

*JAMES WARREN & Associates Pty Ltd*

*ENVIRONMENTAL CONSULTANTS*



# SCRIBBLY GUM MANAGEMENT PLAN

## COBAKI LAKES

## PREFERRED PROJECT REPORT

OCTOBER 2009

A REPORT TO LEDA MANORSTEAD PTY LTD

Brisbane Office  
Suite 28 Cathedral Village  
115 Wickham Street  
FORTITUDE VALLEY QLD 4006  
PH: (07) 3257 2703  
Fax: (07) 3257 2708

Ballina Office  
PO Box 1465  
BALLINA NSW 2478  
PH: (02) 6686 3858  
Fax: (02) 6681 1659

Sunshine Coast Office  
PH: (07) 5437 0277  
Fax: (07) 5437 0922



## TABLE OF CONTENTS

<b>1</b>	<b>Introduction.....</b>	<b>3</b>
1.1	Background.....	3
1.2	The subject site .....	3
1.3	Land-use Zones .....	4
<b>2</b>	<b>Conservation Assessment .....</b>	<b>5</b>
2.1	Introduction.....	5
2.2	State Conservation Status of Scribbly Gum Communities .....	5
2.3	Regional Conservation Status of Scribbly Gum Communities .....	5
2.4	Local (Tweed LGA) Conservation Status of Scribbly Gum Communities.....	5
<b>3</b>	<b>Management of the Scribbly Gum Community.....</b>	<b>7</b>
3.1	Introduction.....	7
3.2	Management for Bulk Earth Works .....	7
3.3	Management of the Retained Scribbly Gums .....	7
3.3.1	Introduction.....	7
3.3.2	Management procedures .....	7
3.4	Maintenance .....	8
3.4.1	Introduction.....	8
3.4.2	Maintenance Responsibility.....	8
3.4.3	Maintenance Requirements.....	8
3.4.4	Timing of Maintenance .....	8
3.5	Monitoring.....	9
3.5.1	Introduction.....	9
3.5.2	Personnel .....	9
3.5.3	Parameters to be monitored .....	9
3.5.4	Timing of Monitoring Visits .....	9
3.5.5	Reporting of Monitoring Results .....	9
	<b>References.....</b>	<b>10</b>
	<b>Annexure 1 - Weed Control Techniques.....</b>	<b>11</b>



# 1 INTRODUCTION

## 1.1 Background

James Warren and Associates (JWA) have been engaged by Leda Manorstead Pty Ltd to prepare a Scribbly Gum Management Plan (SGMP) for the community of Scribbly gums (*Eucalyptus racemosa*) located within the Cobaki Lakes proposed development site. The SGMP has been prepared to accompany the Preferred Project Report for the proposed development at Cobaki Lakes.

JWA prepared a SGMP for the Cobaki Lakes site in October 2008 in response to the Director General's Environmental Assessment Requirements (DGEAR's) issued 21<sup>st</sup> August 2007. The SGMP was placed on public exhibition along with various other reports required under the DGEAR's.

Following submissions from the public and State Agencies, some amendments have occurred to the Concept Plan. This SGMP has been revised to reflect changes to the Concept Plan and provide additional information where required.

The most significant change with regards to the SGMP is the provision of an off-site offset. The Scribbly gum community on the Cobaki Lakes site will be managed in accordance with the SGMP until such time that the off-site offset has become established to the satisfaction of DECC.

The objective of this management plan is to provide management guidelines for the conservation and maintenance of Scribbly gums on the site until such time as the off-site offset has become established.

## 1.2 The subject site

The Subject site consists of land described as Lot 1 DP 570076, Lot 2 DP 566529, Lot 1 DP 562222, Lot 1 DP 570077, Lot 1 823679, Lots 46, 54, 55, 199, 200, 201, 202, 205, 206, 209, 228 & 305 DP 755740, Cobaki Lakes, off Pigabeen Road, Tweed Heads. The site covers an area of approximately 598 hectares and is shown in **FIGURE 1**.

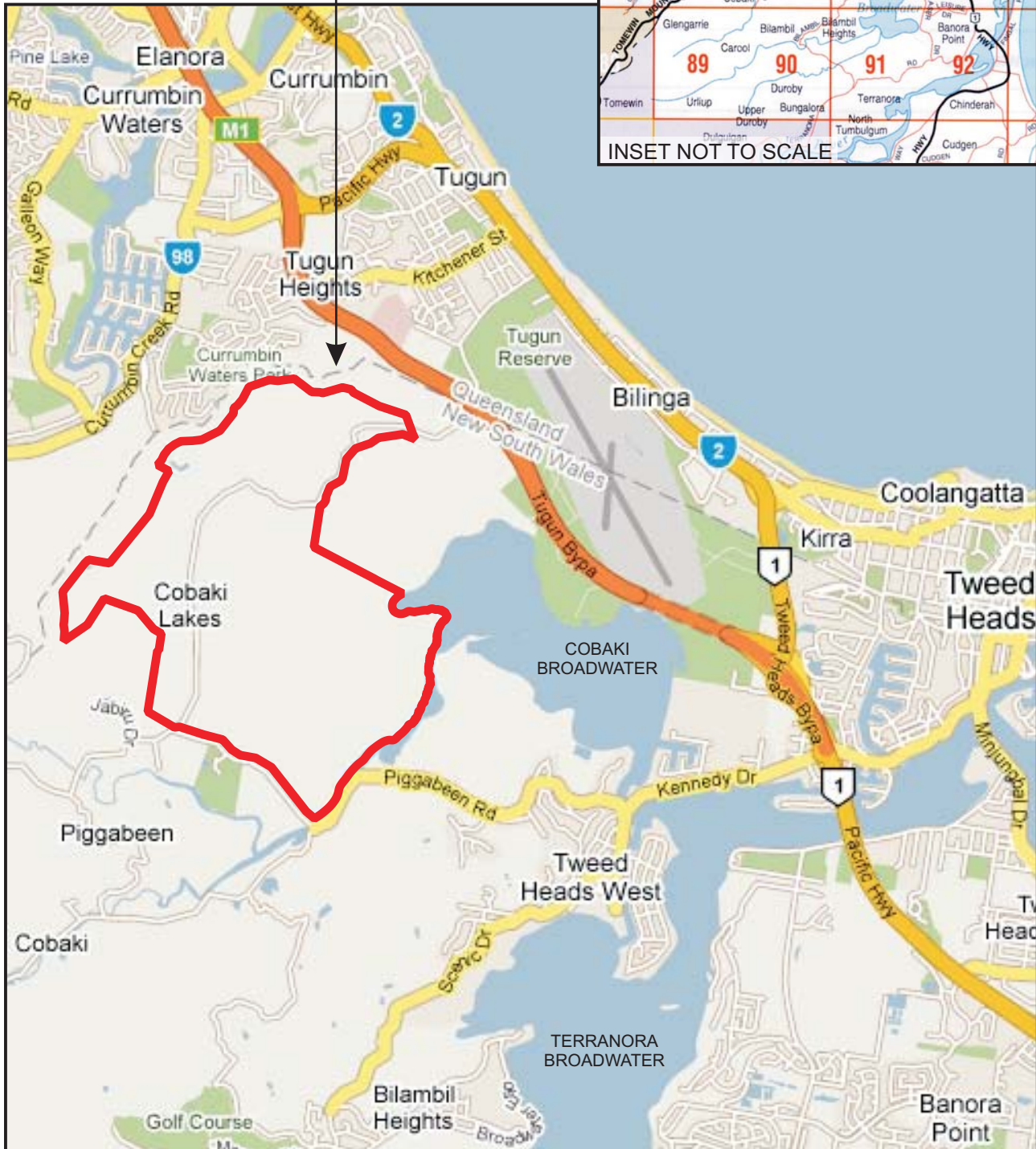
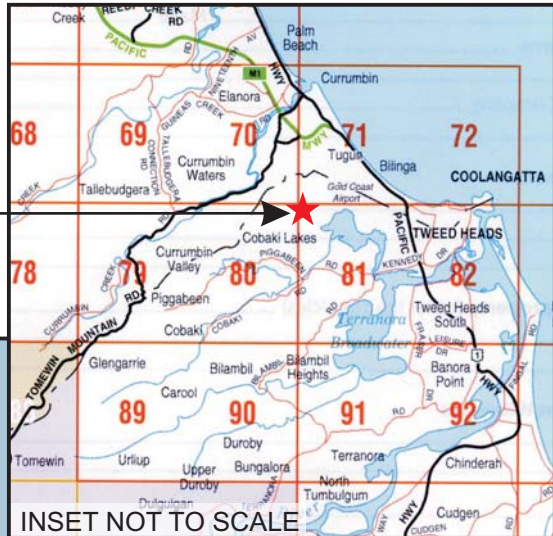
The Subject site is bordered by Cobaki Creek in the south-east, Pigabeen Road in the south-west and Crown Lands in the north (**FIGURE 1**). The Cobaki Lakes site occupies the lower end of the Cobaki - Pigabeen Valley system and comprises the sub-coastal foothills and outcrops of the eastern end of the McPherson Range (to the north and west of the site). The hills enclose a drainage basin comprising the coastal plains in a composite of river/estuarine floodplain and sandplain.

Open Eucalypt forest covers most of the hilly terrain, generally disturbed by fire, grazing, weed invasion and selective logging, with a number of areas of complete regrowth indicating past clearing (Woodward-Clyde 1997). This pattern is typical of the Tweed Coast area; where 40-50 year old regrowth communities comprise the majority of open forests (Cameron McNamara 1983). Current development operations have also contributed to an altered landscape.

**FIGURE 2** shows a recent aerial photograph of the site. It is worth noting that vegetation clearing and earthworks have occurred in various locations of the subject site (in



**SUBJECT SITE**

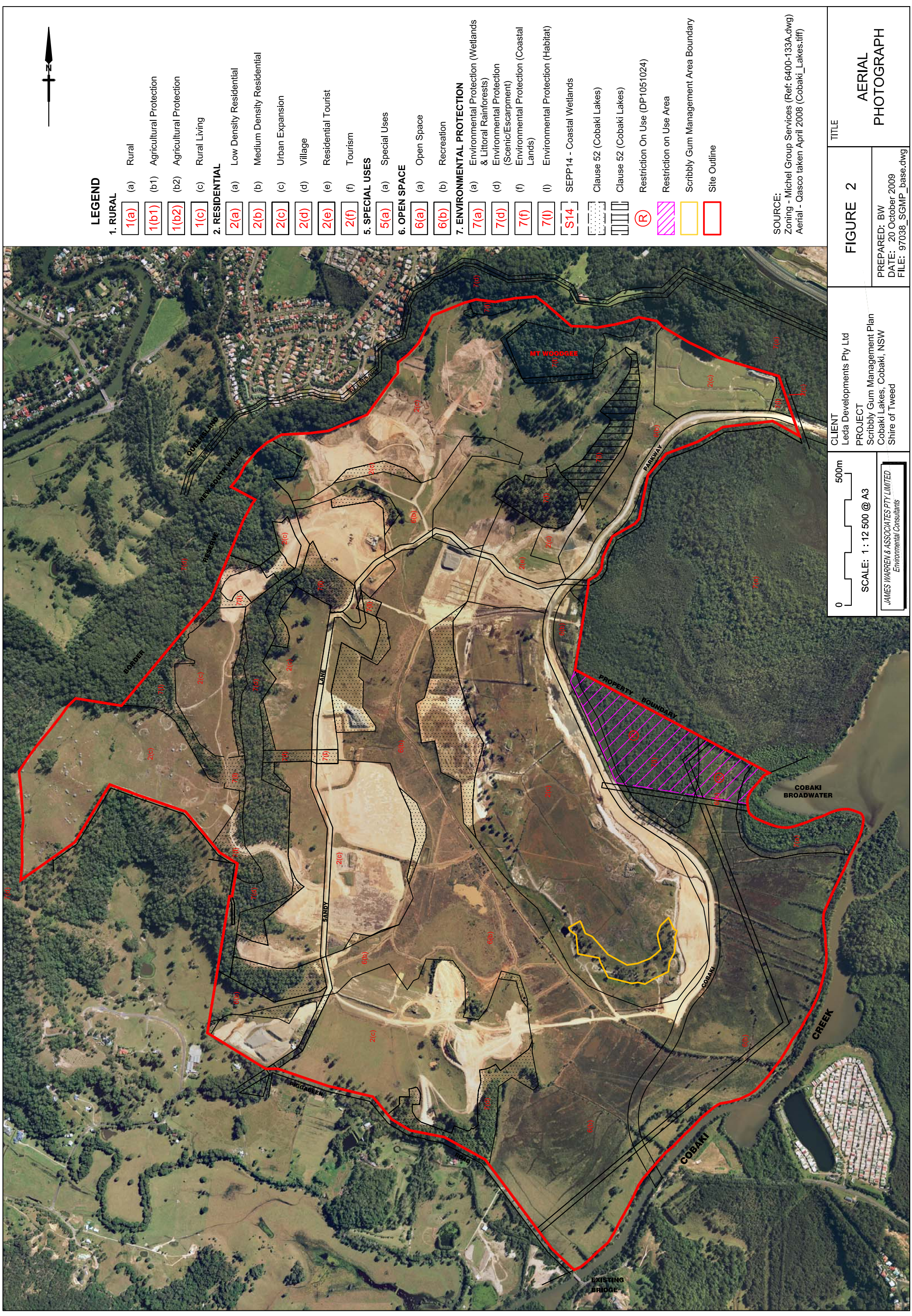


SOURCE: Google Maps  
SCALE: 1 : 50 000 @ A4  
**JAMES WARREN & ASSOCIATES PTY LIMITED**  
Environmental Consultants

CLIENT  
Leda Developments Pty Ltd  
PROJECT  
Scribbly Gum Management Plan  
Cobaki Lakes, Cobaki, NSW  
Shire of Tweed

**FIGURE 1**  
PREPARED: BW  
DATE: 20 October 2009  
FILE: 97038\_SGMP\_Locality.cdr

TITLE  
**LOCALITY PLAN**



**LEGEND**

**1. RURAL**

- 1(a) Rural
- 1(b1) Agricultural Protection
- 1(b2) Agricultural Protection
- 1(c) Rural Living

**2. RESIDENTIAL**

- 2(a) Low Density Residential
- 2(b) Medium Density Residential
- 2(c) Urban Expansion
- 2(d) Village
- 2(e) Residential Tourist
- 2(f) Tourism

**5. SPECIAL USES**

- 5(a) Special Uses

**6. OPEN SPACE**

- 6(a) Open Space
- 6(b) Recreation

**7. ENVIRONMENTAL PROTECTION**

- 7(a) Environmental Protection (Wetlands & Littoral Rainforests)
- 7(d) Environmental Protection (Scenic/Escarpment)
- 7(f) Environmental Protection (Coastal Lands)
- 7(l) Environmental Protection (Habitat)

**S14**

- SEPP14 - Coastal Wetlands
- Clause 52 (Cobaki Lakes)
- Clause 52 (Cobaki Lakes)

- Restriction On Use (DP1051024)
- Restriction on Use Area
- Scribbly Gum Management Area Boundary
- Site Outline

SOURCE:  
Zoning - Michel Group Services (Ref: 6400-133A.dwg)  
Aerial - Qasco taken April 2008 (Cobaki\_Lakes.tiff)

**FIGURE 2**  
TITLE  
**AERIAL PHOTOGRAPH**

CLIENT  
Leda Developments Pty Ltd  
PROJECT  
Scribbly Gum Management Plan  
Cobaki Lakes, Cobaki, NSW  
Shire of Tweed

0 500m  
SCALE: 1 : 12 500 @ A3  
JAMES WARREN & ASSOCIATES PTY LIMITED  
Environmental Consultants

PREPARED: BW  
DATE: 20 October 2009  
FILE: 97038\_SGMP\_base.dwg



accordance with relevant approvals) subsequent to this aerial photograph. However, the vegetation assessment has utilised a combination of aerial interpretation and on-site surveys and reflects the current distribution and extent of vegetation communities.

A Flora Assessment of the site was completed by JWA in 2007. Nineteen (19) broad vegetation associations comprising twenty-five (25) vegetation communities occur on the site. Woodland dominated by Scribbly gum was recorded within the proposed development footprint. The community is described as Vegetation Community 8 - Mid-high Open Woodland (*E. racemosa*) and occurs within the southern portion of the site.

The woodland dominated by Scribbly gum occurs on the slightly elevated dune area along the eastern boundary of the Cobaki Lakes site. Scribbly gums occur on the southern portion of the dune, while Swamp Mahogany (*Eucalyptus robusta*) occurs on the northern portion of the dune, with only a secondary occurrence of Scribbly gum.

### 1.3 Land-use Zones

The Subject site contains the following land-use zones:

- 2(c) Urban Expansion
- 6(b) Open Space (Recreation)
- 7(d) Environmental Protection (Scenic Escarpment)
- 7(l) Environmental Protection (Habitat)

The current zoning plan is shown in **FIGURE 3**. It is worth noting that the Concept Plan proposes amendments to the current zoning of the site. These amendments fall into five categories as follows:

1. Amendments in accordance with Clause 52 of the Tweed LEP 2000;
2. Amendments to zonings contemplated by existing Development Consents;
3. Other proposed additions to the 2(c) Urban Expansion zone;
4. Proposed additions to the 7(l) Environmental Protection (Habitat) zone; and
5. Proposed additions to the 6(b) Recreation zone.

The proposed zonings for the subject site are shown in **FIGURE 4**.



**LEGEND**

**1. RURAL**

- 1(a) Rural
- 1(b1) Agricultural Protection
- 1(b2) Agricultural Protection
- 1(c) Rural Living

**2. RESIDENTIAL**

- 2(a) Low Density Residential
- 2(b) Medium Density Residential
- 2(c) Urban Expansion
- 2(d) Village
- 2(e) Residential Tourist
- 2(f) Tourism

**5. SPECIAL USES**

- 5(a) Special Uses

**6. OPEN SPACE**

- 6(a) Open Space
- 6(b) Recreation

**7. ENVIRONMENTAL PROTECTION**

- 7(a) Environmental Protection (Wetlands & Littoral Rainforests)
- 7(d) Environmental Protection (Scenic/Escarpment)
- 7(f) Environmental Protection (Coastal Lands)
- 7(i) Environmental Protection (Habitat)

SEPP14 - Coastal Wetlands

Clause 52 (Cobaki Lakes)

Clause 52 (Cobaki Lakes)

Restriction On Use (DP1051024)

Scribbly Gum Management Area Boundary

Cobaki Lakes Site Outline

SOURCE:  
Zoning - Michel Group Services (Ref: 6400-133A.dwg)

TITLE

**FIGURE 3**

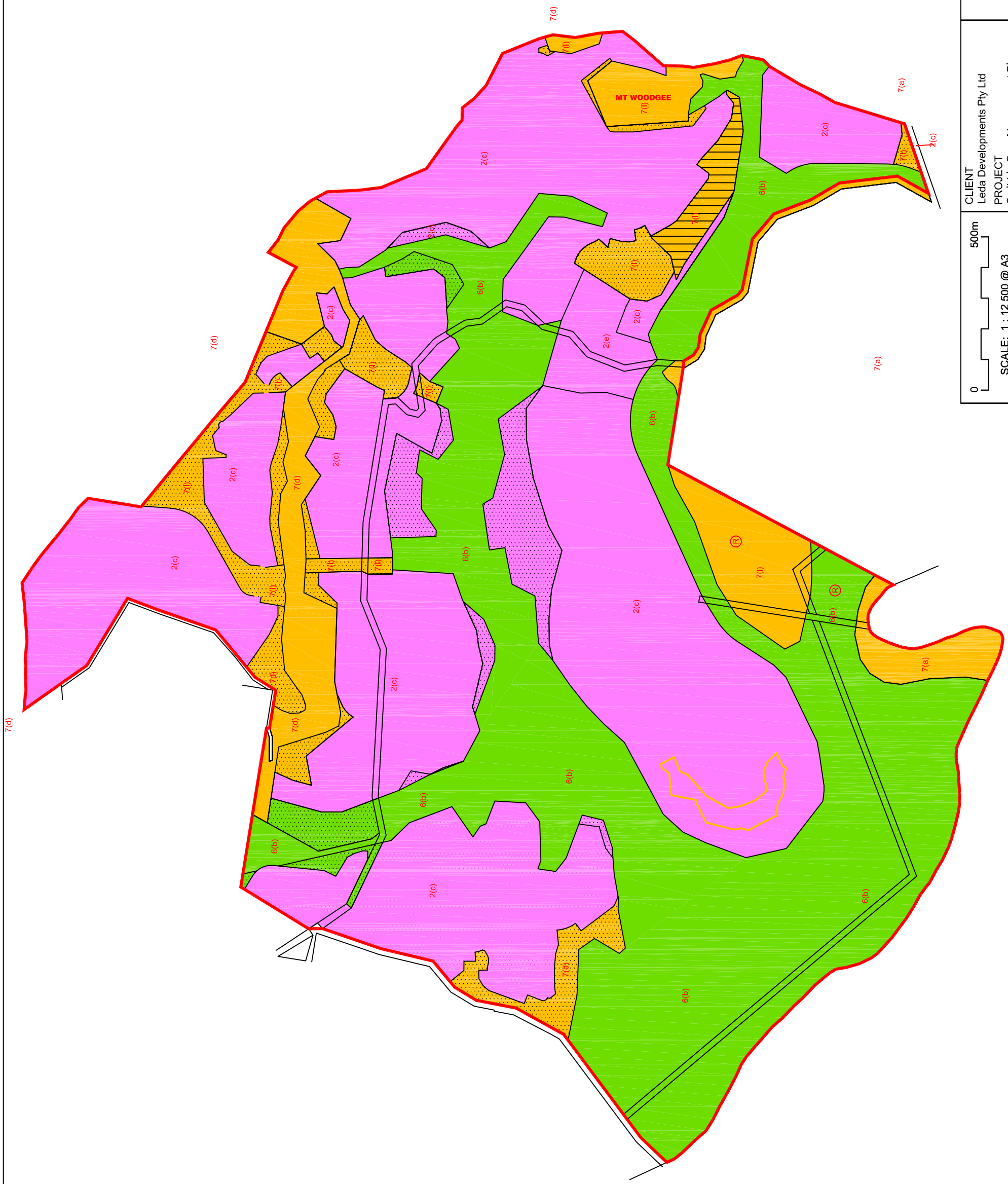
**ZONING PLAN**

PREPARED: BW  
DATE: 20 October 2009  
FILE: 97038\_SGMP\_base.dwg

CLIENT  
Leda Developments Pty Ltd  
PROJECT  
Scribbly Gum Management Plan  
Cobaki Lakes, Cobaki, NSW  
Shire of Tweed

0 500m  
SCALE: 1 : 12 500 @ A3

JAMES WARREN & ASSOCIATES PTY LIMITED  
Environmental Consultants





**LEGEND**

**1. RURAL**

- 1(a) Rural
- 1(b1) Agricultural Protection
- 1(b2) Agricultural Protection
- 1(c) Rural Living

**2. RESIDENTIAL**

- 2(a) Low Density Residential
- 2(b) Medium Density Residential
- 2(c) Urban Expansion
- 2(d) Village
- 2(e) Residential Tourist
- 2(f) Tourism

**5. SPECIAL USES**

- 5(a) Special Uses

**6. OPEN SPACE**

- 6(a) Open Space
- 6(b) Recreation

**7. ENVIRONMENTAL PROTECTION**

- 7(a) Environmental Protection (Wetlands & Littoral Rainforests)
- 7(d) Environmental Protection (Scenic/Escarpment)
- 7(f) Environmental Protection (Coastal Lands)
- 7(l) Environmental Protection (Habitat)

SEPP14 - Coastal Wetlands

Clause 52 (Cobaki Lakes)

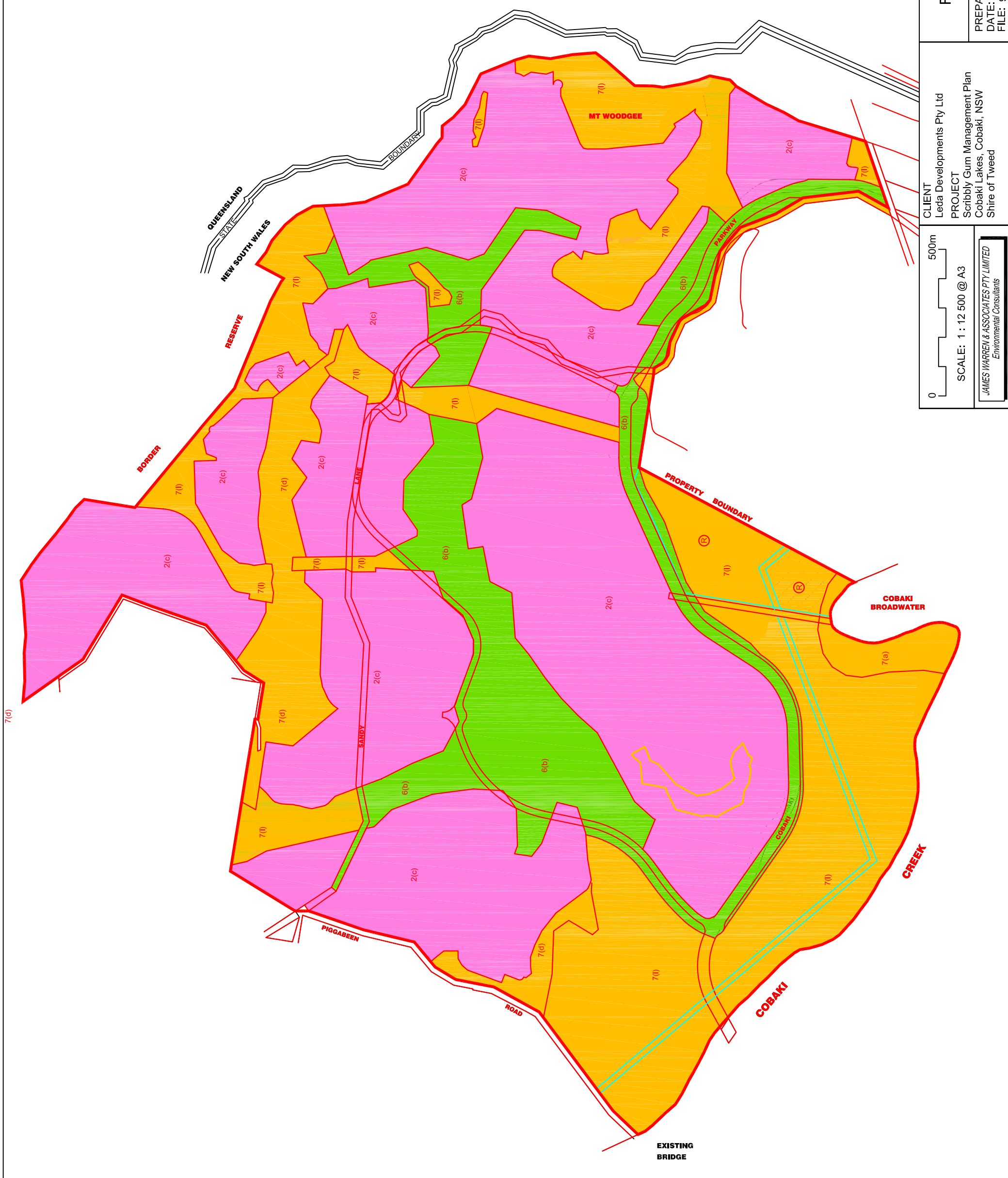
Clause 52 (Cobaki Lakes)

Restriction On Use (DP1051024)

Scribbly Gum Management Area Boundary

Site Outline

SOURCE:  
Zoning - Michel Group Services (Ref: 6400-155B.dwg)



**FIGURE 4**

TITLE

**PROPOSED ZONING AMENDMENTS**

PREPARED: BW  
DATE: 20 October 2009  
FILE: 97038\_SGMP\_base.dwg

CLIENT  
Leda Developments Pty Ltd

PROJECT  
Scribbly Gum Management Plan  
Cobaki Lakes, Cobaki, NSW  
Shire of Tweed

0 500m

SCALE: 1 : 12 500 @ A3

JAMES WARREN & ASSOCIATES PTY LIMITED  
Environmental Consultants





## 2 CONSERVATION ASSESSMENT

### 2.1 Introduction

This section contains information regarding the conservation status of the community. Scribbly gum (*E. racemosa*) is not listed as an Endangered, Vulnerable or Rare species in the EPBC Act (1999) or the TSC Act (1995).

### 2.2 State Conservation Status of Scribbly Gum Communities

Scribbly gum communities are not representative of any Endangered Ecological Community (EEC), Critically Endangered Ecological Community (CEEC), or Vulnerable community listed in the NSW TSC Act 1995.

### 2.3 Regional Conservation Status of Scribbly Gum Communities

The closest analogue to this community considered in the Regional Forestry Agreement (RFA) report is Forest Ecosystem 74 (Lowlands Scribbly Gum). The RFA document provides the following data on this ecosystem:

- 3,496 hectares of this ecosystem type remains within the upper north-east section of the NSW North Coast Bioregion. The original extent (i.e. pre-1750) was approximately 6,783 hectares.
- The ecosystem is considered to be **Vulnerable**.
- 29.7% of the total forest ecosystem area is within the Comprehensive, Adequate and Representative (CAR) reserve system including 26.4% in dedicated reserves and 1.0% in informal reserves. A further 2.3% is protected by tabulated prescriptions.
- Scribbly gum communities have been identified as a priority for conservation on Private Land.

### 2.4 Local (Tweed LGA) Conservation Status of Scribbly Gum Communities

The local conservation significance has been determined using both the Tweed Vegetation Management Strategy (Kingston *et. al* 2004).

Under the Tweed Vegetation Management Strategy (Kingston *et. al* 2004) this ecosystem is classified as Sclerophyll forest/woodlands on sand substrates and alluvium - 306 Coastal Scribbly gum open forest to woodland. The Tweed Vegetation Management Strategy) provides the following data on this ecosystem:

- This ecosystem covers an area of approximately 131 hectares (vegetated land), which is approximately 0.21% of the vegetated land in the Shire and 0.10% of the Shire.
- Inadequately conserved over all its range.



## Scribbly gum Management Plan - Cobaki Lakes PPR

---

- The conservation status of this community is considered to be low.
- According to the Tweed Vegetation Management Strategy (TVMS 2004) this community is represented by Sclerophyll forests and woodlands on sand substrates and alluviums, as displayed in Map 1.
- Under the criteria set out in the TVMS (2004) the Scribbly Gum Community is considered **Vulnerable** and inadequately reserved by the DEC.
- The TVMS (2004) classification of Scribbly Gum communities as Vulnerable gives them the highest level of protection in the Tweed Shire.
- There is approximately ~125ha of community remaining in the Tweed Shire - ~16% of its entire distribution.
- Appendix 7 of the TVMS (2004) identifies the community type as representing Secondary Koala habitat (AKF 1996).
- The TVMS Ecograph (2004) suggests the community is equivalent to the CRA forest type FE 74 - Lowlands Scribbly Gum.



## **3 MANAGEMENT OF THE SCRIBBLY GUM COMMUNITY**

### **3.1 Introduction**

This section examines the management protocols which are to be implemented within the Scribbly Gum Management Area (SGMA) (**FIGURE 5**). This section discusses the current management practices and also makes some recommendations with regard to the protection and management of the retained Scribbly gums during the Bulk Earth works phase which is currently underway.

This section also outlines the management protocols which are to be adhered to until such time that the off-site offset has become established to the satisfaction of DECC.

### **3.2 Management for Bulk Earth Works**

Currently the approved bulk earth works are under way. The Scribbly Gum Management Area occurs within an existing earth works approval F9 94/434 (**FIGURE 6**). Any earth works within the vicinity of the Scribbly Gum Management Area (SGMA) has the potential to impact adversely on the Scribbly gums which are to be retained.

Management protocols for the retained Scribbly gums during the bulk earth works include:

- All trees to be retained will be fenced with high visibility plastic mesh;
- All contractors to be informed of the retention of the selected Scribbly gums;

### **3.3 Management of the Retained Scribbly Gums**

#### **3.3.1 Introduction**

This section discusses the management of the retained Scribbly gums within the SGMA. The Scribbly gums will be protected and managed until such time that the off-site offset has become established to the satisfaction of DECC.

#### **3.3.2 Management procedures**












Management for the SGMA will include regular maintenance and some basic monitoring of each of the retained trees within the SGMA.

The SGMA will be managed as open space parkland. The management strategies to be implemented include the following:

- All of the Scribbly gums within the SGMA are to be retained.
- The SGMA is to be fenced off. The fencing should be in the form of four (4) star pickets approximately 3 - 5 metres apart encapsulating the entire SGMA. This will allow for the natural regeneration of the heath land vegetation that



**LEGEND**

-  Town Centre / Neighbourhood Centre
-  Residential
-  Community Facilities/Education/Utilities
-  Open Space
-  Environmental Protection Area
-  Lake
-  Proposed School
-  Proposed Community Facilities (Project Office - temporary use)
-  Proposed Restaurant
-  Scribbly Gum Management Area Boundary
-  Site Outline

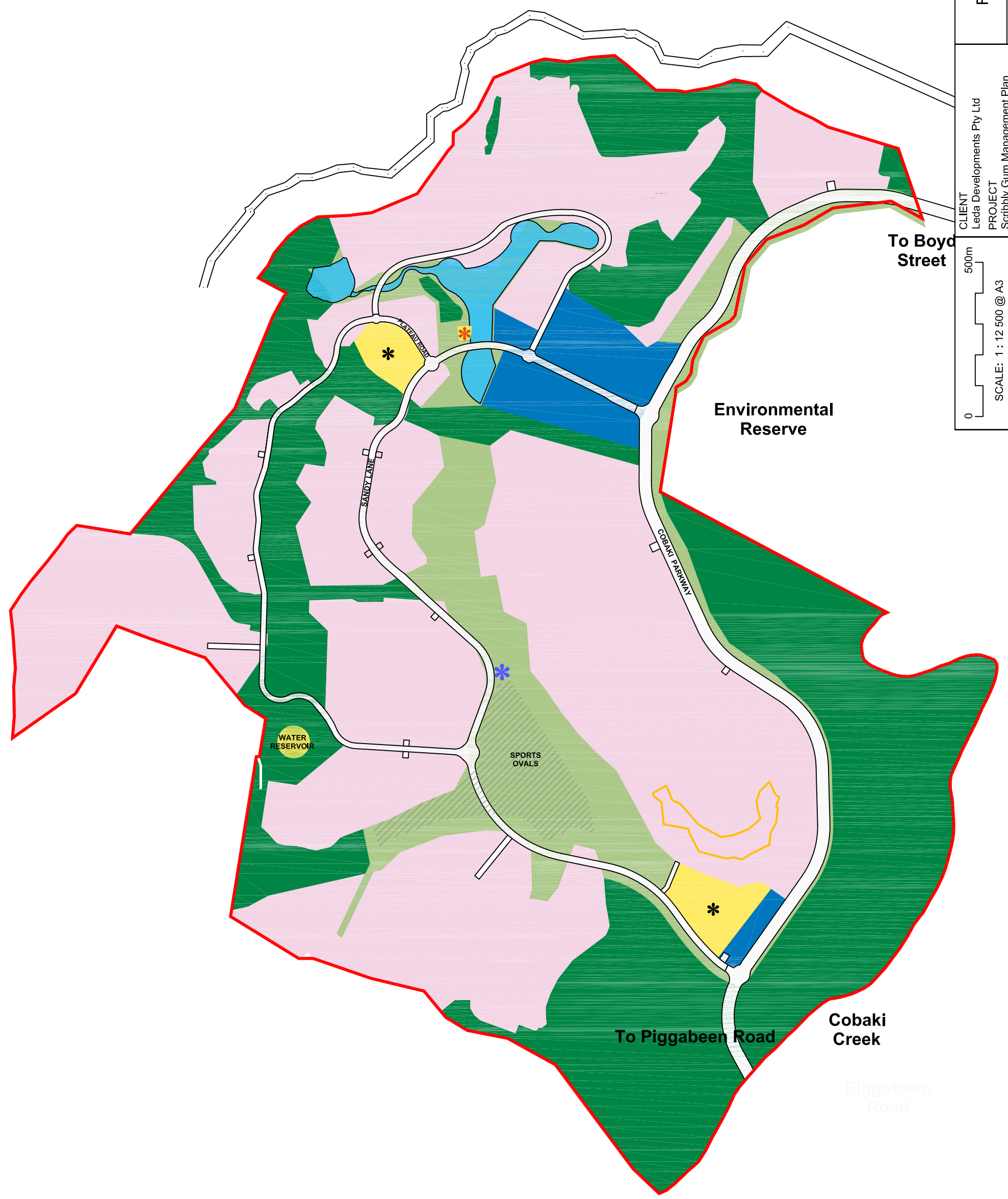
SOURCE:  
Layout - Design Forum Pty Ltd  
(Ref: 01.01 Concept Plan Z.dwg)

TITLE  
**SCIBBLY GUM  
MANAGEMENT  
AREA**



**FIGURE 5**  
PREPARED: BW  
DATE: 20 October 2009  
FILE: 97038\_SGMP\_base.dwg

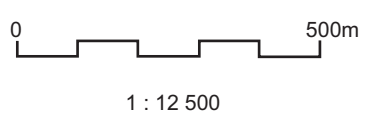
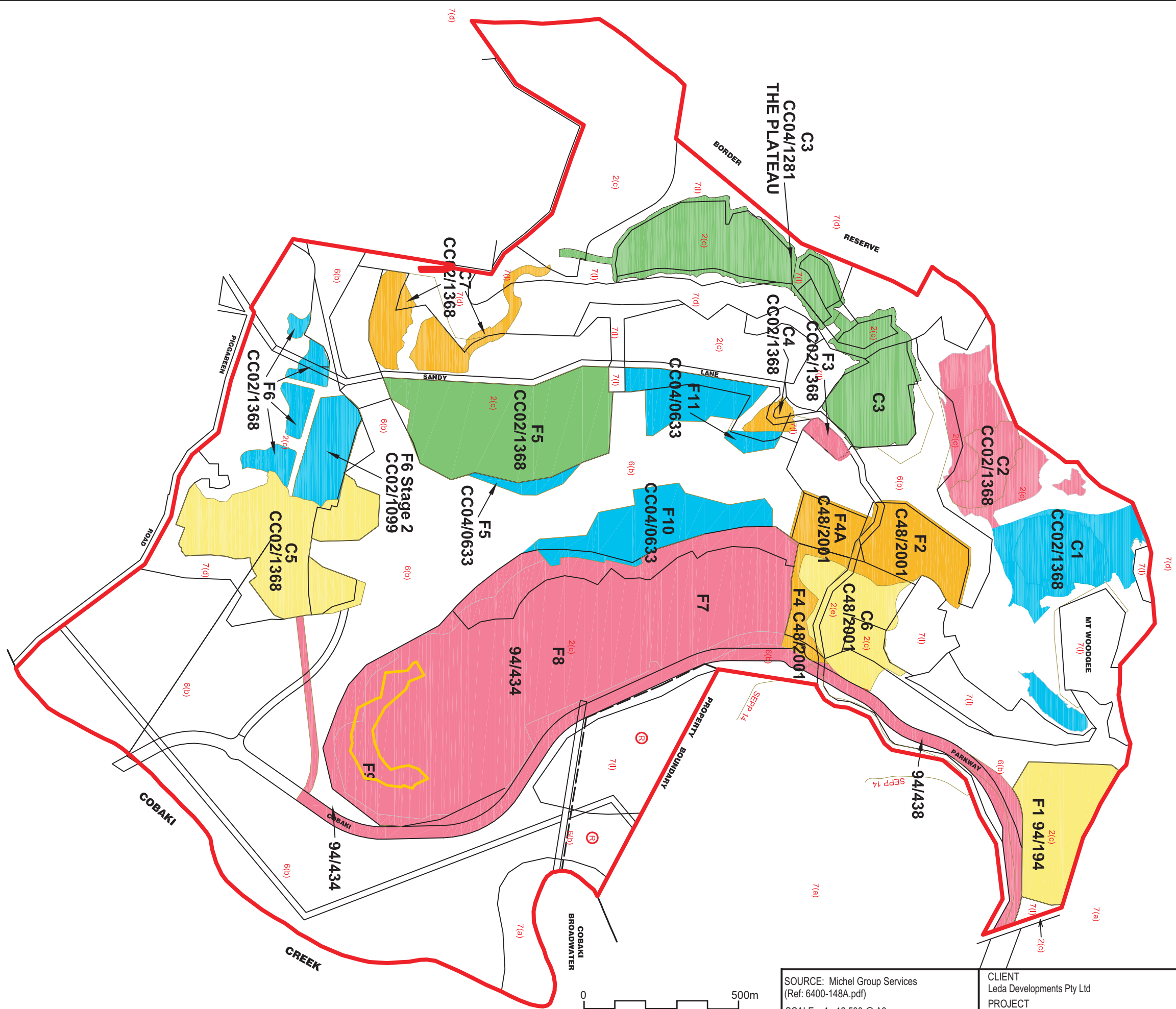
CLIENT  
Leda Developments Pty Ltd  
PROJECT  
Scribbly Gum Management Plan  
Cobaki Lakes, Cobaki, NSW  
Shire of Tweed

SCALE: 1 : 12 500 @ A3  
JAMES WARREN & ASSOCIATES PTY LIMITED  
Environmental Consultants





- LEGEND**
-  Scribbly Gum Management Area Boundary
  -  Cobaki Lakes Site Outline



SOURCE: Michel Group Services  
(Ref: 6400-148A.pdf)  
SCALE: 1 : 12 500 @ A3  
**JAMES WARREN & ASSOCIATES PTY LIMITED**  
Environmental Consultants

CLIENT  
Leda Developments Pty Ltd  
PROJECT  
Scribbly Gum Management Plan  
Cobaki Lakes, Cobaki, NSW  
Shire of Tweed

**FIGURE 6**  
PREPARED: BW  
DATE: 20 October 2009  
FILE: 97038\_SGMP\_Earthworks.cdr

TITLE  
**EXISTING  
EARTHWORKS  
APPROVALS**



is occurring as the ground cover over a large portion of the SGMA. A fencing plan is shown in **FIGURE 7**.

- Maintenance for the SGMA will be the responsibility of the Developer (LEDA Manorstead Pty Ltd) until such time that the off-site offset has become established to the satisfaction of DECC.

## **3.4 Maintenance**

### **3.4.1 Introduction**

Maintenance and follow up work is vital for the continuing regeneration and for the general aesthetics of the SGMA. This section will discuss who is responsible for the maintenance and the timing and the maintenance actions that are to be implemented within the SGMA.

### **3.4.2 Maintenance Responsibility**

Maintenance will be completed by a bush regenerator contracted by the developer. The SGMA will be the responsibility of the Developer (LEDA Manorstead Pty Ltd) until such time that the off-site offset has become established to the satisfaction of DECC.

### **3.4.3 Maintenance Requirements**

#### **Short term**

The maintenance to be completed by the contracted Bush regenerator includes the following:

- Weed control of exotic grasses and other weed species, control methods are included in **ANNEXURE 1**; and
- Install and repairing exclusion fencing when required.

Continued short term maintenance after the initial or primary weed control will include:

- Pruning and thinning to allow for optimal growth and form;
- Control of invasive weeds and grasses; and
- Repairing or removing fencing when required.

### **3.4.4 Timing of Maintenance**

After primary weed control and exclusion fencing works, regular follow up maintenance will be required within the SGMA. The maintenance to be completed is as follows:

- Regular weed control (spraying of exotic grasses) is to be completed once every three (3) months, until native species are dominating the natural regeneration areas (inside the exclusion fencing);
- After native species are considered to dominate natural regeneration areas, the continued weed control (spraying of exotic grasses) and other general maintenance tasks will only be completed every six (6) months for the duration of this management plan.



**LEGEND**

● Scribbly gums (*Eucalyptus racemosa*) to be Retained

▭ Proposed Fencing

▭ Scribbly Gum Management Area Boundary

SOURCE:  
Tree Survey - James Warren & Associates Pty Ltd  
June/July 2004, July 2006 & July/Sept 2007  
Aerial - Gasco taken April 2008 (Cobaki\_Lakes.tiff)

TITLE

**PROPOSED  
FENCING**

**FIGURE 7**

PREPARED: BW  
DATE: 20 October 2009  
FILE: 97038\_SGMP\_base.dwg

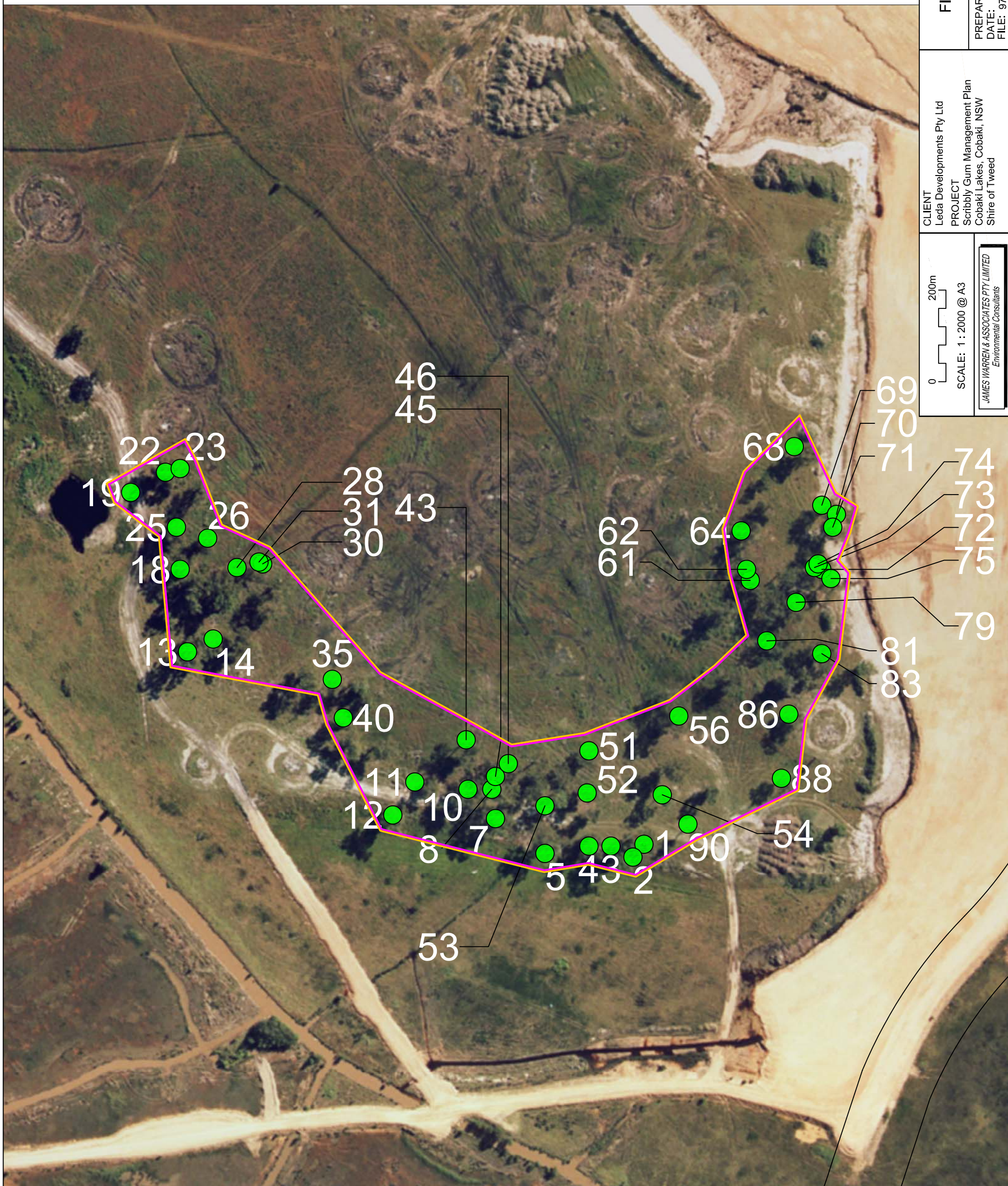
CLIENT  
Leda Developments Pty Ltd

PROJECT  
Scribbly Gum Management Plan  
Cobaki Lakes, Cobaki, NSW  
Shire of Tweed

0 200m

SCALE: 1 : 2000 @ A3

JAMES WARREN & ASSOCIATES PTY LIMITED  
Environmental Consultants





## **3.5 Monitoring**

### **3.5.1 Introduction**

This section of the SGMP outlines the monitoring to be completed within the SGMA. The monitoring program discusses the timing of the monitoring, the personnel to complete the monitoring and the parameters that are to be checked each monitoring visit.

### **3.5.2 Personnel**

The regular monitoring program is to be completed by a qualified Ecologist.

### **3.5.3 Parameters to be monitored**

The following biological and ecological factors are to be monitored:

- Survival of individuals over time;
- Growth of understorey within natural restoration areas (height, crown, width);
- Flower production;
- Fauna observations (scratches, scats);
- The recruitment of new individuals by examining *in situ* seed germination and survival.

Records should be kept for each monitoring visit. Photographs should also be taken to document the monitoring process.

### **3.5.4 Timing of Monitoring Visits**

Monitoring is to occur once every six (6) months for the life of the management plan.

### **3.5.5 Reporting of Monitoring Results**

Following each inspection by the qualified ecologist, photos and monitoring results are to be recorded. Every six (6) months a brief report will be prepared. At the end of each two (2) year period a detailed report will be prepared for the Department of Environment and Conservation (DEC) and Tweed Shire Council. The report will discuss the following:

- Works undertaken;
- Progress of natural regeneration areas;
- Significant problems encountered (broken fences, vandalism etc.)
- Success or failures of measures implemented to rectify previously identified problems; and
- Measures to be taken to rectify new problems.





## REFERENCES

Briggs, J. D. and Leigh, J. H. (1996) Rare or Threatened Australian Plants. Centre for Plant Biodiversity Research, CSIRO Division of Plant Industry, Canberra, Australia.

Johnson, G (2007) Arborist Report for Trees in Parcel 5 Cobaki Lakes Development. Report prepared for Leda Manorstead Pty Ltd. Gold Coast Tree Surgery and Arboriculture, Beechmont. Qld.

McNamara, C. 1983, Cameron McNamara Pty Ltd Vegetation Study of 1980

NSW National Park & Wildlife Service (2002) Threatened Species of the Upper North Coast of New South Wales - Fauna. Threatened Species Unit, Conservation Programs & Planning Division, Northern Directorate, Coffs Harbour.

NSW National Park & Wildlife Service (2002) Threatened Species of the Upper North Coast of New South Wales - Flora. Threatened Species Unit, Conservation Programs & Planning Division, Northern Directorate, Coffs Harbour.

Kingston, M.B. Turnbull, J.W. and P.W. Hall. 2004 (Kingston *et. al* 2004) Tweed Vegetation Management Strategy. Prepared for Tweed Shire Council by Ecograph Murwillumbah NSW.

Parker, P. 1999. - A species impact statement for the Cobaki Lakes Project.

Sinclair Knight Mertz (1994) Heathland and Scribbly Gum Management Plan: A plan for the management of heathlands and Scribbly gum areas within the Cobaki Lakes Community Development Project.

Tweed Shire Environmental Management Plan (2003). [www.tweed.nsw.gov.au](http://www.tweed.nsw.gov.au)

Tweed Shire LEP (2002). [www.tweed.nsw.gov.au](http://www.tweed.nsw.gov.au)

Tweed Shire Vegetation Management Plan (2003). [www.tweed.nsw.gov.au](http://www.tweed.nsw.gov.au)

Warren, J. (1994) Flora and Fauna Assessment - Cobaki Lakes. Report prepared for Ray Corporation Pty Ltd (for Leda Pty Ltd). Alstonville, NSW.

Woodward - Clyde (1997) Species Impact Statement Cobaki Lakes (WWC 1997)



## ANNEXURE 1 - WEED CONTROL TECHNIQUES

Target Weed	Recommended Technique
Broad-leaved Paspalum ( <i>Paspalum wettsteinii</i> ); Red natal grass ( <i>Melinis repens</i> ); Kikuyu ( <i>Pennisetum clandestinum</i> ) Whisky grass ( <i>Andropogon virginicus</i> ) and other exotic grasses	Spray and spray regrowth (G 100ml/10L + LI 20ml/10L).
Camphor laurel ( <i>Cinnamomum camphora</i> )	Stem injection of trees and saplings with glyphosate (using axe or drill). Trees 0 - 250mm diameter - glyphosate 1:1 with water 2ml/cut Trees 250 - 600mm diameter - glyphosate undiluted, 2ml/cut Hand pulling / spraying of seedlings with 1:100 glyphosate + L1700®.