



**Our Ref:** 1818  
**Date:** 10 October 2018

**PORTTREE PARK PTY LTD.  
920 HINTON ROAD  
NELSONS PLAINS**

**ATTENTION: JEFF BRETAG**

**Via Email:** jeff@perceptionplanning.com.au

Dear Jeff,

**RE: ECOLOGICAL OVERVIEW  
610 SEAHAM ROAD, NELSONS PLAINS  
PART LOT 1 DP 1191203, NELSONS PLAINS**

As requested, Anderson Environment & Planning (AEP) herewith provide an Ecological Overview to inform the Gateway Process for the proposed rezoning of Part Lot 1 DP 1191203, Nelsons Plains (the "site"), from its current zoning of "RU1 – Primary Production" to "R5 – Large Lot Residential" to facilitate the creation of a rural-residential development.

A Concept Plan has been generated for the site (**Figure 1**), and it is expected that the development would require the removal of some of the remnant vegetation within the site.

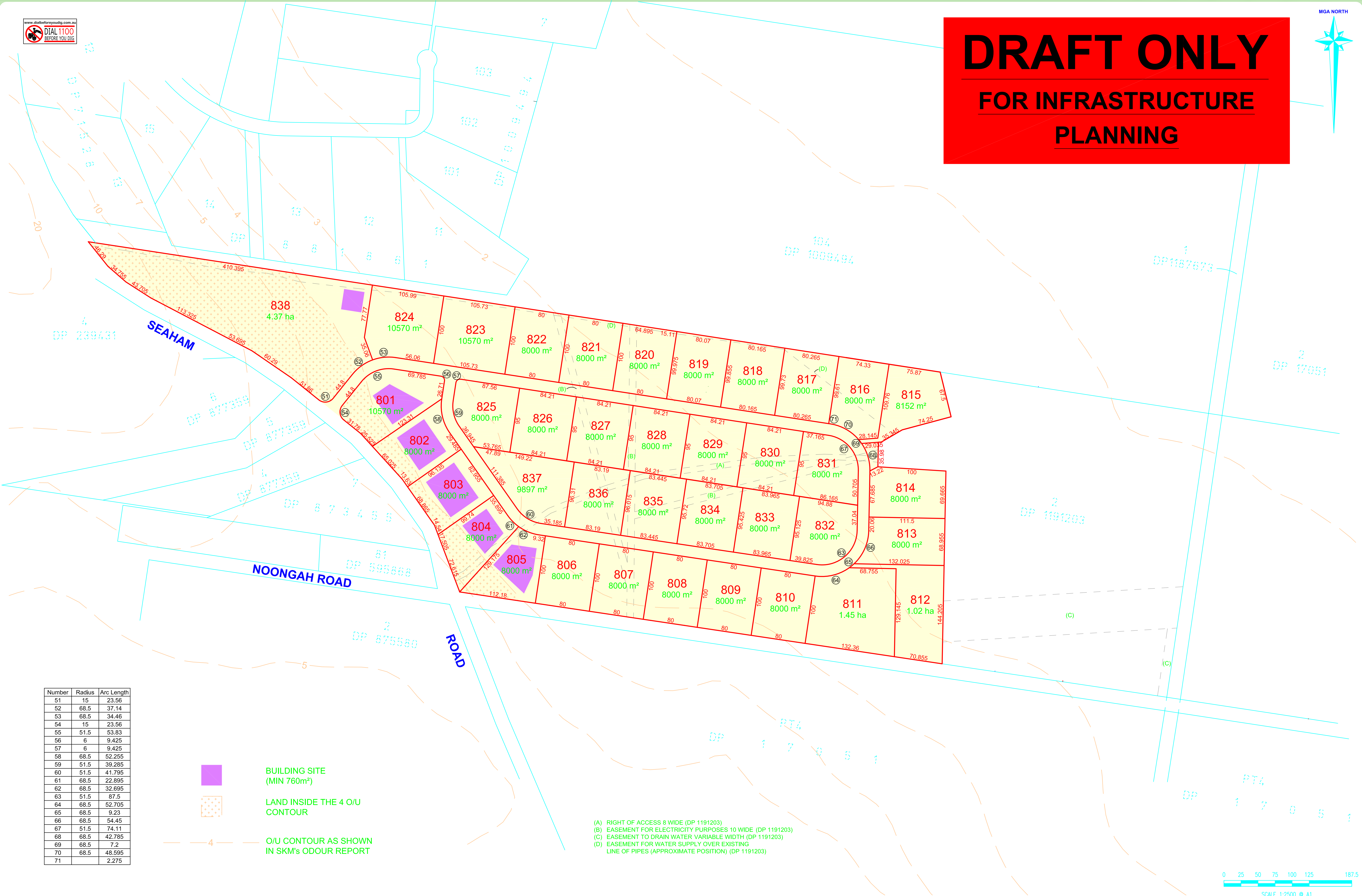
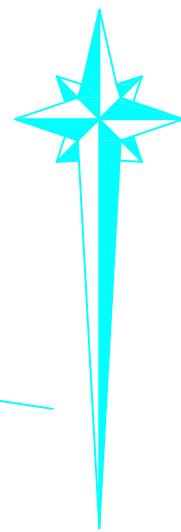
***The Site:***

The site occurs within the Port Stephens Council LGA and is known as Lot 1 DP 1191203. The site lies to the west of the Williams River, is zoned RU1 - Primary Production and covers approx. 39.1ha.

The site has been historically used for cattle grazing and agricultural purposes and has been largely cleared of native vegetation, which inherently reduces the potential for biodiversity value within the site. Two man-made dams are located in the centre and in the south-east of the property. These are largely free of any vegetation and originate from two separate first order watercourses crossing the northern and eastern lot boundaries. The surrounding properties contain similar habitat and have undergone similar grazing and agricultural disturbance, with most of the native vegetation having been cleared. Some existing rural-residential lots occur directly to the north of the site.



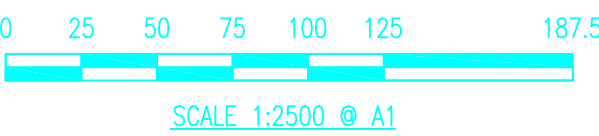
DRAFT ONLY  
FOR INFRASTRUCTURE  
PLANNING



Number	Radius	Arc Length
51	15	23.56
52	68.5	37.14
53	68.5	34.46
54	15	23.56
55	51.5	53.83
56	6	9.425
57	6	9.425
58	68.5	52.255
59	51.5	39.285
60	51.5	41.795
61	68.5	22.895
62	68.5	32.695
63	51.5	87.5
64	68.5	52.705
65	68.5	9.23
66	68.5	54.45
67	51.5	74.11
68	68.5	42.785
69	68.5	7.2
70	68.5	48.595
71	68.5	2.275

- BUILDING SITE (MIN 760m²)
- LAND INSIDE THE 4 O/U CONTOUR
- O/U CONTOUR AS SHOWN IN SKM's ODOUR REPORT

- (A) RIGHT OF ACCESS 8 WIDE (DP 1191203)
- (B) EASEMENT FOR ELECTRICITY PURPOSES 10 WIDE (DP 1191203)
- (C) EASEMENT TO DRAIN WATER VARIABLE WIDTH (DP 1191203)
- (D) EASEMENT FOR WATER SUPPLY OVER EXISTING LINE OF PIPES (APPROXIMATE POSITION) (DP 1191203)





Regional vegetation mapping identifies the remnant vegetation on site as a mix of Lower Hunter Spotted Gum Ironbark Forest and Hunter Lowland Redgum Forest.

### ***Approach:***

To gain an initial understanding of the ecological attributes of the site, the following approach has been utilised:

- Review of LHCCREMS vegetation mapping for the site.
- Aerial Photograph Interpretation.
- Conduct threatened species searches for records within the Atlas of NSW Wildlife (from the *Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth online Protected Matters Search Tool (EPBC Act records) in the locality).
- Review of any other relevant ecological information available.
- Site reconnaissance, and thereafter targeted field check inspections and ground-truthing of select areas.

### ***Ecology Inventory:***

From the above approach, the following Preliminary Ecological Inventory information has been established for the site.

### ***Vegetation Communities:***

A preliminary Vegetation Map has been produced for the site, primarily by adoption and subsequent updating and refinement of the LHCCREMS (2002) Regional Vegetation Mapping by ground truthing.

**Figure 2** depicts the following derived Vegetation Map Units as occurring within the site and their approximate areas as per LHCCREMS Map Unit Classification:

- Seaham Spotted Gum Ironbark Forest (approx. 5.9ha).
- Hunter Lowland Redgum Forest (approx. 0.31ha),
- Cleared area (approx. 33ha).

The Spotted Gum Forest occurring on the site was found via field inspection to more closely align with Seaham Spotted Gum Ironbark Forest rather than Lower Hunter Spotted Gum Ironbark Forest. This is primarily due to the co-dominance of Narrow-leaved Ironbark, as opposed to Broad-leaved Ironbark which is co-dominant in LHSGIF. Seaham Spotted Gum Ironbark Forest is not listed as an EEC.





The Hunter Lowland Redgum Forest is listed as Endangered Ecological Community within the BC Act.

The following photos show the current site condition. **Table 1** contains a list of species observed during the site inspection on 18/09/2018.



*View of Eastern end of the site (above), and Western end of the site (below).*







*View of the Northern (above) and Southern (below) dams on site.*





Disclaimer: While all reasonable care has been taken to ensure the information shown on this map is up to date and accurate, no guarantee is given that the information portrayed is free from error or omission. Please verify the accuracy of all information prior to use.

## Legend



Study Site



Watercourse



Hollow Bearing Trees (HBTs)

## Vegetation communities



Hunter Lowland Redgum Forest



Seaham Spotted Gum - Ironbark Forest



Retained Vegetation



Seaham Rd

Noongah Rd

Noongah Rd

Seaham Rd

Notes:  
1. Boundaries are not survey accurate  
2. Do not scale off this plan



Title: Figure 2 - Vegetation communities and HBTs

Date: Oct 2018

Location: Nelsons Plains

Client: Portree Park Ltd

Our Ref: 1818





**Table 1 - Flora and fauna species observed during preliminary inspection of the site.**

Family Name	Scientific Name	Common Name
<b>Grasses/Weeds</b>		
Asteraceae	<i>Ambrosia spp.*</i>	-
Asteraceae	<i>Bidens pilosa*</i>	Cobbler's Pegs
Asteraceae	<i>Chrysanthemum coronarium*</i>	Summer Chrysanthemum
Poaceae	<i>Cynodon dactylon</i>	Common Couch
Asteraceae	<i>Hypochaeris radicata*</i>	Flatweed
Juncaceae	<i>Juncus sp.</i>	-
Poaceae	<i>Pennisetum alopecuroides</i>	Swamp Foxtail Grass
Poaceae	<i>Phalaris aquatica*</i>	Phalaris
Asteraceae	<i>Senecio madagascariensis*</i>	Fireweed
Malvaceae	<i>Sida rhombifolia*</i>	Paddy's Lucerne
Asteraceae	<i>Sonchus asper subsp. asper*</i>	Prickly Sowthistle
Caryophyllaceae	<i>Stellaria media*</i>	Common Chickweed
Poaceae	<i>Stenotaphrum secundatum*</i>	Buffalo Grass
<b>Trees</b>		
Myrtaceae	<i>Corymbia maculata</i>	Spotted Gum
Myrtaceae	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark
Myrtaceae	<i>Eucalyptus tereticornis</i>	Forest Red Gum
<b>Birds</b>		
Anatidae	<i>Chenonetta jubata</i>	Australian Wood Duck
Ardeidae	<i>Ardea modesta</i>	Eastern Great Egret
Cacatuidae	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo
Psittacidae	<i>Alisterus scapularis</i>	Australian King-Parrot
Psittacidae	<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet
Psittacidae	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet
Meliphagidae	<i>Manorina melanocephala</i>	Noisy Miner
Artamidae	<i>Cracticus tibicen</i>	Australian Magpie
Corvidae	<i>Corvus coronoides</i>	Australian Raven

(\* denotes exotic species)



### ***Threatened Flora:***

Database searches have revealed three threatened aquatic plant species that have been previously recorded and/or modelled to occur within the locality. It is possible, but not considered likely, that these species are present in the water bodies within the site.

No threatened flora was observed during the inspection on the 18<sup>th</sup> September 2018; however, seasonal and /or targeted searches were not performed. Given the condition of most of the site, it is considered that the chances of threatened plant occurrences are low.

### ***Threatened Fauna:***

Database searches have revealed 15 threatened species, comprising one amphibian, three bird and 11 mammal species that could possibly occur within the site.

No threatened fauna was recorded by incidental observation during the site inspections. However, seasonal and / or targeted searches were not performed. Despite this, the likelihood of threatened species utilising the site is considered moderate to low given the sparse nature of relevant habitat on much of the site. Dependence on habitat on site is not considered likely.

Also present are eight Hollow Bearing Trees (HBTs) on site, some of which were in use by common bird species (Australian King Parrots, Scaly-breasted Lorikeets and Sulphur-crested Cockatoos).

### ***Koala Habitat Assessment:***

As the site occurs within the Port Stephens LGA. An assessment against the Comprehensive Koala Plan of Management will be required.

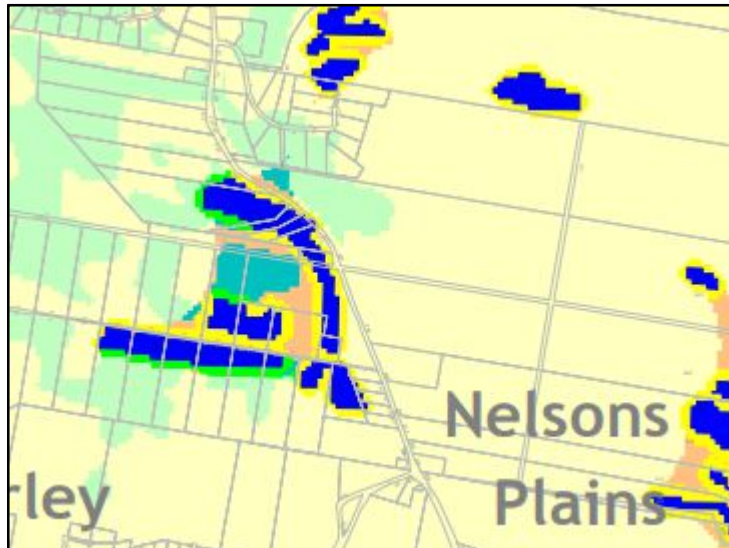
Review of the Koala Habitat Planning Map for the site (see **Figure 3** overleaf) shows that the north-western section of the site is mapped as:

- Marginal (light aqua colour); and
- Unknown Quality (dark aqua colour).

However, the presence of a small section of Hunter Lowland Redgum Forest on the site would qualify as "Preferred Koala Habitat". The koala habitat mapping for the site will need to be updated accordingly in the rezoning assessment process.

Any rezoning proposal for the site will need to address Appendix 2 of the CKPoM – "Performance Criteria for Rezoning Requests". This will require consideration of any impacts on Preferred Koala Habitat, Habitat buffers, linkages and individual koala feed trees.





**Figure 3 – Koala Habitat Planning Map**

Given the style and density of development proposed, including the retention of 20-30m of vegetation along the road frontage which includes nearly all of the Hunter Lowland Redgum Forest, it is not considered likely that the CKPoM will pose significant constraints to development.

### ***Design Concept & Approvals Pathway:***

The proposed development concept involves the retention of 20-30m strip of vegetation along the western and north-western boundary of the site, with all other remaining native vegetation being removed or disturbed by development within the site. Tree retention within the large lot development is encouraged as far as practical.

Recent changes to biodiversity legislation within NSW have fundamentally changed the approvals pathway for vegetation clearing. Development seeking to remove native vegetation above a certain threshold (which in this instance would be 0.25 – 0.5ha; a threshold that would be exceeded) triggers the need for production of a Biodiversity Development Assessment Report (BDAR) via application of the BAM.

The BDAR requires formalised assessment of biodiversity values present within the site (including vegetation plots, surveys for potentially occurring threatened species, etc.), along with details of efforts made by the proponent to avoid and / or minimise vegetation removal and subsequently minimise impacts upon identified biodiversity (particularly threatened entities).

One of the overarching principles of the Biodiversity Offsets Scheme is to avoid and minimise impacts to biodiversity within the development.



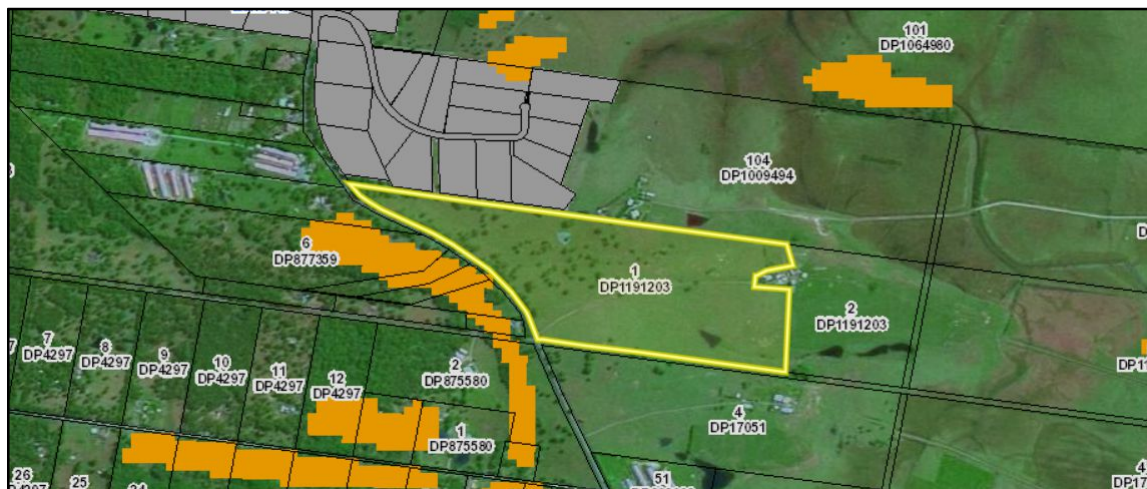
The principles of avoid and minimise are clearly demonstrable within the proposed development by the following:

- Development is centred around areas previously cleared;
- The proposed development concept involves the retention of 20-30m strip of vegetation along the western and north-western boundary of the site, including the koala habitat therein;
- Trees within the subdivision will be retained as far as practical.

Residual impacts are quantified after the avoid / minimise process is applied and, subject to conditions placed upon the proposal by Council, offsets in the form of biodiversity credits that require retirement or purchase are calculated based upon the vegetation type being removed and the threatened species that are likely to be impacted by the proposal. To that end, preliminary desktop BAM investigations have been undertaken to establish the approximate context of development impacts and conservation opportunities within the framework of the zoning configuration. These evaluations are presented below.

The undertaking of detailed ecological field surveys including BAM plot data collection will provide a detailed Ecological Baseline Inventory which will inform the requisite ecological approvals pathway.

While the site is not located within a Biodiversity Values Map as shown in **Figure 4**, the extent of native vegetation to be cleared on site the site will trigger entry into the Biodiversity Offsets Scheme.



**Figure 4 – Biodiversity Values Map**





### ***Preliminary BAM Investigations:***

The derived vegetation map units presented in Figure 2 were aligned to Plant Community Types (PCT's) utilising the Vegetation Information System Database. The PCT types were added to the BAM Calculator, and thereafter approximated plot data was generated for the community based on API and field observations.

Given the nature of the vegetation on site and the shape of the proposed development, it is assumed that a large part of the Seaham Spotted Gum Ironbark (PCT 1602) and Hunter Lowland Redgum Forest (PCT 1598) will be retained.

Preliminary calculations undertaken have revealed the following approximate credit requirements as applicable to the rezoning proposal (assuming 15-25 credits per hectare).

Given the absence of detailed threatened species information at this preliminary stage, focus is placed on ecosystem credits as an indicative surrogate to provide a broad indication of likely required ecological credits relevant to the proposed rezoning.

**Table 2: Preliminary Ecosystems Credits Required**

BAM Plant Community Type	Impact Area	Credits Required for Development
<b>1602:</b> Spotted Gum - Narrow-leaved Ironbark shrub - grass open forest of the central and lower Hunter	3.5ha	53-88
<b>1598:</b> Forest Red Gum grassy open forest on floodplains of Lower Hunter.	0.06ha	2

Note that there is potential for some "Species Credit Species" requirements to be added to the above depending on outcomes of required surveys, some of which may result in Serious and Irreversible Impacts (SAIIs) considerations if identified threatened species that are particularly susceptible to development as defined within the Threatened Species Profile Database (TSPD) are found to occur. However, Species Credit and SAI requirements are considered unlikely on this site given the minimal potential for threatened species occurrence as a result of the sparse nature of native vegetation on the site.



The requirement to 'retire' an estimated 55 to 90 credits can be either achieved in a variety of ways including:

- Onsite rezoning configuration responses (i.e. lessening developable area / vegetation removal);
- Establishment of offsite stewardship conservation areas that generate required credit types and numbers;
- Purchasing suitable on-market credits and retiring them;
- Paying into the Biodiversity Conservation Trust Fund; and/or
- A combination of the above.

Credit prices for the PCTs on site are currently \$2,460.12/credit plus GST. These prices are subject to quarterly review. Based on the requirement for 55 to 90 credits, the Ecosystem credit burden for the development could be satisfied by an approx. \$140k to \$225k plus GST payment into the BCT.

Additional credits may be required to be retired based on the results of the detailed field investigations. Reasons may include: vegetation communities being closer to benchmark than currently estimated, occurrence of native ground cover species in disturbed and grazed areas, and records of threatened flora or fauna encountered during required fieldwork.

### ***EPBC Act Considerations:***

On the basis of the fieldwork conducted to date and the type and extent of habitat present, it is not considered likely that any matters of national environmental significance will be affected notably by the proposal. On that basis, it is not foreseen that a referral under the EPBC Act will be required.





## **Required Process & Outcomes**

To fully inform the rezoning assessment the following works are recommended following Gateway determination and to allow the Planning Proposal to proceed as desired.

- BAM field survey covering the site, including required plots and targeting all relevant threatened species during appropriate survey periods (August and November) as per the NSW Bionet Threatened Biodiversity Profile Data Collection.
- BAM calculator runs using collected data and initial desktop bushfire constraints mapping to inform refinement of subdivision design;
- CKPoM assessment for rezoning proposals;
- Completion of the required lodgement documentation, being a Biodiversity Assessment Report aimed at informing the Biodiversity Assessment Report requirements of the proposal.

We trust that the information presented herewith is suitable for the purposes of the Gateway determination process. Should you require any further details or clarification, please do not hesitate to contact the writer, or Ian Benson (0420 624 707 or [ian@andersonep.com.au](mailto:ian@andersonep.com.au)).

Yours faithfully,

**ANDERSON ENVIRONMENT & PLANNING**

**CRAIG ANDERSON  
DIRECTOR**