of the site have a dense shrub layer, and most of the site is heavily forested which provides cover and nesting opportunities for passerines. A reasonable abundance but low diversity of passerines was noted during the survey. | Minor potential prey resource for Square-tailed Kite.  |
| Caves, cliffs, overhangs, culverts, bridges | Absent  | N/A  |
| Small terrestrial prey                      | Edge effects, isolation and limited groundcover structure of site would limit prey abundance and especially diversity. Main prey base likely to be common rodents and bandicoots.   | Minor prey resource only.  |

Photo 10: Aquatic habitat in Wrights Creek







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Photo 11: Hollow in development envelope (H1) with nesting lorikeet



#### 4.2.2. Corridors and Key Habitats

See Figure 8 for a map showing the following:

##### 4.2.2.1. Regional Corridors

Regional corridors connect important areas of habitat. Ideally they are of sufficient size to provide habitat in their own right and at least twice the width of the average home range area of fauna species identified as likely to use the corridor (OEH 2015c, Scotts 2003).

The east of the site falls within the Port Macquarie Regional Corridor which extends from Lake Cathie to the North Shore, and encompasses coastal habitats and Wrights Creek (Figure 3). This corridor is generally narrow, and is fragmented by urban areas and the Hastings River.

The proposed development will remove a small area of habitat on the edge of this mapped corridor, but the dedication of most of the site as a public reserve will secure habitat within the corridor.



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#### 4.2.2.2. Sub-Regional Corridors

Sub-regional corridors connect larger landscaped features and are of sufficient width to allow movement and dispersal (generally >300m), but may not provide substantial species habitat (OEH 2015c, Scotts 2003).

The site and study area do not fall within a sub-regional corridor.

#### 4.2.2.3. Local Corridors and Habitat Links

Local corridors provide connections between remnant patches of habitat and landscape features. Due to their relatively small area and width (they may be <50m), these corridors are subject to edge effects (OEH 2015c, Scotts 2002). Habitat links are evaluated in this report as links from habitat on-site directly to similar habitat on adjacent land. These would be used by fauna, which depend solely or at least partially on the site for all of their lifecycle requirements, and/or dispersal (Lindenmayer and Fisher 2006).

The habitat on site forms the southern end of a key local corridor extending to the north following Wrights Creek. However, this habitat corridor is not continuous due to several roads, is variable in width, and would be subject to high edge effects eg runoff from urban areas and cat predation. Notwithstanding, this, the habitat within would provide a shelter, foraging habitat and a stepping stone for a diverse range of mostly mobile/opportunistic terrestrial and arboreal species, birds and bats including the Koala, Squirrel Glider, Spotted-tailed Quoll and Wompoo Fruit Dove.

The southeast of the site also links to extensive habitat contained within Sea Acres Nature Reserve to the east, which would allow some species to move from the reserve into the Wrights Creek corridor. Pacific Drive does however separate this habitat and would pose a barrier for less mobile terrestrial and gap shy species, and a mortality threat from traffic. This linkage has also been recently halved in width due to a residential development.

Urban woodland in the study area (especially to the south) also offers linkage for fauna such as medium to large woodland birds, the Koala, gliders and possums (Wilkes and Snowden 1998), but offers no significant linkage for less mobile and gap shy species (Lindenmayer and Fisher 2006).

#### 4.2.2.4. Key Habitat

Key Habitats are areas of predicted high conservation value for forest faunal assemblages, endemic forest vertebrates or endemic invertebrates; spatially depicted as a merging of mapped assemblage hubs, assemblage hot spots and centres of endemism (OEH 2015c, Scotts 2002).

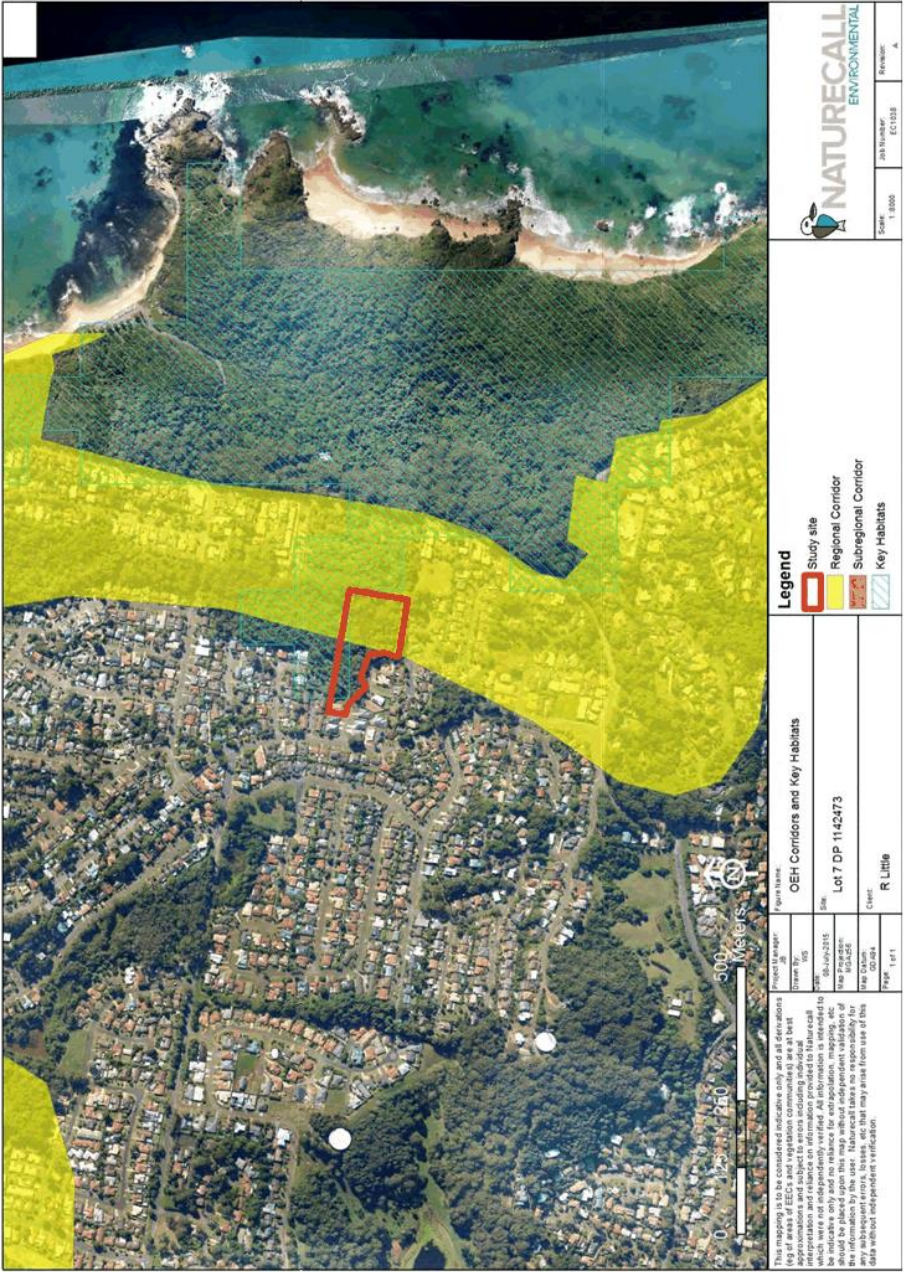
Only a small area in the north of the site is mapped as a Key Habitat.





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Figure 8: OEH Key Habitats and Corridors





#### 4.2.3. Observed/Detected Fauna

The limited fauna survey mainly detected common birds including the Eastern Yellow Robin, Green Catbird, Satin Bowerbird, Golden Whistler, White-headed Fruit Pigeon and Brush Turkey. Some were observed on the site while others were seen flying over or heard calling from adjacent habitats. Overall, a good diversity of birds were detected given the extent of the site and limited survey period.

No Koala scats were found, however a neighbouring resident observed a Koala in a Flooded Gum in the southeast of the site approximately 8 months ago. This animal is expected to have been using this habitat for refuge and corridor values.

The only reptile observed was the Sun Skink. No amphibians were observed or heard calling, presumably due to season and lack of rainfall days prior to the survey.

Tracks of the Red-necked Wallaby, Bandicoot, a Bush Rat or Black Rat and an Egret were found throughout mud patches on the site. Diggings of bandicoots were also occasionally observed.

The following table shows the full fauna list for the site:

Table 7: Fauna species recorded on the site

| Group   | Common Name               | Species                          | Observation Type |
|---------|---------------------------|----------------------------------|------------------|
| BIRDS   | Satin Bowerbird           | <i>Ptilonorhynchus violaceus</i> | Obs              |
|         | Grey Shrike-thrush        | <i>Colluricincla harmonica</i>   | Obs              |
|         | Australian Magpie         | <i>Cracticus tibicen</i>         | HC               |
|         | Noisy Miner               | <i>Manorina melanocephala</i>    | HC               |
|         | Laughing Kookaburra       | <i>Dacelo novaeguineae</i>       | Obs, HC          |
|         | Eastern Whipbird          | <i>Psophodes olivaceus</i>       | HC               |
|         | Pied Butcherbird          | <i>Cracticus nigrogularis</i>    | Obs, HC          |
|         | Grey Fantail              | <i>Rhipidura albiscapa</i>       | Obs              |
|         | Eastern Yellow Robin      | <i>Eopsaltria australis</i>      | Obs              |
|         | Brush Turkey              | <i>Alectura lathamii</i>         | Obs              |
|         | Rainbow Lorikeet          | <i>Trichoglossus haematodus</i>  | Obs nesting      |
|         | Brown Thornbill           | <i>Acanthiza pusilla</i>         | Obs, HC          |
|         | Magpie Lark               | <i>Grallina cyanoleuca</i>       | Obs              |
|         | Yellow-throated Scrubwren | <i>Sericornis citreogularis</i>  | Obs              |
|         | Lewin's Honeyeater        | <i>Meliphaga lewinii</i>         | Obs              |
|         | Little Wattlebird         | <i>Anthochaera chrysoptera</i>   | Obs              |
|         | Superb Fairy Wren         | <i>Malurus cyaneus</i>           | Obs              |
|         | Australian King Parrot    | <i>Alisterus scapularis</i>      | HC               |
|         | Unidentified Egret        | -                                | Obs, tracks      |
|         | Green Catbird             | <i>Ailuroedus crassirostris</i>  | Obs, HC          |
|         | White-headed Pigeon       | <i>Columba leucomela</i>         | HC               |
|         | Silvereye                 | <i>Zosterops lateralis</i>       | HC               |
|         | Golden Whistler           | <i>Pachycephala pectoralis</i>   | Obs, HC          |
|         | Red-necked Wallaby        | <i>Macropus rufogriseus</i>      | Scats, tracks    |
| MAMMALS | Unidentified Bandicoot    | -                                | Diggings, tracks |
|         | Koala*                    | <i>Phascolarctos cinereus</i>    | Resident report  |





## Sustainable Partners

| Group    | Common Name      | Species                         | Observation Type |
|----------|------------------|---------------------------------|------------------|
|          | Ringtail Possum  | <i>Pseudocheirus peregrinus</i> | Probable scats   |
|          | Unidentified Rat | <i>Rattus sp.</i>               | Tracks           |
| REPTILES | Garden Sun-skink | <i>Lampropholis delicata</i>    | Obs              |

#### 4.2.4. Locally Recorded Fauna

The species listed in the following table have been recorded within 10km of the study site (OEH Bionet 2015, Jones 1995, Aaso 2002, Biosis 2004a, 2005, Biosphere Environmental Consultants 2006, AMBS 2003, 2004, Redpath 2003, EcoPro 1999a, 1999b, ERM 2002, 2003, 2012, Lewis 2008, NPWS 1995a, Biolink 2013b, 2005a, 2005b, 2005c, 2004, 2003, Trémont 2005, SLR 2015, Standing and Bray 1998, Berrigan 2002, Darkheart 2005a-e, 2004a-c, Bernard Whitehead pers. comm.). Those in bold are listed as threatened under the EPBCA.

The following species (excluding marine mammals, birds and reptiles as no suitable habitat occurs on the site or would be affected by the proposal) are considered likely to occur in the locality due to suitable habitat and regional records (some have been recorded within 20km) (Strahan 2000, Smith *et al* 1995, Churchill 2009, OEH 2015a, personal knowledge). Those in bold are listed under the EPBCA:

- (a) *Mammals*: **Long Nosed Potoroo**, **New Holland Mouse**, Becarri's Freetail-bat, Eastern Pygmy Possum, Parma Wallaby
- (b) *Birds*: Sooty Owl, Barking Owl, Red-backed Button Quail, Grey-crowned Babbler, Hooded Robin, Flame Robin, Speckled Warbler, Diamond Firetail, Ground Parrot, Painted Honeyeater, Black-chinned Honeyeater, Brown Treecreeper, **Red Goshawk**, **Painted Snipe**, Brolga, Comb-crested Jacana
- (c) *Reptiles*: Pale-headed Snake, Stephens Banded Snake, Three-toed Snake-tooth Skink
- (d) *Frogs*: **Mixophyes balbus**, **M. iteratus**, **Litoria olongburensis**, Green-thighed Frog



## Sustainable Partners

Table 8: Locally recorded threatened fauna

| Group   | Common and Species Names  | Legal Status    | Distance From Study Site/General Location  |
|---------|---|-----------------|--|
| Mammals | Eastern Chestnut Mouse<br>( <i>Pseudomys gracilicaudatus</i> )        | V-TSCA          | Partridge Creek, Port Macquarie Airport, Lake Innes Nature Reserve, east of Lindfield Park Rd.                                       |
|         | Koala<br>( <i>Phascolarctos cinereus</i> )                            | V-TSCA          | Recorded on site, Port Macquarie residential areas, North Shore, Sea Acres, Lake Innes Nature Reserve                                |
|         | Spotted-Tailed Quoll<br>( <i>Dasyurus maculatus</i> )                 | V-TSCA, E-EPBCA | Sea Acres NR, Tacking Point, Riverside Drive, North Shore, Tulloch Road, Findlay Drive   |
|         | Brush-tailed Phascogale<br>( <i>Phascogale tapoatafa</i> )            | V-TSCA          | Settlement Point, North Shore  |
|         | Common Planigale<br>( <i>Planigale maculata</i> )                     | V-TSCA          | Lake Innes Nature Reserve, St Columba School, Ruins Way  |
|         | Rufous Bettong<br>( <i>Aepyprymnus rufescens</i> )                    | V-TSCA          | Innes Ruins  |
|         | Squirrel Glider<br>( <i>Petaurus norfolcensis</i> )                   | V-TSCA          | Ocean Drive, Hastings River Drive, Toorak Court, Lake Innes Nature Reserve, Sherwood Road, Boundary Road, Highfields Circuit         |
|         | Yellow-bellied Glider<br>( <i>Petaurus australis</i> )                | V-TSCA          | Lake Innes Nature Reserve  |
|         | Little Bent-wing Bat<br>( <i>Miniopterus australis</i> )              | V-TSCA          | Adjacent land to northeast, Sea Acres, Kooloonbung Creek, Lake Innes Nature Reserve, Major Innes Drive/Ruins Way area, Oxley Highway |
|         | Eastern Bent-wing Bat<br>( <i>M. schreibersii oceanensis</i> )        | V-TSCA          | Kooloonbung Creek, Oxley Highway, Boundary Road, Port Macquarie Airport, Lighthouse Road, Mumford Street, Major Innes Drive          |
|         | East-coast Freetail Bat<br>( <i>Mormopterus norfolkensis</i> )        | V-TSCA          | Lake Innes Nature Reserve, Major Innes Drive/Ruins Way area, Boundary Road, Kingfisher Road  |
|         | Eastern Cave Bat<br>( <i>Vespadelus troughtoni</i> )                  | V-TSCA          | Adjacent land to east, Ruins Way, Lighthouse Road,   |
|         | Greater Broad-nosed Bat<br>( <i>Scoteanax rueppellii</i> )            | V-TSCA          | Sea Acres, Lake Innes Nature Reserve, Ruins Way, Mumford Street, Kingfisher Road   |
|         | Golden-tipped Bat<br>( <i>Kerivoula papuensis</i> )                   | V-TSCA          | Adjacent to Ocean Drive near Rosendahl Reservoir   |
|         | Hoary Bat<br>( <i>Chalinolobus nigrogriseus</i> )                     | V-TSCA          | Wrights Road   |
|         | Eastern False Pipistrelle<br>( <i>Falsistrellus tasmaniensis</i> )    | V-TSCA          | Oxley Highway, Kingfisher Rd   |
|         | Yellow-bellied Sheath-tail-bat<br>( <i>Saccolaimus flaviventris</i> ) | V-TSCA          | Corner of Lighthouse Road and Pacific Drive, Phillip Charley Drive   |



## Sustainable Partners

| Group | Common and Species Names                                     | Legal Status                           | Distance From Study Site/General Location   |
|-------|--|--|---|
|       | Dwyer's Bat/Large Pied Bat<br>( <i>Chalinobus dwyeri</i> )   | V-TSCA<br>V-EPBCA                      | Kingfisher Rd   |
|       | Southern Myotis<br>( <i>Myotis macropus</i> )                | V-TSCA                                 | Adjacent land to east, Lake Innes Nature Reserve, Ruins Way, Thrumster  |
|       | Common Blossom Bat<br>( <i>Syconycteris australis</i> )      | V-TSCA                                 | Lake Innes Nature Reserve   |
|       | Grey-headed Flying Fox<br>( <i>Pteropus poliocephalus</i> )  | V-TSCA<br>V-EPBCA                      | Adjacent land to east, Port Macquarie environs, Lake Innes Nature Reserve, Thrumster, etc                               |
| Birds | Glossy Black Cockatoo<br>( <i>Calyptorhynchus lathamii</i> ) | V-TSCA                                 | Ruins Way, Thrumster, Riverside, Lake Innes Nature Reserve  |
|       | Swift Parrot<br>( <i>Lathamus discolor</i> )                 | E-TSCA,<br>E-EPBCA<br>and<br>Migratory | Ruins Way area  |
|       | Little Lorikeet<br>( <i>Glossopsitta pusilla</i> )           | V-TSCA                                 | Lake Innes Nature Reserve, Thrumster, Port Macquarie Airport  |
|       | Varied Sittella<br>( <i>Daphoenositta chrysoptera</i> )      | V-TSCA                                 | Kooloonbung Creek, Port Macquarie Airport, Oxley Highway, Ruins Way, Lake Innes Nature Reserve                          |
|       | Wompoo Fruit Dove<br>( <i>Ptilinopus magnificus</i> )        | V-TSCA                                 | Sea Acres, Lighthouse Beach gully   |
|       | Rose-crowned Fruit Dove<br>( <i>Ptilinopus regina</i> )      | V-TSCA                                 | Tacking Point, Lighthouse Beach area, Sea Acres   |
|       | Barred Cuckoo-shrike<br>( <i>Coracina lineata</i> )          | V-TSCA                                 | Sea Acres, Macquarie Nature Reserve, Flynn's Beach Caravan Park   |
|       | Scarlet Robin<br>( <i>Petroica boodang</i> )                 | V-TSCA                                 | Low accuracy record in northeast corner of site, Sea Acres  |
|       | Regent Honeyeater<br>( <i>Anthochaera phrygia</i> )          | E-TSCA,<br>E-EPBCA                     | Fernbank Creek  |
|       | Powerful Owl<br>( <i>Ninox strenua</i> )                     | V-TSCA                                 | Adjacent land to east of site, Lake Innes Nature Reserve, Ruins Way, Partridge Creek                                    |
|       | Masked Owl<br>( <i>Tyto novaehollandiae</i> )                | V-TSCA                                 | Pacific Highway (near Thrumster), Long Point Drive, Queens Lake State Forest  |
|       | Eastern Grass Owl<br>( <i>Tyto capensis</i> )                | V-TSCA                                 | Lake Innes Nature Reserve, Partridge Creek, Lindfield Park Road   |
|       | Eastern Osprey<br>( <i>Pandion cristatus</i> )               | V-TSCA,<br>EPBCA-<br>Migratory         | Lake Innes Nature Reserve, Sea Acres, Nobby's Head, Town Green, Hastings River, Settlement Point, North Shore, Fernbank |
|       | Beach Stone-curlew<br>( <i>Esacus magnirostris</i> )         | E-STCA                                 | Settlement Point  |
|       | Bush-stone Curlew<br>( <i>Burhinus grallarius</i> )          | E-TSCA                                 | Kooloonbung Creek   |



## Sustainable Partners

| Group   | Common and Species Names                                    | Legal Status     | Distance From Study Site/General Location  |
|---------|---|------------------|--|
|         | Square Tailed Kite<br>( <i>Lophoictinia isura</i> )         | V-TSCA           | Macquarie Nature Reserve, Thrumster, Kooloonbung Creek, Tacking Point, Ocean Drive |
|         | Spotted Harrier<br>( <i>Circus assimilis</i> )              | V-TSCA           | Thrumster  |
|         | Blue-billed Duck<br>( <i>Oxyura australis</i> )             | V-TSCA           | Innes Drive, Port Macquarie  |
|         | Freckled Duck<br>( <i>Stictonetta naevosa</i> )             | V-TSCA           | Outdated records from Port Macquarie   |
|         | Australasian Bittern<br>( <i>Botaurus poiciloptilus</i> )   | E-TSCA, E-EPBCA  | Lake Innes Nature Reserve, Greenmeadows Drive                                      |
|         | Black Bittern<br>( <i>Ixobrychus flavicollis</i> )          | V-TSCA           | Fernbank   |
|         | Magpie Goose<br>( <i>Anseranas semipalmata</i> )            | V-TSCA           | Port Macquarie sewerage treatment plant  |
|         | Black Necked Stork<br>( <i>Ephippiorhynchus asiaticus</i> ) | E-TSCA           | Lake Innes Nature Reserve, Kooloonbung Creek, Settlement Point, Partridge Creek    |
| Frogs   | Wallum Froglet<br>( <i>Crinia tinnula</i> )                 | V-TSCA           | Lake Innes Nature Reserve, Emerald Downs, Port Macquarie Airport, Partridge Creek  |
|         | Green and Golden Bell Frog<br>( <i>Litoria aurea</i> )      | E, TSCA, V-EPBCA | North Shore, Annabella Downs Estate, Lindfield Park Rd                             |
| Insects | Giant Dragonfly<br>( <i>Petalura gigantea</i> )             | E-TSCA           | Residential areas to west of site  |
|         | Laced Fritillary<br>( <i>Argyreus hyperbius</i> )           | V-TSCA           | Limeburners Creek Nature Reserve   |

### 4.3. Potential Occurrence Assessment

#### 4.3.1. New South Wales

Each of the species listed above have been evaluated for their potential to occur on the study site/area, as well as for the likely significance of the proposal and thus their eligibility for Seven Part Test assessment, in Appendix 1. From this assessment, the following species are considered to potentially use the site and/or the study area (at best as a small part of a wider foraging range):

Table 9: Threatened species potentially occurring on or near the site

| Species            | Occurrence Type  | Occurrence Likelihood  |
|--------------------|--|--|
| Square-tailed Kite | Offers some potential to form minute portion of large foraging territory.  | Fair to moderate chance of utilising the site/study area as minute part of wider foraging range. |
| Powerful Owl       | Site offers some foraging habitat as minute portion of foraging territory. No potential nesting hollows present. | Recorded nearby in Sea Acres and moderate chance of occurrence on site.                          |





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| Species                           | Occurrence Type   | Occurrence Likelihood  |
|-----------------------------------|---|--|
| Masked Owl                        | Site offers some foraging habitat as minute portion of foraging territory. No potential nesting hollows present.  | Low to fair chance of occurrence foraging on site.   |
| Little Lorikeet                   | Site/study area represents generically suitable foraging habitat as part of a wider area, representing a minute portion of a large foraging territory. A few  | Low to fair chance of foraging, with occurrence depending on flowering incidences. Unlikely to breed in study area due to high competition for nest sites. |
| Varied Sittella                   | Site offers potential foraging and nesting habitat  | Fair chance of occurrence using site and adjacent habitat  |
| Barred Cuckoo-shrike              | Site offers generic potential foraging habitat as part of a wider foraging range. Generic potential nest trees but no nest sighted. Recorded nearby in Sea Acres.   | Low to moderate likelihood as part of large foraging range.  |
| Rose-crowned Fruit Dove           | Site offers potential foraging habitat as part of a wider foraging range with a good range of fruiting tree species present. Recorded nearby in Sea Acres where it is likely to breed.  | Low to fair likelihood as part of large foraging range.  |
| Wompoo Fruit Dove                 | Site offers a small area of potential foraging habitat with a good range of fruiting tree species present. Recorded nearby in Sea Acres where it is likely to breed.  | Low to fair likelihood as part of large foraging range.  |
| Superb Fruit Dove                 | Site offers potential foraging habitat as part of a wider foraging range with a good range of fruiting tree species present.  | Very low to low as rare south of Coffs Harbour.  |
| Squirrel Glider                   | Most of site habitat unsuitable/not preferred, and no preferred sap trees present. Better potential habitat to east. A few potential denning hollows occur but would be subject to high competition with common species and predation risk. | Low chance of occurrence using site for foraging as part of home range.  |
| Spotted-tailed Quoll              | Recorded in Sea Acres and may use the site for foraging or more likely as a transient.  | Low chance of occurrence as occasional forager or transient.   |
| Grey-headed Flying Fox            | Site/study area offers foraging resources as part of large range. Site may be marginally suitable for seasonal roosting.  | High likelihood of occurrence as occasional forager.   |
| Eastern Blossom Bat               | Site/study area offers foraging as part of large range. Site has suitable roosting habitat in Cabbage Palms.  | Fair likelihood using site for foraging and roosting.  |
| Little and Eastern Bent-wing Bats | Foraging over site as minute part of non-breeding range. Potential non-breeding roosting in tree hollows.   | At least moderate  |



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| Species                        | Occurrence Type   | Occurrence Likelihood          |
|--------------------------------|---|--------------------------------|
| Yellow-bellied Sheath-tail Bat | Foraging as part of large range. Potential breeding/roosting in tree hollows. | Low to fair as recorded nearby |
| Greater Broad-nosed Bat        | Foraging as part of large range. Potential breeding/roosting in tree hollows. | Fair                           |
| East-coast Freetail Bat        | Foraging as part of large range. Potential breeding/roosting in tree hollows. | Fair                           |

#### 4.3.2. Commonwealth

The following species are considered by the DoE Matters of National Environmental Significance search tool as potential occurrences in the locality. Marine and estuarine birds, mammals and reptiles and all fish listed in the search are irrelevant as the site/study area does not contain habitat and the proposal has no potential to impact these species.

##### 4.3.2.1. Threatened Species

Table 10 summarises the species predicted by the search tool as potential occurrences, and other species with potential to occur in the locality, for their potential to occur on site. The potential for these species to occur on the site is also reviewed in Appendix 1.



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Table 10: EPBC Act threatened fauna species potential occurrence assessment

Note: Likelihood of occurrence derived from opinions of consultants in consideration of known ecology of each species (see Appendix 1), and quality of habitat on-site. \* indicates listed on DoE website search.

| Group   | Common Name                  | Scientific Name                  | Listing Status | Recorded In Locality | Suitable Habitat On Site/Study Area                                | Likelihood Of Occurrence  |
|---------|------------------------------|----------------------------------|----------------|----------------------|--|---|
| Birds   | *Regent Honeyeater           | <i>Xanthomyza phrygia</i>        | CE             | Y                    | No preferred foraging resources on site.                           | Unlikely to occur due to rarity and lack of preferred habitat in study area.  |
|         | *Australian Painted Snipe    | <i>Rostratula australis</i>      | V              | N                    | No suitable habitat.   | Unlikely to occur.  |
|         | *Red Goshawk                 | <i>Erythrotriorchis radiatus</i> | E              | N                    | Generic potential habitat forming minute fraction of such habitat. | Unlikely as not seen south of Clarence River.   |
|         | *Eastern Bristlebird         | <i>Dasyornis brachypterus</i>    | E              | N                    | No suitable habitat.   | Unlikely to occur.  |
|         | *Black-breasted Button-quail | <i>Turnix melanogaster</i>       | V              | N                    | No suitable habitat.   | Unlikely to occur.  |
|         | *Australasian Bittern        | <i>Botaurus poiciloptilus</i>    | E              | Y                    | No suitable habitat.   | Unlikely to occur.  |
|         | *Swift Parrot                | <i>Lathamus discolor</i>         | E              | Y                    | Lack of preferred winter flowering species on site.                | Unlikely to occur   |
| Mammals | *Long-nosed Potoroo          | <i>Potorous tridactylus</i>      | V              | N                    | Site represents a small area of marginal potential habitat.        | Unlikely potential to occur – no local records, isolated habitat, edge effects, and patchy coastal records throughout its distribution. |



## Sustainable Partners

| Group | Common Name                 | Scientific Name                  | Listing Status | Recorded In Locality | Suitable Habitat On Site/Study Area  | Likelihood Of Occurrence  |
|-------|-----------------------------|----------------------------------|----------------|----------------------|--|---|
|       | *Koala                      | <i>Phascolarctos cinereus</i>    | V              | Y                    | Site does not contain preferred forage species (aside from a single Swamp Mahogany) however provides secondary foraging habitat and a linkage.             | Atlas records on site and recorded by nearby resident.  |
|       | *Spotted-tail Quoll         | <i>Dasyurus maculatus</i>        | E              | Y                    | Site forms part of a local corridor and may be used by Quoll for foraging or as a transient. Recorded in Sea Acres to east. Very high edge effects threat. | Low chance of occurrence – records nearby appear to be incidental, probably dispersing transient. |
|       | *Grey-headed Flying-fox     | <i>Pteropus poliocephalus</i>    | V              | Y                    | Seasonally suitable for nectar foraging.   | Highly likely to occur  |
|       | *Dwyer's/Large Pled Bat     | <i>Chalinolobus dwyeri</i>       | V              | Y                    | Generic forage habitat over forest. No potential roosts in study area.   | Unlikely to occur – only one recent record  |
|       | *Brush-tailed Rock Wallaby  | <i>Petrogale penicillata</i>     | V              | N                    | No suitable habitat in locality.   | Unlikely to occur   |
|       | *New Holland Mouse          | <i>Pseudomys novaehollandiae</i> | E              | N                    | No suitable habitat on site.   | Unlikely to occur   |
|       | *Green and Golden Bell Frog | <i>Litoria aurea</i>             | V              | Y                    | No suitable habitat on site.   | Unlikely to occur.  |
|       | *Stuttering Frog            | <i>Mixophyes balbus</i>          | V              | N                    | No suitable habitat on site.   | Unlikely to occur.  |
|       | Wallum Sedge Frog           | <i>Litoria olongburensis</i>     | V              | N                    | No suitable habitat on site.   | Unlikely to occur.  |
|       | *Giant Barred Frog          | <i>M. iteratus</i>               | E              | N                    | No suitable habitat on site.   | Unlikely to occur.  |
| Frogs |                             |                                  |                |                      |  |   |





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| Group    | Common Name                  | Scientific Name                   | Listing Status | Recorded In Locality | Suitable Habitat On Site/Study Area                        | Likelihood Of Occurrence |
|----------|------------------------------|-----------------------------------|----------------|----------------------|--|--------------------------|
| Reptiles | Three-toed Snake-tooth Skink | <i>Coeranoscincus reticulatus</i> | V              | N                    | Only marginal habitat on site and no local or LGA records. | Unlikely to occur.       |

## 4.3.3. Migratory Species

No migratory species were recorded during the survey. A significant number of EPBC Act 1999 listed migratory bird species are known (OEH 2015a) or considered potential occurrences in the locality (DoE 2015a). A search of the MNES website and literature review (Readers Digest 1990, DoE 2015b) also produced a list of likely occurrences. All of the non-marine species plus some considered by the consultant as potential occurrences in the LGA in similar habitat to that on the site are also shown in the following table, with an evaluation made on likelihood of occurrence based on cited ecology. Note this list excludes seabirds, etc as detailed above.

Table 11: EPBC Act migratory species potential occurrence assessment

| Common Name              | Scientific Name                            | Predicted Type of Occurrence                       | Recorded In Locality (10km Radius) | Suitable Habitat On Site/Study Area | Likelihood of Occurrence |
|--------------------------|--|--|------------------------------------|-------------------------------------|--------------------------|
| *White-Bellied Sea-Eagle | <i>Haliaeetus benghalensis</i>             | Species and/or habitat likely to occur within area | Y                                  | No foraging habitat in study area.  | Unlikely to occur        |
| Osprey                   | <i>Pandion cristatus</i>                   | -  | Y                                  | No foraging habitat in study area.  | Unlikely to occur        |
| Latham's Snipe           | <i>Gallinago hardwickii</i>                | Species or habitat may occur in area               | Y                                  | No suitable habitat on site.        | Unlikely to occur.       |
| Australian Painted Snipe | <i>Rostratula benghalensis (australis)</i> | Species and/or habitat may occur in area           | N                                  | No suitable habitat on site.        | Unlikely to occur.       |
| Cattle Egret             | <i>Ardea ibis</i>                          | Species/habitat may occur in area                  | Y                                  | No suitable habitat on site.        | Unlikely to occur        |



## Sustainable Partners

| Common Name               | Scientific Name              | Predicted Type of Occurrence                   | Recorded In Locality (10km Radius) | Suitable Habitat On Site/Study Area  | Likelihood of Occurrence   |
|---------------------------|------------------------------|--|------------------------------------|--|--|
| Eastern Great Egret       | <i>Ardea modesta</i>         | Species/habitat may occur in area              | Y                                  | No suitable habitat on site.   | Unlikely to occur  |
| Rainbow Bee-eater         | <i>Merops ornatus</i>        | Species/habitat may occur in area              | Y                                  | Suitable foraging habitat over the site.                                     | Fair chance of occurrence  |
| Regent Honeyeater         | <i>Xanthomyza phrygia</i>    | Species/habitat may occur in area              | Y                                  | Lack of preferred foraging resources in study area.                          | Unlikely to occur due to rarity and lack of preferred habitat in study area. |
| Swift Parrot              | <i>Lathamus discolor</i>     | Species/habitat may occur in area              | Y                                  | Lack of preferred foraging resources in study area and no proximate records. | Unlikely to occur  |
| Rufous Fantail            | <i>Rhipidura rufifrons</i>   | Breeding or breeding habitat may occur in area | Y                                  | Most of site offers potential habitat.                                       | Moderate   |
| Satin Flycatcher          | <i>Myiagra cyanoleuca</i>    | Breeding or breeding habitat likely in area    | Y                                  | Most of site offers potential habitat.                                       | Fair   |
| Black Faced Monarch       | <i>Monarcha melanopsis</i>   | Breeding or breeding habitat may occur in area | Y                                  | Most of site offers potential habitat.                                       | Fair   |
| Spectacled Monarch        | <i>M. trivirgatus</i>        | Breeding or breeding habitat likely in area    | Y                                  | Most of site offers potential habitat.                                       | Fair   |
| White-throated Needletail | <i>Hirundapus caudacutus</i> | Species/habitat likely to occur in area        | Y                                  | Yes as part of a broader area  | Moderate-high, as transient, between Dec-April                               |



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| Common Name       | Scientific Name       | Predicted Type of Occurrence      | Recorded In Locality (10km Radius) | Suitable Habitat On Site/Study Area | Likelihood of Occurrence                        |
|-------------------|-----------------------|-----------------------------------|------------------------------------|-------------------------------------|---|
| Fork-tailed Swift | <i>Apus pacificus</i> | Species/habitat may occur in area | Y                                  | Yes as part of a broader area       | Fair potential, as transient, between Oct-April |



## 5.0 SEPP 44 – Koala Habitat Assessment

### 5.1. Potential Koala Habitat

The identification of an area of land as Potential Koala Habitat is determined by the presence of primary koala-food tree species. These species are listed under Schedule 2 of SEPP 44: Koala Habitat Protection. Potential Koala Habitat is defined as areas where the tree species listed under Schedule 2 constitute at least 15% of the total number of trees in the upper and lower strata of the tree component.

The Schedule 2 Primary Preferred food species occurring in the Port Macquarie-Hastings LGA are: Tallowwood (*Eucalyptus microcorys*), Scribbly Gum (*E. signata*), Swamp Mahogany (*E. robusta*) and Forest Red Gum (*E. tereticornis*).

### 5.2. Methods and Results

A Potential Koala Habitat assessment was carried out on the site during the field survey. A visual inspection of the composition of canopy trees found that only a single primary food species listed under Schedule 2 of SEPP 44 (a senescent Swamp Mahogany) was identified on the subject land.

No Koala scats were found on the site, however a resident reported seeing a Koala on the site approximately 8 months ago.

### 5.3. Discussion and Conclusion

The Potential Koala Habitat assessment determined that primary food tree species comprised less than 15% of the canopy trees on the site. Hence the site has failed to qualify as Potential Koala Habitat, and thus the next stage of the policy, assessment for Core Koala Habitat, does not apply.

## 6.0 Impact Assessment

### 6.1. Direct Impacts

#### 6.1.1. Habitat Modification/Loss

The proposal is for a residential subdivision that will see creation of 4 residential Lots and a large residual Lot covering most of the site. The latter will be dedicated to Council as a public reserve. A 10m wide APZ and access is proposed between the residential Lots and residual Lot.

The proposal will require the removal of most of the vegetation where it occurs in proposed Lots 3 and 4. This will see the loss an estimated 1300m<sup>2</sup> of modified wet sclerophyll forest. Further to this, the APZ and access will require underscrubbing and selective tree removal over an area of 500m<sup>2</sup>.

The site survey identified 4 hollow-bearing trees in the development envelope. Provided the structural root zones are left intact, these will most likely be retained.





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### 6.1.2. Removal of *Melaleuca biconvexa*

This threatened paperbark species was identified in the development envelope and also occurs extensively over the remainder of the site and adjacent land to the north as a large local population.

In the development envelope, a small stand was identified which comprised 6 trees >20cm DBH, and a number of small plants/stems. Many of the latter are likely to be suckers from the larger trees given the ecology of the species (DotE 2015b, OEH 2015b).

The proposal will require the removal of all the *Melaleuca biconvexa* falling in the development footprint and potentially those in the APZ.

## 6.2. Indirect Impacts

The following table evaluates potential indirect impacts associated with the proposal:

Table 12: Potential indirect impacts associated with the proposal

| Threat  | Literature Review   | Assessment Of Proposal   |
|---|---|--|
| Direct mortality via clearing and habitat destruction | Animals within hollows and fallen logs, as well as dense vegetation and leaf litter may be killed during clearing of these structures. This risk increases during breeding seasons (generally spring to late autumn), and cooler season when mammals and reptiles enter torpor.   | Hollow-bearing trees proposed to be retained if structural root zone not impacted.   |
| Erosion and Sedimentation                             | Sedimentation and erosion impacts can occur at both the construction and establishment phases.<br><br>Erosion/sedimentation may occur via erosion of fill material and disturbed soils, scouring of exposed soil, earthen banks and habitats adjacent to the development area via directed flow (e.g. stormwater), or where runoff is concentrated. | Standard mechanisms and controls should ensure the prevention of erosion and sedimentation during construction and post-development and such impacts do not extend beyond the development footprint. |



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| Threat  | Literature Review   | Assessment Of Proposal   |
|---|---|--|
| Edge Effects                                    | <p>The fragmentation and/or isolation of currently intact vegetation via partial/mosaic clearing and establishment of pastures, buildings, trails, roads, etc, can have the following effects which are generally referred to as edge effects (Lindenmayer and Fisher 2006, Andrews 1990, Goosem 2002, May and Norton 1996, Catterall 2004, Dickman 1996, NPWS 2001, Kelly <i>et al</i> 2003, Cropper 1993, Downy 2003, Brown <i>et al</i> 2003):</p> <ul style="list-style-type: none"> <li>• Increased ingress of feral species such as cats and dogs.</li> <li>• Ingress of weeds into areas not previously found.</li> <li>• Alterations Increased exposure to wind.</li> <li>• Increased predation, competition and assemblage modifications.</li> </ul> | <p>Vegetation adjacent to the development envelope will be prone to increased edge effects as vegetation currently acting as a buffer will be removed.</p> <p>This will see edge effects such as weed invasion, wind exposure and alteration to microclimate penetrate further into the remaining vegetation on the site. Vegetation over the remainder of the site will not see any changes in edge effects.</p>                    |
| Noise, Vibration and Anthropogenic Disturbances | <p>Noise effects on fauna in Australia are relatively poorly studied (Clancy 2001, Berrigan 2001d). Most evidence presented is anecdotal, but suggests most fauna have at least a fair degree of tolerance and adaptation at least to residential noise depending on species, situation, habitat/lifecycle stage affected, habitat significance, etc.</p>   | <p>Fauna potentially occurring in the study area are likely to be accustomed to existing noise levels given the residential human presence. Thus the construction phase and addition of 3 residences is unlikely to significantly increase this threat beyond that which already occurs in the study area.</p> <p>Noise levels will be typical of those at residences, with occasional higher than normal levels eg lawn mowing.</p> |
| Fencing   | <p>Fences have potential to obstruct the movement of threatened fauna across the site. Some threatened fauna can be injured by collision with wire fences, particularly barbed wire eg the Yellow-Bellied Glider, owls and Squirrel Glider have been recorded being injured by barbed wire fences (Lindenmayer 2002, Berrigan 2001c, Woodford 1999).</p>  | <p>The threat is unlikely to be relevant to the threatened species which could occur on the site as no fences bisecting or enclosing habitat are proposed.</p>   |



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| Threat                                   | Literature Review   | Assessment Of Proposal  |
|--|---|---|
| Introduction of feral/introduced species | Urban developments are often associated with the introduction of non-native species ie rodents, cats and dogs. Cats are significant predators of native species (NSWSC 2000a, Dickman 1996), and domestic dogs are significant threats to species such as the Koala (Wilkes and Snowden 1998, Port Stephens Council 2001, Connell Wagner 2000b, OEH 2015b). | Dogs and cats are likely to presently access the site from nearby residences. Foxes may also occur. These animals represent a predation threat to species such as the Koala, Squirrel Glider and Varied Sittella.<br><br>The possible further introduction of dogs and/or cats to the site has potential for a minor increase in this threat. |

## 7.0 PMHC DCP 2013 - Compliance Assessment

Under the Port Macquarie-Hastings Council *Local Environmental Plan* (PMHC LEP) 2011, Council has prepared and implemented the PMHC *Development Control Plan* (DCP) 2013.

The DCP has a specific provisions for hollow-bearing trees (HBTs) which require offset measures should they be removed along with provisions for EECs and riparian zones which require buffers on land >1ha. The site contains 11 hollow-bearing trees hence the relevant DCP provisions for hollow-bearing trees apply.

The site is >1ha and two EECs and a first order stream occur, hence the provisions for EECs and riparian zones apply to the proposal.

### 7.1. HBT Provisions

The DCP 2013 requires each hollow-bearing tree (HBT) to be assessed by an ecologist using the PMHC HBT assessment protocol. Based on the scores, the following provisions apply:

- Score <8: Tree may be considered for removal subject to compensatory measures.
- Score 8-12: Tree may be considered for removal if management measures are 'impractical to allow retention' (determined by an arborist) subject to compensatory measures.
- Score >12: Tree must be retained within an exclusion zone/buffer (minimum 1.25 X the tree height, measured horizontally), or located with an area protected as environmental land.

### 7.2. HBT Assessment

The survey recorded 4 hollow-bearing trees in the development which consisted of 3 Flooded Gums with small to medium hollows and a strangler fig with small lower trunk hollows. Tree H1 had Rainbow Lorikeets nesting in a trunk hollow and the hollow in H4 also showed signs of Lorikeet nesting.

A further 7 hollow-bearing trees were found over the site which were also assessed under the HBT protocol.

The following table summarises the results of the HBT assessment. The location of hollow-bearing trees on site is shown in Figure 9.



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Table 13: DCP HBT assessment results

| Tree                  | Alive/Dead |   | Trunk DBH |     | No. Hollows |     | Hollow Size (mm) |   | Habitat Proximity |   | Longevity |   | Total Score |
|-----------------------|------------|---|-----------|-----|-------------|-----|------------------|---|-------------------|---|-----------|---|-------------|
| H1 - Flooded Gum      | Alive      | 3 | 60-80     | 1.5 | 2-4         | 1.5 | >50mm            | 2 | >30m              | 0 | High      | 3 | 11          |
| H2 - Flooded Gum      | Alive      | 3 | 60-80     | 1.5 | 2-4         | 1.5 | >50mm            | 2 | >30m              | 0 | High      | 3 | 11          |
| H3 - Small-leaved Fig | Alive      | 3 | 60-80     | 1.5 | 2-4         | 1.5 | <50mm            | 1 | >30m              | 0 | High      | 3 | 10          |
| H4 - Flooded Gum      | Alive      | 3 | 60-80     | 1.5 | 0-1         | 0   | >50mm            | 2 | <30m              | 2 | High      | 3 | 11.5        |
| H5 - Stag             | Dead       | 0 | -         | 0   | 2-4         | 1.5 | >50mm            | 2 | In situ           | 3 | Low       | 0 | 6.5         |
| H6 - Stag             | Dead       | 0 | -         | 0   | 2-4         | 1.5 | >100             | 3 | In situ           | 3 | Low       | 0 | 7.5         |
| H7 - Swamp Mahogany   | Alive      | 3 | >100      | 3   | 2-4         | 1.5 | >100             | 3 | In situ           | 3 | High      | 3 | 16.5        |
| H8 - Small-leaved Fig | Alive      | 3 | >100      | 3   | >5          | 3   | >50mm            | 2 | In situ           | 3 | High      | 3 | 17          |
| H9 - Small-leaved Fig | Alive      | 3 | >100      | 3   | >5          | 3   | >50mm            | 2 | In situ           | 3 | High      | 3 | 17          |
| H10 - Flooded Gum     | Alive      | 3 | <60       | 0   | 0-1         | 0   | >50mm            | 2 | In situ           | 3 | High      | 3 | 11          |
| H11 - Stag            | Dead       | 0 | -         | 0   | 2-4         | 1.5 | >50mm            | 2 | In situ           | 3 | Low       | 0 | 6.5         |

As shown in Figure 9, assessment under the DCP HBT protocol determined that these trees scored between 10 and 11, and may be removed subject to compensatory habitat measures. The proponent has advised an intention to retain these trees, and PMHC have advised that provided the structural root zone is not impacted, this will be accepted in this instance.

Hence no offsets are proposed.

### 7.3. EECs and Riparian Buffers

The Port Macquarie Hastings Council Development Control Plan 2013 states that a minimum fully vegetated buffer of 35m must be provided for coastal floodplain EECs and a 50m buffer for all other EECs. The buffer cannot contain roads, infrastructure or an APZ. Buffers must also be provided for watercourses, with width depending on the size of the watercourse. Where different buffers apply to an area, the greater of the buffer widths apply.

#### 7.3.1. Riparian Areas

On site, Wrights Creek would qualify as a first order stream that flows intermittently. As stated in DCP 2013, this would require a vegetated buffer of 10m width.

The buffer required is less than the extent of retained vegetation, hence the proposal readily complies.





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### 7.3.2. EECs

The site contains a floodplain EEC (*Lowland Rainforest on Floodplains*) and a non-floodplain EEC (*Lowland Rainforest*) requiring buffers of 35m and 50m respectively. Due to the limited extent of the site, the buffers extend beyond the site boundary.

These buffers can be partially met in the east of the site where buffering vegetation will remain. In the west adjacent to the new dwellings, the required 50m buffer for the *Lowland Rainforest* EEC cannot be met. Some buffering vegetation will however be retained which will assist in reducing edge effects extending into adjacent retained vegetation. A Vegetation Management Plan is expected to be implemented for the reserve, and this will see closing of the new edge with targeted plantings of suitable native species, and removal of invasive weeds on the current edges. The disturbed wet sclerophyll in the east is also recommended to be rehabilitated (see section 8).

## 8.0 Recommendations

The following are recommended to be included as conditions of consent if the proposal is approved. The conclusions of this assessment assume the primary measures are implemented and effective in mitigating impacts.

### 8.1. Primary Recommendations

#### 8.1.1. Clearing and Earthworks

The construction envelope and trees to be removed are to be clearly marked prior to commencement of construction. Site induction is to specify that no vegetation modification via any means is to occur beyond the nominated area, and no storage or dumping of any building material is to occur under the drip line of any retained trees.

Any clearing and earthworks associated with the development is to avoid damage to root zones of the retained trees eg no parking of vehicles or storage of materials (including soils) under retained trees, and no dumping of cement wastes under retained trees.

#### 8.1.2. Dumping of Garden Clippings

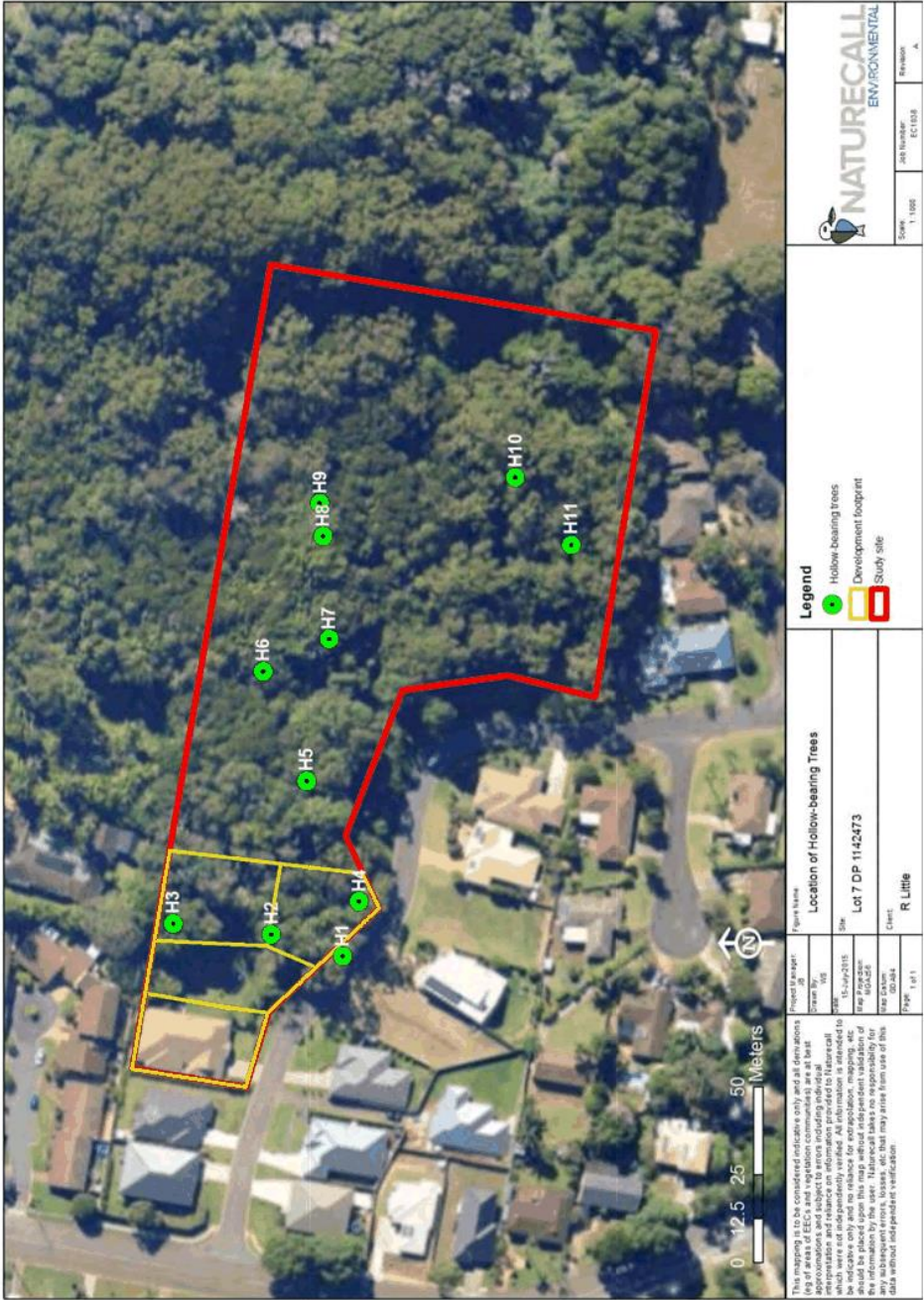
The proposed development will see two new dwellings adjoin the residual site habitat and there may be a risk that new residents will dump garden clippings containing invasive weeds over their fences. This is listed as a Key Threatening Process under the TSC Act (NSWSC 2011).

To discourage new residents from dumping garden clippings, educational signage in the proposed APZ is recommended. Residents should be encouraged to report any such activity to Council.



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Figure 9: Location of hollow-bearing trees on the site





### 8.1.3. Restriction of Access

New and existing residents in the vicinity of the site should be discouraged from walking through the residual habitat to reduce anthropogenic impacts such as trampling, weed invasion, etc. Educational signage noting access restrictions should be placed in the proposed APZ to discourage unauthorised entry.

As part of the required Vegetation Management Plan, a dense layer of *Lomandra* should be planted along the outer edge of the proposed APZ to discourage access. This will also help reduce edge effects acting on the adjacent vegetation.

### 8.1.4. Sedimentation and Erosion Control

Standard soil and sedimentation control measures will be required by Council in the construction stage of the proposal to ensure that habitats on the site and in the study area, as well as subsequent aquatic habitats nearby are not substantially affected by the proposed development.

Proposed drainage systems need to be adequately designed and effectively established to prevent the risk of any substantial impacts (eg erosion and sedimentation, changed hydrology from stormwater runoff) as per statutory obligations.

### 8.1.5. Vegetation Management Plan

To compensate for the lack of sufficient buffer to the EECs and creation of a new edge, a Vegetation Management Plan (VMP) is to be prepared and implemented for the public reserve. The VMP will also help both improve the condition of the EECs and protect the remainder of the *Melaleuca biconvexa* local population.

The VMP is to detail:

- Strategy to close the new edge adjunct to the APZ to minimise edge effects as a result of the proposal.
- Controls for invasive weeds within the reserve.
- Rehabilitation of the disturbed wet sclerophyll in the east to compensate for loss of habitat in the west.

## 8.2. Secondary Recommendations

### 8.2.1. Koala Proof Fencing

As no Koala food trees exist on the new residential Lots, and residents may choose to keep dogs, Koala proof fencing (eg sheet metal) should be considered as a requirement around yards on the new lots.





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## 9.0 Seven Part Tests Assessment

### 9.1. Entities to be Assessed

The 7-Part Tests are used to determine whether a proposed development is likely to have a significant negative effect on species, Endangered Ecological Communities, Endangered Populations and Critical Habitat (and their habitat) listed under schedules of the *Threatened Species Conservation Act 1995* (DECC 2007).

The 7-Parts of Consideration are described by Section 5A of the *Environmental Planning and Assessment Act 1979*, as amended by the *Threatened Species Act 1995* which in turn has been amended by the *Threatened Species Conservation Amendments Act 2002*, are listed in the following 7-Part Tests.

Two rainforest EECs were recorded on site – *Lowland Rainforest on Floodplains* and *Lowland Rainforest*. These automatically require assessment.

One threatened species, the Biconvex Paperbark was detected during the survey, and the Koala has been previously recorded on the site in the OEH Bionet Atlas and by a resident opposite the site. These species automatically require assessment.

The following species are subject to the 7 Part Tests as they are considered to have at least a low potential to use some habitat on the site at some time (eg now or if they were to potentially recover and expand into potential habitat on site):

- **Mammals:** Squirrel Glider, Spotted-tailed Quoll, Grey-headed Flying Fox, Common Blossom Bat, Greater Broad-nosed Bat, Eastern Bent-wing Bat, Little Bent-wing Bat, East Coast Freetail Bat, Yellow-bellied Sheathail Bat.
- **Birds:** Square-tailed Kite, Powerful Owl, Masked Owl, Little Lorikeet, Varied Sittella, Barred Cuckoo-shrike, Rose-crowned Fruit Dove, Superb Fruit Dove, Wompoo Fruit Dove

The guidelines associated with the revised factors have provided definitions for key terms with the most significant being that of the "local population" as follows (DEC 2007a):

"Local population: the population that occurs in the study area. The assessment of the local population may be extended to include individuals beyond the study area if it can be clearly demonstrated that contiguous or interconnecting parts of the population continue beyond the study area, according to the following definitions.

- The local population of a threatened plant species comprises those individuals occurring in the study area or the cluster of individuals that extend into habitat adjoining and contiguous with the study area that could reasonably be expected to be cross-pollinating with those in the study area.
- The local population of resident fauna species comprises those individuals known or likely to occur in the study area, as well as any individuals occurring in adjoining areas (contiguous or otherwise) that are known or likely to utilise habitats in the study area.
- The local population of migratory or nomadic fauna species comprises those individuals that are likely to occur in the study area from time to time."





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The local population of the potentially occurring threatened species is thus defined as follows:

Table 14: Local populations of threatened species

| Species   | Local Population   |
|---|--|
| <i>Melaleuca biconvexa</i>  | All plants in the study area and on adjoining land to the north in the Wrights Creek corridor that would cross-pollinate with those in the study area  |
| Square-tailed Kite  | The local breeding pair for which the study area may constitute a minute portion of larger potential foraging territory. Local population thus requires much more habitat than found within study area to meet lifecycle requirements                |
| Barred Cuckoo Shrike<br>Superb Fruit Dove<br>Rose-crowned Fruit Dove, Wompoo Fruit Dove | The individuals which may use the site and adjoining or nearby habitat for foraging as a very small part of their very large season range. Local population thus extends well beyond study area.   |
| Varied Sittella   | The family group which use the site and any adjoining habitat for foraging and breeding. Due to ecology of the species, local population would extend beyond the study area.   |
| Little Lorikeet   | The pairs/individuals which may use the site as a small portion of foraging and breeding habitat falling within a wider foraging range. Local population thus requires much more habitat than found within study area to meet lifecycle requirements |
| Masked Owl<br>Powerful Owl  | The local breeding pair for which the study area may constitute a minute portion of larger potential foraging territory. Local population thus requires much more habitat than found within study area to meet lifecycle requirements.               |
| Koala   | Any individuals using site/study area for occasional foraging, refuge, local range movements, or during dispersal. Due to ecology of the species and site habitat limitations, local population would extend beyond the study area.                  |
| Squirrel Glider   | Individuals/colonies which may use habitat in the study area. Due to ecology of the species and site habitat limitations, local population would extend beyond the study area.   |
| Spotted-tailed Quoll  | Any individuals potentially using site/study area as small part of home range or during dispersal.   |
| Grey-headed Flying-fox  | Any individuals using habitat within study area depending on seasonal flowering incidences. Local population thus requires much more habitat than found within study area to meet lifecycle requirements.  |
| Common Blossom Bat  | Any individuals potentially using habitat within study area depending on seasonal flowering incidences. Local population thus requires much more habitat than found within study area to meet lifecycle requirements.                                |
| Yangochiropteran Bats   | Any individuals/colonies which may use forest in the study area for foraging and roosting. Local population requires much more habitat than that found within study area to meet lifecycle requirements.   |



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## 9.2. Seven Part Tests Assessment

### 9.2.1. Seven Part Test Structure

To minimise repetition and superfluous information, the responses to the 7 Part Tests are structured as follows:

- In Part (a), species are grouped together based on broadly common ecology (i.e. mobile bird species such as the owls or species with similar habitats such as the Yangochiropteran bats) or similar impacts, and subject to a common 7 Part Test response to part (a).
- Parts (d) and (f) are collectively depending. Part (b) deals with Endangered Populations of which none are relevant to the proposed development. Part (c) applies specifically to EECs, and the site recorded EECs are assessed here. Part (e) deals with Critical Habitat, which is not relevant to the proposed development.

### 9.2.2. Seven Part Test Responses

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The proposal is for a residential subdivision which will see creation of 5 Lots along with an access driveway and APZ. This will see removal/modification of an estimated 1800m<sup>2</sup> of vegetation on the site, and a slight increase in anthropogenic threats and edge effects.

The impact of the proposal will vary in significance and context per species/species groups as follows:

#### ***Melaleuca biconvexa***

##### Extent of site, local and regional population:

This species was recorded on site and in the study area during the survey. It occurs throughout the wet sclerophyll forest and swamp rainforest communities, with several pure stands occurring in the central north.

As previously stated, the *Melaleuca biconvexa* in proposed Lot 5 were comprised of mature trees which ranged from 15 to 20m in height, with trunk DBH generally >30cm. No counts were undertaken in the proposed public reserve, however it is estimated to number well over 100 given it is a co-dominant canopy species throughout the swamp rainforest community, and several pure stands totalling over 1900m<sup>2</sup> occur.

A stand of younger *Melaleuca biconvexa* was identified in the proposed development and APZ in the west of the site, however the number of individuals here was difficult to precisely determine given that the species predominantly expands local stands via root suckers (NSWSC 1998, DotE 2015b). This stand comprised 6 larger trees with trunk DBH >20cm along with approximately 45 smaller and closely spaced plants/stems, many of which are likely to be suckers from the larger trees.

This species occurs extensively in the Port Macquarie area, with known populations occurring at Emerald Downs, Yarrabee Creek, Rushcutters Reserve, Ocean Drive, Lake Innes Nature Reserve, Thrumster and Innes Drive, and much of Wrights Creek (OEH 2015a, personal observations). These populations represent the northern limit of the species (NSWSC 1998) and the nearest records south of Port Macquarie occur in



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the upper Wallingat River catchment south of Forster (OEH 2015a). The OEH Bionet/Atlas of Wildlife shows 21 records in the locality with a record within 100m of the site dated 2002 being from a previous survey by the consultants (OEH 2015a, Berrigan 2002 X).

The site population extends directly onto adjacent land to the north and is known to widely occur in other locations in the Wrights Creek corridor where suitable habitat occurs. Thus in a local and regional context, the site population in total would only represent a fraction of the local extent, but is nonetheless part of a significant population which occurs at the limits of its distribution.

For this study, the local population of *Melaleuca biconvexa* is defined as those in the study area and on adjoining land to the north in the Wrights Creek corridor that would cross-pollinate with those in the study area (DECC 2007).

Impact of the proposal:

The proposal will result in the removal/modification of an estimated 1800m<sup>2</sup> of wet sclerophyll forest vegetation in the west of the site. This will require the removal of all the *Melaleuca biconvexa* in the development envelope and potentially those within the adjoining APZ if they could not be selectively retained.

The site survey has demonstrated that the small stand proposed to be removed only forms a fraction of the local population of this plant, which is well represented in the remainder of the site on proposed Lot 5. This part of the site will be entirely retained and dedicated to Council as a reserve which will see its long-term preservation and management against threats. A VMP will also manage the new edge and remove invasive weeds.

As noted previously, these plants are only a small fraction of the local population which extends well the study area due to the local abundance of this threatened plant, hence its loss will not comprise its genetic integrity.

There are a number of other threats to *Melaleuca biconvexa* which may arise from residential developments including weed invasion, alterations to hydrology and pollution and increased nutrients from runoff (OEH 2015b).

Provided that erosion and sedimentation is managed during construction and runoff/stormwater from the new dwellings is effectively managed, the proposal will not lead to an increase in these threats.

The proposal does have the potential to lead to an increase in weed invasion and other edge effects, as a new forest edge will be created in the west of the site. This is only considered to pose a low risk to the *Melaleuca biconvexa* in the residual habitat which largely occur further east away from the edge and thus have less potential to be affected by edge effects. This new edge and weed invasion will be managed by the VMP.

The above strongly indicates that the removal of the plants in the development envelope and loss of 1800m<sup>2</sup> of potential habitat would not be capable of placing the long term survival of the local population at risk of extinction.

**Koala**

The Koala was not recorded during the survey however two Bionet (OEH 2015a) records occur on/near the site, and a Koala was sighted in a Flooded Gum in the southwest of the site by a nearby resident late in 2014. It is therefore considered a known occurrence on the site.



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The site has limitations for the Koala however, as only a single primary browse species was found, Flooded Gum is not recognised a browse species (Biolink 2013b, DECC 2008), and as a result it did not qualify the site as Potential Koala Habitat as per SEPP 44. The Flooded Gum dominated wet sclerophyll forest does however provide refuge and connective habitat, and primary browse species were noted in nearby urban woodland. The site vegetation in a wider context forms part of Wrights Creek which overall offers key local corridor values for the Koala. Given this, the local population would extend well beyond the site/study area.

The proposal will not result in the loss of any primary Koala food trees on the site, therefore the proposal will not contribute towards the loss of Potential or Core Koala Habitat in the locality. Only a small patch of forest offering non-preferred browse species will be removed. These are common on the remainder of the site and study area, and will be retained and protected.

As only three new dwellings will be established and only a short access will be created, an increase in traffic resulting in higher risk of road strike for the Koala in the study area is unlikely to result. Dog attack may pose a risk due to the increased number of pet dogs that may eventuate, however dogs already exist on the site and adjacent properties. The proposal will thus only incrementally add to this threat and can be mitigated by Koala proof fencing if required.

Overall, the proposal will not result in the loss of any Koala food trees but will generally see a minor increase in other threats which currently occur in the wider area, hence their threat status will not significantly change. Given neither Core Koala Habitat or an area of major activity is impacted; connectivity is not effectively prevented between proximate habitat; and key impacts are relatively mitigable: the proposal is considered unlikely to result in impacts of sufficient order of magnitude to place a local viable population at risk of extinction due to loss of viability.

**Squirrel Glider**

The Squirrel Glider has not been identified in the study area to date and the nearest records occur further west around Lake Innes Nature Reserve and Central Road (OEH 2015a, Darkheart 2005a, 2005b, 2005d, 2005e, 2004a, 2004c). The species has also not been recorded in Sea Acres Nature Reserve (OEH 2015a).

The wet sclerophyll forest on site and adjacent represent non-preferred potential foraging habitat for this species. It is not normally found in wet sclerophyll, and preferred sap trees and a suitable flowering understorey are lacking which is a limitation; however isolated populations can sometimes occur in such habitats (pers. obs.). A few hollow-bearing trees containing suitable hollows occur on the site, hence denning/breeding is possible. Overall this species is only considered a low potential occurrence on the site and is only slightly more likely to occur in interconnected dry sclerophyll forest habitat to the east fringing Pacific Drive. Thus if it did occur, it would only be likely to use the site occasionally for foraging on the marginal fringe of its range.

The proposal will only impact this species via a minor loss of potential habitat containing trees that offer nectar, sap and pollen sources and an insect foraging substrate. Given this, and that these trees form only a very small portion of the local abundance of this resource, while a negative effect, this is not considered sufficient to undermine the local population's ability to obtain sufficient sustenance and raise young. All hollow-bearing trees will also be retained, though the 4 in the development envelope are unlikely to be used for denning due to their poor quality and high competition with common species eg Rainbow Lorikeet and rats.





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The limited vegetation removal is also unlikely to affect local movements of this species as most of the site habitat will be retained and current connectivity patterns are highly likely to remain post development.

A potential increase in mortality levels from cat predation is not considered a significant risk given the low potential for the Squirrel Glider to occur on site, and existing threat from cats from adjoining residential areas.

Overall thus, while the proposal will only have a minor negative impact on the current carrying capacity and habitat quality of the site/study area and is not considered likely to place a viable local population at risk of extinction.

**Grey-headed Flying-fox**

This species was not recorded on the site, however Bionet records occur on adjacent land, and it is considered an extremely high chance of occurrence on site given that potential foraging habitat exists comprising fruiting trees and nectar sources. The swamp rainforest may also qualify as potential roosting habitat, however it is not known to be used as a roost. Sea Acres Nature Reserve to the east has been used as a major colonial roost in the past (pers. obs.) but the Limeburners Creek Nature Reserve appears to be the preferred location for over a decade.

Grey-headed Flying-foxes traverse over a very large range according to seasonal flowering and fruiting, and lifecycle stage e.g. maternity season (OEH 2015b, Eby 2002, 2000a, 2000b). Hence the site/study area only has potential to form a small to minute part of a local breeding colony's seasonal range, and consequently, a local population needs to fulfil the majority of its lifecycle requirements well beyond the site/study area.

Only a small patch of forest will be removed as part of the proposed development and the best potential habitat on site will be retained on proposed Lot 5. Given this, and the extent of local habitat currently supporting this species, this loss, while an incremental and cumulative loss of habitat, is clearly not capable of disrupting the lifecycle of a local population.

Overall, given the ecology of this species; that no barrier to connectivity will be created; and that the local population would extend well beyond the confines of the site/study area: the order of magnitude of the proposal's sum negative effect is not considered sufficient to result in a direct decline (i.e. reduce viability) of a local population.

**Masked Owl and Powerful Owl**

Both of these owls have been recorded in the locality (OEH 2015a) and in the peri-urban fringes of Port Macquarie, with the Powerful Owl recorded by the consultant in 2002 about 100m to the northeast (Berrigan 2002) and Masked Owl near the base hospital (ERM 2012). The site contains potential foraging habitat for both species primarily on possums. Prey abundance and diversity is however likely to be limited given the limited extent of the site and few hollow-bearing trees present; and edge effects. No potential nesting hollows for these species occur on site.

The proposal will impact these owls via a minor but incremental and cumulative loss of habitat within their territory. This will result in a very minor reduction of potential habitat for prey species such as rodents, possums and birds, however the far majority of habitat on the site along with linkages to adjacent habitat will be retained. No suitable hollow-bearing trees for these species will be removed by the proposal.



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As the territories of these species are measured in terms of hundreds to thousands of hectares (DECC 2006), the relatively minor loss of carrying capacity resulting from the proposal, while a negative impact, is not sufficient to undermine the local pair's ability to obtain sufficient forage to raise young to fledging.

Given that that no barrier for these species will be created; that the subject species are also known to forage in retained habitat within or adjacent to rural-residential and urban areas (hence are likely to occur in the study area post-development), and that the local populations of the subject species would extend well beyond the confines of the site/study area to meet the majority of their life cycle requirements: the order of magnitude of the proposal's sum negative effect is not considered sufficient to result in a direct decline (i.e. reduce viability) of a local population of these species.

**Square-tailed Kite**

This species was not recorded by the survey, however it has been recorded foraging and nesting nearby in Macquarie Nature Reserve (OEH 2015a), and a local pair may potentially include the site as part of their large foraging range. The site offers some potential foraging opportunities as part of a larger extent of local habitat.

The proposal will impact the Square-tailed Kite via a relatively minute but incremental and cumulative loss of potential foraging habitat. The territory of this species is measured in terms of square kilometres (Debus 2012), hence the relatively minute loss of carrying capacity, while a negative impact, is not sufficient to undermine the local pair's ability to obtain sufficient forage to raise young to fledging.

No known nest sites will be removed, hence there is negligible risk of direct mortality. The remaining habitat on site will retain the potential for nesting.

Overall, due to the ecology of the subject species; that no critical habitat will be removed; and the presence of large areas of forest adjacent and within range of the site: the proposal will essentially constitute a relatively minute contraction of their wider foraging range.

Given this; that no barrier to connectivity will be created; that the subject species is also known to forage in retained habitat within or adjacent to rural-residential and urban areas (hence is likely to occur in the study area post-development), and that the local population would extend well beyond the confines of the site: the order of magnitude of the proposal's sum negative effect is not considered sufficient to result in a direct or indirect decline (i.e. reduce viability) of the local population of the subject species.

**Little Lorikeet**

This bird traverses over a very large range according to seasonal flowering (OEH 2015b, NSWSC 2009). Hence the site/study area only has potential to form a small to minute part of a local pair's seasonal range, and consequently, a local population needs to fulfil its lifecycle requirements well beyond the study area.

The proposal will only result in the removal/modification of up to 1800m<sup>2</sup> of generic foraging habitat. Given the seasonal range of this bird and extent of other habitat remaining on the site and locally, this is not considered likely to directly affect breeding success.

No hollow-bearing trees will be removed for the proposal, but those in the development envelope are unlikely to be used for nesting due to high competition with common species which dominant peri-urban eg Rainbow Lorikeet.



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Given the above; the ecology of the subject species and the presence of extensive areas of forest within range of the site/study area (eg Lake Innes Nature Reserve); that no barrier to connectivity for this species will be created; that the species are known to forage in retained habitat within or adjacent to rural-residential and urban areas (hence likely to occur in the study area post-development); and that the local populations of the species would extend well beyond the confines of the site/study area to meet life cycle requirements: the order of magnitude of the proposal's sum negative effect is not considered sufficient to result in a direct decline of a local population of the Little Lorikeet.

**Barred Cuckoo-shrike, Rose-crowned Fruit Dove, Superb Fruit Dove and Wompoo Fruit Dove**

These species were not recorded by the site survey, however the brief survey period is acknowledged as a limitation. The site and study area contains potential foraging resources for these species, and a number of preferred fruiting rainforest species were noted (eg Small-leaved Fig, Lilly Pilly and Cabbage Palm). Relatively few fruiting species occur in the development envelope and APZ.

All but the Superb Fruit Dove have been recorded rainforest within Sea Acres to the east of the site, and are considered to have a low to moderate chance of occurrence using the study area as a small part of their seasonal foraging range. The Superb Fruit Dove is only considered at best a low chance of occurrence as it has not been recorded in the LGA. The site and study area are unlikely to support breeding for these birds due to its limited extent in the study area and even with Sea Acres, coupled with local competition.

The proposal will result in the loss/modification of an estimated 1800m<sup>2</sup> of disturbed forest offering a very minor potential foraging resource for these species. Given the extent of higher quality habitat retained in proposed Lot 5 and in Sea Acres where these species have been recorded, it is readily evident that this loss would be insignificant and would not affect foraging or breeding success.

The potential increased presence of cats will add to the predation risk, but given the current exposure to cats from established dwellings nearby and that these birds forage higher in the forest, the incremental elevation in risk is not considered likely to be significant.

Overall, considering the minor amount of habitat loss relative to the extent of habitat in the area, the order of magnitude of impacts associated with the proposal is not considered likely to be sufficient to be considered likely to place a local population of this bird at risk of extinction.

**Varied Sittella**

This species has not been recorded on site, however records exist in the locality, with the nearest being 3km west of the study site (OEH 2015a). The site offers a small area of potential foraging and nesting habitat, however the swamp rainforest is not preferred habitat for this bird and lacks understorey cover and rough-barked trees used for foraging. Better habitat occurs in parts of Sea Acres, and hence at best the study area may form a more marginal part of a local home range. A local population would thus extend well beyond the site to meet lifecycle requirements.

The loss/modification of 1800m<sup>2</sup> of potential habitat in the development envelope is unlikely to impact this bird given the low quality of the habitat affected and extent of retained habitat on the remainder of the site and adjacent land to the north and east, including the remainder of Wrights Creek corridor and Sea Acres Nature Reserve.





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The potential increased presence of cats will incrementally add to the predation risk, but given the current exposure of the area to cats from established dwellings nearby, the incremental elevation in risk is not considered likely to be significant.

Overall, considering the minor amount of habitat loss relative to the extent of habitat in the area, the order of magnitude of impacts associated with the proposal is not considered likely to be sufficient to be considered likely to place a local population of this bird at risk of extinction.

**Spotted-tail Quoll**

The Quoll requires very large home ranges (measured in at least hundreds in high quality habitat but more often thousands of hectares encompassing a mosaic of varying quality habitat) that far exceed the site/study area overall (OEH 2015b, Smith *et al* 1995, Belcher 2000, WWF 2002, Claridge *et al* 2005, Kortner *et al* 2004). Hence the study area only has potential to form a small to minute part of a local breeding group's range, and consequently, a local population needs to fulfil the majority of its lifecycle requirements well beyond here.

A record of the Quoll occurs in Sea Acres, which is not sufficient in extent to support even a single animal. The Quoll is detected in peri-urban areas mostly as road kills, and would be subject to high competition and predation by foxes and feral cats. Occurrence in the study area would most likely be a dispersing sub-adult, or an adult on the marginal fringe of its range, mostly likely centred in Lake Innes Nature Reserve.

An estimated 1800m<sup>2</sup> of modified wet sclerophyll forest will require removal/modification to establish the proposed development. No potential den trees or logs will be removed. The proposal will thus only impact the Quoll via a minute (in context of their home range size) but incremental and cumulative loss of potential foraging habitat within their home range. This loss is not considered likely to be sufficient to undermine a local population's ability to forage or raise young.

Overall, the proposal is unlikely to place a viable local population of the Quoll at risk of extinction given that no barrier will be created and linkages with adjacent habitat will be retained, the remaining habitat on the site will retain its habitat values and potential to form part of the range of the local population and the presence of large areas of forest within range of the site.

**Yangochiropteran Bats** East-coast Freetail Bat, Eastern Bent-wing Bat, Little Bent-wing Bat, Greater Broad-nosed Bat, Yellow-bellied Sheath-tail Bat, Eastern False Pipistrelle.

Although none of these bats have been recorded on the site, the study area is considered to provide suitable foraging habitat. Most of the hollow-bearing trees on the site could also provide potential roosts.

All of these bats require home ranges or seasonably variable ranges that far exceed the site/study area at least seasonally depending on lifecycle stage or due to their ecology e.g. summer migrants in the south of the bioregion e.g. Dwyer 1966, 1968, OEH 2015b, ABS 2015, Smith *et al* 1995, Churchill 2009, etc.). Hence ecologically, while an individual/s may use the site/study area for foraging or possibly roosting in tree hollows at some time, the local populations of these species would extend well beyond the site/study area to meet all their full lifecycle requirements.

The proposal will see removal/modification of a patch of wet sclerophyll forest in the west of the site which may provide a small area of potential foraging habitat for these bats. Potential roosts in tree hollows will be retained. Some species may also have potential to roost in dense foliage of Cabbage Palms, but such





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potential roosts are abundant in Wrights Creek in the study area and beyond. Given that approximately 90% of the site habitat will be retained and protected, the minor vegetation loss associated with the proposal is unlikely to impact on foraging and breeding success for these bats.

Given this, and that a local population of these bats would extend well beyond the site, the order of magnitude of impacts associated with the proposal is not considered likely to be sufficient to be considered likely to place a local population of the subject bats at risk of extinction.

**Common/Eastern Blossom Bat:**

This species has been recorded in the locality (OEH 2015b).

The study area offers potential roosting habitat for this species, primarily in the dense foliage of Cabbage Palms. Potential roosting habitat also occurs in Sea Acres, and throughout much of Wrights Creek, hence the site habitat is not of key significance. The flowers of palms and some of the other tree species may also offer some potential for foraging, but are less preferred than heath which does not occur on site. Hence the likelihood of this species occurring in the study area are limited.

The proposal will remove about 1800m<sup>2</sup> of generic potential foraging habitat and marginal potential roost habitat. Given the potential for this species to occur, the extent of other potential habitat and higher quality potential habitat in the study area, and ecological requirements of the species, it is evident that the proposal does not have the capability of placing a local viable population at risk of extinction.

- (b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,**

No Endangered Population occurs on site or in the study area, hence none are affected by the proposal.

- (c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:**
- (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or**
  - (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,**

The vegetation on site falling within the Wrights Creek floodplain is considered analogous to the EEC *Lowland Rainforest on Floodplains of the NSW North Coast Bioregion*. The remaining swamp rainforest vegetation is considered analogous to the EEC *Lowland Rainforest of the NSW North Coast and Sydney Basin Bioregions*.

These EECs extend beyond the site and study area to the north along the Wrights Creek corridor (Biolink 2013), however are generally very limited in extent in the locality. On site, these EECs were found to be in good condition overall, with weed invasion and other edge effects only affecting the exposed edges of the community. These impacts are to be mitigated under a VMP.

The proposal will not result in the loss of any EEC on site as they do not occur in the development envelope or APZ. Thus the proposal would not have the capacity to place the local occurrence of these EECs at risk of extinction.



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The Lowland Rainforest EEC does however occur in close proximity to the development envelope and will be indirectly impacted via an increase in edge effects, as vegetation currently acting as a buffer will be removed. This has the potential to exacerbate weed invasion and other associated edge effects such as wind damage and alteration of species composition. Some buffering vegetation will however remain in the APZ which is likely to reduce the severity of these impacts. Other potential indirect impacts may arise from dumping of garden clippings and increased human access. These impacts can be largely mitigated through educational signage and other measures to discourage access under a VMP which will also closing the new edge with plantings and managing other edge effects.

**(d) in relation to the habitat of a threatened species, population or ecological community:****(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed,**

The proposal will remove an estimated 1300m<sup>2</sup> of wet sclerophyll forest falling in the envelope and require the thinning of a further 500m<sup>2</sup> for the proposed APZ. The development has been designed to minimise vegetation removal and protect the best habitat on site.

This vegetation contains a number of *Melaleuca biconvexa* plants, most of which will require removal. As previously stated, this loss is unlikely to compromise the viability of the local population due to the local extent of the latter.

**(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action,**

The vegetation to be removed does form a key local corridor and habitat linkage, but is located on the edge and will not sever current linkages. Thus the proposal will not significantly alter current habitat connectivity patterns.

No barrier to pollination or recruitment for the *Melaleuca biconvexa* will result from the proposal as the local population extends north.

**(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,**

For *Melaleuca biconvexa*, the habitat to be removed is low quality due to competition with wet sclerophyll due to edaphic conditions, and only represents a fraction of the extent of suitable habitat for and extent of the local population. The higher quality habitat for this species on the remainder of the site will be retained and protected.

The site also offers known/potential foraging, refuge and possibly breeding habitat for a number of threatened fauna species; and two EECs. However, to meet all lifecycle and routine foraging requirements, the range of all these species is considered likely to extend well off the site due to its limited extent and hence finite resources. Relative to the ecology of these species and the extent of interconnected habitat, the site is not of sufficient extent to be of any critical importance to their long term survival in the locality. Similarly, the EECs are not likely to be significantly adversely impacted and a VMP will mitigate edge effects, and dedication as a public reserve will preserve the site occurrence.



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**(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),**

No relevant areas of critical habitat have been declared, as yet, under Part 3 of the TSCA.

**(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,**

Draft/final recovery plans have only been prepared for the Forest Owls, Grey-headed Flying-fox and Koala (DEC 2006, DECCW 2009, DECC 2008). Priority actions have been identified for all of the other species and the EECs.

The *Recovery Plan for Koalas* (DECC 2008) specifies actions considered to be key threats to Koalas. This plan specifies habitat loss, fragmentation and degradation as the most important threats to Koalas throughout their range. The proposal is consistent with this Plan as it will not remove any preferred browse species or contribute to these threats.

No recovery plan exists for *Melaleuca biconvexa*, however a number of recovery strategies and activities have been identified. These largely relate to the activities of government authorities or are not relevant to the proposal eg grazing and fire management. The retention and protection of 90% of the site habitat and overwhelming majority of the local population will have a positive effect on the long term recovery of this species.

For all other species and the EECs, the proposal will remove vegetation from the site which by strict interpretation could be considered as adding to the main threatening process affecting these species (habitat loss) and increase edge effects to the EECs, and hence is inconsistent with the recovery of these species and the EECs. However, given the small and relatively marginal quality of the habitat affected; the extent of habitat to be retained on the site and the abundance of similar and higher quality habitat adjacent and within range of the site; and the implementation of the VMP to manage edge effects: the loss is considered to be insignificant to the long term recovery of these species and the EECs.

**(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.**

The TSCA 1995 defines a "threatening process" as "a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities". Loss and fragmentation of habitat due to urban, residential and rural development is a recognised threat to these species (Smith *et al* 1995, Lindenmayer and Fisher 2006, Johnson *et al* 2007, Smith *et al* 1995, Gibbons and Lindenmayer 2002, OEH 2015b, NPWS 1999b, Watson *et al* 2003, Gilmore and Parnaby 1994, NPWS 2003b, etc.). The proposal thus generically qualifies as a class of activity that is considered a threatening process.

For all of the subject species, the proposal will or may contribute (to varying extents) to the following Key Threatening Processes:



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Table 15: Key threatening processes

| KTP  | Extent/Manner Which Proposal Affects KTP   | Mitigable?  |
|--|--|---|
| Clearing of native vegetation (NSWSC 2001c).   | Removal/modification of an estimated 1800m <sup>2</sup> of wet sclerophyll forest. | The proposal has been designed to minimise vegetation loss and will retain 90% of the site habitat. The majority will be protected in perpetuity under E2 zoning in a public reserve. |
| Human caused climate change (NSWSC 2000d).   | As above and generation of greenhouse gasses by machinery during construction.     | As above.   |
| Loss of hollow-bearing trees (NSWSC 2007)  | Four hollow-bearing trees to be removed.   | Most of site habitat retained and nest boxes required to offset loss of hollows if any trees are eventually removed.  |
| Invasion, establishment and spread of <i>Lantana camara</i> (NSWSC 2006)   | New forest edge will create opportunities for invasion.                            | Weed control recommended to help control spread of weeds.   |
| Invasion and establishment of exotic vines and scramblers (NSWSC 2006).  | New forest edge will create opportunities for invasion                             | As above  |
| Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants (NSWSC 2011). | New residents may dump garden clippings into residual habitat on site.             | Yes – recommendations proposed to deter residents from dumping of garden clippings.   |

## 10.0 EPBCA 1999 - MNES Significance Assessment

### 10.1. General Assessment Overview

The provisions of the EPBCA require determination of whether the proposal has, will or is likely to have a significant impact on a “matter of national environmental significance”. These matters are listed and addressed in summary as follows:

- 1) **World Heritage Properties:** The site is not listed as a World Heritage area nor does the proposal affect any such area.
- 2) **National Heritage Places:** The site is not listed as a National Heritage Place nor does the proposal affect any such area
- 3) **Ramsar Wetlands of International Significance:** A Ramsar wetland does not occur on the site, nor does the proposal affect a Ramsar Wetland.
- 4) **EPBCA listed Threatened Species and Communities:** The Biconvex Paperbark (Vulnerable) and Koala (Vulnerable) have been recorded on the site and the Grey-Headed Flying Fox (Vulnerable) and Spotted-tailed Quoll (Endangered) are considered potential occurrences. As detailed in section 10.3, these species are not considered at risk of a significant impact.





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- 5) **Migratory Species Protected under International Agreements:** No Migratory species is likely to be significantly affected by the proposal as assessed below.
- 6) **The Commonwealth Marine Environment (CME):** The site is not within the CME nor does it affect such
- 7) **The Great Barrier Reef Marine Park:** The proposal does not affect the Great barrier Reef Marine Park.
- 8) **Nuclear Actions:** The proposal is not a nuclear action.
- 9) **A water resource, in relation to coal seam gas development and large coal mining development:** The proposal is not a mining development.

The proposal thus is not considered to require referral to Department of Environment (DoE) for approval under the EPBCA 1999.

## 10.2. Koala Referral Assessment

The habitat on site has been assessed using the Koala habitat assessment tool from the EPBC Draft Referral Guidelines (DoE 2014). To qualify as critical habitat, it must score 5 or more. This is shown in the following table:

Table 16: Koala habitat assessment tool

| Attribute              | Score | Reason  |
|------------------------|-------|---|
| Koala occurrence       | 2     | OEH Bionet records and resident sighting provide evidence of a Koala on site within last 2 years.   |
| Vegetation composition | 0     | Site contains forest with only 1 primary browse species. Major studies and the Koala Recovery Plan do not recognise any other preferred food species on site. |
| Habitat connectivity   | 2     | Site is loosely connected to large areas of habitat >500ha. Roads and residential areas between the site and Lake Innes Nature Reserve considered crossable.  |
| Key existing threats   | 0     | OEH Bionet has many records of road kill and dog attack in area.  |
| Recovery value         | 0     | Habitat is unlikely to be important for achieving interim recovery objectives.  |
| Total                  | 4     | Site does not qualify as critical habitat   |

As per the Koala habitat assessment tool, the site does not qualifies as critical habitat, hence no further assessment is required.



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## 10.3. Protected Species Assessments

### 10.3.1. *Melaleuca biconvexa*, Grey-headed Flying Fox and Spotted-tailed Quoll

#### 10.3.1.1. Factors to Be Considered for Vulnerable/Endangered Species

The guidelines to assessment of significance to this Matter, define an action as likely to have a significant impact on a Vulnerable/Endangered species, if it will:

- a) Lead to a long-term decrease in the size of an important population (Vulnerable) or population (Endangered) of a species, or:
- b) Reduce the area of occupancy of an important population (Vulnerable) or population (Endangered), or:
- c) Fragment an existing important population (Vulnerable) or population (Endangered) into two or more populations, or:
- d) Adversely affect habitat critical to the survival of a species, or:
- e) Disrupt the breeding cycle of an important population (Vulnerable) or population (Endangered), or:
- f) Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or:
- g) Result in invasive species, that are harmful (by competition, modification of habitat, or predation) to a Vulnerable or Endangered species, becoming established in the Vulnerable and/or Endangered species' habitat, or:
- h) Introduce a disease that may cause a species to decline, or:
- i) Interferes substantially with the recovery of the species.

An important population is one that is necessary for a species' long-term recovery. This includes such populations as:

- Key populations either for breeding or dispersal.
- Populations that are necessary for maintaining genetic diversity, and or:
- Populations that are near the limit of the species range.

#### 10.3.1.2. Assessment of Significance

This section addresses each of the previous points listed.

The important population of *Melaleuca biconvexa* is considered to be those falling on site and within the adjoining habitat along Wrights Creek to the north.

For the purposes of discussion, the "important population" of Grey-headed Flying Foxes is defined as that population of the species likely to depend on colonial roosts in the locality eg Kooloonbung Creek.



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For the Quoll, given its ecology and large territories but limited habitat in the study area and location of the site in an urban area, a population for the purpose of the following assessment it is considered the local population is those Quolls that reside within at least a 10 km range which form an interbreeding set of individuals.

**a) Lead to a long-term decrease in the size of an important population (Vulnerable) or population (Endangered) of a species, or:**

*Melaleuca biconvexa*

The proposal will have the direct impact of removing of a small patch of *Melaleuca biconvexa* in the west of the site. As previously mentioned, this is highly unlikely to adversely affect the viability or long term survival of the important population given that those trees to be removed only represent a minute fraction of this larger population which will be retained and protected in the residual site habitat and adjacent habitat to the north.

Potential indirect impacts associated with the proposal would also not have the capacity to lead to a long term decrease in the important population as previously discussed.

Grey-headed Flying Fox

The proposal will require the removal of an estimated 1800m<sup>2</sup> of potential foraging habitat which provides an extremely small nectar resource for the population. While in very strict terms a negative effect, this loss will have a very low impact on the local Grey-headed Flying Fox population as the site in total would only form a very minute fraction of this species wider opportunistic/seasonally variable foraging range. Parts of the residual site habitat may qualify in broad terms as roosting habitat however it is not a known roost (Eby 2000) and better quality alternative foraging habitat in the locality is evidently extensive. The proposal will thus not lead to a long-term decrease in the size of an important population.

Spotted-tailed Quoll

The proposal may result in the loss/modification of up to 1800m<sup>2</sup> of low quality habitat in the west of the site, with the far majority of the site habitat retained. No potential denning resources will be removed and current linkages across the study area will remain post development. Hence, the study area will continue to offer opportunistic foraging habitat for the Quoll as part of a larger home range and the proposal will not lead to a long term decrease of an important population.

**b) Reduce the area of occupancy of an important population (Vulnerable) or population (Endangered), or:**

The proposal will only slightly reduce the area of occupancy of the important population of *Melaleuca biconvexa* by removing a small patch of habitat in the west of the site. Approximately 90% of the habitat on site for this species will be retained and the proposal will not affect the remaining large areas of habitat available to the important population on adjacent land.

For the Grey-headed Flying Fox, the minor loss of foraging habitat on site is insignificant relative to the area of occupancy which is measured in terms of hundreds of thousands of hectares. Similarly for the Quoll, this loss is only a minute amount of a potential territory of a single animal (Belcher 2000, 1994, NPWS 1999a, DEC 2006a, WWF 2002). Consequently, the proposal only represents a very slight contraction of the marginal fringe of the area of occupancy of the important population.



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**c) Fragment an existing important population (Vulnerable) or population (Endangered) into two or more populations, or:**

The proposal will not lead to fragmentation of the important population of *Melaleuca biconvexa* nor will it create any barrier to pollination/seed dispersal agents or recruitment. The hydrological functions of the site which facilitate the movement of reproductive material downstream will continue to operate post development.

The Grey-headed Flying Fox is highly mobile and known to be capable of crossing human-modified habitat. The proposal will offer no barrier to movement. Thus it will not fragment an existing important population.

The Quoll is highly mobile and known to be capable of crossing human-modified habitat including rural land and peri urban areas (Smith *et al* 1995). Given that current linkage within the study area will remain, the proposal will not result in the fragmentation an existing important population.

**d) Adversely affect habitat critical to the survival of a species, or:**

"Critical habitat" refers to areas critical to the survival of a species or ecological community may include areas that are necessary for/to:

- Activities such as foraging, breeding, roosting or dispersal.
- Succession.
- Maintain genetic diversity and long term evolutionary development, or
- Reintroduction of populations or recovery of the species/community.

No critical habitat has been listed for *Melaleuca biconvexa*. The residual habitat on site where the population is based may however qualify as critical habitat for this species, and this will be retained and protected. As such, the proposal has no capacity to adversely affect critical habitat.

The vegetation on site is not considered critical habitat for the Grey-headed Flying Fox or Quoll due to its limited extent and ecology of the species. Post-development, the remainder of the site and adjacent vegetation will retain the potential to support these species, hence helping support the viability of the local populations.

**e) Disrupt the breeding cycle of an important population (Vulnerable) or population (Endangered) or:**

The current potential for the important population of *Melaleuca biconvexa* to reproduce and disperse will remain post development as no new threats will be introduced or changes to the current site regime that would be likely to affect breeding.

For the remaining fauna species, the habitat in the development envelope to be removed would not represent potential breeding habitat and its removal would not be capable of disrupting the breeding cycle of these species.

**f) Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or:**

As detailed previously, the nature of the development and degree of vegetation/habitat loss is not significant enough to affect a population of the subject species to the point it could cause a decline of the species.





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**g) Result in invasive species, that are harmful (by competition, modification of habitat, or predation) to a Vulnerable and/or Endangered species, becoming established in the Vulnerable and/or Endangered species' habitat, or:**

No new species that affects the Grey-headed Flying Fox or Quoll is likely to be introduced as a direct result of the proposed works.

Creation of a new forest edge in the west of the site may see a slight increase in weed invasion, however this would be localised and no new highly invasive weeds that pose a threat to the *Melaleuca biconvexa* population are likely to be introduced. A VMP implemented for the reserve will also see closure of the new edge and management of invasive plants.

**h) Introduce disease that may cause a species to decline; or**

No disease that affects the subject species is likely to be introduced as a direct result of the proposed works.

**i) Interferes substantially with the recovery of the species.**

Ideally, the goal in threatened species recovery is to increase the number and extent of the threatened species, so that it is not in risk of becoming extinct. As detailed previously, the proposal will result in the removal/modification of a relatively minute area of foraging habitat for the subject fauna species and a small patch of *Melaleuca biconvexa* that is not significant enough to interfere with the recovery of the subject species.

#### 10.3.1.3. Conclusion

The proposal is not considered likely to have a significant impact on *Melaleuca biconvexa*, the Grey-headed Flying Fox, or Spotted-tailed Quoll, and thus a referral to DoE is not required.

#### 10.3.2. Migratory species

No migratory bird species were recorded during the survey. The habitats present across the site provide potential habitat for a few listed migratory species such as the Satin Flycatcher, Rainbow Bee-eater, White-throated Needletail and Fork-tailed Swift.

These species are collectively assessed below.

##### 10.3.2.1. Factors To Be Considered

The guidelines to assessment of significance to this Matter, define an action as likely to have a significant impact on a migratory species, if it will:

- a) Substantially modify (including fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat of the migratory species, or;
- b) Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat of the migratory species, or;
- c) Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of the species.

An important area of habitat is:



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- 1) Habitat used by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, or;
- 2) Habitat utilised by a migratory species which is at the limit of the species range, or;
- 3) Habitat within an area where the species is declining.

#### 10.3.2.2. Assessment of Significance

This section addresses each of the previous points listed.

The site is not considered likely to constitute an *important area of habitat* on the basis of the following:

- 1) The site is not of sufficient extent to support an ecologically significant proportion of any of the above listed species (at most, only a small group or transient individuals). This value of the habitat is as a fraction of a significant extent of similar habitat not only in the LGA, but the North Coast Bioregion.
- 2) While some migratory species occurring in the locality may be at the limits of their range, no such species were recorded in the survey area. Additionally, similar habitat is known to occur both north and south of the LGA.
- 3) If the site was located at the limits of a species whose abundance and range is declining, it would not be considered significant as such habitat is locally abundant in the area, and habitat with greater capability occurs within 10km eg State Forest, conservation reserves, etc.

In regards to point (a): The proposal does not affect important habitat (as detailed above).

In regards to point (b): An invasive species is one that may become established in the habitat, and harm the migratory species by direct competition, modification of habitat, or predation. The proposal will not introduce any such invasive species, given they are currently known or likely to occur ie fox and feral cat.

In regards to point (c): No disruption of the lifecycle of any migratory bird is likely as:

- Habitat affected is either only marginally suitable, and/or locally abundant.
- No significant extent of potential or known nesting/breeding habitat is affected.
- No significant extent of potential or known foraging habitat will be affected.

In view of the above, no migratory bird is considered likely to be significantly affected by the proposal.

### 10.4. Endangered Ecological Communities

The EEC *Lowland Rainforest of Subtropical Australia* occurs in the study area. Its extent on site is shown in Figure 7.

#### 10.4.1. Factors for Consideration

The guidelines to assessment of significance to this Matter, define an action as likely to have a significant impact on an Endangered Ecological Community:

- a) Reduce the extent of an ecological community.
- b) Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.



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- c) Adversely affect habitat critical to the survival of an ecological community.
- d) Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns.
- e) Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting.
- f) Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:
  - assisting invasive species, that are harmful to the listed ecological community, to become established, or
  - causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or.
- g) Interfere with the recovery of an ecological community.

#### 10.4.2. Assessment

This section addresses each of the previous points listed.

##### **a) Reduce the extent of an ecological community.**

The proposal does not require the removal of any Lowland Rainforest EEC, and does not have the capacity to reduce its extent via an indirect impact.

##### **b) Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines.**

The proposed subdivision will not fragment the Lowland Rainforest EEC on site.

##### **c) Adversely affect habitat critical to the survival of an ecological community.**

The proposal does not affect any habitat critical to the survival of the EEC. A VMP will see management of edged affects associated with the proposal, including closing the new edge.

##### **d) Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns.**

The proposal has some potential to incrementally and cumulatively change hydrology and stormwater patterns in the study area, however the mitigation measures required to manage runoff and pollutants would significantly reduce the risk of any adverse impacts.



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- e) **Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting.**

The proposal is unlikely to lead to species composition changes in the community as the current management regime will remain unchanged. Potential edge effects as a result of clearing in the west of the site are unlikely to substantially affect this community as some buffering vegetation will remain.

- f) **Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:**
- **assisting invasive species, that are harmful to the listed ecological community, to become established, or**
  - **causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community.**

The proposal is unlikely to introduce any new harmful species nor does it involve chemicals which may harm the EEC directly or indirectly. Mitigation measures under a VMP are proposed to discourage residents from dumping garden clippings into the future reserve.

- g) **interfere with the recovery of an ecological community.**

The proposal has minimal potential to impact the recovery of the EEC given that it will not be directly impacted and potential indirect impacts can be managed under a VMP, and the area of EEC on site will be protected as a public reserve.

## 11.0 Conclusion

This survey and assessment has identified that the site and wider study area has known and potential value for a number of threatened species and ecological communities. Most significantly, the site contains a small part of a large local population of the threatened plant *Melaleuca biconvexa*. Two NSW TSC Act rainforest EECs and one EPBC Act rainforest EEC also occur on site.

No threatened fauna species were detected, however the Koala is known to occur based on a resident report and Bionet records. A further 18 fauna species were considered potential occurrences based on local records, suitable habitat, and records in similar circumstances in the region. These species were only considered at most to use the site/study area for foraging or possibly nesting/denning/roosting as a minor part of a wider range, depending on factors such as season, conspecific competition and local carrying capacity.

The proposed residential subdivision will result in the removal of an 1800m<sup>2</sup> patch of vegetation in the west of the site and the addition of three new residences. This will incrementally reduce the amount of habitat available to the subject species in the locality, and remove a number of *Melaleuca biconvexa* plants. Indirect threats as a result of the proposal are unlikely to pose a significant risk to the known and potentially occurring subject species.



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While having a net negative impact, the proposal is not expected to significantly impact upon any of the known or potentially occurring threatened species on site or in the study area due to the scale of the development, retention of most of the site habitat, the fact that local populations extend beyond the study area, the required/proposed ameliorative measures and ecology of the species.

Consequently, the proposal is not considered to require a Species Impact Statement, or referral to the DoE for approval under the EPBC Act 1999.



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## Appendix 1: Potential Occurrence Assessment and Seven Part Test Eligibility

### A1.0 Potential Occurrence Assessment

#### A1.1 Flora

As mentioned previously (see section 2), no threatened flora species were detected on site. Searches of relevant literature and databases (OEH/ROTAP 2015a) found records of 11 threatened for a species within a 10km of the study site. These species are assessed for their potential to occur in the following table:

Table 17: Eligibility for Seven Part Test Assessment - Flora

| Species                        | TSC Act/<br>EPBC Act | Habitat Requirement   | No. of<br>records | Likelihood of Occurrence and<br>Impact Significance   | 7 Part Test Required?   |
|--------------------------------|----------------------|---|-------------------|---|---|
| <i>Acronychia littoralis</i>   | E-TSCA,<br>E-EPBCA   | A small understorey tree to 6m in height found in littoral rainforest on sand, generally within 2km of the coast. This species occurs coastally from Fraser Island to Port Macquarie.   | 7                 | Not preferred geology and the preferred habitat type (Littoral Rainforest) is not present. Unlikely to occur. | Unlikely to occur and unsuitable habitat, hence no risk of significant impact. No Seven Part Test required. |
| <i>Allocasuarina defungens</i> | E-TSCA<br>E-EPBCA    | A straggly oak about 2m high with blue-green foliage found in heath on sand (sometimes clay and sandstone soils), and swamp sclerophyll forest margins. This plant has been recorded in at Limeburner's Creek Nature Reserve. Recorded on Hastings LGA, Kempsey, Bare Point, Coffs Harbour, Greater Taree City Council LGA, Bulahdelah and Camden Haven databases | 5                 | Suitable habitat does not occur on site and the plant was not found. Unlikely to occur.                       | Unlikely to occur hence no risk of significant impact. No Seven Part Test required.                         |





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| Species                               | TSC Act/<br>EPBC Act | Habitat Requirement  | No. of<br>records | Likelihood of Occurrence and<br>Impact Significance   | 7 Part Test Required?   |
|---------------------------------------|----------------------|--|-------------------|---|---|
| <i>Chamaesyce<br/>psammogeton</i>     | V-TSCA               | A small mat-forming herb that grows on fore dunes and exposed sites on headlands often with Spinifex. Flowers chiefly in summer. Occurs coastally from Jervis Bay to Queensland with populations recorded in Myall lakes National park, Lord Howe Island and Bundjalung National Park.   | 4                 | Suitable habitat does not occur on site and the plant was not found. Unlikely to occur.   | Unlikely to occur and unsuitable habitat, hence no risk of significant impact. No Seven Part Test required.                                   |
| <i>Cynanchum<br/>elegans</i>          | E-TSCA<br>E-EPBCA    | A twiner occurring predominately in dry rainforest, littoral rainforest and the ecotone between dry rainforest and open forest, however it has been found in the Manning Valley and Port Macquarie-Hastings in Open Forest types on specific geologies eg limestone and serpentine respectively (Garry Germon pers. comm. 2004, personal observations). It occurs on a variety of lithology's and soil types. It has been found between the altitudinal ranges of 0 to 600 metres ASL and rainfall >760mm annually (NPWS 1999). Common associated species include <i>Geijera parviflora</i> , <i>Notelaea microcarpa</i> , <i>Banksia integrifolia</i> , <i>Ficus spp.</i> , <i>Guioa semiglaucula</i> , <i>Melia azedarach</i> , <i>Streblus brunonianus</i> and <i>Pittosporum revolutum</i> . | 1                 | Recorded in Sea Acres to east (1998), however this is the only local record. The site habitat is considered largely unsuitable as this species is generally not found in swamp/riparian habitats. Extensive searches over the site also failed to detect this species. Very low to unlikely chance of occurrence. | No significant impact likely as only very low potential to occur at best and no preferred habitat to be removed. No Seven Part Test required. |
| <i>Dendrobium<br/>melaleucaphilum</i> | V-TSCA               | An epiphyte on <i>Melaleuca styphelioides</i> , rainforest trees or rocks in coastal districts north from the Blue Mountains. It has square stems, similar to <i>D. tetragonum</i> and it flowers Jul.-Oct.  | 1                 | A few <i>Melaleuca styphelioides</i> occur in the west of the site, hence the site offers potential habitat. However given the study area's disturbance history, the lack of recent records and failure to detect   | Unlikely potential to occur, hence no risk of significant impact. No Seven Part Test required.  |



## Sustainable Partners

| Species                              | TSC Act/<br>EPBC Act | Habitat Requirement  | No. of<br>records | Likelihood of Occurrence and<br>Impact Significance  | 7 Part Test Required?  |
|--------------------------------------|----------------------|--|-------------------|--|--|
| <i>Maundia<br/>triglochinosoides</i> | V-TSCA               | An aquatic herbaceous plant found in swamps or shallow fresh water on heavy clay on the north and central NSW coast.   | 3                 | during the survey, it is not considered a potential occurrence.  | Unlikely potential to occur, hence no risk of significant impact. No Seven Part Test required. |
| <i>Oberonia titania</i>              | V-TSCA               | An epiphytic orchid that grows in a tight clump in a variety of habitats from subtropical to littoral rainforest, Melaleuca swamps, and gorges within dry sclerophyll forest. It occurs north of Kendall.  | 1                 | The site contains some broadly suitable habitat however given the disturbance history of the study area, lack of proximate or recent records and failure to detect during the survey, it is not considered a potential occurrence. | Unlikely potential to occur, hence no risk of significant impact. No Seven Part Test required. |
| <i>Peristeranthus<br/>hillii</i>     | V-TSCA               | An epiphytic orchid restricted to coastal and near-coastal environments, particularly remnants of littoral rainforest growing on Aeolian sands and lowland subtropical rainforest on floodplains. Recorded at Sea Acres Nature Reserve (NPWS 1995), and reaching its southern limit in the Hastings Shire. | 1                 | An old record (1979) occurs in Sea Acres to the east of site. Given the disturbance history of the study area, lack of recent records and failure to detect during the survey, it is not considered a potential occurrence.        | Unlikely to occur, hence no risk of significant impact. No Seven Part Test required.           |



## Sustainable Partners

| Species                  | TSC Act/<br>EPBC Act | Habitat Requirement   | No. of<br>records | Likelihood of Occurrence and<br>Impact Significance   | 7 Part Test Required?   |
|--------------------------|----------------------|---|-------------------|---|---|
| <i>Senna acclinis</i>    | E-TSCA               | A shrub found in or on the edges of subtropical and dry rainforest. Variable geology and soils are favoured.  | 1                 | The site contains some suitable habitat however given the level of invasion from the introduced <i>Senna pendula</i> and lack of proximate records it is only considered a very low to unlikely chance of occurrence. | Unlikely to occur, hence no risk of significant impact. No Seven Part Test required.                        |
| <i>Sophora tomentosa</i> | V-TSCA               | A coastal shrub that occurs on recent sands on frontal coastal dunes northwards from Port Stephens. Port Macquarie has the largest known population eg Shelley and Nobby's Beaches. | 7                 | Suitable habitat does not occur on site and the plant was not found. Unlikely to occur.   | Unlikely to occur and unsuitable habitat, hence no risk of significant impact. No Seven Part Test required. |

A significant number of other species have been recorded in the bioregion. None of these species are considered likely potential occurrences, as summarised in the following table:

Table 18: Threatened flora unlikely to occur

| Preferred Habitat                          | Species                      | Site considered<br>unsuitable habitat | Disturbance history likely to<br>have excluded this species | Lack of local records |
|--|------------------------------|---------------------------------------|---|-----------------------|
| Dry Sclerophyll<br>Open Forest<br>Woodland | <i>Acacia ruppii</i>         |                                       |   | X                     |
|  | <i>Ancistrachne maidenii</i> | X                                     |   | X                     |
|  | <i>Angophora inopinata</i>   | X                                     |   | X                     |



## Sustainable Partners

| Preferred Habitat | Species  | Site considered unsuitable habitat | Disturbance history likely to have excluded this species | Lack of local records |
|-------------------|--|------------------------------------|--|-----------------------|
|                   | <i>Angophora robusta</i>                       | X                                  |  | X                     |
|                   | <i>Babingtonia prominens</i>                   | X                                  |  | X                     |
|                   | <i>Babingtonia silvestris</i>                  | X                                  |  | X                     |
|                   | <i>Banksia conferta</i> subsp. <i>Conferta</i> | X                                  |  | X                     |
|                   | <i>Bertya</i> sp. (Chambigne NR, M Fatemi 24)  | X                                  |  | X                     |
|                   | <i>Bertya ingramii</i>                         | X                                  |  | X                     |
|                   | <i>Bertya</i> sp. <i>Cobar-Coolabah</i>        | X                                  |  | X                     |
|                   | <i>Boronia hapalophylla</i>                    | X                                  |  | X                     |
|                   | <i>Caesia parviflora</i> var. <i>minor</i>     | X                                  | X  | X                     |
|                   | <i>Chiloglottis anaticeps</i>                  | X                                  |  | X                     |
|                   | <i>Diuris venosa</i>                           | X                                  | X  | X                     |
|                   | <i>Diuris disposita</i>                        | X                                  |  | X                     |
|                   | <i>Diuris pedunculate</i>                      | X                                  | X  | X                     |
|                   | <i>Diuris praecox</i>                          | X                                  | X  | X                     |
|                   | <i>Dillwynia tenuiflora</i>                    |                                    | X  | X                     |





## Sustainable Partners

| Preferred Habitat                                | Species                        | Site considered unsuitable habitat | Disturbance history likely to have excluded this species | Lack of local records |
|--|--------------------------------|------------------------------------|--|-----------------------|
|  | <i>Eucalyptus tetrapleura</i>  | X                                  | X  | X                     |
|  | <i>Grevillea banyabba</i>      | X                                  |  | X                     |
|  | <i>Grevillea beadleana</i>     | X                                  |  | X                     |
|  | <i>Grevillea quadracuata</i>   | X                                  |  | X                     |
|  | <i>Hakea archaeoides</i>       | X                                  |  | X                     |
|  | <i>Hakea trineura</i>          | X                                  |  | X                     |
|  | <i>Hibbertia superans</i>      | X                                  |  | X                     |
|  | <i>Leucopogon confertus</i>    | X                                  |  | X                     |
|  | <i>Lindsaea incisa</i>         | X                                  |  | X                     |
|  | <i>Macrozamia johnsonii</i>    | X                                  |  | X                     |
|  | <i>Melichrus hirsutus</i>      | X                                  |  | X                     |
|  | <i>Olax angulata</i>           | X                                  |  | X                     |
|  | <i>Philotheca obovatifolia</i> | X                                  |  | X                     |
| Rainforest<br>Wet Sclerophyll Forest<br>Riparian | <i>Polygala linearifolia</i>   | X                                  |  | X                     |
|  | <i>Corybas dowlingsii</i>      | X                                  |  | X                     |



## Sustainable Partners

| Preferred Habitat | Species   | Site considered unsuitable habitat | Disturbance history likely to have excluded this species | Lack of local records |
|-------------------|---|------------------------------------|--|-----------------------|
|                   | <i>Acacia chrysotricha</i>                            | X                                  | X  | X                     |
|                   | <i>Acalypha eremorum</i>                              | X                                  | X  | X                     |
|                   | <i>Amorpha fruticosa</i>                              | X                                  |  | X                     |
|                   | <i>Archidendron hendersonii</i>                       | X                                  |  | X                     |
|                   | <i>Arthraxon hispidus</i>                             | X                                  |  | X                     |
|                   | <i>Arthropteris palisotii</i>                         | X                                  |  | X                     |
|                   | <i>Boronia umbellata</i>                              | X                                  |  | X                     |
|                   | <i>Calophanoides hygrophiloides</i>                   | X                                  |  | X                     |
|                   | <i>Corynocarpus rupestris</i> subsp. <i>Rupestris</i> | X                                  |  | X                     |
|                   | <i>Dendrocnide moroides</i>                           | X                                  |  | X                     |
|                   | <i>Desmodium acanthocladum</i>                        | X                                  |  | X                     |
|                   | <i>Diospyros mabacea</i>                              | X                                  |  | X                     |
|                   | <i>Diploglottis cambellii</i>                         | X                                  |  | X                     |
|                   | <i>Eidothea hardeniana</i>                            | X                                  |  | X                     |
|                   | <i>Endiandra floydii</i>                              | X                                  |  | X                     |



## Sustainable Partners

| Preferred Habitat | Species                                   | Site considered unsuitable habitat | Disturbance history likely to have excluded this species | Lack of local records |
|-------------------|---|------------------------------------|--|-----------------------|
|                   | <i>Endiandra hayesii</i>                  | X                                  |  | X                     |
|                   | <i>Eucalyptus tetrapleura</i>             | X                                  | X  | X                     |
|                   | <i>Gingidia montana</i>                   | X                                  |  | X                     |
|                   | <i>Grammitis stenophylla</i>              | X                                  |  | X                     |
|                   | <i>Grevillea guthrieana</i>               | X                                  | X  | X                     |
|                   | <i>Haloragis exalata subsp. velutina.</i> | X                                  |  | X                     |
|                   | <i>Hamieria hygrophiloides</i>            | X                                  |  | X                     |
|                   | <i>Lindsaea brachypoda</i>                | X                                  |  | X                     |
|                   | <i>Macadamia tetraphylla</i>              | X                                  |  | X                     |
|                   | <i>Marsdenia longiloba</i>                | X                                  | X  | X                     |
|                   | <i>Olearia flocktoniae</i>                | X                                  | X  | X                     |
|                   | <i>Phyllanthus microcladus</i>            | X                                  |  | X                     |
|                   | <i>Plectranthus nitidus</i>               | X                                  |  | X                     |
|                   | <i>Pomaderris queenslandica</i>           | X                                  |  | X                     |
|                   | <i>Psilotum complanatum</i>               | X                                  |  | X                     |



## Sustainable Partners

| Preferred Habitat  | Species   | Site considered unsuitable habitat | Disturbance history likely to have excluded this species | Lack of local records |
|--|---|------------------------------------|--|-----------------------|
|  | <i>Quassia</i> sp. <i>Moonee Creek</i>                    | X                                  |  | X                     |
|  | <i>Sarcochilus dilatatus</i>                              | X                                  |  | X                     |
|  | <i>Sarcochilus fitzgeraldii</i>                           | X                                  |  | X                     |
|  | <i>Sarcochilus hartmannii</i>                             | X                                  |  | X                     |
|  | <i>Siah's Backbone (Streblus pendulinus/brunonianus )</i> |                                    | X  | X                     |
|  | <i>Syzygium paniculatum</i>                               | X                                  |  | X                     |
|  | <i>Tinospora smilacina</i>                                | X                                  |  | X                     |
|  | <i>Tinospora tinosporoides</i>                            | X                                  |  | X                     |
|  | <i>Triplarina imbricata (formerly Baeckea camphorata)</i> | X                                  | X  | X                     |
|  | <i>Tylophora woolsii</i>                                  | X                                  |  | X                     |
| Swamp Forest<br>Aquatic<br>Freshwater Wetland<br>Estuarine | <i>Typhonium</i> sp. aff. <i>brownii</i>                  | X                                  |  | X                     |
|  | <i>Uromyrtus australis</i>                                | X                                  |  | X                     |
|  | <i>Alexfloydia repens</i>                                 | X                                  |  | X                     |
|  | <i>Cyperus aquatilis</i>                                  | X                                  |  | X                     |





## Sustainable Partners

| Preferred Habitat | Species   | Site considered unsuitable habitat | Disturbance history likely to have excluded this species | Lack of local records |
|-------------------|---|------------------------------------|--|-----------------------|
|                   | <i>Eleocharis tetraquetra</i>                   | X                                  |  | X                     |
|                   | <i>Phaius tancarvilleae</i>                     | X                                  | X  | X                     |
|                   | <i>Melaleuca tamariscina</i> ssp <i>irbyana</i> | X                                  |  | X                     |
|                   | <i>Allocasuarina simulans</i>                   | X                                  |  | X                     |
|                   | <i>Babingtonia silvestris</i>                   | X                                  |  | X                     |
|                   | <i>Centranthera cochinchinensis</i>             | X                                  |  | X                     |
|                   | <i>Diuris</i> sp. aff. <i>chrysantha</i>        | X                                  |  | X                     |
|                   | <i>Lindernia alsinoides</i>                     | X                                  |  | X                     |
|                   | <i>Phaius australis</i>                         | X                                  |  | X                     |
|                   | <i>Rotala tripartita</i>                        | X                                  |  | X                     |
|                   | <i>Elyonurus citreus</i>                        | X                                  |  | X                     |
|                   | <i>Eucalyptus approximans</i>                   | X                                  |  | X                     |
|                   | <i>Glycine clandestina</i> (Broad leaf form)    | X                                  |  | X                     |
|                   | <i>Pimelea spicata</i>                          | X                                  | X  | X                     |
|                   | <i>Rutidosia heterogama</i>                     | X                                  |  | X                     |



## Sustainable Partners

| Preferred Habitat                             | Species  | Site considered unsuitable habitat | Disturbance history likely to have excluded this species | Lack of local records |
|---|--|------------------------------------|--|-----------------------|
| Various Habitats,<br>Miscellaneous,<br>Other. | <i>Zieria prostrata</i>                                    | X                                  |  | X                     |
|   | <i>Pultenaea maritima</i>                                  | X                                  |  | X                     |
|   | <i>Cryptostylis hunteriana</i><br>(Leafless Tongue Orchid) | X                                  | X  |                       |
|   | <i>Galium australe</i><br>(Tangled Bedstraw)               | X                                  | X  | X                     |
|   | <i>Zieria prostrata</i>                                    | X                                  |  | X                     |
|   | <i>Zieria smithii</i>                                      | X                                  |  | X                     |
|   | <i>Neostelia spectabilis</i>                               | X                                  |  | X                     |
|   | <i>Zieria lasiocaulis</i>                                  | X                                  |  | X                     |
|   | <i>Kennedia retrorsa</i>                                   | X                                  |  | X                     |
|   | <i>Tetradlea juncea</i>                                    | X                                  | X  | X                     |
|   | <i>Prostanthera spnosa</i>                                 | X                                  |  | X                     |
|   | <i>Senecio spathulatus</i>                                 | X                                  |  | X                     |
|   | <i>Styphelia perileuca</i>                                 | X                                  |  | X                     |



Sustainable Partners

## A1.2 Fauna

As noted above, a significant number of threatened fauna have been recorded in the locality, and a number of others are considered potential occurrences by the consultant. In the table below, these species are evaluated for their potential to occur on the site; significance of the proposal to this potential occurrence; and thus their eligibility/requirement for Seven Part Test assessment.

Table 19: Eligibility for Seven Part Tests

|       | Species   | No. of records | Legal Status | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?   |
|-------|---|----------------|--------------|--|---|
| Birds | Square-tailed Kite<br>( <i>Lophoictinia isura</i> ) | 22             | V-TSC Act    | Open forests and woodlands in coastal and subcoastal areas. Forages low over, or in, canopy for eggs, nestlings, passerines, small vertebrates and invertebrates. Large home range (>100km <sup>2</sup> ). Observed foraging in residential areas of Port Macquarie. Large stick nest in high fork of living tree. Breeds July-December. Probably migrates to northern Australia in Winter. (Debus 1998, NSW NPWS 2000).   | No nests observed and unlikely to nest on site. Recorded nearby in Macquarie Nature Reserve hence fair to moderate chance of using site as part of foraging range.<br><br>Minor clearing for proposal unlikely to affect prey populations. Observed foraging in residential areas of Port Macquarie hence potential to occur on site or in study area not significantly affected. No risk of significant impact but as moderate chance of occurrence - <b>Seven part test required.</b> |
|       | Spotted Harrier<br>( <i>Circus assimilis</i> )      | 1              | V-TSC Act    | Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe (e.g. chenopods) (Marchant and Higgins 1993; Aumann 2001a). It is found mostly commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands. The species builds a stick nest in a tree and lays eggs in spring (or sometimes autumn), with young remaining in the nest for several | Not preferred habitat. Only single out-dated record in locality. Unlikely to occur.<br><br>No risk of impact, hence 7 Part Test not required.   |

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File Reference: EC1038-BEC-REP-0001-Lot7/ReadingSISEIA-rev3.0



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|  | Species   | No. of records | Legal Status             | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?  |
|--|---|----------------|--------------------------|--|--|
|  |   |                |                          | months. Diet includes terrestrial mammals, birds and reptiles, occasionally large insects and rarely carrion (Marchant and Higgins 1993; Aumann 2001b). Many of the remaining key prey species (e.g. terrestrial grassland birds such as quail, button-quail, pipits, larks and songlarks) require ground cover and are sensitive to habitat degradation from grazing (Marchant and Higgins 1993).   |  |
|  | Little Eagle<br>( <i>Hieraaetus morphnoides</i> )   | 0              | V-TSC Act                | Medium sized raptor found in open eucalypt forest, woodland, etc. Nests in living trees. Eats birds, reptiles and mammals, large insects and carrion. Previously depended on rabbits, but now heavily dependant on prey, many of which are declining. Very large home ranges.  | Site and study area is generally unsuitable given urban context and not preferred habitat type. No local records. Unlikely to occur.<br><br>No risk of impact, hence 7 Part Test not required. |
|  | Red Goshawk<br>( <i>Erythrotriorchis radiatus</i> ) | 0              | CE-TSC Act<br>V-EPBC Act | Found in tropical open woodland, taller woodland, open forests, rainforest edges and dense riparian vegetation of coastal and subcoastal drainages. Territorial and utilise same nest. Breeding territories estimated 50-220km <sup>2</sup> . Preys on bird especially Honeyeaters, parrots, kookaburras and slight waterbirds, as well as some mammals, reptiles and large insects. Very NSW records now – believed to be confined to far north coast of NSW, with historical records in south of bioregion, including Kempsey. | As for Little Eagle. Seven Part Test not required.   |
|  | Regent Honeyeater<br>( <i>Xanthomyza phrygia</i> )  | 1              | E-TSC Act.<br>E-EPBC Act | Nomadic, may move coastwards in late summer. Inhabits temperate eucalypt woodlands and open forest, including forest edges, woodland remnants on farmland and urban areas. Also uses Casuarina cunninghamiana gallery forests. Requires reliable and ample nectar supplies to support semi-permanent   | Site lacks preferred forage species and is limited in extent hence is unlikely to attract this bird.<br><br>Unlikely to occur and no risk of impact, hence 7 Part Test not required.           |





## Sustainable Partners

|  | Species  | No. of records | Legal Status                  | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?   |
|--|--|----------------|-------------------------------|---|---|
|  |  |                |                               | (core breeding) habitat. Favoured nectar sources are <i>E. sideroxylon</i> , <i>E. albens</i> , <i>E. melliodora</i> , <i>E. leucoxylon</i> , <i>E. robusta</i> , <i>E. planchoniana</i> , and heavy infestations of mistletoe. Also take insects and orchard fruits. Coastal forests of Swamp Mahogany or Spotted Gum an important drought refuge. Preference for large emergent trees. Breeds in pairs or small colonies in open woodland/forest and occasionally more disturbed woodland near housing and farmland, depending on food availability, from August-January. Breeding less likely to occur if nectar flows are low or unreliable, or heavy competition with more aggressive honeyeaters eg Noisy Miner, Red Wattlebirds and Noisy Friarbirds. (Menkhorst et al 1999) |   |
|  | Swift Parrot<br>( <i>Lathamus discolor</i> )                   | 3              | E-TSC<br>Act<br>E-EPBC<br>Act | Breeds in Tasmania and Winters in Victoria with some dispersal northwards. Feeds mostly on pollen and nectar of Winter flowering eucalypts, but also feeds on fruit, seeds, lerps and insect larvae (Schodde and Tideman 1993). Also favours profusely flowering banksias. Favoured species are <i>E. robusta</i> , <i>Corymbia gummifera</i> , <i>E. globulus</i> , <i>E. sideroxylon</i> , <i>E. leucoxylon</i> , <i>E. labens</i> , <i>E. ovata</i> , <i>E. maculata</i> , <i>Banksia serrata</i> and <i>B. integrifolia</i>   | Recorded in locality however considered to have an unlikely chance of occurrence on site due to lack of key foraging resources.<br><br>No risk of significant impact. Seven part test not required.   |
|  | Glossy Black<br>Cockatoo<br>( <i>Calyptorhynchus lathami</i> ) | 20             | V-TSC<br>Act                  | Dry sclerophyll forest and woodland containing Allocasuarina and Casuarina, and large tree hollows. Preferred regional forage species are <i>A. littoralis</i> and <i>A. torulosa</i> . Requires sufficient extent of forage within home range to support breeding. Breeds Mar-Aug, takes 90 days to hatch and fledge (Lindsey 1992).   | Site contains only a few Forest Oak offering a very minor foraging resource. No suitable nesting hollows. Unlikely to occur due to limitations of habitat on site and large extent of higher quality habitat in locality.<br><br>Unlikely to occur and no risk of impact, hence 7 |



## Sustainable Partners

| Species   | No. of records | Legal Status | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?  |
|---|----------------|--------------|--|--|
| Little Lorikeet<br>( <i>Glossopsitta pusilla</i> )      | 9              | V-TSC Act    | Small locally nomadic and gregarious nectivorous bird. Occurs in regrowth and old growth dry, open eucalypt forests and woodlands. Feed on eucalypts, melaleuca and mistletoes. Nests in hollows usually in living trees, often re-using the same hollow annually for life.  | Part Test not required.<br><br>Site and study area has generic potential for this bird as part of locally nomadic range depending on flowering incidence. Hollow trees on site offer nesting potential but very high competition with other hollow-obligates. Recorded locally, hence fair chance to occur in study area.<br><br>Proposal will result in loss of 1800m <sup>2</sup> of forest offering potential foraging resources. Study area retains potential support for periodic occurrences as minute fraction of locally abundant similar habitat. No risk of significant impact <b>but Seven part test required</b> as fair potential to occur. |
| Varied Sittella<br>( <i>Daphoenositta chrysoptera</i> ) | 17             | V-TSC Act    | A small, active songbird that forages in dead trees or trees with rough bark by working its way down the trunk and gleanings arthropods from crevices. The Varied Sittella is sedentary and inhabits most of mainland Australia besides deserts and grasslands and has an almost continuous distribution in NSW (OEH 2015b). Nests are cup shaped and built in upright forks of living trees. Plant fibres and spider webs are the most common building materials (OEH 2015b). | Wet sclerophyll forest on site is potential foraging and nesting habitat. Considered fair chance of occurrence at some stage in study area.<br><br>Proposal unlikely to impact given limited habitat loss and extent of retained habitat, however secondary threats may slightly increase.<br><br>Impact clearly insignificant but <b>7 Part Test required</b> as potential to occur.  |
| Scarlet Robin<br>( <i>Petroica boodang</i> )            | 2              | V-TSC Act    | Found in south-eastern Australia and south-west Western Australia. In NSW it occupies open forests and woodlands from the coast to the inland slopes (Higgins and Peter 2002). Some dispersing birds may appear in Autumn or Winter on the eastern fringe of the inland plains. It breeds in drier eucalypt forests and  | Site habitat largely unsuitable as not preferred habitat type and is located in a residential area. Abundance of higher quality habitat locally suggests unlikely to occur.<br><br>No risk of impact, hence 7 Part Test not required.  |



## Sustainable Partners

|  | Species                                      | No. of records | Legal Status | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?                             |
|--|--|----------------|--------------|---|---|
|  |  |                |              | temperate woodlands, often on ridges and slopes, within an open understorey of shrubs and grasses and sometimes in open areas. Abundant logs and coarse woody debris are important structural components of its habitat. In autumn and winter it migrates to more open habitats such as grassy open woodland or paddocks with scattered trees. It forages from low perches, feeding on invertebrates taken from the ground, tree trunks, logs and other coarse woody debris. The robin builds an open cup nest of plant fibres and cobwebs, sited in the fork of tree (often a dead branch in a live tree, or in a dead tree or shrub) which is usually more than 2 m above the ground (Higgins and Peter 2002; Debus 2006a,b).   |   |
|  | Flame Robin<br>( <i>Petroica phoenicea</i> ) | 0              | V-TSC Act    | Found in southeastern Australia. In NSW it breeds in upland moist eucalypt forests and woodlands, often on ridges and slopes, in areas of open understorey. It migrates in winter to more open lowland habitats such as grassland with scattered trees and open woodland on the inland slopes and plains (Higgins and Peter 2002). There may be two distinct breeding populations in NSW on the Northern Tablelands and the Central-Southern Tablelands (Barrett et al. 2003 and the NSW Wildlife Atlas). Forages from low perches, feeding on invertebrates taken from the ground, tree trunks, logs and other coarse woody debris. The robin builds an open cup nest of plant fibres and cobweb, which is often near the ground in a sheltered niche, ledge or shallow cavity in a tree, stump or bank. | As for Scarlet Robin.<br><br>No risk of impact, hence 7 Part Test not required. |



## Sustainable Partners

|  | Species                                       | No. of records | Legal Status | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?  |
|--|---|----------------|--------------|--|--|
|  | Powerful Owl<br>( <i>Ninox strenua</i> )      | 6              | V-TSC Act    | Wet and dry sclerophyll forests. Nests in tree hollows. Requires high diversity and abundance of medium-sized arboreal prey. Very large territory.   | Potential for site to support small prey resource. No likely suitable nesting hollows present on site. Site could form only small fraction of a home range for this species. Likelihood to occur on site considered moderate as recorded within Sea Acres and on adjacent land to northeast. |
|  | Masked Owl<br>( <i>Tyto novaehollandiae</i> ) | 4              | V-TSC Act    | Eucalypt forest and woodlands with sparse understorey. Nests in tree hollows. Requires high diversity and abundance of prey 200-600g weight. Large territory.  | Loss/modification of small area of potential foraging habitat considered insignificant relative to range of species but <b>assessed by Seven Part Test</b> as fair potential to occur.   |
|  | Barking Owl<br>( <i>N. connivens</i> )        | 0              | V-TSC Act    | Well-forested hills and flats, eucalypt savanna (especially), and riverine woodland in coastal and subcoastal areas. Prefers hunting in more open country for mammals (rabbits, rats, mice, small bats and small marsupials) and birds (small up to Frogmouths and Magpies). Large territories. Nest in hollows. | As for Powerful Owl however nearest record is 6.2km to southwest and considered low to fair chance of occurrence. <b>Seven part test required.</b>   |
|  | Sooty Owl<br>( <i>T. tenebricosa</i> )        | 0              | V-TSC Act    | Rainforest and tall, moist, diverse eucalypt forest. Roosts in dense foliage, tree hollows & caves/overhangs. Nests in hollow in tall forest tree. Requires high diversity and abundance of medium-sized arboreal and/or terrestrial prey. Large territory.  | Site does not represent typical habitat and no suitable hollows occur. Low abundance and diversity of prey species. No local records and considered unlikely to occur.   |
|  | Brown Treecreeper<br>( <i>Climacteris</i> )   | 0              | V-TSC        | Medium-sized insectivorous bird occupying eucalypt woodlands, particularly open woodland lacking a   | No risk of impact, hence 7 Part Test not required.   |
|  |   |                |              |  | Site is partially preferred habitat type but insufficient extent. Not recorded locally and considered unlikely chance of occurrence on site. No risk of impact, hence 7 Part Test not required.  |
|  |   |                |              |  | Site habitat considered unsuitable for this species. No local records and considered an  |

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## Sustainable Partners

|  | Species   | No. of records | Legal Status | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?  |
|--|---|----------------|--------------|---|--|
|  | <i>picumnus</i> ) eastern subspecies                    |                | Act          | dense understorey. Sedentary and nests in tree hollows within permanent territories, breeding in pairs or communally in small groups (Noske 1991). Birds forage on tree trunks and on the ground amongst leaf litter and on fallen logs for ants, beetles and larvae (Noske 1979). Distributed through central NSW on the western side of the Great Dividing Range and sparsely scattered to the east of the Divide in drier areas such as the Cumberland Plain of Western Sydney, and in parts of the Hunter, Clarence, Richmond and Snowy River valleys, Coffs Harbour and Great Lakes Shire. | unlikely occurrence on site.<br><br>No risk of impact, hence 7 Part Test not required.   |
|  | Barred Cuckoo-shrike<br>( <i>Coracina lineata</i> )     | 24             | V-TSCA       | Gregarious rainforest/moist forest (especially creek gullies) species feeding mainly on fruit on tall rainforest trees and shrubs, and insects; generally moving with fruiting patterns.  | Site offers a small area of potential foraging habitat with a good range of fruiting species. Recorded nearby in Sea Acres and considered a low to fair chance of occurrence on the site.<br><br>Proposal will only remove a small area of marginal foraging habitat with the best potential habitat on site retained. Moderate chance of occurrence hence <b>Seven Part Test required</b> . |
|  | Rose-crowned Fruit Dove<br>( <i>Ptilinopus regina</i> ) | 12             | V-TSCA       | Inhabits dense rainforest or vegetation containing fruit bearing trees, feeding on fruit. Migratory with fruiting patterns.   | As for Barred Cuckoo-shrike. <b>Seven Part Test required</b> .   |
|  | Wompoo Fruit Dove<br>( <i>Ptilinopus magnificus</i> )   | 7              | V-TSCA       | Sub-tropical, littoral, warm temperate and dry rainforest, and wet sclerophyll with rainforest understorey. Feeds on fruit. Known to feed on Camphor Laurel and Lantana.  | As for Barred Cuckoo-shrike. <b>Seven Part Test required</b> .   |
|  | Superb Fruit Dove<br>( <i>Ptilinopus</i> )              | 0              | V-TSCA       | Inhabits rainforest and similar closed forests where it forages high in the canopy, eating the fruits of many   | Site offers a small area of potential foraging habitat with a good range of fruiting species. No   |



## Sustainable Partners

|         | Species  | No. of records | Legal Status            | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?   |
|---------|--|----------------|-------------------------|---|---|
|         | <i>superbus</i>  |                |                         | tree species such as figs and palms. It may also forage in eucalypt or acacia woodland where there are fruit-bearing trees. Part of the population is migratory or nomadic.   | local records however and rarely recorded south of Coffs Harbour. Very low to low chance of occurrence due to rarity and higher quality habitat in nearby Sea Acres.<br><br>Proposal highly unlikely to impact however <b>Seven Part Test required</b> as low chance of occurrence.       |
| Mammals | Long-Nosed Potoroo ( <i>Potorous tridactylus</i> )       | 0              | V-TSC Act<br>V-EPBC Act | Coastal heath and shrublands; paperbark forest; woodland with dry heathy understorey; high elevation rainforest or moist hardwood forest; moist shrublands with dense or moderately dense understoreys and sedge-dominated groundcover; wet or dry sclerophyll forests where average annual precipitation exceeds 760mm. Requires thick groundcover for refuge, while foraging in open areas on ridges, slopes or gullies, typically on ecotones, and prefers sandy soils for digging. Eats roots, tubers, fungi, fleshy fruits, leaves, insects and other soil invertebrates. Optimum habitat generally considered a mosaic of regenerating dense understorey vegetation as result of patchwork of periodic low to medium intensity fires. | Site habitat only broadly suitable and not recorded within 10km radius. Likely presence of foxes and dogs. Previous disturbance history considered likely to have excluded this sensitive species.<br><br>Unlikely to occur. No risk of significant impact. Seven Part Test not required. |
|         | Grey-headed Flying Fox ( <i>Pteropus poliocephalus</i> ) | 85             | V-TSC Act<br>V-EPBC Act | Nomadic frugivore and nectivores on rainforest, eucalypt, melaleuca and Banksia. Recorded flying up to 45km from roost (generally max. of 20km). Roosts colonially with short term individual or small groups. Spring or Summer roosts are maternity sites. Dependant on winter flowering species eg <i>E. robusta</i> and <i>E. tereticornis</i> .   | High potential for individuals to use trees when flowering and fruiting as minute part of larger range.<br><br>Highly likely to occur on site hence <b>Seven Part Tests required</b> .  |



## Sustainable Partners

| Species   | No. of records | Legal Status            | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?   |
|---|----------------|-------------------------|--|---|
| Rufous Bettong<br>( <i>Aepyprymnus rufescens</i> )        | 1              | V-TSC Act               | Inhabits well-grassed open woodland/forest on flat/undulating ground. Not usually in rainforest or moist forest. Typically with Poa and Bladey Grass cover. Nests in dense grasses or under logs. Nocturnal. Diet of grasses, sedges, herbs, tubers. Not social, but may aggregate to feed in pasture. Breeding may be continuous. (Strahan, 1995; Mt King, 1993). | Site has minimal potential to support this species due to limited extent and urban context. Unlikely to occur on site. Foxes and dogs may also be a significant deterrent.<br><br>Unlikely to occur. No risk of significant impact. Seven Part Test not required.   |
| Brushtailed Phascogale<br>( <i>Phascogale tapoatafa</i> ) | 2              | V-TSC Act               | Range of forest habitats but prefers drier sclerophyll forest with sparse ground cover. Forages on large rough-barked trees for small fauna, also utilises eucalypt nectar. Rests in tree hollows, stumps, bird nests. Requires tree hollows for nesting. (NPWS, 2000) Breeds May-July. Occupies territory of 20-100ha. Has been recorded in swamp forest.         | No typical habitat on site and nearest record 5km to north. Considered unlikely to occur.<br><br>Proposal will only result in minor loss of marginal potential foraging habitat. Unlikely risk of significant impact hence Seven part test not required.  |
| Spotted-tail Quoll<br>( <i>Dasyurus maculatus</i> )       | 18             | V-TSC Act<br>E-EPBC Act | Various forested habitats with preference for dense forests. Requires tree hollows, hollow logs or caves for nesting. Large home range (>500ha) and may move over several kilometres in a few days. Tends to follow drainage lines.  | Several records within 2km of site including in Sea Acres to east. Study area is considered low quality habitat overall and rare potential dens sites. Considered low chance of occurrence using site as marginal fringe of home range or as dispersing sub-adult.<br><br>No loss of potential dens and loss of potential foraging habitat insignificant relative to range. No risk of significant impact, however <b>Seven Part Test required</b> as low potential to occur. |
| Common Planigale<br>( <i>Planigale maculata</i> )         | 3              | V-TSC Act               | Wide variety of habitats. Preference for areas of dense groundcover due to heat/dehydration problems. May prefer ecotones of dry/wet habitats (Denny 1982). Preys on arthropods, small vertebrates, shelters in nest under/in fallen timber or rock (Strahan 1995).  | Nearest records are west of Port Macquarie. Site offers potential habitat however disturbance history of study area considered likely to have long excluded this species. Unlikely to occur on  |



## Sustainable Partners

|  | Species  | No. of records | Legal Status | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?  |
|--|--|----------------|--------------|--|--|
|  |  |                |              | Home range about 0.5ha. Breeds Oct-Jan (NSW NPWS 2000).  | site.<br>Unlikely to occur and no modification to significant potential habitat. Seven Part Test not required.   |
|  | Eastern Chestnut Mouse<br>( <i>Pseudomys gracilicaudatus</i> ) | 14             | V-TSC Act    | Appears to prefer heathland especially dense wet heath and swampy areas. Also recorded from mid-elevation grasslands, open dry and wet sclerophyll woodland. In the Port Macquarie area, associated with heathland with dense shrub layer of <i>Banksia ericifolia</i> , <i>B. serratifolia</i> , <i>Xanthorrhoea</i> spp, <i>Dillwynia floribunda</i> , <i>Boronia</i> spp, <i>Leptospermum flavesces</i> and <i>Melaleuca nodosa</i> . This consultant has recorded it in <i>Melaleuca quinquenervia</i> swamp forest and in slashed Blady Grass near riparian zone dominated by sedges with Baeckea. Requires specific fire regime to maintain populations. | Site largely unsuitable as does not meet habitat requirements. No proximate records and unlikely to occur. Seven Part Test not required.   |
|  | New Holland Mouse<br>( <i>Pseudomys novaehollandiae</i> )      | 0              | V-EPBC Act   | Swamp forest, heath, open forest on sand. Depends on a specific fire regime.   | Potential habitat exists on site in broad terms however disturbance history and presence of predators likely to have excluded this species. Unlikely to occur hence no risk of significant impact. 7 Part Test not required. |
|  | Eastern Pygmy Possum<br>( <i>Cercartetus nanus</i> )           | 0              | V-TSC Act    | Found in rainforest, sclerophyll forest, woodland and tree heath. Predominantly nectivorous (opportunistic insectivorous and also eats fruits during flowering lulls) feeding on Banksias, Leptospermum, Melaleucas, Eucalypts and Callistemons. Nest in very small hollows, or within bark/leaf nests in tree forks (eg Melaleucas and Banksias), Myrtaceous shrubs, abandoned bird nests   | Site does not represent typical habitat and not recorded in locality. Considered unlikely to occur. Unlikely to occur. No risk of significant impact. Seven Part Test not required.  |





## Sustainable Partners

|  | Species   | No. of records | Legal Status | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?   |
|--|---|----------------|--------------|---|---|
|  |   |                |              | or under loose eucalypt bark. Often Winters in torpor.  |   |
|  | Squirrel Glider<br>( <i>Petaurus norfolcensis</i> )             | 21             | V-TSC Act    | Dry, open forest and woodland, and occasionally wet eucalypt and rainforest. Most common in floriferous sub-coastal and coastal forests with abundant Winter flowering trees and shrubs. Coastal populations apparently rely heavily on Acacia sap and flowering Banksias.  | A few trees with suitable hollow present on site however preferred foraging resources are lacking. Low potential to use site as marginal fringe of foraging range or for dispersal.<br><br>Proposal will remove small patch of disturbed forest on site. Hollow trees removed unlikely to be suitable for denning. Unlikely to impact given extent of habitat retained on site and adjacent habitat. <b>Seven Part Test</b> required however as low potential to occur. |
|  | Yellow-Bellied Glider<br>( <i>Petaurus australis</i> )          | 1              | V-TSC Act    | Tall mature eucalypt forest and woodland. Requires mature hollow-bearing trees, Winter-flowering eucalypts, suitable sap-feeding eucalypt species and a mosaic of forest types (NPWS 1999). Sap trees utilised include: <i>E. propinqua</i> , <i>E. pilularis</i> , <i>E. signata</i> , <i>Corymbia gummifera</i> , <i>C. intermedia</i> , <i>E. tereticornis</i> , <i>E. microcorys</i> , & <i>E. resinifera</i> (NPWS 2000). Home range of 20-65ha (NPWS 1999). | Unlikely to occur given urban context and lack of suitable foraging and denning habitat.<br><br>No risk of significant impact. Seven Part Test not required.  |
|  | Common/Eastern Blossom Bat<br>( <i>Syconycteris australis</i> ) | 1              | V-TSC Act    | Found in well timbered habitats. Roosts in rainforest and wet sclerophyll forest. Feeds in heathlands and paperbark swamps up to 4km from roost. Key food species include Banksia, Melaleucas, Callistemons and Bloodwoods.   | Site contains a seasonal foraging resource and potential roosting is provided by Cabbage Palms. Recorded locally and considered fair chance of occurrence on site.<br><br>Small loss of potential forage and roost trees, but site will retain potential support as most of site containing best quality habitat will be retained. No risk of significant impact. <b>Seven Part Test</b>  |



## Sustainable Partners

|  | Species   | No. of records | Legal Status | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?  |
|--|---|----------------|--------------|---|--|
|  | Greater Broad-nosed Bat<br>( <i>Scoteanax rueppellii</i> )              | 11             | V-TSC Act    | Forages over range of habitats including rainforests and moist forests, but prefers ecotones between riparian forest, woodland and cleared land. Requires sparse understorey and will forage over water. Roosts in tree hollows. Feeds on larger insects, small vertebrates and perhaps other bats.   | required however as fair potential to occur.<br><br>Site has suitable structure for foraging and potential roosts in tree hollows. Recorded in locality and fair chance of occurrence on site<br><br>Loss of marginal potential roost sites and 0.18ha of foraging habitat. Unlikely to impact given small extent of habitat affected and large areas of remaining habitat adjacent. <b>Seven part test required</b> as fair chance of occurrence. |
|  | East-Coast Freetail Bat<br>( <i>Mormopterus norfolkensis</i> )          | 13             | V-TSC Act    | Specific habitat requirements of this species are poorly known. Has been recorded in habitats ranging from rainforest to dry sclerophyll and woodland, with most recorded in the latter (State Forests 1994). Roosts in small colonies under tree hollows and under loose bark; has been found under house eaves, in roofs and metal caps on telegraph poles. Recorded roosting in roof in Hat Head village. Probably forages above forest or woodland canopy, and in clearings adjacent to forest. Most records are of single individuals, and is likely to occur at low densities over its range. | As for Greater Broad-nosed Bat.<br><br><b>Seven part test required</b> to assess significance.   |
|  | Eastern Bent-Wing Bat<br>( <i>Miniopterus schreibersii oceanensis</i> ) | 12             | V-TSC Act    | Habitat generalist - forages above well-forested areas. Roosts in old buildings, caves, mines etc. Dependancy on nursery caves and communal roosts.   | Potential foraging but not breeding habitat. Recorded in locality. Fair to moderate chance of occurrence on site and in study area.<br><br>Loss of 0.17ha of habitat on site unlikely to affect foraging success and no potential breeding habitat affected. Unlikely to impact however <b>Seven part test required</b> as moderate chance   |



## Sustainable Partners

|  | Species  | No. of records | Legal Status | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?   |
|--|--|----------------|--------------|---|---|
|  | Little Bent-Wing Bat<br>( <i>M. australis</i> )                    | 29             | V-TSC Act    | Forages above and below canopy of well-forested areas. Roosts in old buildings, caves, mines etc. Dependant on nursery caves and communal roosts.   | of occurrence.<br>As for Eastern Bent-Wing Bat. <b>Seven part test required</b> to assess significance.   |
|  | Hoary Bat<br>( <i>Chalinolobus nigrogriseus</i> )                  | 1              | V-TSCA       | Occurs in a range of habitats, such as monsoon forest, tall open forest, open woodland, vine thickets, coastal scrub, sand dunes, grasslands, floodplains, watercourses and dams. Roosts in eucalypt tree hollows, as well as rock crevices. Breeding colonies have been recorded in roofs of buildings. Preferred prey is beetles and moths, but also spiders, mantids, crickets, grasshoppers, cicadas, bugs, diving beetles, flies and ants (thus may land and forage).  | Site habitat considered largely unsuitable for this species. Only single record in locality which is at southern extent of range. Unlikely to occur.<br>Unlikely to occur. No risk of significant impact. Seven Part Test not required.   |
|  | Eastern False Pipistrelle<br>( <i>Falsistrellus tasmaniensis</i> ) | 1              | V-TSC Act    | Occupies sclerophyll forest from the Great Dividing Range to the coast, typically wet tall forest at high elevations and is more common in northern NSW. It may migrate to coastal areas in Winter. Roosts typically in tree hollows, but also in caves, buildings. Roosts as single sex colonies of 3-36 bats. Forages in and below tree canopy on moths, beetles, bugs, flies & ants, up to 12km from roost site. Breeds in Summer (Churchill 1998, Smith et al 1995). Recently recorded at Thrumster west of Port Macquarie. | Study area (including site) offers a small area of marginally suitable foraging habitat for this species. Very few LGA records however and site located in residential area. Unlikely to very low chance of occurrence.<br>Proposal will have minimal effects on the potential occurrence of this species. Unlikely to occur and Seven Part Tests not undertaken. |
|  | Southern Myotis<br>( <i>Myotis macropus</i> )                      | 10             | V-TSC Act    | Tunnel, cave, bridges, old buildings and dense foliage roosting bat which prefers riparian habitat over 500m long with nearby roosting habitat. Key habitats are streams, rivers, creeks, lagoons, lakes and other water bodies. Feeds on aquatic insects and small fish.   | Aquatic habitat on site unlikely to be suitable given that it is largely ephemeral and would offer very limited prey resource. Downstream habitats likely to offer better potential. Record on adjacent land to east is only a possible call detection and  |



## Sustainable Partners

| Species   | No. of records | Legal Status       | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?  |
|---|----------------|--------------------|--|--|
| Yellow-bellied Shearwater Bat ( <i>Saccolaimus flaviventris</i> ) | 2              | V-TSC Act          | Ecology poorly known. Found in almost all habitats, particularly wet and dry sclerophyll forests and woodlands below 500m altitude, and also open woodland, Acacia shrubland, mallee, grasslands and desert. Roosts mainly in tree hollows, but also under bark, under roof eaves and in other artificial structures. Fast flying species, believed to forage above the canopy or closer to the ground in open areas. Insectivorous. May be Summer migrant.          | no other nearby records. Unlikely to occur.<br>Unlikely to occur. No risk of significant impact. Seven Part Test not required.   |
| Dwyer's Bat/Large Eared Pied Bat ( <i>Chalinobus dwyeri</i> )     | 1              | V-TSC Act, V-EPBCA | Found in moderately wooded habitats such as dry sclerophyll forest, tall open eucalypt forests, woodlands, and sub-alpine woodlands, edge of rainforest and wet sclerophyll forest. Roosts in caves, mines and abandoned bottle-shaped mud nests of Fairy Martins. In caves and mines, tend to roost in twilight sections near entrance. Insectivorous but habits poorly known. Fly relatively slowly, direct and manoeuvrable, low to ground or 6-10m above ground. | Some broadly generic potential habitat, but no known roosts on site or within 5km at least (nearly old mines are in UJA 12). Unconfirmed recent record near Kingfisher Rd. Very low to unlikely to occur.<br>Minor loss of potential foraging habitat, although site should retain potential to support infrequent occurrences. Rather unlikely to occur on site given few records. Potential to occur retained post-development. Seven Part Test not considered required. |
| Eastern Cave Bat ( <i>Vespadelus troughtoni</i> )                 | 7              | V-TSC Act          | Rare and poorly known bat. Cave dwelling bat roosting in small (5) to large (500) groups in sandstone overhang caves, boulder piles, mines, tunnels and sometimes buildings. Tend to roost in well lit portions of caves in avons, domes, cracks and crevices.   | Site has suitable structure for foraging, but not roosting. Considered very low to unlikely chance of occurrence on site.<br>Minor loss of potential foraging habitat, although  |





## Sustainable Partners

|          | Species   | No. of records | Legal Status            | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?   |
|----------|---|----------------|-------------------------|--|---|
|          |   |                |                         | Inhabits tropical mixed woodland and wet sclerophyll forest on the coast and dividing range, but extend into drier forest on western slopes and inland areas.  | site should retain potential to support infrequent occurrences. Rather unlikely to occur on site given few records. Potential to occur retained post-development. Seven Part Test not considered required.  |
| Reptiles | Three-toed Snake-tooth Skink<br>( <i>Coeranoscincus reticulatus</i> ) | 0              | V-TSC Act<br>V-EPBC Act | Poorly known ecology. Found in moist layered forest, closed forest and tall open forest (Cogger 1992). Soil type appears important – rich dark or loamy basaltic soils (SFNSW 1994). Also recorded in closed forest on silica dunes, coastal eucalypt woodlands on sand, and in logged forest with tall softwood regrowth. Usually found under leaf litter, moist rotting logs, or loose friable soil. | No suitable habitat on-site or in study area. Not recorded locally and scant regional records. Unlikely to occur.<br><br>No potential habitat affected. No significant impact likely. Seven part tests not required.  |
|          | Pale-Headed Snake<br>( <i>Hoplocephalus bitorquatus</i> )             | 0              | V-TSC Act               | Wet and dry sclerophyll, preferring those with Callitrus spp. riparian vegetation, and occasionally rainforest. Terrestrial and semi-arboreal predator of small vertebrates (mainly lizards and frogs, small mammals and probably co-habiting bats). Shelters under decorticating bark and within hollows especially close to watercourses.  | Potential habitat in generic terms only. Not recorded locally and considered unlikely to very low potential to occur on site due to local disturbance history, lack of local records, isolation, etc<br><br>No significant potential habitat affected. No significant impact likely given marginal potential of site and more suitable habitat nearby. Seven part tests not required. |
|          | Stephen's Banded Snake<br>( <i>H. stephensii</i> )                    | 0              | V-TSC Act               | Inhabits variety of habitats including dry rainforest, sub-tropical rainforest, wet and dry sclerophyll, rocky outcrops (especially granite and sandstone) - requires close proximity to variety of vegetation formations. Nocturnal and primarily arboreal - sheltering under decorticating bark, within tree scars, hollows, logs, rock crevices and slabs. Active predator of variety of            | As for Pale-headed Snake. Seven Part Test not required.   |



## Sustainable Partners

|            | Species  | No. of records | Legal Status            | Habitat Requirements  | Likelihood of Occurrence/ Seven Part Test required?   |
|------------|--|----------------|-------------------------|---|---|
|            |  |                |                         | vertebrates including geckos, skinks, frogs, small mammals, bats, birds   |   |
|            | Wallum Froglet<br>( <i>Crinia timula</i> )             | 48             | V-TSC Act               | Predominantly confined to acidic paperbark swamps of coastal areas (Cogger 1992). Also found in wet heathland and Melaleuca sedgelands. Recorded breeding in flooded pasture adjacent to paperbark swamp.   | Site does not contain any potential habitat and it was not detected during surveys. Unlikely to occur.<br><br>No significant impact as potential habitat not affected by proposal. Seven part tests not required. |
| Amphibians | Giant Barred Frog<br>( <i>Mixophyes balbus</i> )       | 0              | E-TSC Act<br>V-EPBC Act | Found in wet forest usually above 100m, predominantly near slow-flowing mountain streams. Also found in moist gullies within areas of dry forest, where it may utilise very small, hardly flowing trickles of water (Tyler 1997).   | No suitable habitat on or near site. Not recorded in locality. Unlikely to occur.<br><br>No significant impact risk as potential habitat not affected by proposal. Seven part tests not required.                 |
|            | Stuttering Frog<br>( <i>M. iteratus</i> )              | 0              | E-TSC Act<br>E-EPBC Act | Moist hardwood forest, Antarctic Beech and rainforest near flowing streams. May also occur in coastal riverine rainforest and riparian vegetation. Forages in areas adjacent to riparian zones. Males call from under leaf litter or rocks by flowing streams. Eggs laid at streamside to await washing into stream by rainfall | No suitable habitat on or near site. Not recorded in locality. Unlikely to occur.<br><br>No significant impact as potential habitat not affected by proposal. Seven part tests not required.                      |
|            | Green and Golden Bell Frog<br>( <i>Litoria aurea</i> ) | 3              | E-TSC Act<br>V-EPBC Act | Found in large permanent swamps and ponds where no Plague Minnow ( <i>Gambusia affinis</i> ) and little macroalgae. Requires emergent vegetation, grass tussocks or rocks for shelter. May use disturbed sites opportunistically - may depend on seral stages. Eats insects and other frogs.                                    | No suitable breeding or non-breeding habitat on or near site. Unlikely to occur.<br><br>No potential habitat affected hence significant impact unlikely. Seven Part Test not required.                            |
|            |  |                |                         |   |   |



## Sustainable Partners

|  | Species   | No. of records | Legal Status | Habitat Requirements   | Likelihood of Occurrence/ Seven Part Test required?  |
|--|---|----------------|--------------|--|--|
|  | Green-thighed Frog<br>( <i>Litoria brevipalmata</i> ) | 0              | V-TSC Act    | Poorly known. Found in warm temperate open forest, rainforest, and forestry dams in dry, open forest; breeding aggregations around oxbow lakes, overflows and grassy semi-permanent ponds. Males call only for few days after spring and early Summer rains. Possibly a lowland forest ground-dweller. | Site habitat considered unsuitable and surrounded by residential areas. No local records and unlikely to occur on site.<br><br>No significant impact as potential habitat not significantly affected by proposal. Seven part tests not required. |



Sustainable Partners

A number of other species (see table below, but excluding seabirds, marine mammals, etc, due to lack of habitat on site) are known or considered potential occurrences within the locality. However due to a number of factors, these species were not considered potential occurrences in the study area. Thus the proposal is not considered to have any impact on the viability of any local population of the subject species and Seven Part Test evaluation was not required.

Table 20: Fauna for which Seven Part Tests not required

| Preferred Habitat                     | Species   | Site considered unsuitable habitat | Presence of predators likely to have excluded the species | Disturbance history likely to have excluded this species | Lack of local records  |
|---------------------------------------|---|------------------------------------|---|--|------------------------|
| Dry Sclerophyll/Open Forest/ Woodland | Painted Honeyeater ( <i>Grantiella picta</i> )  | X                                  |   | X  | X                      |
|                                       | Black-chinned Honeyeater ( <i>Melithreptus gularis gularis</i> ) eastern subspecies   |                                    |   |  | X                      |
|                                       | Hooded Robin ( <i>Melanodryas cucullata cucullata</i> ) southeaster form              | X                                  |   |  | X                      |
|                                       | Bush-stone Curlew ( <i>Burchinus grallaris</i> )                                      | X                                  |   |  | Recorded in locality   |
|                                       | Diamond Firetail ( <i>Stagonopleura guttata</i> )                                     | X                                  |   |  | X                      |
|                                       | Grey-crowned Babbler ( <i>Pomatostomus temporalis temporalis</i> ) eastern subspecies | X                                  |   | X  | X                      |
|                                       | Beccari's Freetail Bat ( <i>Mormopterus beccari</i> )                                 | X                                  |   |  | X                      |
|                                       | Laced Fritillary  | X                                  |   | X  | Rerecorded in locality |

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| Preferred Habitat                   | Species   | Site considered unsuitable habitat | Presence of predators likely to have excluded the species | Disturbance history likely to have excluded this species | Lack of local records  |
|-------------------------------------|---|------------------------------------|---|--|------------------------|
| Rainforest/Wet Forest               | Parma Wallaby ( <i>Macropus parma</i> )                             | X                                  | X   | X  | X                      |
|                                     | White-crowned Snake ( <i>Cacophis harriettae</i> )                  | X                                  |   | X  | X                      |
|                                     | Red-legged Pademelon ( <i>Thylogale stigmatica</i> )                | X                                  | X   | X  | X                      |
|                                     | Golden-tipped Bat ( <i>Kerivoula papuensis</i> )                    | X                                  |   | X  | Rerecorded in locality |
|                                     | Giant Dragonfly   | X                                  |   |  | Rerecorded in locality |
| Swamp/ Freshwater Estuarine/ Marine | Pink Underwing Moth ( <i>Phylodes imperialis</i> ) southern species | X                                  |   |  | X                      |
|                                     | Eastern Osprey ( <i>Pandion cristatus</i> )                         | X                                  |   |  | Recorded in locality   |
|                                     | Blue-billed Duck ( <i>Oxyura australis</i> )                        | X                                  |   |  | Recorded in locality   |
|                                     | Freckled Duck ( <i>Stictonetta naevosa</i> )                        | X                                  |   |  | Recorded in locality   |
|                                     | Brolga ( <i>Grus rubicunda</i> )                                    | X                                  |   |  | X                      |
|                                     | Black-necked Stork ( <i>Ephippiorhynchus asiaticus</i> )            | X                                  |   |  | Recorded in locality   |
|                                     | Maggie Goose ( <i>Anseranas semipalmata</i> )                       | X                                  |   |  | Recorded in locality   |
|                                     | Black Bittern   | X                                  |   | X  | Recorded in            |
|                                     |   |                                    |   |  |                        |
|                                     |   |                                    |   |  |                        |

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## Sustainable Partners

| Preferred Habitat                 | Species  | Site considered unsuitable habitat | Presence of predators likely to have excluded the species | Disturbance history likely to have excluded this species | Lack of local records |
|-----------------------------------|--|------------------------------------|---|--|-----------------------|
|                                   | <i>(Dupetor flavicollis)</i>                                   |                                    |   |  | locality              |
|                                   | <b>Australasian Bittern</b><br><i>(Botaurus poiciloptilus)</i> | X                                  |   | X  | Recorded in locality  |
|                                   | Painted Snipe<br><i>(Rostratula benghalensis)</i>              | X                                  |   | X  | X                     |
|                                   | White-fronted Chat<br><i>(Epthianura albifrons)</i>            | X                                  |   |  | X                     |
|                                   | Olongburra Sedge Frog<br><i>(Litoria olongburensis)</i>        | X                                  |   | X  | X                     |
|                                   | Ground Parrot<br><i>(Pezoporus wallicus wallicus)</i>          | X                                  | X   | X  | Recorded in locality  |
| Shrubland/Heathland/<br>Grassland | Eastern Grass Owl<br><i>(Tyto longimembris)</i>                | X                                  |   |  | Recorded in locality  |



## Appendix 2: Flora List

Frequency: D Dominant at least in some areas,  
C Common,  
O Occasional,  
U Uncommon,  
R Rare on site, few specimens.

Community Key: WSF Wet sclerophyll forest  
SRF Swamp Rainforest

Key: **Bold** – Vulnerable under TSC Act  
# Vulnerable under EPBC Act  
\*denotes an introduced species

| Common Name                         | Scientific Name                                     | Community | Frequency |
|-------------------------------------|---|-----------|-----------|
| <b>Canopy Trees</b>                 |   |           |           |
| Bangalow Palm                       | <i>Archontophoenix cunninghamiana</i>               | WSF, SRF  | D         |
| Swamp Oak                           | <i>Casuarina glauca</i>                             | WSF       | R         |
| Flooded Gum                         | <i>Eucalyptus grandis</i>                           | WSF       | D         |
| Blackbutt                           | <i>Eucalyptus pilularis</i>                         | WSF       | R         |
| Swamp Mahogany                      | <i>Eucalyptus robusta</i>                           | SRF       | 1 tree    |
| Small-leaved Fig                    | <i>Ficus obliqua</i>                                | WSF, SRF  | O         |
| Jacaranda                           | <i>Jacaranda mimosifolia</i>                        | WSF       | 1 tree    |
| Cabbage Palm                        | <i>Livistona australis</i>                          | WSF, SRF  | D         |
| Brush Box                           | <i>Lophostemon confertus</i>                        | WSF       | U         |
| <b>Biconvex Paperbark</b>           | <b><i>Melaleuca biconvexa</i></b> #                 | WSF, SRF  | D         |
| Broad-leaved Paperbark              | <i>Melaleuca quinquenervia</i>                      | WSF       | U         |
| Turpentine                          | <i>Syncarpia glomulifera</i>                        | WSF       | R         |
| <b>Understorey trees and shrubs</b> |   |           |           |
| Blackwood                           | <i>Acacia melanoxylon</i>                           | WSF, SRF  | U         |
| White Aspen                         | <i>Acronychia oblongifolia</i>                      | WSF, SRF  | U         |
| Canary Muskwood                     | <i>Alangium villosum</i> subsp. <i>polyosmoides</i> | WSF, SRF  | U         |
| Red Ash                             | <i>Alphitonia excelsa</i>                           | WSF, SRF  | U         |
| Coffee Bush                         | <i>Breynia oblongifolia</i>                         | WSF       | R         |
| Willow Bottlebrush                  | <i>Callistemon salignus</i>                         | WSF       | U         |
| Green Cestrum                       | <i>Cestrum parqui</i> *                             | WSF, SRF  | O         |
| Camphor Laurel                      | <i>Cinnamomum camphora</i> *                        | WSF       | R         |
| Brittlewood                         | <i>Claoxylon australe</i>                           | WSF       | O         |
| Hairy Clerodendrum                  | <i>Clerodendrum tomentosum</i>                      | WSF       | O         |



| Common Name                  | Scientific Name  | Community | Frequency |
|------------------------------|--|-----------|-----------|
| Narrow-Leaved Palm Lily      | <i>Cordyline stricta</i>                                   | WSF, SRF  | C         |
| Rose Maple                   | <i>Cryptocarya rigida</i>                                  | WSF, SRF  | O         |
| Black Plum                   | <i>Diospyros australis</i>                                 | WSF, SRF  | U         |
| Yellow Tulipwood             | <i>Drypetes deplanchei</i>                                 | WSF       | R         |
| Hairy Rosewood               | <i>Dysoxylum rufum</i>                                     | WSF, SRF  | C         |
| Hard Quandong                | <i>Elaeocarpus obovatus</i>                                | WSF       | U         |
| Hard Corkwood                | <i>Endiandra sieberi</i>                                   | WSF       | U         |
| Bolwarra                     | <i>Eupomatia laurina</i>                                   | WSF, SRF  | O         |
| Ribbonwood                   | <i>Euroschinus falcatus</i>                                | WSF       | R         |
| Creek Sandpaper Fig          | <i>Ficus coronata</i>                                      | WSF, SRF  | D         |
| Sandpaper Fig                | <i>Ficus fraseri</i>                                       | SRF       | U         |
| Cheese Tree                  | <i>Glochidion ferdinandi</i>                               | WSF, SRF  | O         |
| Guioa                        | <i>Guioa semiglauc</i>                                     | WSF, SRF  | C         |
| Large-leaved Privet          | <i>Ligustrum lucidum*</i>                                  | WSF       | R         |
| Prickly-leaved Tea-tree      | <i>Melaleuca styphelioides</i>                             | WSF       | U         |
| White Cedar                  | <i>Melia azedarach</i>                                     | WSF       | R         |
| Yellow Pear-fruit            | <i>Mischocarpus pyriformis</i><br>subsp. <i>pyriformis</i> | WSF, SRF  | R         |
| Orange Jasmine               | <i>Murraya paniculata*</i>                                 | WSF       | R         |
| White Bolly Gum              | <i>Neolitsea dealbata</i>                                  | WSF, SRF  | O         |
| Large Mock-olive             | <i>Notelaea longifolia</i>                                 | WSF       | U         |
| Mickey Mouse Plant           | <i>Ochna serrulata*</i>                                    | WSF       | U         |
| Native Olive                 | <i>Olea paniculata</i>                                     | WSF       | U         |
| Orange Thorn                 | <i>Pittosporum multiflorum</i>                             | WSF, SRF  | O         |
| Wavy Pittosporum             | <i>Pittosporum undulatum</i>                               | WSF, SRF  | U         |
| Elderberry Panax             | <i>Polyscias sambucifolia</i>                              | WSF       | R         |
| Scrub Turpentine             | <i>Rhodamnia rubescens</i>                                 | WSF       | R         |
| -                            | <i>Sarcomelicope simplicifolia</i>                         | WSF, SRF  | O         |
| Senna                        | <i>Senna pendula var glabrata*</i>                         | WSF, SRF  | C         |
| Arsenic Bush                 | <i>Senna septemtrionalis*</i>                              | WSF       | R         |
| Maiden's Blush               | <i>Sloanea australis</i>                                   | SRF       | U         |
| Wild Tobacco                 | <i>Solanum mauritianum*</i>                                | WSF       | R         |
| Scentless Rosewood           | <i>Synoum glandulosum</i>                                  | WSF, SRF  | C         |
| Blue Lilly Pilly             | <i>Syzygium oleosum</i>                                    | WSF, SRF  | U         |
| Lilly Pilly                  | <i>Syzygium smithii</i>                                    | WSF, SRF  | O         |
| Veiny Wilkiea                | <i>Wilkiea huegeliana</i>                                  | WSF       | R         |
| <b>Ferns and Fern Allies</b> |  |           |           |
| Giant Maidenhair             | <i>Adiantum formosum</i>                                   | WSF       | O         |



| Common Name                           | Scientific Name                   | Community | Frequency |
|---------------------------------------|-----------------------------------|-----------|-----------|
| Rainbow Fern                          | <i>Calochlaena dubia</i>          | WSF       | U         |
| Scaly Treefern                        | <i>Cyathea cooperi</i>            | WSF, SRF  | C         |
| Binung Fern                           | <i>Cyclosorus dentatus</i>        | WSF, SRF  | O         |
| Rasp Fern                             | <i>Doodia aspera</i>              | WSF       | U         |
| Harsh Ground Fern                     | <i>Hypolepis muelleri</i>         | WSF, SRF  | O         |
| Fishbone Fern                         | <i>Nephrolepis cordifolia</i> *   | WSF       | R         |
| Bracken Fern                          | <i>Pteridium esculentum</i>       | WSF       | R         |
| <b>Grasses</b>                        |                                   |           |           |
| Rhodes Grass                          | <i>Chloris gayana</i> *           | MG        | C         |
| Couch                                 | <i>Cynodon dactylon</i>           | MG        | D         |
| Bordered Panic                        | <i>Entolasia marginata</i>        | WSF       | U         |
| Blady Grass                           | <i>Imperata cylindrica</i>        | WSF       | R         |
| Creeping Beard Grass                  | <i>Oplismenus imbecillis</i>      | WSF       | O         |
| Broadleaf Paspalum                    | <i>Paspalum mandiocanum</i> *     | WSF, MG   | C         |
| Parramatta Grass                      | <i>Sporobolus africanus</i> *     | MG        | U         |
| <b>Groundcovers</b>                   |                                   |           |           |
| -                                     | <i>Aneilema acuminatum</i>        | WSF, SRF  | O         |
| Crofton Weed                          | <i>Ageratina adenophora</i> *     | WSF       | U         |
| Cunjevoi                              | <i>Alocasia brisbanensis</i>      | WSF, SRF  | C         |
| Native Ginger                         | <i>Alpinia caerulea</i>           | WSF, SRF  | C         |
| Cobblers Pegs                         | <i>Bidens pilosa</i> *            | WSF, MG   | U         |
| Tall Sedge                            | <i>Carex appressa</i> *           | WSF       | U         |
| Tassel Sedge                          | <i>Carex fascicularis</i>         | WSF       | U         |
| Gotu-kola                             | <i>Centella asiatica</i>          | WSF       | O         |
| Native Wandering Jew                  | <i>Commelina cyanea</i>           | WSF       | O         |
| Tall Saw Sedge                        | <i>Gahnia clarkei</i>             | WSF       | O         |
| Settler's Flax                        | <i>Gymnostachys anceps</i>        | WSF       | U         |
| Ginger Lily                           | <i>Hedychium gardnerianum</i> *   | WSF, SRF  | C         |
| Spiny-Headed Mat-Rush                 | <i>Lomandra longifolia</i>        | WSF, MG   | O         |
| Whiteroot                             | <i>Pratia purpurascens</i>        | WSF       | O         |
| Rose-leaf Bramble                     | <i>Rubus rosifolius</i>           | WSF       | R         |
| Common Chickweed                      | <i>Stellaria media</i> *          | MG        | U         |
| New Zealand Spinach                   | <i>Tetragonia tetragonioides</i>  | WSF       | R         |
| Wandering Jew                         | <i>Tradescantia fluminensis</i> * | WSF       | O         |
| Native Violet                         | <i>Viola hederacea</i>            | WSF       | C         |
| <b>Lianas, Scramblers and Twiners</b> |                                   |           |           |
| Rabbling Dock                         | <i>Acetosa sagittata</i> *        | WSF       | R         |
| Asparagus Fern                        | <i>Asparagus aethiopicus</i> *    | WSF       | U         |





| Common Name             | Scientific Name                                | Community | Frequency |
|-------------------------|--|-----------|-----------|
| Climbing Asparagus Fern | <i>Asparagus plumosus</i> *                    | WSF       | U         |
| Native Grape            | <i>Cayratia clematidea</i>                     | WSF       | R         |
| Kangaroo Grape          | <i>Cissus antarctica</i>                       | WSF       | R         |
| Water Vine              | <i>Cissus hypoglauca</i>                       | WSF, SRF  | R         |
| Cape Ivy                | <i>Delairea odorata</i> *                      | WSF       | R         |
| Native Yam              | <i>Dioscorea transversa</i>                    | WSF, SRF  | C         |
| Whip Vine               | <i>Flagellaria indica</i>                      | WSF       | R         |
| Scrambling Lily         | <i>Geitonoplesium cymosum</i>                  | WSF       | U         |
| Coastal Morning Glory   | <i>Ipomoea cairica</i> *                       | WSF       | R         |
| Lantana                 | <i>Lantana camara</i> *                        | WSF       | C         |
| Cockspur Thorn          | <i>Maclura cochinchinensis</i>                 | WSF       | R         |
| Milk Vine               | <i>Marsdenia rostrata</i>                      | WSF, SRF  | C         |
| Southern Melodinus      | <i>Melodinus australis</i>                     | WSF       | U         |
| Fruit Salad Plant       | <i>Monstera deliciosa</i> *                    | WSF       | R         |
| Sweet Morinda           | <i>Morinda jasminoides</i>                     | WSF       | U         |
| Wonga Wonga Vine        | <i>Pandorea pandorana</i>                      | WSF       | U         |
| Monkey Rope             | <i>Parsonsia straminea</i>                     | SRF       | U         |
| Corky Passionfruit      | <i>Passiflora suberosa</i> *                   | WSF       | R         |
| Giant Pepper Vine       | <i>Piper hederaceum</i> var. <i>hederaceum</i> | WSF, SRF  | D         |
| Pearl Vine              | <i>Sarcopetalum harveyanum</i>                 | WSF, SRF  | C         |
| Snake vine              | <i>Stephania japonica</i>                      | WSF       | U         |
| Arrowhead Vine          | <i>Syngonium podophyllum</i>                   | WSF, SRF  | O         |
| -                       | <i>Tetrastigma nitens</i>                      | WSF       | R         |
| <b>Epiphytes</b>        |  |           |           |
| Ribbon Fern             | <i>Ophioglossum pendulum</i>                   | SRF       | R         |
| Elkhorn                 | <i>Platynerium bifurcatum</i>                  | SRF       | R         |
| Staghorn                | <i>Platynerium superbum</i>                    | SRF       | R         |



### Appendix 4: Stem counts of *M. biconvexa* in the development envelope and APZ

| Number | Estimated height | Estimated DBH | Comments         |
|--------|------------------|---------------|------------------|
| Mb1    | 3m               | 5cm           |                  |
| Mb2    | 2m               | 3cm           |                  |
| Mb3    | 2m               | 4cm           |                  |
| Mb4    | 4m               | 5cm           |                  |
| Mb5    | 4m               | 4cm           |                  |
| Mb6    | 2.5m             | 3cm           |                  |
| Mb7    | 3m               | 5cm           |                  |
| Mb8    | 6m               | 15cm          | Strangled by fig |
| Mb9    | 3m               | 4cm           |                  |
| Mb10   | 3m               | 5cm           |                  |
| Mb11   | 4m               | 6cm           |                  |
| Mb12   | 2.5m             | 3cm           |                  |
| Mb13   | 3.5m             | 5cm           |                  |
| Mb14   | 3m               | 6cm           |                  |
| Mb15   | 2m               | 3cm           |                  |
| Mb16   | 1.8m             | 3cm           |                  |
| Mb17   | 3.5cm            | 7cm           |                  |
| Mb18   | 3m               | 3cm           |                  |
| Mb19   | 3.5m             | 7cm           |                  |
| Mb20   | 4m               | 7cm           |                  |
| Mb21   | 13m              | 30cm          |                  |
| Mb22   | 5m               | 12cm          |                  |
| Mb23   | 10m              | 15cm          |                  |



| Number | Estimated height | Estimated DBH | Comments |
|--------|------------------|---------------|----------|
| Mb24   | 12m              | 23cm          |          |
| Mb25   | 4m               | 5cm           |          |
| Mb26   | 3.5m             | 5cm           |          |
| Mb27   | 10m              | 20cm          |          |
| Mb28   | 6m               | 10cm          |          |
| Mb29   | 5m               | 7cm           |          |
| Mb30   | 4m               | 7cm           |          |
| Mb31   | 5m               | 8cm           |          |
| Mb32   | 6m               | 10cm          |          |
| Mb33   | 6m               | 8cm           |          |
| Mb34   | 4m               | 5cm           |          |
| Mb35   | 12m              | 23cm          |          |
| Mb36   | 5m               | 7cm           |          |
| Mb37   | 12m              | 20cm          |          |
| Mb38   | 2.5m             | 4cm           |          |
| Mb39   | 2.5m             | 4cm           |          |
| Mb40   | 2m               | 4cm           |          |
| Mb41   | 3.5m             | 7cm           |          |
| Mb42   | 1.7m             | 2cm           | In APZ   |
| Mb43   | 3m               | 5cm           | In APZ   |
| Mb44   | 2.5m             | 4cm           | In APZ   |
| Mb45   | 1.8m             | 3cm           | In APZ   |
| Mb46   | 2m               | 4xm           | In APZ   |
| Mb47   | 10m              | 20cm          | In APZ   |
| Mb48   | 3m               | 5cm           | In APZ   |



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| Number | Estimated height | Estimated DBH | Comments |
|--------|------------------|---------------|----------|
| Mb49   | 2m               | 4cm           | In APZ   |
| Mb50   | 2m               | 3cm           | In APZ   |
| Mb51   | 3.5m             | 5cm           | In APZ   |
| Mb52   | 1.5m             | 2cm           | In APZ   |