# Appendix 8: Referral

Australian Government
Department of the Environment and Energy

# Referral of proposed action

## Proposed action title: Lot 101 DP 785139 Crest Road, Albion Park

## Prepared by: Biosis Pty Ltd.

## On behalf of: MMJ Real Estate on behalf of Spinitu Pty Ltd

# 1 Summary of proposed action

**1.1 Short description**

Spinutu Pty Ltd propose to develop a residential subdivision at Lot 101 DP 785139 Crest Road, Albion Park (the 'study area'; Figure 1). The proposed development is for 71 residential lots, one environmental lot dwelling provision, associated public reserves, access roads, other public infrastructure and asset protection zones (APZ) and hereafter is referred to as the 'subject site' (Figure 1).

The study area covers a total area of 9.65 hectares. The site is located approximately 20 kilometres south-west of the Wollongong Central Business District, at the southern end of Crest Road, Albion Park, within the Shellharbour Local Government Area (LGA).

Of the 9.65 hectares of study area, residential development will impact on 7.75 ha of land, of which 4.15 hectares (total 5.75 hectares) is identified as having vegetation comprising, *Illawarra and south coast lowland forest and woodland ecological community* (Illawarra Lowlands Grassy Woodland), listed as a Critically Endangered Ecological Community (CEEC) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Residual land within the study area includes an additional 1.60 ha of EPBC listed Illawarra Lowlands Grassy Woodland. See Figure 2 and Figure 6 for these boundaries. The CEEC vegetation within the study area is grazed by horses on an unrestricted basis and steep areas fenced from grazing in the east are not managed. These steep areas are mostly dominated by woody weeds.

Five White-flowered Wax Plant *Cynanchum elegans* (Endangered) will be retained within the environmental lot and managed under a site specific vegetation management plan (VMP). Four of the plants are located within the APZ and will be managed by fencing and specific controls within a 20 metre buffer.

The environmental lot (including the APZ) have the potential for Illawarra Zieria *Zieira granulata* (Endangered) to recruit from stored soil seedbanks following weed control and soil disturbance. Contingencies for managing this scenario have been provided within the VMP.

It is intended that the land that is not fully developed for residential purposes will be conserved within an environmental lot zoned as E3 – Environmental Management Zone under the *Shellharbour Local Environmental Plan 2013* (Shellharbour LEP) (Figure 3) to manage residual CEEC, threatened flora, and APZ managed CEEC in perpetuity.

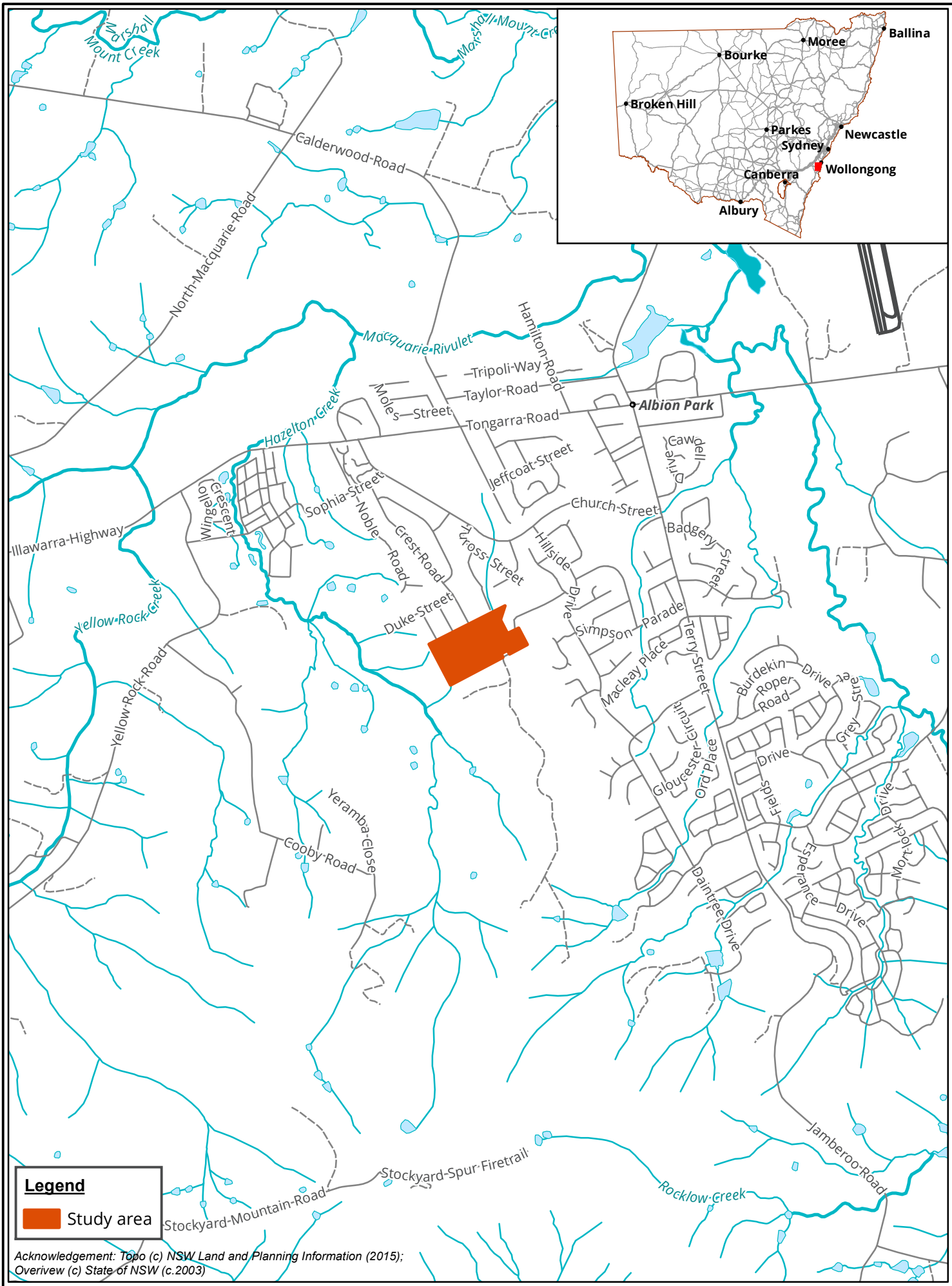


Figure 1: Location of the study area, Albion Park, NSW

Scale 1:25,000 @ A4, GDA 1994 MGA Zone 56


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Matter: 25345
Date: 14 July 2017,
Checked by: MJM, Drawn by: LH, Last edited by: lharley
Location:P:\25300s\25345\Mapping\



**Legend**

- Study area
- Proposed layout
- Subject site

**Coordinate vertices**

- External boundary
- Internal boundary 1
- Internal boundary 2

**Figure 2: Boundary points for the proposed development and subject site**

0 10 20 30 40 50

Metres

Scale: 1:1,600 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

N

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*Matter: 25345*
*Date: 21 August 2017,*
*Checked by: LH, Drawn by: NMG*
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**Legend**

- Study area
- Subject site
- APZ

**Proposed subdivision**

- Proposed lot boundary

**Zoning Boundaries**

- E3 Environmental Management
- R2 Low Density Residential
- Development - APZ
- Development - Building envelope
- Development - Lots
- Development - Roads
- Environmental management
- Environmental management - Inner APZ
- Environmental management - Outer APZ

## Figure 3: Development footprint

0 10 20 30 40 50

Metres

Scale: 1:1,800 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

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*Matter: 25345*
*Date: 21 August 2017,*
*Checked by: LH, Drawn by: NMG*
*Location:P:\25300s\25345\Mapping\ 25345_F3_DevFootprint*

1.2 **Latitude and longitude**

Refer to Figure 2 or locations of these data points in the Table below.

| | Decimal degree | | Degrees, Minutes, Seconds | |
|---|---|---|---|---|
| | **Latitude** | **Longitude** | **Latitude** | **Longitude** |
| **External property boundary** | | | | |
| 1 | -34.581572 | 150.763363 | 34° 34' 53.661" S | 150° 45' 48.107" E |
| 2 | -34.582483 | 150.763914 | 34° 34' 56.937" S | 150° 45' 50.089" E |
| 3 | -34.583487 | 150.764522 | 34° 35' 0.553" S | 150° 45' 52.279" E |
| 4 | -34.582829 | 150.766112 | 34° 34' 58.186" S | 150° 45' 58.004" E |
| 5 | -34.582265 | 150.767482 | 34° 34' 56.154" S | 150° 46' 2.937" E |
| 6 | -34.582088 | 150.767383 | 34° 34' 55.516" S | 150° 46' 2.577" E |
| 7 | -34.581941 | 150.767746 | 34° 34' 54.988" S | 150° 46' 3.886" E |
| 8 | -34.582114 | 150.767851 | 34° 34' 55.612" S | 150° 46' 4.262" E |
| 9 | -34.581691 | 150.768865 | 34° 34' 54.088" S | 150° 46' 7.913" E |
| 10 | -34.580916 | 150.768395 | 34° 34' 51.298" S | 150° 46' 6.222" E |
| 11 | -34.581157 | 150.767756 | 34° 34' 52.165" S | 150° 46' 3.923" E |
| 12 | -34.58051 | 150.767392 | 34° 34' 49.837" S | 150° 46' 2.612" E |
| 13 | -34.579866 | 150.767671 | 34° 34' 47.518" S | 150° 46' 3.615" E |
| 14 | -34.581073 | 150.764624 | 34° 34' 51.863" S | 150° 45' 52.647" E |
| Internal Boundary 1 | | | | |
| 15 | -34.580642 | 150.765713 | 34° 34' 50.310" S | 150° 45' 56.567" E |
| 16 | -34.580863 | 150.766067 | 34° 34' 51.108" S | 150° 45' 57.843" E |
| 17 | -34.581455 | 150.766455 | 34° 34' 53.238" S | 150° 45' 59.239" E |
| 18 | -34.581627 | 150.766941 | 34° 34' 53.857" S | 150° 46' 0.988" E |
| 19 | -34.581963 | 150.767362 | 34° 34' 55.068" S | 150° 46' 2.504" E |
| 20 | -34.582064 | 150.767441 | 34° 34' 55.432" S | 150° 46' 2.786" E |
| Internal Boundary 2 | | | | |
| 21 | -34.580483 | 150.766113 | 34° 34' 49.739" S | 150° 45' 58.008" E |
| 22 | -34.580638 | 150.76635 | 34° 34' 50.298" S | 150° 45' 58.861" E |
| 23 | -34.580917 | 150.766574 | 34° 34' 51.302" S | 150° 45' 59.665" E |
| 24 | -34.581194 | 150.767339 | 34° 34' 52.297" S | 150° 46' 2.422" E |
| 25 | -34.581613 | 150.767864 | 34° 34' 53.808" S | 150° 46' 4.312" E |
| 26 | -34.581997 | 150.768131 | 34° 34' 55.190" S | 150° 46' 5.273" E |

1.3 **Locality and property description**

The study area covers a total area of 9.65 hectares and is located approximately 20 kilometres south-west of the Wollongong Central Business District, at the southern end of Crest Road, Albion Park, within the Shellharbour Local Government Area (LGA).

The subject site (located within the study area) is adjacent to low density residential development to the north, open pastoral land to the south, and remnant vegetation to the east and west.

The subject site comprises informally fenced paddocks containing scattered native trees with highly modified groundcovers and small corrugated iron structures, informal gravel access trails, and patches of existing remnant native vegetation (Figure 3).

| | | |
|---|---|---|
| 1.4 | **Size of the development footprint or work area** | The proposed 71 lot subdivision, including environmental lot provision and APZ and expected an expected impact of 7.75 hectares. |
| 1.5 | **Street address of the site** | Lot 101 DP 785139 Crest Road, Albion Park |

1.6 **Lot description**

The study area is legally described as Lot 101 DP 785139 Crest Road, Albion Park.

1.7 **Local Government Area and Council contact (if known)**

The project is wholly within the Shellharbour City Council LGA.

Council's contact officer is:
Tuesday Heather
02 4221 6247
mailto:Tuesday.Heather@shellharbour.nsw.gov.au

1.8 **Time frame**

Vegetation clearance and construction works are scheduled to commence in mid-late 2018 (pending approval) and expected to take 9-12 months to complete. Particular focus will be on the establishment of a conservation area prior to construction.

| | | | |
|---|---|---|---|
| 1.9 | **Alternatives time frames, locations or activities** | X | No |
| | | | Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3 and 5 (where relevant). |
| 1.11 | **Commonwealth, State or Territory assessment** | | No |
| | | X | Yes, you must also complete Section 2.5 |
| 1.12 | **Component of larger action** | X | No |
| | | | Yes, you must also complete Section 2.7 |
| 1.13 | **Related actions/proposals** | X | No |
| | | | Yes, provide details: |
| 1.14 | **Australian Government funding** | X | No |
| | | | Yes, provide details: |
| 1.15 | **Great Barrier Reef Marine Park** | X | No |
| | | | Yes, you must also complete Section 3.1 (h), 3.2 (e) |

# 2 Detailed description of proposed action

**2.1 Description of proposed action**

Spinutu Pty Ltd proposes to undertake low density residential development of the study area. The housing is intended to be constructed within the subject site (Figure 3). This will require the removal of 3.06 hectares of native vegetation and modification of an additional 1.09 hectares for bushfire protection, for APZ management.

The proposed development footprint is shown in Figure 3 and will require the installation of local roads and levelling off the ground surface to provide for appropriate contours. The development will require the installation of stormwater piping and other associated infrastructure, such as electricity and water supply. The development intends to retain native trees where situated outside of dwelling envelopes, boundary fence lines, road soil cuts and recreation areas.

The installation of the APZ will require selective thinning of trees, and suppression of shrubs and ground layer within the environmental lot. All remaining vegetation east of the APZ will be retained as native vegetation and form the residual of the study area.

The development of the study area aims to conserve residual native vegetation within the eastern portion of the study area. The retained native vegetation will include residual vegetation and vegetation modified to be managed as an APZ. The retained residual and modified vegetation will also conserve endangered flora.

An indicative site layout of the development footprint is shown in **Figure 3.**

The key concepts and objectives of the development will be to:

- Permit low density residential development of 71 lots and one large environmental lot.
- Allow for establishment of an inner and outer APZ. This includes selective thinning trees and suppression of shrubs and tall ground covers to maintain low ground fuel levels. The canopy will be retained within the benchmark for this plant community type in NSW (NSW PCT838/ BVT SR545).
- Incorporate and maximise the existing landscape and topographical characteristics of the site by retaining hollow-bearing trees where feasible and safe to do so.
- Retain residual native vegetation, provide ongoing planning controls within an E3 – Environmental Management LEP zone, and enhance biodiversity and sensitive habitats through the implementation of a VMP.
- Protect threatened flora through fencing where appropriate, targeted weed control and landholder monitoring.
- Provide nest boxes for specific fauna types in retained vegetation to compensate for lost habitat in the form of hollow-bearing trees.

A summary of the proposed impacts are provided in Table 1.

*Table 1: Areas of native vegetation and impacts due to the proposed works*

| Vegetation community | Subdivision (ha) | APZ (ha) | **Total impact (ha)** | E3 Retained Vegetation (ha) | **Grand Total** |
|---|---|---|---|---|---|
| Illawarra Lowlands Grassy Woodland (EPBC Act) | 3.06 | 1.09 | **4.15** | 1.60 | **5.76** |
| **Total** | **3.06** | **1.09** | **4.15** | **1.60** | **5.76** |

**2.2 Feasible alternatives to taking the proposed action**

Consideration of alternative proposals for the subject site has been undertaken throughout the project to ensure that an appropriate balance is achieved between retention and enhancement of the significant biodiversity values of the subject site and surrounds.

In developing the site layout, a number of alternatives were considered including:

1. Clearance of entire lot for residential subdivision.
2. Positioning of development envelopes and roads to maximise retention of highest condition native vegetation and lot yield.
3. GIS modelling of trees and hollow-bearing tree locations to assist in retaining important habitat trees within lots and positioning of development envelopes to assist retention.
4. Offsetting vegetation removal using the NSW Biobanking Scheme.
5. Rezoning and subdivision of the environmental lot in the eastern portion of the study area to E3 - Environmental Management under the Shellharbour LEP.

The residential lot proposed layout was selected within the area supporting the lowest condition CEEC (most floristically depauperate and highest edge to core area ratios) areas and scattered trees with highly modified exotic groundcovers. Prior to the development proposal the subdivision footprint area was re-zoned to R2 – Low density residential. The rezoning of the study area and proposed development footprint aims to protect residual CEEC and APZ modified CEEC vegetation and threatened flora within land zoned E3 – Environmental Management and provide for ongoing management through implementation of a VMP.

**2.3 Alternative locations, time frames or activities that form part of the referred action**

There are no alternative locations, time frames or activities that form part of the referred action.

**2.4 Context, including any relevant planning framework and state/local government requirements**

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) is the principal planning legislation that relates to the proposed development. It provides a framework for the overall environmental planning and assessment of development proposals. Various legislative instruments, such as the NSW *Threatened Species Conservation Act 1995* (TSC Act), and *Rural Fires Act 1979* (RF Act) are integrated with EP&A Act and have been reviewed and outlined within this referral (Table 2). At the time of preparation, the TSC Act has been scheduled for repeal and replacement with the *Biodiversity Conservation Act 2016* (BC Act). This may result in changes to the assessment process and the requirements for vegetation offsets if the principal certifying authority insist on assessing the project within the framework of the new legislation.

A substantial array of legislation, policies and guidelines apply to the subject site as listed below;

Table 2: Legislative context

| Name | Relevance to the project |
|---|---|
| *Environmental Planning and Assessment Act 1979* (EP&A Act) | The proposed development requires consent under the Shellharbour Local Environmental Plan and is to be assessed under Part 4 of the EP&A Act. Assessments of significance required under Section 5A for impacts to threatened species and endangered ecological communities have been prepared in accordance with the Act. |
| *Threatened Species Conservation Act 1995* (TSC Act) | The TSC Act aims to protect and encourage the recovery of threatened species, populations and communities listed under the Act. The Act is integrated with the NSW EP&A Act and requires consideration of whether a development (Part 4 of the EP&A Act) or an activity (Part 5 of the EP&A Act), |

| Name | Relevance to the project |
|---|---|
| | is likely to significantly affect threatened species, populations and ecological communities or their habitats. |
| *Biodiversity Conservation Act 2016* | The BC Act is currently scheduled to replace the TSC Act on the 25 August 2017. It will in principle fulfil the same function as the TSC Act with modifications to the methods and pathways required under different development scenarios and impact scales. |
| *Biosecurity Act 2015* | Section 22 of the Act defines the 'biosecurity duty' for pest species (i.e. priority weeds) that may advertently or inadvertently function as a 'carrier' of 'Terrestrial and Freshwater Weeds' listed under Schedule 2 of the Act. The potential for the proposed development and any of its associated activities to 'act as a carrier' require consideration when addressing the potential for biosecurity impacts. This includes provision of controls to avoid or minimise development impacts on native vegetation. |
| *Shellharbour LEP 2013* | Clause 6.5 of the Shellharbour LEP has the objective of protecting, enhancing and managing the terrestrial biodiversity and environmentally sensitive land. The clause applies to the subject land and is triggered by development activities. Before deciding an application, the consent authority must consider various objectives and must be satisfied that the development has avoided potential adverse impacts and if these are not avoided, the minimisation or mitigation of impacts. |
| *Rural Fires Act 1979 and associated provisions* | Section 100B RF Act requires an assessment of bushfire risk to be considered by a bushfire safety authority for redevelopment of land for the purpose of subdivision.<br>Clause 44 Rural Fires Regulation 2013, specifies the information requirements for consideration by a bushfire safety authority under section 100B of the Rural Fires Act.<br>Planning for Bush Fire Protection 2006: statutory guideline detailing the specifications and requirements for the development of bushfire prone land. More specifically, Appendix 2 and Addendum: Appendix 3 (2010) provide the assessment methodology applied for this assessment. |

**2.5 Environmental impact assessments under Commonwealth, state or territory legislation**

A Flora and Fauna Impact Assessment is currently being prepared in accordance with the relevant provisions of the EP&A Act, including NSW Assessments of Significance (Section 5A) required for threatened biota listed within the Schedules of the TSC Act. NSW Assessments of Significance have been prepared in accordance with the *Threatened species assessment guidelines, The assessment of significance* (DECC 2007). The assessment is being prepared as part of a Development Application (DA) under Part 4 of the EP&A Act to the principal certifying authority: Shellharbour City Council.

**2.6 Public consultation (including with Indigenous stakeholders)**

Consultation for the proposal has been undertaken with and by Shellharbour City Council as a part of the DA assessment and previous rezoning process.

**2.7 A staged development or component of a larger project**

The referral seeks approval for the actions proposed relating to the development of a residential subdivision and an additional environmental conservation lot. The assessment undertaken for this referral has considered the overall (total) impact of the proposed action on the site's environmental values for the total development. The development is a standalone project and is not reliant on, or a component of, a larger project.

**2.8 Related actions**

There are no related actions to this project.

# 3 Description of environment & likely impacts

### 3.1 Matters of national environmental significance

The most recent search using the Protected Matters Search Tool (PMST) was undertaken on 4 April 2017 with a 10 kilometres radius of the Site. Matters of national environmental significance (MNES) identified in the PMST are provided below.

#### 3.1 (a) World Heritage Properties

**Description**

No World Heritage Property occurs within a 10 kilometre radius of the subject site.

**Nature and extent of likely impact**

Not applicable.

#### 3.1 (b) National Heritage Places

**Description**

No National Heritage Place occurs within a 10 kilometres radius of the subject site.

**Nature and extent of likely impact**

Not applicable.

#### 3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

**Description**

No Wetlands of International Importance occurs within a 10 kilometres radius of the subject site.

**Nature and extent of likely impact**

Not applicable.

### 3.1 (d) Listed threatened species and ecological communities

**Description**

A PMST search was undertaken with a 10 kilometre radius of the study area (3 April 2017). A full listing of ecological communities and threated species identified in the PMST and is provided within Biosis 2016 (Appendix 1 and 2).

Species and ecological communities identified in the PMST that have potential to be impacted by the proposed action are listed below:

- Ecological communities
  - Illawarra and south coast lowland forest and woodland ecological community (Critically Endangered)
- Flora
  - White-flowered Wax Plant *Cynanchum elegans* (Endangered)
  - Illawarra Zieria *Zieria granulate* (Endangered)
- Fauna
  - Large-eared Pied Bat *Chalinolobus dwyeri* (Vulnerable)
  - Grey-headed Flying-fox *Pteropus poliocephalus.*

See **Figure 4** and **Figure *5*.**

### 3.1 (e) Listed migratory species

**Description**

A PMST search was undertaken with a 10 kilometre radius of the study area. A full listing of migratory species identified in the PMST is provided within Biosis 2016 (Table 10). No listed migratory species are considered likely to occur within the subject site.

### 3.1 (f) Commonwealth marine area

**Description**

No Commonwealth marine areas occur within the vicinity of the proposed action.

**Nature and extent of likely impact**

N/A

### 3.1 (g) Commonwealth land

**Description**

N/A

**Nature and extent of likely impact**

N/A

### 3.1 (h) The Great Barrier Reef Marine Park

**Description**

N/A

**Nature and extent of likely impact**

N/A



**Legend**

- Study area
- Subject site
- Hollow-bearing tree

**Zone**

- Impact – APZ modification CEEC
- Impact – removal CEEC

**Threatened Flora**

- White-flowered Wax Plant (Biosis 2012)

**Vegetation community**

- Illawarra Lowlands Grassy Woodlands EPBC Act (moderate condition class)
- Scattered trees

## Figure 4: Vegetation mapping of the study area

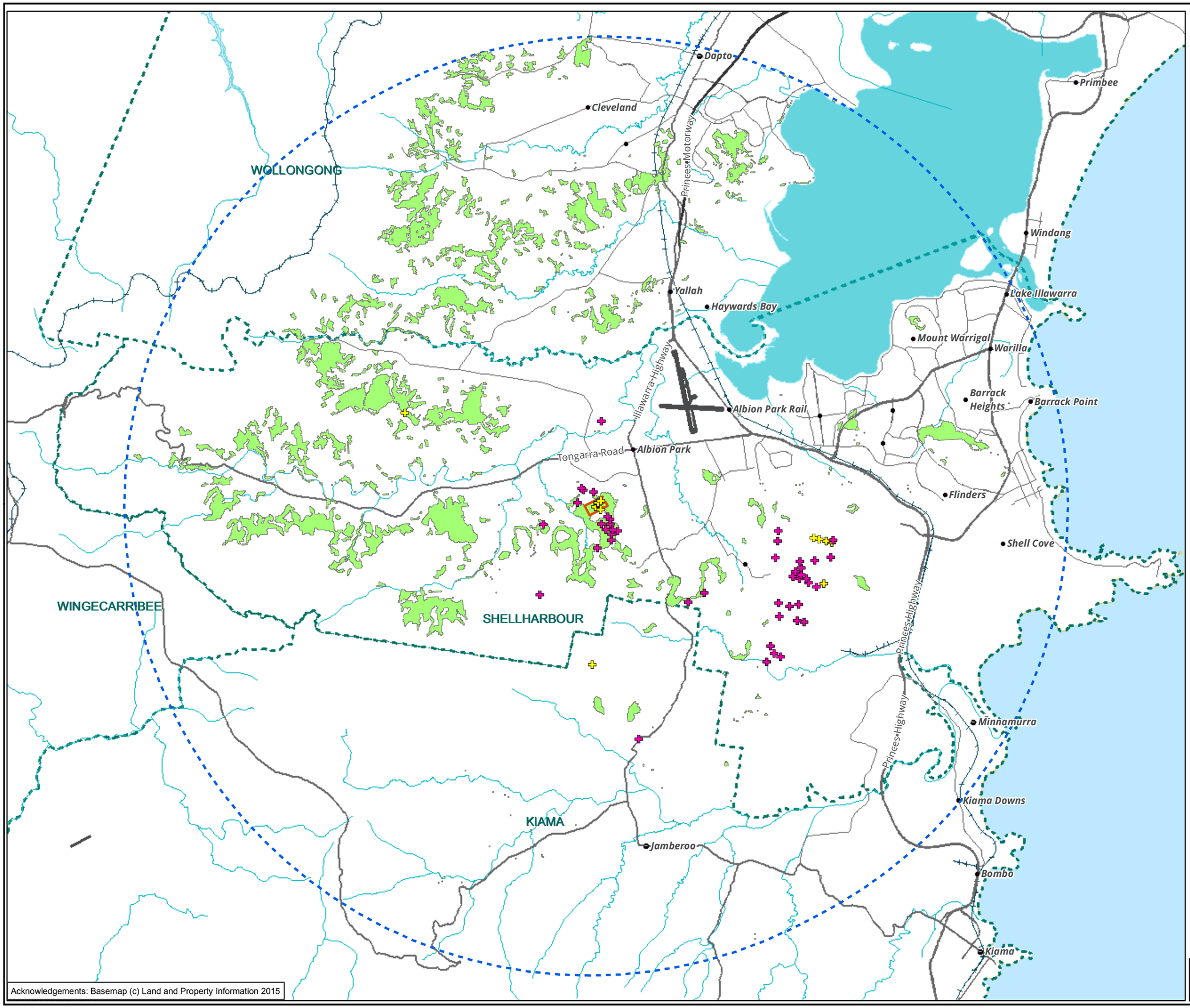
0 10 20 30 40 50

Metres
Scale: 1:1,800 @ A3
*Coordinate System: GDA 1994 MGA Zone 56*

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

*Matter: 25345*
*Date: 07 August 2017,*
*Checked by: LH, Drawn by: NMG*
*Location:\\bio-data-01\matters$\25300s\25345\Mapping\ 25345_F4_VegComms*





**Legend**

- Study area
- South Coast Grassy Woodland (GWp34)
- Study area 10km buffer

**Threatened Flora**

- White-flowered Wax Plant *Cynanchum elegans*
- Illawarra Zieria *Zieria granulata*

**Figure 5: Vegetation mapping and threatened flora within the vicinity**

0 600 1,200 1,800 2,400 3,000

Metres

Scale: 1:76,000 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

N

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*Matter: 25345*
*Date: 14 July 2017.*
*Checked by: LH, Drawn by: NMG*
*Location:P:\25300s\25345\Mapping\ 25345_F5_VegMapping10km*

**3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development**

**Description**

N/A

**Nature and extent of likely impact**

N/A

## 3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

| | | | |
|---|---|---|---|
| **3.2 (a)** | **Is the proposed action a nuclear action?** | X | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (b)** | **Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?** | X | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (c)** | **Is the proposed action to be taken in a Commonwealth marine area?** | X | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))** | | |

| | | | |
|---|---|---|---|
| **3.2 (d)** | **Is the proposed action to be taken on Commonwealth land?** | X | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))** | | |

| | | | |
|---|---|---|---|
| **3.2 (e)** | **Is the proposed action to be taken in the Great Barrier Reef Marine Park?** | X | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))** | | |

## 3.3 Description of the project area and affected area for the proposed action

**3.3 (a) Flora and fauna**

A total of 174 flora species were identified within the subject site during the various ecological assessment, of which 59 are exotic species.

Four species are listed priority weeds and have management controls under the NSW *Biosecurity Act 2015* in the Shellharbour LGA, and also Weeds of National Significance (WoNS).

The following table outlines the terrestrial weed priority status and control measure for Shellharbour LGA and WoNS identified within the subject site.

*Table 3 Priority and WoNS weeds recorded in the subject site.*

| Scientific Name | Common Name | Priority status |
|---|---|---|
| *Asparagus asparagoides* | Bridal Creeper | Mandatory measure –limit spread, WoNS |
| *Lantana camara* | Lantana | Regional mandatory measure limit spread, WoNS |
| *Rubus fruticosus* aggregate species | Blackberry | Mandatory measure –do not import, WoNS |
| *Senecio madagascariensis* | Fire Weed | Regional mandatory measure limit spread, WoNS |

*Cynanchum elegans* plants were recorded in two general locations in the study area, one of those locations is recorded within the subject site, Figure 4. *Zieria granulata* has been recorded on land to the west of the study area, no plants were recorded during site surveys. There is potential for this species to have propagules present within a soil stored seed bank where dense Lantana is supported within the study area, however a low likelihood to be within the subject site. No other flora species listed under the TSC Act were recorded within the study area.

A range of threatened fauna habitat features were observed within the subject site including vegetated areas of tall open woodland, hollow-bearing trees, leaf litter and woody debris. Habitat within the subject site provides potential foraging, breeding and nesting resources for a range of fauna. A total of thirty 34 hollow-bearing trees were recorded within the subject site. All hollow-bearing trees contained small-medium hollows. Refer to Figure 4.

Fauna surveys for habitat, opportunistic sighting and targeted survey have been undertaken by Eco Logical (2011) and Biosis (11 December 2012 and 23 June 2016). Details of the recorded fauna can be found within the attached Flora and Fauna Assessments.

As a result of the fauna assessments it was considered likely that Grey-headed Flying-fox (Vulnerable) and Large-eared Pied-bat were considered to have potential to utilise the habitat features and be impacted by the proposed development.

#### 3.3 (b) Hydrology, including water flows

No aquatic habitat was recorded within the study area, with strahler class 1 drainage lines occurring as open grassed paddocks or as a dry gully in the retained environmental lot.

Drainage occurs to the west for the most of the study area and also into a dry gully in the eastern portion.

Stormwater flow is proposed to be diverted to west along a dry rock based gully to comply with the certifying authorities requirements for floodplain modelling.

#### 3.3 (c) Soil and Vegetation characteristics

The vegetation occurs in areas of Albion Park and Bombo soils landscapes, where plateaus or medium gradient slopes occur. Outcropping out cropping latite and loose medium sized boulders were noted on occasion in steeper sections of the slope.

Vegetation cover within the subject site includes remnant native vegetation identified as Illawarra Lowlands Grassy Woodland, exotic grasslands and scattered trees within exotic disturbed cover. Refer to Section 3.3 (e) below for further detail.

### 3.3 (d) Outstanding natural features

### 3.3 (e) Remnant native vegetation

The subject sites landscape position and underlying soils landscapes, combined with the species recorded are consisted with *Illawarra lowlands grassy woodland in the Sydney Basin Bioregion, Endangered Ecological Community,* TSC Act (TSC 1999).
Further assessment of condition against the Approved Conservation Advice (TSSC 2016) found:

- The vegetation patch is larger than 0.5 hectares.
- The condition of the groundcover was above 30 % native content
- Trees with DBH greater than 50 centimetres and containing hollows.
- The patch was contiguous with at least one hectare of native vegetation (with perennial vegetation cover where 50 % or greater is comprised of native vegetation).

According to these criteria the vegetation is also consistent with the ecological community listings for moderate condition class *Illawarra and south coast lowland forest and woodland ecological community Critically Endangered Ecological Community* under the EPBC Act.

The vegetation within the subject site was found in in moderate condition and for the most part supported moderately disturbance groundcovers and almost no midstorey from ongoing grazing.

Areas containing 'scattered trees' were considered to be in low condition. While the vegetation satisfied key diagnostic characteristics such as:

- Appropriate regional context.
- Foliage cover averaging at least 10 %.
- Forest Red Gum canopy trees.

The vegetation failed to meet the condition threshold for Category D. Moderate condition class because it failed to satisfy the following biotic threshold:

- At least 30 % of total perennial understorey cover is comprised of native species.

In addition to this, areas between scattered trees mapped as exotic grassland also supported a total perennial understorey with native species cover less than 30% of the total. Therefore these areas were not considered to represent a derived grassland form of Illawarra Lowlands Grassy Woodland.

Therefore, areas outside of moderate condition CEEC mapped within Figure 4 are considered to be in low condition do not meet the EPBC condition thresholds for the CEEC.

### 3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

The gradient across the subject site slopes slightly downhill to the west.

### 3.3 (g) Current state of the environment

The total area of the subject site is currently used for the agistment of horses. The area includes both fenced and unfenced grazing areas, tack area, numerous small corrugated sheds, organic waste stockpiling areas and gravel trails. Paddocks and intensively used areas tend to be in poor condition and supporting mostly exotic perennial groundcover.

The vegetation within the subject site varies from moderate to poor condition, for the most part lacking midstorey due to continuous grazing. The remainder of the study area to the east supports a heavy cover of Lantana where moderate slopes occur.

### 3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

The subject site does not contain any Commonwealth Heritage Places or other places recognised as having heritage values.

### 3.3 (i) Indigenous heritage values

The subject site does not contain any known indigenous heritage values.

#### 3.3 (j) Other important or unique values of the environment

The proposed subdivision occurs within a corridor of vegetation that is orientated north to south and contiguous with the Tongarra – Stockyard Mountain to Dunmore Hills regional biodiversity corridor (WCC et al. 2011).

The vegetation to be permanently removed as part of the proposed action will reduce the area of the corridor, but will not result in a discrete break in the corridors length. The residual CEEC and APZ modified areas to be retained within the east of the study area will retain connectivity to the south.

The proposed action will have a minimal impact to the vegetation to the west of the study area which adjoins native vegetation further to the north. This may include the installation of a piped stormwater easement up to 10 metres wide.

#### 3.3 (k) Tenure of the action area (eg freehold, leasehold)

The site is currently under private ownership and is comprised of a single allotment (Lot 101 DP 785139 Crest Road, Albion Park).

#### 3.3 (l) Existing land/marine uses of area

The majority of the subject site is currently being used for horse agistment.

#### 3.3 (m) Any proposed uses of area of proposed action

The subject site is proposed for residential use and APZ management. The majority of retained land (environmental living lot) most of which will be retained for environmental conservation (CEEC buffer, residual CEEC and threatened species habitat).

# 4 Environmental outcomes

Proposed environmental outcomes that will be achieved for MNES as a result of the proposed action include the following:

**Environmental Outcomes for Illawarra Lowlands Grassy Woodland CEEC EPBC Act.**

A cumulative total of 2.68 hectares of CEEC will be retained and undergo conservation management, regeneration and revegetation to ensure ecological benefits and improvements on the current condition of the vegetation community to meet the EPBC Act thresholds. This outcome will be provisioned as follows:

- Retention and management of 1.60 hectares residual CEEC within large environmental lot zoned E3 – Environmental Management (Shellharbour LEP).
- Retention and management of 1.09 hectares of modified CEEC in APZ areas that will function as a critical habitat buffer for Illawarra Lowlands Grassy Woodland CEEC EPBC Act.

Management will involve the implementation of a site specific VMP subject to reporting to the principal certifying authority in perpetuity.

**Environmental Outcomes for *Cynanchum elegans* (Endangered Species)**
Seven plants, representing one local population will be retained within the environmental lot. Conservation of these plants will be undertaken as directed by VMP specific controls. Areas containing *Cynanchum elegans* will require the following controls to protect the plants during weed control and annual fuel reduction tasks. The additional controls include:

- Initial clearing within the fenced-off area be undertaken by a qualified bush regenerator sufficiently experienced at working with the species, holding a section 132 licence from NSW Office of Environment and Heritage.
- All primary weed control within a 20 metre buffer of *Cynanchum elegans* is to be restricted to manual cut and paint methodologies.
- No herbicide application by spot spray within ten metre buffers of known locations will be allowed, due to *Cynanchum elegans* capacity to sucker at extended distances from the parent plant.
- Mechanical slashing cannot be used to control Lantana within 20 metres of any known location of White-flowered Wax Plant. This is because there is a high likelihood that unrecorded White-flowered Wax Plant could be growing within areas of Lantana, and has the potential to be established within more open areas.
- Guidance of the mechanical plant operator is to be provided by a suitably qualified ecologist or bush regenerator, skilled in the identification of White-flowered Wax Plant, during trittering. If additional plants are identified during weed control activities, then these areas will be recorded, and control undertaken as per the specification detailed above.
- The known *Cynanchum elegans* locations will be identified and buffer areas marked out prior to starting primary weed control.
- Mechanical slashing cannot be used to control Lantana within 20 metres of any known location of *Cynanchum elegans*. This is because there is a high likelihood that unrecorded *Cynanchum elegans* could be growing within areas of Lantana, and has the potential to be established within more open areas.
- Guidance of the mechanical plant operator is to be provided by a suitably qualified ecologist or bush regenerator, skilled in the identification of *Cynanchum elegans*, during trittering. If additional plants are identified during weed control activities, then these areas will be recorded, and control undertaken as per the specification detailed above.

The management of vegetation within the APZ will also require the following additional controls:

- Buffer fencing 20 m from *Cynanchum elegans* locations to protect the plant damage during APZ management.
- All trees or shrubs supporting *Cynanchum elegans* individuals are to be retained within the APZ as a component of the 20% unmanaged vegetation cover allowable within midstorey and groundcover strata of an outer protection zone.
- All vegetation control activities within the fenced-off area will be undertaken manually, and any trees that require removal will be sectioned and lowered in a way to avoid any damage to individual stems or the adjacent supporting vegetation.

**Environmental Outcomes for *Zieria granulata* (Endangered Species)**

No plants have been recorded within the study area and there is a low likelihood that the subject site contains a soil stored seed bank.

Areas of the environmental lot to be retained as residual vegetation have the potential to contain *Zieria granulata* propagules within a soil stored seed bank. Safeguards to avoid potential impacts to this species are included within the VMP for the environmental lot. Monitoring activities will be undertaken within the environmental lot which include:

- Survey within 3 months of primary control following removal of Lantana.
- If the plant is recorded recruiting, procedures for weed management will apply as per *Cynanchum elegans.*
- If no plants are detected, annual targeted survey for the plant will not be continued after 3 years.

**Environmental Outcomes for Grey-headed Flying Fox (Vulnerable Species)**

Potential habitat for the Grey-headed Flying Fox will be managed and protected within the local area in the form of the abovementioned Illawarra Lowlands Grassy Woodland environmental outcomes. The total minimum area of habitat that will contribute to the environmental outcomes for these species is 1.60 hectares.

The conservation areas will be improved through a range of ecological restoration works set out in a VMP. A minimum of 2.68 hectares (including APZ) will be subject to the VMP.

# 5 Measures to avoid or reduce impacts

The design of the proposed action has followed Step 4 of the Guidelines for threatened species assessment (DECC 2004) and importantly considered the Significant Impact Guidelines for MNES (CoA 2013), which both identify important factors that must be considered when assessing the potential impacts on threatened species, populations, or ecological communities, or their habitats; namely to avoid, minimise and finally to offset any residual impacts.

## Avoidance

Impacts to CEEC and threatened species were considered in consultation with Biosis, MMJ Pty Ltd and Spinitu Pty Ltd. The ecological assessment and subdivision design process to date have been detailed in Biosis (2016) has been used to inform avoidance and minimisation of direct and indirect impacts to biodiversity values, through the following::

- Consideration of the lot layout design selection to consider all outlined biodiversity constraints of the proposed action.
- Consideration of the lot layout, to be located in areas where the native vegetation and threatened species habitat is in the poorest condition.
- Consideration of the lot layout to be located within the western portion of the lot to avoid fragmentation of existing vegetation.
- Minimise the amount of clearing or habitat loss.

A number of development scenarios were considered with the intent of avoiding and minimising impact to Illawarra Lowlands Grassy Woodland EPBC Act CEEC, within the subject site. However, while impact on CEEC has not been completely avoided, impacts have been minimised as far as practicable to maintain the feasibility of residential development within the subject site.

Overall, if the study area had been cleared the total impact of the proposed action would have been 5.76 hectares of Illawarra Lowlands Grassy Woodland as EPBC Act listed moderate condition CEEC. The redesign of the subdivision has been reduced to 3.06 hectares CEEC removed, 1.09 hectares modified for APZs, leaving 1.60 hectares as residual CEEC not impacted by the proposed subdivision.

These reductions in impact area were subsequently formalised through a planning proposal which rezoned the environmental lot to E3 – Environmental Management from RU1 – Primary Production.

One population (in two locations) of *Cynanchum elegans* (7 plants total) have been retained within an environmental lot.

Retention of hollow-bearing trees within the E3 – Environmental Management area, includes any thinning of trees to reduce tree canopy cover to less than 15 per cent in the inner APZ and 30 per cent in the outer APZ will avoid removal of hollow-bearing trees.

## Minimise impacts

The extent and condition of vegetation was recorded and mapped across the study area and subject site. The proposed development footprint was subsequently designed to be located within low condition vegetation and minimise impacts to the CEEC with the lowest edge to core ratios, best able to withstand future development pressure, and to ensure that north to south connectivity with the Stockyard Mountain – Dunmore Hills regional biodiversity connectivity was maintained.

The CEEC vegetation is equivalent to NSW Plant Community Type PCT 838 (Biometric Vegetation Type SR545) (NSW Vegetation Information System (version 2.1)). The installation of an APZ over 1.09 hectares is considered a modification and therefore will cause an impact from the proposed subdivision. The impacts of installation compared to the condition benchmarks for PCT 838 show:

- An inner protection zone (IPZ) will require a reduction of overstorey canopy cover to 15% cover across 0.44 hectares. This will not lower canopy cover to below the lower benchmark canopy cover value expected for this vegetation type (also 15%). Regular slashing to maintain low groundcover will occur in areas that already lack midstorey or shrubs due to horse grazing, therefore additional impacts are unlikely. Overall APZ modification is minimal and on-going management will reduce currently unmanaged weed threats by controlling Lantana, Blackberry and Madeira Vine, improving condition of native vegetation on site.
- An outer protection area (OPZ) will require a reduction of canopy overstorey to 30% over 0.64 hectares. Annual slashing to maintain low groundcover will occur in areas that already lack midstorey or shrubs due to horse grazing, therefore additional impacts are unlikely. Removal of Lantana will be required which is likely to allow for an overall improvement in ground cover condition.

While the area will be considered an impact, the retained APZ area will form a buffer between residual CEEC within the environmental lot greater than 30 metres in width. This retained area is still considered critical habitat for the CEEC (TSSC 2016). Therefore the installation of an APZ in preference to clearing represent impact minimisation of impact for 1.09 hectares that may have been cleared for subdivision.

During the clearing of vegetation, an ecologist should be present during the removal of hollow-bearing trees to salvage any fauna species from hollows. Any hollow-bearing limbs, removed as a part of the subdivision, should be relocated into the E3 – Environmental Management area. Hollow logs should be placed on the ground (outside of APZs) to provide supplementary habitat following the removal of noxious weeds such as *Lantana camara* for general fauna species that may be present within the study area.

## Mitigate impacts

Actions to mitigate the potential impacts of the proposed development on Illawarra Lowlands Grassy Woodland CEEC EPBC Act have been provided below. These actions have been drawn from mitigation measures recommended for the associated proposed development, and include:

- 1.60 hectares will be conserved and managed in perpetuity within the environmental lot.
- The CEEC within environmental lot will be improved through a range of ecological restoration works set out in a VMP.
- Sensitive areas will fenced APZ area from residential subdivision, and APZ from areas dedicated to biodiversity conservation (specifically within the environmental lot).
- All access during the pre-construction, construction and operational phases should be limited to existing roads and designated access tracks.
- Install suitable fencing and signage around areas to be conserved.
- A regular audit program carried out by a suitably qualified ecologist will be implemented. The audit will be undertaken annually in perpetuity. Audit results will be submitted to Shellharbour City Council
- Erosion and sedimentation control will be maintained during all construction phases to protect the retained modified CEEC and residual CEEC.

Safeguards and controls to mitigate potential indirect and direct impacts to *Cynanchum elegans* will be strictly adhered to, including monitoring and reporting of management actions annually to Council. These will be detailed within the VMP for the environmental lot.

Mitigation measures for the removal of hollow-bearing trees can be established through compensatory hollow/nest boxes at a 1:1 ratio within areas of vegetation to be retained. These nest boxes will be

designed to support the native species which would otherwise utilise the hollows to be removed. Nest boxes will be installed by a suitably qualified ecologist one month prior to trees removal.

# 6 Conclusion on the likelihood of significant impacts

## 6.1 Do you THINK your proposed action is a controlled action?

| | |
|---|---|
| | No, complete section 4.2 |
| X | Yes, complete section 4.3 |

## 6.2 Proposed action IS NOT a controlled action.

## 6.3 Proposed action IS a controlled action

| | **Matters likely to be impacted** |
|---|---|
| | World Heritage values (sections 12 and 15A) |
| | National Heritage places (sections 15B and 15C) |
| | Wetlands of international importance (sections 16 and 17B) |
| X | Listed threatened species and communities (sections 18 and 18A)<br>o Permanent removal of 3.06 hectares of *Illawarra and south coast lowland forest and woodland ecological community Critically Endangered Ecological Community* in moderate condition (category D).<br>o Permanent modification on 1.09 hectares of *Illawarra and south coast lowland forest and woodland ecological community Critically Endangered Ecological Community* in moderate condition (category D). |
| | Listed migratory species (sections 20 and 20A) |
| | Protection of the environment from nuclear actions (sections 21 and 22A) |
| | Commonwealth marine environment (sections 23 and 24A) |
| | Great Barrier Reef Marine Park (sections 24B and 24C) |
| | A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E) |
| | Protection of the environment from actions involving Commonwealth land (sections 26 and 27A) |
| | Protection of the environment from Commonwealth actions (section 28) |
| | Commonwealth Heritage places overseas (sections 27B and 27C) |

# 7 Environmental record of the responsible party

| | | Yes | No |
|---|---|---|---|
| **7.1** | **Does the party taking the action have a satisfactory record of responsible environmental management?**<br><br>**Provide details** | √ | |
| **7.2** | **Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?**<br><br>**If yes, provide details** | | √ |
| **7.3** | **If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?**<br><br>**If yes, provide details of environmental policy and planning framework** | | N/A |
| **7.4** | **Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**<br>No<br><br>**Provide name of proposal and EPBC reference number (if known)** | | √ |

# 8 Information sources and attachments

(For the information provided above)

## 8.1 References


- Commonwealth of Australia 2013. *Matters of National Environmental Significance – Significant Impact Guidelines 1.1 Environmental Protection and Biodiversity Conservation Act 1999.*
- Department of the Environment Conservation Climate Chance and Water (DECCW) 2009 *Draft National Recovery Plan for the Grey-headed Flying-fox Pteropus poliocephalus* Available from: *http://www.environment.nsw.gov.au/resources/threatenedspecies/08214dnrpflyingfox.pdf*
- Department of the Environment and Energy (DEE) 2016c Species Profile and Threats Database for *Pteropus poliocephalus* Grey-headed Flying-fox Available from: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=186
- Office of Environmental and Heritage (OEH) 2016. *Atlas of NSW Wildlife.* Wildlife Data Unit, OEH, Parramatta NSW.
- Biosis 2012. Lot 101 DP 785139, Crest Rd, Albion Park - BioBanking Assessment. Authors: Morrisey B & Garvey N. Biosis Pty Ltd, Wollongong. Project No. 15634.
- Biosis 2016. Flora and Fauna Assessment for Crest Road, Albion Park. Report for MMJ Real Estate and Spinitu Pty Ltd. Authors: N. Garvey, Biosis Pty Ltd, Wollongong. Project no 18852.
- DEC 2005. *Zieria granulata (Illawarra Zieria) Recovery Plan*. NSW Department of Environment and Conservation, Hurstville NSW
- DECC 2004. Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities Working Draft November 2004. Department of Environment and Conservation (NSW).
- ELA 2011. Flora and Fauna Assessment: Lot 101 DP 785139 Crest Road, Albion Park. EcoLogical Australia. Sydney.
- NPWS 2002. Threatened Species Information. *Cynanchum elegans*. NSW National Parks and Wildlife Service, Hurstville.
- NSW Scientific Committee (NSW SC) 1999. *Illawarra lowlands grassy woodland in the Sydney Basin Bioregion - endangered ecological community listing.*
- Tozer MG, Turner K, Keith DA, Tindall D, Pennay C, Simpson C, MacKenzie B and Beukers P. 2010. Native vegetation of southeast NSW: a revised classification and map for the coast and eastern tablelands. *Cunninghamia* 11, 359-406.
- Threatened Species Scientific Committee (TSSC) 2016. Approved Conservation Advice (incorporating listing advice) for the Illawarra and South Coast Lowland Forest and Woodland Ecological Community. Canberra: Department of the Environment and Energy.
- WCC et al. 2011. *Illawarra Biodiversity Strategy*. Wollongong City Council, Shellharbour City Council and Kiama Municipal Council, Wollongong.


## 8.2 Reliability and date of information

The information utilised to prepare this referral has been prepared by suitably qualified consultants who are experienced in their areas of expertise, or is information that has been prepared and disseminated by the Australian or New South Wales Governments. The information prepared has been subject to peer review processes internally. The information utilised is considered to be current and suitable for use to support the preparation of this referral.

## 8.3 Attachments

| | | ✓ attached | Title of attachment(s) |
|---|---|---|---|
| **You must attach** | figures, maps or aerial photographs showing the project locality (section 1) | ✓ | See Figure 1 and 2 |
| | GIS file delineating the boundary of the referral area (section 1) | ✓ | Attached to email |
| | figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3) | ✓ | See Figure 4 and 5 |
| **If relevant, attach** | copies of any state or local government approvals and consent conditions (section 2.5) | N/A | - |
| | copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6) | ✓ | Flora and Fauna Assessment (Biosis 2016)<br><br>PMST 10kilometre radius (April 2017) |
| | copies of any flora and fauna investigations and surveys (section 3) | ✓ | Preliminary Biobanking Assessment (Biosis 2012) |
| | technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4) | ✓ | Bushfire Hazard Assessment & Compliance Report (Bushfire Evacuations & Solutions 2015) |
| | report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3) | N/A | - |

# 9 Contacts, signatures and declarations

## Project title:

### 9.1 Person proposing to take action

| | |
|---|---|
| 1. Name and Title: | Peter Robertson |
| 2. Organisation: | Spinitu Pty Ltd |
| 3. EPBC Referral Number : | |
| 4: ACN / ABN : | 77003361573 |
| 5. Postal address | [redacted] |
| 6. Telephone: | [redacted] |
| 7. Email: | [redacted] |
| 8. Name of designated proponent (if not the same person at item 1 above: | |
| 9. ACN/ABN of designated proponent (if not the same person named at item 1 above): | |

I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

□ an individual; OR

□ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR

√ not applicable.

If you are small business entity you must provide the Date/Income Year that you became a small business entity:

N/A

I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:

√ not applicable.

Declaration

I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.
I agree to be the proponent for this action.
I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature [redacted] Date 22/8/17

**9.2 Person preparing the referral information (if different from 9.1)**

| | |
|---|---|
| Name | Mathew Misdale |
| Title | Botanist |
| Organisation | Biosis Pty Ltd. |
| ACN / ABN (if applicable) | 65 006 175 097 |
| Postal address | [redacted] |
| Telephone | |
| Email | |

Declaration

I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.

Signature Date 18/9/17

# Attachment A: Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

All data will be provide under a Creative Commons license (http://creativecommons.org/licenses/by/3.0/au/)

# Appendix 9: Referral variation

Australian Government
Department of the Environment and Energy

**Notification of**
**VARIATION OF PROPOSED ACTION**

**Residential Subdivision Lot 101 DP 785139 Crest Road, Albion Park, New South Wales (EPBC 2017/8048)**

This request to vary the proposal has been accepted in accordance with section 156B of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

| | |
|---|---|
| **proposed action** | Residential subdivision of Lot 101 DP 785139) Crest Road, Albion Park, New South Wales [see EPBC Act referral 2010/1324] |
| **varied proposed action** | Residential subdivision of Lot 101 DP 785139) Crest Road, Albion Park, New South Wales [see EPBC Act referral 2010/1324 and variation dated 30 November 2017] |
| **person proposing to take the action** | Spinitu Pty Ltd<br>ACN 003 361 573 |
| **variation** | to excise the proposed public Crest Road extension from the referred action, as reflected in the plans at Annexure 1 |

**Decision-maker**

| | |
|---|---|
| **name and position** | Dane Roberts<br>Acting Assistant Secretary<br>Assessments (ACT, NSW) & Waste Branch |
| **signature** | |
| **date of decision** | 30 November 2017 |

biosis

## Figure 3 Previous (29/09/2017) and Updated (30/10/2017) (EPBC 2017/8048)



**Legend**

- Study area
- Subject site
- APZ

**Proposed subdivision**

- Proposed lot boundary

**Zoning Boundaries**

- E3 Environmental Management
- R2 Low Density Residential
- Development - APZ
- Development - Building envelope
- Development - Lots
- Development - Roads
- Environmental management
- Environmental management - Inner APZ
- Environmental management - Outer APZ

**Figure 3: Development footprint**

0 10 20 30 40 50

Metres

Scale: 1:1,800 @ A3

*Coordinate System: GDA 1994 MGA Zone 56*

N

biosis

Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong

*Matter: 25345*
*Date: 21 August 2017,*
*Checked by: LH, Drawn by: NMG*
*Location:P:\25300s\25345\Mapping*
*25345_F3_DevFootprint*


Duke Street
Crest Road
Premier Drive
Raleigh Street
E3
R2
Wollongong
Kiama
Nowra
Legend
Study area
Subject site
Crest Road Extension (DA 119/2016)
APZ
Proposed subdivision
Proposed lot boundary
Zoning Boundaries
E3 Environmental Management
R2 Low Density Residential
Development - APZ
Development - Building envelope
Development - Lots
Development - Roads
Environmental management
Environmental management - Inner APZ
Environmental management - Outer APZ
Figure 3: Development footprint
0 10 20 30 40 50
Metres
Scale: 1:1,800 @ A3
Coordinate System: GDA 1994 MGA Zone 56
biosis
Biosis Pty Ltd
Ballarat, Brisbane, Canberra, Melbourne, Sydney,Wangaratta & Wollongong
N
Matter: 25345
Date: 30 October 2017.
Checked by: LH, Drawn by: NMG
Location:P:\25300s\25345\Mapping\
25345_F3_DevFootprint_CrestRdExtUpdate
Acknowledgements: Imagery (c) Nearmap 2015; Basemap (c) Land and Property Information 2015

# Appendix 10: Department of the Environment and Energy request for additional information

Australian Government
Department of the Environment and Energy

EPBC Ref: 2017/8048

Mr Peter Robertson
Spinitu Pty Ltd
PO Box 745
MIRANDA NSW 2228

Dear Mr Robertson

**Additional information required for preliminary documentation**
**Residential subdivision of Lot 101 DP 785139 Crest Road, Albion Park, New South Wales (EPBC 2017/8048)**

I am writing to you in relation to your proposed residential subdivision of Lot 101 DP 785139 Crest Road, Albion Park, New South Wales (EPBC 2017/8048).

On 30 November 2017, a delegate of the Minister determined that the the proposed action is a controlled action and that it will be assessed by preliminary documentation. Further information will be required to be able to assess the relevant impacts of the proposed action.

Details of the further information required are at Attachment A.

Details on the assessment process and the responsibilities of the proponent are set out in the enclosed fact sheet. Further information is available from the Department's website at www.environment.gov.au/epbc.

If you have any questions about the assessment process or the further information required, please contact Jamie Machin, by email to jamie.machin@environment.gov.au, or telephone 02 6274 2303, and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

Mike Smith
Director
Southern NSW Assessments Section

2 March 2018

## Preliminary documentation – specified information requirements

## Residential subdivision – Lot 101 DP 785139 Crest Road, Albion Park, New South Wales (EPBC 2017/8048)

On 30 November 2017, your proposed action was determined to be a controlled action for the purposes of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), subject to the following controlling provisions:

- listed threatened species and communities

At the same time, it was determined that your proposed action will be assessed on preliminary documentation. This is a flexible assessment approach that is commonly used to assess proposed actions that have relatively limited public interest, utilise conventional methods and technologies, and are expected to impact relatively few protected matters.

This document sets out the specified information required by the Minister under section 95 A of the EPBC Act for the assessment of the impacts of your proposed action (the 'preliminary documentation').

It is important that you read this document carefully and make sure that you understand it. If you have not followed the guidance in this document, your draft preliminary documentation will be rejected. Please contact your Assessment Officer (Jamie Machin – telephone 02 6274 2303 or e-mail jamie.machin@environment.gov.au) as early as possible if you have any questions or concerns.

### Format and style

It is important to the integrity of the assessment process that your preliminary documentation, consisting of a main document and any number of indexed appendices, is presented in a way that is intelligible to the general public, who may not be familiar with the history of your proposed action or with the technical aspects of its assessment. You should:

- present your documentation in standard formats, noting that it will be published in hardcopy (eg A4 / A3 hardcopies) and electronic formats (eg PDF or MSWord files)
- include all key claims, findings, proposals and undertakings in the main document
- use maps and / or diagrams where appropriate to support textual information
- present all maps and diagrams at an appropriate size and scale
- explain (or avoid) technical jargon and acronyms
- reference all supporting documentation (including websites) clearly and consistently
- publish key supporting documents (eg survey data, technical reports) as appendices
- ensure that other supporting documents (eg academic studies, regulatory standards) are publicly accessible, with electronic links provided where possible

## Content

Your preliminary documentation must include all the information provided in your referral documentation (updated or corrected as necessary), as well as the additional information requested in this document. It may be useful to include the referral itself as an appendix.

Your preliminary documentation should enable the Minister (or delegate) and any other interested stakeholders to understand the impacts of the proposed action. Variables, assumptions and uncertainties must be clearly identified.

Your preliminary documentation must make reference to all relevant standards, policies and other guidance material published by the Department. Any instances where published guidance is not followed must be justified. Where no Commonwealth standards exist, state government and / or industry standards may be useful.

Names, roles and qualifications (where relevant) of all persons involved in preparing the preliminary documentation must be provided.

If it is necessary to rely on any confidential material, you should consult the Department on the handling of that material before submitting your preliminary documentation for publication.

### Controlling provision – listed threatened species and communities

Under this controlling provision, any listed threatened species or community is potentially relevant to the assessment. However, based on the information provided in your referral, and other available information, the Department is particularly interested in the species and communities tabulated below.

Relevant guidance material (including in particular survey guidelines, conservation advices, recovery plans, threat abatement plans and policy statements) is available through the Department's Species Profile and Threats (SPRAT) database. It is your responsibility to ensure that you have identified the relevant documents.

| **Species / communities adequately addressed in your referral** |
|---|
| The Department broadly accepts the claims and conclusions made in your referral documentation in relation to the following species / communities. Unless circumstances have changed, your preliminary documentation only needs to repeat or reference information provided in the referral documentation. |
| Illawarra Zieria (*Zieria granulata*) – endangered |
| Grey-headed Flying-fox (*Pteropus poliocephalus*) – vulnerable |

| **Species / communities for which further information is required** | |
|---|---|
| Further evidence (eg field surveys) and / or a more detailed argument is required to satisfy the Department of claims and conclusions made in your referral documentation in relation to the following species / communities and / or explain how impacts on them will be addressed. | |
| Species | Details of information required (if applicable) |
| Illawarra and south coast lowland forest and woodland – critically endangered | • information on management of edge effects, including APZ specifications<br>• areas of impact, APZs and 30 metre notional buffer mapped and tabulated<br>• proposals to offset residual significant impacts |
| White-flowered Wax Plant (*Cynanchum elegans*) – endangered | • information on management of retained individuals, including APZ specifications<br>• proposals to offset residual significant impacts (if any) |

| **Additional species / communities to be addressed** |
|---|
| The Department considers that the following species / communities should have been addressed in the referral but were not. Information is required on likelihood of occurrence and impacts, and mitigation / offset response if applicable. |
| Thick-lipped Spider-orchid (*Caladenia tessellata*) – vulnerable |
| Leafless Tongue-orchid (*Cryptostylis hunteriana*) – vulnerable |
| Illawarra Socketwood (*Daphnandra johnsonii*) – endangered |
| Yellow Gnat-orchid (*Genoplesium baueri*) – endangered |
| Spiked Rice-flower (*Pimelea spicata*) – endangered |
| Illawarra Greenhood (*Pterostylis gibbosa*) – endangered |
| Spot-tailed Quoll (*Dasyurus maculatus* subsp. *maculatus* [SE mainland population]) – endangered |
| Koala (*Phascolarctos cinereus* [combined populations of Qld, NSW and the ACT]) – vulnerable |
| New Holland Mouse (*Pseudomys novaehollandiae*) – vulnerable |

While all relevant species and communities must be addressed, the Department understands that it is appropriate to address different matters at different levels of detail and that some matters can

best be addressed in thematic groups. The following factors must be considered in relation to each species or community:

- its occurrence at the site of the proposed action
- its potential to be impacted by the proposed action
- measures proposed to avoid or mitigate potential impacts
- compensation (offsets) proposed for any residual significant impacts (ie impacts that cannot be avoided or mitigated)

*Occurrence*

Occurrence of species and / or communities at the site of the proposed action should be informed by relevant experts following relevant survey standards. Survey methodology must be described and results appended to the preliminary documentation,

Consideration must be given to occupancy trends relating to season and time of day. Longer term trends including climate change may also be relevant. In relation to habitat for listed threatened species, the type of habitat (eg foraging, breeding, dispersal etc) must also be considered.

*Impacts*

Direct and indirect impacts of the proposed action must be considered, in relation to the specific needs and characteristics of relevant listed threatened species and communities. The Department has identified the following types of impacts as being particularly relevant to your proposed action:

| **Expected impacts of the proposed action** |
|---|
| clearing (direct impact) associated with the development of residential lots and construction of associated infrastructure |
| edge effects (indirect impacts) on retained listed threatened communities or species habitat arising from adjacent suburban activities, including but not necessarily limited to noise and light disturbance, roadkill, trampling, littering, weed invasion, predation by pets, altered fire regime and altered hydrology (in terms of quality and quantity) |

Consideration must also be given to cumulative impacts of the proposed action when considered in conjunction with concurrent and expected future developments. Note that cumulative impacts may include interactive and / or compounding impacts as well as additive impacts.

*Avoidance and mitigation measures*

Proposed avoidance and mitigation measures must be discussed in terms of their expected effectiveness and cost. Note that in deciding whether to approve the proposed action, the Minister is required to consider whether (as far as possible) any condition is a cost-effective means for achieving its intended objective.

Management commitments by the person proposing to take the action must be clearly distinguished from recommendations or statements of best practice made by the author or other technical expert. It is preferable to provide a consolidated table of management commitments, including details on funding, roles and responsibilities and measurable performance criteria.

*Offsets*

Significant residual (ie after any avoidance and mitigation measures have been considered) impacts on any listed threatened species or community must be offset in accordance with the Department's *EPBC Environmental Offsets Policy 2012* and offset assessment guide, or other endorsed offset framework (see separate heading below). If using the offset assessment guide, be sure to provide and clearly justify the scores entered into the tool.

Offsets will generally need to be underway prior to commencement of the proposed action, but not necessarily prior to approval.

**Economic and social matters**

Your preliminary documentation must provide information about the expected economic and social impacts of the proposed action. This should include, but not necessarily be limited to, the following:

- consideration of both costs (eg disruption to existing community infrastructure or environmental features) and benefits (eg increased housing or employment)
- consideration of different scales of impact where relevant (eg local versus national)
- specific dollar or other numerical values where relevant

**Environmental history of the person proposing to take the action**

Your preliminary documentation must provide details of any proceedings under a Commonwealth, state or territory law for the protection of the environment, or the conservation and sustainable use of natural resources, against the person proposing to take the action (or if the person is a corporation, its executive officers).

If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must be provided.

## Relevant policies and other considerations

Various policy statements and other publications that may be relevant to your assessment can be found on the Department's website. Some key policies are summarised below.

Be sure to identify where Commonwealth definitions, methodologies and standards differ from those required or recommended by state government agencies. Ensuring that Commonwealth survey and identification requirements are incorporated into surveys at the earliest opportunity will reduce the likelihood of additional surveys being required. Ask your assessment officer if you are unsure.

**Endorsed offsetting frameworks**

In the interests of streamlining regulatory requirements for proponents, the Commonwealth has endorsed some state government policies, as reflected in the Department's *EPBC Act Condition-setting Policy 2016*. These include the rules established under section 127B of the New South Wales *Threatened Species Conservation Act 1995* (the BioBanking scheme).

In 2017, the BioBanking scheme was effectively replaced by the new Biodiversity Assessment Method (BAM). Although the BAM has not been endorsed by the Commonwealth, offsetting

outcomes achieved through the BAM will generally be accepted for the purposes of the EPBC Act, provided that they are 'like for like' in relation to listed threatened species / communities as defined for the purposes of the EPBC Act. Payment into a Biodiversity Conservation Trust will generally not be considered acceptable.

If you are proposing offsets developed using the BAM, you should append all relevant BAM documentation to your preliminary documentation – this would generally include a biodiversity development assessment report (BDAR) and possibly a biodiversity stewardship site assessment report (BSSAR).

**Defining patches of a community**

A patch is a discrete and mostly continuous area of an ecological community (or species habitat), as defined by the key diagnostics, but can include small-scale variations, gaps and disturbances that do not significantly alter the overall function of the patch. Permanent structures, such as roads and buildings, are typically excluded from a patch, although a patch may be considered to be continuous across or around them.

When it comes to defining a patch of an ecological community allowances are made for 'breaks' between areas that meet the key diagnostics (eg a narrow strip of other native vegetation along a watercourse). The size of break that can be included within a patch without altering its overall function varies for different ecological communities – further guidance on a specific community may be provided in a conservation advice, policy statement or similar.

Variation in structure, quality or condition of vegetation across a patch of an ecological community does not necessarily mean it should be split into multiple patches. For example, woodland communities often incorporate areas of derived native grassland, which should generally be considered as part of the same patch. Average quality across the largest area that meets the key diagnostics should be used in determining the overall condition of the ecological community. Where the average condition falls below the minimum condition thresholds for a patch as a whole, the largest area or areas that meet minimum condition thresholds should be identified as the patch or patches of the nationally listed ecological community.

**Buffer zones**

A buffer zone is an area adjacent to a patch of an ecological community (or species habitat) that is important for protecting the integrity of the ecological community. The purpose of a buffer zone is to minimise the risk of indirect impact by physically separating the patch from direct impacts and by identifying it to land managers. For instance, a buffer zone will help protect the root zone of edge trees and other components of the ecological community from spray drift (fertiliser, pesticide or herbicide sprayed in adjacent land), weed invasion, polluted water runoff and other damage. The best buffer zones are typically comprised of native vegetation. A buffer zone is not part of the ecological community, so while having a buffer zone is strongly recommended, it is not protected as part of the ecological community and is not included in the calculation of the patch size.

The Department may not consider that a retained patch of an ecological community (or species habitat) has been effectively avoided if the design of a development does not include a buffer zone. In these cases, the Department will generally consider the outer edge of the patch (typically up to 30 m) to have been impacted or partially impacted, requiring an appropriate offset.

### Outcomes based conditions

Outcomes-based conditions can provide approval holders with greater flexibility and autonomy while still holding them accountable for achieving sound environmental outcomes. The Department promotes the use of outcomes-based conditions where possible, in accordance with its *Outcomes-based Conditions Policy 2016*.

However, outcomes-based conditions are generally only appropriate where the person proposing to take the action has a good environmental record and the baseline condition of a site is well understood and documented.

Please advise your Assessment Officer if you would like to pursue this approach. Your preliminary documentation would need to:

- thoroughly document the baseline condition of the relevant impacted matter(s)
- identify conservation objectives (outcomes) for the relevant impacted matters, preferably with reference to any applicable conservation advices, recovery plans and threat abatement plans
- outline how performance against specified objectives will be measured and reported