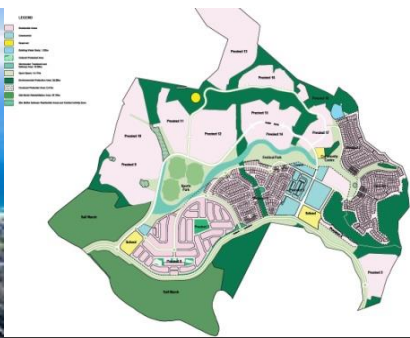




Leda Manorstead Pty Ltd  
Cobaki Estate  
Development Precincts 1 & 2  
Bulk Earthworks

# Environmental Assessment Report

Revision 3  
August 2016

|                 |                                                          |
|-----------------|----------------------------------------------------------|
| Project Name:   | Cobaki Precincts 1 and 2 Earthworks Environmental Report |
| Project Number: | 3003773                                                  |
| Report for:     | Leda Manorstead Pty Ltd                                  |

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# 1 INTRODUCTION

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This Environmental Assessment has been prepared by SMEC Pty Ltd for LEDA Manorstead Pty Ltd and relates to the proposed borrow areas located within Precincts 1 and 2 of the proposed Cobaki Estate development. The Cobaki Estate development is located within Tweed Shire Council and is a proposed new residential community with a mix of urban land uses integrated with open space and environmental protection areas.

## 1.1 Location

The Cobaki Development is located west of the Tugun Bypass and Gold Coast Airport, Tweed Heads. The proposed development is bound by the Queensland and New South Wales border to the north and west and Piggabean Road to the south. The site adjoins Cobaki Creek and Cobaki Broadwater to the east. It is located approximately 6 km west of Tweed Heads/Coolangatta Town Centre and 1.5 km west of the Gold Coast Airport and the Gold Coast Highway, and 500 m west of the Pacific Motorway (Tugun Bypass). Access is currently off Piggabean Road. Future access will be off Boyd Street from the north and linking to Piggabean Road via the proposed Cobaki Parkway.

The site exists in its current state as a large portion of cleared land, which was previously cleared for agricultural purposes (cattle grazing), and scatterings of native vegetation communities.

This report specifically pertains to the borrow areas located in Precincts 1 and 2. Precincts 1 and 2 occur in the north-western portion of the Cobaki site and consist of land described as Lot 199 on DP755740, Lot 200 on DP755740, Lot 201 on DP755740 and Lot 202 on DP755740. Precinct 1 covers a total area of approximately 13.6 ha and will ultimately be comprised of 206 residential lots. Precinct 2 covers an area of 18.6 ha and will ultimately be comprised of 269 residential lots and one residual lot of approximately 3.8 ha.

The location of Development Precincts 1 and 2 with respect to the Cobaki site is shown in Figure 1.

## 1.2 Scope

On 17th December 2012 LEDA Manorstead applied for an amendment to the current modification application for the Cobaki Estate Central Open Space Project Approval (08\_0200 Mod 1) for the winning of fill from Precincts 1 and 2 for construction of the Central Open Space (as approved under 08\_0200).

This Report details potential environmental impacts of the proposed borrow earthworks and a description of environmental management, mitigation and monitoring measures to minimise these potential impacts.

**Figure 1: Site Locality**



**Legend:**  
 Cobaki Site Boundary

**COORDINATE SYSTEM** 0 1 2km  
 GDA 1994 MGA Zone 56  
 Scale: 1: 30,000 @ A4

**FIGURE** 1 - Site Locality

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**PROJECT NO.** 3003773 **PROJECT TITLE** Cobaki Estate Management Plans

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### 1.3 Previous Studies

A number of previous studies have been undertaken and management plans prepared as part of the various stages of development approval for this proposed development. These have been reviewed as part of this assessment.

Studies and Plans reviewed as part of this report include, but are not limited to:

- Environmental Assessment Report Part 3A Concept Plan (JBA Urban Planning, 2008);
- Environmental Assessment Report Part 3A Project Application (JBA Urban Planning, 2009);
- Ecological Assessment – Volume 1 (James and Warren & Associates, 2008a);
- Vegetation Management Plan (James and Warren & Associates, 2008b);
- Fauna Management Plan (James and Warren & Associates, 2009);
- Ecological Assessment Precinct 1 & 2 (James and Warren & Associates, 2010a);
- Ecological Assessment Precinct 6 (James and Warren & Associates, 2010b);
- Revised Regeneration and Revegetation Plan (James and Warren & Associates, 2010c);
- Stormwater Quality Concept Plan (Yeats, 2010a);
- Construction Environmental Management Plan – Statement of Intent (Yeats, 2010b);
- Long Nosed Potoroo Management Plan (SMEC, 2011);
- Acid Sulphate Soils Management Plan (SMEC, 2012a);
- Buffer Management Plan – Central Open Space and Precincts 1, 2 & 6 (SMEC, 2012b);
- Fauna Management Plan – Central Open Space and Precincts 1, 2 & 6 (SMEC, 2012c);
- Groundwater Management Plan – Central Open Space and Precincts 1, 2 & 6 (SMEC, 2012d);
- Flora and Fauna Monitoring Program (SMEC, 2012e);
- Site Regeneration and Rehabilitation Management Plan – Central Open Space and Precincts 1, 2 & 6 (SMEC, 2012f).
- Vegetation Management Plan – Central Open Space and Precincts 1, 2 & 6 (SMEC, 2012g);

The various management plans have specific management measures, monitoring and reporting requirements that must be implemented as per the various conditions of approval relating to this proposed development.

## 2 APPROVALS AND LICENSING

The legislative requirements, policies, guidelines and standards relevant to the project are summarised in Table 1.

**Table 1: Environmental Legislation Relevant to the Project**

| Legislation                                                               | Details of Approvals/Permits Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Relevance to the Project                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Commonwealth</b>                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Environmental Protection and Biodiversity Act 1999 (EPBC)</b>          | The EPBC Act requires that actions that are proposed to be taken which are likely to have a significant impact on matters of national environmental significance (NES) are referred to the Minister for a decision on if it will be subject to a rigorous assessment and approval process. The EPBC Act also applies to actions that are likely to have a significant impact on the environment of Commonwealth land and to actions taken by the Commonwealth that will have a significant impact on the environment anywhere.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The Minister of SEWPaC provided approval of the development on 13 <sup>th</sup> October 2011, subject to a list of conditions, including Condition 2, which states that a Management Plan for the Long-nosed Potoroo is to be submitted to the Minister of SEWPaC for approval.                                                                                                                     |
| <b>Aboriginal and Torres Strait Islander Heritage Protection Act 1984</b> | The Aboriginal and Torres Strait Islander Heritage Protection Act 1984 is the principal Commonwealth legislation for the protection of areas and objects of particular significance to Indigenous Australians.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The Act applies in addition to any State requirements. Persons who discover anything that they have reasonable grounds to suspect to be Aboriginal remains are required to report their discovery to the Minister (s.20).                                                                                                                                                                           |
| <b>Native Title Act 1993</b>                                              | <p>The Native Title Act (1993) was developed by the Federal Government in recognition of the outcomes of the <i>Mabo versus Queensland</i> High Court decision in 1992 which found that the common law of Australia could authorise the rights of Aboriginal and Torres Strait Islander people to lands and waters according to their laws and customs (refer HCA<sub>23</sub> 1992).</p> <p>The Act aims to authorise and protect Aboriginal peoples' and Torres Strait Islanders' common law native title rights and interests with specifically to:</p> <ul style="list-style-type: none"> <li>provide for the recognition and protection of native title;</li> <li>establish ways in which future activities affecting native title may proceed;</li> <li>establish a mechanism for determining applications for the recognition of native title; and</li> <li>provide for, or permit, the validation of certain acts carried out before 1 January 1994 that were made invalid because of the existence of native title.</li> </ul> | Under the Native Title Act 1993 (Cwlth), the valid grant of a freehold estate on or before 23 December 1996 is known as a 'previous exclusive possession act' (PEPA). This means that native title has been extinguished over the area in question tenured as freehold. The area over which the Cobaki Development is proposed is tenured as freehold and therefore meets the definition of a PEPA. |

| Legislation                                                                                                                     | Details of Approvals/Permits Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Relevance to the Project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                 | The Act was substantially amended in 1998. The amended <i>Native Title Act (1993 (Cwlth))</i> allows for confirmation that native title rights and interests have been extinguished (removed) outright by providing a list of the kinds of acts or activities that extinguish native title rights and interests, and provides for, or permits, the validation of certain acts carried out between 1 January 1994 and 23 December 1996.                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>New South Wales</b>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Environmental Planning and Assessment Act 1979 and Environmental Planning and Assessment Regulations 2000 (EP&amp;A Act)</b> | <p>Development in NSW is regulated principally through the EP&amp;A Act. It establishes a system of identifying development requiring consent, and the applicable assessment and approval processes.</p> <p>The Act makes provision for the development of Environmental Planning Instruments including State Environmental Planning Policies (SEPPs) and Local Plans.</p>                                                                                                                                                                     | On February 1 2007, the Director General, as delegate of the Minister of Planning, advised the applicant that the proposal for Cobaki Lakes Estate is a 'major' project to which Part 3A of the EP&A Act applies and requires the Minister's approval, and authorizes the submission of the Concept Plan.                                                                                                                                                                                                                   |
| <b>Threatened Species Conservation Act 1995</b>                                                                                 | The Threatened Species Act 1995 identifies and protects threatened and endangered species, populations and ecological communities.                                                                                                                                                                                                                                                                                                                                                                                                             | As several threatened species and endangered ecological communities will be impacted by the proposed development a number of management plans have been conditioned as part of MP06_0316, MP08_0200 and DA10/0800 & DA10/0801 to ensure the long term protection of such species/communities.                                                                                                                                                                                                                               |
| <b>National Parks and Wildlife Act 1974</b>                                                                                     | <p>The NPW Act provides for the reservation and dedication of national parks, nature reserves, historic sites etc and protection of certain native flora and fauna. It is also the principal legislation for the protection of Aboriginal objects and places of significance ("Aboriginal places").</p> <p>It is an offence to disturb or move any Aboriginal objects without a permit (s.86). Similarly, it is an offence to destroy, deface or damage an Aboriginal place or Aboriginal object without consent from the D-G NPWS (s.90).</p> | <p>Section 84 and 90 of the National Parks and Wildlife Act 1974 (NPW Act) provides the primary basis for the legal protection and management of Aboriginal sites and relics within NSW. The Act requires amongst other things:</p> <ul style="list-style-type: none"> <li>• Consultation with the OEH prior to development to determine the existence of items of Aboriginal heritage;</li> <li>• Consultation with local Aboriginal groups; and</li> <li>• Consent to disturb Aboriginal heritage sites/items.</li> </ul> |

| Legislation                      | Details of Approvals/Permits Required                                                                                                                                                                                                                                                                                                                      | Relevance to the Project                                                                                                                                    |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  |                                                                                                                                                                                                                                                                                                                                                            | In the case of a Part 3A Concept Plan, approval under the NPW Act is not required.                                                                          |
| <b>Water Act 1912</b>            | Approval is required for interception of groundwater.                                                                                                                                                                                                                                                                                                      | Approval is required under Part 5 of the Water Act 1912 is required as the proposed works will intercept groundwater during construction.                   |
| <b>Noxious Weeds Act 1993</b>    | The Noxious Weeds Act 1993 defines the roles of government, councils, private landholders and public authorities in the management of noxious weeds, according to their potential to cause harm to the local environment.                                                                                                                                  | Personnel and sub-contractors are to be made aware of correct procedures of removal and treatment of noxious weeds if they are identified in the work area. |
| <b>Water Management Act 2000</b> | <p>The WMA consolidates the Water Act 1912 and the Rivers and Foreshores Improvement Act. It deals with surface and ground water management.</p> <p>Approval is required to undertake water supply works, drainage works, or floodplain works. The WMA provides a scheme for the transitional recognition of permits granted under the Water Act 1912.</p> | Condition AN2 of the Project Approval requires water licensing.                                                                                             |

### 3 POTENTIAL ENVIRONMENTAL IMPACTS

Given that the area of the proposed borrow areas has already been subject to clearing and some bulk earthworks under other consents, this section focuses on the potential impacts associated with future borrow works. The Precincts 1 and 2 borrow areas are shown in Figure 2.

Construction activities associated with the earthworks within the borrow areas of Precincts 1 and 2 include:

- Installation of temporary erosion, sediment and water quality control measures;
- Topsoil stripping and management;
- Drainage construction; and
- Bulk earthworks (Refer to Appendix A for Bulk earthworks drawings).

Works could potentially impact on the following environmental aspects:

- Native Fauna and habitat (indirectly);
- Native and threatened flora and Endangered Ecological Communities (indirectly);
- Groundwater quality;
- Surface water quality;
- Air quality; and
- Cultural heritage.

#### 3.1 Impacts to native fauna and habitat

Precincts 1 and 2 bulk earthworks will not involve the removal of any potential habitat for native fauna species. Activities associated with the cut of precincts 1 and 2 borrow areas have the potential to indirectly affect fauna and habitats through:

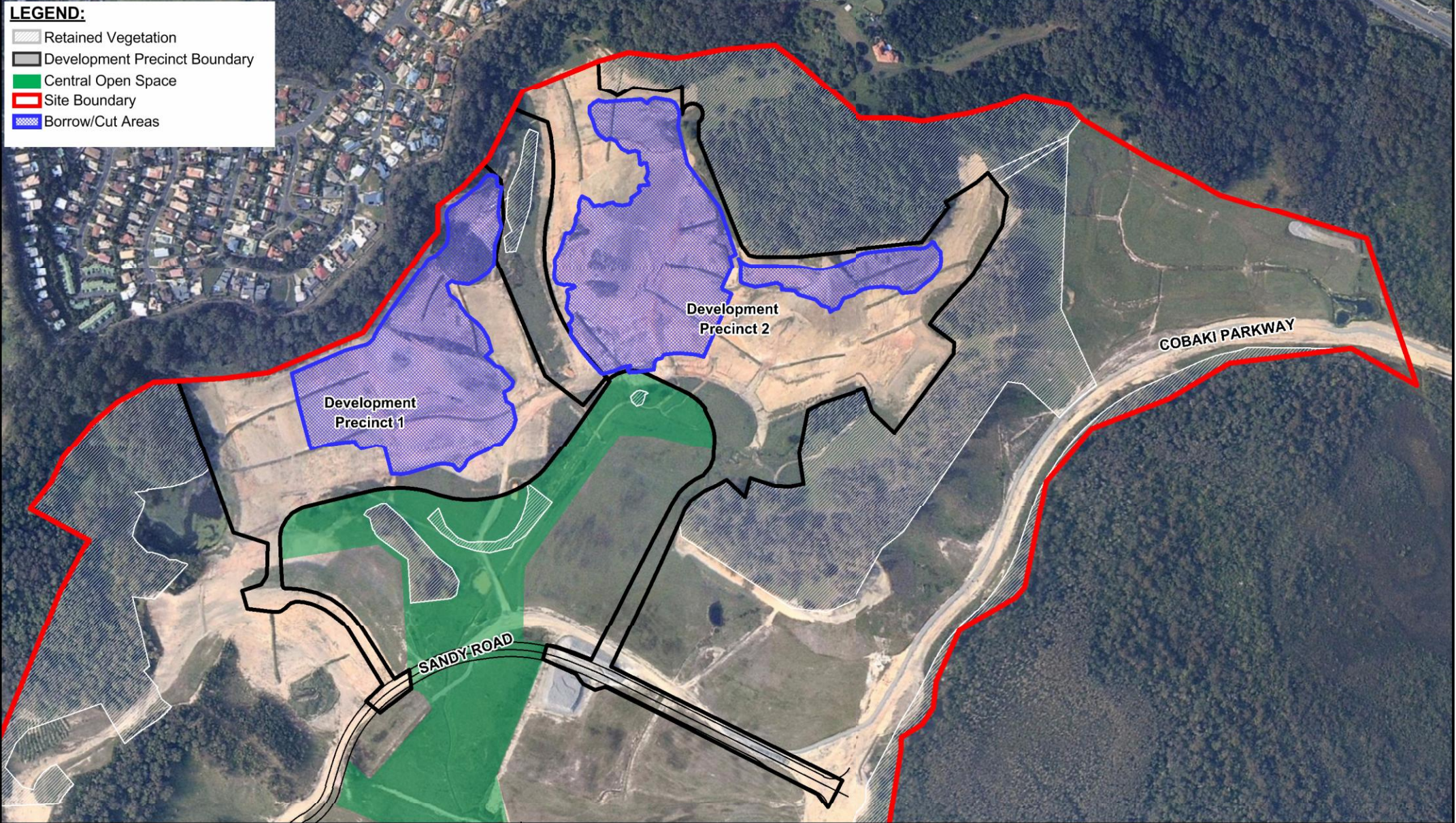
- Mortality and loss of habitat (foraging, breeding, and roosting/nesting) due to changes in land use (vehicle strike, trampling, spills, dumping of waste); and
- Habitat degradation due to alteration of natural hydrological regimes and increases in pollutants.

Nine (9) threatened fauna species have been recorded adjacent to precincts 1 and 2, as detailed in **Table 2** and **Figure 3**.

**Table 2: Threatened fauna species and or habitat within or adjacent to Precincts 1 and 2**

| Common name                    | Scientific name                 | Status     | Act      | Precinct location |   |
|--------------------------------|---------------------------------|------------|----------|-------------------|---|
|                                |                                 |            |          | 1                 | 2 |
| Masked owl                     | <i>Tyto novaehollandiae</i>     | Vulnerable | TSC Act  |                   |   |
| Grey-headed flying fox         | <i>Pteropus poliocephalus</i>   | Vulnerable | EPBC Act |                   |   |
| Osprey                         | <i>Pandion haliaetus</i>        | Vulnerable | TSC Act  |                   |   |
| Little bent-wing bat           | <i>Miniopterus australis</i>    | Vulnerable | TSC Act  |                   |   |
| Common bent-wing bat           | <i>Miniopterus schreibersii</i> | Vulnerable | TSC Act  |                   |   |
| Yellow-bellied sheath-tail bat | <i>Saccolaimus flaviventris</i> | Vulnerable | TSC Act  |                   |   |
| Greater broad-nosed bat        | <i>Scoteanax rueppelli</i>      | Vulnerable | TSC Act  |                   |   |
| Eastern free-tail bat          | <i>Mormopterus norfolkensis</i> | Vulnerable | TSC Act  |                   |   |
| Powerful owl                   | <i>Ninox strenua</i>            | Vulnerable | TSC Act  |                   |   |

**Figure 2: Precincts 1 & 2 Borrow Areas**



**COORDINATE SYSTEM**  
GDA 1994 MGA Zone 56

0 200 400m  
Scale: 1 : 8,000 @ A4

**FIGURE 2 - Borrow Areas**

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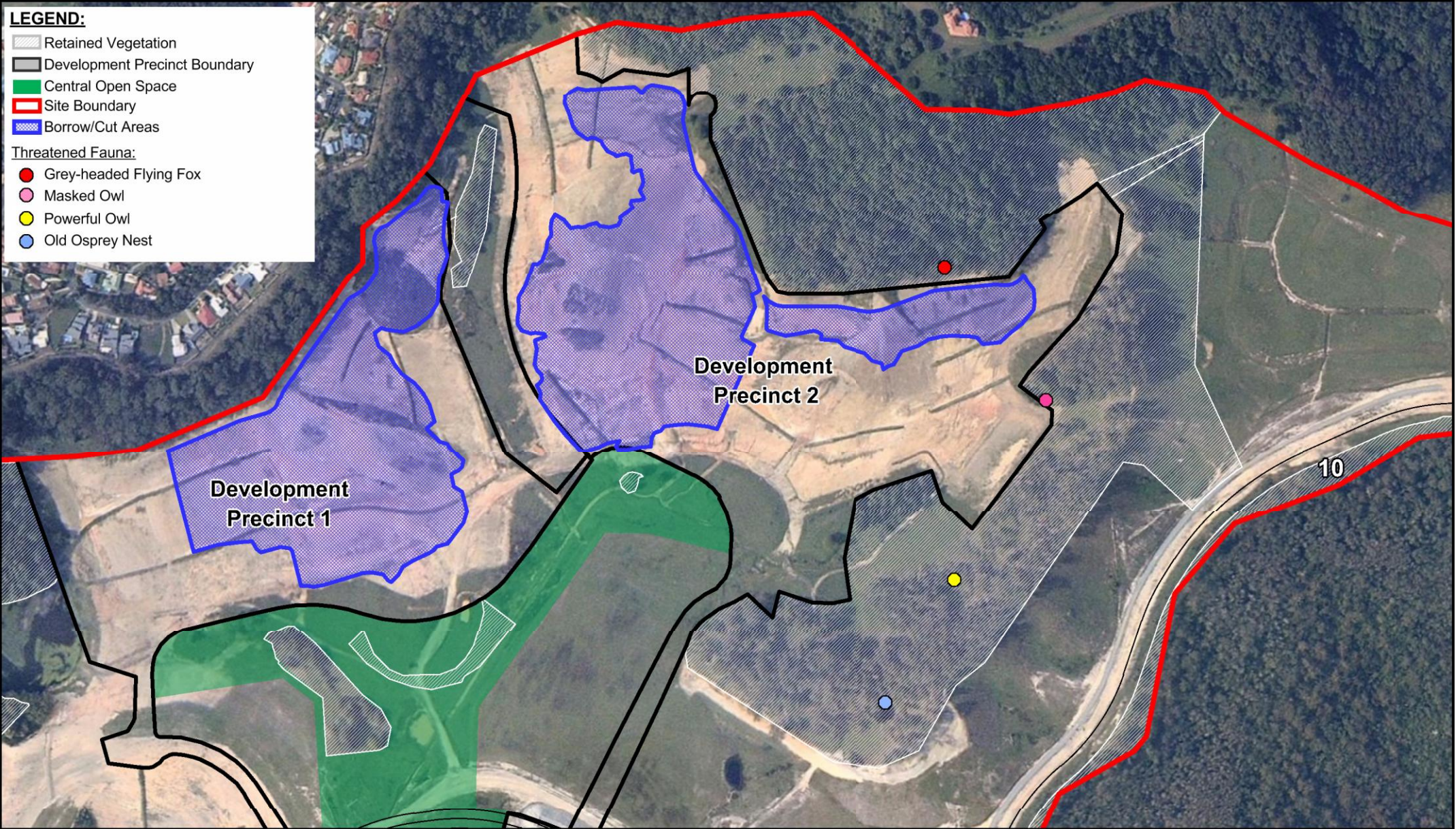
# Figure 3: Fauna Records

## LEGEND:

-  Retained Vegetation
-  Development Precinct Boundary
-  Central Open Space
-  Site Boundary
-  Borrow/Cut Areas

## Threatened Fauna:

-  Grey-headed Flying Fox
-  Masked Owl
-  Powerful Owl
-  Old Osprey Nest



**COORDINATE SYSTEM**  
GDA 1994 MGA Zone 56

0 200 400m  
Scale: 1 : 6,000 @ A4

**FIGURE 3 - Fauna Records**

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The Bulk earthworks within Precincts 1 and 2 Borrow Areas are highly unlikely to impact on these species.

Additionally, while no individuals or potential habitat for the Long-nosed Potoroo (*Potorous tridactylus tridactylus*) has been identified within Cobaki Estate development site, the species has been recorded adjacent to the north eastern corner of the site (Warren, 1994; Woodward-Clyde, 1997). Currently construction workers are accessing the site via Piggabeen Road on the south of the site. However, if contractors are to access the site via Boyd Street, which is in close vicinity to the Long-nosed Potoroo population, potential impacts to the local population of Long-nosed Potoroo (Endangered, *EPBC Act*) must be managed.

Specific management measures associated with these impacts are detailed in Section 4.

## 3.2 Impacts to Native Vegetation

Precincts 1 and 2 borrow area bulk earthworks will not involve the removal of any native vegetation. Activities associated with earthworks of the precincts 1 and 2 borrow areas have the potential to indirectly affect adjacent native vegetation through introduction of weeds, sediment flow and alteration of hydrology regimes. However, with implementation of the actions contained within the environmental management and rehabilitation plans proposed for the area, the likelihood of significant impact on adjacent native vegetation is considered low.

### 3.2.1 Threatened Flora Species

Flora surveys undertaken by James Warren and Associates (2008) recorded the presence of six (6) threatened flora species listed under the TSC Act in areas adjacent to precincts 1 and 2.

**Table 3 – Threatened Flora adjacent to precincts 1 and 2**

| Common name              | Species name                               | Conservation Status |            | Adjacent to Precinct |
|--------------------------|--------------------------------------------|---------------------|------------|----------------------|
|                          |                                            | TSC                 | EPBC       |                      |
| Fine-leaved Tuckeroo     | <i>Lepiderema pulchella</i>                | Vulnerable          |            | 1 & 2                |
| Spiny Gardenia           | <i>Randia moorei</i>                       | Endangered          | Endangered | 1 & 2                |
| Marblewood               | <i>Acacia bakeri</i>                       | Vulnerable          |            | 1 & 2                |
| Coolamon                 | <i>Syzygium moorei</i>                     | Vulnerable          | Vulnerable | 2                    |
| Green-leaved Rose Walnut | <i>Endiandra muelleri subsp. bracteata</i> | Endangered          |            | 1                    |
| Yiel Yiel                | <i>Grevillea hillianiana</i>               | Endangered          |            | 2                    |

No Threatened flora species, or their habitat, will be removed as a result of the bulk earthworks associated with the precincts 1 and 2 borrow areas.

Location of threatened flora is shown in Figure 4.